

Medium bore size cylinder Double acting position locking type

## CMK2-Q Series

Bore size: $\phi 20, \phi 25, \phi 32, \phi 40$
JIS symbol


## Specifications

| Descriptions | CMK2-Q |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Bore size $\quad \mathrm{mm}$ | \$20 | $\phi 25$ | ¢32 | $\phi 40$ |
| Actuation | Double acting position locking type |  |  |  |
| Working fluid | Compressed air |  |  |  |
| Max. working pressure MPa | 1.0 |  |  |  |
| Min. working pressure MPa | 0.15 |  |  |  |
| Withstanding pressure MPa | 1.6 |  |  |  |
| Ambient temperature ${ }^{\circ} \mathrm{C}$ | -10 to 60 (no freezing) |  |  |  |
| Port size | Rc1/8 |  |  |  |
| Stroke tolerance mm | ${ }_{0}^{+2.0}$ (up to 200), ${ }_{0}^{+2.4}$ (over 200) |  |  |  |
| Working piston speed $\mathrm{mm} / \mathrm{s}$ | 50 to 500 |  |  |  |
| Cushion | Rubber cushion |  |  |  |
| Lubrication | Not required (when lubricating, use turbine oil Class 1 ISO VG32.) |  |  |  |
| Position locking mechanism | Head side or rod side |  |  |  |
| Holding force N | Maximum thrust $\times 0.7$ |  |  |  |
| Allowable energy absorption J | 0.166 | 0.308 | 0.424 | 0.639 |

## Stroke length

| Bore size (mm) | Standard stroke length (mm) | Max. stroke length (mm) | Min. stroke length (mm) |
| :---: | :---: | :---: | :---: |
| \$20 | $\begin{aligned} & 25,50,75,100, \\ & 150,200,250, \\ & 300 \end{aligned}$ | 750 | 5 |
| \$25 |  |  |  |
| ¢ 32 |  |  |  |
| \$40 |  |  |  |

Note 1: Custom stroke length is available per 1 mm increment.
Note 2: For bellows "J" type, stroke length should be longer than 25 mm . Consult with CKD when stroke length is shorter than 25 mm .

Min. stroke length of type with switch

| Switch quantity <br> Bore size (mm) |  |  |  |  | 2 |  |  |  | 3 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proximity |  | Reed |  | Proximity |  | Reed |  | Proximity |  | Reed |  |
|  | T2, T3 | T1, $\mathrm{T}^{*} \mathrm{Y}^{*}$ | T0, T5 | T8 | T2, T3 | T1, T* ${ }^{*}$ | T0, T5 | T8 | T2, T3 | T1, T* ${ }^{*}$ | T0, T5 | T8 |
| $\phi 20$ | 10 |  |  |  | 25 | 35 | 25 | 35 | 50 | 55 | 50 | 55 |
| ¢25 | 10 |  |  |  | 25 | 35 | 25 | 35 | 50 | 55 | 50 | 55 |
| ¢32 | 10 |  |  |  | 25 | 35 | 25 | 35 | 50 | 55 | 50 | 55 |
| ¢ 40 | 10 |  |  |  | 25 | 35 | 25 | 35 | 50 | 55 | 50 | 55 |

Note 1: Up to three switches can be mounted.


## CMK2- $Q_{\text {series }}$

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2

How to order


| Symbol |  |
| :---: | :--- |
| A) Mounting style |  |
| $\mathbf{0 0}$ | Basic type |
| LB | Axial foot type |
| FA | Rod side flange type |
| FB | Head side flange type |
| CA | Eye bracket type |
| CB | Clevis bracket type (pin and washer split pin attached) |
| TA | Rod side trunnion type |
| TB | Head side trunnion type |

B) Bore size (mm)

| 20 | $\phi 20$ |
| :--- | :--- |
| 25 | $\phi 25$ |
| 32 | $\phi 32$ |
| 40 | $\phi 40$ |

(C) Port thread type

| Blank | Rc thread |
| :---: | :--- |
| NN | NPT thread (custom order) |
| GN | G thread (custom order) |

D) Stroke length (mm)

Bore size Stroke length Note 2 Custom stroke length

| $\phi 20$ | 5 to 750 | By 1 mm increment |
| :---: | :---: | :---: |
| $\phi 25$ | 5 to 750 |  |
| $\phi 32$ | 5 to 750 |  |
| $\phi 40$ | 5 to 750 |  |

Position locking mechanism

Note on model no. selection
Note 1:The TA rod side position locking and TB head side position locking are not available.
Note 2: Refer to page 144 for min. stroke length with switch.
Note 3: Applicable tube O.D. of F; push-in joint (straight), FE; push-in joint (elbow) is $\phi 6$.
Note 4:"I" and "Y" can not be selected at the same time
Note 5: Refer to Ending 89 for custom specifications of rod end form.
Note 6: Refer to page 84 for variation and combinations of options.
Note 7:Up to three switches can be mounted. If more than four switches are required, switch mounting brackets for the extra switches must be prepared separately.
Note 8: If "M0" or "M1" is not selected for the " H " Options, only nonlocking manual override is available. The release bolt is not included.
<Example of model number>
CMK2-Q-00-20-25-R-TOH-R-MOY
Model: Medium bore size cylinder position locking type

| A $)$ Mounting style | : Basic type |
| :--- | :--- |
| B Bore size | $: \phi 20 \mathrm{~mm}$ |
| (C) Port thread type | $:$ Rc thread |
| (D) Stroke length | $: 25 \mathrm{~mm}$ |
| (E) Position locking mechanism | : Rod side position locking |
| (F) Switch model no. | : Reed TOH switch and lead wire 1 m |
| (G) Switch quantity | : One on rod end |
| (H) Option | : Non-locking manual override |
| (1) Accessory | : Rod clevis |

: $\phi 20 \mathrm{~mm}$
: Rc thread
25 mm
Rod side position locking

One on rod end

Rod clevis
(E) Position locking mechanism


| $\mathbf{R}$ | Rod side position locking |
| :---: | :--- |
| $\mathbf{H}$ | Head side position locking |

FSwitch model no.

© Switch quantity

## G Switch quantity

| $\mathbf{R}$ | One on rod end |
| :---: | :--- |
| $\mathbf{H}$ | One on head end |
| $\mathbf{D}$ | Two |
| $\mathbf{T}$ | Three |


| H)Option |  |
| :---: | :--- |
| F | Push-in joint (straight) |
| FE | Push-in joint (elbow) |
| M | Piston rod material (stainless steel) |
| P6 | Copper and PTFE free |
| M0 | Non-locking manual override (release bolt attached) |
| M1 |  | Locking manual override.

How to order
How to order switch

- Mounting bracket

How to order mounting bracket

| Bore size (mm) | $\phi 20$ | $\phi 25$ | $\phi 32$ |
| :--- | :---: | :---: | :---: |
| Mounting bracket | M1-LB-20 | M1-LB-30 | M1-LB-30 |
| Axial foot type (LB) | M1-FA-20 | M1-FA-30 | M1-FA-30 |
| Flange (FA/FB) | M1-TA-20 | M1-TA-30 | M1-TA-30 |
| Trunnion (TA/TB) | M1-CA-20 | M1-CA-30 | M1-CA-30 |
| Eye bracket type (CA) | M1-CB-20 | M1-CB-30 | M1-CB-30 |
| Clevis bracket type (CB) |  |  | M1-TA-30 |



Switch model no. (item $\boldsymbol{E}$ on previous page)


Note 1: Mounting nut/toothed washer are attached to each mounting bracket.

Note 2: Two sets of "M1-LB-*" in the above table are required for the axial direction foot (double-sided).

MDC2
MVC
SMD2
MSD*

## CMK2-Q series

Internal structure and parts list

- CMK2-Q (rod side position locking)
(1) (2) 4) 567

- CMK2-Q (head side position locking)

(8) (1) (1) (8) (4) (1)
(10)(4) (2)34


Note: This caulking type cannot be disassembled.


The stopper pin moves and the lock is released when the hexagon socket bolt ( $\mathrm{M} 3 \times 30$ ) is screwed into the stopper piston and the bolt is pulled up 3 mm with a force of 20 N or more during no-load horizontal installation or when the counter side port is pressurized. When the hand is released, if the stopper piston returns by the internal spring and enters the piston rod groove, the piston is locked.


When the round nut is turned counterclockwise, the stopper pin moves and the lock is released.
When the nut is turned clockwise to the lock position, the stopper piston returns. When it fits into the piston rod slot again, the piston is locked.

Double acting position locking type

## Dimensions

- T type basic type with switch (00)
(Rod side position locking)
(Head side position locking)


Note 1: Refer to the drawing for "Explanation of manual override" on the previous page for dimensions of the type with manual override. Note 2: Refer to page 188 for the HD, RD, and projecting dimensions of the $T 1^{*}$ and $T 8^{*}$ switches and 2-color indicator switch with preventive maintenance output.
RD: Rod side max. sensitive position Note 3: Refer to page 190 for dimensions of accessories.
HD: Head side max. sensitive position

mensions

Dimensions of each mounting type are same as standard type. Refer to pages 96 to 101.

