Clamp Cylinder with Lock

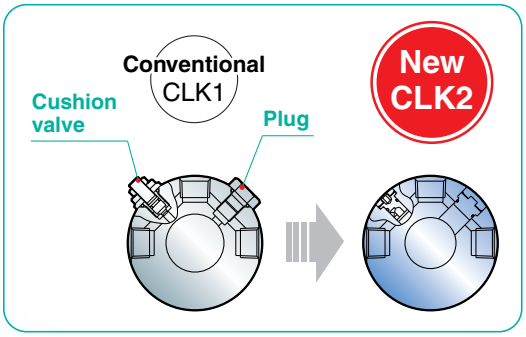
Maintains a clamped or unclamped state when air supply pressure drops or residual pressure is released.

Total length reduced by 2 mm

Body is shortened while maintaining the mounting interchangeability with the existing series (CLK1).

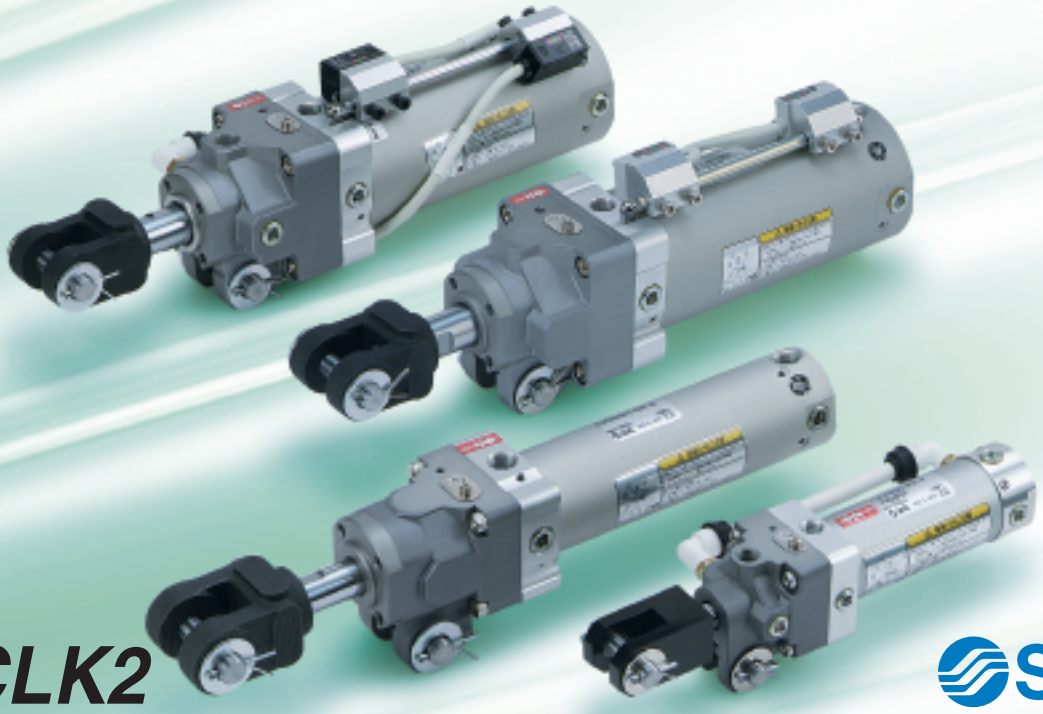
With a cover configuration eliminating protruding valves

Improved workability



- Magnetic field resistant auto switches are mountable.
- With air cushion (head end)
- ø32 to ø63 introduced to series
- 2 series, 4 sizes and 3 clevis widths have been standardized.
  Widely applicable to different types of equipment

Series		Bore size (mm)	Switch mounting	Stroke (mm)	Clevis width (mm)
Built-in standard magnet type (Applicable to magnetic field resistant auto switches D-P4DW□)	**CLK2G□ series**	32	Band	50 • 75 • 100 • 125 • 150	12
		40	Rod, Band		16.5
		50 • 63			16.5 • 19.5
Built-in strong magnet type (Applicable to magnetic field resistant auto switches D-P7□□)	**CLK2P□ series**	40	Rod		16.5
		50 • 63			16.5 • 19.5



Series CLK2

SMC

CAT.ES20-195A

Clamp Cylinder with Lock Series CLK2

Can be locked at any position within the entire stroke.

Locking is possible at any desired position.
Able to easily accommodate changes in work piece thickness.

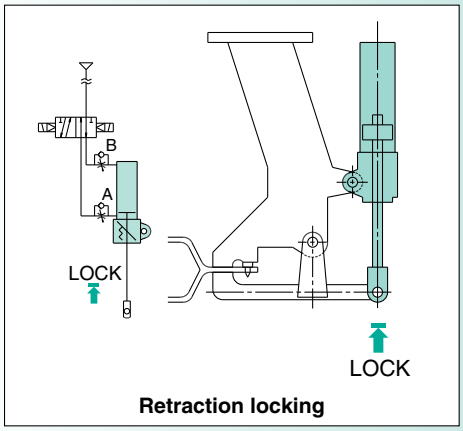
Retraction locking

A selection of retraction locking and extension locking is possible.

<Example>

Holding a clamped state

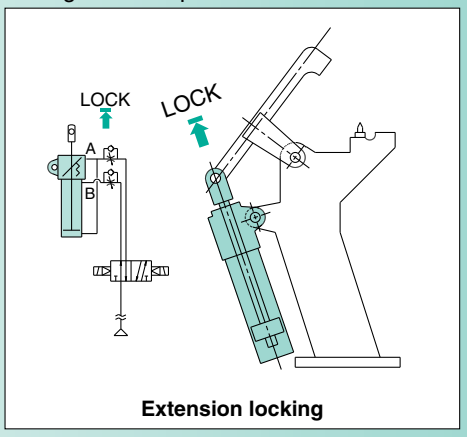
Prevents work piece slippage and dropping due to work piece weight.



Retraction locking

Holding an unclamped state

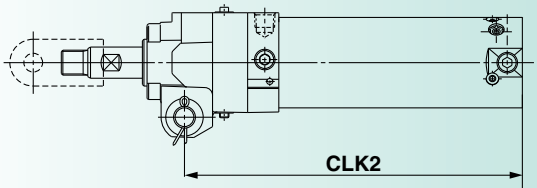
Prevents dislocation of home position due to weight of clamp arm.



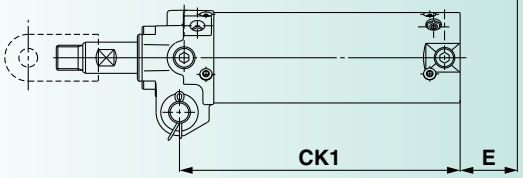
Extension locking

Compact lock mechanism minimizes extension of length dimension.

Series CLK2 clamp cylinder with lock



Series CK1 clamp cylinder (without lock)



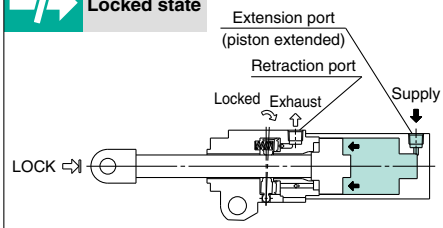
Extended Dimension (mm)

Bore size	E
ø40	34
ø50	38.5
ø63	42

Operating Principle

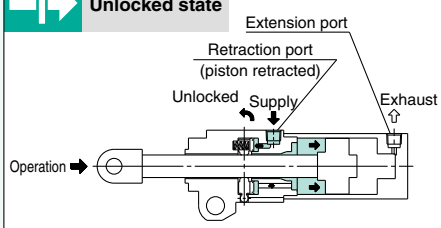
● **Retraction locking**

Locked state



When compressed air is completely exhausted from the unclamping port, the lock ring is tilted by the spring force, thereby locking the piston rod.

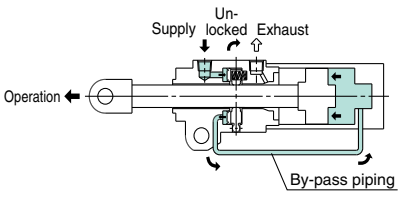
Unlocked state



When compressed air is supplied to the unclamping port, the lock ring stands up perpendicular to the piston rod and the lock is released. Then, the piston rod is retracted.

● **Extension locking**

Unlocked state

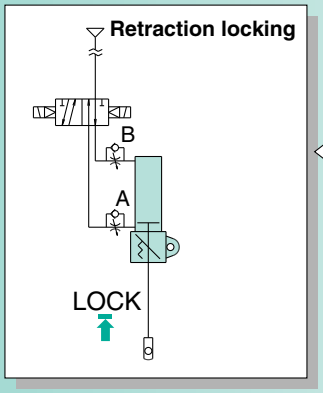


Air can be supplied to or exhausted from the cylinder head end by providing by-pass piping.

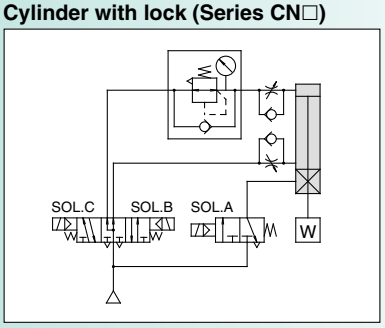
Piping is not required for unlocking.

Since a dedicated solenoid valve is not required for unlocking, reduction of initial costs and replacement of existing equipment can be easily accomplished.

Clamp cylinder with lock



Cylinder with lock (Series CN□)



Extension locking

LOCK

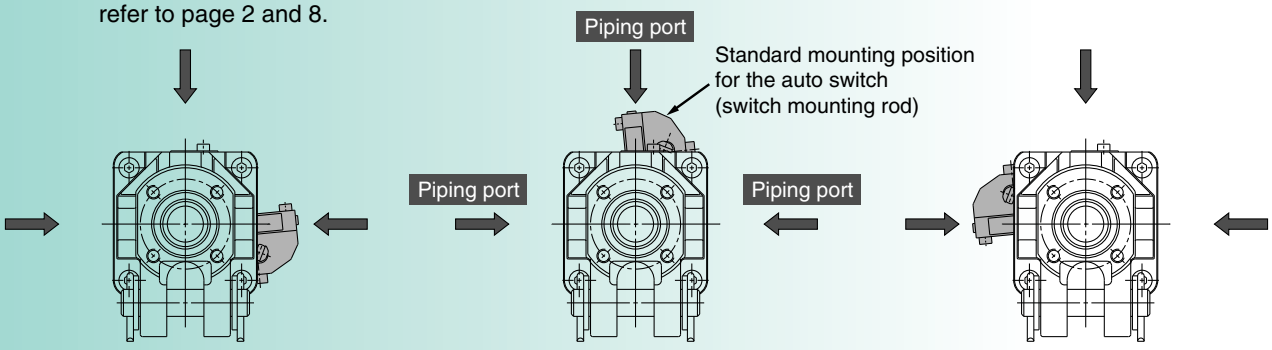
Able to maintain an unlocked state

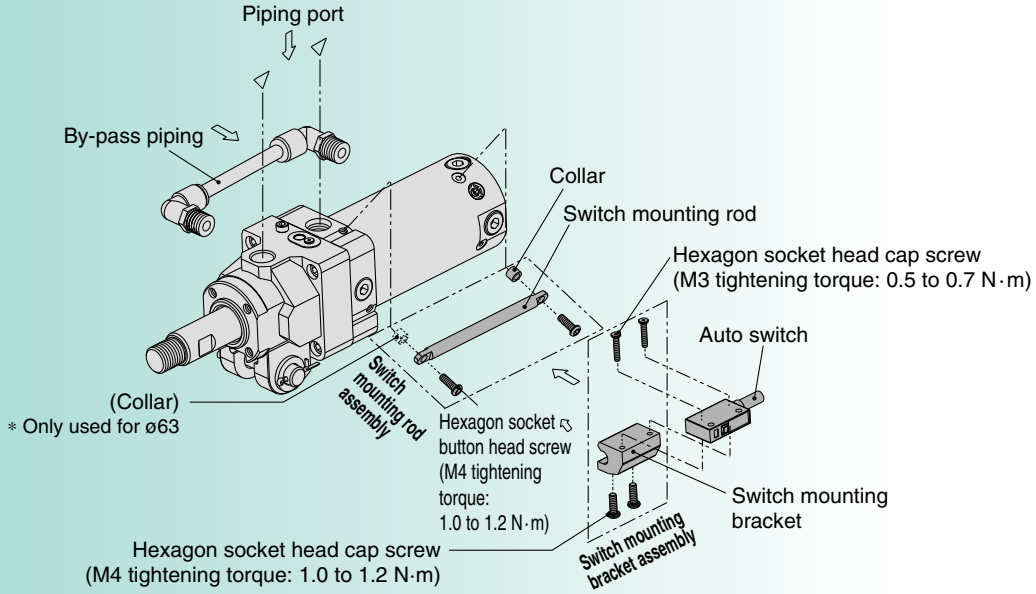
Assembly and maintenance simplified

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.

Note) For port/bypass mounting positions, refer to page 2 and 8.

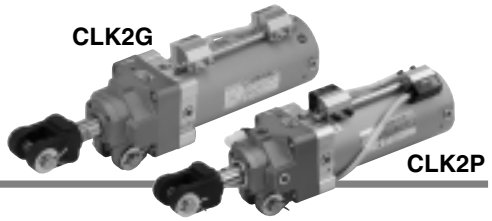




Clamp Cylinder with Lock with Magnetic Field Resistant Auto Switch Rod Mounting

Series CLK2G/CLK2P

ø40, ø50, ø63



How to Order

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

CLK2G **A** **50** □ – **100** **Y** □ – **B** □ □ – **P4DWSC** □

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

CLK2P **A** **50** □ – **100** **Y** □ – **B** □ □ – **P79WSE** □

Clevis width

A	16.5 mm	ø40, ø50, ø63
B	19.5 mm	ø50, ø63

Bore size

40	40 mm
50	50 mm
63	63 mm

Port type

Nil	Rc
TN	NPT

Cylinder stroke

50, 75, 100, 125, 150

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) Pin (for knuckle), 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 is not available with mounting base K.

Locking direction

B	Retraction locking
F	Extension locking

Port/By-pass piping position

∗ Refer to page 2.

Switch mounting rod position

Nil	Top
L	Left
R	Right

Note 1) Viewed from the rod end.
Note 2) When the auto switch D-P79WSE is mounted, by-pass piping and a switch mounting rod cannot be place at the same position.

Auto switch

Nil	Without auto switch, Without switch mounting rod
P	Without auto switch, With switch mounting rod
Auto switch model	With auto switch, With switch mounting rod

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

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs. (n = 3, 4, 5···n)

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

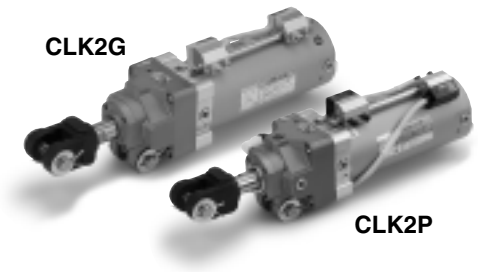
1) Built-in standard (strong) magnet type without auto switch and switch mounting rod
Symbol for the auto switch type is "Nil" as shown below.
CLK2G: (Example) CLK2GA50-50Y
CLK2P: (Example) CLK2PA50-50Y

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.
CLK2G: (Example) CLK2GA50-50Y-P
CLK2P: (Example) CLK2PA50-50Y-P

Applicable Magnetic Field Resistant Auto Switches (Refer to page 21 through to 25 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
CLK2G series	**Solid state 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
		P4DWSE				2-wire (1–4)			
		P4DWL		Grommet		2-wire		3 m	
		P4DWZ						5 m	
CLK2P series	**Reed switch**	**P79WSE**	DC / AC magnetic field	Pre-wired connector	2-color display	2-wire (1–4)	24 VDC	0.3 m	
		P74L		Grommet (Pre-wired connector)	1-color display	2-wire	24 VDC 100 VAC	3 m	
		P74Z						5 m	

Note 1) PLC: Programmable Logic Controller
Note 2) Refer to page 17 when ordering the auto switch mounting bracket assembly or switch mounting rod assembly.



Clamp Cylinder with Lock Specifications

Bore size	40	50	63
Action	Double acting, Single rod		
Fluid	Air		
Proof pressure	1.5 MPa		
Maximum operating pressure	1.0 MPa		
Minimum operating pressure	0.2 MPa		
Locking action	Spring locking		
Locking pressure	0.05 MPa		
Locking direction	One direction (Retraction, Extension)		
Lock holding force N (Max. static load) Note 1)	0.5 MPa or equivalent		
	629	982	1559
Lock application	Drop prevention, Position holding		
Ambient and fluid temperature	Without auto switch: –10°C to 70°C		
	With auto switch : –10°C to 60°C		
Lubrication	Non-lube		
Piston speed	50 to 500 mm/s		
Stroke length tolerance	+1.0/0		
Cushion	Retraction direction (Head end): With air cushion		
Thread tolerance	JIS Class 2		
Mounting	Double clevis Note 2)		

Note 1) Be sure to comply with guidelines in the back of page 3 when selecting cylinders.
Note 2) Pin (for clevis), cotter pin, flat washer are equipped as standard.

Clevis width	16.5 mm	ø40, ø50, ø63
	19.5 mm	ø50, ø63

Symbol

Retraction locking type **Extension locking type**

Standard Stroke

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

Weight (Basic weight is for a 0 mm stroke.)

Unit: kg

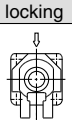
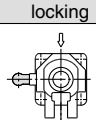
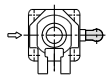
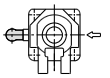
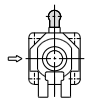
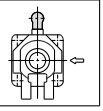
Bore size (mm)		40	50	63
Cylinder basic weight	**CLK2G series**	B: 1.05 F: 1.11	B: 1.48 F: 1.54	B: 1.96 F: 2.02
	CLK2P series	B: 1.12 F: 1.18	B: 1.49 F: 1.55	B: 2.06 F: 2.08
	Additional weight per 25 mm stroke	0.08	0.11	0.13
Single knuckle joint		0.25	0.20	
Double knuckle joint (Pin, cotter pin, flat washer are included.)		0.36	0.34	
Limit switch mounting base		0.22		
Dog fitting		0.12		
Foot		0.24		
Pedestal		2.04		

Note) The above values do not include the weight of the auto switch and bracket.

Calculation
Example) CLK2PB50-100Y-B
- Basic weight ··· 1.49 (ø50)
- Additional weight ··· 0.11/25 mm
- Cylinder stroke ··· 100 mm
- Double knuckle joint ··· 0.34 (Y)

1.49 + 0.11 x 100 / 25 + 0.34 = 2.27 kg

Port/By-pass Piping Position

Symbol	Port position	By-pass piping position	Locking direction B: Retraction locking	Locking direction F: Extension locking
Nil	Port on top	By-pass piping on left		
2	Port on left	By-pass piping on right		
3	Port on right	By-pass piping on left		
4	Port on top	By-pass piping on right	—	
5	Port on left	By-pass piping on top	—	
6	Port on right	By-pass piping on top	—	

⇨ Port ⇦ By-pass piping

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	16	OUT	1260	378	504	630	756
		IN	1060	318	424	530	636
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

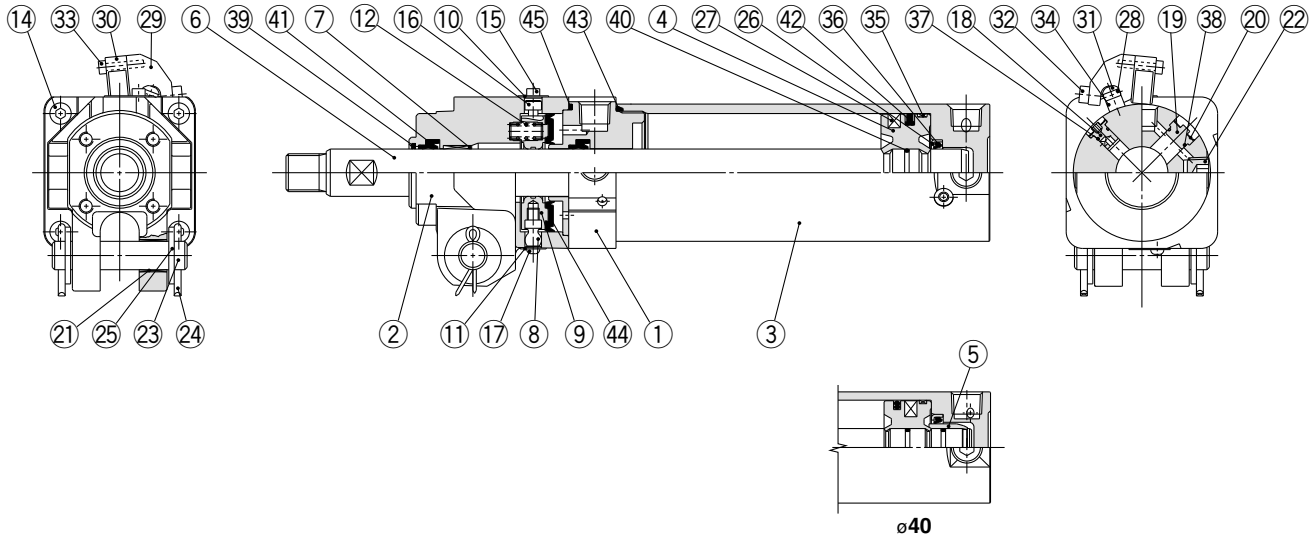
Accessories (Options)

Symbol	Description		Parts no. CLK2GA/CLK2PA series 40	CLK2GA/CLK2PA series 50, 63	CLK2GB/CLK2PB series 50, 63
I	Single knuckle joint	M6 without tap	CLK-I04		CKB-I04
IA		M6 with tap	CLK-IA04		CKB-IA04
Y	Double knuckle joint (knuckle pin, cotter pin, flat washer are equipped as a standard.)	M6 without tap	CLK-Y04	CKA-Y04	CKB-Y04
YA		M6 with tap	CLK-YA04	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		—

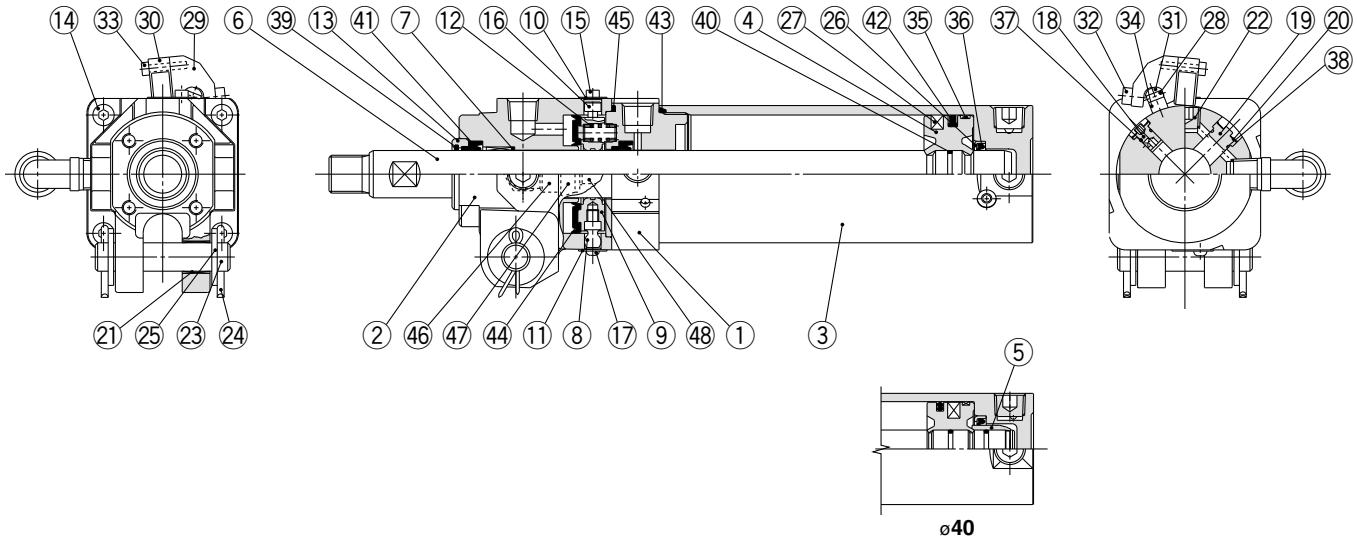
Construction: CLK2G□40/50/63

Built-in Standard Magnet Type / With Magnetic Field Resistant Auto Switch (D-P4DW□ type)

Retraction locking (B)



Extension locking (F)



Component Parts

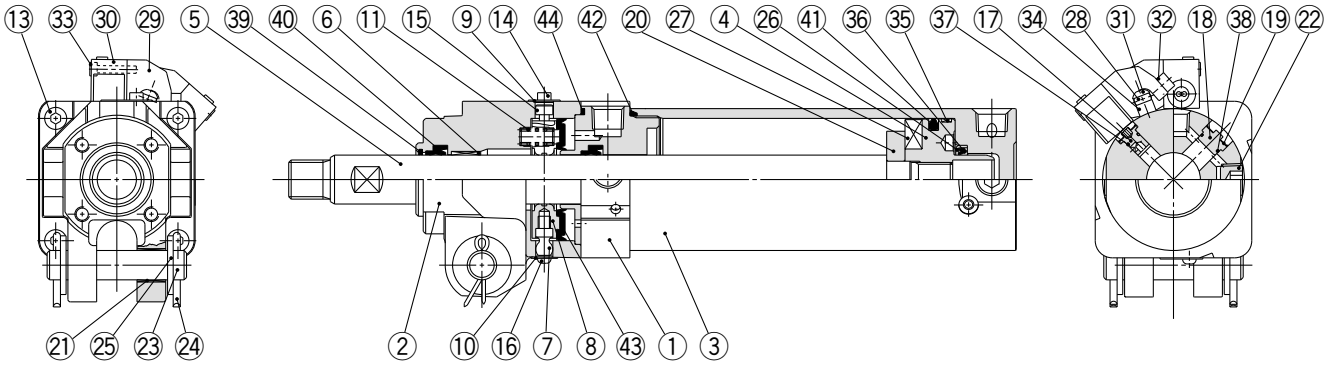
No.	Description	Material	Qty	Note
1	Rod cover	Aluminum alloy	1	Hard anodized
2	Cover	Aluminum alloy	1	Hard anodized
3	Tube cover	Aluminum alloy	1	Hard anodized
4	Piston	Aluminum alloy	1	Chromated
5	Cushion ring	Copper alloy	1	ø40 only
6	Piston rod	Carbon steel	1	Hard chrome plated
7	Bushing	Copper alloy	1	
8	Pivot	Carbon steel	1	Heat treated, Electroless nickel plated
9	Lock ring	Carbon steel	1	Zinc chromated
10	Dust cover	Stainless steel	1	
11	Dust cover	Stainless steel	1	
12	Brake spring	Steel wire	2	Zinc chromated
13	Retainer plate	Aluminum alloy	1	Anodized, Extension locking only
14	Hexagon socket head cap screw	Chrome molybdenum steel	4	Nickel plated
15	Hexagon socket head cap screw	Chrome molybdenum steel	1	Nickel plated
16	Hexagon socket head cap screw	Chrome molybdenum steel	1	Nickel plated
17	Round head Phillips screw	Chrome molybdenum steel	1	Nickel plated
18	Cushion valve	Aluminum alloy	1	
19	Plug	Aluminum alloy	1	
20	Retaining ring	Spring steel	2	
21	Clevis bushing	Oil-impregnated sintered alloy	2	
22	Hexagon socket head plug	Carbon steel	4(5)	Rc1/4, 5 pcs. of extension locking
23	Pin	Carbon steel	1	
24	Cotter pin	Low carbon steel wire rod	2	Zinc chromated

No.	Description	Material	Qty	Note
25	Flat washer	Rolled steel	2	Zinc chromated
26	Cushion seal retainer	Rolled steel	1	Zinc chromated
27	Magnet	Magnetic material	1	
28	Switch mounting rod	Carbon steel	1	Zinc chromated
29	Switch mounting bracket	Aluminum alloy	—	
30	Magnetic field resistant auto switch	—	—	
31	Hexagon socket head button screw	Chrome molybdenum steel	2	Nickel plated, M4 x 0.7 x 12 L
32	Hexagon socket head cap screw	Chrome molybdenum steel	2 pcs. per switch	Nickel plated, M4 x 0.7 x 8 L
33	Hexagon socket head cap screw	Chrome molybdenum steel	2 pcs. per switch	Nickel plated, M3 x 0.5 x 14 L
34	Switch mounting spacer	Aluminum alloy	1(2)	2 pcs. for ø63
35	Wear ring	Resin	1	
36	Cushion seal	Urethane	1	
37	Cushion valve seal	NBR	1	
38	Plug gasket	NBR	1	
39	Coil scraper	Phosphor bronze	1	
40	Piston gasket	NBR	1	
41	Rod seal	NBR	2	
42	Piston seal	NBR	1(2)	2 pcs. for ø40
43	Tube gasket	NBR	1	
44	Lock ring seal	NBR	1	
45	O-ring	NBR	1	
46	FR one-touch fitting		2	Extension locking only
47	Spatter cover		2	Extension locking only
48	FR double layer tube		1	Extension locking only

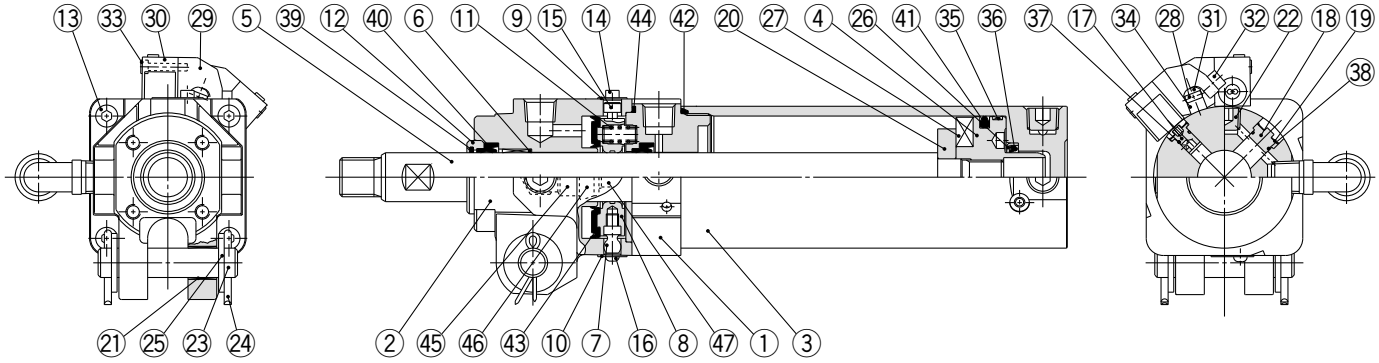
Construction: CLK2P□40/50/63

Built-in Strong Magnet Type / With Magnetic Field Resistant Auto Switch (D-P7□□ type)

Retraction locking (B)



Extension locking (F)



Component Parts

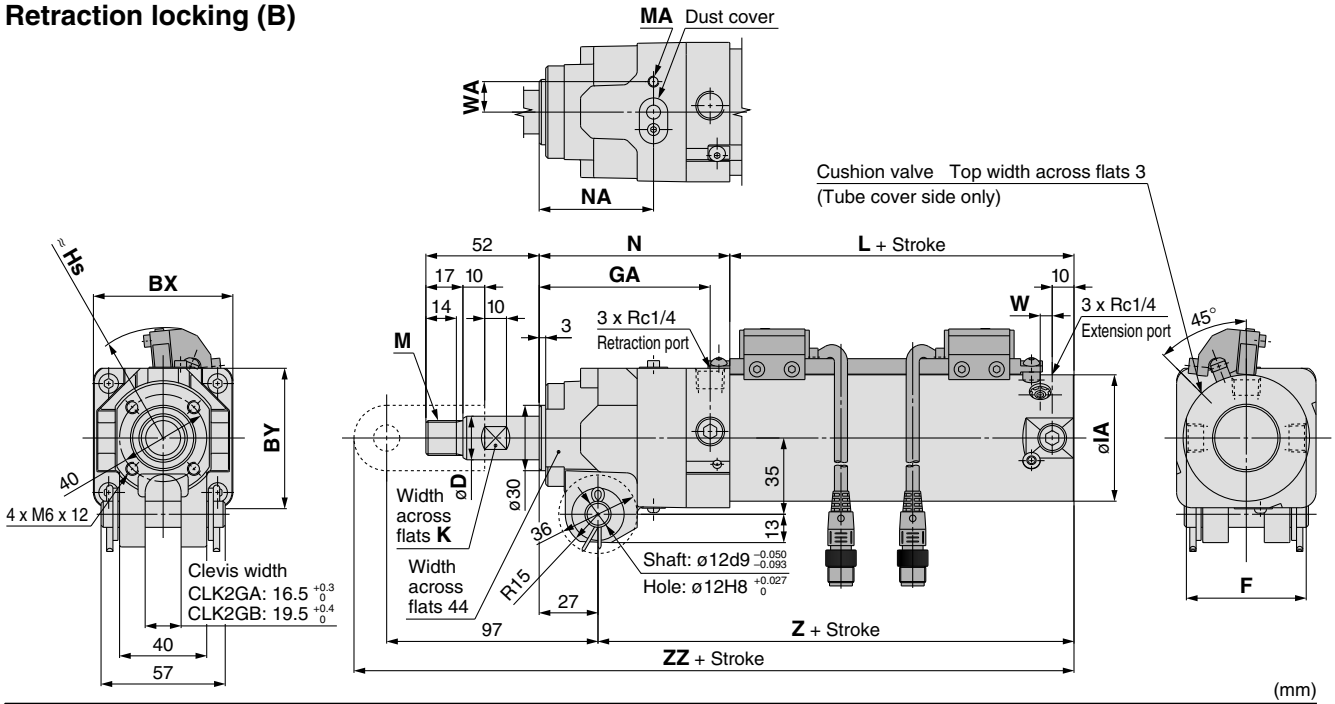
No.	Description	Material	Qty	Note
1	**Rod cover**	Aluminum alloy	1	Hard anodized
2	**Cover**	Aluminum alloy	1	Hard anodized
3	**Tube cover**	Aluminum alloy	1	Hard anodized
4	**Piston**	Aluminum alloy	1	Chromated
5	**Piston rod**	Carbon steel	1	Hard chrome plated
6	**Bushing**	Copper alloy	1	
7	**Pivot**	Carbon steel	1	Heat treated, Electroless nickel plated
8	**Lock ring**	Carbon steel	1	Zinc chromated
9	**Dust cover**	Stainless steel	1	
10	**Dust cover**	Stainless steel	1	
11	**Brake spring**	Steel wire	2	Zinc chromated
12	**Retainer plate**	Aluminum alloy	1	Anodized, Extension locking only
13	**Hexagon socket head cap screw**	Chrome molybdenum steel	4	Nickel plated
14	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
15	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
16	**Round head Phillips screw**	Chrome molybdenum steel	1	Nickel plated
17	**Cushion valve**	Aluminum alloy	1	
18	**Plug**	Aluminum alloy	1	
19	**Retaining ring**	Spring steel	2	
20	**Magnet holder**	Aluminum alloy	1	Chromated
21	**Clevis bushing**	Oil-impregnated sintered alloy	2	
22	**Hexagon socket head plug**	Carbon steel	4(5)	Rc1/4, 5 pcs. of extension locking
23	**Pin**	Carbon steel	1	
24	**Cotter pin**	Low carbon steel wire rod	2	Zinc chromated

No.	Description	Material	Qty	Note
25	**Flat washer**	Rolled steel	2	Zinc chromated
26	**Cushion seal retainer**	Rolled steel	1	Zinc chromated
27	**Magnet**	Magnetic material	1	
28	**Switch mounting rod**	Carbon steel	1	Zinc chromated
29	**Switch mounting bracket**	Aluminum alloy	—	
30	**Magnetic field resistant auto switch**	—	—	
31	**Hexagon socket head button screw**	Chrome molybdenum steel	2	Nickel plated, M4 x 0.7 x 12 L
32	**Hexagon socket head cap screw**	Chrome molybdenum steel	2 pcs. per switch	Black zinc chromated, M4 x 0.7 x 8 L
33	**Hexagon socket head cap screw**	Chrome molybdenum steel	2 pcs. per switch	Black zinc chromated, M3 x 0.5 x 16 L
34	**Switch mounting spacer**	Aluminum alloy	1(2)	2 pcs. for ø63
35	**Wear ring**	Resin	1	
36	**Cushion seal**	Urethane	1	
37	**Cushion valve seal**	NBR	1	
38	**Plug gasket**	NBR	1	
39	**Coil scraper**	Phosphor bronze	1	
40	**Rod seal**	NBR	2	
41	**Piston seal**	NBR	1	
42	**Tube gasket**	NBR	1	
43	**Lock ring seal**	NBR	1	
44	**O-ring**	NBR	1	
45	**FR one-touch fitting**		2	Extension locking only
46	**Spatter cover**		2	Extension locking only
47	**FR double layer tube**		1	Extension locking only

Dimensions: CLK2G□40/50/63

Built-in Standard Magnet Type / With Magnetic Field Resistant Solid State Switch (D-P4DW□ type)

Retraction locking (B)

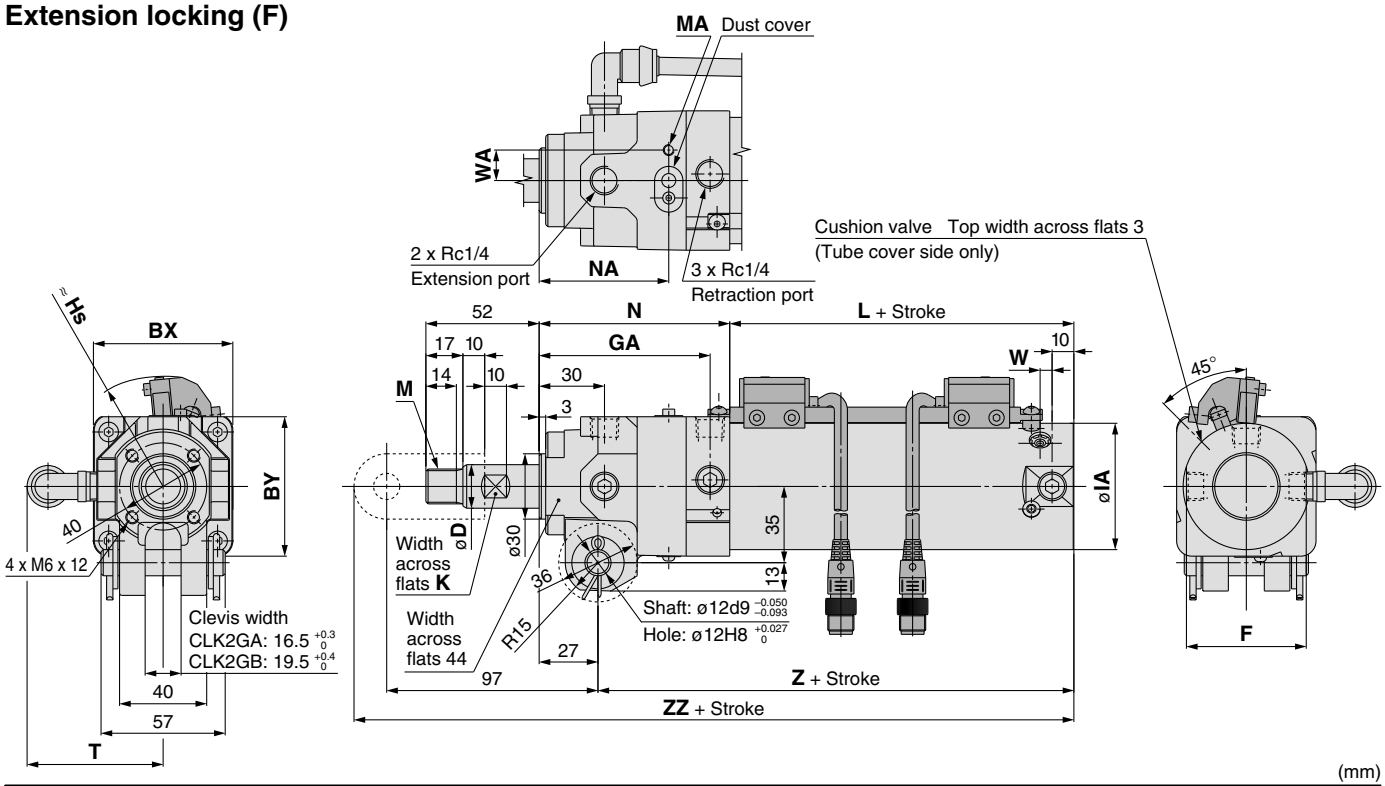


(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	51.5	5	12.5	114	226	45.5
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	52.5	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	53.5	5.5	19	122	234	58.5

Note) Refer to page 14 and 15 for Accessories.

Extension locking (F)



(mm)

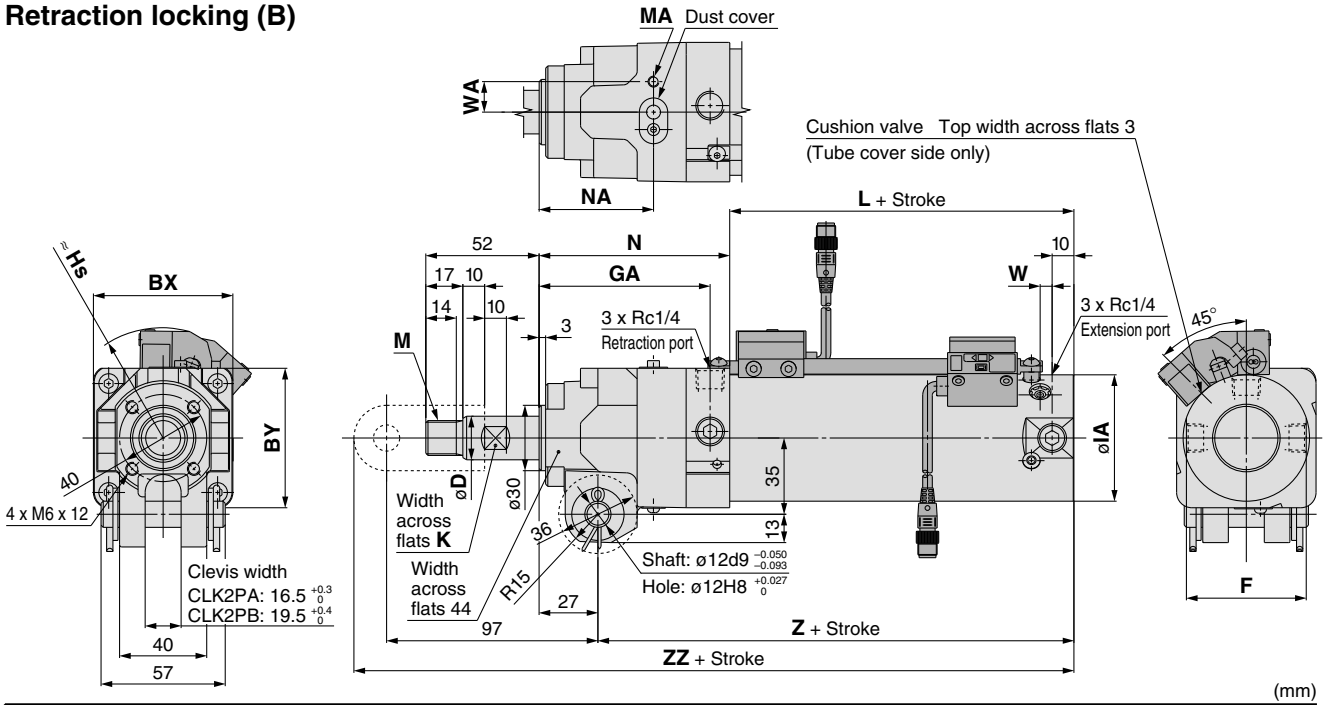
Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	T	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	59	57	5	12.5	114	226	45.5
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	59.5	60	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	61	67	5.5	19	122	234	58.5

Note) Refer to page 14 and 15 for Accessories.

Dimensions: CLK2P□40/50/63

Built-in Strong Magnet Type / With Magnetic Field Resistant Reed Switch (D-P7□□ type)

Retraction locking (B)

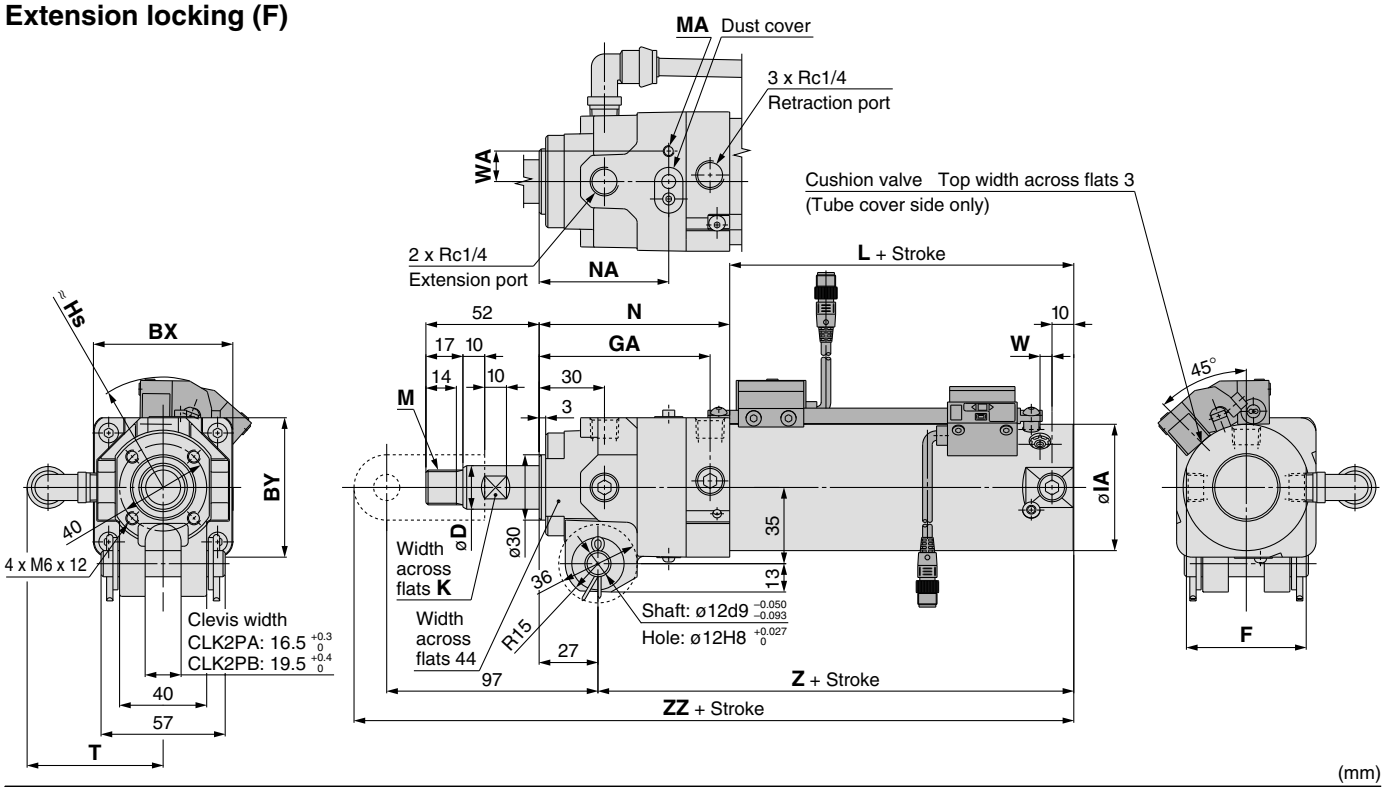


(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	65	M12 x 1.5	M4 x 7	86	51.5	5	12.5	124	236	46
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	52.5	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	53.5	5.5	19	122	234	57.5

Note) Refer to page 14 and 15 for Accessories.

Extension locking (F)



(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	T	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	65	M12 x 1.5	M4 x 7	86	59	57	5	12.5	124	236	46
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	59.5	60	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	61	67	5.5	19	122	234	57.5

Note) Refer to page 14 and 15 for Accessories.

Clamp Cylinder with Lock

Series CLK2

ø32, ø40, ø50, ø63

How to Order

Without magnet **CLK2** **A** **50** **□** – **100** **Y** **□** – **B** **□**

Built-in standard magnet type **CLK2** **G** **A** **50** **□** – **100** **Y** **□** – **B** **□**

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

Built-in standard magnet

Clevis width

A	12.5 mm	ø32
	16.5 mm	ø40, ø50, ø63
B	19.5 mm	ø50, ø63

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm

Port type

Nil	Rc
TN	NPT

Cylinder stroke

50, 75, 100, 125, 150

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 not available for ø32.
Note 2) Conventional products for ø40, 50, 60 are equivalent to IA and YA
Note 3) 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 2)
L	Foot
K Note 3)	Pedestal (for 75, 100, 150 strokes only)

Note 1) Option is not available for ø32.
Note 2) When the dog fitting is selected, choose the rod end bracket IA or YA (M6 with tap).
Note 3) Clevis width B (19.5 mm) is not available with mounting base K.

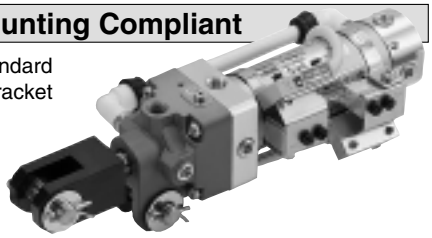
Port/By-pass piping position
* Refer to page 8.

Locking direction

B	Retraction locking
F	Extension locking

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 CLK2G32 to 63 series) is possible by ordering the switch mounting bracket and the auto switch individually.



How to Order

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

Component part no.	Applicable auto switch	Applicable clamp cylinder with lock
BA8-032	D-P4DWSC D-P4DWSE D-P4DWL/Z	**CLK2G□32**
BA8-040		**CLK2G□40**
BA8-050		**CLK2G□50**
BA8-063		**CLK2G□63**

Note) Refer to page 17 for mounting brackets.

Ordering Example for CLK2G32 to 63

Example case ① Built-in standard magnet cylinder:
CLK2GA50-50Y-B ····· 1
Example case ② Magnetic field resistant auto switch:
D-P4DWSC ····· 2
Example case ③ Switch mounting bracket:
BA8-050 ····· 2

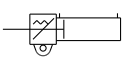
Note 1) Please order the same quantity for the switch mounting bracket and the magnetic field resistant auto switch respectively.
Note 2) Band mounting for the magnetic field resistant auto switch D-P79WSE type, D-P74□ type is not applicable.

Applicable Magnetic Field Resistant Auto Switches (Refer to page 21 and 22 for detailed auto switch specifications.)

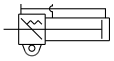
Applicable cylinder series	Type	Auto switch model	Applicable magnetic field	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load
CLK2G series	**Solid state switch**	**P4DWSC**	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-color display	2-wire (3–4)	24 VDC	0.3 m	Relay, PLC
		P4DWSE				2-wire (1–4)			
		P4DWL		Grommet		2-wire		3 m	
		P4DWZ						5 m	

Note) PLC: Programmable Logic Controller

Symbol



Retraction locking type

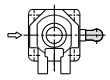
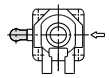
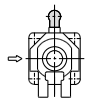
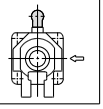


Extension locking type

Standard Stroke

Bore size (mm)	Standard stroke (mm)
32, 40, 50, 63	50, 75, 100, 125, 150

Port/By-pass Piping Position

Symbol	Port position	By-pass piping position	Locking direction B: Retraction locking	Locking direction F: Extension locking
Nil	Port on top	By-pass piping on left		
2	Port on left	By-pass piping on right		
3	Port on right	By-pass piping on left		
4	Port on top	By-pass piping on right	—	
5	Port on left	By-pass piping on top	—	
6	Port on right	By-pass piping on top	—	

⇨ Port ⇦ By-pass piping

Clamp Cylinder with Lock Specifications

Bore size	32	40	50	63
Action	Double acting, Single rod			
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.2 MPa			
Locking action	Spring locking			
Locking pressure	0.05 MPa			
Locking direction	One direction (Retraction, Extension)			
Lock holding force N (Max. static load) Note 1)	0.5 MPa or equivalent			
	402	629	982	1559
Lock application	Drop prevention, Position holding			
Ambient and fluid temperature	Without auto switch: –10°C to 70°C			
	With auto switch : –10°C to 60°C			
Lubrication	Non-lube			
Piston speed	50 to 500 mm/s			
Stroke length tolerance	+1.0/0			
Cushion	Retraction direction (Head end): With air cushion			
Thread tolerance	JIS Class 2			
Mounting	Double clevis Note 2)			

Note 1) Be sure to comply with guidelines in the back of page 3 when selecting cylinders.
Note 2) Pin (for clevis), cotter pin, flat washer are equipped as a standard.

Clevis width	12 mm	ø32
	16.5 mm	ø40, ø50, ø63
	19.5 mm	ø50, ø63

Weight (Basic weight is for a 0 mm stroke.)

Unit: kg

Bore size (mm)		32	40	50	63
Cylinder basic weight	**CLK2□ series**	B: 0.51 F: 0.54	B: 1.05 F: 1.11	B: 1.48 F: 1.54	B: 1.96 F: 2.02
	Additional weight per 25 mm stroke	0.08	0.08	0.11	0.13
Single knuckle joint		0.25	0.25	0.20	
Double knuckle joint (Pin, cotter pin, flat washer are included.)		0.17	0.36	0.34	
Limit switch mounting base		—	0.22		
Dog fitting		—	0.12		
Foot		—	0.24		
Pedestal		—	2.04		

Calculation
Example) CLK2B50-100Y-B
- Basic weight ··· 1.48 (ø50)
- Additional weight ··· 0.11/25 mm
- Cylinder stroke ··· 100 mm
- Double knuckle joint ··· 0.34 (Y)

1.48 + 0.11 x 100 / 25 + 0.34 = 2.26 kg

Theoretical Output

Unit: N

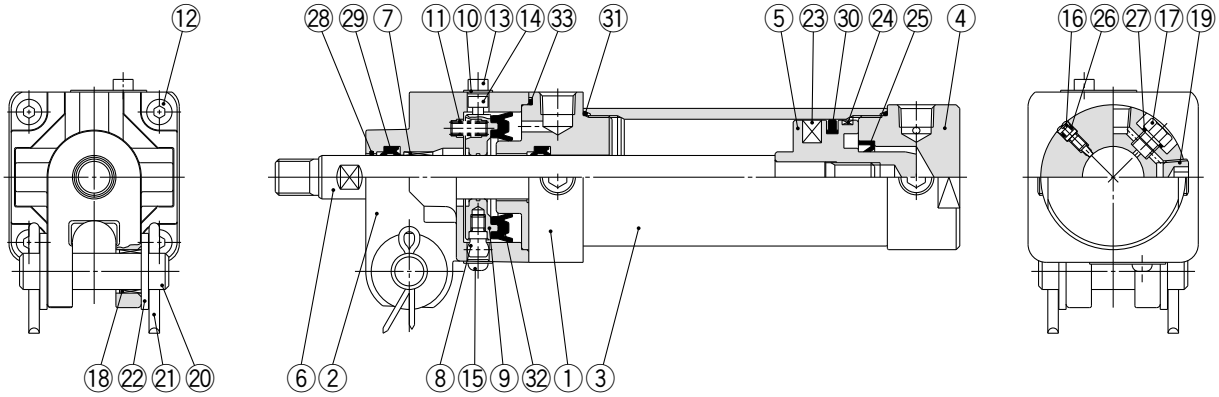
Bore size (mm)	Rod size (mm)	Operating direction	Piston area (mm^2)	Operating pressure (MPa) 0.3	0.4	0.5	0.6
32	12	OUT	804	241	322	402	482
		IN	691	207	276	346	415
40	16	OUT	1260	378	504	630	756
		IN	1060	318	424	530	636
50	20	OUT	1960	588	784	980	1180
		IN	1650	495	660	825	990
63	20	OUT	3120	934	1250	1560	1870
		IN	2800	840	1120	1400	1680

Accessories (Options)

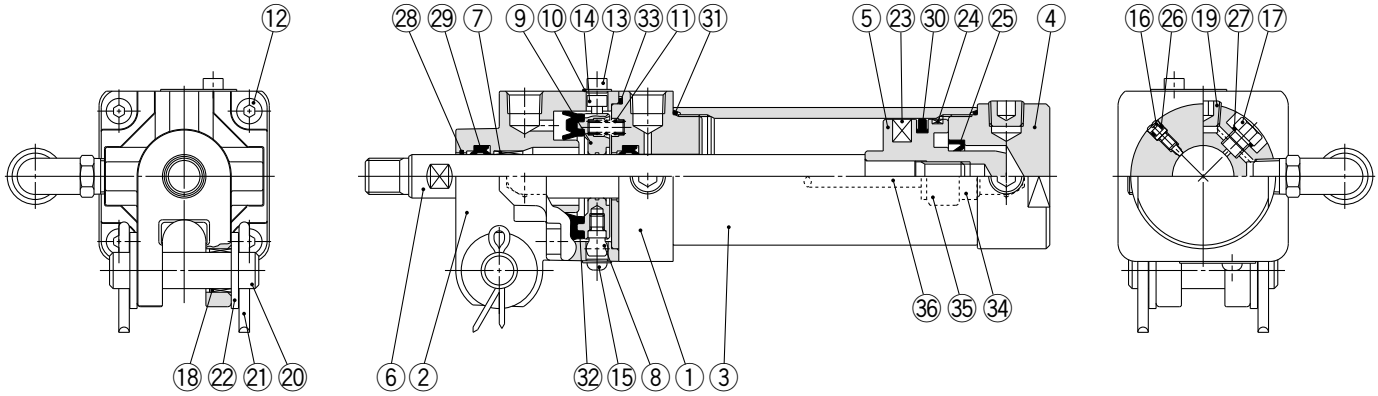
	Description		Parts no. CLK2A Series 32	CLK2A Series 40	CLK2A Series 50, 63	CLK2B Series 50, 63
I	Single knuckle joint	M6 without tap	CLK-I03	CLK-I04	CKB-I04	
IA		M6 with tap	—	CLK-IA04	CKB-IA04	
Y	Double knuckle joint (knuckle pin, cotter pin, flat washer are equipped as a standard.)	M6 without tap	CLK-Y03	CLK-Y04	CKA-Y04	CKB-Y04
YA		M6 with tap	—	CLK-YA04	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		—

Construction: CLK2A32 Without Magnet / CLK2GA32 Built-in Standard Magnet Type

Retraction locking (B)



Extension locking (F)



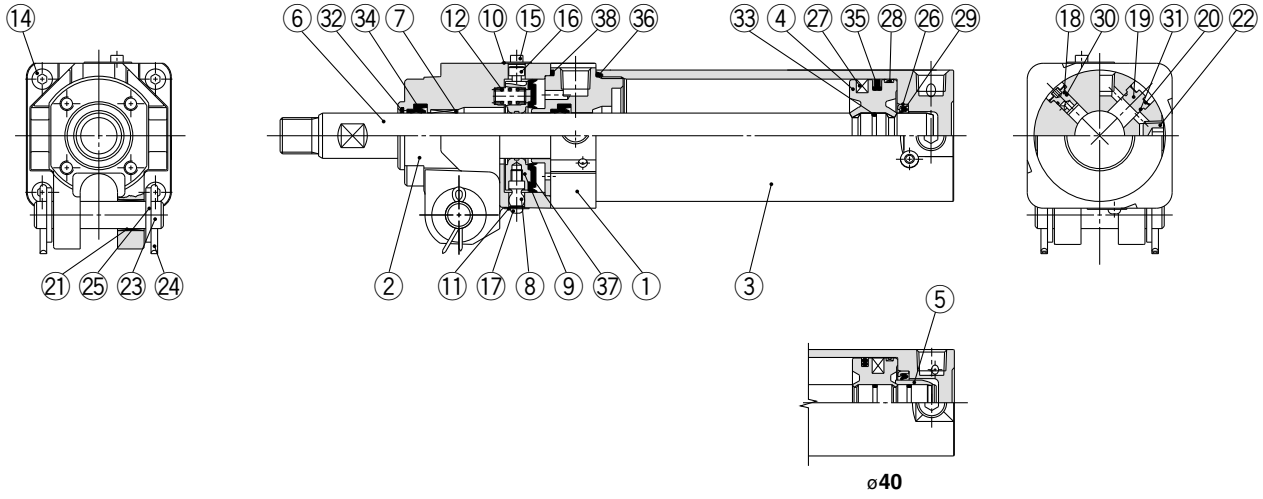
Component Parts

No.	Description	Material	Qty	Note
1	**Rod cover**	Aluminum alloy	1	Hard anodized
2	**Cover**	Aluminum alloy	1	Hard anodized
3	**Cylinder tube**	Aluminum alloy	1	Hard anodized
4	**Head cover**	Aluminum alloy	1	Chromated
5	**Piston**	Aluminum alloy	1	Chromated
6	**Piston rod**	Carbon steel	1	Hard chrome plated
7	**Bushing**	Copper alloy	1	
8	**Pivot**	Carbon steel	1	Heat treated, Electroless nickel plated
9	**Lock ring**	Carbon steel	1	Zinc chromated
10	**Dust cover**	Stainless steel	2	
11	**Brake spring**	Steel wire	2	Zinc chromated
12	**Hexagon socket head cap screw**	Chrome molybdenum steel	4	Nickel plated
13	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
14	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
15	**Round head Phillips screw**	Chrome molybdenum steel	1	Nickel plated
16	**Cushion valve**	Free-cutting brass	1	Electroless nickel plated
17	**Plug**	Free-cutting brass	1	
18	**Clevis bushing**	Oil-impregnated sintered alloy	2	

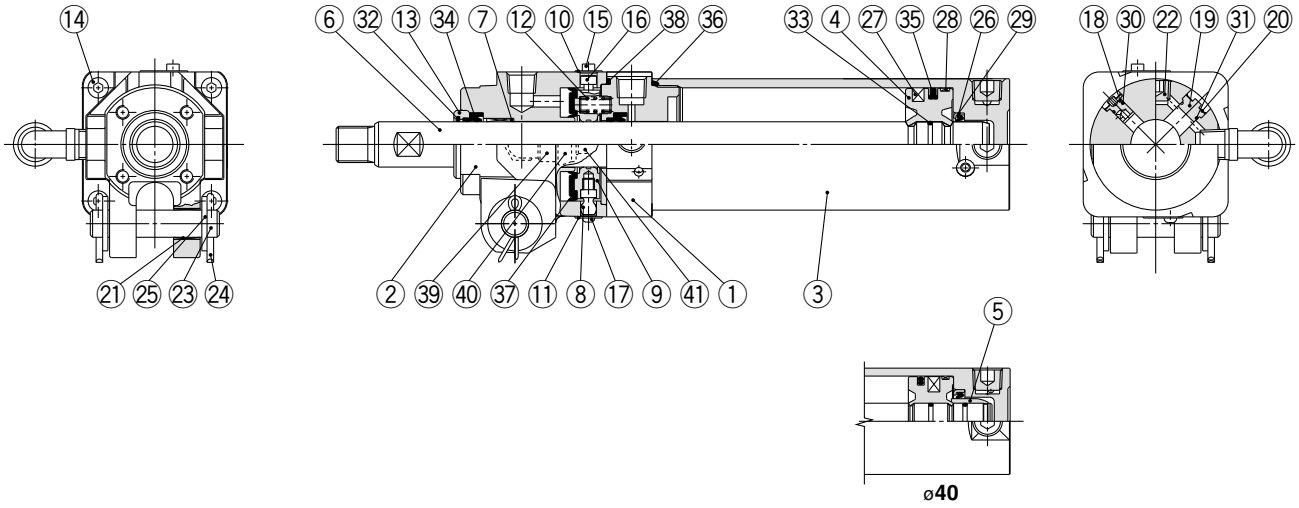
No.	Description	Material	Qty	Note
19	**Hexagon socket head plug**	Carbon steel	4(5)	Rc1/8, 5 pcs. of extension locking
20	**Pin**	Carbon steel	1	
21	**Cotter pin**	Low carbon steel wire rod	2	Zinc chromated
22	**Flat washer**	Rolled steel	2	Zinc chromated
23	**Magnet**	Magnetic material	1	CLK1GA32 only
24	**Wear ring**	Resin	1	
25	**Cushion seal**	NBR	1	
26	**Cushion valve seal**	NBR	1	
27	**Plug seal**	NBR	1	
28	**Coil scraper**	Phosphor bronze	1	
29	**Rod seal**	NBR	2	
30	**Piston seal**	NBR	1	
31	**Tube gasket**	NBR	2	
32	**Lock ring seal**	NBR	1	
33	**O-ring**	NBR	1	
34	**FR one-touch fitting**		2	Extension locking only
35	**Spatter cover**		2	Extension locking only
36	**FR double layer tube**		1	Extension locking only

Construction: CLK2□40/50/63 Without Magnet / CLK2G□40/50/63 Built-in Standard Magnet Type

Retraction locking (B)



Extension locking (F)



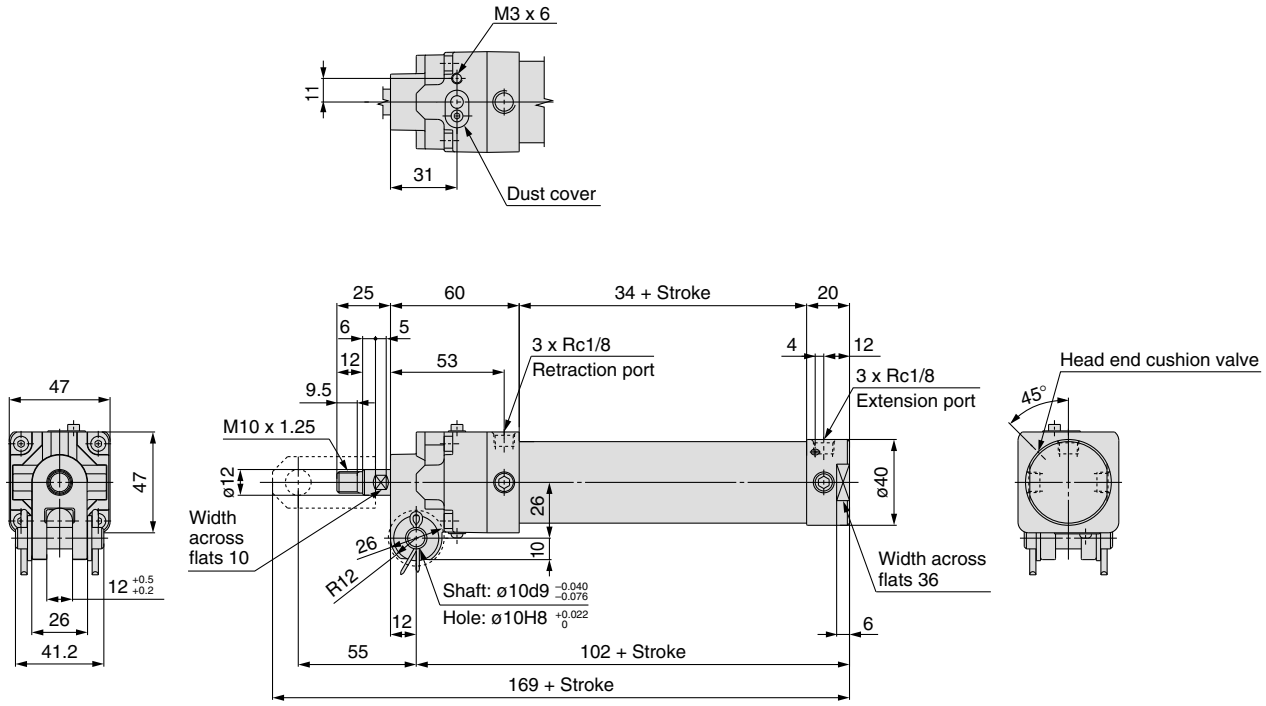
Component Parts

No.	Description	Material	Qty	Note
1	**Rod cover**	Aluminum alloy	1	Hard anodized
2	**Cover**	Aluminum alloy	1	Hard anodized
3	**Tube cover**	Aluminum alloy	1	Hard anodized
4	**Piston**	Aluminum alloy	1	Chromated
5	**Cushion ring**	Copper alloy	1	ø40 only
6	**Piston rod**	Carbon steel	1	Hard chrome plated
7	**Bushing**	Copper alloy	1	
8	**Pivot**	Carbon steel	1	Heat treated, Electroless nickel plated
9	**Lock ring**	Carbon steel	1	Zinc chromated
10	**Dust cover**	Stainless steel	1	
11	**Dust cover**	Stainless steel	1	
12	**Brake spring**	Steel wire	2	Zinc chromated
13	**Retainer plate**	Aluminum alloy	1	Anodized, Extension locking only
14	**Hexagon socket head cap screw**	Chrome molybdenum steel	4	Nickel plated
15	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
16	**Hexagon socket head cap screw**	Chrome molybdenum steel	1	Nickel plated
17	**Round head Phillips screw**	Chrome molybdenum steel	1	Nickel plated
18	**Clevis bushing**	Aluminum alloy	1	
19	**Plug**	Aluminum alloy	1	
20	**Retaining ring**	Spring steel	2	
21	**Clevis bushing**	Oil-impregnated sintered alloy	2	

No.	Description	Material	Qty	Note
22	**Hexagon socket head plug**	Carbon steel	4(5)	Rc1/4, 5 pcs. of extension locking
23	**Pin**	Carbon steel	1	
24	**Cotter pin**	Low carbon steel wire rod	2	Zinc chromated
25	**Flat washer**	Rolled steel	2	Zinc chromated
26	**Cushion seal retainer**	Rolled steel	1	Zinc chromated
27	**Magnet**	Magnetic material	1	CLK2G only
28	**Wear ring**	Resin	1	
29	**Cushion seal**	Urethane	1	
30	**Cushion valve seal**	NBR	1	
31	**Plug gasket**	NBR	1	
32	**Coil scraper**	Phosphor bronze	1	
33	**Piston gasket**	NBR	1(2)	2 pcs. for ø40
34	**Rod seal**	NBR	2	
35	**Piston seal**	NBR	1	
36	**Tube gasket**	NBR	1	
37	**Lock ring seal**	NBR	1	
38	**O-ring**	NBR	1	
39	**FR one-touch fitting**		2	Extension locking only
40	**Spatter cover**		2	Extension locking only
41	**FR double layer tube**		1	Extension locking only

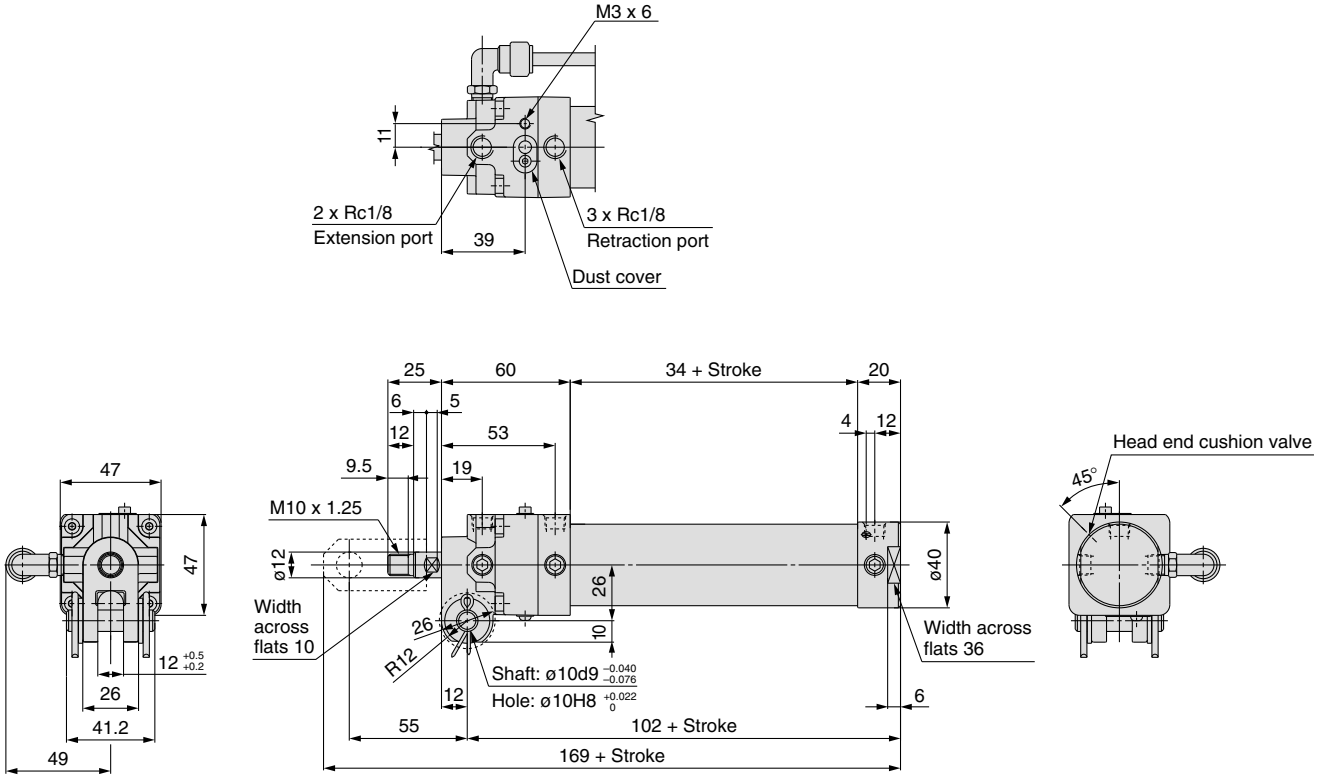
Dimensions: CLK2A32 Without Magnet / CLK2GA32 Built-in Standard Magnet Type

Retraction locking (B)



Note) Refer to page 14 and 15 for Accessories.

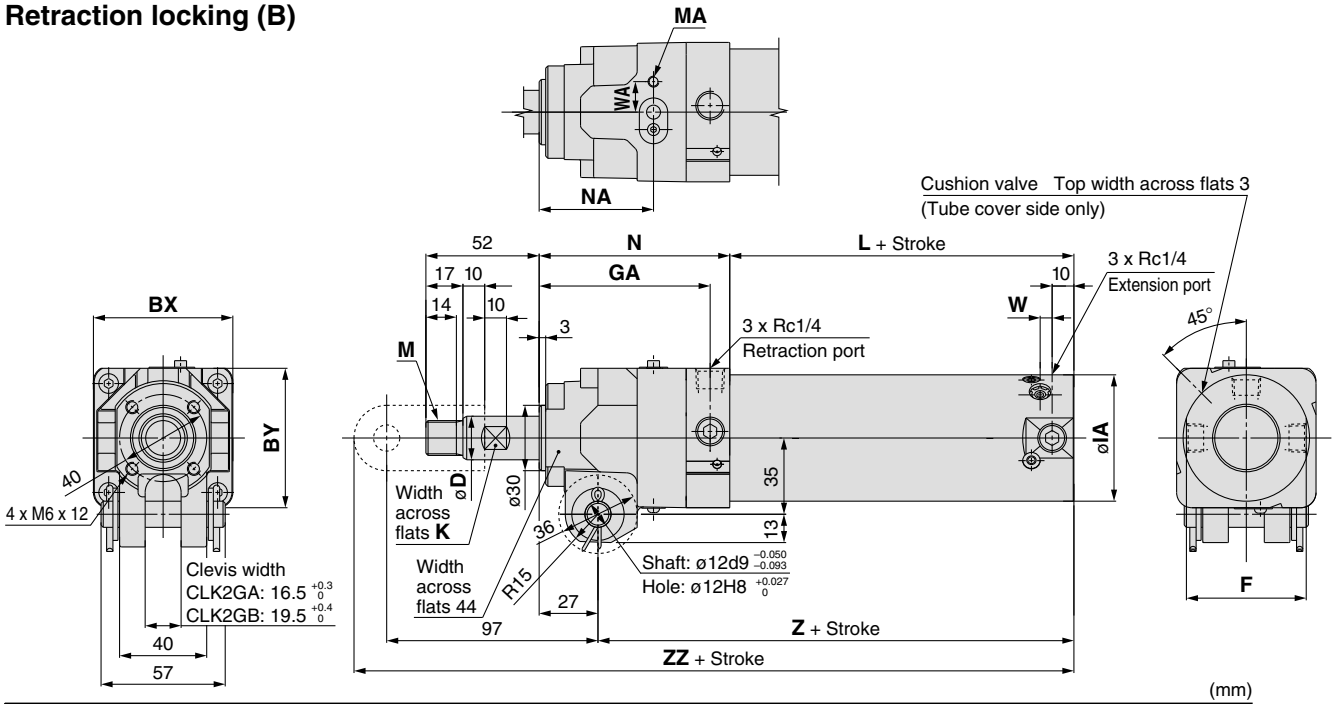
Extension locking (F)



Note) Refer to page 14 and 15 for Accessories.

Dimensions: CLK2□40/50/63 Without Magnet / CLK2G□40/50/63 Built-in Standard Magnet Type

Retraction locking (B)

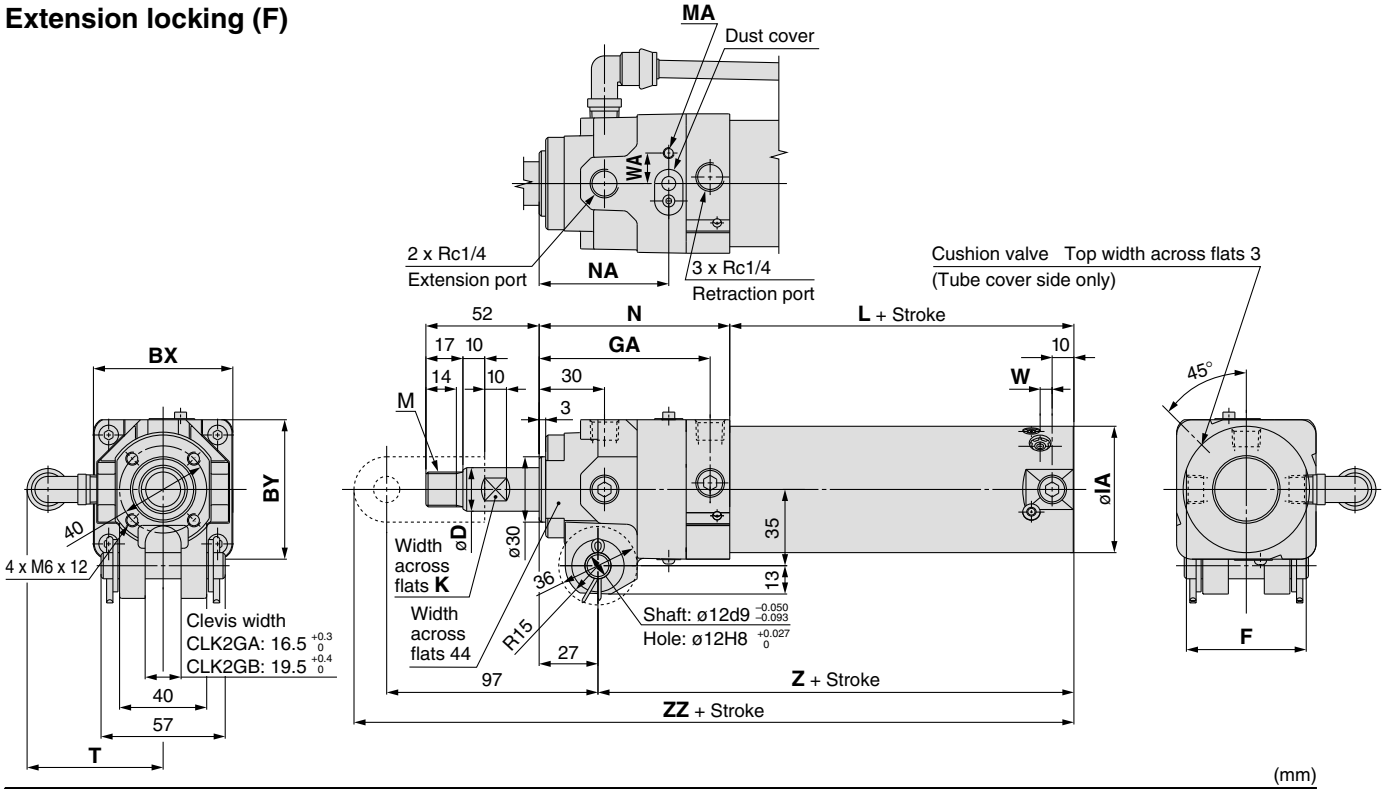


(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	W	WA	Z	ZZ
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	51.5	5	12.5	114	226
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	52.5	5.5	14	118.5	230.5
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	53.5	5.5	19	122	234

Note) Refer to page 14 and 15 for Accessories.

Extension locking (F)

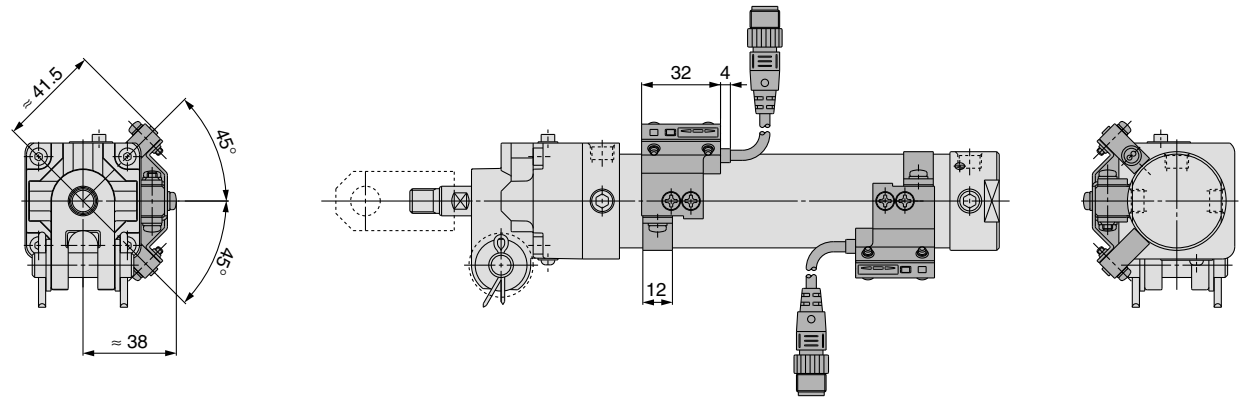


(mm)

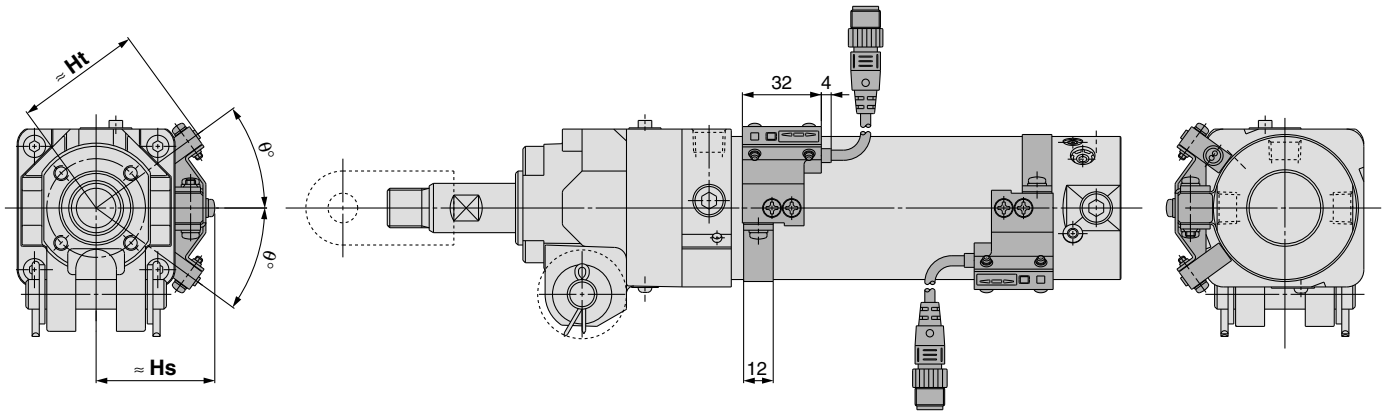
Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	T	W	WA	Z	ZZ
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	59	57	5	12.5	114	226
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	59.5	60	5.5	14	118.5	230.5
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	61	67	5.5	19	122	234

Note) Refer to page 14 and 15 for Accessories.

Dimensions: CLK1GA32 Example:
Built-in Standard Magnet Type + Magnetic Field Resistant Auto Switch D-P4DW□□ Type (Band mounting)



Dimensions: CLK1G□40/50/63 Example:
Built-in Standard Magnet Type + Magnetic Field Resistant Auto Switch D-P4DW□□ Type (Band mounting)



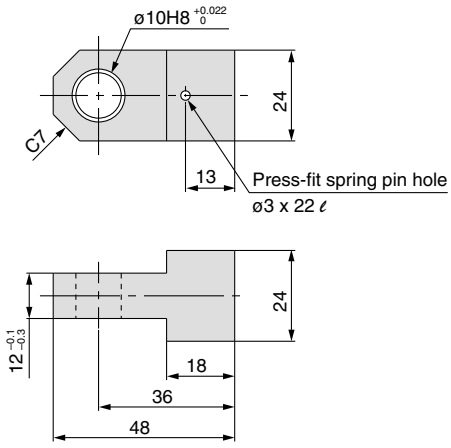
(mm)

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

Accessories

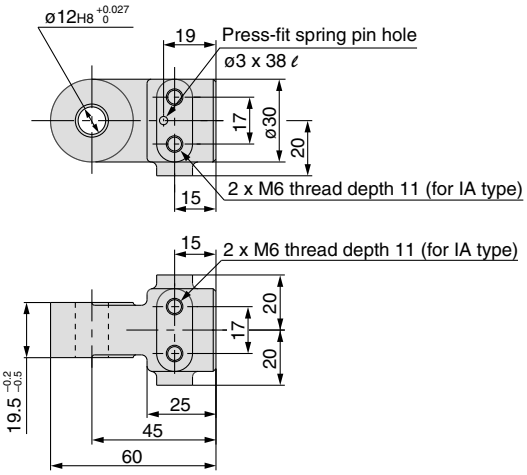
Single Knuckle Joint

For ø32



CLK-I03

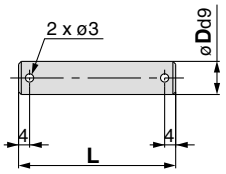
For ø40, ø50, ø63



Part no.	Rod end bracket symbol	Applicable clamp cylinder
CLK-I04	I (M6 without tap)	CLK2□A40 series CLK2□B40 series
CLK-IA04	IA (M6 with tap)	
CKB-I04	I (M6 without tap)	CLK2□A50 to 63 series CLK2□B50 to 63 series
CKB-IA04	IA (M6 with tap)	

Note) The conventional model (the CLK1 series) is equivalent to the component part no. CLK-IA04, CKB-IA04 (rod end bracket symbol IA).

Pin (for Clevis/Double Knuckle Joint)

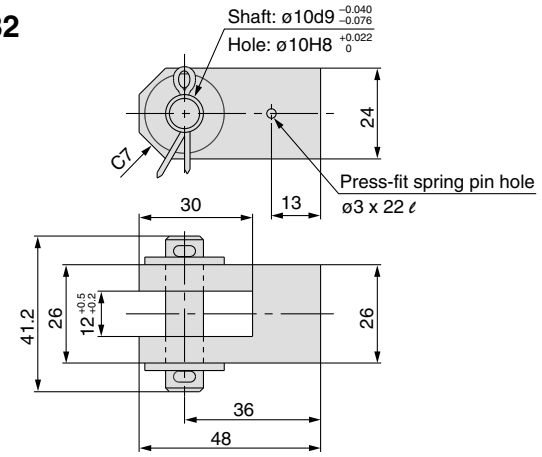


Part no.	D	L	Applicable clamp cylinder
CDP-2	10 −0.040 −0.076	41.2	CLK2□A32 series
CK-P04	12 −0.050 −0.093	57	CLK2□□40 to 63 series

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

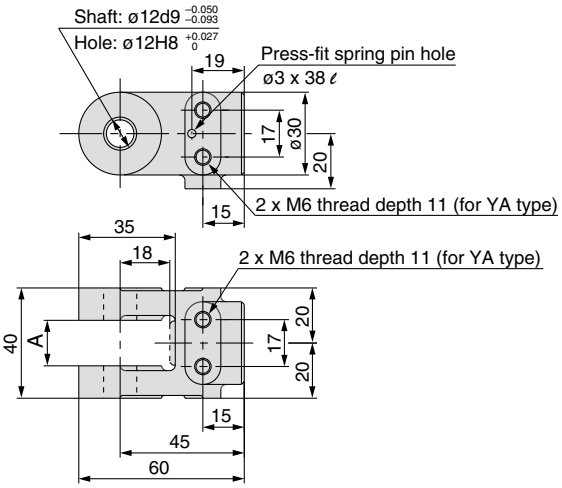
Double Knuckle Joint

For ø32



CLK-Y03

For ø40, ø50, ø63



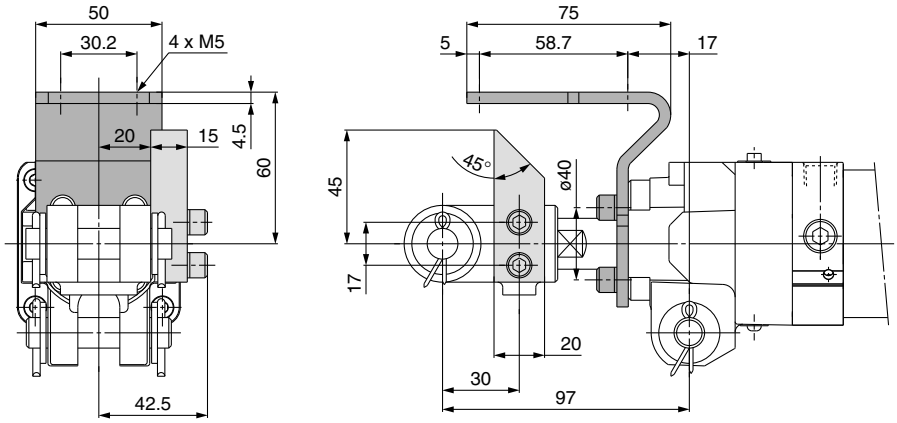
Part no.	Rod end bracket symbol	A	Applicable clamp cylinder
CLK-Y04	Y (M6 without tap)	16.5 +0.3 0	CLK2□A40 series
CLK-YA04	YA (M6 with tap)		
CKA-Y04	Y (M6 without tap)		CLK2□A50 to 63 series
CKA-YA04	YA (M6 with tap)		
CKB-Y04	Y (M6 without tap)	19.5 +0.4 0	CLK2□B50 to 63 series
CKB-YA04	YA (M6 with tap)		

Note 1) Pin (for knuckle), cotter pin and flat washer are attached to the double knuckle joint as a standard.

Note 2) The conventional model (the CLK1 series) is equivalent to the component part no. CLK-YA04, CKA-YA04, CKB-YA04 (rod end bracket symbol YA).

Accessories

Limit Switch Mounting Base/Dog Fitting

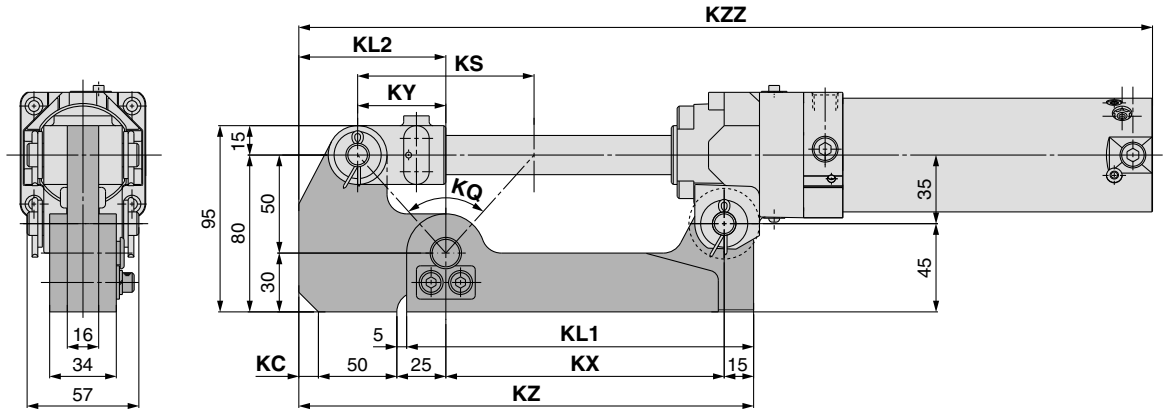


When you attach a dog fitting, be sure to use a knuckle joint, M6 with tap (rod end bracket symbol IA or YA).
The dog fitting cannot be attached to the knuckle joint, M6 without tap (rod end bracket symbol I or Y).

Part no.	Option symbol	Name	Applicable clamp cylinder
CK-B04	**B**	Limit switch mounting base	CLK2□A40 to 63 series CLK2□B40 to 63 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 a standard.

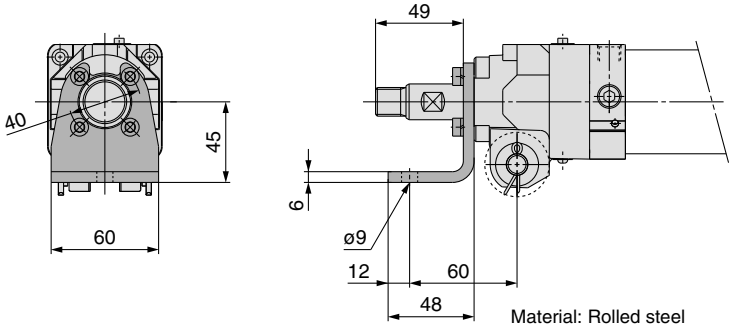
Pedestal



Type	KL1	KL2	KX	KZ	KY	KS	KQ	KC	KZZ Bore size 40	KZZ Bore size 50	KZZ Bore size 63	Applicable cylinder
CKA-K075	167	75	132	222	35	70	69° 59'	0	396 (406)	400.5	404	CLK2□A40-75Y, CLK2□A50-75Y, CLK2□A63-75Y
CKA-K100	177	75	142	232	45	90	83° 58'	0	431 (441)	435.5	439	CLK2□A40-100Y, CLK2□A50-100Y, CLK2□A63-100Y
CKA-K150	202	85	167	267	70	140	108° 55'	10	516 (526)	520.5	524	CLK2□A40-150Y, CLK2□A50-150Y, CLK2□A63-150Y

Note) ( ) denotes the dimensions for CLK2PA40.

Foot



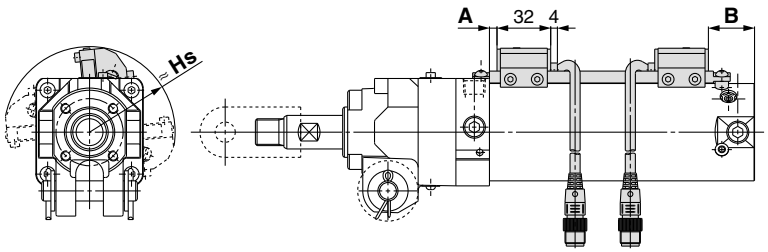
Material: Rolled steel

Part no.	Option symbol	Applicable clamp cylinder
CK-L04	**L**	CLK2□A40 to 63 series CLK2□B40 to 63 series

Note) Mounting bolts (hexagon socket head cap screws) and spring washers are attached to the foot as standard.

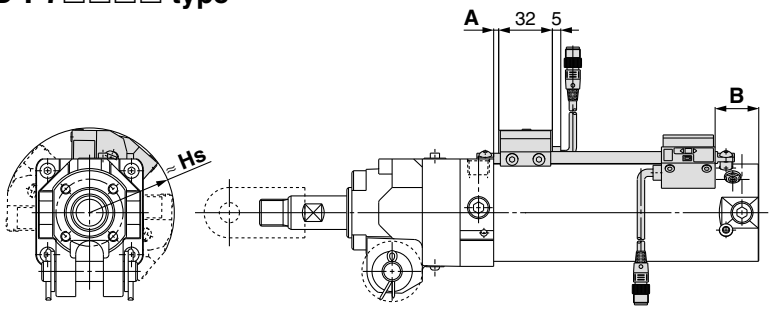
Auto Switch Proper Mounting Position (for Stroke End Detection) and Its Mounting Height

Rod mounting
D-P4DW□□ type



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

D-P7□□□□ type



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

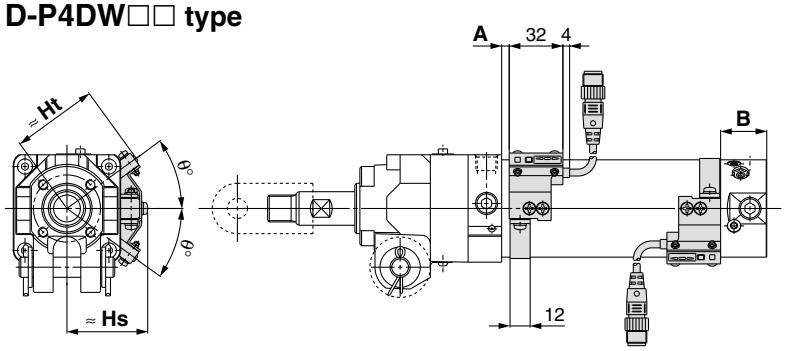
Auto Switch Mounting Position and Its Height: Rod Mounting

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	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.

Band mounting
D-P4DW□□ type



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

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

Unit: mm

Auto switch model	Symbol	Auto switch set value and its height			
		32	40	50	63
D-P4DW□□	A	0	8	4.5	4.5
	B	27.5	20.5	27.5	27.5
	Hs	38	43	48	55
	Ht	41.5	46	51.5	58.5
	θ	45°	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 the D-P4DW□□ type, band mounting style, the switch mounting bracket and the auto switch have to be ordered separately. For details, refer to page 7.

Operating Range

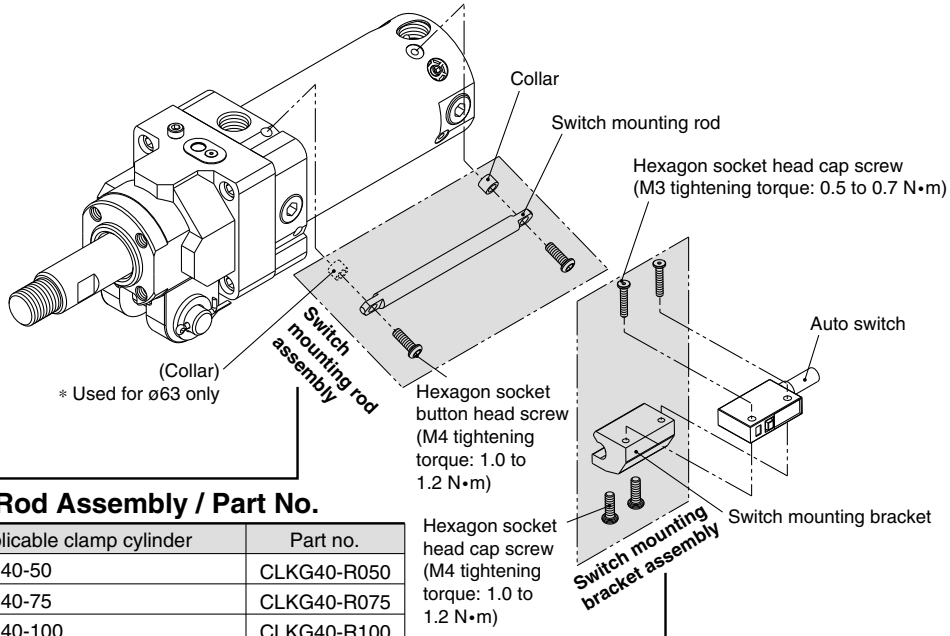
Unit: mm

Auto switch model		Bore size			
		32	40	50	63
D-P4DW□□	Rod mounting	—	4	4	4.5
	Band mounting	4.5	5	5	5.5
D-P79WSE D-P74□	Rod mounting	—	8	9	9.5

∗ 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.

Auto Switch Mounting Bracket / Part No.

Switch mounting rod assembly / Switch mounting bracket assembly



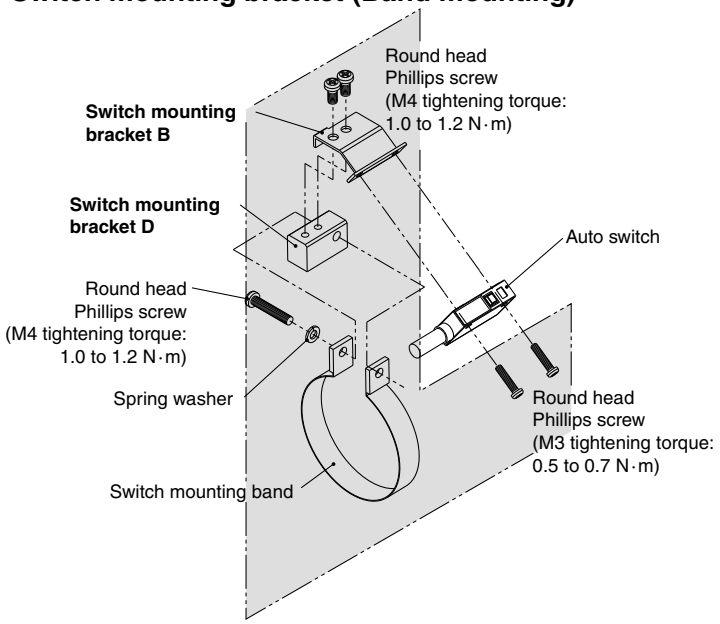
•Switch Mounting Rod Assembly / Part No.

Applicable series	Applicable clamp cylinder	Part no.
Dedicated to CLK2G□40 series	CLK2G□40-50	CLKG40-R050
	CLK2G□40-75	CLKG40-R075
	CLK2G□40-100	CLKG40-R100
	CLK2G□40-125	CLKG40-R125
	CLK2G□40-150	CLKG40-R150
Dedicated to CLK2P□40 series	CLK2P□40-50	CLKP40-R050
	CLK2P□40-75	CLKP40-R075
	CLK2P□40-100	CLKP40-R100
	CLK2P□40-125	CLKP40-R125
	CLK2P□40-150	CLKP40-R150
CLK2G□50 series CLK2P□50 series Common	CLK2G□50-50/CLK2P□50-50	CLKG50-R050
	CLK2G□50-75/CLK2P□50-75	CLKG50-R075
	CLK2G□50-100/CLK2P□50-100	CLKG50-R100
	CLK2G□50-125/CLK2P□50-125	CLKG50-R125
	CLK2G□50-150/CLK2P□50-150	CLKG50-R150
CLK2G□63 series CLK2P□63 series Common	CLK2G□63-50/CLK2P□63-50	CKG40-R050
	CLK2G□63-75/CLK2P□63-75	CKG40-R075
	CLK2G□63-100/CLK2P□63-100	CKG40-R100
	CLK2G□63-125/CLK2P□63-125	CKG40-R125
	CLK2G□63-150/CLK2P□63-150	CKG40-R150

•Switch Mounting Bracket Assembly / Part No.

Applicable cylinder series	Applicable auto switch	Mounting bracket part no.		
		40	50	63
CLK2G series	D-P4DWSC D-P4DWSE D-P4DWL/Z	BK1T-040		
CLK2P series	D-P79WSE D-P74L/Z	BAP1T-040		

Switch mounting bracket (Band mounting)



Switch Mounting Bracket (Band Mounting) / Part No.

Mounting bracket part no.	Applicable auto switch	Clamp cylinder with applicable lock
BA8-032	D-P4DWSC D-P4DWSE D-P4DWL/Z	**CLK2G□32**
BA8-040		**CLK2G□40**
BA8-050		**CLK2G□50**
BA8-063		**CLK2G□63**

Made to Order 1

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

1 Band Mounting / Standard Auto Switch

The built-in standard magnet clamp cylinder / the CLK2G series can be attached to the band mounting / 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 7.

Built-in standard magnet **CLK2 G** [Enter the standard model no.] – [M9BW] [ ]

- **Built-in standard magnet**
- **Auto switch type: Band mounting / Standard auto switch**

Nil	Without auto switch

- **Number of auto switches**

Nil	2 pcs.
S	1 pc.

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

Mounting Allowable Auto Switch: Band Mounting / Standard Auto Switch

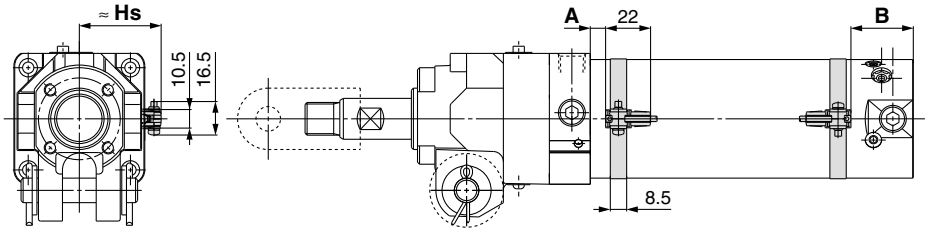
Applicable cylinder series	Type	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC		Load voltage AC	Auto switch model Band mounting	Lead wire length (m) 0.5 (Nil)	3 (L)	5 (Z)	Applicable load	
CLK2G series	Reed switch	Grommet	Yes	2-wire	24 V	12 V	100 V	**A93**	●	●	—	—	Relay, PLC
							100 V 200 V	**B54**	●	●	●		
	Solid state switch	Grommet	Yes	2-wire	24 V	5 V 12 V	—	**M9B**	●	●	○		
								M9BW	●	●	○		

Note 1) Lead wire length symbol 0.5 m ..... Nil M9BW
3 m ..... L M9BWL
5 m ..... Z M9BWZ

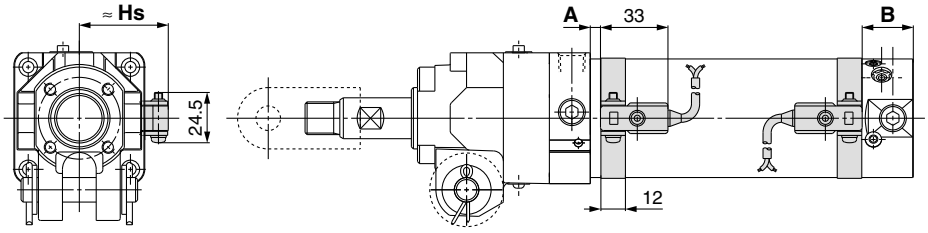
Note 2) Auto switches marked with "○" are produced upon receipt of order.
Note 3) PLC: Programmable Logic Controller

Auto Switch Proper Mounting Position for Stroke End Detection and Its 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**			
D-B54	50	50	75

Auto Switch Mounting Position and Its Height

Unit: mm

Auto switch	Symbol	Auto switch set value and its height 32	40	50	63
D-A93	**A**	3	11	7.5	7.5
	B	30.5	23.5	30.5	30.5
	Hs	30	34.5	40	47
D-M9B **D-M9BW**	**A**	7	15	11.5	11.5
	B	34.5	27.5	34.5	34.5
	Hs	30	34.5	40	47
D-B54	**A**	0	5.5	2	2
	B	25	18	25	25
	Hs	33.5	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 and product specifications, refer to the general catalog (Best Pneumatics) or individual catalog.

Switch Mounting Bracket Assembly / Part No.

Auto switch	Mounting bracket part no. 32	40	50	63
D-A93 **D-M9B** **D-M9BW**	Note) ①BMA2-032 ②BJ3-1	Note) ①BMA2-040 ②BJ3-1	Note) ①BMA2-050 ②BJ3-1	Note) ①BMA2-063 ②BJ3-1
D-B54	BA-32	BA-04	BA-05	BA-06

Note) Two kinds of mounting brackets are required.

Operating Range

Unit: mm

Auto switch model	Bore size 32	40	50	63
D-A93	8	8	8	9
D-M9B	4	3.5	4	4
D-M9BW	5	5.5	6.5	7
D-B54	9	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.

Made to Order 2

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

2 Unlock-port Separate Piping Type

Built-in standard magnet type with magnetic field resistant auto switch (D-P4DW□ type)

3-position valves (closed center) can be used by piping the unlock-port separately.

CLK2G A 50 – 100 Y – B 2 L – P4DWSC □ – X1604

Clevis width: 16.5 mm

Unlock-port separate piping

Bore size

40	40 mm
50	50 mm
63	63 mm

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs. (n = 3, 4, 5···n)

Cylinder stroke

50, 75, 100, 125, 150

Auto switch

Nil	Without auto switch, Without switch mounting rod
P	Without auto switch, With switch mounting rod
Auto switch model	With auto switch, With switch mounting rod

End bracket

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

Note) Pin (for knuckle), cotter pin and flat washer are provided as a standard for Y and YA.

Switch mounting rod position

Nil	Top
L	Left
R	Right

Locking direction

B	Retraction locking
F	Extension locking

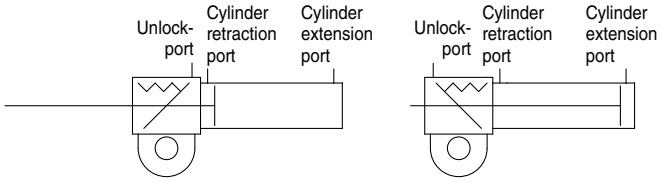
Unlock-port position

Symbol	Position (Viewed from rod side)		Locking direction	
			Retraction locking	Extension locking
Nil	Top		—	○
2	Left		○	○
3	Right		○	○

Note 1) Unlock-port cannot be placed on the top of the cylinder when the retraction locking type is selected.

Note 2) The cylinder actuating port is mounted on the top of the cylinder at the time of shipment from the factory.
Although the position of the cylinder actuating port can be changed from [top] to [left or right] in the extension locking type by changing the plug position, it cannot be changed from [top] in the retraction locking type.

Symbol



Retraction locking type **Extension locking type**

∗ Please contact SMC representatives for details about piping the unlock-port separately.

Applicable Magnetic Field Resistant Auto Switches (Refer to page 21 and 22 for detailed auto switch specifications.)

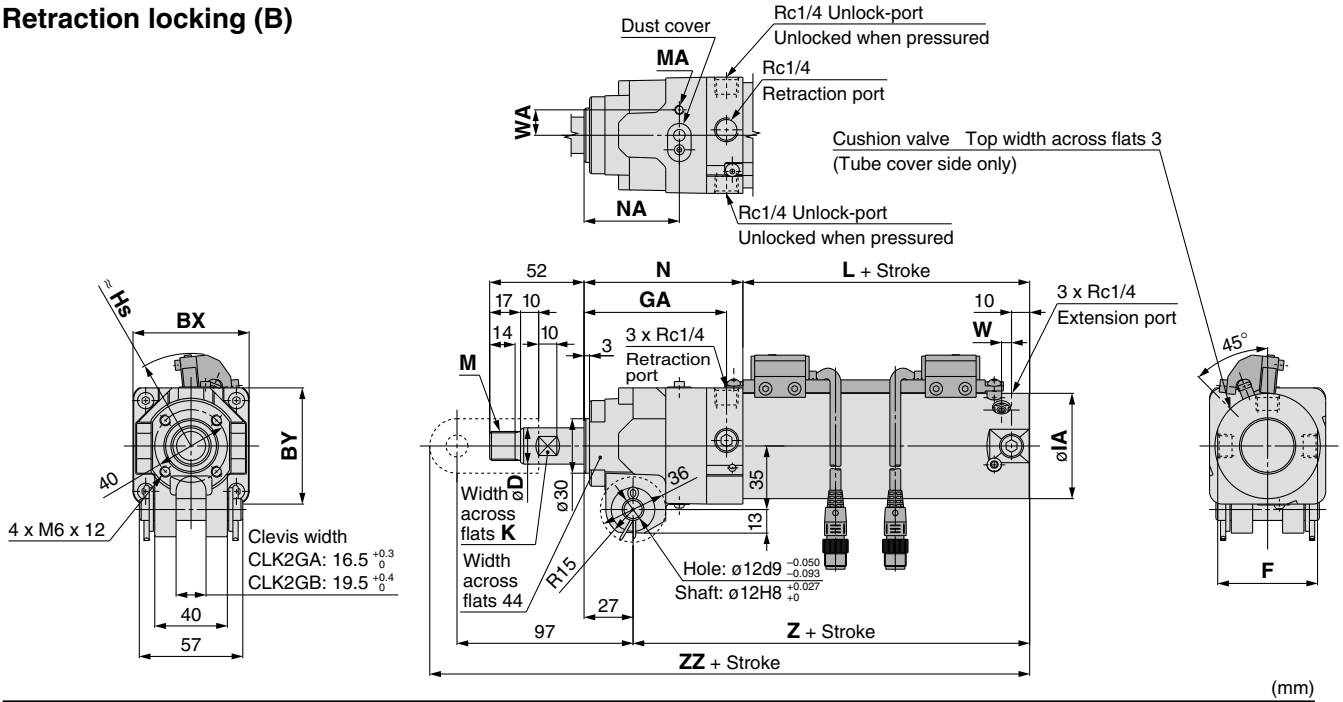
Applicable cylinder series	Type	Auto switch model	Applicable magnetic field	Electrical entry	Indicator light	Wiring (Pin no. in use)	Load voltage	Lead wire length	Applicable load
CLK2G series	**Solid state switch**	**P4DWSC**	AC magnetic field (Single-phase AC welding magnetic field)	Pre-wired connector	2-color display	2-wire (3–4)	24 VDC	0.3 m	Relay, PLC
		P4DWSE				2-wire (1–4)			
		P4DWL		Grommet		2-wire		3 m	
		P4DWZ						5 m	

Note 1) PLC: Programmable Logic Controller

Note 2) Refer to page 17 when ordering the auto switch mounting bracket assembly or switch mounting rod assembly.

Dimensions: CLK2G□40/50/63-X1604 / With Magnetic Field Resistant Solid State Switch (D-P4DW□ type)

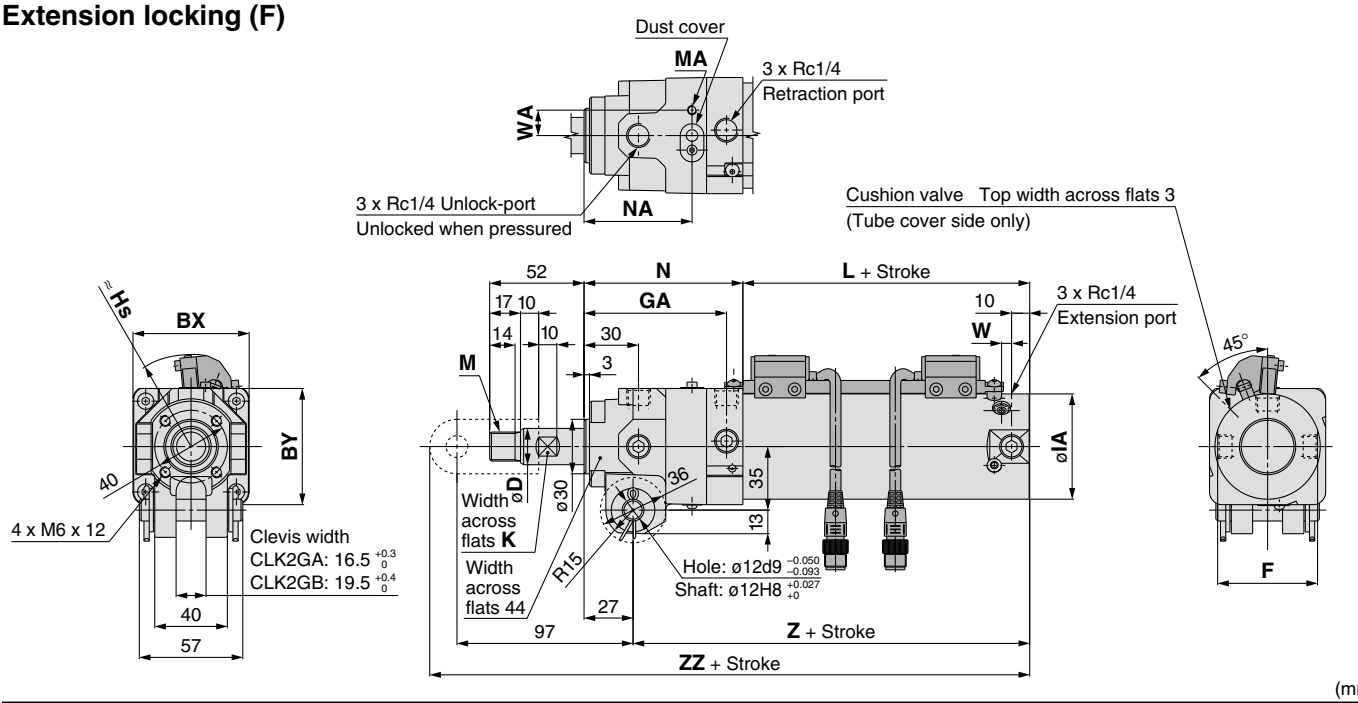
Retraction locking (B)



(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	51.5	5	12.5	114	226	46
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	52.5	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	53.5	5.5	19	122	234	58.5

Extension locking (F)



(mm)

Symbol / Bore size	BX	BY	D	F	GA	IA	K	L	M	MA	N	NA	T	W	WA	Z	ZZ	Hs
40	56	54	16	44	77	47	14	55	M12 x 1.5	M4 x 7	86	59	57	5	12.5	114	226	46
50	64	64	20	55	78.5	58	17	58	M16 x 1.5	M4 x 7	87.5	59.5	60	5.5	14	118.5	230.5	51
63	74	74	20	69	82	72	17	58	M16 x 1.5	M5 x 7	91	61	67	5.5	19	122	234	58.5

Magnetic Field Resistant 2-Color Indication Solid State Switch
D-P4DWSC/D-P4DWSE

(Electrical entry: Pre-wired connector)

- **It is possible to use in an environment which generates a magnetic field disturbance (AC magnetic field).**
- **The optimum operating position can be determined by the color of the light. (Red → Green ← Red)**

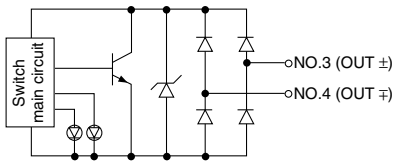
⚠Caution

Precautions

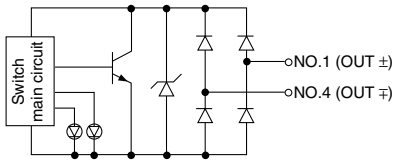
For single-phase AC welding machines
Not applicable for DC inverter welding machines (including rectifying type) and or condenser type welding.

Auto Switch Internal Circuit

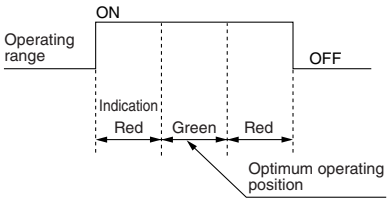
D-P4DWSC

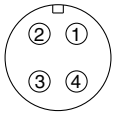


D-P4DWSE



Indicator light/Display method





Connector pin

Auto Switch Specifications

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

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. Optimum operating position ····· Green LED illuminates.	
Standard	Conforming to CE Standards	

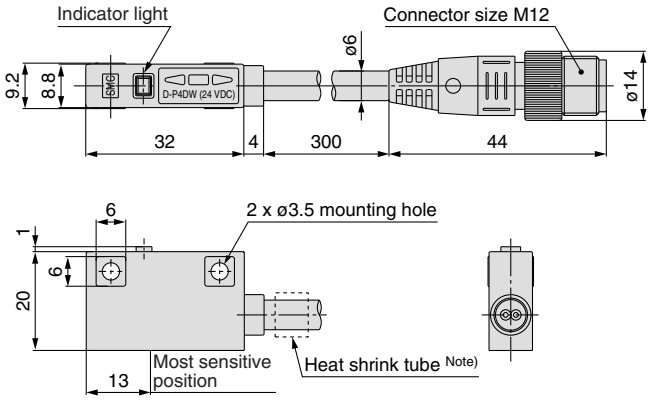
- Lead wire — Oilproof heavy-duty vinyl cable, ø6, 0.5 mm², 2 cores, 300 mm
- Impact resistance — Switch: 1000 m/s², Connector: 300 m/s²
- Insulation resistance — 50 MΩ or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
- Ambient 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 16000 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 16000 A.

Dimensions

Unit: mm



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

SMC

Magnetic Field Resistant 2-Color Indication Solid State Switch
D-P4DWL/Z (Electrical entry: Grommet)

- **It is possible to use in an environment which generates a magnetic field disturbance (AC magnetic field).**
- **The optimum operating position can be determined by the color of the light. (Red → Green ← Red)**

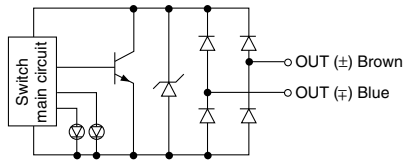
⚠Caution

Precautions

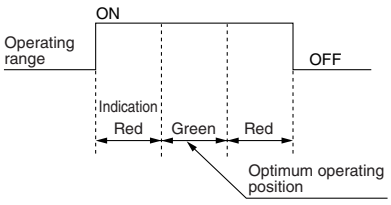
For single-phase AC welding machines
Not applicable for DC inverter welding machines (including rectifying type) and or condenser type welding.

Auto Switch Internal Circuit

D-P4DWL/Z



Indicator light/Display method



Auto Switch Specifications

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

PLC: Programmable Logic Controller

D-P4DWL/Z (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. Optimum operating position ····· Green LED illuminates.	
Standard	Conforming to CE Standards	

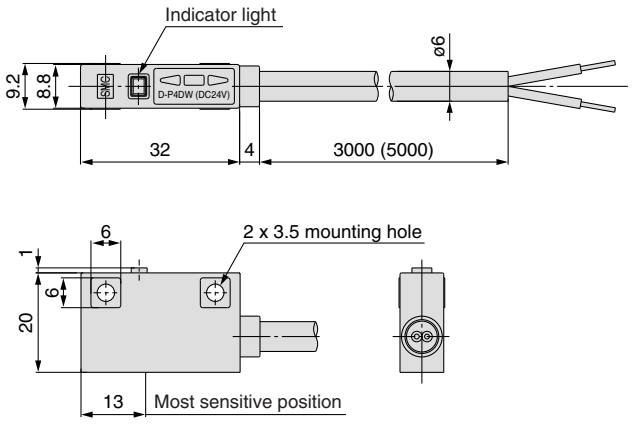
- Lead wire — Oilproof heavy-duty vinyl cable, ø6, 0.5 mm², 2 cores, D-P4DWL: 3 m, D-P4DWZ: 5 m
- Impact resistance — Switch: 1000 m/s²
- Insulation resistance — 50 MΩ or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire and case)
- Ambient 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 16000 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 16000 A.

Dimensions

Unit: mm



Magnetic Field Resistant 2-Color Indication Reed Switch

D-P79WSE (Electrical entry: Pre-wired connector)

● **The optimum operating position can be determined by the color of the light. (Red → Green ← Red)**

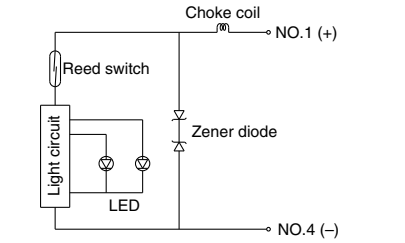
⚠Caution

Precautions

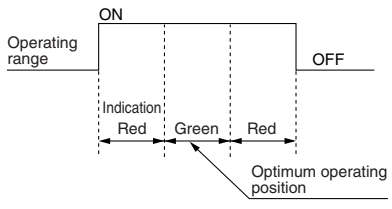
Cylinder with a strong integrated magnet must be used.

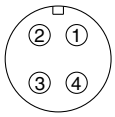
Auto Switch Internal Circuit

D-P79WSE



Indicator light/Display method





Connector pin

Auto Switch Specifications

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

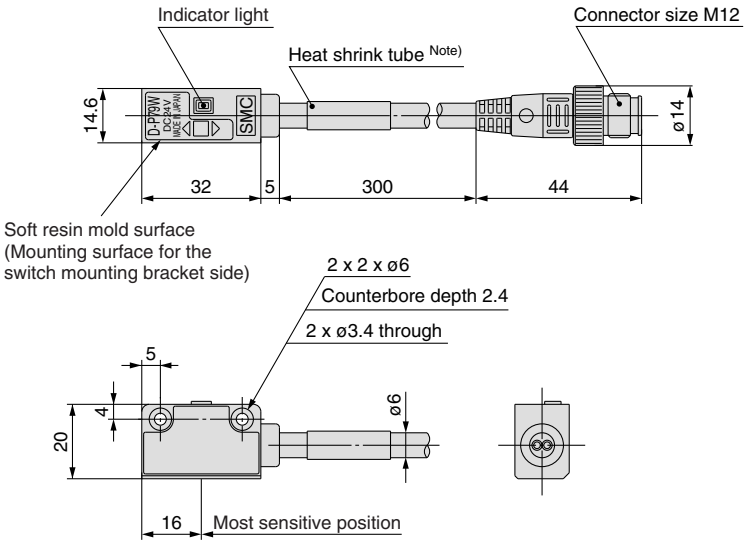
Auto switch model	D-P79WSE
Load voltage	24 VDC
Load current range	8 to 20 mA
Contact protection circuit	Yes
Internal voltage drop	6 V or less
Operating time	1.2 ms
Indicator light	Operating position ····· Red LED illuminates. Optimum operating position ····· Green LED illuminates.
Standard	Conforming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

- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, ø6, 0.75 mm², 2 cores (300 mm)
- Impact resistance — 300 m/s²
- Insulation resistance — 50 MΩ 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

Dimensions

Unit: mm

D-P79WSE



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 (Electrical entry: Grommet)

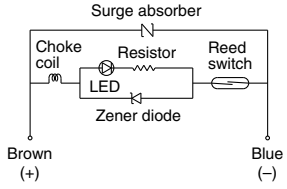
⚠Caution

Precautions

Cylinder with a strong integrated magnet must be used.

Auto Switch Internal Circuit

D-P74L/Z



Auto Switch Specifications

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

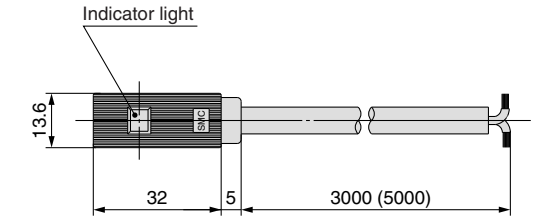
D-P74L/Z (With indicator light)		
Auto switch model	**D-P74L**	**D-P74Z**
Electrical entry	Grommet	
Application	Relay, PLC	
Load voltage	24 VDC	100 VDC
Max. load current/Load current range	5 to 40 mA	5 to 20 mA
Contact protection circuit	Yes	
Internal voltage drop (internal resistance)	2.4 V or less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

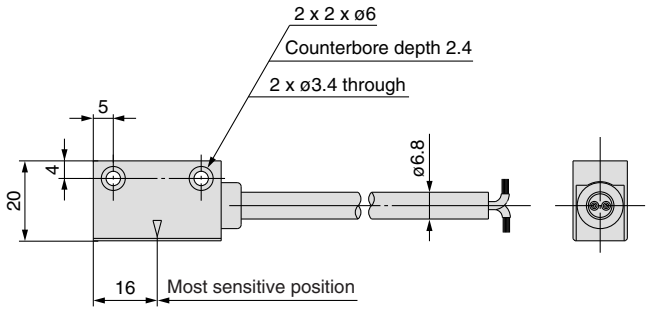
- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, ø6.8, 0.75 mm², 2 cores (Brown, Blue), D-P74L: 3 m, D-P74Z: 5 m
- Impact resistance — 300 m/s²
- Insulation resistance — 50 MΩ or more at 500 VDC Mega (between lead wire and case)
- Withstand voltage — 1000 VAC for 1 minute (between lead wire 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.

Dimensions

Unit: mm





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

Magnetic Field Resistant Reed Switch
D-P74-376 (Electrical entry: Pre-wired connector)

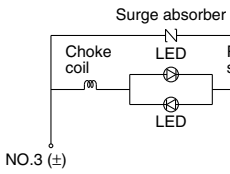
⚠Caution

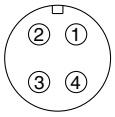
Precautions

Cylinder with a strong integrated magnet must be used.

Auto Switch Internal Circuit

D-P74-376





Connector pin

Auto Switch Specifications

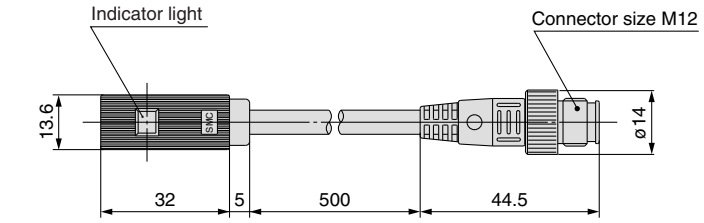
For details about certified products conforming to international standards, visit us at www.smcworld.com.

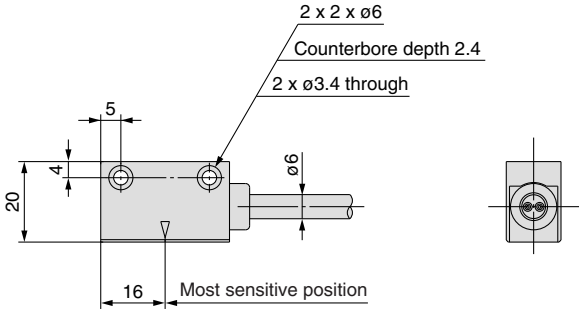
D-P74-376 (With indicator light)	
Auto switch model	**D-P74-376**
Electrical entry	Grommet
Application	Relay, PLC
Load voltage	24 VDC
Max. load current/Load current range	5 to 20 mA
Contact protection circuit	Yes
Internal voltage drop (internal resistance)	2 V or less
Leakage current	0
Operating time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

- Lead wire — Oilproof, fire resistant heavy-duty vinyl cord, ø6, 0.5 mm², 2 cores, 0.5 m
- Impact resistance — 300 m/s²
- Insulation resistance — 50 MΩ 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

Dimensions

Unit: mm





Series CLK2
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 hospitalization 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 catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment.
Compressed air can be dangerous if handled incorrectly. Assembly, handling or repair of pneumatic systems 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 machinery/equipment or attempt to remove components until safety is confirmed.
1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driven objects have been confirmed.
2. When equipment is removed, confirm that safety process as mentioned above. Turn off the supply pressure for this equipment and exhaust all residual compressed air in the system, and release all the energy (liquid pressure, spring, condenser, gravity).
3. Before 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 catalogs 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.

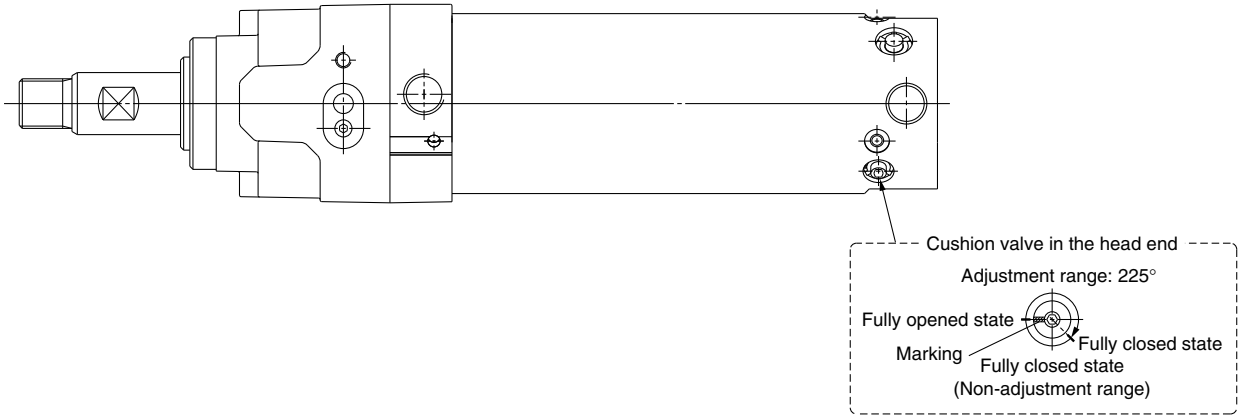
Series CLK2
Specific Product Precautions 1

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 Adjustment

Cushion Adjustment

The CLK2 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 operating speed and 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 opened state, although the cushion valve can rotate 360 degrees.
The adjustment range is about 225 degrees from the fully opened state. The range between 225 and 360 degrees is the fully closed state.



Series CLK2
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).

Selection

⚠ Warning

1. Since the holding force (max. static load) indicates a cylinder's ability to hold a static load without being affected by vibration or impact, max. load (workpiece weight) should be 50% or less of the holding force (max. static force).

2. Do not perform intermediate stops while the cylinder is operating.

This cylinder is designed to lock inadvertent movement in the static condition. If the locking mechanism is used to stop the cylinder at an intermediate position during operation, the cylinder or unlocking mechanism may fail or the product's service life may be significantly shorten.

3. Select the correct locking position, as this cylinder does not generate holding force opposite to the locking direction.

The extension locking type does not generate holding force in the cylinder's retracting direction, and the retraction locking type does not generate holding force in the cylinder's extending direction.

4. Even when locked, there may be stroke movement of maximum 1 mm in the locking direction due to external forces such as the weight of the work piece.

Even when locked, if air pressure drops, stroke movement of maximum 1 mm may be generated in the locking direction of the lock mechanism due to external forces such as the work piece weight.

5. When locked, do not apply impact loads, strong vibration or rotational force, etc.

This will lead to lock mechanism damage, reduced service life, malfunction of unlocked condition etc.

Preparing for Operation

⚠ Warning

1. When shipped from the factory, an unlocked condition is maintained by the unlocking bolt. Be sure to remove this bolt before operating. (The unlocking bolt can be stored in tap A after it is removed.)

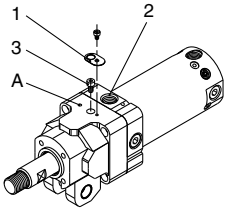
Since the unlocking bolt is required to maintain the unlocked condition during maintenance, pay attention not to lose it.

Step 1) With no air pressure in the cylinder, retraction locking operates when the piston rod is retracted, and extension locking operates when it is extended.

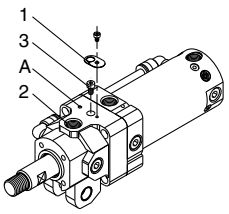
Step 2) Remove the dust proof cover 1.

Step 3) Supply air pressure of 0.2 MPa or more to port 2 in the figure below.

Step 4) Remove the unlocking bolt 3 using a hexagon wrench.



Retraction locking type



Extension locking type

Preparing for Operation

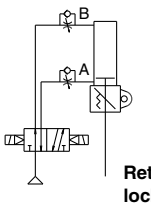
⚠ Warning

2. Adjust the speed controller and the retraction side air cushion.

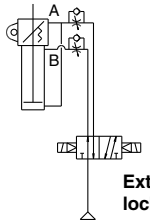
If there is excessive impact or collision noise at the stroke end, the connection may become loose and cause damage to machinery.

3. Before restarting operation from the locked position, be sure to restore air pressure to the B port in the figure below.

It is very dangerous to apply pressure to the A port with the B port in an unpressurized state, because the cylinder will move suddenly when unlocked.



Retraction locking type



Extension locking type

Pneumatic Circuits

⚠ Warning

1. Do not use 3 position valves.

The lock may be released due to the inflow of the unlocking pressure. When 3-position valves are used, please use the unlock-port separate-piping type shown on page 19 and 20.

2. Install speed controllers for meter-out control.

Malfunction may occur if meter-in control is used or speed controllers are not used.

3. Be careful of reverse exhaust pressure flow from a common exhaust type manifold.

Since the lock may be released due to reverse exhaust pressure flow, use an individual exhaust type manifold or single type valve.

Mounting

⚠ Caution

1. Be sure to connect the load to the rod end with the cylinder in an unlocked condition.

If this is done when in a locked condition, it may cause damage to the lock mechanism.

Series CLK2
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).

Maintaining an Unlocked Condition

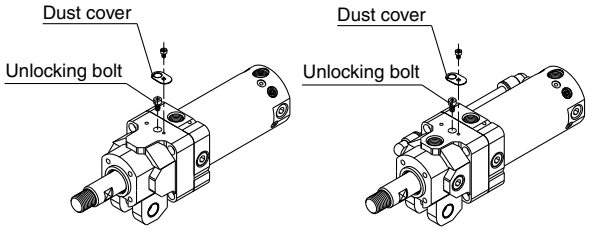
⚠ Warning

1. To maintain an unlocked condition, be sure to follow the steps shown below.

Step 1) After carefully confirming safety, operate a switching valve (solenoid valve, etc.) so that retraction locking operates when the piston rod is retracted, and extension locking operates when it is extended. Furthermore, air pressure of 0.2 MPa or more is required when this is done.

Step 2) Remove the dust proof cover.

Step 3) Screw in the accessory unlocking bolt (hexagon socket headcap screw (ø32: M3 x 5 ℓ, ø40: M4 x 6 ℓ, ø50: M4 x 6 ℓ, ø63: M5 x 6 ℓ).



Retraction locking type **Extension locking type**

2. When the locking mechanism is to be used again, be sure to remove the unlocking bolt.

The locking mechanism will not work when the unlocking bolt is screwed in. Remove the unlocking bolt following the steps shown in the section on preparing for operation.

Maintenance

⚠ Caution

1. In order to maintain good performance, use with clean unlubricated air.

If lubricated air, compressor oil or drainage, etc., enters the cylinder, there is a danger of sharply reducing the locking performance.

2. Do not apply grease to the piston rod.

There is a danger of sharply reducing the locking performance.

3. Never disassemble the lock unit.

It contains a heavy duty spring which is dangerous. There is also a danger of reducing the locking performance.

Piping Port / Switch Mounting Rod (by-pass piping) Position Change

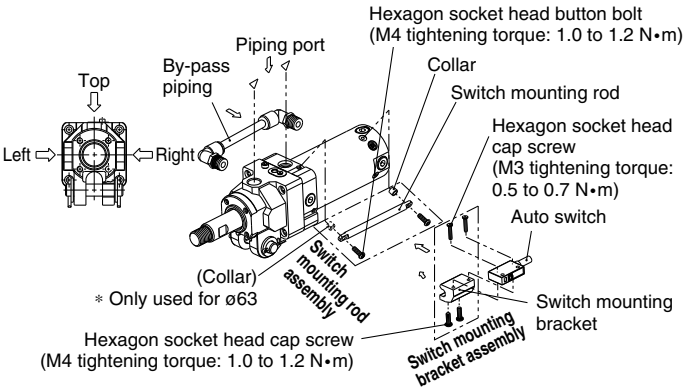
⚠ Warning

1. Piping port position, switch mounting rod position, and by-pass piping position can be selected by the part number. However, if there is an error in ordering and changes to the positions are required, please note the following.

a. Move all the parts that are aligned in a straight line in the stroke direction by 90° or 180° around the circumference of the cylinder.
Never move parts in the stroke direction, as this will cause malfunction.

b. Do not operate with any parts removed. When the cylinder is operated with any part removed, malfunction will occur and it is very dangerous.

c. Although fittings with sealant are used for pipe fittings and plugs, wind them with pipe tape to prevent air leakage when reassembling after position changes.



Series CLK2
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).

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 6, 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 energized 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 ø8 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 built-in strong magnet type cylinders are closely positioned to each other, please pay attention to the following items.

1) 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 40 mm or more.

2) Separate a reed magnetic field resistant auto switch from the tube surface of a closely mounted built-in strong magnet type cylinder by 30 mm or more.

3) When a built-in strong magnet type cylinder and a cylinder with a general-purpose auto switch are closely positioned, separate the cylinder tubes 50 mm or more.

4) Separate a general-purpose auto switch from the tube surface of a closely mounted built-in strong magnet cylinder by 50 mm or more away.

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 of 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 15 for mounting example and page 22 for soft-resin mold surface.)

Contact Capacity

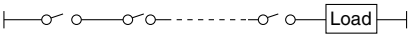
Never operate a load that exceeds the maximum contact capacity of the auto switch.

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.

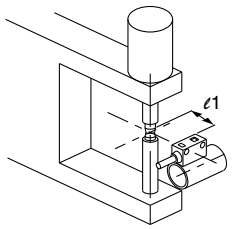


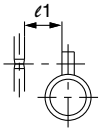
Series CLK2
Specific Product Precautions 5

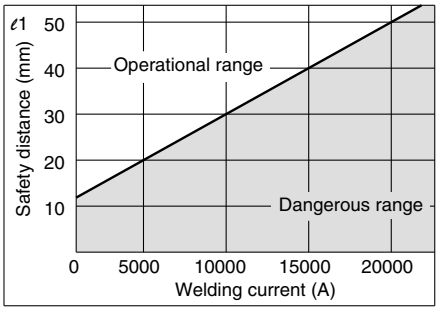
Be sure to read this before handling.
Refer to the back of page 1 for Safety Instructions and "Precautions for Handling Pneumatic Devices" (M-03-E3A).

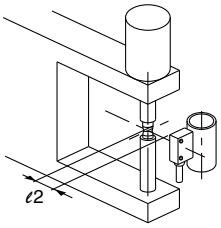
Data: Magnetic Field Resistant Reed Switch (D-P79WSE type, D-P74□ type) Safety Distance

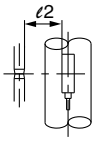
Safety Distance from Side of Auto Switch

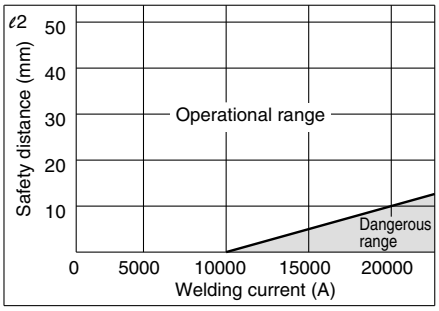




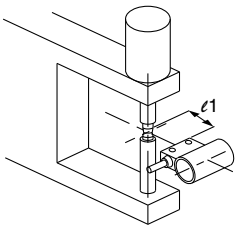


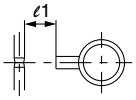


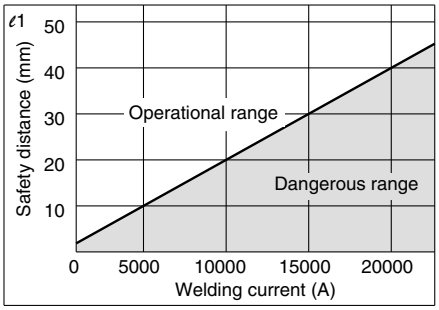


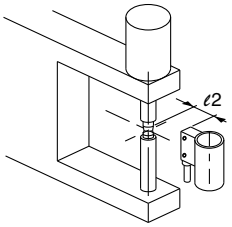


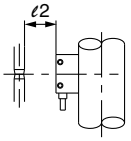
Safety Distance from Top of Auto Switch

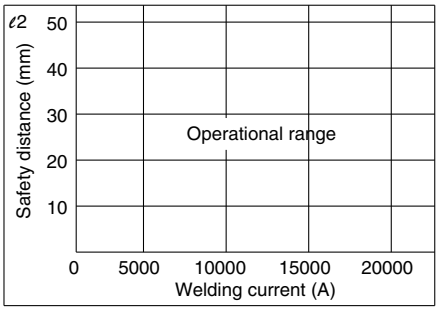




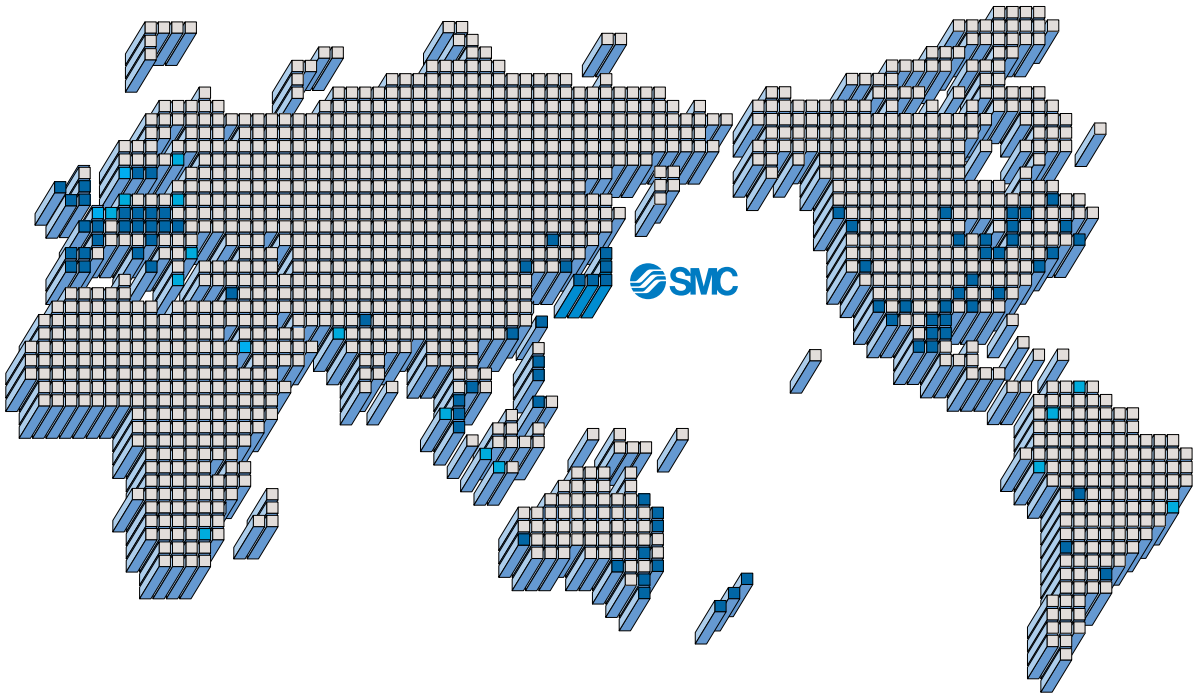








SMC'S GLOBAL MANUFACTURING, DISTRIBUTION AND SERVICE NETWORK



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⚠ Safety Instructions	Be sure to read “Precautions for Handling Pneumatic Devices” (M-03-E3A) before using.

SMC Corporation

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