

Clamp Cylinder

Series CK□1

- Clevis width **16.5 mm/19.5 mm**
- Built-in speed controller
- With air cushion
- Magnetic field resistant auto switches are mountable.

MK

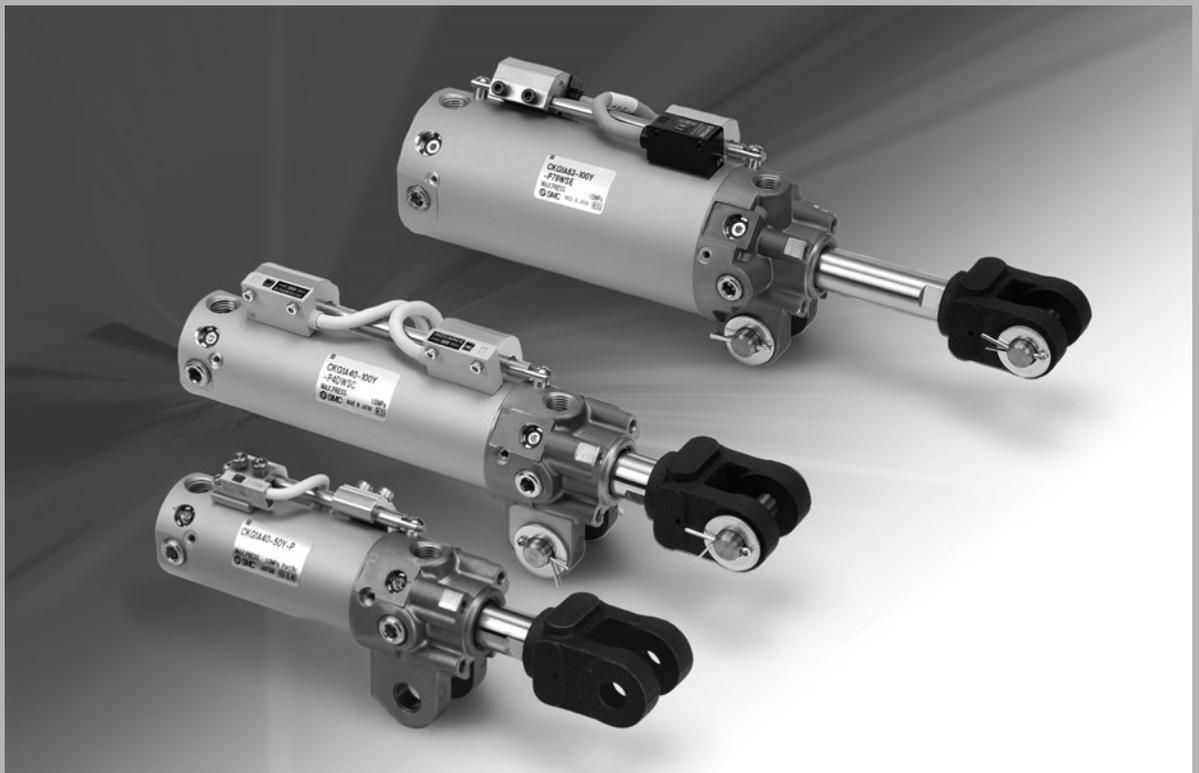
CKQ
CLKQ

CK□1

CLK2

Variations

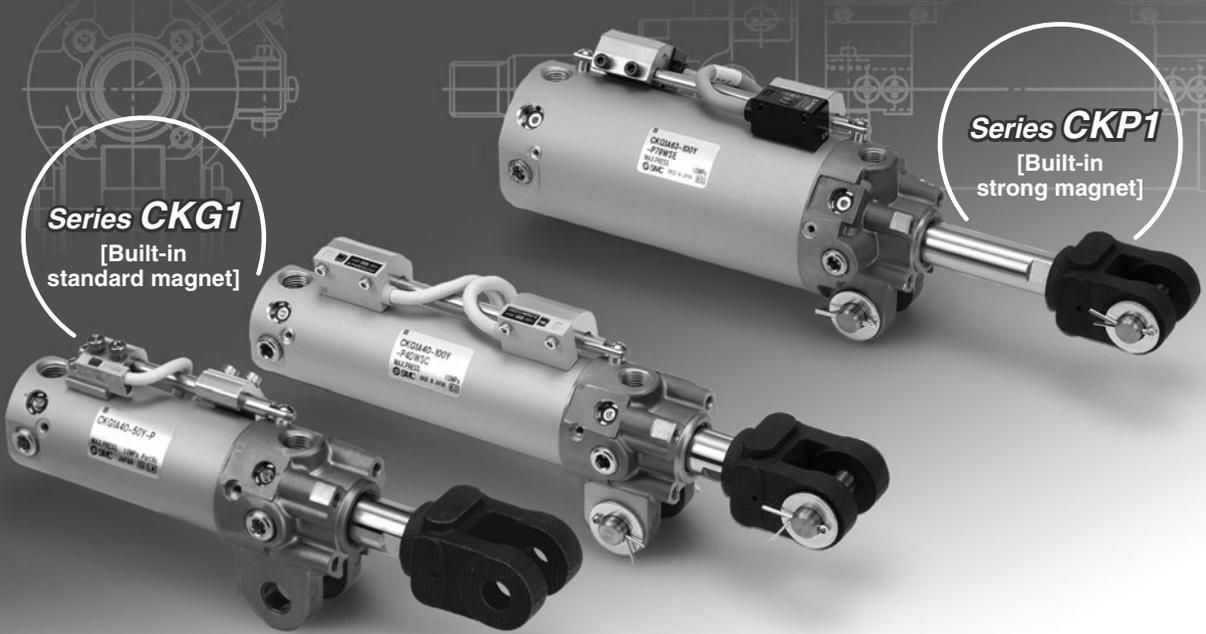
Series		Bore size (mm)	Stroke (mm)	Clevis width (mm)	Rod end bracket	Options
Basic type	Series CK1□	40	50	A: 16.5 mm B: 19.5 mm	Single knuckle joint Double knuckle joint	Limit switch mounting base Dog fitting Foot Pedestal
Built-in standard magnet type (applicable to magnetic field resistant auto switches)	Series CKG1□	50	75			
Built-in strong magnet type (applicable to magnetic field resistant auto switches)	Series CKP1□	63	100			
			125			
			150			



D-□

-X□

Individual
-X□



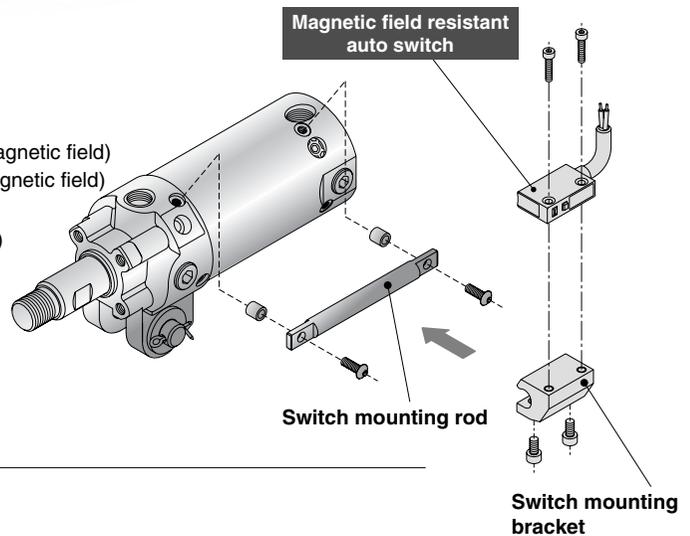
Magnetic field resistant auto switches are mountable.

[Series CKG1 / Built-in standard magnet]

- ... D-P3DWSC, D-P3DWSE, D-P3DW/L/Z (AC magnetic field)
- ... D-P4DWSC, D-P4DWSE, D-P4DWL/Z (AC magnetic field)

[Series CKP1 / Built-in strong magnet]

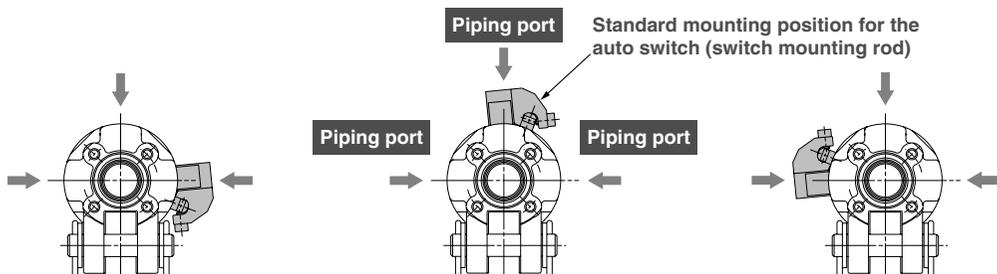
- ... D-P79WSE, D-P74L/Z (DC/AC magnetic fields)



The auto switch mounting and the piping position are available in three-way directions.

The auto switch mounting position can be altered.

Also, piping is possible in three-way directions regardless of the auto switch mounting position.



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.

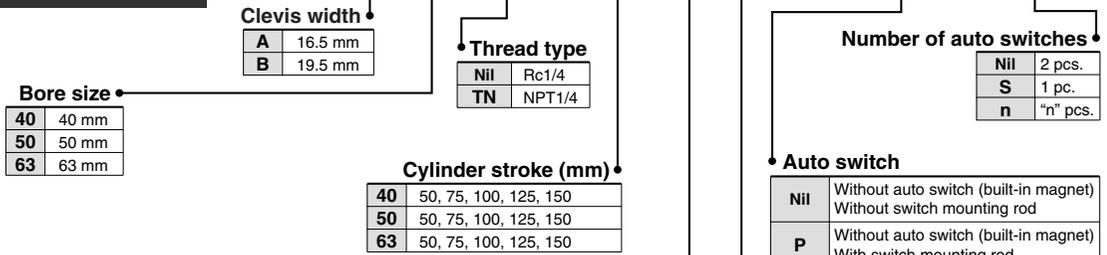
How to Order

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

CKG1 A 50 [] - 100 Y [] - P3DWSC []

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

CKP1 A 50 [] - 100 Y [] - P79WSE []



Nil	None
I	Single knuckle joint (M6 without tap)
IA	Single knuckle joint (M6 with tap)
Y	Double knuckle joint (M6 without tap)
YA	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

Nil	None
B	Limit switch mounting base
D	Dog fitting ^{Note 1)}
L	Foot
K ^{Note 2)}	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.

* Select applicable auto switch models from the table below.

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

- 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
- 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 ^{Note 1)}
		D-P4DWSC							
		D-P3DWSE				Grommet		2-wire (1-4)	
		D-P4DWSE							
		D-P3DW		Grommet	2-wire	24 VDC		0.5 m	
		D-P3DWL						3 m	
		D-P4DWL						5 m	
		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	
		D-P74L		Grommet	1-color display	2-wire	24 VDC	3 m	
		D-P74Z					100 VAC	5 m	

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 ^{Note 1)}	Unclamped side (head end): With air cushion		
Speed controller	Equipped on both ends		
Lubrication	Non-lube		
Stroke length tolerance	+1.0 0		
Mounting ^{Note 2)}	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)
40, 50, 63	50, 75, 100, 125, 150

End Bracket / Options

Symbol	Description	Parts no.		
		Series CKG1A/CKP1A	Series CKG1B/CKP1B	
I	Single knuckle joint	M6 without tap	CKB-I04	
IA		M6 with tap	CKB-IA04	
Y	Double knuckle joint (Knuckle pin, Cotter pin, Flat washer are equipped as a standard.)	M6 without tap	CKA-Y04	
YA		M6 with tap	CKA-YA04	
B	Limit switch mounting base	CK-B04		
D	Dog fitting	CK-D04		
L	Foot	CK-L04		
K	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 ²)	Operating pressure (MPa)			
				0.3	0.4	0.5	0.6
40	20	OUT	1260	378	504	630	756
		IN	943	283	377	472	566
50	20	OUT	1960	588	784	980	1180
		IN	1650	495	660	825	990
63	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**

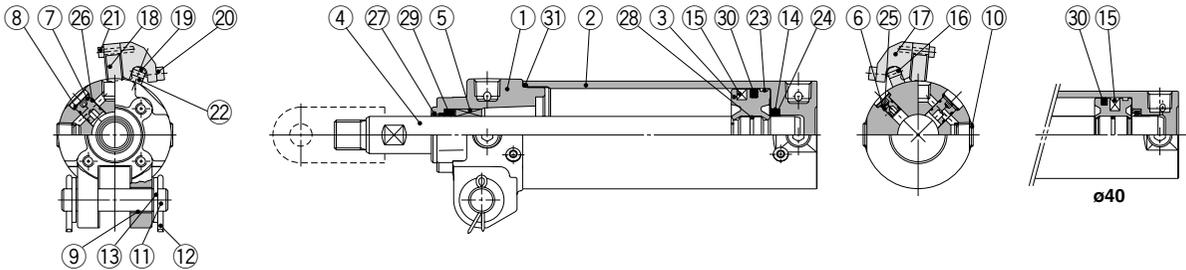
• Basic mass 0.97 (ø50) • Double knuckle joint...0.34 (Y)

• Additional mass 0.12/25 mm

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

Construction

CKG1□40, 50, 63 Built-in standard magnet type / With magnetic field resistant auto switch

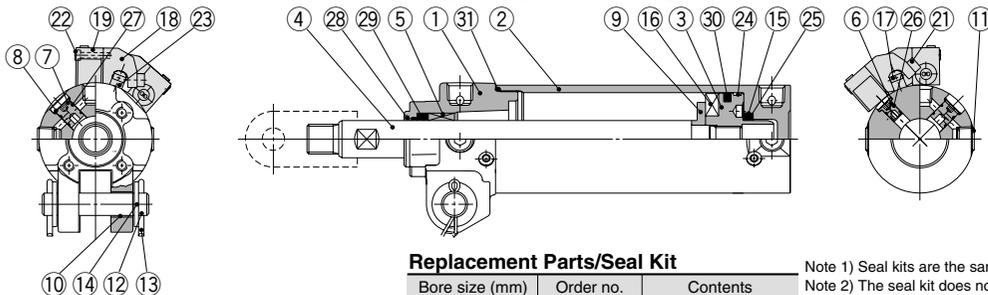


Component Parts

No.	Description	Material	Qty	Note
1	Rod cover	Aluminum alloy	1	Chromated
2	Tube cover	Aluminum alloy	1	Hard anodized
3	Piston	Aluminum alloy	1	Chromated
4	Piston rod	Carbon steel	1	Hard chrome plated
5	Bushing	Copper alloy	1	
6	Cushion valve	Aluminum alloy	1	
7	Speed controller valve	Aluminum alloy	2	
8	Retaining ring	Spring steel	3	
9	Clevis bushing	Oil-impregnated sintered alloy	2	
10	Hexagon socket head plug	Carbon steel	4	Rc 1/4
11	Pin	Carbon steel	1	
12	Cotter pin	Low carbon steel wire rod	2	
13	Flat washer	Rolled steel	2	
14	Cushion seal retainer	Rolled steel	1	Zinc chromated
15	Magnet	—	1	
16	Switch mounting rod	Carbon steel	1	Zinc chromated
17	Auto switch mounting bracket	Aluminum alloy	—	

No.	Description	Material	Qty	Note
18	Magnetic field resistant auto switch	—	—	
19	Hexagon socket head button screw	Steel wire	2	M4 x 0.7 x 12 L
20	Hexagon socket head cap screw	Steel wire	2 pcs. per auto switch	M4 x 0.7 x 8 L
21	Hexagon socket head cap screw	Steel wire	2 pcs. per auto switch	M3 x 0.5 x 14 L
22	Switch mounting spacer	Aluminum alloy	2	
23	Wear ring	Resin	1	
24	Cushion seal	Urethane	1	
25	Cushion valve seal	NBR	1	
26	Speed controller valve seal	NBR	2	
27	Coil scraper	Phosphor bronze	1	
28	Piston gasket	NBR	1	
29	Rod seal	NBR	1	
30	Piston seal	NBR	1	
31	Tube gasket	NBR	1	

CKP1□40, 50, 63 Built-in strong magnet type / With magnetic field resistant auto switch



Replacement Parts/Seal Kit

Bore size (mm)	Order no.	Contents
40	CK1A40-PS	Set of nos. above (29, 30, 31).
50	CK1A50-PS	
63	CK1A63-PS	

Note 1) Seal kits are the same as the CKG1□/CKP1□.
 Note 2) The seal kit does not come with a grease pack, so please order it separately.
Grease pack part no.: GR-S-005 (compatible with all sizes)
 Please order 2 pieces exceeding 100 strokes.

Component Parts

No.	Description	Material	Qty	Note
1	Rod cover	Aluminum alloy	1	Chromated
2	Tube cover	Aluminum alloy	1	Hard anodized
3	Piston	Aluminum alloy	1	Chromated
4	Piston rod	Carbon steel	1	Hard chrome plated
5	Bushing	Copper alloy	1	
6	Cushion valve	Aluminum alloy	1	
7	Speed controller valve	Aluminum alloy	2	
8	Retaining ring	Spring steel	3	
9	Magnet holder	Aluminum alloy	1	Chromated
10	Clevis bushing	Oil-impregnated sintered alloy	2	
11	Hexagon socket head plug	Carbon steel	4	Rc 1/4
12	Pin	Carbon steel	1	
13	Cotter pin	Low carbon steel wire rod	2	
14	Flat washer	Rolled steel	2	
15	Cushion seal retainer	Rolled steel	1	Zinc chromated
16	Magnet	—	1	
17	Switch mounting rod	Carbon steel	1	Zinc chromated

No.	Description	Material	Qty	Note
18	Auto switch mounting bracket	Aluminum alloy	—	
19	Magnetic field resistant auto switch	—	—	
20	Hexagon socket head button screw	Steel wire	2	M4 x 0.7 x 12 L
21	Hexagon socket head cap screw	Steel wire	2 pcs. per auto switch	M4 x 0.7 x 8 L
22	Hexagon socket head cap screw	Steel wire	2 pcs. per auto switch	M3 x 0.5 x 16 L
23	Switch mounting spacer	Aluminum alloy	2	
24	Wear ring	Resin	1	
25	Cushion seal	Urethane	1	
26	Cushion valve seal	NBR	1	
27	Speed controller valve seal	NBR	2	
28	Coil scraper	Phosphor bronze	1	
29	Rod seal	NBR	1	
30	Piston seal	NBR	1	
31	Tube gasket	NBR	1	

MK

CKQ
CLKQ

CK□1

CLK2

D-□

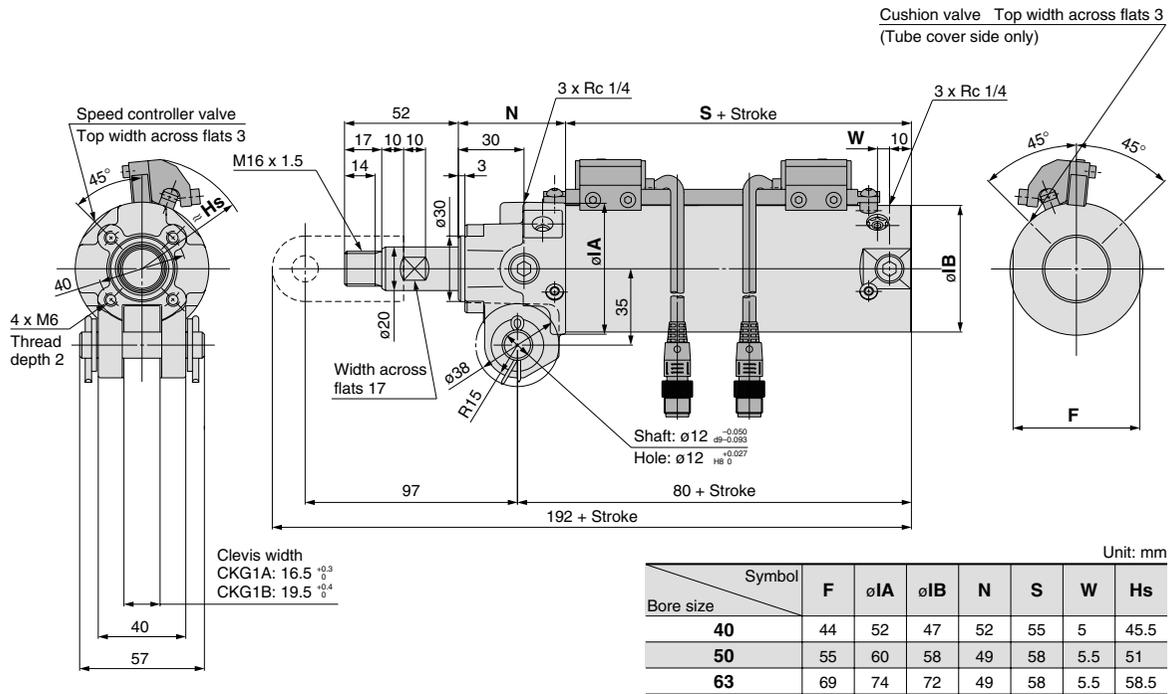
-X□

Individual
-X□

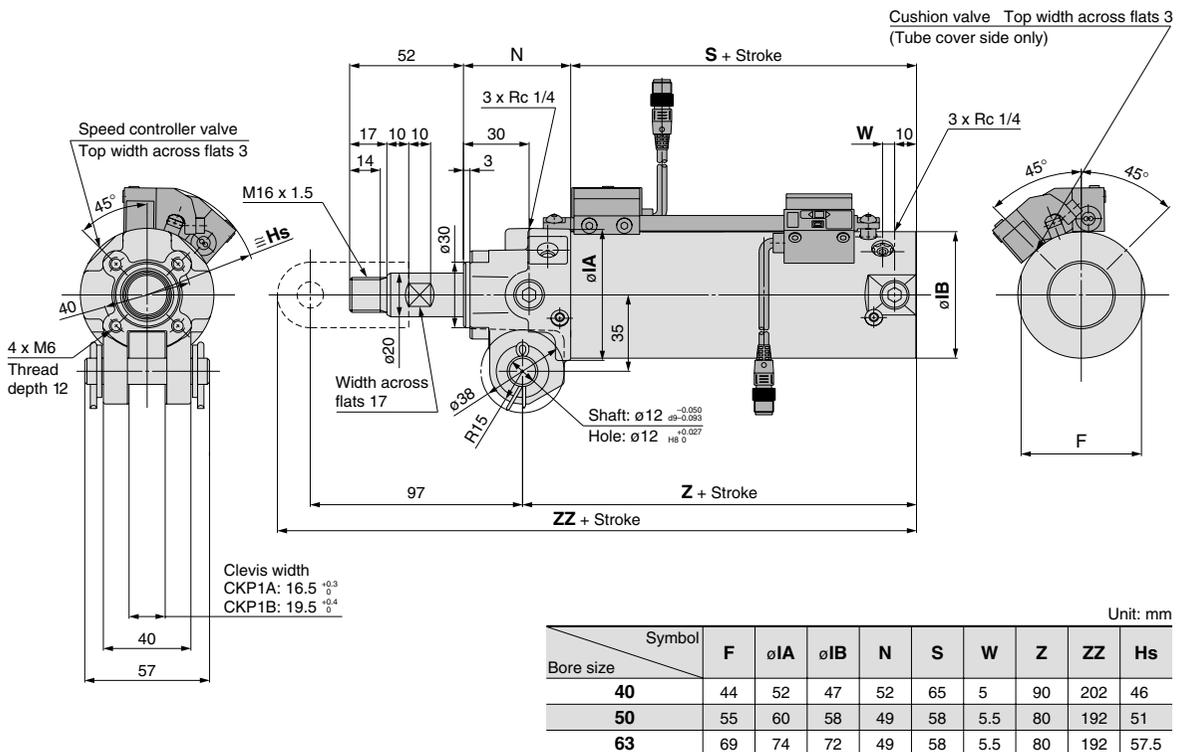
Series CK□1

Dimensions

CKG1□40, 50, 63 Built-in standard magnet type / With magnetic field resistant auto switch (D-P4DWS□ type)



CKP1□40, 50, 63 Built-in strong magnet type / With magnetic field resistant auto switch (D-P79WSE type)



Clamp Cylinder : Basic Type / Built-in Standard Magnet Type Magnetic Field Resistant Auto Switch (Band Mounting Style)

Series **CK1/CKG1**

∅40, ∅50, ∅63

Series CK1/CKG1 clamp cylinder with magnetic field resistant auto switch (Band mounting style) has been remodeled to shorten the overall length. When selecting this model, please consider the new CK□1 series.

How to Order

Without magnet

CK1 **A** **50** **TN** - **100** **Y** □

For how to order auto switch/switch mounting bracket, refer to below.

Built-in standard magnet type

CKG1 **A** **50** **TN** - **100** **Y** □

Clevis width

A	16.5 mm
B	19.5 mm

Bore size

40	40 mm
50	50 mm
63	63 mm

Thread type

Nil	Rc 1/4
TN	NPT 1/4

Cylinder stroke (mm)

40	50, 75, 100, 125, 150
50	50, 75, 100, 125, 150
63	50, 75, 100, 125, 150

Option

Nil	None
B	Limit switch mounting base
D	Dog fitting ^{Note 1)}
L	Foot
K ^{Note 2)}	Pedestal (for 75, 100, 150 strokes only)

Note 1) When the dog fitting 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.

End bracket

Nil	None
I	Single knuckle joint (M6 without tap)
IA	Single knuckle joint (M6 with tap)
Y	Double knuckle joint (M6 without tap)
YA	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.

Magnetic Field Resistant Auto Switch D-P4DW□□ Type / Band Mounting Compliant

Band mounting of the magnetic field resistant auto switch (D-P4DW□□ type) to the built-in standard magnet clamp cylinder (the CKG1□ series) is possible by ordering the switch mounting bracket and the auto switch individually.

⚠ Caution

Standard type auto switch is mountable for the built-in standard magnet type. For details, please refer to "Made to Order" on page 1331. Also, please note that the standard type auto switch cannot be used under the magnetic field resistant environment.

How to Order

Please order the switch mounting bracket, auto switch and built-in standard magnet clamp cylinder individually. Refer to the table below for auto switch mounting bracket part numbers.

Part no.	Applicable auto switch	Applicable clamp cylinder
BA8-040	D-P4DWSC	CKG1□40
BA8-050	D-P4DWSE	CKG1□50
BA8-063	D-P4DWLZ	CKG1□63

Ordering Example

- Example case ① Built-in standard magnet cylinder:
CKG1A50-50Y ... 1
- Example case ② Magnetic field resistant auto switch:
D-P4DWSC ... 2
- Example case ③ Switch mounting bracket:
BA8-050 ... 2

Note 1) Please order the same quantity for the switch mounting bracket and the magnetic field resistant auto switch respectively.

Note 2) Band mounting for the magnetic field resistant auto switch D-P79WS□ type, D-P74□ type is not applicable.



Applicable Magnetic Field Resistant Auto Switches

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	P4DWSC	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 ^{Note 1)}
		P4DWSE				2-wire (1-4)			
		P4DWL		Grommet		2-wire		3 m	
		P4DWZ						5 m	

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.



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	Without auto switch: -10°C to +70°C With auto switch: -10 to +60°C		
Piston speed	50 to 500 mm/s		
Cushion ^{Note 1)}	Unclamped side (head end): With air cushion		
Speed controller	Equipped on both ends		
Lubrication	Non-lube		
Stroke length tolerance	+1.0 0		
Mounting ^{Note 2)}	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 -X1515**

↑ With cushion on both ends

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

Clevis width	16.5 mm	CK1A/CKG1A series
	19.5 mm	CK1B/CKG1B series

Standard Stroke

Bore size (mm)	Standard stroke (mm)
40, 50, 63	50, 75, 100, 125, 150

End Bracket / Options

Symbol	Description	Part no.	
		Series CK1A/CKG1A	Series CK1B/CKG1B
I	Single knuckle joint	M6 without tap	CKB-I04
IA		M6 with tap	CKB-IA04
Y	Double knuckle joint (Knuckle pin, Cotter pin, Flat washer are equipped as a standard.)	M6 without tap	CKA-Y04
YA		M6 with tap	CKA-YA04
B	Limit switch mounting base	CK-B04	
D	Dog fitting	CK-D04	
L	Foot	CK-L04	
K	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 ²)	Operating pressure (MPa)			
				0.3	0.4	0.5	0.6
40	20	OUT	1260	378	504	630	756
		IN	943	283	377	472	566
50	20	OUT	1960	588	784	980	1180
		IN	1650	495	660	825	990
63	20	OUT	3120	934	1250	1560	1870
		IN	2800	840	1120	1400	1680

Mass

Unit: kg

Bore size (mm)		40	50	63
Cylinder	Basic mass	0.73	0.95	1.16
	Additional mass per 25 mm stroke	0.10	0.11	0.13
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) **CK1G□50-100Y**

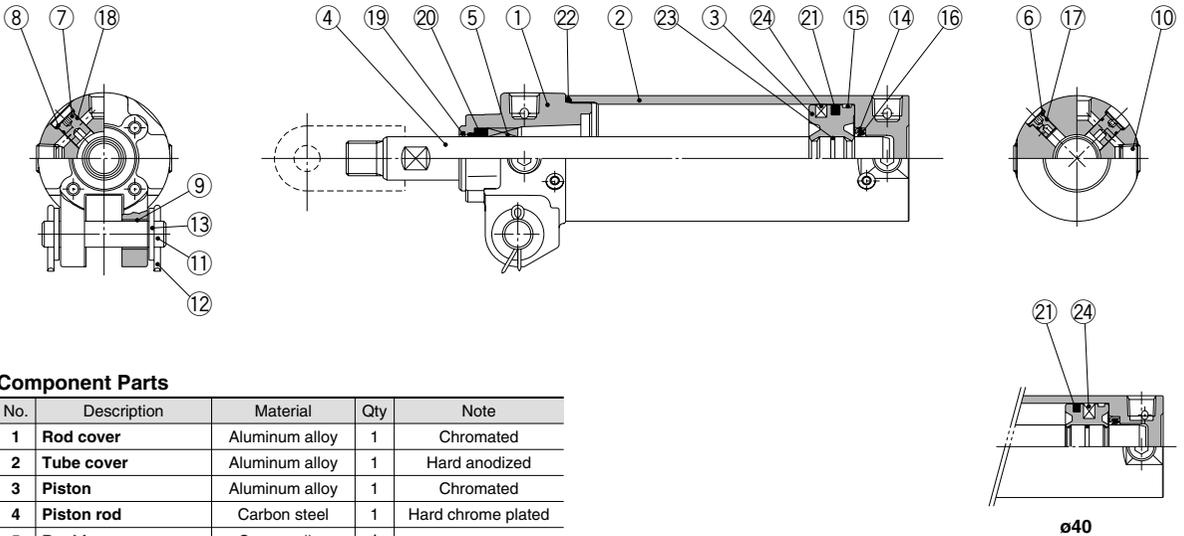
• Basic mass 0.95 (ø50) • Double knuckle joint...0.34 (Y)

• Additional mass 0.11/25 mm

• Cylinder stroke 100 mm 0.95 + 0.11 x 100/25 + 0.34 = 1.73 kg

Construction

CK1□40, 50, 63 Basic type / CKG1□40, 50, 63 Built-in standard magnet type



MK

**CKQ
CLKQ**

CK□1

CLK2

Component Parts

No.	Description	Material	Qty	Note
1	Rod cover	Aluminum alloy	1	Chromated
2	Tube cover	Aluminum alloy	1	Hard anodized
3	Piston	Aluminum alloy	1	Chromated
4	Piston rod	Carbon steel	1	Hard chrome plated
5	Bushing	Copper alloy	1	
6	Cushion valve	Aluminum alloy	1	
7	Speed controller valve	Aluminum alloy	2	
8	Retaining ring	Spring steel	3	
9	Clevis bushing	Oil-impregnated sintered alloy	2	
10	Hexagon socket head plug	Carbon steel	4	Rc 1/4
11	Pin	Carbon steel	1	
12	Cotter pin	Low carbon steel wire rod	2	
13	Flat washer	Rolled steel	2	
14	Cushion seal retainer	Rolled steel	1	Zinc chromated
15	Wear ring	Resin	1	
16	Cushion seal	Urethane	1	
17	Cushion valve seal	NBR	1	
18	Speed controller valve seal	NBR	2	
19	Coil scraper	Phosphor bronze	1	
20	Rod seal	NBR	1	
21	Piston seal	NBR	1	
22	Tube gasket	NBR	1	
23	Piston gasket	NBR	1	
24	Magnet	—	—	For CKG1

Replacement Parts/Seal Kit

Bore size (mm)	Order no.	Contents
40	CK1A40-PS	Set of nos. above ⑳, ㉑, ㉒.
50	CK1A50-PS	
63	CK1A63-PS	

Note) The seal kit does not come with a grease pack, so please order it separately.

Grease pack part no.: GR-S-005 (compatible with all sizes)

Please order 2 pieces exceeding 100 strokes.

D-□

-X□

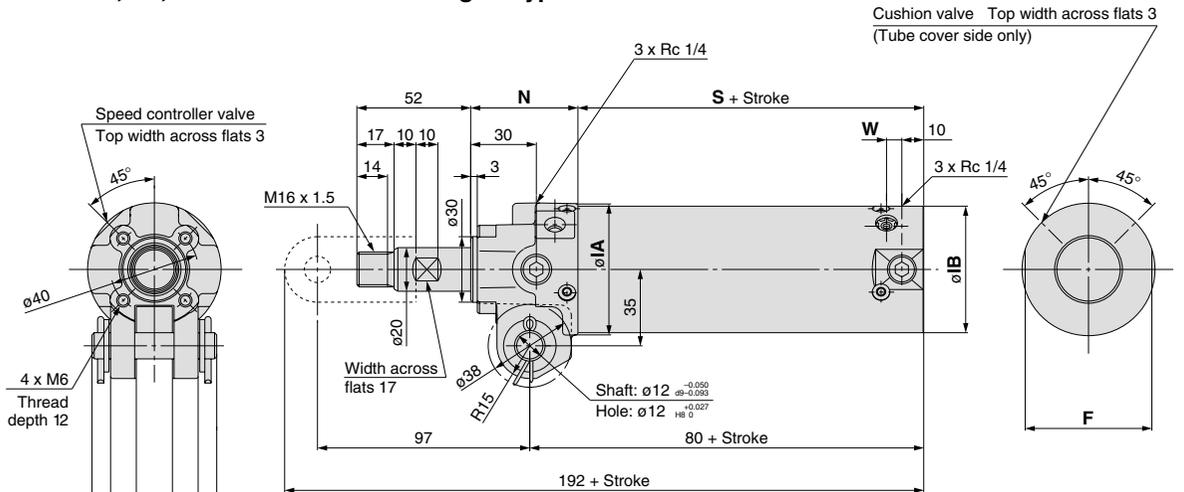
Individual
-X□

Series CK□1

Dimensions

CK1□40, 50, 63 / Basic type

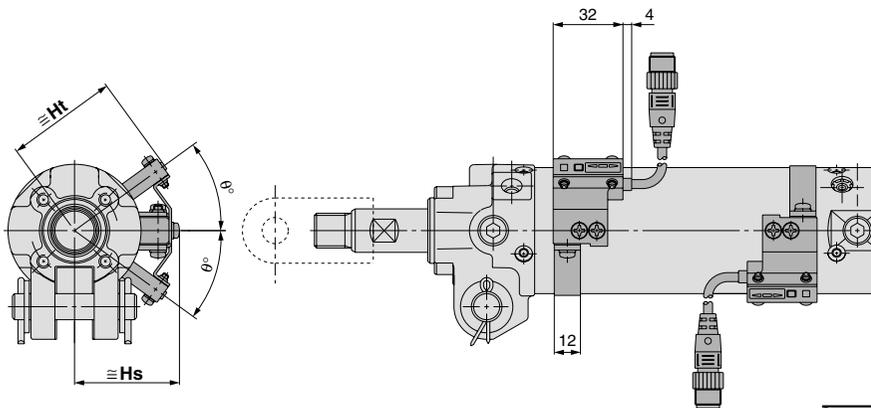
CKG1□40, 50, 63 / Built-in standard magnet type



Unit: mm

Symbol	F	ø1A	ø1B	N	S	W
Bore size 40	44	52	47	52	55	5
50	55	60	58	49	58	5.5
63	69	74	72	49	58	5.5

CKG1□40, 50, 63 / Example: Built-in standard magnet type + Magnetic field resistant auto switch D-P4DW□□ type (Band mounting)



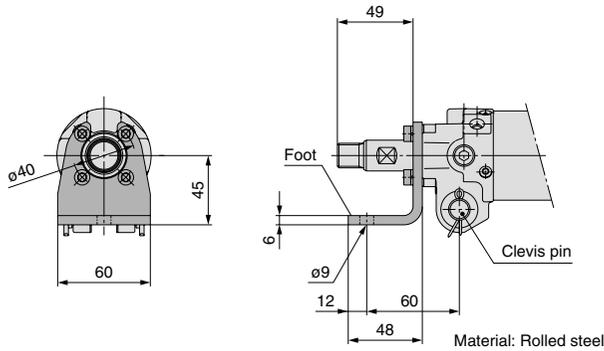
Unit: mm

Symbol	Hs	Ht	θ
Bore size 40	43	46	45°
50	48	51.5	36°
63	55	58.5	33°

Series CK□1

Option

Foot

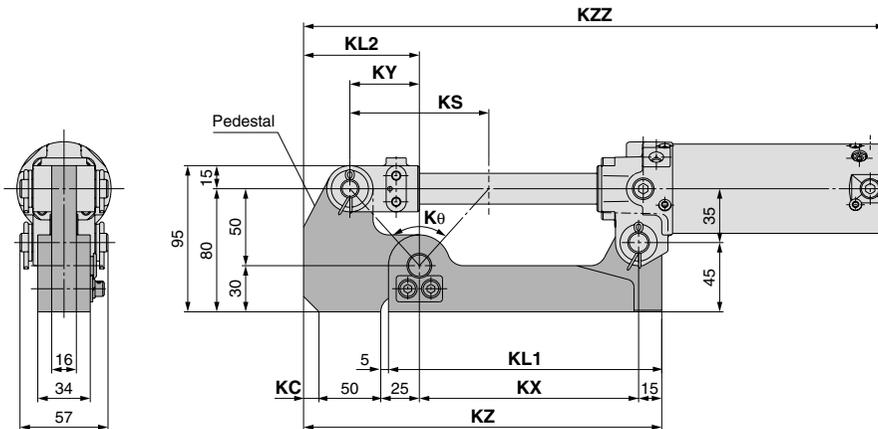


Part no.	Option symbol	Applicable clamp cylinder
CK-L04	L	Series CK□1A Series CK□1B

Note 1) A spring washer for the mounting bolt (hexagon socket head cap screw) will be attached as a standard for the foot bracket.

Note 2) When mounting the cylinder, use both the foot and clevis pin. Please avoid using the foot by itself as this may result in damage.

Pedestal



Material: Rolled steel

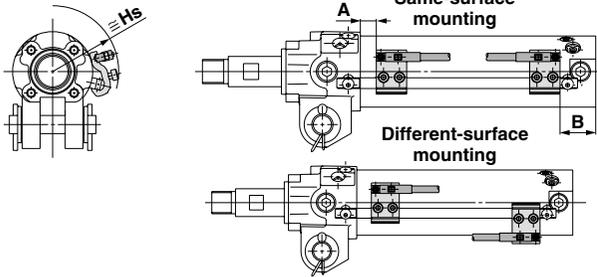
Part no.	Option symbol	KL1	KL2	KS	KX	KY	KZ	Kθ	KC	KZZ			Applicable clamp cylinder
										40	50	63	
CKA-K075	K	167	75	70	132	35	222	69° 59'	0	362			CK□1A40-75Y CK□1A50-75Y CK□1A63-75Y
CKA-K100		177	75	90	142	45	232	83° 58'	0	397			CK□1A40-100Y CK□1A50-100Y CK□1A63-100Y
CKA-K150		202	85	140	167	70	267	108° 55'	10	482			CK□1A40-150Y CK□1A50-150Y CK□1A63-150Y

Unit: mm

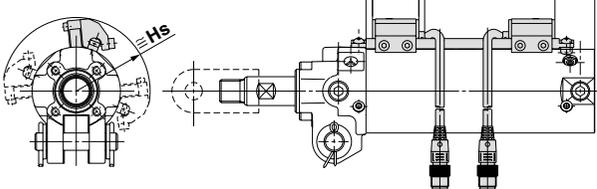
Note) The CK□1B series (clevis width 19.5 mm) is not available with pedestal.

Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

Rod mounting D-P3DW□□ type

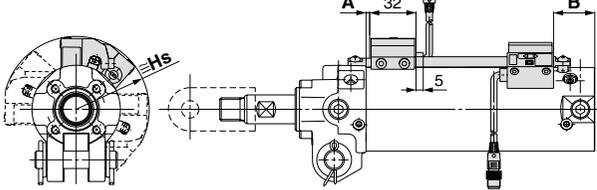


D-P4DW□□ type



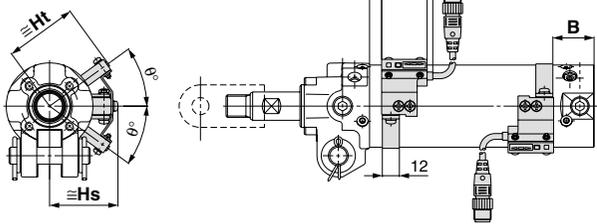
Note) The above drawing is the mounting example for the D-P4DWS□□ type.

D-P7□□□□ type



Note) The above drawing is the mounting example for the D-P79WSE type.

Band mounting D-P4DW□□ type



Note) The above drawing is the switch band mounting example for the D-P4DWS□□ type.

Minimum Stroke for Auto Switch Mounting

Unit: mm

Auto switch model	1 pc.	2 pcs.	
		Different surfaces	Same surface
D-P3DW□□	15	30	75
D-P4DW□□	50	50	
D-P79WSE			
D-P74□			

Note) When mounting 2 pcs. of D-P3DW□□ to the 50 mm stroke cylinder, mount the switches on different surfaces.

Auto Switch Mounting Position and Its Height: Rod Mounting Style

Unit: mm

Auto switch model	Symbol	Auto switch set value and its height		
		ø40	ø50	ø63
D-P3DW□□	A	10.5	7	7
	B	23.5	30	30
	Hs	43.5	49.5	56.5
D-P4DW□□	A	8	4.5	4.5
	B	20.5	27.5	27.5
	Hs	45.5	51	58.5
D-P79WSE D-P74□	A	5.5	0	0
	B	27.5	26	26
	Hs	46	51	58

Note 1) The mounting position should be referred for reference only for the auto switch mounting position at the stroke end detection. Adjust the auto switch after confirming the operation to set actually.

Note 2) A/B dimensions are the distance from the standard position (above drawing) to the end surface of the auto switch.

Note 3) The auto switch mounting position is temporarily set at the time of shipping from our factory. Change it to the desired position in accordance to your facility.

Auto Switch Mounting Position and Its Height: Band Mounting Style / D-P4DW□□ Type

Unit: mm

Auto switch model	Symbol	Auto switch set value and its height		
		ø40	ø50	ø63
D-P4DW□□	A	8	4.5	4.5
	B	20.5	27.5	27.5
	Hs	43	48	55
	Ht	46	51.5	58.5
	θ	45°	36°	33°

Note 1) The mounting position should be referred for reference only for the auto switch mounting position at the stroke end detection. Adjust the auto switch after confirming the operation to set actually.

Note 2) A/B dimensions are the distance from the standard position (above drawing) to the end surface of the auto switch.

Note 3) As for D-P4DW□□ type, band mounting style, the switch mounting bracket and the auto switch have to be ordered separately. For details, refer to page 1323.

Operating Range

Unit: mm

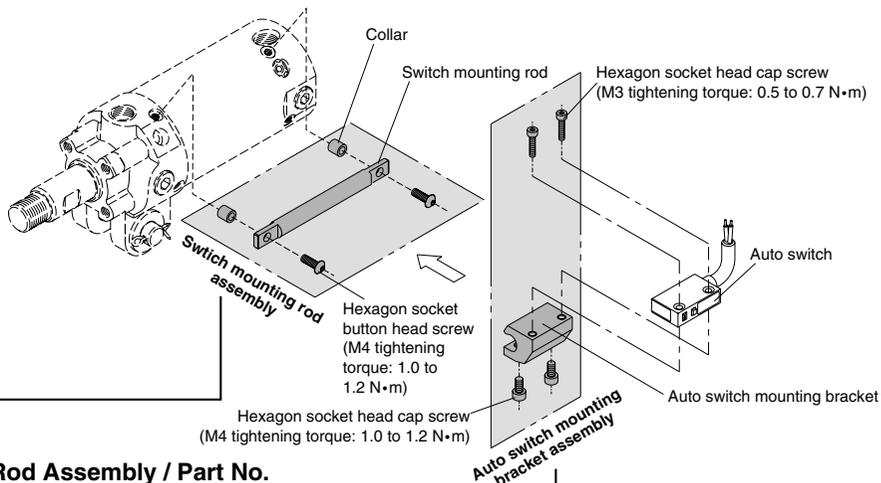
Auto switch model	Bore size	Bore size		
		40	50	63
D-P3DW□□	Rod mounting	4	5	6
D-P4DW□□	Rod mounting	4	4	4.5
	Band mounting	5	5	5.5
D-P79WSE	Rod mounting	8	9	9.5
D-P74□				

Besides the models listed in "How to Order," the following auto switches are applicable.

* For magnetic field resistant 2-color indication solid state auto switches, auto switches with pre-wired connector (D-P4DW□DPC type) are also available. Refer to pages 1784 and 1785.

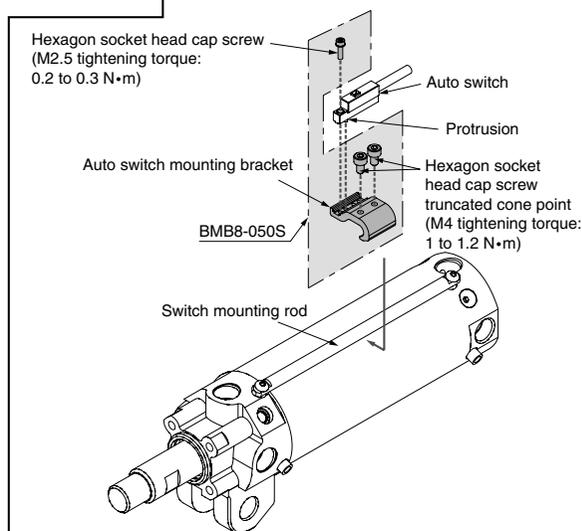
Auto Switch Mounting Bracket / Part No.

Switch mounting rod assembly / Auto switch mounting bracket assembly

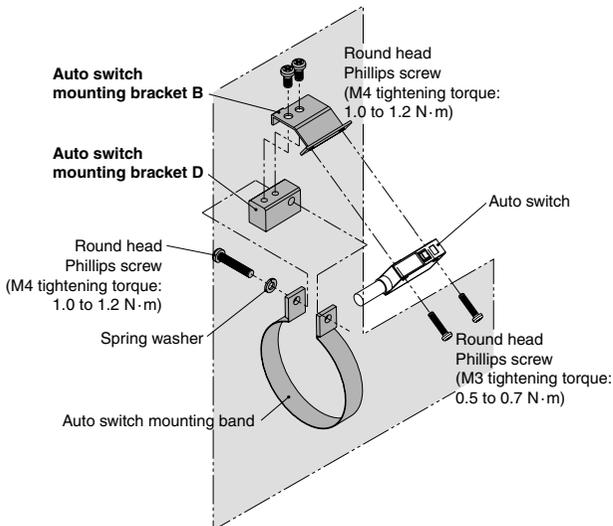


Switch Mounting Rod Assembly / Part No.

Applicable series	Applicable clamp cylinder	Part no.
Dedicated to Series CKP1□40	CKP1□40-50	CKP40-R050
	CKP1□40-75	CKP40-R075
	CKP1□40-100	CKP40-R100
	CKP1□40-125	CKP40-R125
	CKP1□40-150	CKP40-R150
Series CKG1□40/50/63	CKG1□40-50 CKG1□50-50/CKP1□50-50 CKG1□63-50/CKP1□63-50	CKG40-R050
	CKG1□40-75 CKG1□50-75/CKP1□50-75 CKG1□63-75/CKP1□63-75	CKG40-R075
	CKG1□40-100 CKG1□50-100/CKP1□50-100 CKG1□63-100/CKP1□63-100	CKG40-R100
	CKG1□40-125 CKG1□50-125/CKP1□50-125 CKG1□63-125/CKP1□63-125	CKG40-R125
	CKG1□40-150 CKG1□50-150/CKP1□50-150 CKG1□63-150/CKP1□63-150	CKG40-R150



Auto switch mounting bracket (Band mounting)



Auto Switch Mounting Bracket Assembly / Part No.

Applicable cylinder series	Applicable auto switch	Auto switch mounting bracket part no.		
		40	50	63
Series CKG1	D-P3DWSC D-P3DWSE D-P3DWL/Z	BMB8-050S		
	D-P4DWSC D-P4DWSE D-P4DWL/Z	BK1T-040		
	D-P79WSE D-P74L/Z	BAP1T-040		

Auto Switch Mounting Bracket (Band Mounting) / Part No.

Auto switch mounting bracket part no.	Applicable auto switch	Applicable clamp cylinder
BA8-040	D-P4DWSC D-P4DWSE	CKG1□40
BA8-050	D-P4DWSE	CKG1□50
BA8-063	D-P4DWL/Z	CKG1□63

Made to Order Specifications:

Please contact SMC for detailed dimensions, specifications and lead times.



1 Band Mounting Style / Standard Auto Switch

The built-in standard magnet clamp cylinder / the CKG1□ series can be attached to the band mounting style / standard auto switch as shown below.

⚠ Caution

The standard auto switch cannot be used in a magnetic field environment.

For information on our cylinders that can be fitted with a magnetic field resistant auto switch, please refer to page 1319.

Built-in standard magnet CK G 1 **Enter the standard model no. - M9BW**

Built-in standard magnet • **Auto switch type: Band mounting style / Standard auto switch** • **Number of auto switches**

Nil Without auto switch Nil 2 pcs. S 1 pc.

Note) Select applicable auto switch models from the table below.

Mounting Allowable Auto Switch: Band Mounting / Standard Auto Switch/ Refer to pages 1719 to 1827 for auto switch specifications.

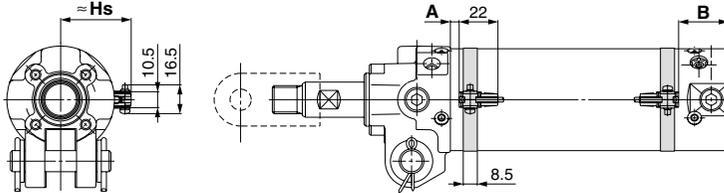
Applicable cylinder series	Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Auto switch model	Lead wire length (m)				Applicable load
					DC	5 V	AC		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	
Series CKG1	Solid state auto switch	Grommet	Yes	2-wire	24 V	5 V 12 V	—	M9B	●	—	●	○	Relay, PLC
								M9BW	●	●	●	○	
	Reed auto switch	Grommet	Yes	2-wire	24 V	12 V	100 V	●	—	●	—		
							100 V 200 V	●	—	●	●		

Note 1) Lead wire length symbol: 0.5 m Nil (Example) M9BW
 1 m M (Example) M9BWM
 3 m L (Example) M9BWL
 5 m Z (Example) M9BWZ

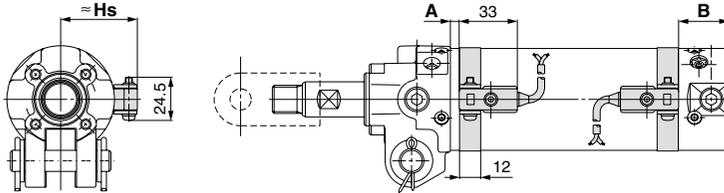
Note 2) Auto switches marked with "○" are produced upon receipt of order.
 Note 3) PLC: Programmable Logic Controller

Auto Switch Mounting Position (Detection at Stroke End) and Its Mounting Height

D-A93/M9B



D-B54



Minimum Stroke for Auto Switch Mounting Unit: mm

Auto switch	1 pc.	2 pcs. (Different surfaces)	2 pcs. (Same surface)
D-A93	50	50	50
D-M9B D-M9BW	50	50	50
D-B54	50	50	75

Auto Switch Mounting Position and Its Height Unit: mm

Auto switch	Symbol	Auto switch set value and its height		
		ø40	ø50	ø63
D-A93	A	11	7.5	7.5
	B	23.5	30.5	30.5
	Hs	34.5	40	47
D-M9B D-M9BW	A	15	11.5	11.5
	B	27.5	34.5	34.5
	Hs	34.5	40	47
D-B54	A	5.5	2	2
	B	18	25	25
	Hs	38	43.5	50.5

Note 1) The mounting position should be referred for reference only for the auto switch mounting position at the stroke end detection. Adjust the auto switch after confirming the operation to set actually.
 Note 2) A/B dimensions are the distance from the standard position (above drawing) to the end surface of the auto switch.
 Note 3) The auto switch mounting position is temporarily set at the time of shipping from our factory. Change it to the desired position in accordance to your facility.

⚠ Caution

As for the precautions on the auto switches, product specifications, refer to pages 8 to 11 and 1719 to 1827.

Auto Switch Mounting Bracket Assembly / Part No.

Auto switch	Auto switch mounting bracket part no.		
	40	50	63
D-A93 D-M9B D-M9BW	Note) ①BMA2-040 ②BJ3-1	Note) ①BMA2-050 ②BJ3-1	Note) ①BMA2-063 ②BJ3-1
D-B54	BA-04	BA-05	BA-06

Note) Two kinds of auto switch mounting brackets are required.

Operating Range

Auto switch model	Bore size		
	40	50	63
D-A93	8	8	9
D-M9B	3.5	4	4
D-M9BW	5.5	6.5	7
D-B54	10	10	11

* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately ±30% dispersion.) There may be the case it will vary substantially depending on an ambient environment.

2 CKGA32 Series / With Magnetic Field Resistant Auto Switch D-P4DW□□ Type (Band Mounting Style)

Band mounting of the magnetic field resistant auto switch (D-P4DW□□ type) to the built-in standard magnet clamp cylinder (the CKGA32 series) is possible by ordering the auto switch mounting bracket and the auto switch separately.

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

CKGA32 - 100 Y

Built-in standard magnet

Clevis width: 12 mm

Bore size: 32 mm

Cylinder stroke (mm)

50, 75, 100, 125, 150

End bracket

Nil	None
I	Single knuckle joint (without tap)
Y	Double knuckle joint (without tap)

Note) Knuckle pin, cotter pin and flat washer are provided as a standard for Y.

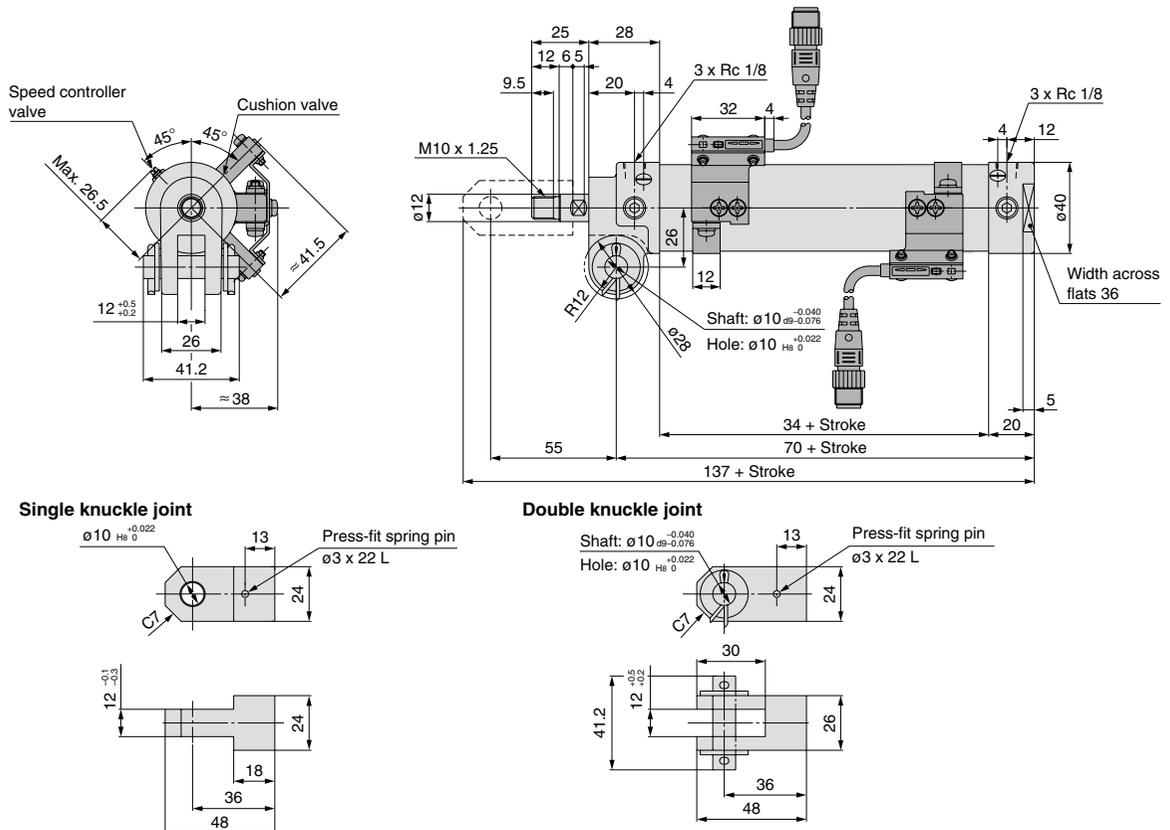
Specifications

Clevis width	12 mm	Series CKGA32
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	With air cushion on both ends	
Lubrication	Non-lube	
Stroke length tolerance	+1.0 0	
Mounting ^{Note)}	Double clevis	

Note) Clevis pin, cotter pin and flat washer are provided as a standard.

Applicable auto switch	Auto switch mounting bracket part no.
D-P4DWSC	BA8-032
D-P4DWSE	
D-P4DWL	
D-P4DWZ	

Dimensions

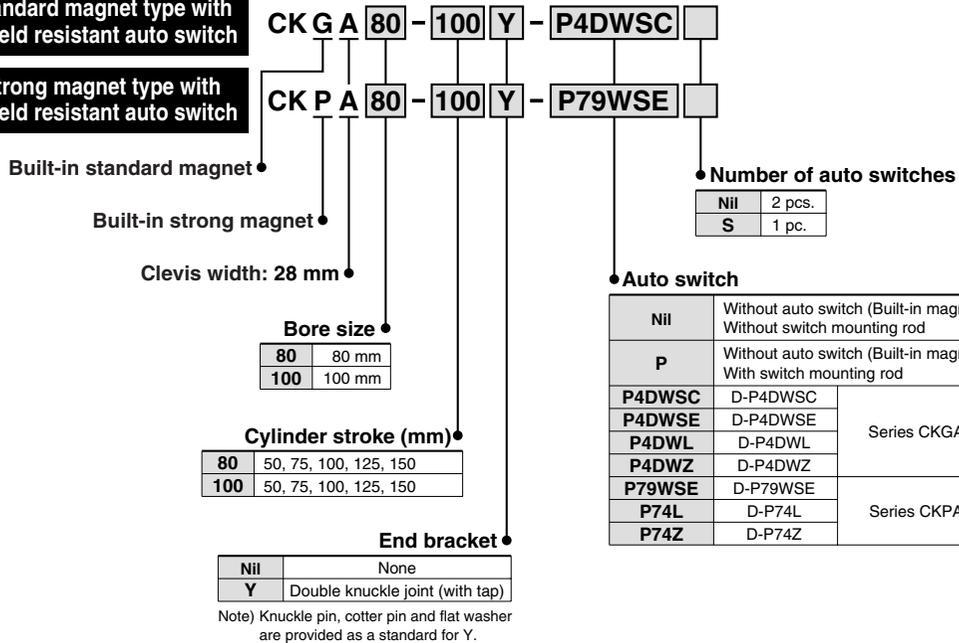


* Please contact SMC for details of the CKGA32 series.

3 CKGA80, 100 / CKPA80, 100 Series / With Magnet Field Resistant Auto Switch (Rod Mounting Style)

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

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



Specifications

Clevis width	28 mm	Series CKGA/CKPA
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	With air cushion on both ends	
Speed controller	Equipped on both ends	
Lubrication	Non-lube	
Stroke length tolerance	+1.0 0	
Mounting <small>Note)</small>	Double clevis	

Note) Clevis pin, cotter pin and flat washer are provided as a standard.

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.
CKGA: (Example) CKGA80-50Y
CKPA: (Example) CKPA80-50Y
- 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.
CKGA: (Example) CKGA80-50Y-P
CKPA: (Example) CKPA80-50Y-P

MK

CKQ
CLKQ

CK□1

CLK2

D-□

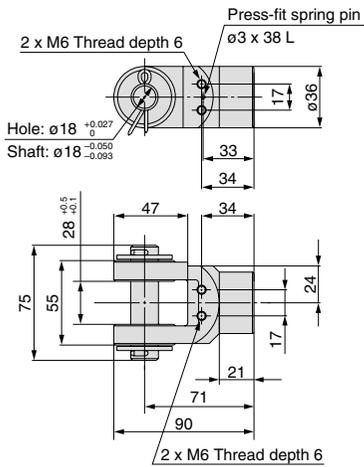
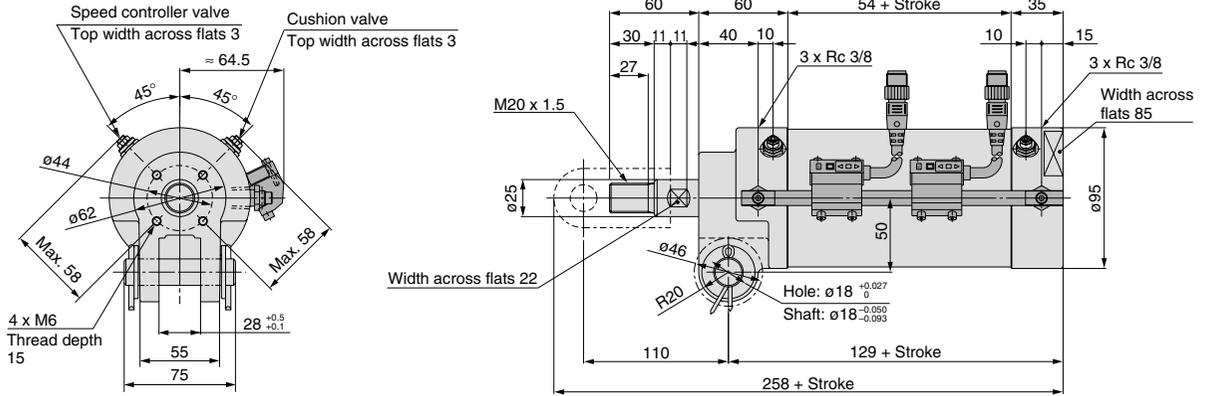
-X□

Individual
-X□

3 CKGA80, 100 / CKPA80, 100 Series / With Magnetic Field Resistant Auto Switch (Rod Mounting Style)

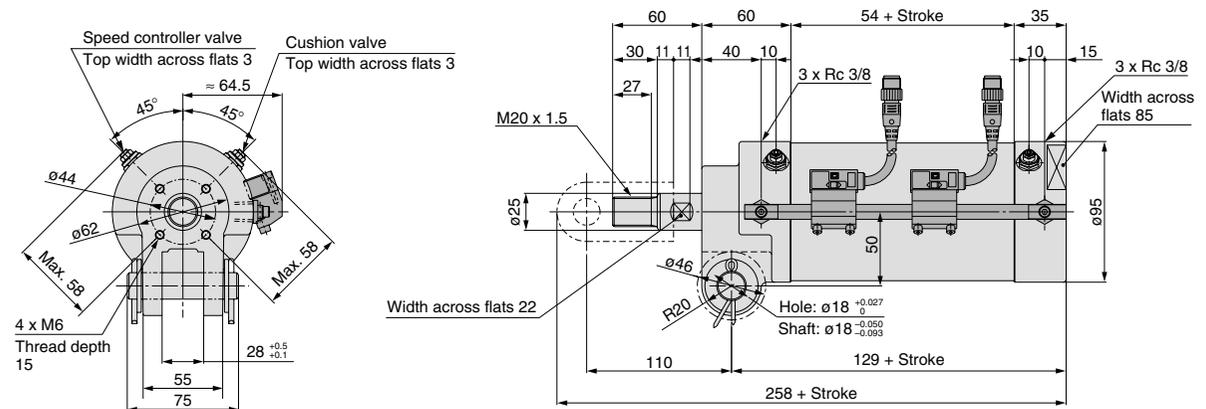
Dimensions

CKGA80 Built-in standard magnet type / with magnetic field resistant auto switch (D-P4DWS□ type)



Double knuckle joint

CKPA80 Built-in strong magnet type / with magnetic field resistant auto switch (D-P79WSE type)



4 CK□1□40, 50, 63 Series / With Cushion on Both Ends

-X1515

Clamp cylinder with cushion on both ends (with cushion on clamped / unclamped side)

⚠ Caution

The air cushion is integrated in the unclamped side (head end) only for the standard type CK1 / CKG1 / CKP1 series, bore size 40, 50 and 63. When an air cushion is required on both ends, it is available as a made-to-order -X1515.

Basic type	CK1	Enter the standard model no.	-	X1515
Built-in standard magnet type with magnetic field resistant auto switch	CKG1	Enter the standard model no.	-	X1515
Built-in strong magnet type with magnetic field resistant auto switch	CKP1	Enter the standard model no.	-	X1515

With cushion on both ends ●

The specifications and the dimensions other than the cushion are the same as the standard products.
For the respective specifications and the dimensions, please refer to pages 1319 to 1322 for the CKG1/CKP1 series, and pages 1323 to 1326 for the CK1 series.



Series CK□1

Specific Product Precautions 1

Be sure to read before handling.

Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Cushion/Speed Controller Adjustment

⚠ Danger

1. Do not remove the retaining ring that fixes the speed controller valve and cushion valve. It is also unsafe to remove it once and then reattach it.

Without the retaining ring, the valve may be ejected when air pressure is supplied causing a serious hazard. Even if it is reattached, there remains the possibility that it may be unsecured, resulting in danger.

Cushion Adjustment

The CK1 series has an integrated air cushion in the head end. The cushion is pre-adjusted at the time of shipping. However, please re-adjust the cushion valve in the tube cover, depending on an operating speed and a load before use. The diameter of throttle will be smaller when the cushion valve is turned clockwise, resulting in stronger cushion reaction.

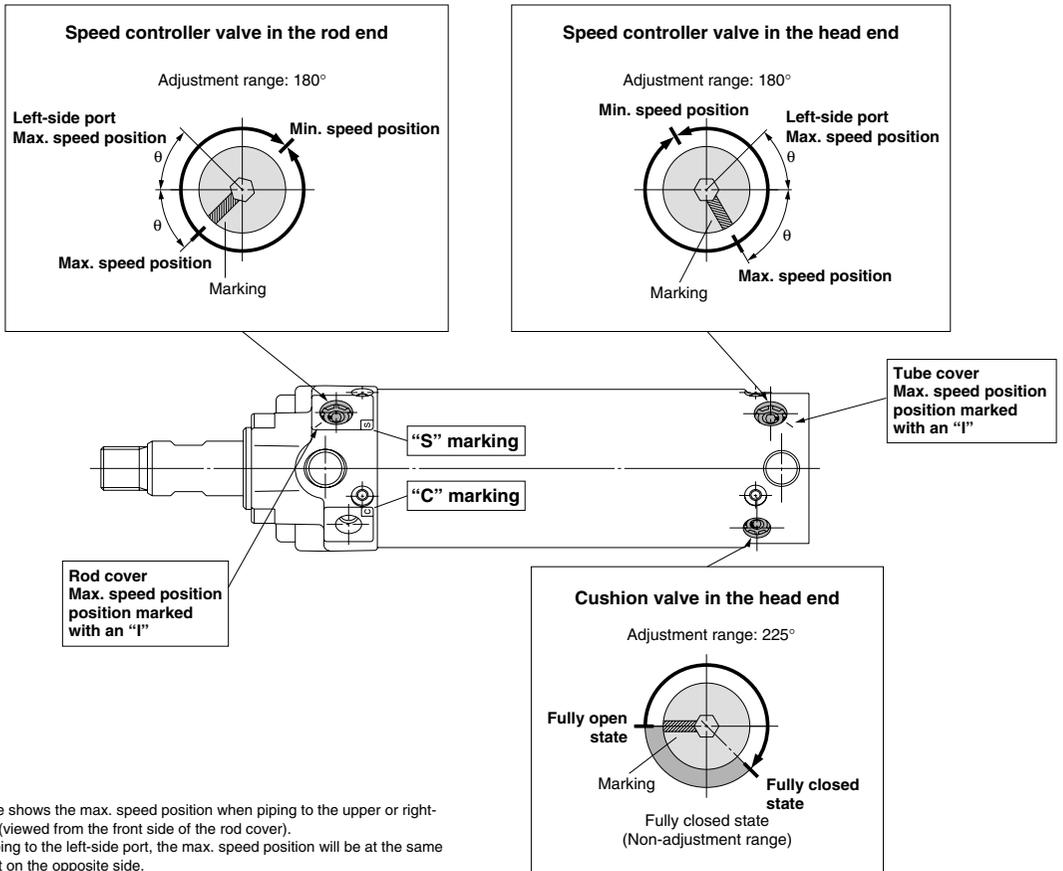
Shown below is the fully open state, although the cushion valve can rotate 360 degrees.

The adjustment range is about 225 degrees from the fully open state. The range between 225 and 360 degrees is the fully closed state.

Speed Controller Adjustment

The CK1 series integrates the speed controller (exhaust restrictor) in the rod and head end. The cushion is pre-adjusted at the time of shipping. However, please re-adjust the speed controller valve (marked "S" on the rod cover) in each cover, depending on an operating speed and load before using.

If the speed controller valve is open all the way (max. speed position), rotating it in either direction—to the right or to the left—will cause a reduction in speed. Please note that the speed controller valve can be rotated to the right or left any number of times. However, the adjustment range is limited, and 180 degrees from the max. speed position (directly opposite) is the min. speed position.



MK

CKQ
CLKQ

CK□1

CLK2

D-□

-X□

Individual
-X□



Series CK□1

Specific Product Precautions 2

Be sure to read before handling.

Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

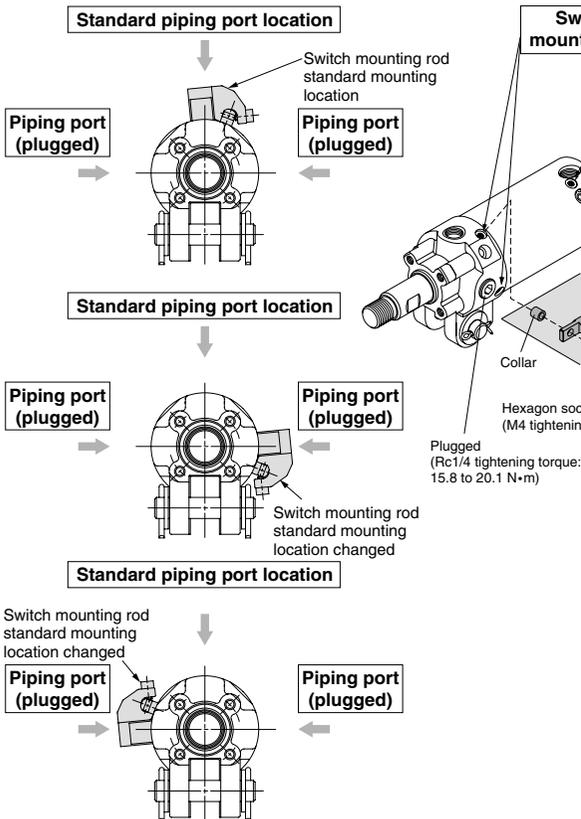
Piping Port / Switch Mounting Rod Location Change

Piping Port Location Change

Piping is possible from 3 directions. When the piping port location is changed, carefully follow the instructions as detailed below.

Warning

- Do not leave out the component parts when the piping port location is changed.
Even if one of the component parts is not replaced, malfunction may occur, resulting in dangerous operation.
- To prevent air leakage, re-wind the pipe tape and fit into the changed location when the piping port location is changed.

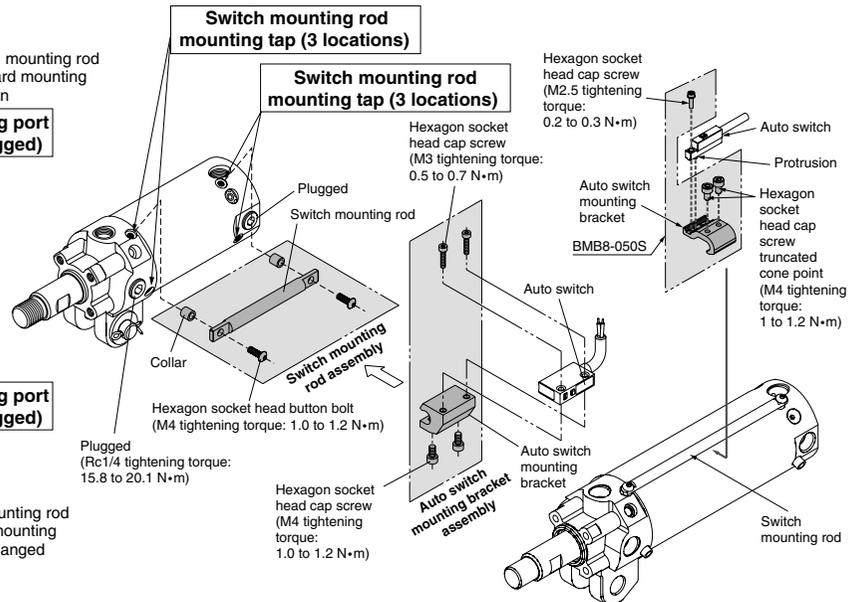


Switch Mounting Rod Location Change

The switch mounting rod is mountable in 3-way directions. Please be careful to the following things when the switch mounting rod is changed.

Warning

- Mount all the component parts to the changed location.
Even if one of the component parts is kept away, the switch detection error, etc may occur. (Switch mounting rod, Spacer with switch, Hexagon socket head button bolt)
- After the switch mounting rod location is changed, please be sure to check there is no interference with other parts before using.



Auto Switch Mounting Bracket Assembly / Part No.

Applicable cylinder series	Applicable auto switch	Auto switch mounting bracket part no.		
		40	50	63
Series CKG1	D-P3DWSC D-P3DWSE D-P3DWL/Z	BMB8-050S		
	D-P4DWSC D-P4DWSE D-P4DWL/Z	BK1T-040		
	D-P79WSE D-P74L/Z	BAP1T-040		

Switch Mounting Rod Assembly / Part No.

Applicable series	Applicable clamp cylinder	Part no.
Dedicated to Series CKP1□40	CKP1□40-50	CKP40-R050
	CKP1□40-75	CKP40-R075
	CKP1□40-100	CKP40-R100
	CKP1□40-125	CKP40-R125
	CKP1□40-150	CKP40-R150
Series CKG1□40/50/63	CKG1□40-50 CKG1□50-50/CKP1□50-50 CKG1□63-50/CKP1□63-50	CKG40-R050
	CKG1□40-75 CKG1□50-75/CKP1□50-75 CKG1□63-75/CKP1□63-75	CKG40-R075
	CKG1□40-100 CKG1□50-100/CKP1□50-100 CKG1□63-100/CKP1□63-100	CKG40-R100
	CKG1□40-125 CKG1□50-125/CKP1□50-125 CKG1□63-125/CKP1□63-125	CKG40-R125
Common	CKG1□40-150 CKG1□50-150/CKP1□50-150 CKG1□63-150/CKP1□63-150	CKG40-R150



Series CK□1

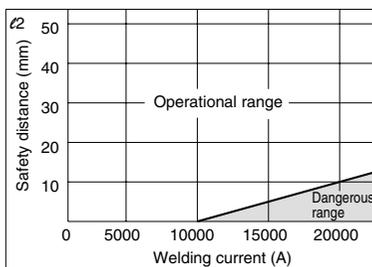
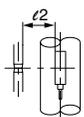
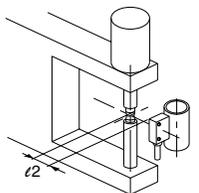
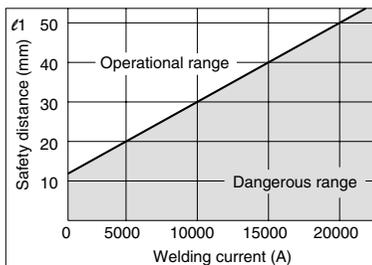
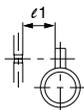
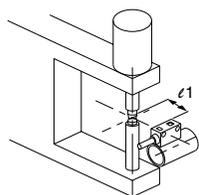
Specific Product Precautions 4

Be sure to read before handling.

Refer to front matters 42 and 43 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Data: Magnetic Field Resistant Reed Switch (D-P79WSE type, D-P74□ type) Safety Distance

Safety Distance from Side of Auto Switch



Safety Distance from Top of Auto Switch

