



# Compact Cylinder: Non-rotating Rod Type Double Acting, Single Rod Series **CQSK** ø12, ø16, ø20, ø25

## How to Order

Without auto switch

CQSK **B** **20** — **30** **D**   

With auto switch

CDQSK **B** **20** — **30** **D**    — **F9BW** **S**

Built-in magnet

Mounting style

|          |   |
|----------|---|
| <b>B</b> | Through-hole/Both ends tapped common (Standard) |
| <b>L</b> | Foot style                                      |
| <b>F</b> | Rod side flange style                           |
| <b>G</b> | Head side flange style                          |
| <b>D</b> | Double clevis style                             |

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

Bore size

|           |       |
|-----------|-------|
| <b>12</b> | 12 mm |
| <b>16</b> | 16 mm |
| <b>20</b> | 20 mm |
| <b>25</b> | 25 mm |

Standard Stroke

| Bore size (mm) | Standard stroke (mm)                  |
|----------------|---------------------------------------|
| <b>12, 16</b>  | 5, 10, 15, 20, 25, 30                 |
| <b>20, 25</b>  | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 |



• Manufacture of intermediate stroke  
Intermediate strokes are available by the 1 mm interval by using spacer in standard stroke cylinders. Overall length of cylinder is the same as the one of longer standard stroke.  
Example) 3 mm width spacer is installed in the standard cylinder CQSKB25-50D to make CQSKB25-47D.

Cylinder stroke (mm)

Number of auto switches

|            |          |
|------------|----------|
| <b>Nil</b> | 2 pcs.   |
| <b>S</b>   | 1 pc.    |
| <b>n</b>   | "n" pcs. |

Auto switch

|            |                                       |
|------------|---------------------------------------|
| <b>Nil</b> | Without auto switch (Built-in magnet) |
|------------|---------------------------------------|

\* For the applicable auto switch model, refer to the table below.

\* Auto switches are shipped together, (but not assembled).

Note) There is the case A9□V type, M9□V type auto switches cannot be mounted on the port surface, depending on the cylinder's stroke and the fitting size for piping. Please confirm SMC separately.

Body option

|            |                                  |
|------------|----------------------------------|
| <b>Nil</b> | Standard (Rod end female thread) |
| <b>M</b>   | Rod end male thread              |

Action

|          |               |
|----------|---------------|
| <b>D</b> | Double acting |
|----------|---------------|

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

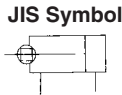
| Type                                 | Special function | Electrical entry | Indicator/light | Wiring (Output)         | Load voltage |      |               | Auto switch model |            | Lead wire length (m) * |       |     | Pre-wire connector | Applicable load |            |
|--------------------------------------|------------------|------------------|-----------------|-------------------------|--------------|------|---------------|-------------------|------------|------------------------|-------|-----|--------------------|-----------------|------------|
|                                      |                  |                  |                 |                         | DC           | AC   | Perpendicular | In-line           | 0.5 (Nil)  | 3 (L)                  | 5 (Z) |     |                    |                 |            |
|                                      |                  |                  |                 |                         |              |      |               |                   |            |                        |       | 5 V |                    |                 | 12 V       |
| Reed switch                          | —                | Grommet          | Yes             | 3-wire (NPN equivalent) | —            | 5 V  | —             | <b>A96V</b>       | <b>A96</b> | ●                      | ●     | —   | —                  | IC circuit      | —          |
|                                      |                  |                  |                 | 2-wire                  | 24 V         | 12 V | 100 V         | <b>A93V</b>       | <b>A93</b> | ●                      | ●     | —   | —                  | —               | —          |
| Solid state switch                   | —                | Grommet          | Yes             | 3-wire (NPN)            | 5 V, 12 V    | —    | —             | <b>M9NV</b>       | <b>M9N</b> | ●                      | ●     | ○   | ○                  | IC circuit      | Relay, PLC |
|                                      |                  |                  |                 | 3-wire (PNP)            |              |      |               | <b>M9PV</b>       | <b>M9P</b> | ●                      | ●     | ○   | ○                  | IC circuit      |            |
|                                      |                  |                  |                 | 2-wire                  | 12 V         | —    | <b>M9BV</b>   | <b>M9B</b>        | ●          | ●                      | ○     | ○   | —                  |                 |            |
|                                      |                  |                  |                 | 3-wire (NPN)            | 5 V, 12 V    | —    | <b>F9NWV</b>  | <b>F9NW</b>       | ●          | ●                      | ○     | ○   | IC circuit         |                 |            |
|                                      |                  |                  |                 | 3-wire (PNP)            |              |      | <b>F9PWV</b>  | <b>F9PW</b>       | ●          | ●                      | ○     | ○   | IC circuit         |                 |            |
|                                      |                  |                  |                 | 2-wire                  | 12 V         | —    | <b>F9BWV</b>  | <b>F9BW</b>       | ●          | ●                      | ○     | ○   | —                  |                 |            |
| Water resistant (2-color indication) | —                | —                | —               | —                       | —            | —    | <b>F9BA</b>   | —                 | ●          | ○                      | ○     | —   | —                  |                 |            |

\* Lead wire length symbols: 0.5 m.....Nil (Example) A93  
3 m.....L (Example) A93L  
5 m.....Z (Example) F9NWZ

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

• Since there are other applicable auto switches than listed, refer to page 7-4-45 for details.  
• For details about auto switches with pre-wire connector, refer to page 7-9-36.

# Compact Cylinder: Non-rotating Rod Type Double Acting, Single Rod Series CQSK



## ⚠ Caution

### Snap Ring Installation/Removal

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

### Allowable Kinetic Energy (J)

| Bore size (mm)           | 12    | 16    | 20    | 25   |
|--------------------------|-------|-------|-------|------|
| Allowable kinetic energy | 0.022 | 0.038 | 0.055 | 0.09 |

### Minimum Operating Pressure (MPa)

| Bore size (mm)          | 12   | 16   | 20   | 25   |
|-------------------------|------|------|------|------|
| Min. operating pressure | 0.07 | 0.07 | 0.05 | 0.05 |

### Non-rotating Accuracy

| Bore size (mm)            | 12  | 16 | 20    | 25 |
|---------------------------|-----|----|-------|----|
| Rod non-rotating accuracy | ±1° |    | ±0.7° |    |

### Body Option

| Description         | Application                              |
|---------------------|--|
| Rod end male thread | Available for all non-rotating rod type. |

### Mounting Bracket Part No.

| Bore size (mm) | Foot (1)  | Flange    | Double clevis |
|----------------|-----------|-----------|---------------|
| 12             | CQSK-L012 | CQSK-F012 | CQSK-D012     |
| 16             | CQSK-L016 | CQSK-F016 | CQSK-D016     |
| 20             | CQSK-L020 | CQSK-F020 | CQSK-D020     |
| 25             | CQSK-L025 | CQSK-F025 | CQSK-D025     |

Note 1) When ordering foot bracket, order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows.

Foot or Flange style: Body mounting bolt

Double clevis style: Clevis pin, Type C snap ring for axis, Body mounting bolt.

Double acting, double rod type is now available.  
Please contact SMC for details.

## Standard Specifications

|                               |   |
|-------------------------------|---|
| Type                          | Pneumatic (Non-lube)  |
| Action                        | Double acting, Single rod   |
| Fluid                         | Air   |
| Proof pressure                | 1.5 MPa   |
| Maximum operating pressure    | 1.0 MPa   |
| Ambient and fluid temperature | Without auto switch: -10 to 70°C (No freezing)<br>With auto switch: -10 to 60°C (No freezing) |
| Rubber bumper                 | None  |
| Rod end thread                | Female thread   |
| Rod end thread tolerance      | JIS Class 2   |
| Stroke length tolerance       | +1.0<br>0   |
| Mounting                      | Through-hole/Both ends tapped common  |
| Piston speed                  | 50 to 500 mm/s  |

## Minimum Stroke for Auto Switch Mounting (mm)

| No. of auto switches mounted | D-A9□, D-F9□WV | D-A9□V | D-M9□, D-F9□W | D-M9□V | D-F9BAL   |
|------------------------------|----------------|--------|---------------|--------|-----------|
| 2                            | 10             | 10     | 15 (Note)     | 5      | 25 (Note) |
| 1                            | 10 (Note)      | 5      | 15 (Note)     | 5      | 25 (Note) |

Note) Please consult with SMC for shorter stroke length than indicated in the table.

## Theoretical Output (N)

| Bore size (mm) | Rod width across flats (mm) | Action | Piston area (mm <sup>2</sup> ) | Operating pressure (MPa) |     |     |
|----------------|-----------------------------|--------|--------------------------------|--------------------------|-----|-----|
|                |                             |        |                                | 0.3                      | 0.5 | 0.7 |
| 12             | 5.2                         | IN     | 90                             | 27                       | 45  | 63  |
|                |                             | OUT    | 113                            | 34                       | 57  | 79  |
| 16             | 6.2                         | IN     | 168                            | 50                       | 84  | 117 |
|                |                             | OUT    | 201                            | 60                       | 101 | 141 |
| 20             | 8.2                         | IN     | 256                            | 77                       | 128 | 179 |
|                |                             | OUT    | 314                            | 94                       | 157 | 220 |
| 25             | 10.2                        | IN     | 401                            | 120                      | 200 | 281 |
|                |                             | OUT    | 491                            | 147                      | 245 | 344 |

## Manufacture of Intermediate Stroke

| Description     |              | Spacer is installed in the standard stroke body.   |              |
|-----------------|--------------|--|--------------|
| Part no.        |              | Refer to "How to Order" for the standard model no. (page at left)  |              |
| Standard stroke | Description  | Intermediate strokes by the 1 mm interval are available by using spacers with standard stroke cylinders. |              |
|                 | Stroke range | Bore size  | Stroke range |
|                 |              | 12, 16   | 1 to 29      |
| 20, 25          | 1 to 49      |  |              |
| Example         |              | Part no.: CQSKB25-47D<br>CQSKB25-50D with 3 mm width spacer inside.<br>B dimension is 77.5 mm.           |              |

# Series CQSK

## Weight/Without Auto Switch (g)

| Bore size (mm) | Cylinder stroke (mm) |     |     |     |     |     |     |     |     |     |
|----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                | 5                    | 10  | 15  | 20  | 25  | 30  | 35  | 40  | 45  | 50  |
| 12             | 39                   | 46  | 53  | 60  | 67  | 74  | —   | —   | —   | —   |
| 16             | 52                   | 61  | 69  | 78  | 86  | 95  | —   | —   | —   | —   |
| 20             | 89                   | 102 | 116 | 129 | 143 | 156 | 170 | 183 | 197 | 211 |
| 25             | 124                  | 141 | 157 | 174 | 190 | 207 | 224 | 240 | 257 | 273 |

Calculation: (Example) CQSKF20-5DM

- Cylinder weight: CQSKB20-5D..... 89 g
  - Option weight: Rod end male thread..... 10 g
  - : Rod side flange style..... 142 g
- 241 g

## Weight/With Auto Switch (Built-in magnet) (g)

| Bore size (mm) | Cylinder stroke (mm) |     |     |     |     |     |     |     |     |     |
|----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                | 5                    | 10  | 15  | 20  | 25  | 30  | 35  | 40  | 45  | 50  |
| 12             | 47                   | 54  | 62  | 69  | 76  | 83  | —   | —   | —   | —   |
| 16             | 63                   | 71  | 80  | 88  | 97  | 106 | —   | —   | —   | —   |
| 20             | 122                  | 136 | 149 | 163 | 176 | 190 | 203 | 217 | 230 | 244 |
| 25             | 168                  | 185 | 201 | 218 | 235 | 251 | 268 | 284 | 301 | 317 |

## Additional Weight (g)

| Bore size (mm)                                       |             | 12  | 16 | 20  | 25  |
|--|-------------|-----|----|-----|-----|
| Rod end male thread                                  | Male thread | 1.5 | 3  | 6   | 12  |
|  | Nut         | 1   | 2  | 4   | 8   |
| Foot style (Including mounting bolt)                 |             | 55  | 64 | 158 | 179 |
| Rod side flange style (Including mounting bolt)      |             | 58  | 69 | 142 | 178 |
| Head side flange style (Including mounting bolt)     |             | 56  | 66 | 137 | 171 |
| Double clevis style (Including pin, snap ring, bolt) |             | 34  | 40 | 92  | 127 |



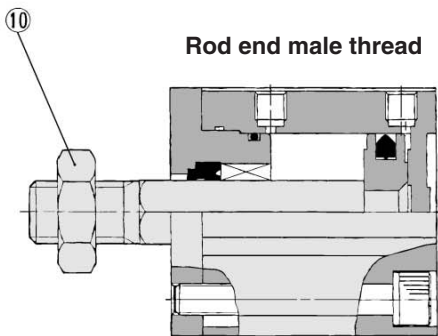
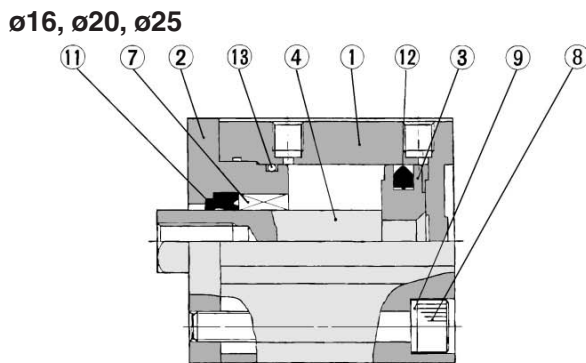
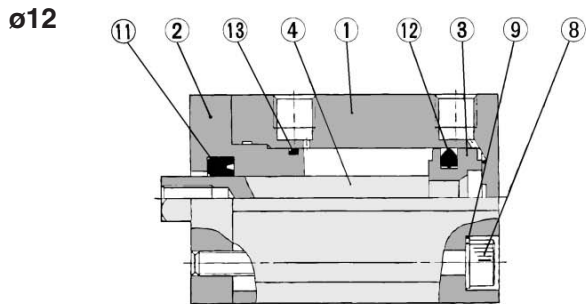
**Made to Order Specifications**  
(For details, refer to page 7-10-1.)

| Symbol | Specifications                                     |
|--------|--|
| -XC6   | Piston rod and rod end nut made of stainless steel |

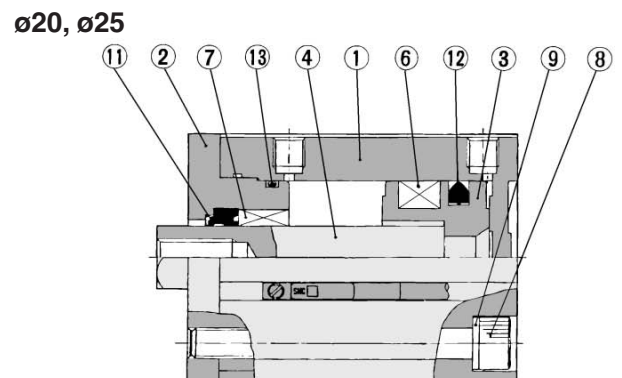
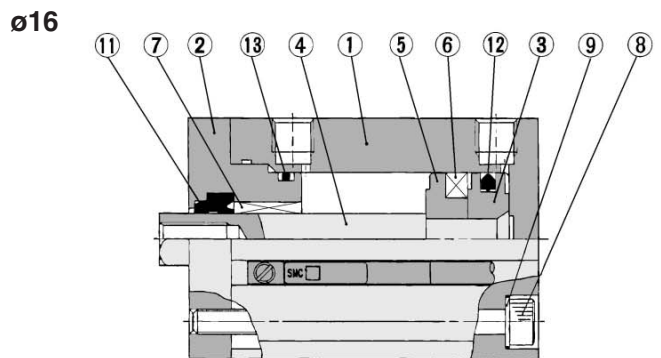
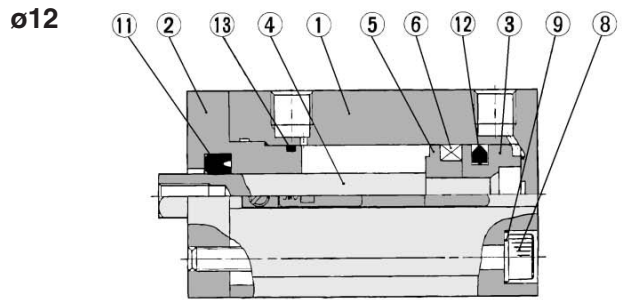
# Compact Cylinder: Non-rotating Rod Type Double Acting, Single Rod Series CQSK

## Construction

### Basic style



### With auto switch (Built-in magnet)



### Component Parts

| No. | Description                   | Material                       | Note             |
|-----|-------------------------------|--------------------------------|------------------|
| ①   | Cylinder tube                 | Aluminum alloy                 | Hard anodized    |
| ②   | Rod cover                     | Aluminum alloy                 | Anodized         |
| ③   | Piston                        | Aluminum alloy                 | Chromated        |
| ④   | Piston rod                    | Stainless steel                |                  |
| ⑤   | Spacer for switch type        | Aluminum alloy                 | Chromated        |
| ⑥   | Magnet                        | —                              |                  |
| ⑦   | Non-rotating guide            | Oil impregnated sintered alloy | ø16, ø20 and ø25 |
| ⑧   | Hexagon socket head cap screw | Alloy steel                    | Nickel plated    |
| ⑨   | Plain washer                  | Rolled steel                   | Nickel plated    |
| ⑩   | Rod end nut                   | Carbon steel                   | Nickel plated    |
| ⑪*  | Rod seal                      | NBR                            |                  |
| ⑫*  | Piston seal                   | NBR                            |                  |
| ⑬*  | Tube gasket                   | NBR                            |                  |

### Replacement Parts: Seal Kit

| Bore size (mm) | Kit no.    | Contents                   |
|----------------|------------|----------------------------|
| 12             | CQSKB12-PS | Set of nos. above ⑪, ⑫, ⑬. |
| 16             | CQSKB16-PS |                            |
| 20             | CQSKB20-PS |                            |
| 25             | CQSKB25-PS |                            |

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

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

-X

20-

Data

## ⚠ Precautions

### Operating Precautions

#### ⚠ Caution

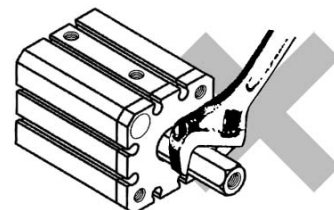
1. Any kind of operation producing rotational torque to piston rod must be considered. The non-rotating guide would be deformed and the accuracy would be compromised.

Refer to the table below for rotation torque allowance.

| Allowable rotational torque (N-m) or less | ø12 | ø16  | ø20  | ø25 |
|---|-----|------|------|-----|
|   |     | 0.04 | 0.04 | 0.2 |

2. Load to piston rod must always be in an axial direction.

3. When a workpiece is secured to the end of the piston rod, ensure that the piston rod is retracted entirely, and place a wrench on the portion of the rod that protrudes beyond the section. Also, tighten by giving consideration to prevent the tightening torque from being applied to the non-rotating guide.



# Series CQSK

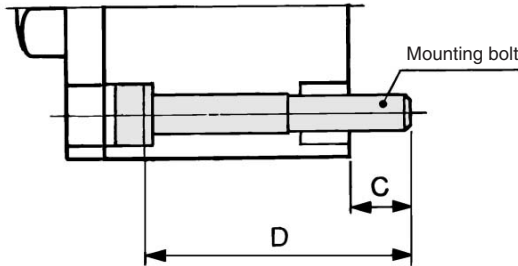
## Mounting Bolt for CQSK

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

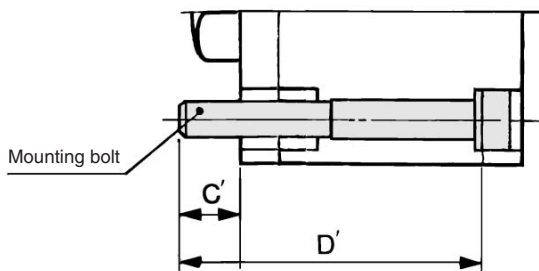
Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 30ℓ 2 pcs.

### Head side mounting style



### Rod side mounting style



Note) When mounting a cylinder with through-hole, be sure to use the attached plain washer.

| Model             | C   | D  | Mounting bolt | C'  | D' | Mounting bolt |
|-------------------|-----|----|---------------|-----|----|---------------|
| <b>CQSKB12-5D</b> | 6.5 | 25 | M3 x 25ℓ      | 6.5 | 30 | M3 x 30ℓ      |
| <b>-10D</b>       |     | 30 | x 30ℓ         |     | 35 | x 35ℓ         |
| <b>-15D</b>       |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-20D</b>       |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-25D</b>       |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-30D</b>       |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>CQSKB16-5D</b> | 6.5 | 25 | M3 x 25ℓ      | 6.5 | 30 | M3 x 30ℓ      |
| <b>-10D</b>       |     | 30 | x 30ℓ         |     | 35 | x 35ℓ         |
| <b>-15D</b>       |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-20D</b>       |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-25D</b>       |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-30D</b>       |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>CQSKB20-5D</b> | 6.5 | 25 | M5 x 25ℓ      | 6.5 | 30 | M5 x 30ℓ      |
| <b>-10D</b>       |     | 30 | x 30ℓ         |     | 35 | x 35ℓ         |
| <b>-15D</b>       |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-20D</b>       |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-25D</b>       |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-30D</b>       |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-35D</b>       |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>-40D</b>       |     | 60 | x 60ℓ         |     | 65 | x 65ℓ         |
| <b>-45D</b>       |     | 65 | x 65ℓ         |     | 70 | x 70ℓ         |
| <b>-50D</b>       |     | 70 | x 70ℓ         |     | 75 | x 75ℓ         |
| <b>CQSKB25-5D</b> | 8.5 | 30 | M5 x 30ℓ      | 8.5 | 35 | M5 x 35ℓ      |
| <b>-10D</b>       |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-15D</b>       |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-20D</b>       |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-25D</b>       |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-30D</b>       |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>-35D</b>       |     | 60 | x 60ℓ         |     | 65 | x 65ℓ         |
| <b>-40D</b>       |     | 65 | x 65ℓ         |     | 70 | x 70ℓ         |
| <b>-45D</b>       |     | 70 | x 70ℓ         |     | 75 | x 75ℓ         |
| <b>-50D</b>       |     | 75 | x 75ℓ         |     | 80 | x 80ℓ         |

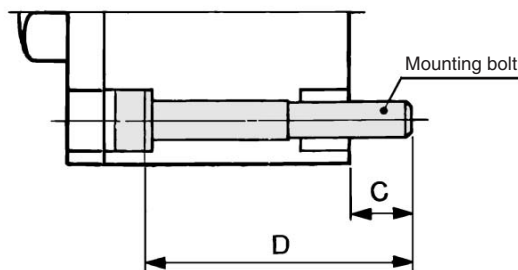
## Mounting Bolt for CDQSK

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

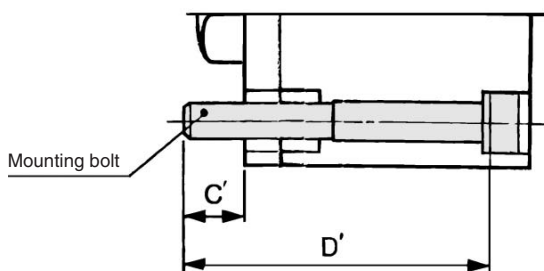
Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 35ℓ 2 pcs.

### Head side mounting style



### Rod side mounting style



Note) When mounting a cylinder with through-hole, be sure to use the attached plain washer.

| Model              | C   | D  | Mounting bolt | C'  | D' | Mounting bolt |
|--------------------|-----|----|---------------|-----|----|---------------|
| <b>CDQSKB12-5D</b> | 6.5 | 30 | M3 x 30ℓ      | 6.5 | 35 | M3 x 35ℓ      |
| <b>-10D</b>        |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-15D</b>        |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-20D</b>        |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-25D</b>        |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-30D</b>        |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>CDQSKB16-5D</b> | 6.5 | 30 | M3 x 30ℓ      | 6.5 | 35 | M3 x 35ℓ      |
| <b>-10D</b>        |     | 35 | x 35ℓ         |     | 40 | x 40ℓ         |
| <b>-15D</b>        |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-20D</b>        |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-25D</b>        |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-30D</b>        |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>CDQSKB20-5D</b> | 6.5 | 35 | M5 x 35ℓ      | 6.5 | 40 | M5 x 40ℓ      |
| <b>-10D</b>        |     | 40 | x 40ℓ         |     | 45 | x 45ℓ         |
| <b>-15D</b>        |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-20D</b>        |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-25D</b>        |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>-30D</b>        |     | 60 | x 60ℓ         |     | 65 | x 65ℓ         |
| <b>-35D</b>        |     | 65 | x 65ℓ         |     | 70 | x 70ℓ         |
| <b>-40D</b>        |     | 70 | x 70ℓ         |     | 75 | x 75ℓ         |
| <b>-45D</b>        |     | 75 | x 75ℓ         |     | 80 | x 80ℓ         |
| <b>-50D</b>        |     | 80 | x 80ℓ         |     | 85 | x 85ℓ         |
| <b>CDQSKB25-5D</b> | 8.5 | 40 | M5 x 40ℓ      | 8.5 | 45 | M5 x 45ℓ      |
| <b>-10D</b>        |     | 45 | x 45ℓ         |     | 50 | x 50ℓ         |
| <b>-15D</b>        |     | 50 | x 50ℓ         |     | 55 | x 55ℓ         |
| <b>-20D</b>        |     | 55 | x 55ℓ         |     | 60 | x 60ℓ         |
| <b>-25D</b>        |     | 60 | x 60ℓ         |     | 65 | x 65ℓ         |
| <b>-30D</b>        |     | 65 | x 65ℓ         |     | 70 | x 70ℓ         |
| <b>-35D</b>        |     | 70 | x 70ℓ         |     | 75 | x 75ℓ         |
| <b>-40D</b>        |     | 75 | x 75ℓ         |     | 80 | x 80ℓ         |
| <b>-45D</b>        |     | 80 | x 80ℓ         |     | 85 | x 85ℓ         |
| <b>-50D</b>        |     | 85 | x 85ℓ         |     | 90 | x 90ℓ         |

# Series CQSK

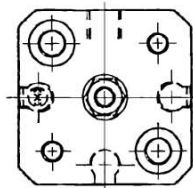
Dimensions:  $\phi 12$  to  $\phi 25$

Basic style (Through-hole/Both ends tapped common): CQSK/CDQSK

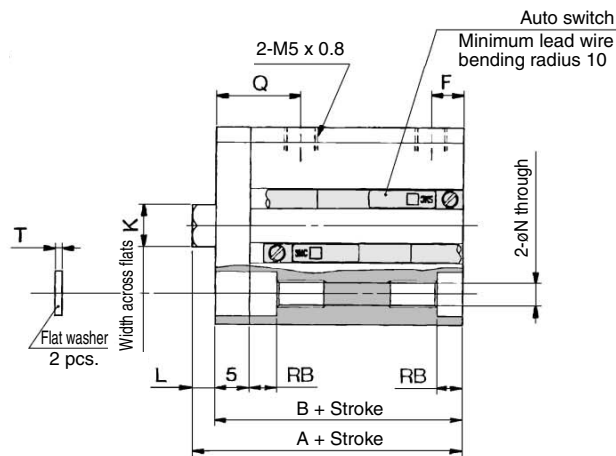
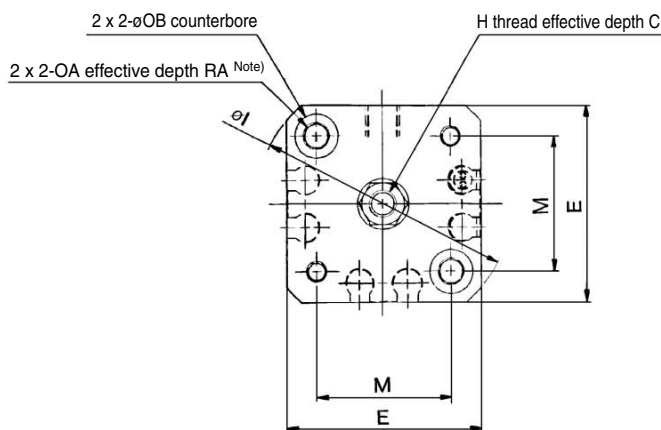


\* For the auto switch mounting position and its mounting height, refer to page 7-4-10.

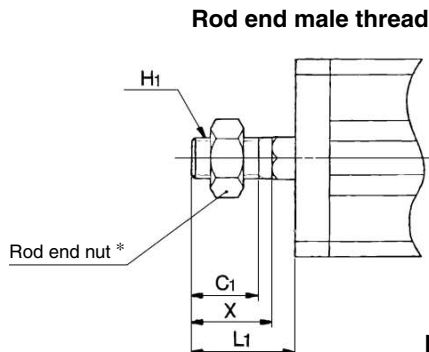
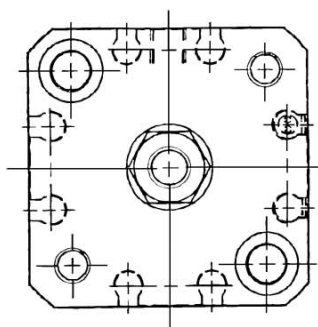
$\phi 12$



$\phi 16$



$\phi 20, \phi 25$



### Rod End Male Thread

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

### Basic Style

| Bore size (mm) | Stroke range (mm) | Without auto switch |      | With auto switch |      | C  | E  | F   | H        | I  | K    | L   | M    | N   | OA       | OB  | Q    | RA | RB | T   |
|----------------|-------------------|---------------------|------|------------------|------|----|----|-----|----------|----|------|-----|------|-----|----------|-----|------|----|----|-----|
|                |                   | A                   | B    | A                | B    |    |    |     |          |    |      |     |      |     |          |     |      |    |    |     |
| 12             | 5 to 30           | 25.5                | 22   | 30.5             | 27   | 6  | 25 | 5   | M3 x 0.5 | 32 | 5.2  | 3.5 | 15.5 | 3.5 | M4 x 0.7 | 6.5 | 12.5 | 7  | 4  | 0.5 |
| 16             | 5 to 30           | 25.5                | 22   | 30.5             | 27   | 8  | 29 | 5   | M4 x 0.7 | 38 | 6.2  | 3.5 | 20   | 3.5 | M4 x 0.7 | 6.5 | 12.5 | 7  | 4  | 0.5 |
| 20             | 5 to 50           | 29                  | 24.5 | 39               | 34.5 | 7  | 36 | 5.5 | M5 x 0.8 | 47 | 8.2  | 4.5 | 25.5 | 5.4 | M6 x 1.0 | 9   | 14   | 10 | 7  | 1   |
| 25             | 5 to 50           | 32.5                | 27.5 | 42.5             | 37.5 | 12 | 40 | 5.5 | M6 x 1.0 | 52 | 10.2 | 5   | 28   | 5.4 | M6 x 1.0 | 9   | 16   | 10 | 7  | 1   |



Note) For basic style  $\phi 12$  and  $\phi 16$  with 5 stroke, through-hole is threaded over the entire length.

For basic style  $\phi 20$  with 5 to 15 stroke, through-hole is threaded over the entire length.

For basic style  $\phi 25$  with 5 and 10 stroke, through-hole is threaded over the entire length.

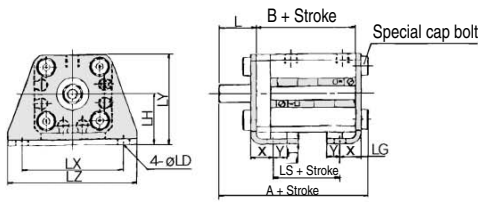
Note) With auto switch (Built-in magnet):  $\phi 20$ ; 5 stroke

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



# Compact Cylinder: Non-rotating Rod Type Double Acting, Single Rod Series CQSK

## Foot style: CQSKL/CDQSKL

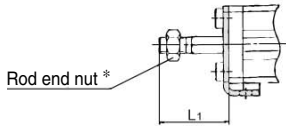


## Foot Style

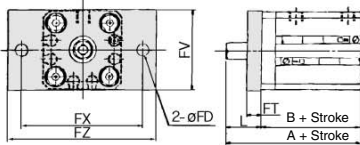
| Bore size (mm) | Stroke range (mm) | Without auto switch |      |      | With auto switch |      |      | L    | L <sub>1</sub> | LD  | LG  | LH | LT  | LX | LY   | LZ | X    | Y   |
|----------------|-------------------|---------------------|------|------|------------------|------|------|------|----------------|-----|-----|----|-----|----|------|----|------|-----|
|                |                   | A                   | B    | LS   | A                | B    | LS   |      |                |     |     |    |     |    |      |    |      |     |
| 12             | 5 to 30           | 40.3                | 22   | 10   | 45.3             | 27   | 15   | 13.5 | 24             | 4.5 | 2.8 | 17 | 2   | 34 | 29.5 | 44 | 8    | 4.5 |
| 16             | 5 to 30           | 40.3                | 22   | 10   | 45.3             | 27   | 15   | 13.5 | 25.5           | 4.5 | 2.8 | 19 | 2   | 38 | 33.5 | 48 | 8    | 5   |
| 20             | 5 to 50           | 46.2                | 24.5 | 12.5 | 56.2             | 34.5 | 22.5 | 14.5 | 28.5           | 6.6 | 4   | 24 | 3.2 | 48 | 42   | 62 | 9.2  | 5.8 |
| 25             | 5 to 50           | 49.7                | 27.5 | 12.5 | 59.7             | 37.5 | 22.5 | 15   | 32.5           | 6.6 | 4   | 26 | 3.2 | 52 | 46   | 66 | 10.7 | 5.8 |

Foot bracket material: Carbon steel

## Rod end male thread



## Rod side flange style: CQSKF/CDQSKF

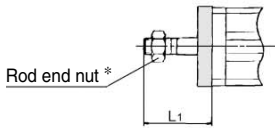


## Rod Side Flange Style

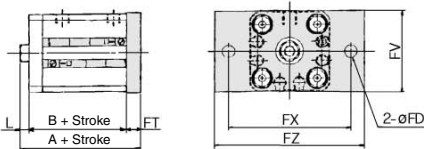
| Bore size (mm) | Stroke range (mm) | Without auto switch |      | With auto switch |      | FD  | FT  | FV | FX | FZ | L    | L <sub>1</sub> |
|----------------|-------------------|---------------------|------|------------------|------|-----|-----|----|----|----|------|----------------|
|                |                   | A                   | B    | A                | B    |     |     |    |    |    |      |                |
| 12             | 5 to 30           | 35.5                | 22   | 40.5             | 27   | 4.5 | 5.5 | 25 | 45 | 55 | 13.5 | 24             |
| 16             | 5 to 30           | 35.5                | 22   | 40.5             | 27   | 4.5 | 5.5 | 30 | 45 | 55 | 13.5 | 25.5           |
| 20             | 5 to 50           | 39                  | 24.5 | 49               | 34.5 | 6.6 | 8   | 39 | 48 | 60 | 14.5 | 28.5           |
| 25             | 5 to 50           | 42.5                | 27.5 | 52.5             | 37.5 | 6.6 | 8   | 42 | 52 | 64 | 15   | 32.5           |

Flange bracket material: Carbon steel

## Rod end male thread



## Head side flange style: CQSKG/CDQSKG

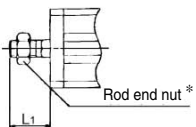


## Head Side Flange Style

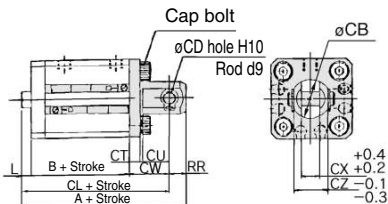
| Bore size (mm) | Stroke range (mm) | Without auto switch |      | With auto switch |      | FD  | FT  | FV | FX | FZ | L   | L <sub>1</sub> |
|----------------|-------------------|---------------------|------|------------------|------|-----|-----|----|----|----|-----|----------------|
|                |                   | A                   | B    | A                | B    |     |     |    |    |    |     |                |
| 12             | 5 to 30           | 31                  | 22   | 36               | 27   | 4.5 | 5.5 | 25 | 45 | 55 | 3.5 | 14             |
| 16             | 5 to 30           | 31                  | 22   | 36               | 27   | 4.5 | 5.5 | 30 | 45 | 55 | 3.5 | 15.5           |
| 20             | 5 to 50           | 37                  | 24.5 | 47               | 34.5 | 6.6 | 8   | 39 | 48 | 60 | 4.5 | 18.5           |
| 25             | 5 to 50           | 40.5                | 27.5 | 50.5             | 37.5 | 6.6 | 8   | 42 | 52 | 64 | 5   | 22.5           |

Flange bracket material: Carbon steel

## Rod end male thread



## Double clevis style: CQSKD/CDQSKD



## Double Clevis Style

| Bore size (mm) | Stroke range (mm) | Without auto switch |      |      | With auto switch |      |      | CB | CD | CT | CU | CW | CX  | CZ | L   | L <sub>1</sub> | RR |
|----------------|-------------------|---------------------|------|------|------------------|------|------|----|----|----|----|----|-----|----|-----|----------------|----|
|                |                   | A                   | B    | CL   | A                | B    | CL   |    |    |    |    |    |     |    |     |                |    |
| 12             | 5 to 30           | 45.5                | 22   | 39.5 | 50.5             | 27   | 44.5 | 12 | 5  | 4  | 7  | 14 | 5   | 10 | 3.5 | 14             | 6  |
| 16             | 5 to 30           | 46.5                | 22   | 40.5 | 51.5             | 27   | 45.5 | 14 | 5  | 4  | 10 | 15 | 6.5 | 12 | 3.5 | 15.5           | 6  |
| 20             | 5 to 50           | 56                  | 24.5 | 47   | 66               | 34.5 | 57   | 20 | 8  | 5  | 12 | 18 | 8   | 16 | 4.5 | 18.5           | 9  |
| 25             | 5 to 50           | 62.5                | 27.5 | 52.5 | 72.5             | 37.5 | 62.5 | 24 | 10 | 5  | 14 | 20 | 10  | 20 | 5   | 22.5           | 10 |

Double clevis bracket material: Carbon steel

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

## Rod end male thread

