

# Non-rotating Rod: Double Acting

## Series CG1K

ø20, ø25, ø32, ø40, ø50, ø63

### How to Order

**Standard** CG1K **L** **N** **25** **100**

**With auto switch** CDG1K **L** **N** **25** **100** **B53**

**With auto switch (magnet)**

**Double acting Non-rotating rod**

**Mounting**

**Stroke (mm)**

**Auto switch**

**Number of auto switches**

**Cushion**

**Bore size**

**Applicable Auto Switches/** Refer to p.5.3-2 for further information on auto switch.

| Style              | Special function | Electrical entry | Indicator | Wiring (Output) | Load voltage |    | Auto switch model | Lead wire (m)* |                    |       |          | Applicable load |              |
|--------------------|------------------|------------------|-----------|-----------------|--------------|----|-------------------|----------------|--------------------|-------|----------|-----------------|--------------|
|                    |                  |                  |           |                 | DC           | AC |                   | 0.5 (-)        | 3 (L)              | 5 (Z) | None (N) |                 |              |
| Reed switch        |                  | Grommet          | Yes       | 3 wire (NPN)    | —            | 5V | C76               | —              | ●                  | ●     | —        | —               | IC           |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | —        | —               |              |
| Solid state switch |                  | Grommet          | Yes       | 3 wire (NPN)    | 5V, 12V      | —  | H7A1              | G59            | ●                  | ●     | ○        | —               | IC           |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
| Solid state switch |                  | Grommet          | Yes       | 3 wire (PNP)    | 5V, 12V      | —  | H7A2              | G5P            | ●                  | ●     | ○        | —               | IC           |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
| Solid state switch |                  | Connector        | No        | 2 wire          | 12V          | —  | H7B               | K59            | ●                  | ●     | ○        | —               | —            |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
| Solid state switch |                  | Grommet          | Yes       | 3 wire (NPN)    | 5V, 12V      | —  | H7NW              | G59W           | ●                  | ●     | ○        | —               | IC           |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | Solid state switch |       | Grommet  | Yes             |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| Solid state switch |                  | Grommet          | Yes       | 2 wire          | 12V          | —  | H7BA              | G5BA           |                    |       |          |                 | —            |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | —                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | Solid state switch |       | Grommet  | Yes             | 3 wire (NPN) |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| —                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| Solid state switch |                  | Grommet          | Yes       | 4 wire (NPN)    | 5V, 12V      | —  | H7NF              | G59F           |                    |       |          |                 |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | ●                  | ●     | ○        | —               |              |
|                    |                  |                  |           |                 |              |    |                   |                | Solid state switch |       | Grommet  | Yes             | 4 wire (NPN) |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |
| ●                  | ●                | ○                | —         |                 |              |    |                   |                |                    |       |          |                 |              |

\*Lead wire length 0.5m..... — 3m.....L e.g.) C73C 5m.....Z C73CL None.....N e.g.) C73CZ C73CN

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

### Mounting Bracket Part No.

| Mounting bracket | Bore size (mm) |            |            |            |            |            |
|------------------|----------------|------------|------------|------------|------------|------------|
|                  | 20             | 25         | 32         | 40         | 50         | 63         |
| Axial foot*      | CG-L020        | CG-L025    | CG-L032    | CG-L040    | CG-L050    | CG-L063    |
| Flange           | CG-F020        | CG-F025    | CG-F032    | CG-F040    | CG-F050    | CG-F063    |
| Trunnion pin     | CG-T020        | CG-T025    | CG-T032    | CG-T040    | CG-T050    | CG-T063    |
| Clevis**         | CG-D020        | CG-D025    | CG-D032    | CG-D040    | CG-D050    | CG-D063    |
| Pivot bracket    | CG-Q20-24A     | CG-Q25-24A | CG-Q32-24A | CG-Q40-24A | CG-Q50-24A | CG-Q63-24A |

\* Order two foot brackets per a cylinder.  
 \*\* Mounting bolts are attached for foot and flange styles, and clevis pins, snap rings and mounting bolts for the clevis style.

### Auto Switch Mounting Bracket Part No.

| Auto switch model | Bore size (mm) |          |          |          |          |          |
|-------------------|----------------|----------|----------|----------|----------|----------|
|                   | 20             | 25       | 32       | 40       | 50       | 63       |
| D-C7-C8           | BMA2-020       | BMA2-025 | BMA2-032 | BMA2-040 | BMA2-050 | BMA2-063 |
| D-H7              |                |          |          |          |          |          |
| D-B5-B6           | BA-01          | BA-02    | BA-32    | BA-04    | BA-05    | BA-06    |
| D-G5-K5           |                |          |          |          |          |          |

Note) A set of following stainless steel mounting screws is attached.  
 (A switch mounting band is not attached. Please order the band separately.)  
 BBA3: D-B5/B6/G5 types  
 BBA4: D-C7/C8/H7 types  
 "D-G5BAL" and "D-H7BAL" switches are set on the cylinder with the screws above when shipped.  
 When a switch only is shipped, "BBA3" or "BBA4" screws are attached.

# Non-rotating Rod: Double Acting *Series CG1K*

## High non-rotating accuracy

$\phi 20, \phi 25$  —————  $\pm 1^\circ$   
 $\phi 32$  —————  $\pm 0.8^\circ$   
 $\phi 40$  to  $\phi 63$  —————  $\pm 0.5^\circ$

## High speed operation/Long life

Piston speed is between 50 and 500mm/s and long life is expected.

## Can operate without lubrication.

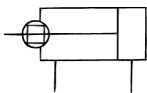
## The same installation dimensions as the standard cylinder.

## Auto switches can also be mounted.

It can be installed with auto switches to simplify the detection of the stroke position of the cylinder.



## JIS symbol



**Order Made** Made to Order

Refer to p.5.4-1 for made to order products of series CG1K.

## With auto switch

Auto switches can be mounted. Mounting position/height is the same as the double acting/single rod style. Refer to p.1.7-13.

## Specifications

| Bore size (mm)                | 20                                                                                                                                                  | 25              | 32              | 40              | 50              | 63              |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Action                        | Double acting/Single rod                                                                                                                            |                 |                 |                 |                 |                 |
| Lubrication                   | Non-lube                                                                                                                                            |                 |                 |                 |                 |                 |
| Fluid                         | Air                                                                                                                                                 |                 |                 |                 |                 |                 |
| Proof pressure                | 1.5MPa                                                                                                                                              |                 |                 |                 |                 |                 |
| Max. operating pressure       | 1.0MPa                                                                                                                                              |                 |                 |                 |                 |                 |
| Min. operating pressure       | 0.05MPa                                                                                                                                             |                 |                 |                 |                 |                 |
| Ambient and fluid temperature | Without auto switch: $-10^\circ\text{C}$ to $+70^\circ\text{C}$ (No freezing)                                                                       |                 |                 |                 |                 |                 |
|                               | With auto switch: $-10^\circ\text{C}$ to $+60^\circ\text{C}$ (No freezing)                                                                          |                 |                 |                 |                 |                 |
| Piston speed                  | 50 to 500mm/s                                                                                                                                       |                 |                 |                 |                 |                 |
| Thread tolerance              | JIS class 2                                                                                                                                         |                 |                 |                 |                 |                 |
| Stroke tolerance              | Up to $600^{+1.4}_0$ mm                                                                                                                             |                 |                 |                 |                 |                 |
| Cushion                       | Rubber bumper, Air cushion ( $\phi 40$ to $\phi 63$ only)                                                                                           |                 |                 |                 |                 |                 |
| Rod non-rotating accuracy     | $\pm 1^\circ$                                                                                                                                       | $\pm 0.8^\circ$ | $\pm 0.5^\circ$ | $\pm 0.5^\circ$ | $\pm 0.5^\circ$ | $\pm 0.5^\circ$ |
| Mounting                      | Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis<br>(Used for changing the port location by $90^\circ$ degrees.) |                 |                 |                 |                 |                 |

## Accessories

| Mounting |                                   | Basic | Axial foot | Front flange | Rear flange | Front trunnion | Rear trunnion | Clevis |
|----------|-----------------------------------|-------|------------|--------------|-------------|----------------|---------------|--------|
| Standard | Rod end nut                       | ●     | ●          | ●            | ●           | ●              | ●             | ●      |
|          | Clevis pin                        | —     | —          | —            | —           | —              | —             | ●      |
| Option   | Single knuckle joint              | ●     | ●          | ●            | ●           | ●              | ●             | ●      |
|          | Double knuckle joint* (with pins) | ●     | ●          | ●            | ●           | ●              | ●             | ●      |
|          | Pivot bracket                     | —     | —          | —            | —           | ●              | ●             | ●      |

\* Pins and snap rings for double knuckle joint are attached, not mounted.

## Stroke

| Bore size (mm) | Standard stroke <sup>(1)</sup> (mm)      | Long stroke (mm) |
|----------------|------------------------------------------|------------------|
| 20             | 25, 50, 75, 100, 125, 150, 200           | —                |
| 25             | 25, 50, 75, 100, 125, 150, 200, 250, 300 | —                |
| 32             |                                          | —                |
| 40             |                                          | 301 to 500       |
| 50/63          |                                          | 301 to 600       |



Note 1) Other intermediate strokes can be manufactured upon receipt of order. Spacers are not used for the intermediate strokes.

Note 2) The maximum limit is 1500 stroke, but the products that exceed the standard or the long stroke limit are not guaranteed.