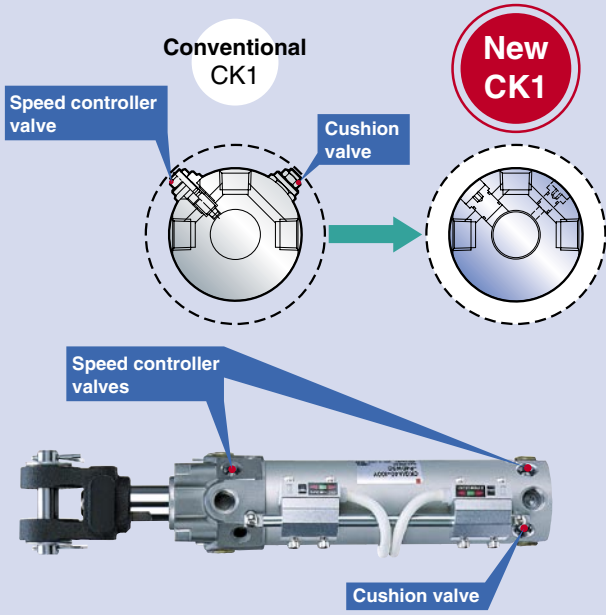


Clamp Cylinder

With a cover configuration that eliminates protruding valves.

Both cushion and speed controller valves do not stick out, this provides a compact solution.
(Cylinder installation does not interfere with other equipment providing improved job performance and safety.)



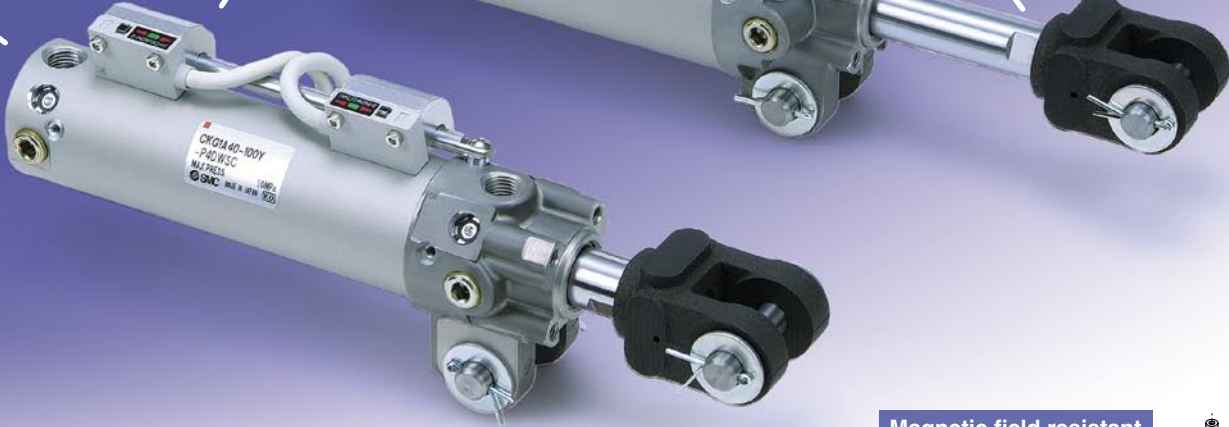
- Clevis width **16.5 mm/19.5 mm**
- Built-in speed controller
- With air cushion
- Magnetic field resistant auto switches are mountable.
- Same mountings as conventional models offering simple, fast replacement
Total length reduced by **2 mm**



Series **CK□1**

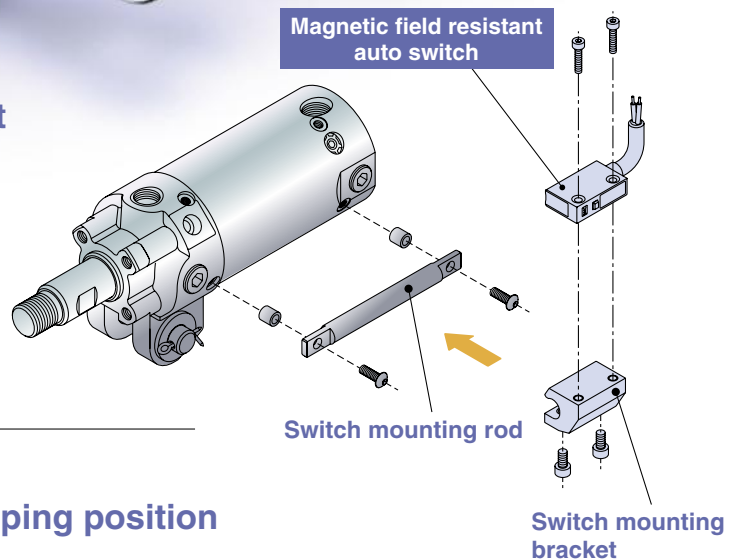
Series CKG1
[Built-in
standard magnet]

Series CKP1
[Built-in
strong magnet]



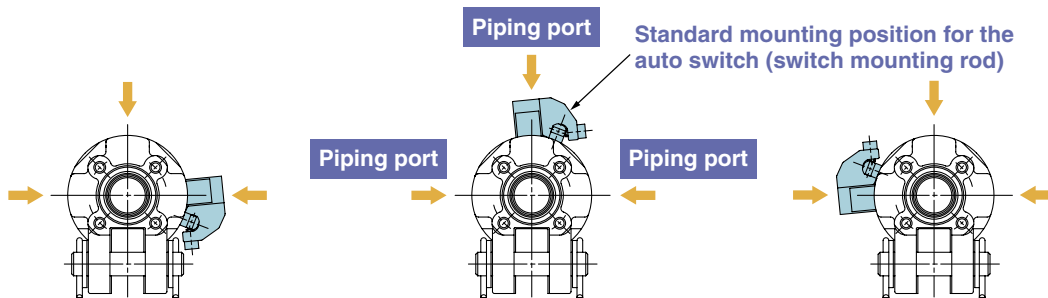
Two types of magnetic field resistant auto switches are mountable.

- [CKG1 series / Built-in standard magnet]
 - ... D-P4DWSC, D-P4DWSE, D-P4DWL/Z
- [CKP1 series / Built-in strong magnet]
 - ... D-P79WSE, D-P74L/Z



The auto switch mounting and the piping position is available in three locations.

The auto switch mounting position can be altered.
Also, piping is possible in three locations regardless of the auto switch mounting position.



Variations

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

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

Series **CKG1/CKP1** ∅40, ∅50, ∅63

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** **P4DWSC**

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

Clevis width

A	16.5 mm
B	19.5 mm

Bore size

40	40 mm
50	50 mm
63	63 mm

Cylinder stroke (mm)

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

End bracket

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

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

Option

-	None
B	Limit switch mounting base
D	Dog fitting
L	Foot
K	Pedestal (for 75, 100, 150 strokes only)

Note 1) Clevis width B (19.5 mm) is not available with mounting base K.
 Note 2) When the dog fitting is selected, choose the rod end bracket IA or YA (with M6 tap).

Number of auto switches

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

Auto switch

-	Without auto switch Without switch mounting rod
P	Without auto switch With switch mounting rod

* Select applicable auto switch models from the table below.

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

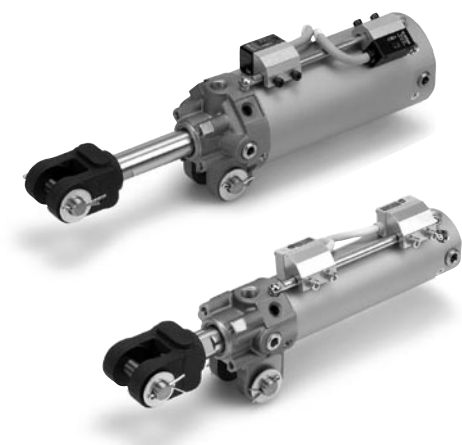
- 1) Built-in standard (strong) magnet type without auto switch and switch mounting rod
 Symbol for the auto switch type is "-" as shown below.
 CKG1: (Example) CKG1A50-50Y
 CKP1: (Example) CKP1A50-50Y
- 2) Built-in standard (strong) magnet type without auto switch, with switch mounting rod
 Symbol for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

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
CKG1 series	Solid state switch	D-P4DWSC	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-colour display	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC
		D-P4DWSE				2-wire (1-4)			
		D-P4DWL		Grommet		2-wire		3 m	
		D-P4DWZ						5 m	
CKP1 series	Reed switch	D-P79WSE	DC / AC magnetic field	Pre-wired connector	2-colour display	2-wire (1-4)	24 VDC	0.3 m	
		D-P74L		Grommet (Pre-wired connector) <small>Note 3)</small>	1-colour display	2-wire	24 VDC 100 VAC	3 m	
		D-P74Z						5 m	

Note 1) PLC: Programmable Logic Controller
 Note 2) Refer to page 12 when ordering the auto switch mounting bracket assembly or switch mounting rod assembly.
 Note 3) Refer to page 23 for pre-wired connector products.

Series CK□1



Specifications

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

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
Thread tolerance	JIS Class 2
Stroke length tolerance	+1.0 0
Mounting ^{Note 2)}	Double clevis

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

For details, refer to page 18, Made to Order 5.

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

↑ With cushion on both ends

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

Standard Stroke

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

End Bracket / Options

Symbol	Description		Parts no.	
			CKG1A/CKP1A series	CKG1B/CKP1B series
I	Single knuckle joint	without M6 tap	CKB-I04	
IA		with M6 tap	CKB-IA04	
Y	Double knuckle joint (Knuckle pin, Cotter pin and Flat washer are equipped as standard.)	without M6 tap	CKA-Y04	CKB-Y04
YA		with M6 tap	CKA-YA04	CKB-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

Weight (Basic weight includes the switch mounting rod. At 0 stroke)

Unit: kg

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

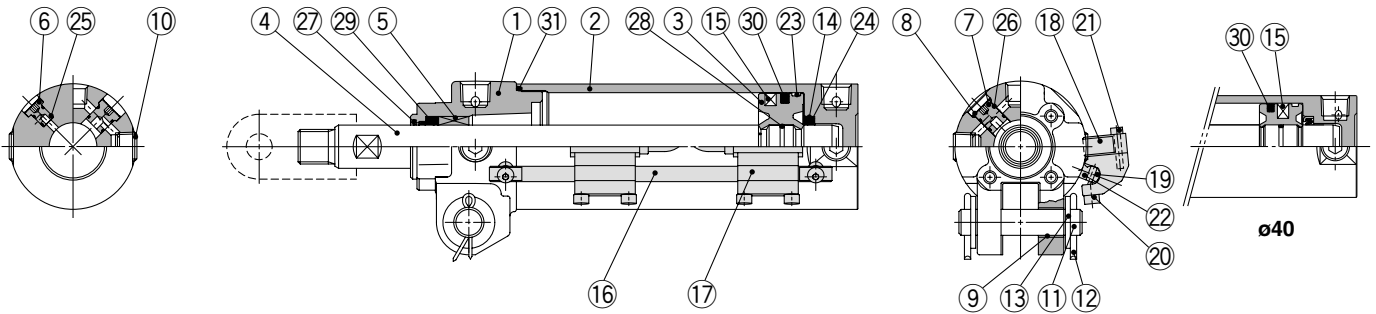
Calculation

Example **CKG1□50-100Y-P**

- Basic weight 0.97 (ø50)
 - Additional weight ... 0.12/25 mm
 - Cylinder stroke 100 mm
 - Double knuckle joint...0.34 (Y)
- 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

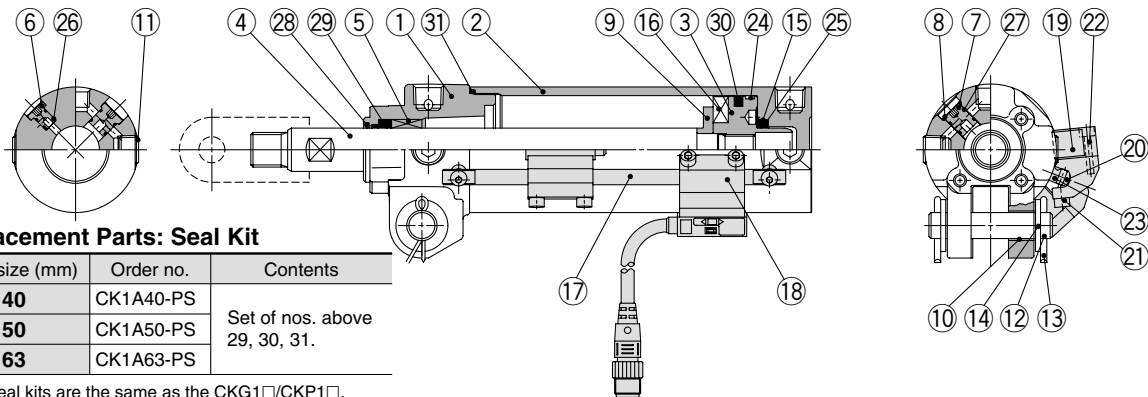


Component Parts

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	Snap 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	Magnetic material	1	
16	Switch mounting rod	Carbon steel	1	Zinc chromated
17	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 12 L
20	Hexagon socket head cap screw	Steel wire	2 pcs. per switch	M4 x 8 L
21	Hexagon socket head cap screw	Steel wire	2 pcs. per switch	M3 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	2	
26	Speed controller valve seal	NBR	4	
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) Seal kits are the same as the CKG1□/CKP1□.

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	Snap 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	Magnetic material	1	
17	Switch mounting rod	Carbon steel	1	Zinc chromated

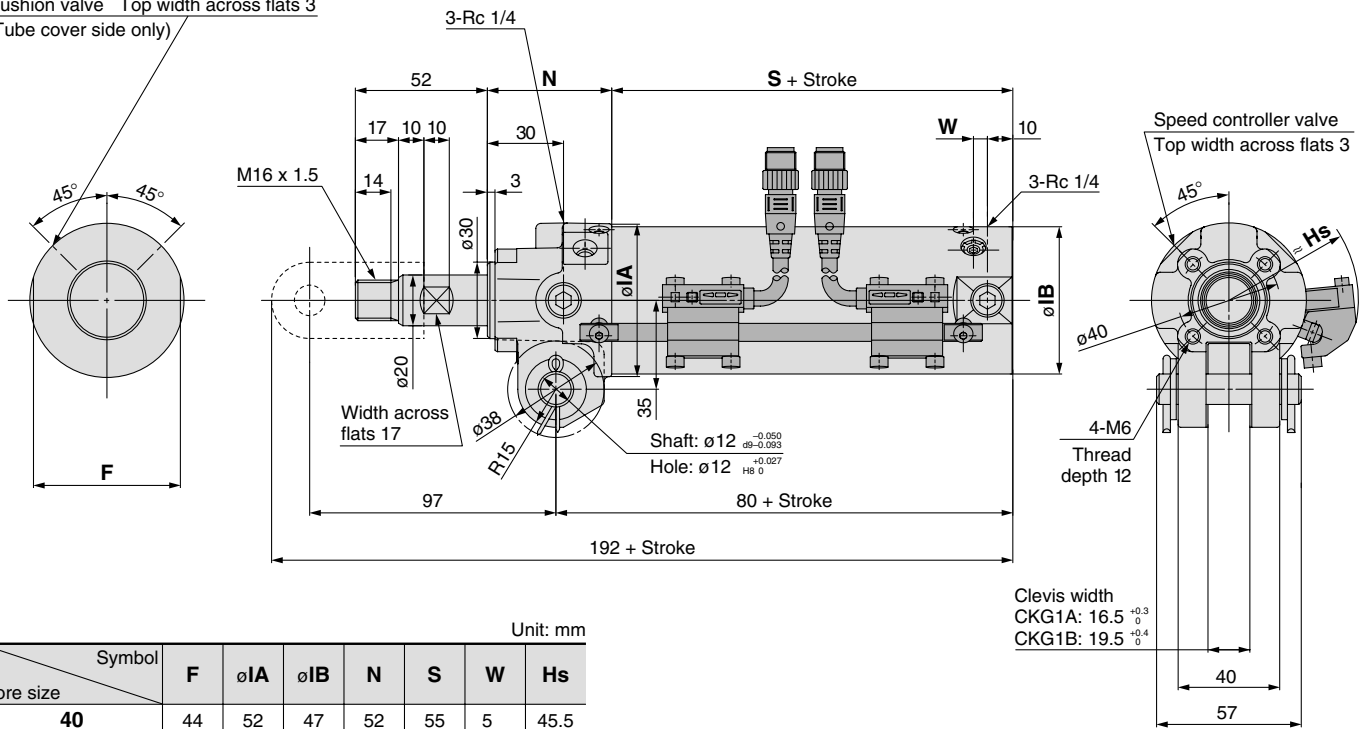
No.	Description	Material	Qty	Note
18	Switch mounting bracket	Aluminum alloy	—	
19	Magnetic field resistant auto switch	—	—	
20	Hexagon socket head button screw	Steel wire	2	M4 x 12 L
21	Hexagon socket head cap screw	Steel wire	2 pcs. per switch	M4 x 8 L
22	Hexagon socket head cap screw	Steel wire	2 pcs. per switch	M3 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	2	
27	Speed controller valve seal	NBR	4	
28	Coil scraper	Phosphor bronze	1	
29	Rod seal	NBR	1	
30	Piston seal	NBR	1	
31	Tube gasket	NBR	1	

Series CK□1

Dimensions

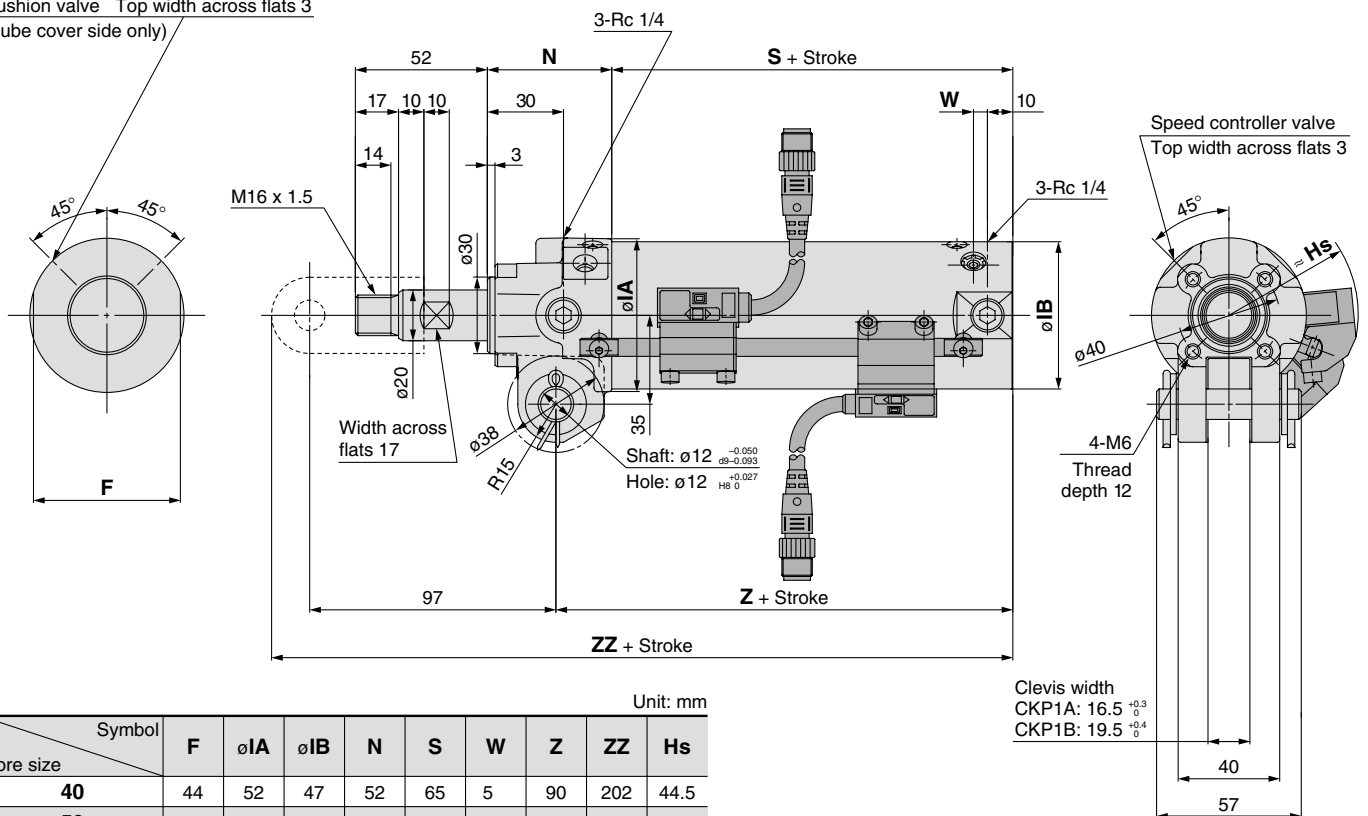
CKG1□40, 50, 63 Built-in standard magnet type / With magnetic field resistant auto switch (D-P4DWS□ type)

Cushion valve Top width across flats 3
(Tube cover side only)



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

Cushion valve Top width across flats 3
(Tube cover side only)



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

Series **CK1/CKG1** ø40, ø50, ø63

How to Order

Basic type

Built-in standard magnet type

CK1 **A** **50** — **100** **Y** □

CKG1 **A** **50** — **100** **Y** □

Clevis width

A	16.5 mm
B	19.5 mm

Bore size

40	40 mm
50	50 mm
63	63 mm

Cylinder stroke (mm)

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

Option

-	None
B	Limit switch mounting base
D	Dog fitting
L	Foot
K	Pedestal (for 75, 100, 150 strokes only)

Note 1) Clevis width B (19.5 mm) is not available with mounting base K.

Note 2) When the dog fitting is selected, choose the rod end bracket IA or YA (with M6 tap).

End bracket

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

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
CKG1 series	Solid state switch	D-P4DWSC	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-colour display	2-wire (3-4)	24 VDC	0.3 m	Relay, PLC
		D-P4DWSE				2-wire (1-4)		3 m	
		D-P4DWL		2-wire		5 m			
		D-P4DWZ				Grommet			

Note) PLC: Programmable Logic Controller

⚠ Caution

Standard type auto switch is mountable for the built-in standard magnet type. For details, please refer to "Made to Order" on page 13. 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 switch mounting bracket part numbers.

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

Series CK□1



Specifications

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

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
Thread tolerance	JIS Class 2
Stroke length tolerance	$\begin{matrix} +1.0 \\ 0 \end{matrix}$
Mounting ^{Note 2)}	Double clevis

Note 1) With cushion on both ends is available as Made to Order.
For details, refer to page 18, Made to Order 5.

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

↑ With cushion on both ends

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

Standard Stroke

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

End Bracket / Options

Symbol	Description	Parts no.	
		CK1A/CKG1A series	CK1B/CKG1B series
I	Single knuckle joint	without M6 tap	CKB-I04
IA		with M6 tap	CKB-IA04
Y	Double knuckle joint (Knuckle pin, Cotter pin, and Flat washer are equipped as a standard.)	without M6 tap	CKA-Y04
YA		with M6 tap	CKB-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

Weight

Unit: kg

Bore size (mm)		40	50	63
Cylinder	Basic weight	0.73	0.95	1.16
	Additional weight per 25 mm stroke	0.10	0.11	0.13
Single knuckle joint		0.20		
Double knuckle joint (Knuckle pin, Cotter pin, and Flat washer are equipped as 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 weight 0.95 (ø50)

• Additional weight ... 0.11/25 mm

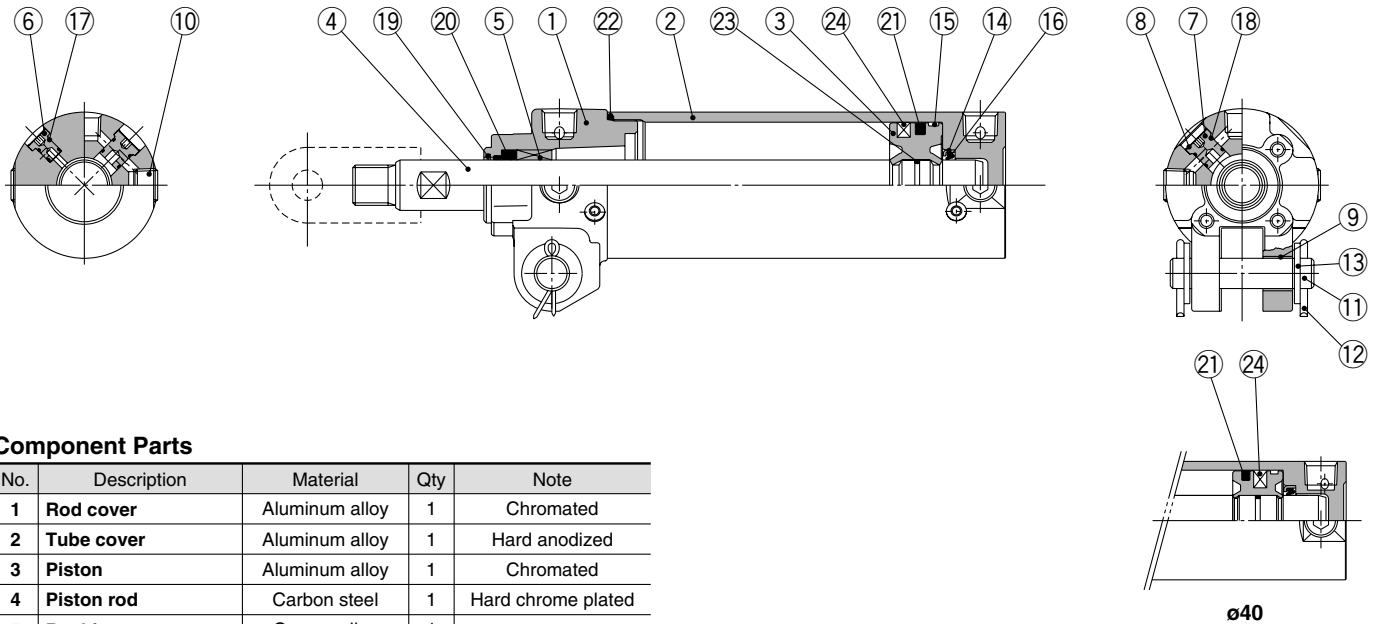
• Cylinder stroke 100 mm

• Double knuckle joint...0.34 (Y)

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



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	Snap 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	2	
18	Speed controller valve seal	NBR	4	
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	Magnet material	—	For CKG1

Replacement Parts: Seal Kit

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

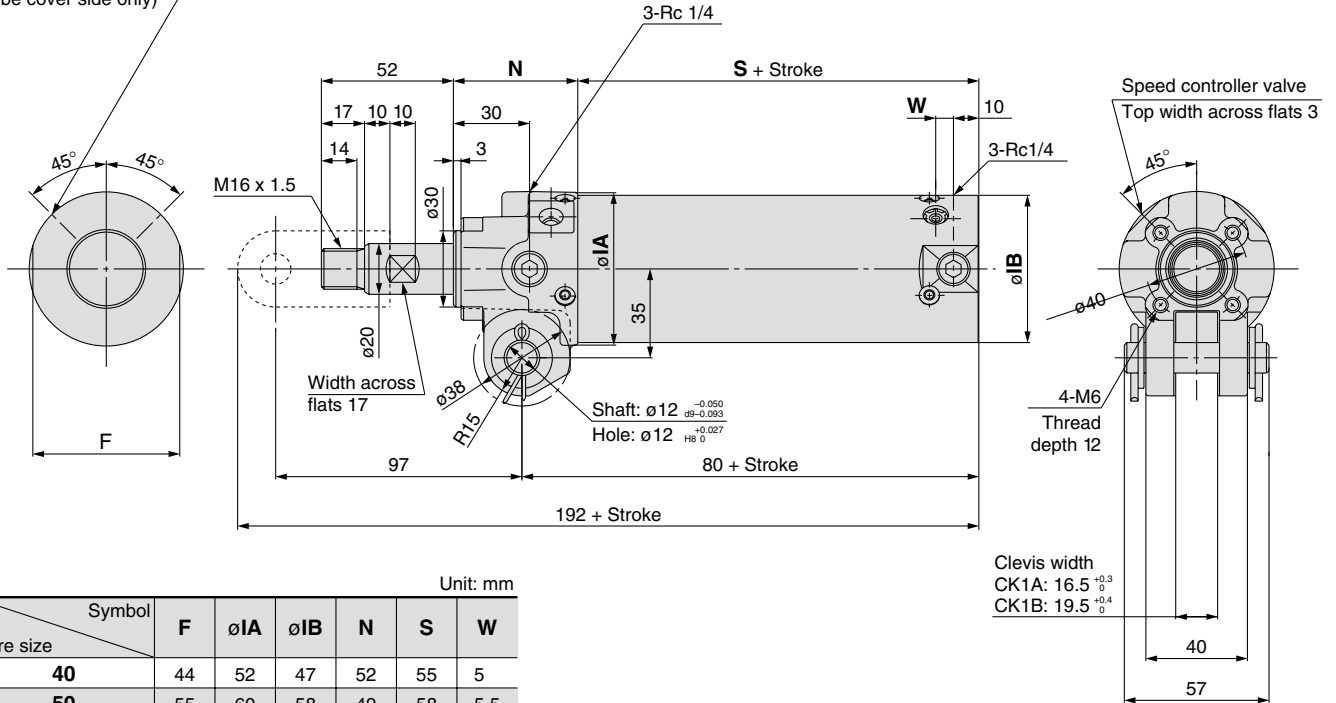
Series CK□1

Dimensions

CK1□40, 50, 63 / Basic type

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

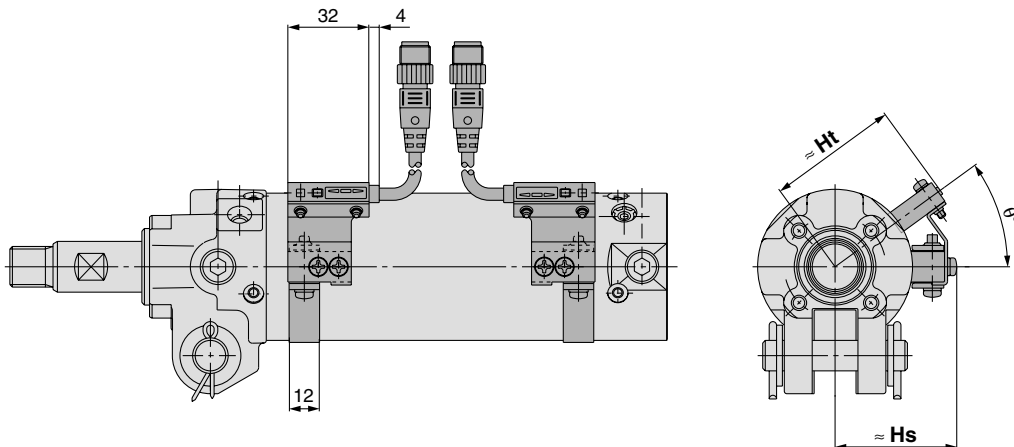
Cushion valve Top width across flats 3
(Tube cover side only)



Unit: mm

Symbol	F	øIA	øIB	N	S	W
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)

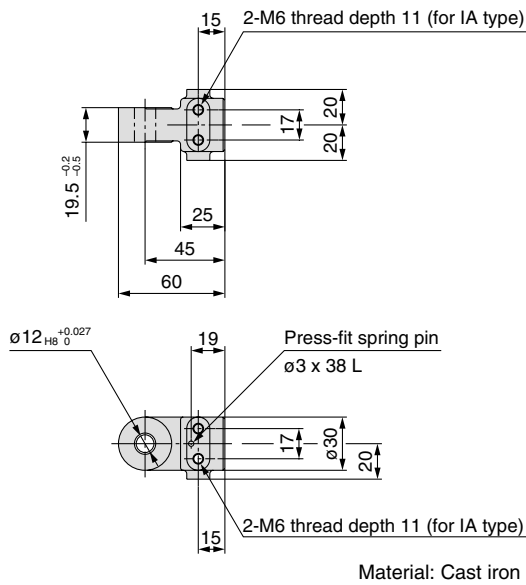


Unit: mm

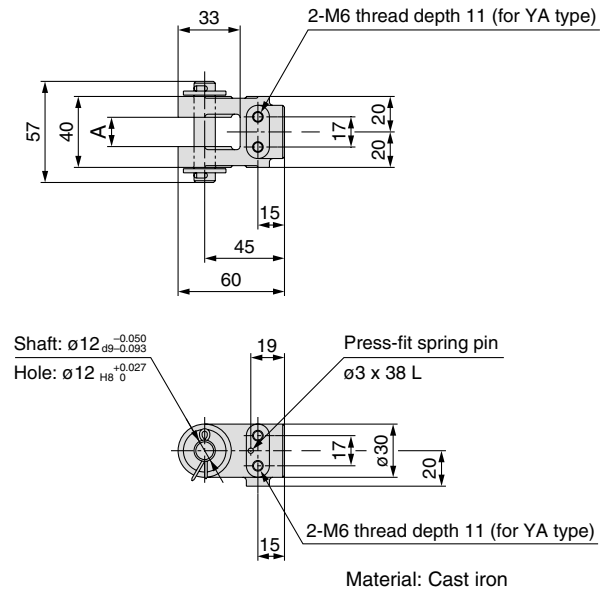
Symbol	Hs	Ht	θ
40	43	46	45°
50	48	51.5	36°
63	55	58.5	33°

End Bracket

Single knuckle joint



Double knuckle joint



Part no.	Rod end bracket symbol	Applicable clamp cylinder
CKB-I04	I (without M6 tap)	CK□1A series CK□1B series
CKB-IA04	IA (with M6 tap)	

Note) The conventional model is equivalent to the component part no CKB-IA04 (rod end bracket symbol IA).

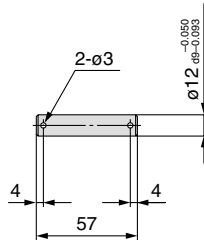
Unit: mm

Part no.	Rod end bracket symbol	A	Applicable clamp cylinder
CKA-Y04	Y (without M6 tap)	$16.5^{+0.3}_0$	CK□1A series
CKA-YA04	YA (with M6 tap)		
CKB-Y04	Y (without M6 tap)	$19.5^{+0.4}_0$	CK□1B series
CKB-YA04	YA (with M6 tap)		

Note 1) Knuckle pin, cotter pin and flat washer are attached to the double knuckle joint as standard.

Note 2) The conventional model is equivalent to the component part no CKA-YA04, CKB-YA04 (rod end bracket symbol YA).

Pin



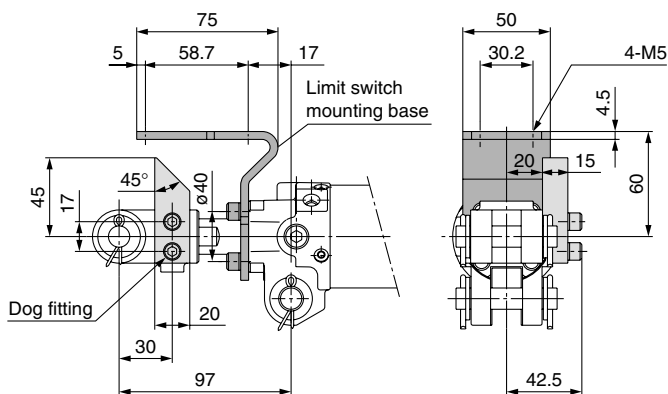
Material: Carbon steel

Part no.	Application
CK-P04	Knuckle pin Clevis pin

Note) Cotter pin and flat washer are provided as standard.

Option

Limit switch mounting base/Dog fitting



Material: Rolled steel

Part no.	Option symbol	Name	Applicable clamp cylinder
CK-B04	B	Limit switch mounting base	CK□1A series CK□1B series
CK-D04	D	Dog fitting	

Note 1) Limit switch mounting base and dog fitting can be repositioned by removing the hexagon socket head cap screw.

Note 2) When ordering the limit switch base and the dog bracket individually, a spring washer for the mounting bolt (hexagon socket head cap screw) will be attached as standard.

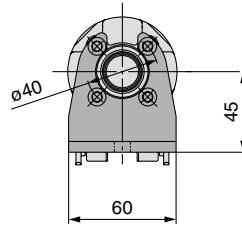
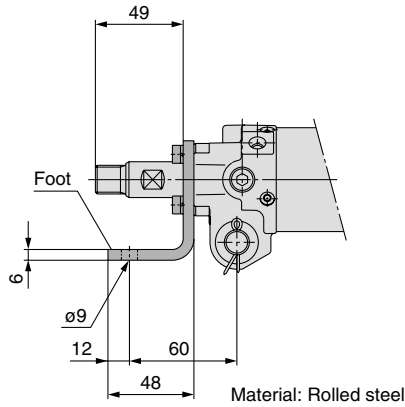


When you attach a dog fitting, be sure to use a knuckle joint, with M6 tap (rod end bracket symbol IA or YA). The dog fitting cannot be attached to the knuckle joint, without M6 tap (rod end bracket symbol I or Y).

Series CK□1

Option

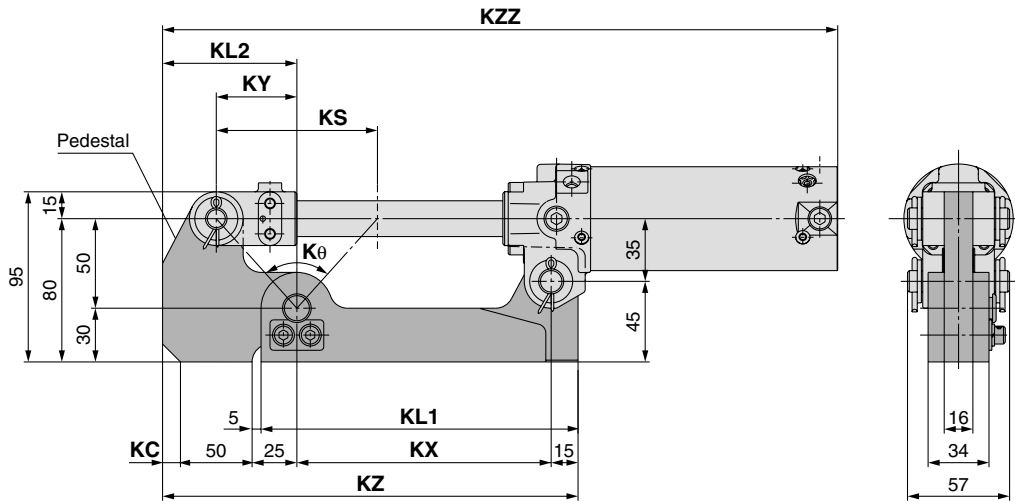
Foot



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

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

Pedestal



Material: Rolled steel

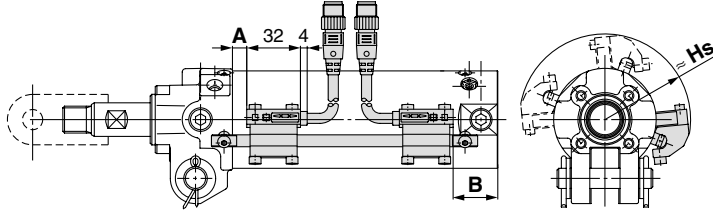
Unit: mm

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

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

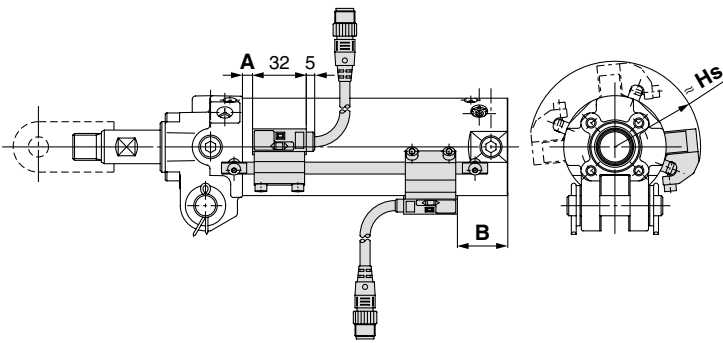
Auto Switch Proper Mounting Position and Its Mounting Height for Stroke End Detection

Rod mounting D-P4DW□□ type



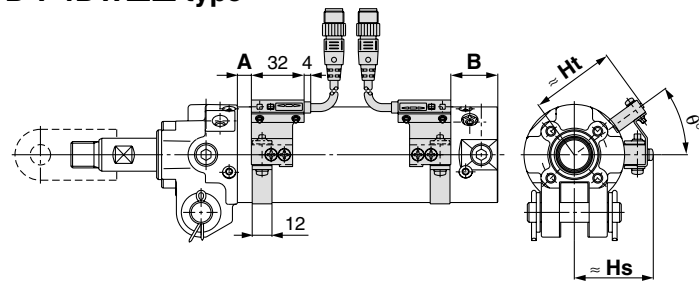
Note) The above drawing is the mounting example for the D-P4DWS□ type.

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.
D-P4DW□□		
D-P79WSE	50	50
D-P74□		

Auto Switch Mounting Position and Its Height: Rod Mounting Style

Unit: mm

Auto switch model	Symbol	Auto switch set value and its height		
		40	50	63
D-P4DW□□	A	8	4.5	4.5
	B	21	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	44.5	50.5	57.5

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

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	21	27.5	27.5
	Hs	43	48	55
	Ht	46	51.5	58.5
	θ	45°	36°	33°

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

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 5.

Operation Range

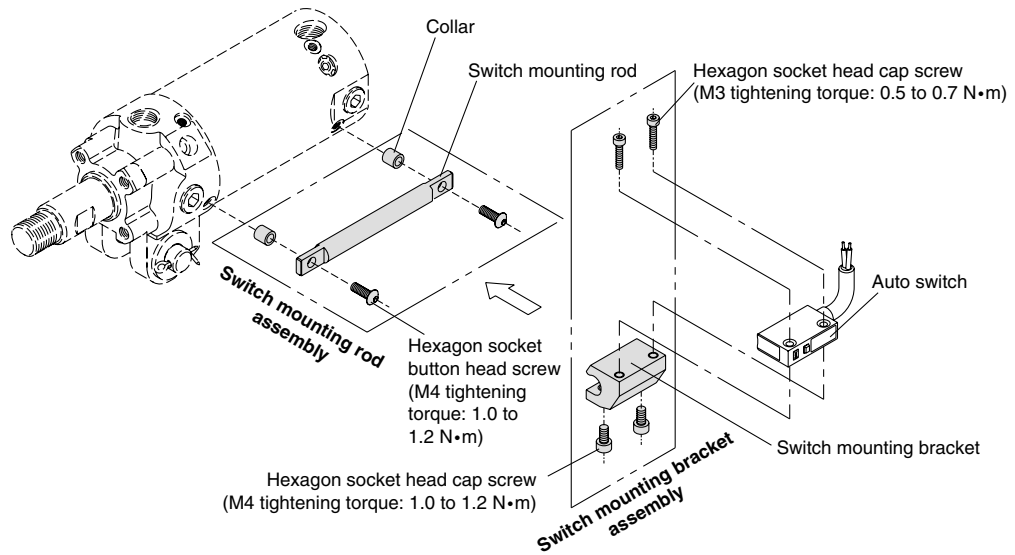
Unit: mm

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

Series CK□1

Auto Switch Mounting Bracket / Part No.

Switch mounting rod assembly / Switch mounting bracket assembly



Switch Mounting Rod Assembly / Part No.

Applicable series	Applicable clamp cylinder	Part no.
Dedicated to CKP1□40 series	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
CKG1□40/50/63 series	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
Common	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

Switch Mounting Bracket Assembly / Part No.

Applicable cylinder series	Applicable auto switch	Mounting bracket part no.		
		40	50	63
CKG1 series	D-P4DWSC D-P4DWSE D-P4DWL/Z	BK1T-040		
CKP1 series	D-P79WSE D-P74L/Z	BAP1T-040		



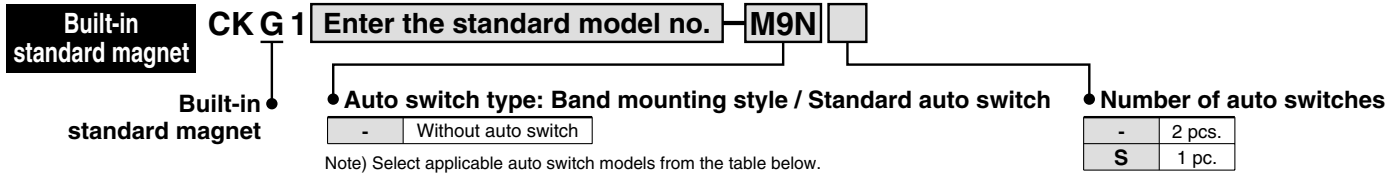
1 Band Mounting Style / Standard Auto Switch

The band mounting style / standard auto switch can be attached to the built-in standard magnet clamp cylinder / the CKG1□ series 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 1.



Mounting Allowable Auto Switch: Band Mounting / Standard Auto Switch

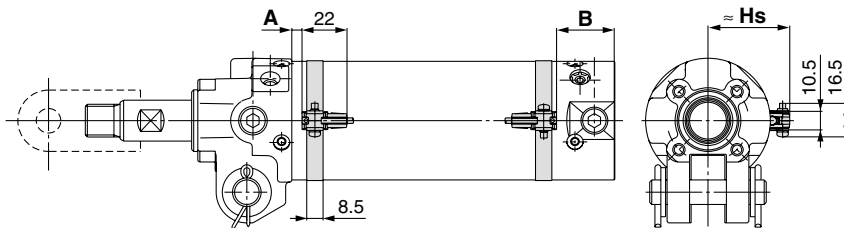
Applicable cylinder series	Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)				Applicable load		
					DC	AC		0.5 (Nil)	3 (L)	5 (Z)	None (N)			
CKG1 series	Reed switch	Grommet	Yes	2-wire	24 V	12 V	100 V	A93	●	●	—	—	—	Relay, PLC
							100 V 200 V	B54	●	●	●	—		
	Solid state switch	Grommet	Yes	3-wire (NPN)	24 V	5 V 12 V	—	M9N	●	●	○	—	IC circuit	Relay, PLC

Note 1) Lead wire length symbol
 0.5 m Nil
 3 m L
 5 m Z
 (Example) B54
 (Example) B54L
 (Example) B54Z

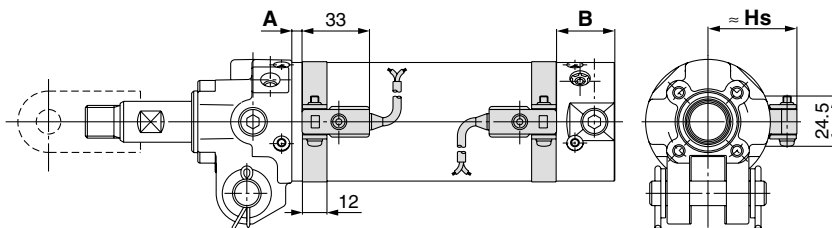
Note 2) Auto switches marked with "○" are produced upon receipt of order.
 Note 3) PLC: Programmable Logic Controller

Auto Switch Mounting Position and Its Height for Stroke End Detection

D-A93/M9N



D-B54



Minimum Stroke for Auto Switch Mounting

Unit: mm

Auto switch	1 pc.	2 pcs. (Different surface)	2 pcs. (Same surface)
D-A93	50	50	50
D-M9N	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	24	30.5	30.5
	Hs	34.5	40	47
D-M9N	A	15	11.5	11.5
	B	28	34.5	34.5
	Hs	34.5	40	47
D-B54	A	5.5	2	2
	B	18.5	25	25
	Hs	38	43.5	50.5

Note 1) The auto switch mounting position for stroke and detection should be referred to the reference only. 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.

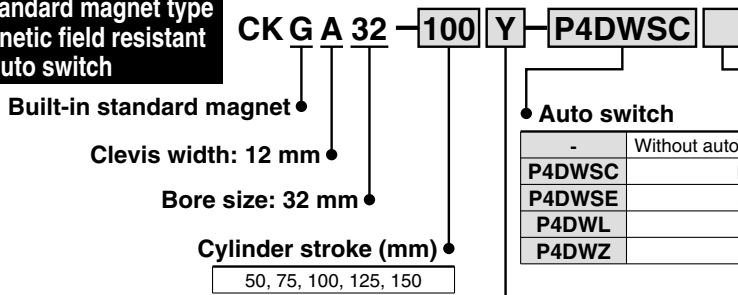
Note 4) Standard type auto switch (band mounting) cannot be used under the magnetic field resistant environment. Please refer to page 1 for the cylinder with the magnetic field resistant auto switch.

⚠ Caution

As for the precautions on the auto switches, product specifications, refer to the general catalogue (Best Pneumatics) or individual catalogue.

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

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



-	None
I	Single knuckle joint
Y	Double knuckle joint

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

-	Without auto switch (Built-in magnet)
P4DWSC	D-P4DWSC
P4DWSE	D-P4DWSE
P4DWL	D-P4DWL
P4DWZ	D-P4DWZ

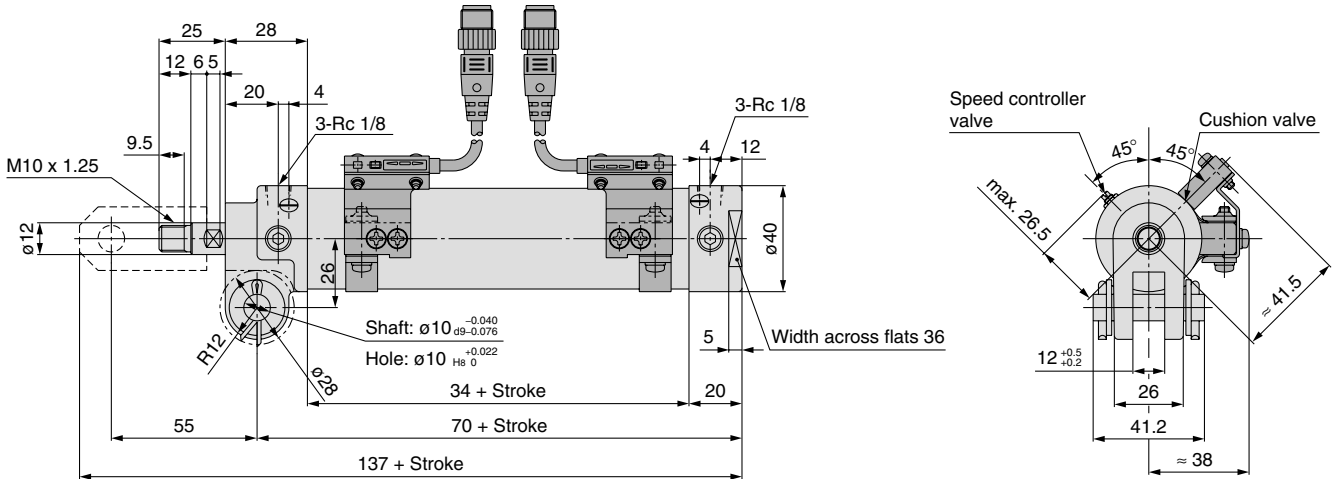
-	2 pcs.
S	1 pc.

Specifications

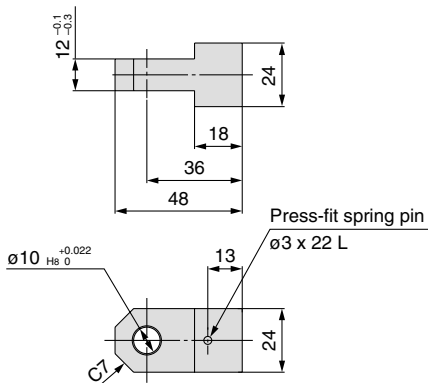
Clevis width	12 mm	CKGA32 series
Fluid	Air	
Proof pressure	1.5 MPa	
Maximum operating pressure	1.0 MPa	
Minimum operating pressure	0.05 MPa	
Ambient and fluid temperature	-10°C to +60°C	
Piston speed	50 to 500 mm/s	
Cushion	With air cushion on both ends	
Lubrication	Non-lube	
Thread tolerance	JIS Class 2	
Stroke length tolerance	+1.0 0	
Mounting <small>Note)</small>	Double clevis	

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

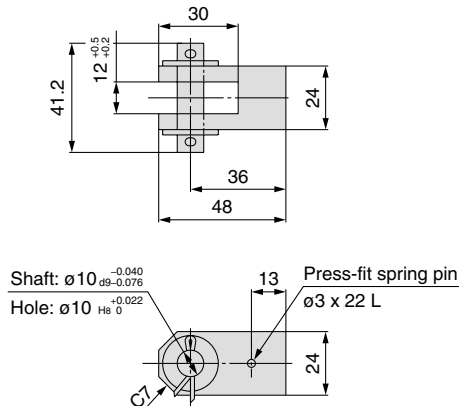
Dimensions



Single knuckle joint



Double knuckle joint

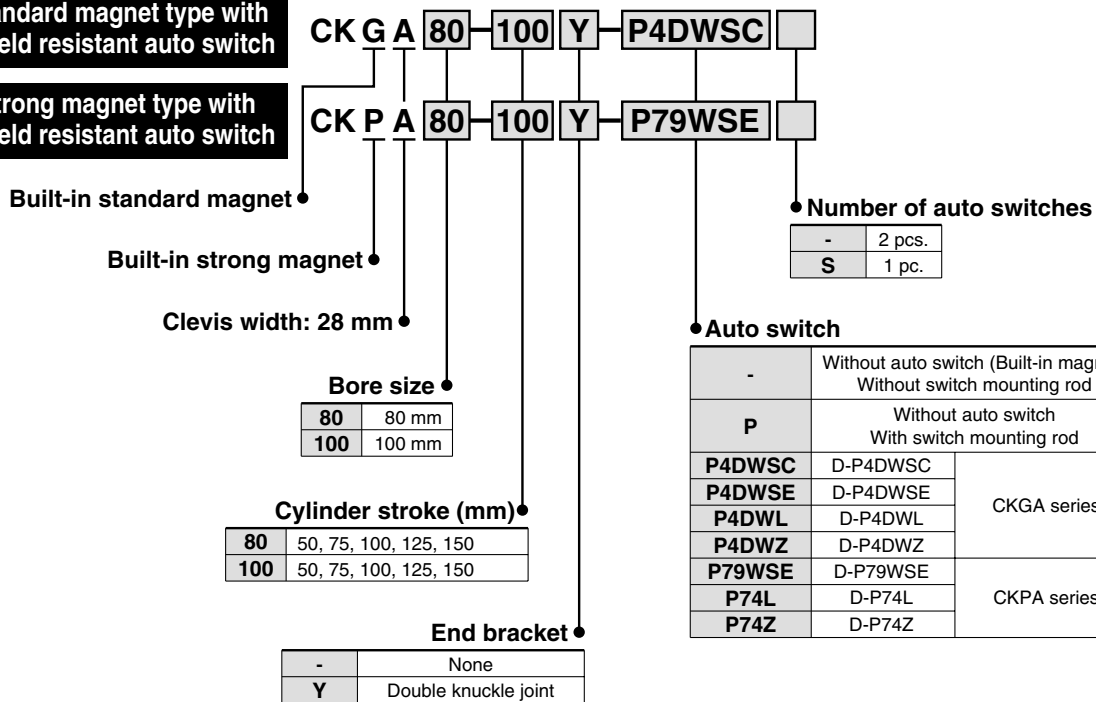


* Please contact SMC for details of the CKGA32 series.

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



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

Specifications

Clevis width	28 mm	CKGA/CKPA series
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	
Thread tolerance	JIS Class 2	
Stroke length tolerance	$\begin{matrix} +1.0 \\ 0 \end{matrix}$	
Mounting <small>(Note)</small>	Double clevis	

Note) Clevis pin, cotter pin and flat washer are provided as 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 "-" 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.

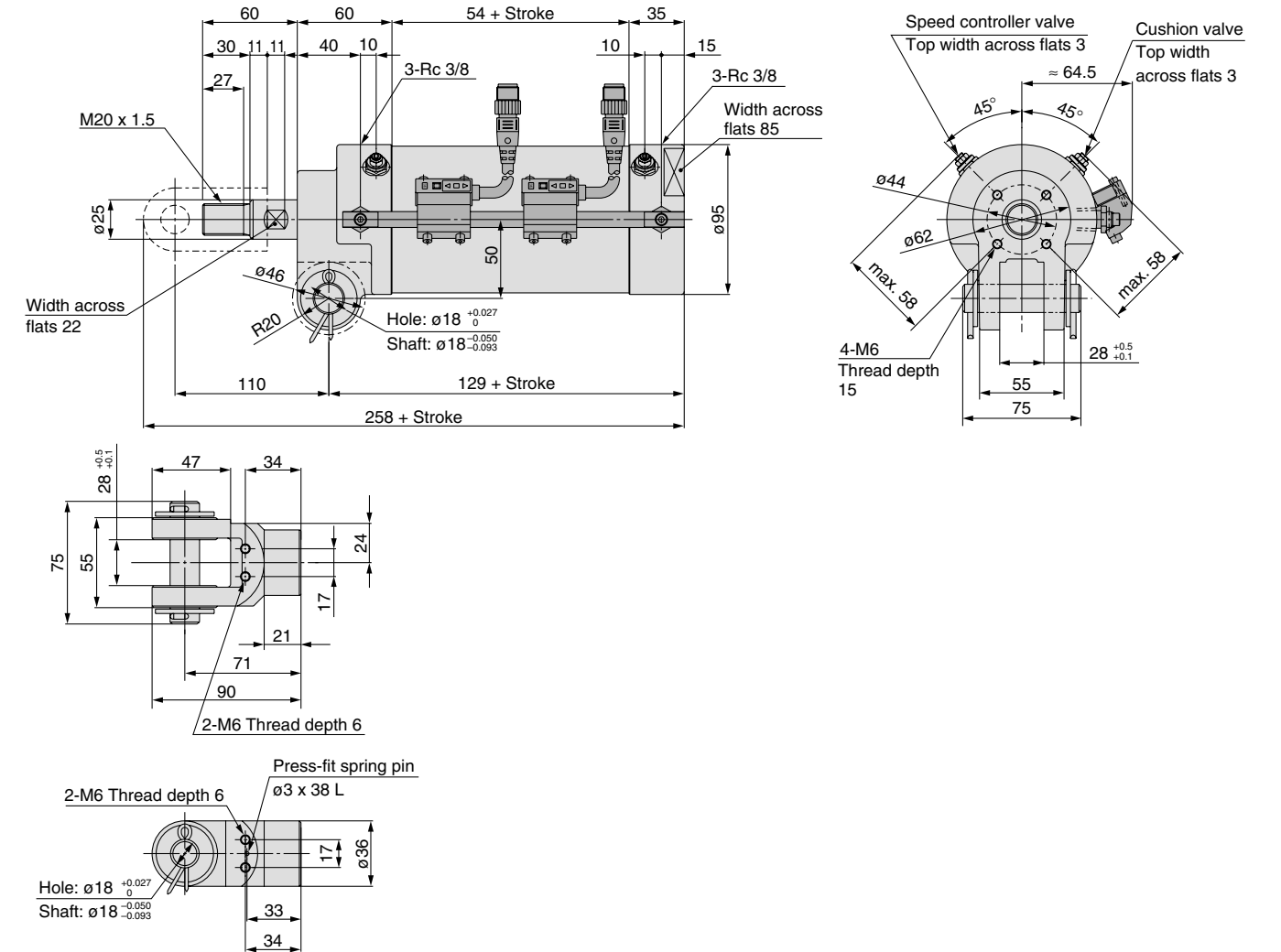
CKGA: (Example) CKGA80-50Y-P

CKPA: (Example) CKPA80-50Y-P

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

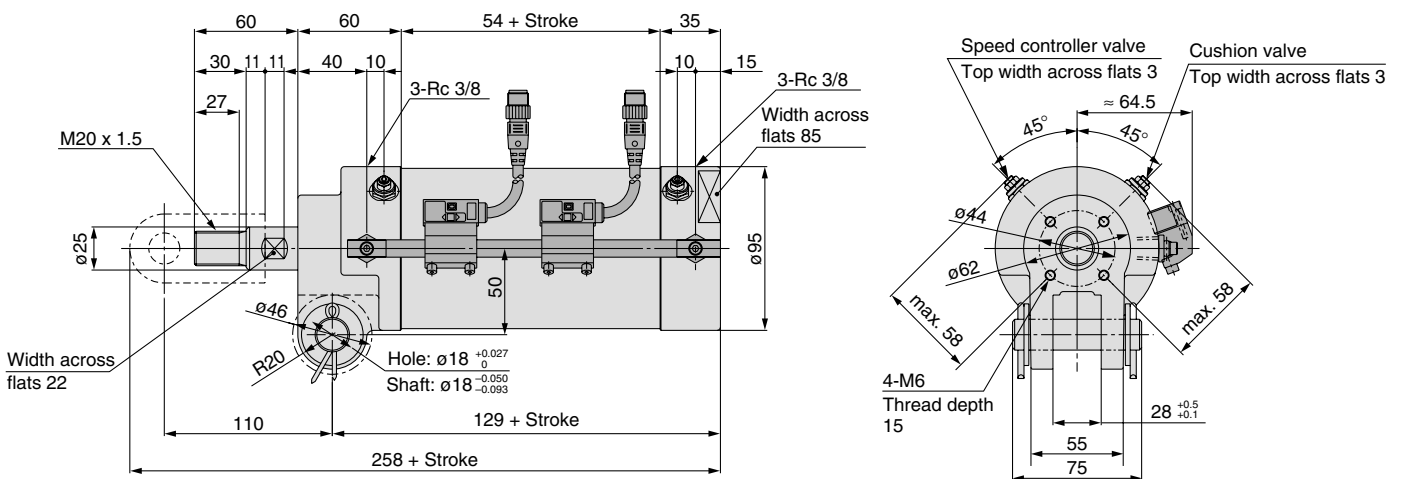
Dimensions

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

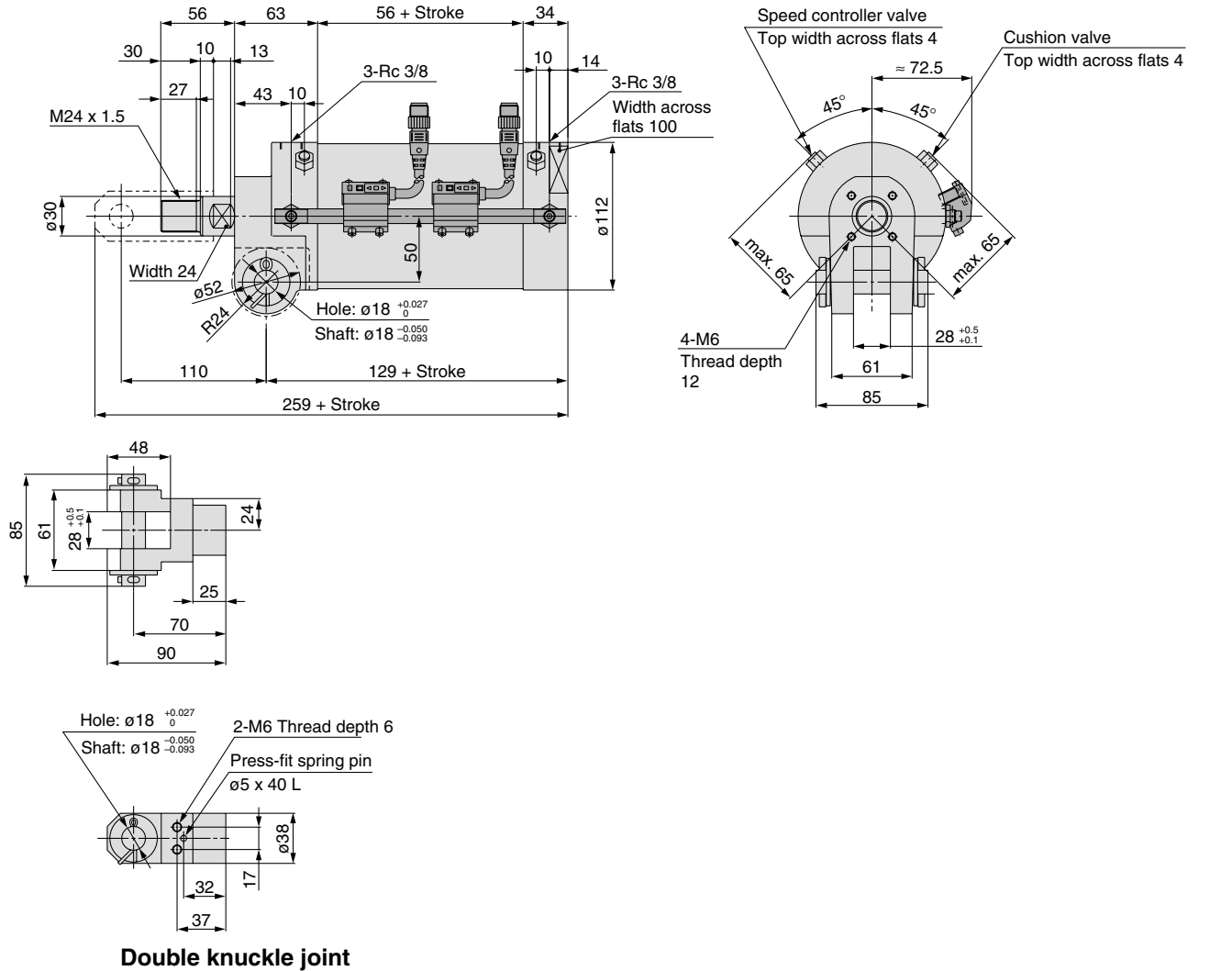


Double knuckle joint

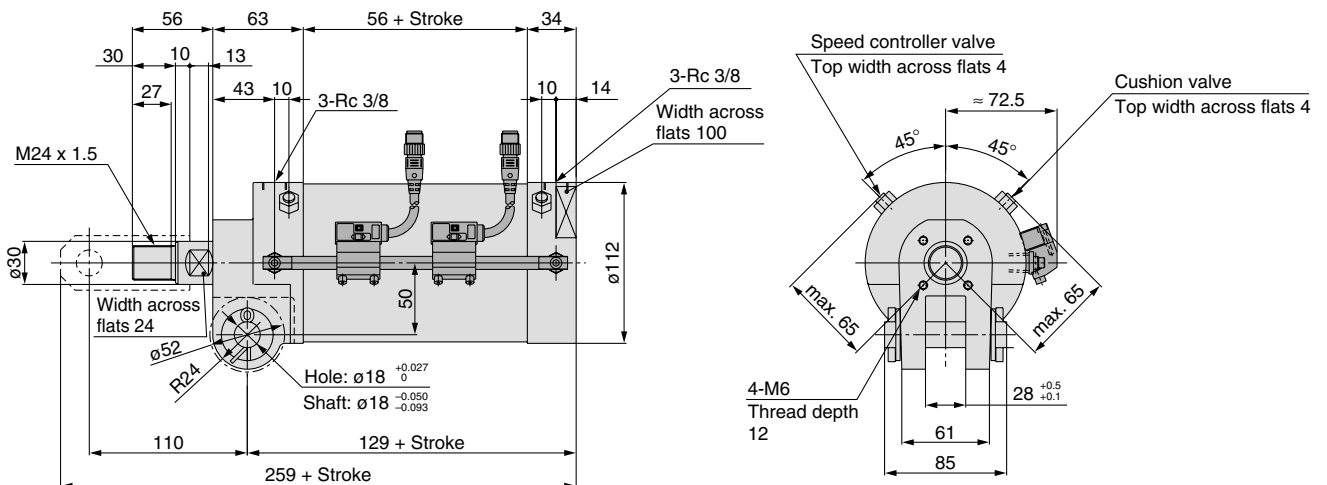
CKPA80 Built-in strong magnet type / with magnetic field resistant auto switch (D-P79WSE type)



CKGA100 Built-in standard magnet type / with magnetic field resistant auto switch (D-P4DWS□ type)



CKPA100 Built-in strong magnet type / with magnetic field resistant auto switch (D-P79WSE type)



* Please contact SMC for details of the CKGA□/CKPA□ series.

4 CK1T50, 63 / CKG1T50, 63 / CKP1T50, 63 Series / Double Knuckle Joint, Special Pin

Basic type	CK 1 T	50	100	Y	2PN		
Built-in standard magnet type with magnetic field resistant auto switch	CK G 1 T	50	100	Y	2PN	P4DWSC	
Built-in strong magnet type with magnetic field resistant auto switch	CK P 1 T	50	100	Y	2PN	P4DWSC	

Number of auto switches

-	2 pcs.
S	1 pc.

Auto switch

-	Without auto switch (Built-in magnet) Without switch mounting rod	
P	Without auto switch With switch mounting rod	
P4DWSC	D-P4DWSC	CKG1T series CKP1T series

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 "-" as shown below.
CKG1T: (Example) CKG1T50-50Y2PN
CKP1T: (Example) CKP1T50-50Y2PN
- Built-in standard (strong) magnet type without auto switch, with switch mounting rod
Symbol for the auto switch type is "P" as shown below.
CKG1T: (Example) CKG1T50-50Y2PN-P
CKP1T: (Example) CKP1T50-50Y2PN-P

Built-in standard magnet

Built-in strong magnet

Clevis width / Y knuckle width

Clevis width	16.5 mm
Y knuckle width	16.0 mm

Bore size

50	50 mm
63	63 mm

Cylinder stroke (mm)

50	50, 63, 80, 100, 125, 150
63	50, 63, 80, 100, 125, 150

End bracket

-	None
Y	Double knuckle joint (without tap)

Pin

-	None
2PN	With 2 pins (Clevis / Double knuckle)

* Please contact SMC for details of the CK1T□/CKG1T□/CKP1T□ series.

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

Symbol
-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 page 1 to 4 for the CKG1/CKP1 series, and page 5 to 8 for the CK1 series.

Magnetic Field Resistant 2-colour Indication Solid State Switch

D-P4DWSC/D-P4DWSE



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Grommet

It is possible to use in an environment which generates a magnetic field disturbance (AC magnetic field).



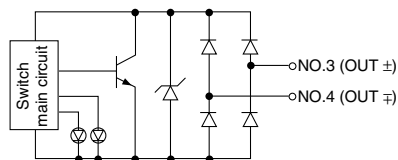
Caution

Precautions

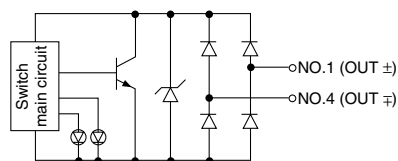
For single-phase AC welding machines
Not applicable for DC inverter welding machines (including rectifying type) and or condenser type welding.

Auto Switch Internal Circuit

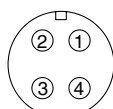
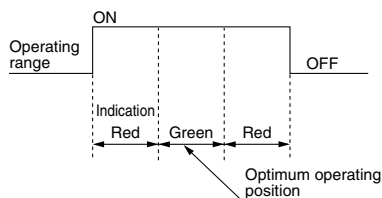
D-P4DWSC



D-P4DWSE



Indicator light/Display method



Connector pin

Auto Switch Specifications

PLC: Programmable Logic Controller

D-P4DWS□ (With indicator light)		
Auto switch model	D-P4DWSC	D-P4DWSE
Applicable load	24 VDC relay, PLC	
Load voltage	24 VDC (20 to 28 VDC)	
Load current	6 to 40 mA or less	
Internal voltage drop	5 V or less	
Leakage current	1 mA or less at 24 VDC	
Operating time	40 ms or less	
Indicator light	Operating position.....Red LED illuminates when turned ON. Optimum operating position.....Green LED illuminates when turned ON.	

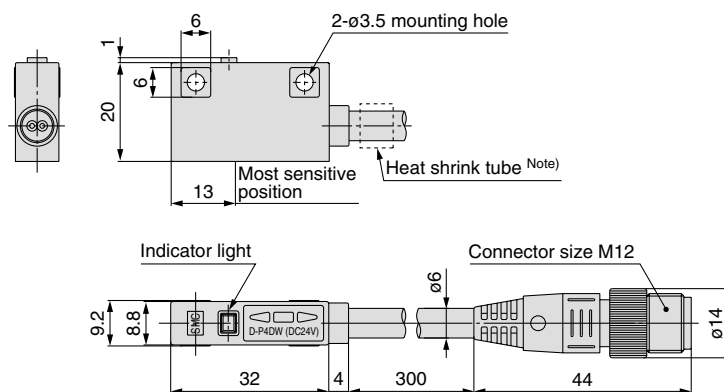
- Lead wire — Oilproof heavy-duty vinyl cable, $\phi 6$, 0.5 mm², 2 cores, 300 mm
- Impact resistance — Switch: 1000 m/s², Connector: 300 m/s²
- Insulation resistance — 50 M Ω or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
- Ambient temperature — -10 to 60°C
- Enclosure — IEC529 standard IP67, JIS 0920 waterproof structure

Magnetic Field Resistance

If the current of the AC welding machine is 16,000 A or lower, the switch can be used, even if the distance between the welding conductor (gun cable) and the cylinder or switch is 0 mm. Please contact SMC when the AC welding current exceeds 16,000 A.

Dimensions

Unit: mm



Note) D-P4DWSC = "SC 3-4", D-P4DWSE = "SE 1-4"

Magnetic Field Resistant 2-colour Indication Solid State Switch

D-P4DWL/D-P4DWZ



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Grommet

It is possible to use in an environment which generates a magnetic field disturbance (AC magnetic field).



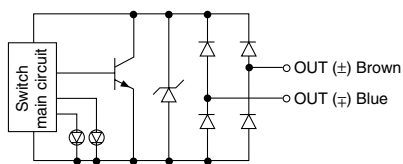
Caution

Precautions

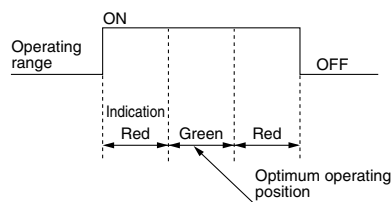
For single-phase AC welding machines
Not applicable for DC inverter welding machines (including rectifying type) and or condenser type welding.

Auto Switch Internal Circuit

D-P4DWL/Z



Indicator light/Display method



Auto Switch Specifications

PLC: Programmable Logic Controller

D-P4DW□ (With indicator light)		
Auto switch model	D-P4DWL	D-P4DWZ
Applicable load	24 VDC relay, PLC	
Load voltage	24 VDC (20 to 28 VDC)	
Load current	6 to 40 mA or less	
Internal voltage drop	5 V or less	
Leakage current	1 mA or less at 24 VDC	
Operating time	40 ms or less	
Indicator light	Operating position.....Red LED illuminates when turned ON. Optimum operating position.....Green LED illuminates when turned ON.	

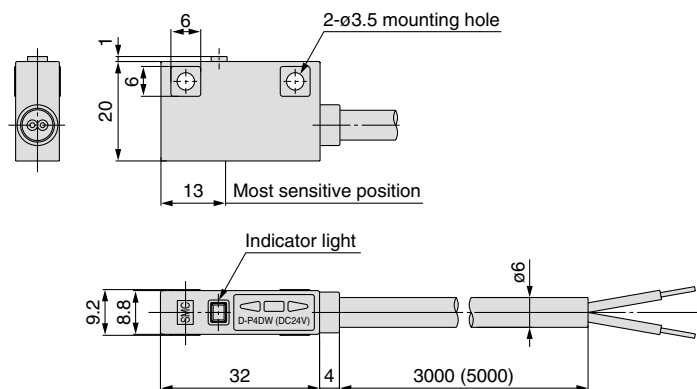
- Lead wire — Oilproof heavy-duty vinyl cable, $\phi 6$, 0.5 mm², 2 cores, D-P4DWL: 3 m, D-P4DWZ: 5 m
- Impact resistance — 1000 m/s²
- Insulation resistance — 50 M Ω or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
- Ambient temperature — -10 to 60°C
- Enclosure — IEC529 standard IP67, JIS 0920 waterproof structure

Magnetic Field Resistance

If the current of the AC welding machine is 16,000 A or lower, the switch can be used, even if the distance between the welding conductor (gun cable) and the cylinder or switch is 0 mm. Please contact SMC when the AC welding current exceeds 16,000 A.

Dimensions

Unit: mm



Magnetic Field Resistant 2-colour Indication Reed Switch

D-P79WSE



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Grommet



Auto Switch Specifications

Auto switch model	D-P79WSE
Load voltage	24 VDC
Load current range	8 to 20 mA
Contact protection circuit	Yes
Internal voltage drop	6 V or less
Operating time	1.2 ms
Indicator light	Operating position.....Red LED illuminates when turned ON. Optimum operating position.....Green LED illuminates when turned ON.

- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, $\phi 6$, 0.75 mm², 2 cores (300 mm)
- Impact resistance — 300 m/s²
- Insulation resistance — 50 M Ω or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
- Ambient temperature — -10 to 60°C
- Enclosure — IEC standard IP67, waterproof (JISC0920), oilproof construction

Caution

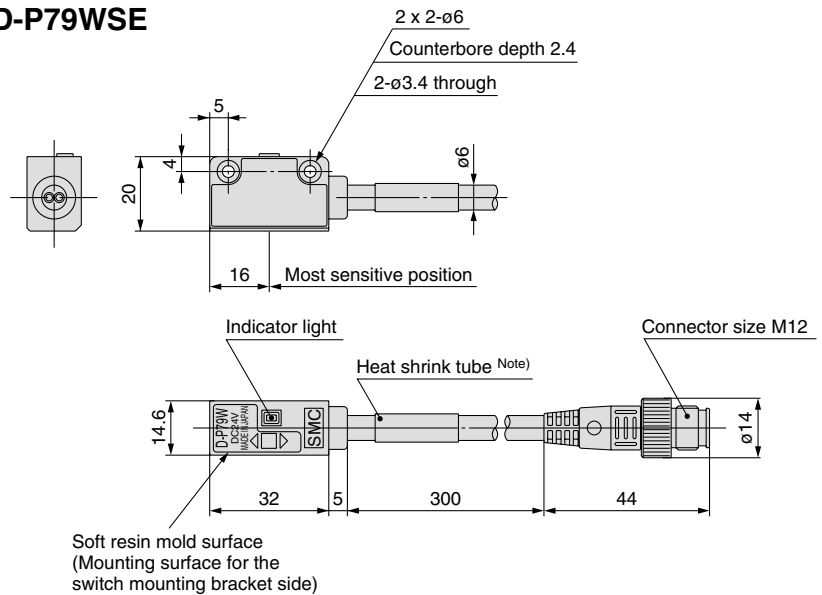
Precautions

Cylinder with a strong integrated magnet must be used.

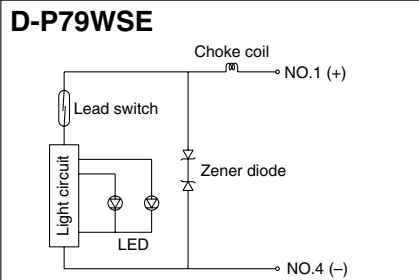
Dimensions

Unit: mm

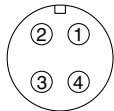
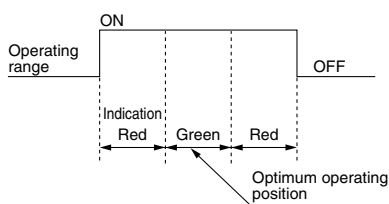
D-P79WSE



Auto Switch Internal Circuit



Indicator light/Display method



Connector pin

Note) D-P79WSE = "SE 1 4-"

Caution

Please be careful of the mounting direction.
The soft resin mold surface must be directed to the switch mounting bracket side.

Magnetic Field Resistant Reed Switch D-P74L/D-P74Z



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Auto Switch Specifications

Grommet



D-P74□ (With indicator light)		
Auto switch model	D-P74L	D-P74Z
Electrical entry	Grommet	
Application	Relay, PLC	
Load voltage	24 VDC	100 VDC
Max. load voltage/Load current range	5 to 40 mA	5 to 20 mA
Contact protection circuit	Yes	
Internal voltage drop (internal resistance)	2.4 V or less	
Leakage current	0	
Operating time	1.2 ms	
Indicator light	Red LED illuminates when turned ON.	

Caution

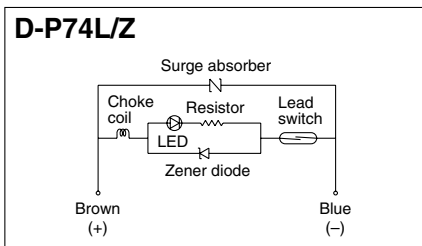
Precautions

Cylinder with a strong integrated magnet must be used.

- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, $\phi 6.8$, 0.75 mm², 2 cores (Brown, Blue), D-P74L: 3 m, D-P74Z: 5 m
 - Impact resistance — 300 m/s²
 - Insulation resistance — 50 M Ω or more at 500 VDC Mega (between lead wire and case)
 - Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
 - Ambient temperature — -10 to 60°C
 - Enclosure — IEC standard IP67, waterproof (JISC0920), oilproof construction
- * Indicate "L" for 3 m lead wire and "Z" for 5 m lead wire at the end of an auto switch part number.

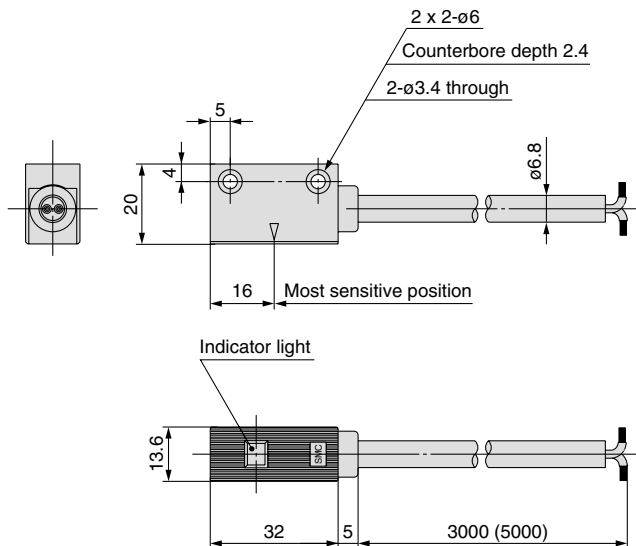
Auto Switch Internal Circuit

D-P74L/Z



Dimensions

Unit: mm



Note: () denotes the value of D-P74Z.

Magnetic Field Resistant Reed Switch D-P74-376



For details about certified products conforming to international standards, visit us at www.smcworld.com.

Auto Switch Specifications

Grommet



D-P74-376 (With indicator light)	
Auto switch model	D-P74-376
Electrical entry	Grommet
Application	Relay, PLC
Load voltage	24 VDC
Max. load voltage/Load current range	5 to 20 mA
Contact protection circuit	Yes
Internal voltage drop (internal resistance)	2 V or less
Leakage current	0
Operating time	1.2 ms
Indicator light	Red LED illuminates when turned ON.

Caution

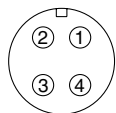
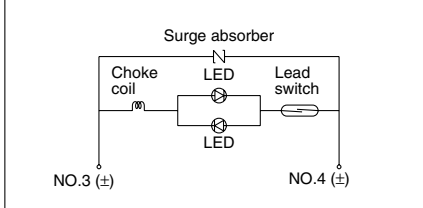
Precautions

Cylinder with a strong integrated magnet must be used.

- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, $\phi 6$, 0.5 mm², 2 cores, 0.5 m
- Impact resistance — 300 m/s²
- Insulation resistance — 50 M Ω or more at 500 VDC Mega (between lead wire and case)
- Lead wire — 1000 VAC for 1 minute (between lead wire and case)
- Ambient temperature — -10 to 60°C
- Enclosure — IEC standard IP67, waterproof (JISC0920), oilproof construction

Auto Switch Internal Circuit

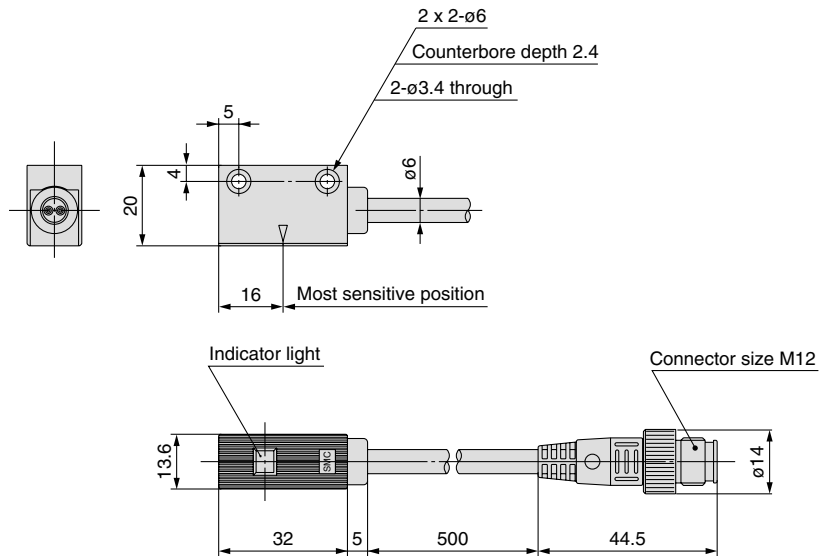
D-P74-376



Connector pin

Dimensions

Unit: mm








Series CK□1

Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

■ Explanation of the Labels

Labels	Explanation of the labels
 Danger	In extreme conditions, there is a possible result of serious injury or loss of life.
 Warning	Operator error could result in serious injury or loss of life.
 Caution	Operator error could result in injury ^{Note 3)} or equipment damage. ^{Note 4)}

Note 1) ISO 4414: Pneumatic fluid power – General rules relating to systems

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Note 3) Injury indicates light wounds, burns and electrical shocks that do not require hospitalisation or hospital visits for long-term medical treatment.

Note 4) Equipment damage refers to extensive damage to the equipment and surrounding devices.

■ Selection/Handling/Applications

1. The compatibility of the pneumatic equipment is the responsibility of the person who designs the pneumatic system or decides its specifications.

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or post analysis and/or tests to meet the specific requirements. The expected performance and safety assurance are the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalogue information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatic machinery and equipment.

Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of the systems using pneumatic equipment should be performed by trained and experienced operators. (Understanding JIS B 8370 General Rules for Pneumatic Equipment, and other safety rules are included.)

3. Do not service the machinery/equipment or attempt to remove components until safety is confirmed.

1. Inspection and maintenance of the machinery/equipment should only be performed once measures to prevent falling or runaway of the driven objects have been confirmed.
2. If the equipment must be removed, confirm the safety process as mentioned above. Turn off the supply pressure for the equipment and exhaust all residual compressed air in the system, and release all the energy (liquid pressure, spring, condenser, gravity).
3. Before the machinery/equipment is restarted, take measures to prevent quick extension of a cylinder piston rod, etc.

4. If the equipment will be used in the following conditions or environment, please contact SMC first and be sure to take all necessary safety precautions.

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, requiring special safety analysis.
4. If the products are used in an interlock circuit, prepare a double interlock style circuit with a mechanical protection function for the prevention of a breakdown. And, examine the devices periodically if they function normally or not.

■ Exemption from Liability

1. SMC, its officers and employees shall be exempted from liability for any loss or damage arising out of earthquakes or fire, action by a third person, accidents, customer error with or without intention, product misuse, and any other damages caused by abnormal operating conditions.

2. SMC, its officers and employees shall be exempted from liability for any direct or indirect loss or damage, including consequential loss or damage, loss of profits, or loss of chance, claims, demands, proceedings, costs, expenses, awards, judgments and any other liability whatsoever including legal costs and expenses, which may be suffered or incurred, whether in tort (including negligence), contract, breach of statutory duty, equity or otherwise.

3. SMC is exempted from liability for any damages caused by operations not contained in the catalogues and/or instruction manuals, and operations outside of the specification range.

4. SMC is exempted from liability for any loss or damage whatsoever caused by malfunctions of its products when combined with other devices or software.



Series CK□1

Specific Product Precautions 1

Be sure to read this before handling.

Refer to the back of page 1 for Safety Instructions and “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Cushion / Speed Controller Adjustment

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 the operating speed and load before use.

The diameter of throttle will be smaller when the cushion valve is turned clockwise, resulting in a stronger cushion reaction.

Shown below is the fully closed state, although the cushion valve can rotate 360°.

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

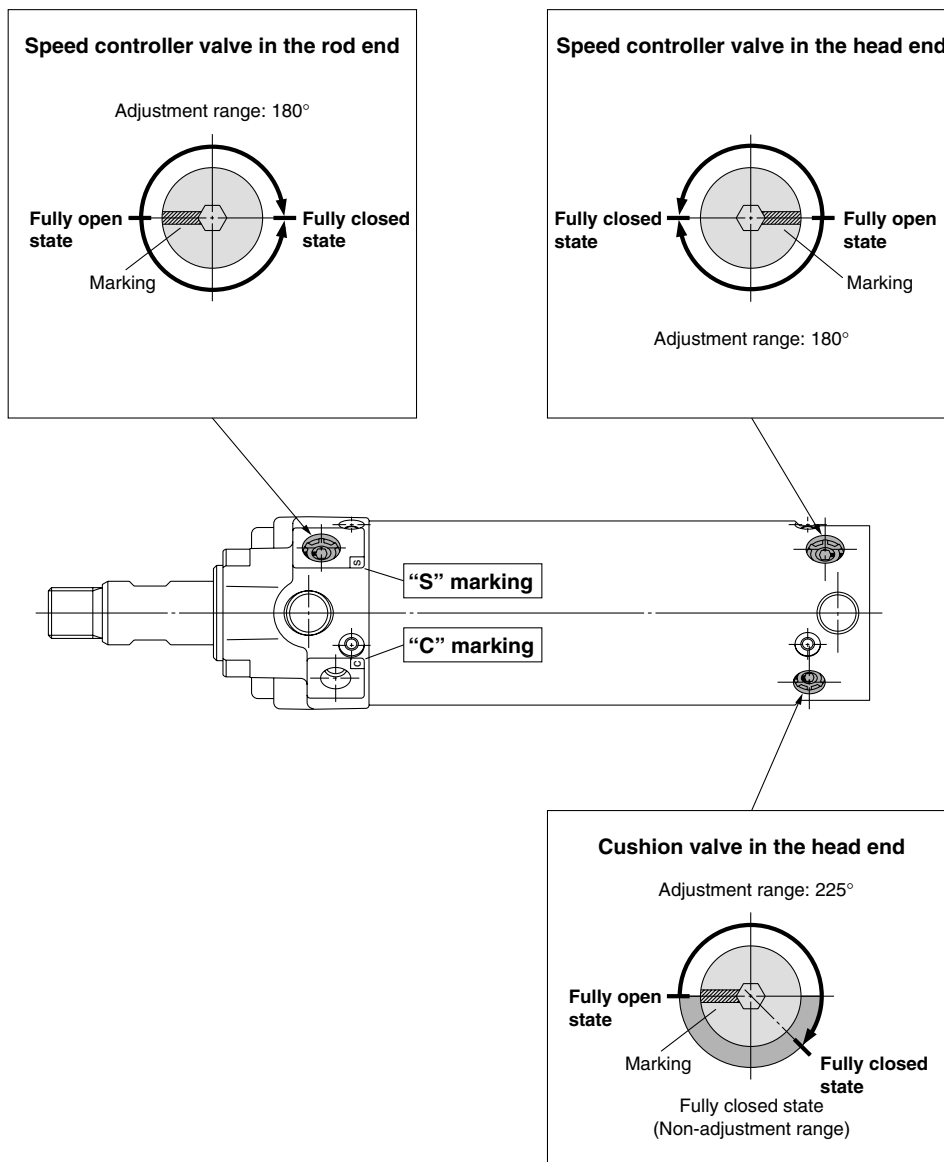
Speed Controller Adjustment

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 the operating speed and load before using.

The diameter of throttle will be smaller when the speed controller valve is turned clockwise, resulting in a slower speed.

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

The adjustment range is about, 180° from the fully closed state. The range exceeding the adjustment range to 360° is the fully closed state.





Series CK□1

Specific Product Precautions 2

Be sure to read this before handling.

Refer to the back of page 1 for Safety Instructions and “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Piping Port / Switch Mounting Rod Location Change

Piping Port Location Change

When the piping port location is changed, carefully follow the instructions as detailed below.

Warning

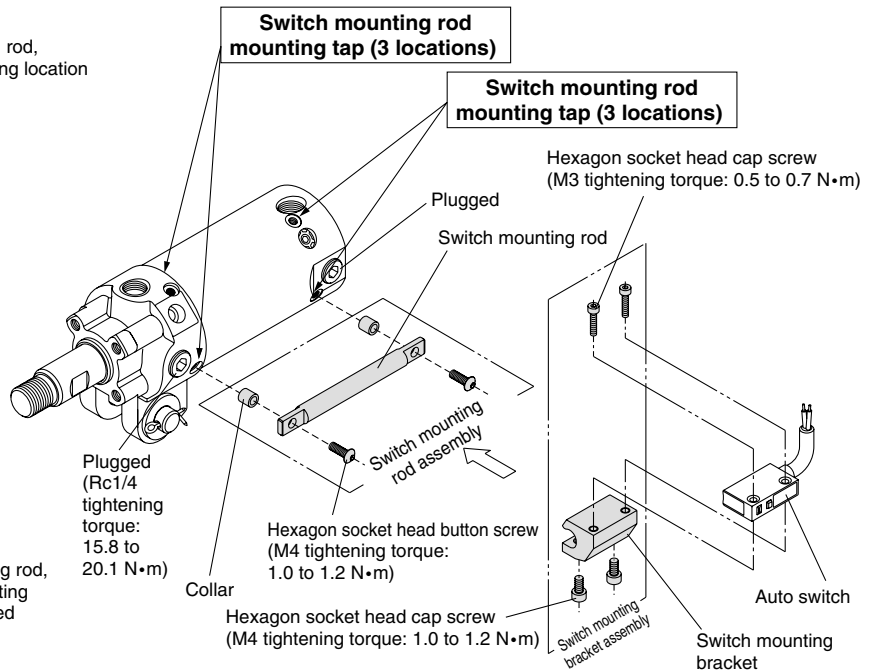
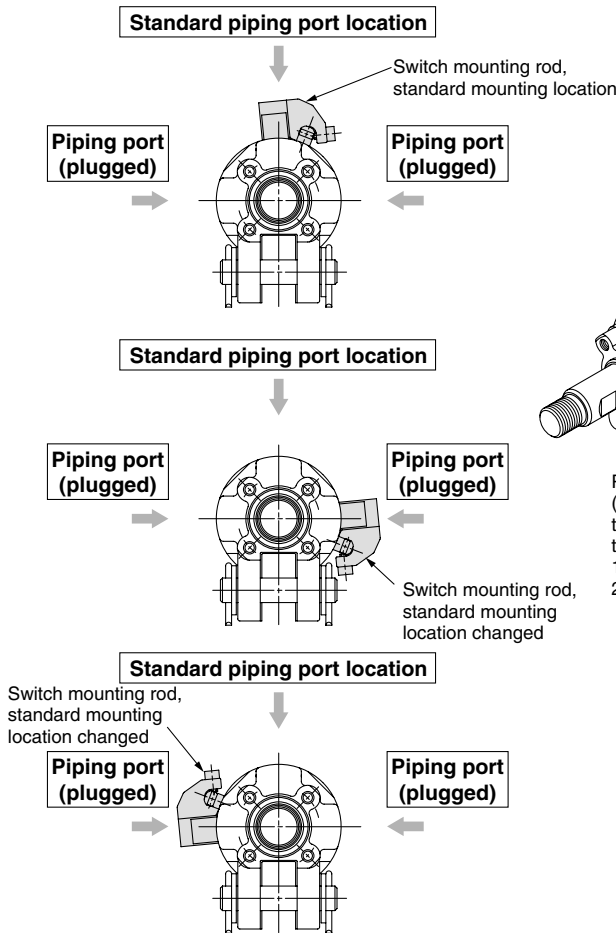
1. Do not leave out the component parts when the piping port location is changed.
Even if one of the component parts is not assembled, malfunction may occur, resulting in dangerous operation.
2. To prevent air leakage, re-wind with pipe tape and fit into the changed location when the piping port location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

Switch Mounting Rod Location Change

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

Warning

1. Mount all the component parts to the changed location.
Even if one of the component parts is not assembled, the switch detection error, etc may occur. (Switch mounting rod, switch spacer (collar), Hexagon socket head button screw)
2. After the switch mounting rod location is changed, please be sure to check there is no interference with other parts before using.



Switch Mounting Rod Assembly / Part No.

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

Switch Mounting Bracket Assembly / Part No.

Applicable cylinder series	Applicable auto switch	Mounting bracket part no.		
		40	50	63
CKG1 series	D-P4DWSC	BK1T-040		
	D-P4DWSE			
	D-P4DWL/Z			
CKP1 series	D-P79WSE	BAP1T-040		
	D-P74L/Z			



Series CK□1

Specific Product Precautions 3

Be sure to read this before handling.

Refer to the back of page 1 for Safety Instructions and “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Handling

Magnetic field resistant auto switches D-P79WSE/D-P74□ type are specifically for use with magnetic field resistant cylinders and are not compatible with general auto switches or cylinders. Magnetic field resistant cylinders are labeled as follows.

Magnetic field resistant cylinder with built-in magnet
(For use with auto switch D-P7 type)

Mounting

1. The minimum stroke for mounting magnetic field resistant auto switches is 50 mm.
2. In order to fully use the capacity of magnetic field resistant auto switches, strictly observe the following precautions.
 - 1) Do not allow the magnetic field to occur when the cylinder piston is moving.
 - 2) When a welding cable or welding gun electrodes are near the cylinder, change the auto switch position to fall within the operational ranges shown in the graphs on Back page 5, or move the welding cable away from the cylinder.
 - 3) Cannot be used in an environment where welding cables surround the cylinder.
 - 4) Please consult with SMC when a welding cable and welding gun electrodes (something energised with secondary current) are near multiple switches.
3. In an environment where spatter directly hits the lead wire, cover the lead wire with protective tubing. Use protective tubing with a bore size of $\varnothing 8$ or more that has excellent heat resistance and flexibility.
4. Be careful not to drop objects, make dents, or apply excessive impact force when handling.
5. When operating two or more parallel and closely positioned cylinders with magnetic field resistant auto switches, separate the auto switches from the other cylinder tubes by an additional 30 mm or more.
6. Avoid wiring in a manner in which repeated bending stress or tension is applied to lead wires.
7. Please consult with SMC regarding use in an environment with constant water and coolant splashing.
8. Please be careful to the mounting direction of the magnetic field resistant auto switch D-P79WSE type.
Be sure to face the molded surface with soft-resin to the switch mounting bracket side for mounting.
(Please refer to page 11 for mounting example and page 21 for soft-resin mold surface.)

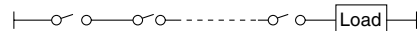
Contact Capacity

Never operate a load that exceeds the maximum contact capacity of the auto switch.

Wiring/Current and Voltage

1. Always connect the auto switch to the power supply after the load has been connected.
2. Series connection
When auto switches are connected in series as shown below:

Note that the voltage drop due to the internal resistance of the LED increases.





Series CK□1

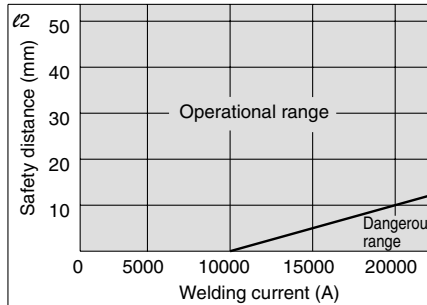
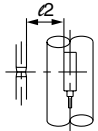
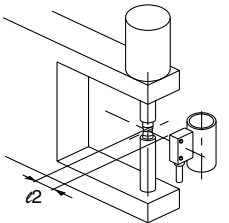
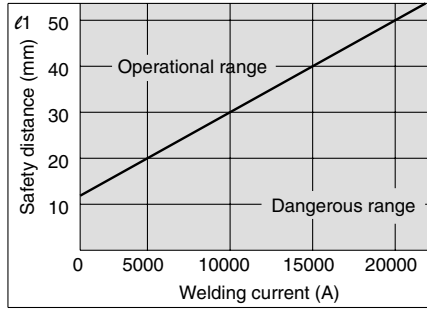
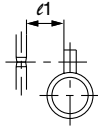
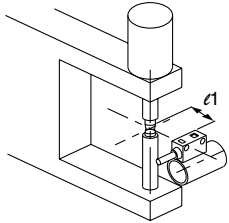
Specific Product Precautions 4

Be sure to read this before handling.

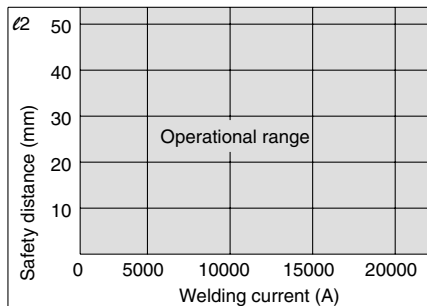
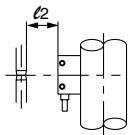
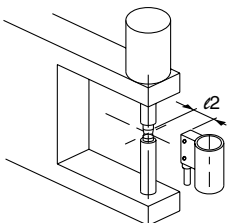
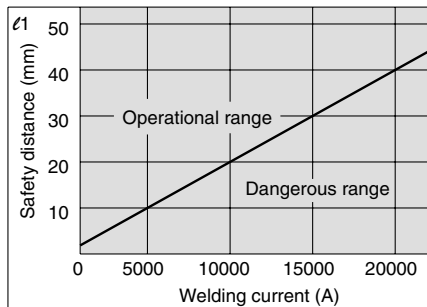
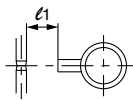
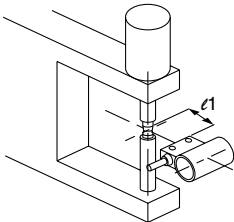
Refer to the back of page 1 for Safety Instructions and “Precautions for Handling Pneumatic Devices” (M-03-E3A).

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





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