

# Clamp Cylinder with Magnetic Field Resistant Auto Switch (Rod Mounting Style)

## Series **CKG1/CKP1** ø40, ø50, ø63

Series CKG1/CKP1 clamp cylinder with magnetic field resistant auto switch (Rod mounting style) has been remodeled to shorten the overall length. When selecting this model, please consider the **new CK□1** series.

### How to Order

Built-in standard magnet type with magnetic field resistant auto switch

Built-in strong magnet type with magnetic field resistant auto switch

**CKG1** **A** **50** **-** **100** **Y** **-** **P3DWSC**

**CKP1** **A** **50** **-** **100** **Y** **-** **P79WSE**

|                  |       |                     |         |                    |        |                                |          |                    |                                                                      |
|------------------|-------|---------------------|---------|--------------------|--------|--------------------------------|----------|--------------------|----------------------------------------------------------------------|
| <b>Bore size</b> |       | <b>Clevis width</b> |         | <b>Thread type</b> |        | <b>Number of auto switches</b> |          | <b>Auto switch</b> |                                                                      |
| <b>40</b>        | 40 mm | <b>A</b>            | 16.5 mm | <b>Nil</b>         | Rc1/4  | <b>Nil</b>                     | 2 pcs.   | <b>Nil</b>         | Without auto switch (built-in magnet)<br>Without switch mounting rod |
| <b>50</b>        | 50 mm | <b>B</b>            | 19.5 mm | <b>TN</b>          | NPT1/4 | <b>S</b>                       | 1 pc.    | <b>P</b>           | Without auto switch (built-in magnet)<br>With switch mounting rod    |
| <b>63</b>        | 63 mm |                     |         |                    |        | <b>n</b>                       | "n" pcs. |                    |                                                                      |

#### End bracket

|            |                                       |
|------------|---------------------------------------|
| <b>Nil</b> | None                                  |
| <b>I</b>   | Single knuckle joint (M6 without tap) |
| <b>IA</b>  | Single knuckle joint (M6 with tap)    |
| <b>Y</b>   | Double knuckle joint (M6 without tap) |
| <b>YA</b>  | Double knuckle joint (M6 with tap)    |

Note 1) IA and YA are equivalent to the conventional models.  
Note 2) Knuckle pin, cotter pin and flat washer are provided as a standard for Y and YA.

#### Option

|                             |                                          |
|-----------------------------|------------------------------------------|
| <b>Nil</b>                  | None                                     |
| <b>B</b>                    | Limit switch mounting base               |
| <b>D</b>                    | Dog fitting <sup>Note 1)</sup>           |
| <b>L</b>                    | Foot                                     |
| <b>K</b> <sup>Note 2)</sup> | Pedestal (for 75, 100, 150 strokes only) |

Note 1) When the dog bracket is selected, choose the rod end bracket IA or YA (M6 with tap).

Note 2) Clevis width B (19.5 mm) is not available with mounting base K.

### Built-in Standard (Strong) Magnet Cylinder Part No.

- 1) Built-in standard (strong) magnet type without auto switch and switch mounting rod  
Symbol for the auto switch type is "Nil" as shown below.  
CKG1: (Example) CKG1A50-50Y  
CKP1: (Example) CKP1A50-50Y
- 2) Built-in standard (strong) magnet type without auto switch, with switch mounting rod  
Symbol for the auto switch type is "P" as shown below.  
CKG1: (Example) CKG1A50-50Y-P  
CKP1: (Example) CKP1A50-50Y-P

### Applicable Magnetic Field Resistant Auto Switches (Refer to pages 1719 to 1827 for detailed auto switch specifications.)

| Applicable cylinder series | Type                    | Auto switch model | Applicable magnetic field                                  | Electrical entry    | Indicator light | Wiring (Pin no in use) | Load voltage | Lead wire length | Applicable load                   |
|----------------------------|-------------------------|-------------------|------------------------------------------------------------|---------------------|-----------------|------------------------|--------------|------------------|-----------------------------------|
| Series CKG1                | Solid state auto switch | D-P3DWSC          | AC magnetic field (Single-phase AC welding magnetic field) | Pre-wired connector | 2-color display | 2-wire (3-4)           | 24 VDC       | 0.3 m            | Relay, PLC <small>Note 1)</small> |
|                            |                         | D-P4DWSC          |                                                            |                     |                 | 2-wire (1-4)           |              | 0.5 m            |                                   |
|                            |                         | D-P3DWSE          |                                                            |                     |                 |                        |              | 3 m              |                                   |
|                            |                         | D-P4DWSE          |                                                            | 2-wire              |                 | 5 m                    |              |                  |                                   |
|                            |                         | D-P3DW            |                                                            |                     |                 | Grommet                |              |                  |                                   |
|                            |                         | D-P3DWL           |                                                            |                     |                 |                        |              |                  |                                   |
|                            |                         | D-P4DWL           |                                                            |                     |                 |                        |              |                  |                                   |
|                            |                         | D-P3DWZ           |                                                            |                     |                 |                        |              |                  |                                   |
| D-P4DWZ                    |                         |                   |                                                            |                     |                 |                        |              |                  |                                   |
| Series CKP1                | Reed auto switch        | D-P79WSE          | DC / AC magnetic field                                     | Pre-wired connector | 2-color display | 2-wire (1-4)           | 24 VDC       | 0.3 m            |                                   |
|                            |                         | Grommet           |                                                            | 1-color display     | 2-wire          | 24 VDC                 | 3 m          |                  |                                   |
|                            |                         |                   |                                                            |                     |                 | 100 VAC                | 5 m          |                  |                                   |
|                            |                         |                   |                                                            |                     |                 | D-P74L                 |              |                  |                                   |
| D-P74Z                     |                         |                   |                                                            |                     |                 |                        |              |                  |                                   |

Note 1) PLC: Programmable Logic Controller

Note 2) There are other applicable auto switches other than the listed above. For details, refer to page 1329.

Note 3) Refer to page 1330 when ordering the auto switch mounting bracket assembly or switch mounting rod assembly.

Note 4) For D-P3DW□, auto switches and auto switch mounting brackets are shipped together (not assembled).

MK

CKQ  
CLKQ

CK□1

CLK2

D-□

-X□

Individual  
-X□

# Series CK□1



## Specifications

| Bore size (mm)                | 40                                          | 50 | 63 |
|-------------------------------|---------------------------------------------|----|----|
| Fluid                         | Air                                         |    |    |
| Proof pressure                | 1.5 MPa                                     |    |    |
| Maximum operating pressure    | 1.0 MPa                                     |    |    |
| Minimum operating pressure    | 0.05 MPa                                    |    |    |
| Ambient and fluid temperature | -10°C to +60°C                              |    |    |
| Piston speed                  | 50 to 500 mm/s                              |    |    |
| Cushion <sup>Note 1)</sup>    | Unclamped side (head end): With air cushion |    |    |
| Speed controller              | Equipped on both ends                       |    |    |
| Lubrication                   | Non-lube                                    |    |    |
| Stroke length tolerance       | $+1.0$<br>0                                 |    |    |
| Mounting <sup>Note 2)</sup>   | Double clevis                               |    |    |

Note 1) With cushion on both ends are available as Made to Order.

For details, refer to page 1336, Made to Order [\[4\]](#).

Ordering example **CKG1A50-100Y-P4DWSC -X1515**

↑ With cushion on both ends

Note 2) Clevis pin, Cotter pin, Flat washer are equipped as a standard.

| Clevis width | 16.5 mm | CKG1A/CKP1A series |
|--------------|---------|--------------------|
|              | 19.5 mm | CKG1B/CKP1B series |

## Standard Stroke

| Bore size (mm)    | Standard stroke (mm)  |
|-------------------|-----------------------|
| <b>40, 50, 63</b> | 50, 75, 100, 125, 150 |

## End Bracket / Options

| Symbol    | Description                                                                                      | Parts no.          |                    |
|-----------|--------------------------------------------------------------------------------------------------|--------------------|--------------------|
|           |                                                                                                  | Series CKG1A/CKP1A | Series CKG1B/CKP1B |
| <b>I</b>  | Single knuckle joint                                                                             | M6 without tap     | CKB-I04            |
| <b>IA</b> |                                                                                                  | M6 with tap        | CKB-IA04           |
| <b>Y</b>  | Double knuckle joint<br>(Knuckle pin, Cotter pin,<br>Flat washer are equipped<br>as a standard.) | M6 without tap     | CKA-Y04            |
| <b>YA</b> |                                                                                                  | M6 with tap        | CKA-YA04           |
| <b>B</b>  | Limit switch mounting base                                                                       | CK-B04             |                    |
| <b>D</b>  | Dog fitting                                                                                      | CK-D04             |                    |
| <b>L</b>  | Foot                                                                                             | CK-L04             |                    |
| <b>K</b>  | Pedestal                                                                                         | For 75 stroke      | CKA-K075           |
|           |                                                                                                  | For 100 stroke     | CKA-K100           |
|           |                                                                                                  | For 150 stroke     | CKA-K150           |

## Theoretical Output

Unit: N

| Bore size (mm) | Rod size (mm) | Operating direction | Piston area (mm <sup>2</sup> ) | Operating pressure (MPa) |      |      |      |
|----------------|---------------|---------------------|--------------------------------|--------------------------|------|------|------|
|                |               |                     |                                | 0.3                      | 0.4  | 0.5  | 0.6  |
| <b>40</b>      | 20            | OUT                 | 1260                           | 378                      | 504  | 630  | 756  |
|                |               | IN                  | 943                            | 283                      | 377  | 472  | 566  |
| <b>50</b>      | 20            | OUT                 | 1960                           | 588                      | 784  | 980  | 1180 |
|                |               | IN                  | 1650                           | 495                      | 660  | 825  | 990  |
| <b>63</b>      | 20            | OUT                 | 3120                           | 934                      | 1250 | 1560 | 1870 |
|                |               | IN                  | 2800                           | 840                      | 1120 | 1400 | 1680 |

## Mass (Basic mass includes the switch mounting rod. At 0 stroke)

Unit: kg

| Bore size (mm)                                                                          |                                  | 40   | 50   | 63   |
|-----------------------------------------------------------------------------------------|----------------------------------|------|------|------|
| CKG1□ cylinder                                                                          | Basic mass                       | 0.75 | 0.97 | 1.18 |
|                                                                                         | Additional mass per 25 mm stroke | 0.11 | 0.12 | 0.14 |
| CKP1□ cylinder                                                                          | Basic mass                       | 0.77 | 1.03 | 1.34 |
|                                                                                         | Additional mass per 25 mm stroke | 0.11 | 0.12 | 0.14 |
| Single knuckle joint                                                                    |                                  | 0.20 |      |      |
| Double knuckle joint (Knuckle pin, Cotter pin, Flat washer are equipped as a standard.) |                                  | 0.34 |      |      |
| Limit switch mounting base                                                              |                                  | 0.22 |      |      |
| Dog fitting                                                                             |                                  | 0.12 |      |      |
| Foot                                                                                    |                                  | 0.24 |      |      |
| Pedestal                                                                                |                                  | 2.2  |      |      |

Calculation

Example) **CKG1□50-100Y-P**

• Basic mass ..... 0.97 (ø50) • Double knuckle joint...0.34 (Y)

• Additional mass ..... 0.12/25 mm

• Cylinder stroke ..... 100 mm 0.97 + 0.12 x 100/25 + 0.34 = 1.79 kg