

Compact Cylinder: Non-rotating Rod Double Acting, Single Rod

CQ2K Series

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

How to Order

Without auto switch ø12 to ø25: **CQ2K B 20 [] - 30 D [] - []**

Without auto switch ø32 to ø63: **CQ2K B 32 [] - 30 D [] Z - []**

With auto switch: **CDQ2K B 32 [] - 30 D [] Z - M9BW [] - []**

With auto switch (Built-in magnet) • Non-rotating rod • Mounting •

| | | |
|-----------|-------------------------|---------------|
| B | Through-hole (Standard) | ø12 to ø63 |
| A | Both ends tapped | |
| L | Foot | |
| LC | Compact foot | ø40, ø50, ø63 |
| F | Rod flange | ø63 |
| G | Head flange | |
| D | Double clevis | |

* Mounting brackets are shipped together (but not assembled).
* Cylinder mounting bolts are not included. Order them separately referring to "Mounting Bolt for CQ2KB" on pages 870 and 873.

• Number of auto switches

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

• Auto switch

| | |
|------------|---------------------|
| Nil | Without auto switch |
|------------|---------------------|

* Refer to the below table for applicable auto switches.

• Auto switch mounting groove

| | | |
|----------|------------|------------|
| Z | ø12 to ø25 | 2 surfaces |
| | ø32 to ø63 | 4 surfaces |

Made to Order
Refer to page 868 for details.

• Body option

| | |
|------------|--|
| Nil | Standard (Rod end female thread) |
| F | With boss on head end |
| C | With rubber bumper (ø12 with auto switch only) |
| M | Rod end male thread |

* Combination of body options ("FM") is available.

• Action

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

Bore size

| | | | |
|-------------|-------|----|-------|
| 12 (Note 1) | 12 mm | 32 | 32 mm |
| 16 | 16 mm | 40 | 40 mm |
| 20 | 20 mm | 50 | 50 mm |
| 25 | 25 mm | 63 | 63 mm |

Port thread type

| | | |
|------------|--------------------------------------|------------|
| Nil | M thread | ø12 to ø25 |
| | Rc | |
| TN | NPT | ø32 to ø63 |
| TF | G | |
| F | Built-in One-touch fittings (Note 2) | |

Note 1) When ø12 with auto switch is required, the body option should be with rubber bumper (C).
Example) CDQ2KB12-30DCZ

Note 2) Bore sizes available with One-touch fittings are ø32 to ø63.

* For cylinders without auto switch, M threads are compatible only for ø32-5 mm stroke model.

Cylinder stroke (mm)

Refer to page 868 for standard strokes.

Refer to pages 1575 to 1701 for further information on auto switches.

Applicable Auto Switches/Refer to pages 1630 and 1631 for the D-P3DW type.

| Type | Special function | Electrical entry | Incl. 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) | 5 V | — | M9NV | M9N | ● | ● | ● | ○ | — | ○ | IC circuit |
| | | | | 3-wire (PNP) | 12 V | — | M9PV | M9P | ● | ● | ● | ○ | — | ○ | |
| | | | | 2-wire | 12 V | — | M9BV | M9B | ● | ● | ● | ○ | — | ○ | |
| | | | | 3-wire (NPN) | 5 V | — | M9NVV | M9NV | ● | ● | ● | ○ | — | ○ | |
| | 3-wire (PNP) | 12 V | — | M9PVV | M9PV | ● | ● | ● | ○ | — | ○ | | | | |
| | Diagnostic indication (2-color indicator) | Grommet | Yes | 2-wire | 12 V | — | M9BWV | M9BW | ● | ● | ● | ○ | — | ○ | — |
| | | | | 3-wire (NPN) | 5 V | — | M9NAV*1 | M9NA*1 | ○ | ○ | ● | ○ | — | ○ | |
| | Water resistant (2-color indicator) | Grommet | Yes | 3-wire (PNP) | 12 V | — | M9PAV*1 | M9PA*1 | ○ | ○ | ○ | ○ | — | ○ | — |
| | | | | 3-wire (PNP) | 5 V | — | M9BAV*1 | M9BA*1 | ○ | ○ | ○ | ○ | — | ○ | |
| | Magnetic field resistant (2-color indicator) | Grommet | Yes | 2-wire | 12 V | — | P3DWA | | ● | — | ● | ● | — | ○ | — |
| 2-wire (Non-polar) | | | | — | — | | | ● | — | ● | ● | — | ○ | | |
| 3-wire (NPN equivalent) | | | | — | 5 V | — | A96V | A96 | ● | — | — | — | — | ○ | |
| — | Grommet | No | 2-wire | 24 V | 12 V | 100 V | A93V*2 | A93 | ● | ● | ● | ● | — | — | Relay, PLC |
| | | | 2-wire | 24 V | 5 V, 12 V | 100 V or less | A90V | A90 | ● | — | ● | — | — | — | |

*1 Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.

* Consult with SMC regarding water resistant types with the above model numbers.

* 2 1 m type lead wire is only applicable to D-A93.

* Lead wire length symbols: 0.5 m Nil (Example) M9NV
1 m M (Example) M9MV
3 m L (Example) M9NL
5 m Z (Example) M9NZ

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

* The D-P3DWA□ type is available from ø25 to ø63 only.

* There are other applicable auto switches other than the listed above. For details, refer to page 970.

* For details about auto switches with pre-wired connector, refer to pages 1648 and 1649.

CUJ

CU

CQS

JCQ

CQ2

RQ

CQM

CQU

MU

D-□

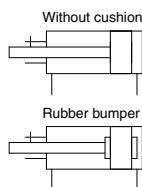
-X□

Technical Data

CQ2K Series



Symbol



Made to Order: Individual Specifications
(For details, refer to page 980.)

| Symbol | Specifications |
|--------|--|
| -X1876 | Cylinder tube: With concave boss on head end |

Made to Order

[Click here for details](#)

| Symbol | Specifications |
|---------|---|
| -XA□ | Change of rod end shape |
| -XB10 | Intermediate stroke (Exclusive body type): ø40 to ø63 |
| -XC2(A) | Rod end length, 10 mm increased (For foot and flange bracket) |
| -XC8 | Adjustable stroke cylinder/Adjustable extension type |
| -XC9 | Adjustable stroke cylinder/Adjustable retraction type |
| -XC10 | Dual stroke cylinder/Double rod |
| -XC11 | Dual stroke cylinder/Single rod |
| -XC26 | With split pins for double clevis pin/ double knuckle joint pin and flat washers |
| -XC85 | Grease for food processing equipment |

Refer to pages 964 to 970 for the specifications of cylinders with autoswitches.

- Auto switch proper mounting position (detection at stroke end) and its mounting height
- Minimum stroke for auto switch mounting
- Operating range
- Auto switch mounting brackets/Part no.

Moisture Control Tube IDK Series



When operating an actuator with a small diameter and a short stroke at a high frequency, the dew condensation (water droplet) 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 IDK series in the Best Pneumatics No. 6](#).

Specifications

| Bore size (mm) | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
|--------------------------------------|---|-------|----------|------|------|-------|------|------|
| 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 temperature | Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing) | | | | | | | |
| Lubrication | Not required (Non-Lube) | | | | | | | |
| Piston speed | 50 to 500 mm/s | | | | | | | |
| Allowable kinetic energy (J) | 0.022 <small>0.043 (Note 1)</small> | 0.038 | 0.055 | 0.09 | 0.15 | 0.26 | 0.46 | 0.77 |
| Stroke length tolerance | +1.0 mm (Note 2) | | | | | | | |
| Rod non-rotating accuracy | ±2° | | ±1° | | | ±0.8° | | |

* ø12 with auto switch: With rubber bumper (Standard)

Note 1) For cylinders with rubber bumper (ø12 with auto switch only)

Note 2) Stroke length tolerance does not include the amount of bumper change.

Standard Strokes

| Bore size | Standard stroke (mm) |
|-----------|--|
| 12, 16 | 5, 10, 15, 20, 25, 30 |
| 20, 25 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 |
| 32, 40 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100 |
| 50, 63 | 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100 |

Manufacture of Intermediate Strokes

| Type | A spacer is installed in the standard stroke body. | Exclusive body (-XB10) | | |
|--------------|---|--|----------|---------|
| Part no. | Refer to "How to Order" for the standard model number. (P. 867) | Suffix "-XB10" to the end of standard model number. (P. 867) | | |
| Description | Strokes in 1 mm increments are available by installing a spacer in the standard stroke cylinder. | Strokes in 1 mm increments are available by using an exclusive body with the specified stroke. | | |
| Stroke range | Bore size | Bore size | | |
| | Stroke range | Stroke range | | |
| | 12, 16 | 1 to 29 | — | — |
| | 20, 25 | 1 to 49 | 40 | 6 to 99 |
| 32 to 63 | 1 to 99 | 50, 63 | 11 to 99 | |
| Example | Part no.: CQ2KB50-57DZ CQ2KB50-75DZ with 18 mm width spacer inside The B dimension is 115.5 mm. | Part no.: CQ2KB50-57DZ-XB10 Makes 57 mm stroke tube. The B dimension is 97.5 mm. | | |

* Only bore sizes ø40 to ø63 are applicable to the XB10.

Type

| Bore size (mm) | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | | | |
|----------------|-----------------------|-----------------------------|----|----------|----------|----------|------------------------------------|------------------------------|--------|--------|--------|
| Pneumatic | Mounting | Through-hole (Standard) | ● | ● | ● | ● | ● | ● | ● | | |
| | | Both ends tapped | — | — | — | — | — | ● | ● | | |
| | Built-in magnet | ● | ● | ● | ● | ● | ● | ● | | | |
| | Piping | Pipe thread | — | M5 x 0.8 | M5 x 0.8 | M5 x 0.8 | M5 x 0.8 <small>Note 1)</small> | Rc1/8 | Rc1/4 | Rc1/4 | |
| | | | TN | — | — | — | — | NPT1/8 | NPT1/8 | NPT1/4 | NPT1/4 |
| | | Built-in One-touch fittings | TF | — | — | — | — | G1/8 | G1/8 | G1/4 | G1/4 |
| | | | — | — | — | — | — | ø6 <small>Note 2)</small> | ø6 | ø8 | ø8 |
| | Rod end male thread | ● | ● | ● | ● | ● | ● | ● | ● | | |
| | With boss on head end | ● | ● | ● | ● | ● | ● | ● | ● | | |

Note 1) ø32 without auto switch: M5 x 0.8 is used for 5 mm stroke piping dimension.

Thus, do not enter a symbol for the port thread type.

Note 2) The dimensions of the ø32-5 mm stroke with built-in One-touch fittings are the same as those of the 10 mm stroke cylinder tube.

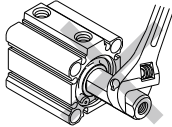
Retaining Ring Installation/Removal

⚠ Caution

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

Mounting

- Install or remove loads while the piston rod width across flat is secured.



- Using a non-rotating rod cylinder
Avoid using the air cylinder in such a way that rotational torque would be applied to the piston rod. If rotational torque is applied, the non-rotating guide will deform, causing a loss of non-rotating accuracy.
Use the below table as a guide for the allowable rotational torque ranges.

| Allowable rotational torque | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
|-----------------------------|------|------|------|------|------|------|------|------|
| N·m or less | 0.04 | 0.15 | 0.20 | 0.25 | 0.44 | 0.44 | 0.44 | 0.44 |

Operate the cylinder in such a way that the load to the piston rod is always applied in the axial direction.

- When a work piece 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 in a way that prevents the tightening torque from being applied to the non-rotating guide.

Mounting Brackets/Part No.

| Bore size (mm) | Foot ^{Note 1)} | Compact foot ^{Note 1)} | Flange | Double clevis |
|----------------|-------------------------|---------------------------------|---------|---------------|
| 40 | CQ-L040 | CQ-LC040 | CQ-F040 | CQ-D040 |
| 50 | CQ-L050 | CQ-LC050 | CQ-F050 | CQ-D050 |
| 63 | CQ-L063 | CQ-LC063 | CQ-F063 | CQ-D063 |

Note 1) When ordering foot and compact foot brackets, order 2 pieces per cylinder.

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

Foot, Compact foot, Flange: Body mounting bolts
Double clevis: Clevis pin, Body mounting bolts, Type C retaining rings for axis

Note 3) For details about accessories (options), refer to pages 796 to 798.

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 |

Weight

Weight

| Bore size (mm) | Cylinder stroke (mm) | | | | | | | | | | | |
|----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 |
| 12 | 60 | 67 | 74 | 81 | 88 | 95 | — | — | — | — | — | — |
| 16 | 58 | 67 | 76 | 85 | 94 | 103 | — | — | — | — | — | — |
| 20 | 103 | 117 | 131 | 145 | 159 | 173 | 187 | 201 | 215 | 229 | — | — |
| 25 | 137 | 152 | 167 | 182 | 197 | 212 | 227 | 242 | 257 | 272 | — | — |
| 32 | 196 | 215 | 234 | 253 | 272 | 291 | 310 | 329 | 347 | 366 | 506 | 601 |
| 40 | 205 | 226 | 248 | 269 | 291 | 312 | 333 | 355 | 376 | 398 | 570 | 682 |
| 50 | — | 356 | 390 | 424 | 457 | 491 | 525 | 559 | 592 | 626 | 901 | 1075 |
| 63 | — | 524 | 563 | 602 | 641 | 680 | 720 | 759 | 798 | 837 | 1173 | 1375 |

Additional Weight

| Bore size (mm) | | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
|---|-------------|-----|-----|-----|-----|----|-----|-----|-----|
| Both ends tapped | | — | — | — | — | — | 6 | 6 | 19 |
| Rod end male thread | Male thread | 1.5 | 3 | 6 | 12 | 26 | 27 | 53 | 53 |
| | Nut | 1 | 2 | 4 | 8 | 17 | 17 | 32 | 32 |
| With boss on head end | | 0.7 | 1.3 | 2 | 3 | 5 | 7 | 13 | 25 |
| Built-in One-touch fittings | | — | — | — | — | — | 12 | 12 | 21 |
| Foot (Including mounting bolts) | | — | — | — | — | — | 153 | 242 | 316 |
| Compact foot (Including mounting bolts) | | 41 | 51 | 121 | 140 | 99 | 114 | 177 | 241 |
| Rod flange (Including mounting bolts) | | — | — | — | — | — | 213 | 372 | 558 |
| Head flange (Including mounting bolts) | | — | — | — | — | — | 198 | 348 | 534 |
| Double clevis (Including pin, retaining rings, bolts) | | — | — | — | — | — | 196 | 393 | 554 |

Calculation: (Example) **CQ2KD40-20DMZ**

- Basic weight: CQ2KB40-20DZ 269 g
- Additional weight: Both ends tapped 6 g
- Rod end male thread 44 g
- Double clevis 196 g

515 g

CUJ

CU

CQS

JCQ

CQ2

RQ

CQM

CQU

MU

D-□

-X□

Technical Data

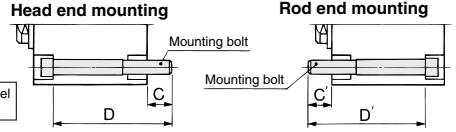
CQ2K Series

Mounting Bolt for CQ2KB/Without Auto Switch

Mounting method: Mounting bolt for through-hole mounting of the CQ2KB is available as an option. Refer to the following for ordering procedures. Order the actual number of bolts that will be used.

Example) CQ-M3 x 30L 2 pcs.

Material: Chromium molybdenum steel
Surface treatment: Zinc chromated

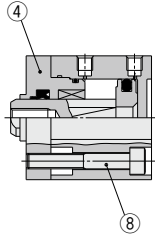


| Cylinder model | C | D | Mounting bolt part no. | C' | D' | Mounting bolt part no. |
|--------------------|-----|--------|------------------------|--------|-----|------------------------|
| CQ2KB12-5D | 6.5 | 30 | CQ-M3 x 30L | 6.5 | 30 | CQ-M3 x 30L |
| -10D | | 35 | x 35L | | 35 | x 35L |
| -15D | | 40 | x 40L | | 40 | x 40L |
| -20D | | 45 | x 45L | | 45 | x 45L |
| -25D | | 50 | x 50L | | 50 | x 50L |
| -30D | | 55 | x 55L | | 55 | x 55L |
| CQ2KB16-5D | 5 | 30 | CQ-M3 x 30L | 5 | 30 | CQ-M3 x 30L |
| -10D | | 35 | x 35L | | 35 | x 35L |
| -15D | | 40 | x 40L | | 40 | x 40L |
| -20D | | 45 | x 45L | | 45 | x 45L |
| -25D | | 50 | x 50L | | 50 | x 50L |
| -30D | | 55 | x 55L | | 55 | x 55L |
| CQ2KB20-5D | 8 | 35 | CQ-M5 x 35L | 9.5 | 35 | CQ-M5 x 35L |
| -10D | | 40 | x 40L | | 40 | x 40L |
| -15D | | 45 | x 45L | | 45 | x 45L |
| -20D | | 50 | x 50L | | 50 | x 50L |
| -25D | | 55 | x 55L | | 55 | x 55L |
| -30D | | 60 | x 60L | | 60 | x 60L |
| -35D | | 65 | x 65L | | 65 | x 65L |
| -40D | | 70 | x 70L | | 70 | x 70L |
| -45D | | 75 | x 75L | | 75 | x 75L |
| -50D | | 80 | x 80L | | 80 | x 80L |
| CQ2KB25-5D | 10 | 40 | CQ-M5 x 40L | 6.5 | 35 | CQ-M5 x 35L |
| -10D | | 45 | x 45L | | 40 | x 40L |
| -15D | | 50 | x 50L | | 45 | x 45L |
| -20D | | 55 | x 55L | | 50 | x 50L |
| -25D | | 60 | x 60L | | 55 | x 55L |
| -30D | | 65 | x 65L | | 60 | x 60L |
| -35D | | 70 | x 70L | | 65 | x 65L |
| -40D | | 75 | x 75L | | 70 | x 70L |
| -45D | | 80 | x 80L | | 75 | x 75L |
| -50D | | 85 | x 85L | | 80 | x 80L |
| CQ2KB32-5DZ | 8.5 | 40 | CQ-M5 x 40L | 10 | 40 | CQ-M5 x 40L |
| -10DZ | | 45 | x 45L | | 45 | x 45L |
| -15DZ | | 50 | x 50L | | 50 | x 50L |
| -20DZ | | 55 | x 55L | | 55 | x 55L |
| -25DZ | | 60 | x 60L | | 60 | x 60L |
| -30DZ | | 65 | x 65L | | 65 | x 65L |
| -35DZ | | 70 | x 70L | | 70 | x 70L |
| -40DZ | | 75 | x 75L | | 75 | x 75L |
| -45DZ | | 80 | x 80L | | 80 | x 80L |
| -50DZ | | 85 | x 85L | | 85 | x 85L |
| -75DZ | | 120 | x 120L | | 120 | x 120L |
| -100DZ | 145 | x 145L | 145 | x 145L | | |

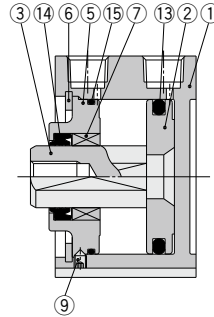
| Cylinder model | C | D | Mounting bolt part no. | C' | D' | Mounting bolt part no. |
|---------------------|------|--------|------------------------|--------|-----|------------------------|
| CQ2KB40-5DZ | 7.5 | 35 | CQ-M5 x 35L | 7.5 | 35 | CQ-M5 x 35L |
| -10DZ | | 40 | x 40L | | 40 | x 40L |
| -15DZ | | 45 | x 45L | | 45 | x 45L |
| -20DZ | | 50 | x 50L | | 50 | x 50L |
| -25DZ | | 55 | x 55L | | 55 | x 55L |
| -30DZ | | 60 | x 60L | | 60 | x 60L |
| -35DZ | | 65 | x 65L | | 65 | x 65L |
| -40DZ | | 70 | x 70L | | 70 | x 70L |
| -45DZ | | 75 | x 75L | | 75 | x 75L |
| -50DZ | | 80 | x 80L | | 80 | x 80L |
| -75DZ | | 115 | x 115L | | 115 | x 115L |
| -100DZ | 140 | x 140L | 140 | x 140L | | |
| CQ2KB50-10DZ | 12.5 | 45 | CQ-M6 x 45L | 12.5 | 45 | CQ-M6 x 45L |
| -15DZ | | 50 | x 50L | | 50 | x 50L |
| -20DZ | | 55 | x 55L | | 55 | x 55L |
| -25DZ | | 60 | x 60L | | 60 | x 60L |
| -30DZ | | 65 | x 65L | | 65 | x 65L |
| -35DZ | | 70 | x 70L | | 70 | x 70L |
| -40DZ | | 75 | x 75L | | 75 | x 75L |
| -45DZ | | 80 | x 80L | | 80 | x 80L |
| -50DZ | | 85 | x 85L | | 85 | x 85L |
| -75DZ | | 120 | x 120L | | 120 | x 120L |
| -100DZ | | 145 | x 145L | | 145 | x 145L |
| CQ2KB63-10DZ | 14.5 | 50 | CQ-M8 x 50L | 14.5 | 50 | CQ-M8 x 50L |
| -15DZ | | 55 | x 55L | | 55 | x 55L |
| -20DZ | | 60 | x 60L | | 60 | x 60L |
| -25DZ | | 65 | x 65L | | 65 | x 65L |
| -30DZ | | 70 | x 70L | | 70 | x 70L |
| -35DZ | | 75 | x 75L | | 75 | x 75L |
| -40DZ | | 80 | x 80L | | 80 | x 80L |
| -45DZ | | 85 | x 85L | | 85 | x 85L |
| -50DZ | | 90 | x 90L | | 90 | x 90L |
| -75DZ | | 125 | x 125L | | 125 | x 125L |
| -100DZ | | 150 | x 150L | | 150 | x 150L |

Construction

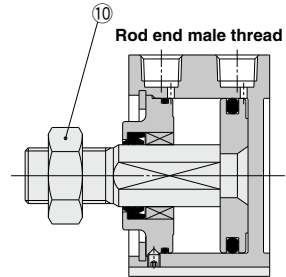
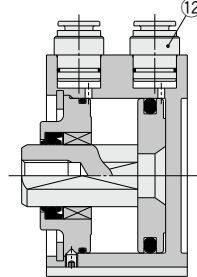
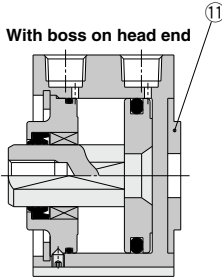
Standard (ø12 to ø32)



Standard (ø40 to ø63)



Built-in One-touch fittings



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 ø63, Hard chrome plated |
| 4 | Rod cover | Brass | ø12, Electroless nickel plated |
| | | Aluminum alloy | ø16 to ø32, Anodized |
| 5 | Collar | Aluminum alloy | ø40 to ø63, Anodized |
| 6 | Retaining ring | Carbon tool steel | Phosphate coated |
| 7 | Bushing | Oil-impregnated sintered alloy | ø16 to ø63 |
| 8 | Hexagon socket head cap screw | Alloy steel | ø12 to ø32, Nickel plated |
| 9 | Hexagon socket set screw | Alloy steel | ø40 to ø63, Nickel plated |
| 10 | Rod end nut | Carbon steel | Zinc chromated |
| 11 | Centering location ring | Aluminum alloy | ø20 to ø63, Anodized |
| 12 | One-touch fitting | — | ø32 to ø63 |
| 13 | Piston seal | NBR | |
| 14 | Rod seal | NBR | |
| 15 | Tube gasket | NBR | |

Replacement Parts/Seal Kit

| Bore size (mm) | Kit no. | Contents |
|----------------|------------|---|
| 12 | CQ2KB12-PS | Kits include items 13, 14, 15 from the table. |
| 16 | CQ2KB16-PS | |
| 20 | CQ2KB20-PS | |
| 25 | CQ2KB25-PS | |
| 32 | CQ2KB32-PS | |
| 40 | CQ2KB40-PS | |
| 50 | CQ2KB50-PS | |
| 63 | CQ2KB63-PS | |

* Seal kit includes 13, 14, 15. Order the seal kit based on each bore size.
* Since the seal kit does not include a grease pack, order it separately.
Grease pack part no.: GR-S-010 (10 g)

CJ

CU

CQS

JCQ

CQ2

RQ

CQM

CQU

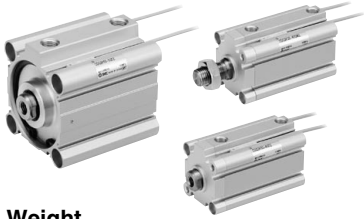
MU

D-□

-X□

Technical Data

Non-rotating Rod: Double Acting, Single Rod CDQ2K Series With Auto Switch



Refer to the below pages for further information on auto switches.

| | |
|--|--------------|
| Auto switch proper mounting position and its mounting height | P.964 to 970 |
| Minimum stroke for auto switch mounting | |
| Operating range | |
| Auto switch mounting brackets/Part no. | |

Weight

Weight

| Bore size (mm) | Cylinder stroke (mm) | | | | | | | | | | | |
|----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 |
| 12 | 71 | 77 | 83 | 89 | 96 | 102 | — | — | — | — | — | — |
| 16 | 74 | 82 | 89 | 97 | 105 | 113 | — | — | — | — | — | — |
| 20 | 119 | 132 | 144 | 156 | 168 | 180 | 192 | 204 | 217 | 229 | — | — |
| 25 | 162 | 177 | 192 | 208 | 223 | 238 | 254 | 269 | 284 | 300 | — | — |
| 32 | 227 | 247 | 266 | 286 | 306 | 326 | 345 | 365 | 385 | 404 | 504 | 604 |
| 40 | 240 | 261 | 283 | 305 | 326 | 348 | 369 | 391 | 413 | 434 | 546 | 658 |
| 50 | — | 433 | 466 | 499 | 532 | 565 | 598 | 630 | 663 | 697 | 869 | 1041 |
| 63 | — | 622 | 660 | 698 | 736 | 774 | 812 | 850 | 888 | 926 | 1124 | 1321 |

Additional Weight

| Bore size (mm) | | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
|--|-------------|-----|-----|----|-----|----|-----|-----|-----|
| Both ends tapped | | — | — | — | — | — | 6 | 6 | 19 |
| Rod end male thread | Male thread | 1.5 | 3 | 6 | 12 | 26 | 27 | 53 | 53 |
| | Nut | 1 | 2 | 4 | 8 | 17 | 17 | 32 | 32 |
| With boss on head end | | 0.7 | 1.3 | 2 | 3 | 5 | 7 | 13 | 25 |
| Built-in One-touch fittings | | — | — | — | — | 12 | 12 | 21 | 21 |
| Foot (Including mounting bolts) | | — | — | — | — | — | 153 | 242 | 316 |
| Compact foot (Including mounting bolts) | | 32 | 40 | 97 | 116 | 99 | 114 | 177 | 241 |
| Rod flange (Including mounting bolts) | | — | — | — | — | — | 213 | 372 | 558 |
| Head flange (Including mounting bolts) | | — | — | — | — | — | 198 | 348 | 534 |
| Double clevis (Including pin, retaining rings and bolts) | | — | — | — | — | — | 196 | 393 | 554 |

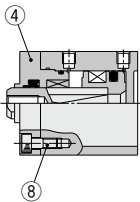
Calculation: (Example) **CDQ2KD40-25DMZ**

- Basic weight: CDQ2KB40-25DZ 326 g
 - Additional weight: Both ends tapped 6 g
 - Rod end male thread 44 g
 - Double clevis 196 g
- 572 g

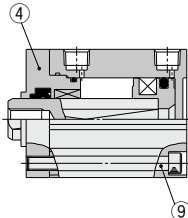
Add each weight of auto switches when auto switches are mounted.

Construction

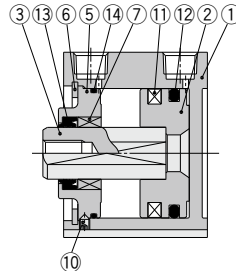
ø12 to ø25



ø32



ø40 to ø63



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 ø63, Hard chrome plated |
| 4 | Rod cover | Brass | ø12, Electroless nickel plated |
| | | Aluminum alloy | ø16 to ø32, Anodized |
| 5 | Collar | Aluminum alloy | ø40 to ø63, Anodized |
| 6 | Retaining ring | Carbon tool steel | Phosphate coated |
| 7 | Bushing | Oil-impregnated sintered alloy | ø16 to ø63 |
| 8 | Hexagon socket head cap screw | Alloy steel | ø12 to ø25, Zinc chromated |
| 9 | Hexagon socket head cap screw | Alloy steel | ø32, Zinc chromated |
| 10 | Hexagon socket set screw | Alloy steel | ø40 to ø63, Zinc chromated |
| 11 | Magnet | — | |
| 12 | Piston seal | NBR | |
| 13 | Rod seal | NBR | |
| 14 | Tube gasket | NBR | |

Replacement Parts/Seal Kit (Pneumatic type (Non-lube))

| Bore size (mm) | Kit no. | Contents |
|----------------|------------|--|
| 12 | CQ2KB12-PS | Kits include items ⑫, ⑬, ⑭ from the table. |
| 16 | CQ2KB16-PS | |
| 20 | CQ2KB20-PS | |
| 25 | CQ2KB25-PS | |
| 32 | CQ2KB32-PS | |
| 40 | CQ2KB40-PS | |
| 50 | CQ2KB50-PS | |
| 63 | CQ2KB63-PS | |

- * Seal kit includes ⑫, ⑬, ⑭. Order the seal kit, based on each bore size.
- * Since the seal kit does not include a grease pack, order it separately.

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

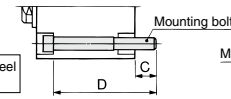
Mounting Bolt for CDQ2KB/With Auto Switch

Mounting method: Mounting bolt for through-hole mounting of the CDQ2KB is available as an option. Refer to the following for ordering procedures. Order the actual number of bolts that will be used.

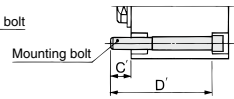
Example) CQ-M3 x 35L 2 pcs.

Material: Chromium molybdenum steel
Surface treatment: Zinc chromated

Head end mounting



Rod end mounting



| Cylinder model | C | D | Mounting bolt part no. | C' | D' | Mounting bolt part no. |
|----------------------|------|-------|------------------------|-------|----|------------------------|
| CDQ2KB12-5DCZ | 5.5 | 35 | CQ-M3 x 35L | 5.5 | 40 | CQ-M3 x 40L |
| -10DCZ | | 40 | x 40L | | 45 | x 45L |
| -15DCZ | | 45 | x 45L | | 50 | x 50L |
| -20DCZ | | 50 | x 50L | | 55 | x 55L |
| -25DCZ | | 55 | x 55L | | 60 | x 60L |
| -30DCZ | | 60 | x 60L | | 65 | x 65L |
| CDQ2KB16-5DZ | 8 | 40 | CQ-M3 x 40L | 8 | 45 | CQ-M3 x 45L |
| -10DZ | | 45 | x 45L | | 50 | x 50L |
| -15DZ | | 50 | x 50L | | 55 | x 55L |
| -20DZ | | 55 | x 55L | | 60 | x 60L |
| -25DZ | | 60 | x 60L | | 65 | x 65L |
| -30DZ | | 65 | x 65L | | 70 | x 70L |
| CDQ2KB20-5DZ | 10.5 | 40 | CQ-M5 x 40L | 7.5 | 45 | CQ-M5 x 45L |
| -10DZ | | 45 | x 45L | | 50 | x 50L |
| -15DZ | | 50 | x 50L | | 55 | x 55L |
| -20DZ | | 55 | x 55L | | 60 | x 60L |
| -25DZ | | 60 | x 60L | | 65 | x 65L |
| -30DZ | | 65 | x 65L | | 70 | x 70L |
| -35DZ | | 70 | x 70L | | 75 | x 75L |
| -40DZ | 75 | x 75L | 80 | x 80L | | |
| -45DZ | 80 | x 80L | 85 | x 85L | | |
| -50DZ | 85 | x 85L | 90 | x 90L | | |
| CDQ2KB25-5DZ | 9.5 | 40 | CQ-M5 x 40L | 6.5 | 45 | CQ-M5 x 45L |
| -10DZ | | 45 | x 45L | | 50 | x 50L |
| -15DZ | | 50 | x 50L | | 55 | x 55L |
| -20DZ | | 55 | x 55L | | 60 | x 60L |
| -25DZ | | 60 | x 60L | | 65 | x 65L |
| -30DZ | | 65 | x 65L | | 70 | x 70L |
| -35DZ | | 70 | x 70L | | 75 | x 75L |
| -40DZ | 75 | x 75L | 80 | x 80L | | |
| -45DZ | 80 | x 80L | 85 | x 85L | | |
| -50DZ | 85 | x 85L | 90 | x 90L | | |
| CDQ2KB32-5DZ | 8.5 | 50 | CQ-M5 x 50L | 10 | 50 | CQ-M5 x 50L |
| -10DZ | | 55 | x 55L | | 55 | x 55L |
| -15DZ | | 60 | x 60L | | 60 | x 60L |
| -20DZ | | 65 | x 65L | | 65 | x 65L |
| -25DZ | | 70 | x 70L | | 70 | x 70L |
| -30DZ | | 75 | x 75L | | 75 | x 75L |
| -35DZ | 80 | x 80L | 80 | x 80L | | |

| Cylinder model | C | D | Mounting bolt part no. | C' | D' | Mounting bolt part no. |
|----------------------|------|--------|------------------------|--------|-----|------------------------|
| CDQ2KB32-40DZ | 8.5 | 85 | CQ-M5 x 85L | 10 | 85 | CQ-M5 x 85L |
| -45DZ | | 90 | x 90L | | 90 | x 90L |
| -50DZ | | 95 | x 95L | | 95 | x 95L |
| -75DZ | | 120 | x 120L | | 120 | x 120L |
| -100DZ | | 145 | x 145L | | 145 | x 145L |
| CDQ2KB40-5DZ | 7.5 | 45 | CQ-M5 x 45L | 7.5 | 45 | CQ-M5 x 45L |
| -10DZ | | 50 | x 50L | | 50 | x 50L |
| -15DZ | | 55 | x 55L | | 55 | x 55L |
| -20DZ | | 60 | x 60L | | 60 | x 60L |
| -25DZ | | 65 | x 65L | | 65 | x 65L |
| -30DZ | | 70 | x 70L | | 70 | x 70L |
| -35DZ | | 75 | x 75L | | 75 | x 75L |
| -40DZ | 80 | x 80L | 80 | x 80L | | |
| -45DZ | 85 | x 85L | 85 | x 85L | | |
| -50DZ | 90 | x 90L | 90 | x 90L | | |
| -75DZ | 115 | x 115L | 115 | x 115L | | |
| -100DZ | 140 | x 140L | 140 | x 140L | | |
| CDQ2KB50-10DZ | 12.5 | 55 | CQ-M6 x 55L | 12.5 | 55 | CQ-M6 x 55L |
| -15DZ | | 60 | x 60L | | 60 | x 60L |
| -20DZ | | 65 | x 65L | | 65 | x 65L |
| -25DZ | | 70 | x 70L | | 70 | x 70L |
| -30DZ | | 75 | x 75L | | 75 | x 75L |
| -35DZ | | 80 | x 80L | | 80 | x 80L |
| -40DZ | 85 | x 85L | 85 | x 85L | | |
| -45DZ | 90 | x 90L | 90 | x 90L | | |
| -50DZ | 95 | x 95L | 95 | x 95L | | |
| -75DZ | 120 | x 120L | 120 | x 120L | | |
| -100DZ | 145 | x 145L | 145 | x 145L | | |
| CDQ2KB63-10DZ | 14.5 | 60 | CQ-M8 x 60L | 14.5 | 60 | CQ-M8 x 60L |
| -15DZ | | 65 | x 65L | | 65 | x 65L |
| -20DZ | | 70 | x 70L | | 70 | x 70L |
| -25DZ | | 75 | x 75L | | 75 | x 75L |
| -30DZ | | 80 | x 80L | | 80 | x 80L |
| -35DZ | | 85 | x 85L | | 85 | x 85L |
| -40DZ | | 90 | x 90L | | 90 | x 90L |
| -45DZ | 95 | x 95L | 95 | x 95L | | |
| -50DZ | 100 | x 100L | 100 | x 100L | | |
| -75DZ | 125 | x 125L | 125 | x 125L | | |
| -100DZ | 150 | x 150L | 150 | x 150L | | |

- CJ**
- CJ**
- CQS**
- JCQ**
- CQ2**
- RQ**
- CQM**
- CQU**
- MU**

- D**
- X**
- Technical Data

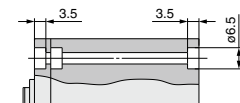
CQ2K Series

Dimensions

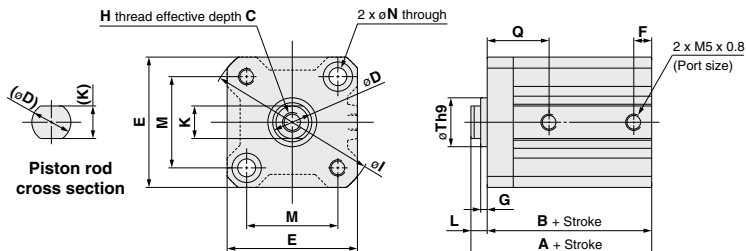
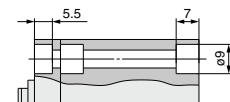
Ø12 to Ø25/Without Auto Switch

Standard (Through-hole): CQ2KB

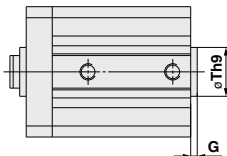
Ø12, Ø16



Ø20, Ø25



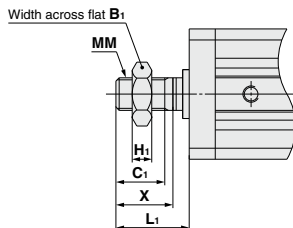
With boss on head end



With Boss on Head End (mm)

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

Rod end male thread



Rod End Male Thread (mm)

| Bore size (mm) | B1 | C1 | H1 | L1 | 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 |

Standard

(mm)

| Bore size (mm) | Stroke range (mm) | A | B | C | D | E | F | G | H | I | K | L | M | N | Q | Th9 |
|----------------|-------------------|------|------|----|----|----|-----|-----|----------|----|-----|-----|------|-----|------|----------------------|
| 12 | 5 to 30 | 25.5 | 22 | 6 | 6 | 25 | 5 | 1.5 | M3 x 0.5 | 32 | 5.2 | 3.5 | 15.5 | 3.5 | 12.5 | 15 ^{+0.043} |
| 16 | 5 to 30 | 27 | 23.5 | 8 | 8 | 29 | 5.5 | 1.5 | M4 x 0.7 | 38 | 6 | 3.5 | 20 | 3.5 | 13 | 20 ^{+0.052} |
| 20 | 5 to 50 | 32 | 27.5 | 7 | 10 | 36 | 5.5 | 2 | M5 x 0.8 | 47 | 8 | 4.5 | 25.5 | 5.5 | 16 | 13 ^{+0.043} |
| 25 | 5 to 50 | 35.5 | 30.5 | 12 | 12 | 40 | 5.5 | 2 | M6 x 1.0 | 52 | 10 | 5 | 28 | 5.5 | 17 | 15 ^{+0.043} |

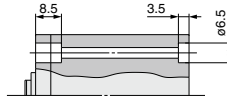
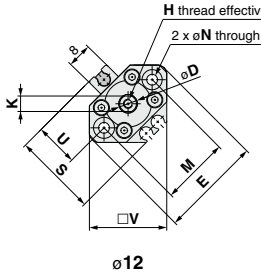
* For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

Dimensions

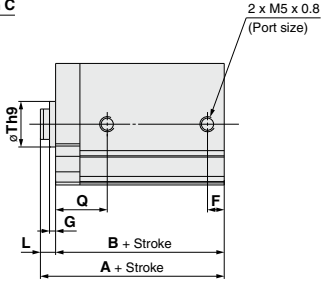
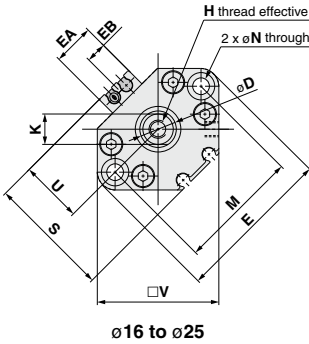
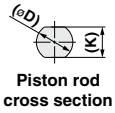
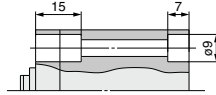
Ø12 to Ø25/With Auto Switch

Standard (Through-hole): **CDQ2KB**

Ø12, Ø16

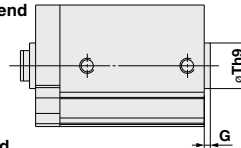


Ø20, Ø25

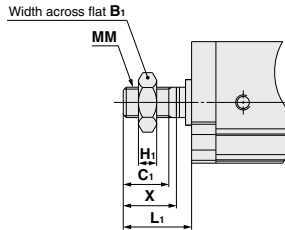


Ø16 to Ø25

With boss on head end



Rod end male thread



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 |

Standard For auto switch proper mounting position and its mounting height, refer to pages 964 to 970. (mm)

| Bore size (mm) | Stroke range (mm) | A | B | C | D | E | EA | EB | F | G | H | K | L | M | N | Q | S | Th9 | U | V |
|----------------|-------------------|------|------|----|----|----|------|-----|-----|-----|----------|-----|-----|----|-----|----|------|-----------------------------------|----|----|
| 12 | 5 to 30 | 36.5 | 33 | 6 | 6 | 33 | — | — | 6.5 | 1.5 | M3 x 0.5 | 5.2 | 3.5 | 22 | 3.5 | 16 | 27.5 | 15 ⁰ _{-0.043} | 14 | 25 |
| 16 | 5 to 30 | 39 | 35.5 | 8 | 8 | 37 | 13.2 | 6.6 | 5.5 | 1.5 | M4 x 0.7 | 6 | 3.5 | 28 | 3.5 | 15 | 29.5 | 20 ⁰ _{-0.052} | 15 | 29 |
| 20 | 5 to 50 | 44 | 39.5 | 7 | 10 | 47 | 13.6 | 6.8 | 5.5 | 2 | M5 x 0.8 | 8 | 4.5 | 36 | 5.5 | 16 | 35.5 | 13 ⁰ _{-0.043} | 18 | 36 |
| 25 | 5 to 50 | 45.5 | 40.5 | 12 | 12 | 52 | 13.6 | 6.8 | 5.5 | 2 | M6 x 1.0 | 10 | 5 | 40 | 5.5 | 17 | 40.5 | 15 ⁰ _{-0.043} | 21 | 40 |

* For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

- CUJ
- CU
- CQS
- JCQ
- CQ2**
- RQ
- CQM
- CQU
- MU

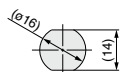
- D-□
- X□

Technical Data

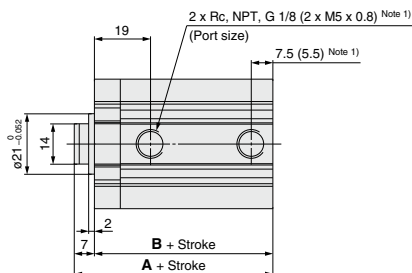
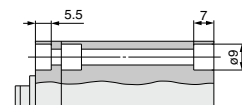
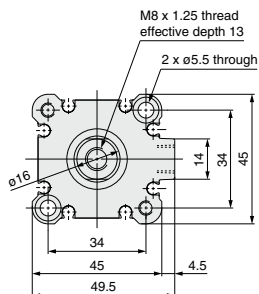
CQ2K Series

Dimensions

Ø32/Without Auto Switch



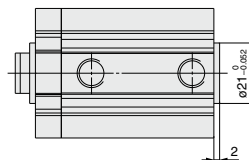
Piston rod cross section



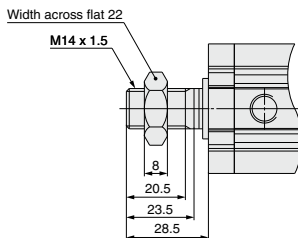
Note 1) (): Stroke 5 mm

| Stroke range (mm) | A | B |
|-------------------|----|----|
| 5 to 50 | 39 | 32 |
| 75, 100 | 49 | 42 |

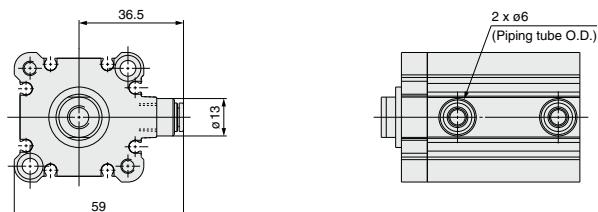
With boss on head end



Rod end male thread



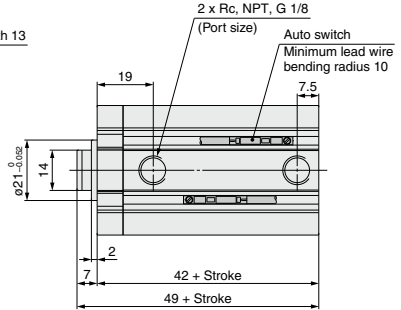
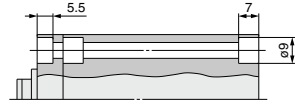
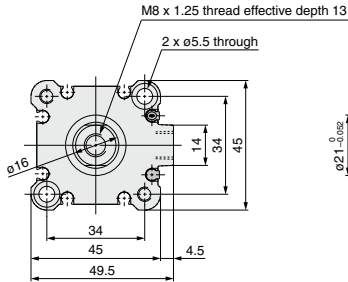
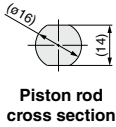
Built-in One-touch fittings: Ø32



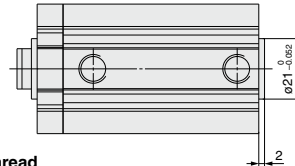
Note 2) The dimensions of the Ø32-5 mm stroke with built-in One-touch fittings are the same as those of the 10 mm stroke cylinder tube.
 = For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

Dimensions

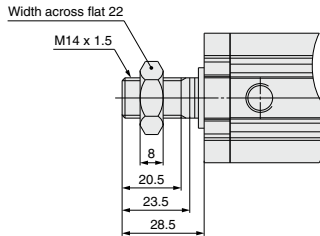
Ø32/With Auto Switch



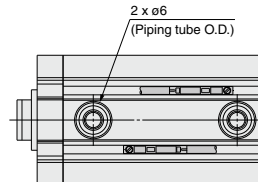
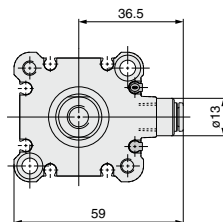
With boss on head end



Rod end male thread



Built-in One-touch fittings: Ø32



- CUJ
- CU
- CQS
- JCQ
- CQ2**
- RQ
- CQM
- CQU
- MU

- D-□
- X□
- Technical Data

* For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

CQ2K Series

Dimensions

Ø40 to Ø63/With Auto Switch

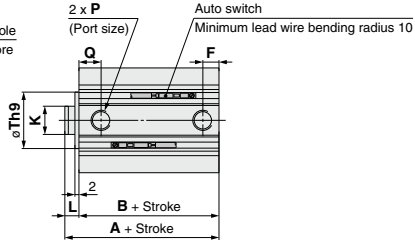
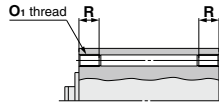
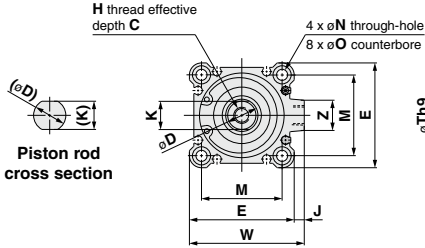
(In the case of without auto switches, the A and B dimensions will be only changed. Refer to the dimension table.)

Both ends tapped: CDQ2KA

Standard (Through-hole): CDQ2KB

Both Ends Tapped (mm)

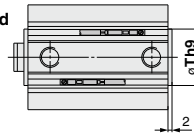
| Bore size (mm) | O ₁ | R |
|----------------|----------------|----|
| 40 | M6 x 1.0 | 10 |
| 50 | M8 x 1.25 | 14 |
| 63 | M10 x 1.5 | 18 |



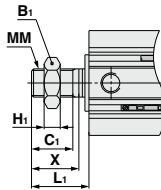
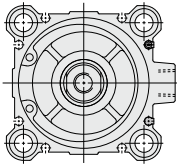
With Boss on Head End (mm)

| Bore size (mm) | Th9 |
|----------------|-----------------------------------|
| 40 | 28 ⁰ _{-0.062} |
| 50 | 35 ⁰ _{-0.062} |
| 63 | 35 ⁰ _{-0.062} |

With boss on head end



Rod end male thread

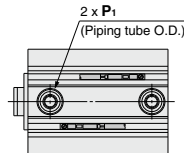
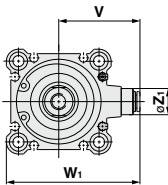


Cylinder tube form ø63

Rod End Male Thread (mm)

| Bore size (mm) | B ₁ | C ₁ | H ₁ | L ₁ | MM | X |
|----------------|----------------|----------------|----------------|----------------|-----------|------|
| 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 |
| 63 | 27 | 26 | 11 | 33.5 | M18 x 1.5 | 28.5 |

Built-in One-touch fittings: Ø40 to Ø63



Built-in One-touch Fittings (mm)

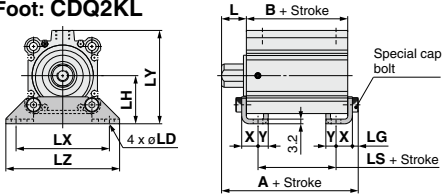
| Bore size (mm) | Z ₁ | P ₁ | V | W ₁ |
|----------------|----------------|----------------|------|----------------|
| 40 | 13 | 6 | 40.5 | 66.5 |
| 50 | 16 | 8 | 50 | 82 |
| 63 | 16 | 8 | 56.5 | 95 |

Standard

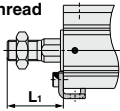
| Bore size (mm) | Stroke range (mm) | Without auto switch | | With auto switch | | C | D | E | F | H | J | K | L | M | N | O | P | Q | Th9 | W | Z |
|----------------|-------------------|---------------------|------|------------------|------|----|----|----|------|-----------|---|----|---|----|-----|---------------|-----|------|-----------------------------------|----|----|
| | | A | B | A | B | | | | | | | | | | | | | | | | |
| 40 | 5 to 50 | 36.5 | 29.5 | 46.5 | 39.5 | 13 | 16 | 52 | 7.5 | M8 x 1.25 | 5 | 14 | 7 | 40 | 5.5 | 9 depth 7 | 1/8 | 12.5 | 28 ⁰ _{-0.052} | 57 | 15 |
| | 75, 100 | 46.5 | 39.5 | | | | | | | | | | | | | | | | | | |
| 50 | 10 to 50 | 38.5 | 30.5 | 48.5 | 40.5 | 15 | 20 | 64 | 10.5 | M10 x 1.5 | 7 | 18 | 8 | 50 | 6.6 | 11 depth 8 | 1/4 | 10.5 | 35 ⁰ _{-0.062} | 71 | 19 |
| | 75, 100 | 48.5 | 40.5 | | | | | | | | | | | | | | | | | | |
| 63 | 10 to 50 | 44 | 36 | 54 | 46 | 15 | 20 | 77 | 10.5 | M10 x 1.5 | 7 | 18 | 8 | 60 | 9 | 14 depth 10.5 | 1/4 | 15 | 35 ⁰ _{-0.062} | 84 | 19 |
| | 75, 100 | 54 | 46 | | | | | | | | | | | | | | | | | | |

* For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

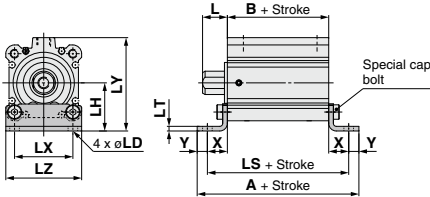
Foot: CDQ2KL



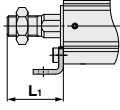
Rod end male thread



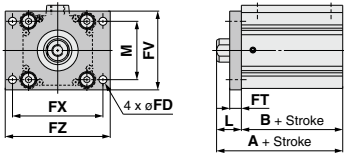
Compact foot: CQ2KLC/CDQ2KLC



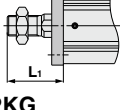
Rod end male thread



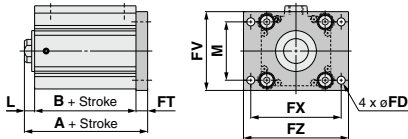
Rod flange: CDQ2KF



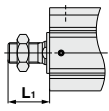
Rod end male thread



Head flange: CDQ2KG



Rod end male thread



* For details about the rod end nut and accessory brackets, refer to pages 796 to 798.

Foot

| Bore size (mm) | Stroke range (mm) | Without auto switch | | | With auto switch | | | L | L ₁ | LD |
|----------------|-------------------|---------------------|------|------|------------------|------|------|----|----------------|-----|
| | | A | B | LS | A | B | LS | | | |
| 40 | 5 to 50 | 53.7 | 29.5 | 13.5 | 63.7 | 39.5 | 23.5 | 17 | 38.5 | 6.6 |
| | 75, 100 | 63.7 | 39.5 | 23.5 | | | | | | |
| 50 | 10 to 50 | 56.7 | 30.5 | 7.5 | 66.7 | 40.5 | 17.5 | 18 | 43.5 | 9 |
| | 75, 100 | 66.7 | 40.5 | 17.5 | | | | | | |
| 63 | 10 to 50 | 62.2 | 36 | 10 | 72.2 | 46 | 20 | 18 | 43.5 | 11 |
| | 75, 100 | 72.2 | 46 | 20 | | | | | | |

| Bore size (mm) | LG | LH | LX | LY | LZ | X | Y |
|----------------|----|----|----|------|-----|------|---|
| 40 | 4 | 33 | 64 | 64 | 78 | 11.2 | 7 |
| 50 | 5 | 39 | 79 | 78 | 95 | 14.7 | 8 |
| 63 | 5 | 46 | 95 | 91.5 | 113 | 16.2 | 9 |

Foot bracket material: Carbon steel
Surface treatment: Nickel plated

Compact Foot

| Bore size (mm) | Stroke range (mm) | Without auto switch | | | With auto switch | | | L | L ₁ | LD |
|----------------|-------------------|---------------------|------|------|------------------|------|------|----|----------------|-----|
| | | A | B | LS | A | B | LS | | | |
| 40 | 5 to 50 | 70.9 | 29.5 | 56.9 | 80.9 | 39.5 | 66.9 | 17 | 38.5 | 6.6 |
| | 75, 100 | 80.9 | 39.5 | 66.9 | | | | | | |
| 50 | 10 to 50 | 79.9 | 30.5 | 63.9 | 89.9 | 40.5 | 73.9 | 18 | 43.5 | 9 |
| | 75, 100 | 89.9 | 40.5 | 73.9 | | | | | | |
| 63 | 10 to 50 | 90.4 | 36 | 72.4 | 100.4 | 46 | 82.4 | 18 | 43.5 | 11 |
| | 75, 100 | 100.4 | 46 | 82.4 | | | | | | |

| Bore size (mm) | LH | LT | LX | LY | LZ | X | Y |
|----------------|----|-----|----|------|----|------|---|
| 40 | 33 | 3.2 | 40 | 64 | 52 | 13.7 | 7 |
| 50 | 39 | 3.2 | 50 | 78 | 64 | 16.7 | 8 |
| 63 | 46 | 3.2 | 60 | 91.5 | 77 | 18.2 | 9 |

Compact foot bracket material: Carbon steel
Surface treatment: Zinc chromated

Rod Flange

| Bore size (mm) | Stroke range (mm) | Without auto switch | | | With auto switch | | FD | FT | FV | FX | FZ |
|----------------|-------------------|---------------------|------|------|------------------|-----|----|----|----|-----|----|
| | | A | B | A | B | | | | | | |
| 40 | 5 to 50 | 46.5 | 29.5 | 56.5 | 39.5 | 5.5 | 8 | 54 | 62 | 72 | |
| | 75, 100 | 56.5 | 39.5 | | | | | | | | |
| 50 | 10 to 50 | 48.5 | 30.5 | 58.5 | 40.5 | 6.6 | 9 | 67 | 76 | 89 | |
| | 75, 100 | 58.5 | 40.5 | | | | | | | | |
| 63 | 10 to 50 | 54 | 36 | 64 | 46 | 9 | 9 | 80 | 92 | 108 | |
| | 75, 100 | 64 | 46 | | | | | | | | |

| Bore size (mm) | L | L ₁ | M |
|----------------|----|----------------|----|
| 40 | 17 | 38.5 | 40 |
| 50 | 18 | 43.5 | 50 |
| 63 | 18 | 43.5 | 60 |

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

Head Flange

| Bore size (mm) | Stroke range (mm) | Without auto switch | | With auto switch | |
|----------------|-------------------|---------------------|------|------------------|----------------|
| | | A | A | L | L ₁ |
| 40 | 5 to 50 | 44.5 | 54.5 | 7 | 28.5 |
| | 75, 100 | 54.5 | 54.5 | | |
| 50 | 10 to 50 | 47.5 | 57.5 | 8 | 33.5 |
| | 75, 100 | 57.5 | 57.5 | | |
| 63 | 10 to 50 | 53 | 63 | 8 | 33.5 |
| | 75, 100 | 63 | 63 | | |

(* The dimensions except A, L and L₁ are the same as those of the rod flange.)

Flange bracket material: Carbon steel
Surface treatment: Nickel plated

CUJ

CU

CQS

JCQ

CQ2

RQ

CQM

CQU

MU

D-□

-X□

Technical Data

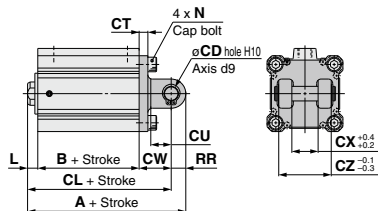
CQ2K Series

Dimensions

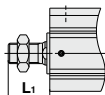
Ø40 to Ø63/With Auto Switch

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

Double clevis: CDQ2KD



Rod end male thread



- * For details about the rod end nut and accessory brackets, refer to pages 796 to 798.
- * Double clevis pin and retaining rings are included.

Double Clevis

(mm)

| Bore size (mm) | Stroke range (mm) | Without auto switch | | | With auto switch | | | CD | CT | CU |
|----------------|-------------------|---------------------|------|------|------------------|------|------|----|----|----|
| | | A | B | CL | A | B | CL | | | |
| 40 | 5 to 50 | 68.5 | 29.5 | 58.5 | 78.5 | 39.5 | 68.5 | 10 | 6 | 14 |
| | 75, 100 | 78.5 | 39.5 | 68.5 | | | | | | |
| 50 | 10 to 50 | 80.5 | 30.5 | 66.5 | 90.5 | 40.5 | 76.5 | 14 | 7 | 20 |
| | 75, 100 | 90.5 | 40.5 | 76.5 | | | | | | |
| 63 | 10 to 50 | 88 | 36 | 74 | 98 | 46 | 84 | 14 | 8 | 20 |
| | 75, 100 | 98 | 46 | 84 | | | | | | |

| Bore size (mm) | CW | CX | CZ | L | L1 | N | RR |
|----------------|----|----|----|---|------|-----------|----|
| 40 | 22 | 18 | 36 | 7 | 28.5 | M6 x 1.0 | 10 |
| 50 | 28 | 22 | 44 | 8 | 33.5 | M8 x 1.25 | 14 |
| 63 | 30 | 22 | 44 | 8 | 33.5 | M10 x 1.5 | 14 |

Double clevis bracket material: Cast iron
Surface treatment: Painted