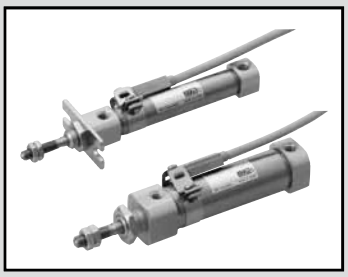


Pencil shaped cylinder/double acting/single rod

SCPD3 Series

● Bore size: φ6/φ10/φ16

JIS symbol

RoHS CAD

Specifications

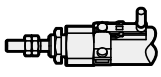
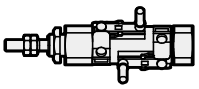
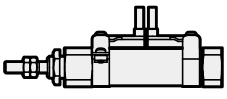
Descriptions		SCPD3 SCPD3-L		
Bore size	mm	φ6	φ10	φ16
Actuation		Double acting		
Working fluid		Compressed air		
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)		
Min. working pressure	MPa	0.15 (≈22 psi, 1.5 bar)	0.1 (≈15 psi, 1 bar)	
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)		
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)		
Port size		M5		
Stroke tolerance	mm	+1.0 0		
Working piston speed	mm/s	50 to 750		
Cushion		Rubber cushion		
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)		
Allowable absorbed energy	J	0.012	0.041	0.162

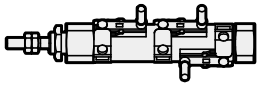
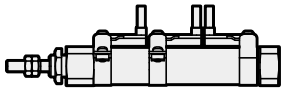
Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
SCPD3	φ6	15/30/45/60	100	105	5
	φ10		200	210	
	φ16		260	270	

*1: The custom stroke length is available in 1 mm increments.

Min. stroke length with switch

	1		2	
Sketch	 Rod side installation	Head side installation	 Different surface mounting	 Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm

	3	
Sketch	 Different surface mounting	 Same surface mounting
Min. stroke length	38 mm	54 mm

Switch specifications

Descriptions	Proximity 2-wire		Proximity 3-wire	
	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA		100 mA or less	50 mA or less
Indicator lamp	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

Descriptions	Reed 2-wire			
	T0H/T0V		T5H/T5V	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less
Indicator lamp	LED (Lit when ON)		Without indicator lamp	
Leakage current	0 mA		0 mA	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

*1: Refer to Ending Page 1 for other switch specifications.
*2: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight

(Unit: g)

Descriptions / Bore size (mm)	Mounting bracket weight: Foot L S	Mounting bracket weight: Flange FA	Mounting bracket weight: Clevis CB	Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Mounting bracket weight
φ6	6	4	-	13	1	Refer to the weight in the switch specifications.	2
φ10	6	4	4	21	2		
φ16	15	12	10	42	3		

(Example) Product weight of SCPD3-L-LS-10-30-T0H-D
- Mounting bracket weight (foot) ..... 6 g
- Product weight for 0 mm stroke length .....21 g
- Additional weight for 30 mm stroke length ..... 2×30/10=6 g
- Switch weight ..... 2×(18+2)=40 g
- Product weight ..... 6+21+6+40=73 g

How to order

Without switch (without magnet for switch)

SCPD3 - 00 - 10 - 15 - O ——— Y

With switch (built-in magnet for switch)

SCPD3-L - 00 - 10 - 15 - O - T2H - R - Y

Ⓐ Model No.
Ⓑ Mounting *1
Ⓒ Bore size
Ⓓ Stroke length
Ⓔ Head side port direction *1
Ⓕ Switch model No. *3, *6 * indicates the lead wire length.
Ⓖ Switch quantity
Ⓗ Accessory *4

Code	Content
Ⓐ Model No.	
SCPD3	Double acting
SCPD3-L	Double acting/with switch

Ⓑ Mounting

Bore size (φ)		6	10	16
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket (pin and snap ring incl.)		●	●

Ⓒ Bore size (mm)

6	φ6
10	φ10
16	φ16

Ⓓ Stroke length (mm)

Bore size	Stroke length *2	Available stroke length	Custom stroke length
φ6	5 to 100	105	In 1 mm increments
φ10	5 to 200	210	
φ16	5 to 260	270	

Ⓔ Head side port direction

Blank	Vertical
O	Axial direction

Ⓕ Switch model No.

Lead wire Straight	Lead wire L-shaped	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*			●		3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T3WH*	T3WV*			●		3-wire

*** Lead wire length**

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

Ⓖ Switch quantity

R	1 on rod side
H	1 on head side
D	2
T	3

Ⓗ Accessory

Bore size (φ)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring attached)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "0" (axial direction).
*2 : Refer to page 8 for the min. stroke length with switch.
*3 : Magnet is not built into the type without switch.
*4 : "I" and "Y" cannot be selected together.
*5 : Copper and PTFE free as standard.
*6 : Switches are shipped with the product.

[Example of model No.]
SCPD3-L-00-10-30-O-T2H-R-I
Model: Pencil shaped cylinder

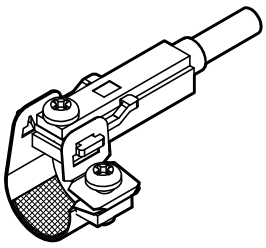
Ⓐ	Model No.	: Double acting
Ⓑ	Mounting	: Basic
Ⓒ	Bore size	: φ10 mm
Ⓓ	Stroke length	: 30 mm
Ⓔ	Head side port direction	: Axial direction
Ⓕ	Switch model No.	: Proximity switch T2H, lead wire 1 m
Ⓖ	Switch quantity	: 1 on rod side
Ⓗ	Accessory	: Rod eye

How to order switch

● Switch body + mounting bracket set

SCPD3 - T0H - 6

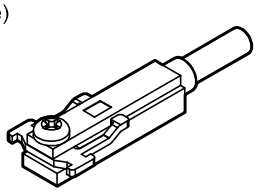
- 6: Bore size (Item Ⓒ on the previous page)
- T0H: Switch model No. (Item Ⓕ on the previous page)



● Switch body (with fixing bracket)

SCPD3 - T0H

- T0H: Switch model No. (Item Ⓕ on the previous page)

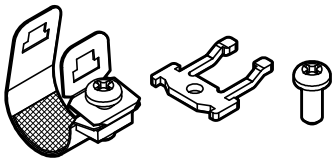


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

- 6: Bore size (Item Ⓒ on the previous page)

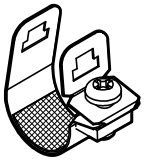


When 20 pcs or more are ordered, they will be packed together.

● Mounting bracket set

SCPD3 - T - 6

- 6: Bore size (Item Ⓒ on the previous page)



When 20 pcs or more are ordered, they will be packed together.

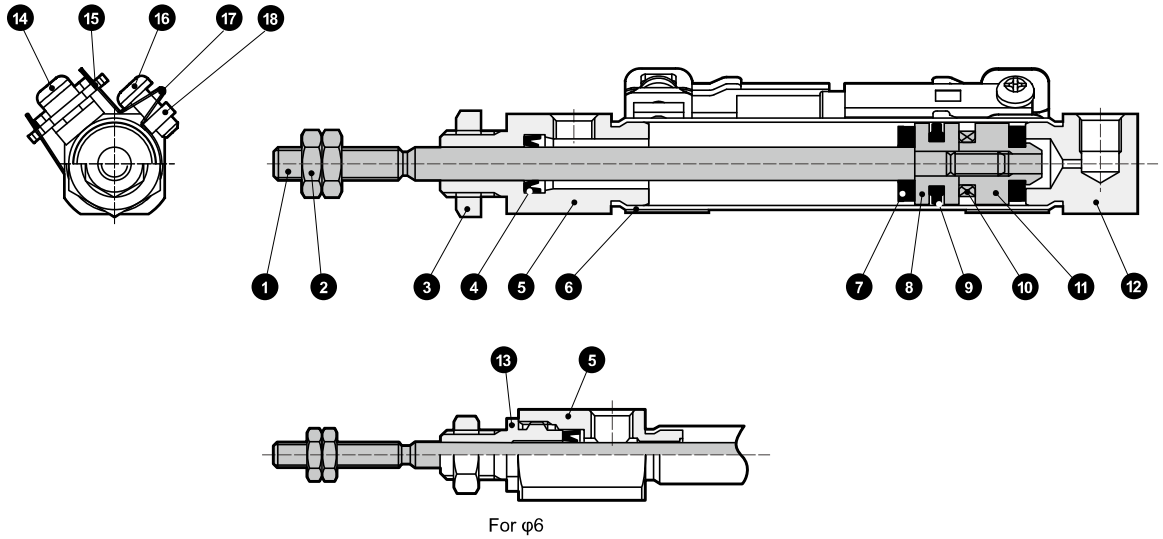
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ6	φ10	φ16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: The foot (LS) mounting bracket is provided as 1 pc./set.

Internal structure and parts list

● Double acting
SCPD3-(L)



For φ6

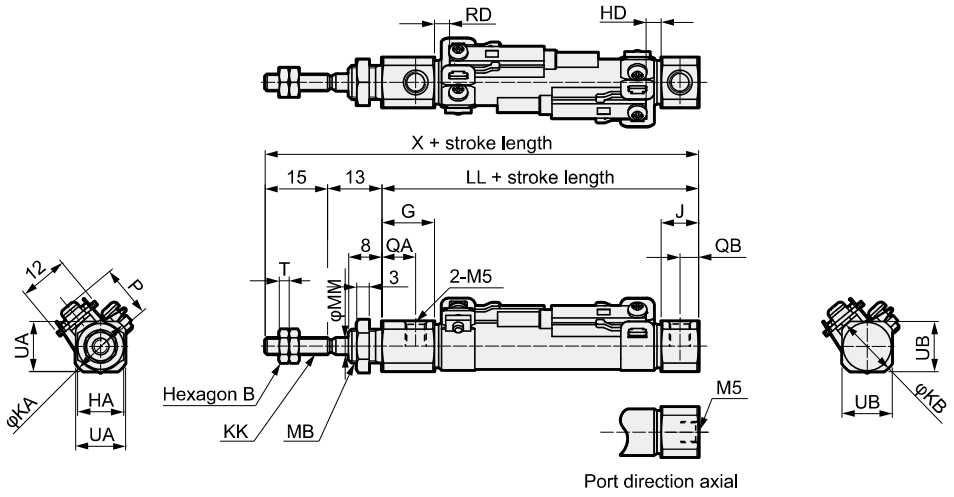
Cannot be disassembled

● This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		10	Magnet	-	With switch only
2	Rod nut	Steel	Nickeling	11	Spacer	Aluminum alloy	
3	Hexagon nut	Steel	Nickeling	12	Head cover	Aluminum alloy	Hard alumite
4	Rod packing	Nitrile rubber		13	Rod metal	Aluminum alloy	Hard alumite
5	Rod cover	Aluminum alloy	Hard alumite	14	Philips pan head machine screw	Stainless steel	With switch only
6	Cylinder tube	Stainless steel		15	Fixing bracket	Stainless steel	With switch only
7	Cushion rubber	Urethane rubber		16	Philips pan head machine screw	Stainless steel	With switch only
8	Piston	Aluminum alloy		17	Band	Stainless steel	With switch only
9	Piston packing	Nitrile rubber		18	Fixing nut	Stainless steel	With switch only

Dimensions

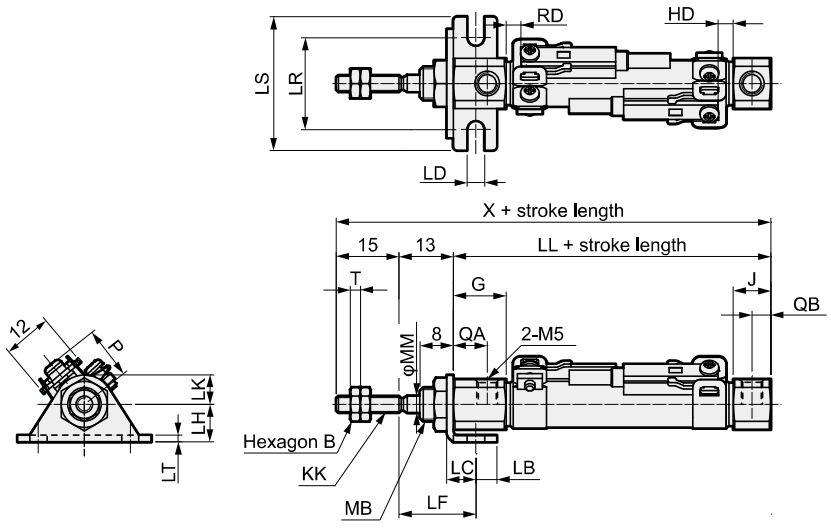
● SCPD3-(L) Basic (00)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : For the dimensions of the accessories, refer to page 15.
*4 : Values shown in ( ) are for the type with axial port direction.

Code	Basic (00) basic dimensions															With switch				
Bore size (mm)	B	G	HA	J	KA	KB	KK	LL	MB	MM	QA	QB	T	UA	UB	X	T0, T5, T2, T3		T2W, T3W		P
																	RD	HD	RD	HD	
φ6	5.5	17	8	8	13.5	13.5(10)	M3	47	M6	3	13	4	1.8	11	11(9)	75	2	2	4	3.5	11.5
φ10	7	12.5	11	9	14.5	14.5	M4	46	M8×1.0	4	8	4.5	2.4	12	12	74	3.5	2.5	5.5	4	13.5
φ16	8	13	14	9	21.5	21.5	M5	46	M10×1.0	5	8.5	4.5	3.2	18	18	74	2	3.5	3.5	5	17.0

● Axial foot (single) (LS)

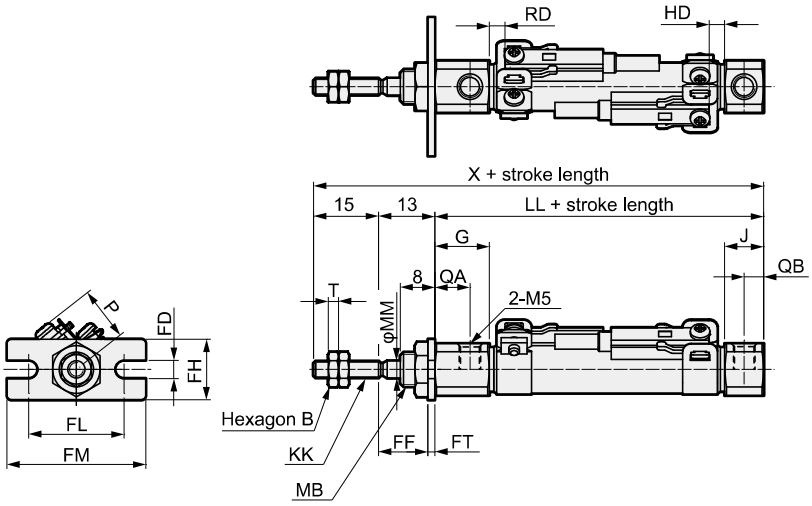


*1 : The dimensions are the same in the without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : For the dimensions of the accessories, refer to page 15.

Code	Axial foot (single) (LS) basic dimensions										Mounting dimensions										With switch				
Bore size (mm)	B	G	J	KK	MB	MM	QA	QB	T	X	LB	LC	LD	LF	LL	LH	LK	LR	LS	LT	T0, T5, T2, T3		T2W, T3W		P
																					RD	HD	RD	HD	
φ6	5.5	17	8	M3	M6	3	13	4	1.8	75	5	7	4.2	18.4	47	9	7	22	32	1.6	2	2	4	3.5	11.5
φ10	7	12.5	9	M4	M8×1.0	4	8	4.5	2.4	74	5	7	4.2	18.4	46	9	7	22	32	1.6	3.5	2.5	5.5	4	13.5
φ16	8	13	9	M5	M10×1.0	5	8.5	4.5	3.2	74	6	9	5.2	19.7	46	14	10	29	42	2.3	2	3.5	3.5	5	17.0

Dimensions

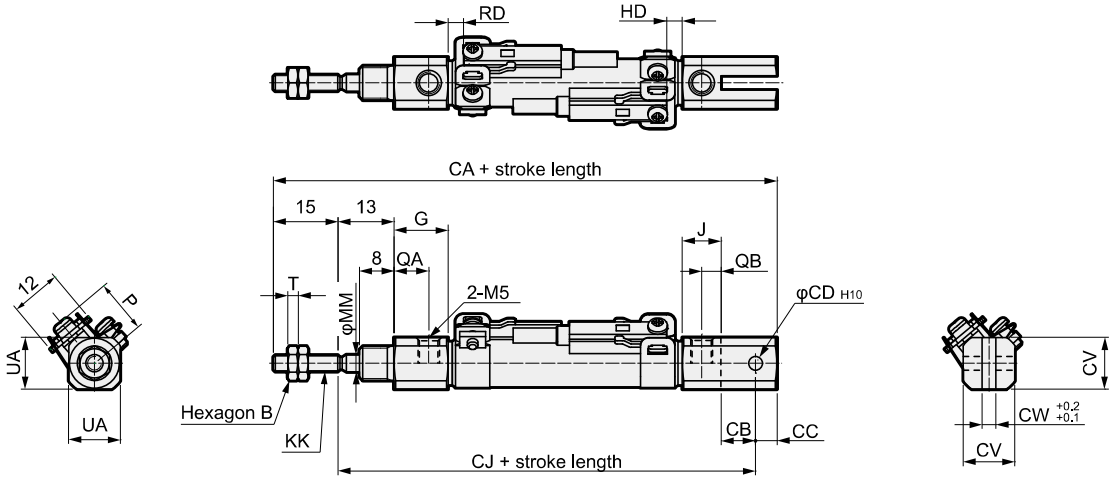
● Rod side flange (FA)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : For the dimensions of the accessories, refer to page 15.

Code / Bore size (mm)	Rod side flange (FA) basic dimensions											Mounting dimensions						With switch				
	B	G	J	KK	LL	MB	MM	QA	QB	T	X	FD	FF	FH	FL	FM	FT	T0, T5, T2, T3		T2W, T3W		P
																		RD	HD	RD	HD	
φ6	5.5	17	8	M3	47	M6	3	13	4	1.8	75	4.2	11.4	14	22	32	1.6	2	2	4	3.5	11.5
φ10	7	12.5	9	M4	46	M8×1.0	4	8	4.5	2.4	74	4.2	11.4	14	22	32	1.6	3.5	2.5	5.5	4	13.5
φ16	8	13	9	M5	46	M10×1.0	5	8.5	4.5	3.2	74	5.2	10.7	20	29	42	2.3	2	3.5	3.5	5	17.0

● Clevis bracket (CB)

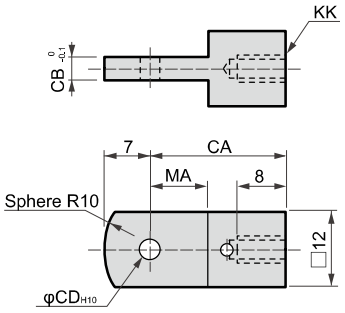


*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : A pin and retaining bracket are attached.
*4 : For the dimensions of the accessories, refer to page 15.

Code / Bore size (mm)	Clevis bracket (CB) basic dimensions									Mounting dimensions							With switch				
	B	G	J	KK	MM	QA	QB	T	UA	CA	CB	CC	CD	CJ	CV	CW	T0, T5, T2, T3		T2W, T3W		P
																	RD	HD	RD	HD	
φ10	7	12.5	9	M4	4	8	4.5	2.4	12	87	8	5	3.2	67	12	3.2	3.5	2.5	5.5	4	13.5
φ16	8	13	9	M5	5	8.5	4.5	3.2	18	94	10	10	5	69	18	6.5	2	3.5	3.5	5	17.0

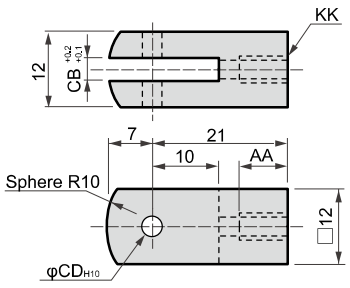
Dimensions

● Rod eye (I) Material: Steel
Zinc chromate treatment



Model No.	Bore size (mm)	CA	CB	CD	KK	MA	Wt. (g)
P2-I-10	φ10	21	3.1	3.2	M4	9	17
P2-I-16	φ16	25	6.4	5	M5	14	21

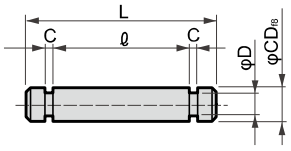
● Rod clevis (Y) Material: Steel
Zinc chromate treatment



Note: A pin and a snap ring are attached.

Model No.	AA	CB	CD	KK	Wt. (g)
P2-Y-10	8	3.2	3.2	M4	25
P2-Y-16	11	6.5	5	M5	20

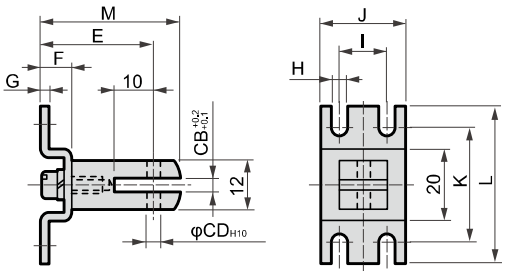
● Rod eye
Pin (P) for bracket
Clevis Material: Stainless steel



*1: A pin and a retaining bracket for rod clevis use are attached with the product.
*2: A snap ring is attached.

Model No.	Bore size (mm)	Applicable	C	D	CD	ℓ	L	Wt. (g)
P2-P-10	10	Rod eye/bracket/ clevis	0.6	2.5	3.2	13	17	1.2
P2-P-10Z		Clevis for Z				16	20	1.4
P2-P-16	16	Rod eye/bracket	0.7	4	5	13	18	3.0
P2-P-16A		Clevis	0.7	4	5	19	24	3.9

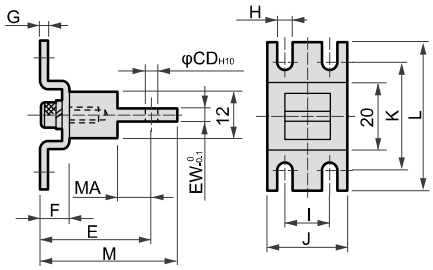
● Clevis bracket (B2) Material: Steel
Zinc chromate treatment



Note: A pin and a snap ring are attached.

Model No.	Bore size (mm)	CD	E	CB	F	G	H	I	J	K	L	M	Wt. (g)
P2-B2-10	φ10	3.2	29	3.2	8	2	4.2	12	22	30.2	40	36	44
P2-B2-16	φ16	5	31	6.5	10	2.3	5.2	16	28	35.2	48	38	44

● Eye bracket (B1) Material: Steel
Zinc chromate treatment

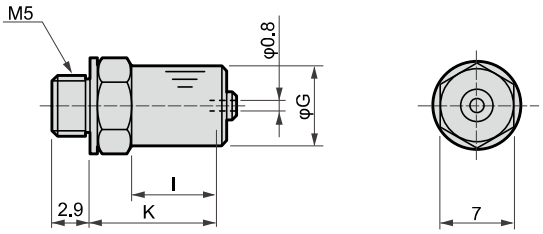


Model No.	Bore size (mm)	CD	E	EW	F	G	H	I	J	K	L	M	MA	Wt. (g)
P2-B1-10	φ10	3.2	29	3.1	8	2	4.2	12	22	30.2	40	36	9	37
P2-B1-16	φ16	5	35	6.4	10	2.3	5.2	16	28	35.2	48	42	14	48

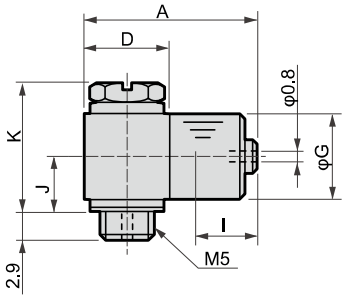
● Hose nipple for pencil shaped cylinder (sales unit is 10 pcs./bag)

● Barbed fitting

Straight/FCS

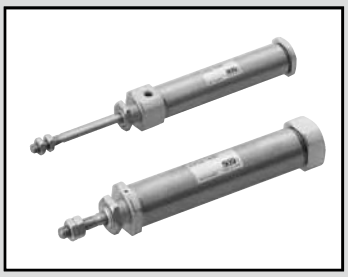


Elbow/FCL



Model No.	Compatible tube O.D.	G	I	K	Weight (g)	Eff. X-sectional area (mm²)
FCS4-M5P	φ4	7	4.3	11.7	3.2	0.35
FCS6-M5P	φ6	9	5	12.4	4.5	0.35

Model No.	Tube O.D.	A	D	G	I	J	K	Weight (g)	Eff. X-sectional area (mm²)
FCL4-M5P	φ4	16.1	8	7	4.3	5.1	11.6	6.8	0.35
FCL6-M5P	φ6	17.8	9	9	5	6.1	13.6	10.1	0.35

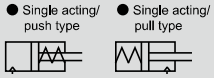


Pencil shaped cylinder Single acting/push and single acting/pull

SCPS/SCPS3/SCPH3 Series

● Bore size: φ2.5/φ4/φ6/φ10/φ16

JIS symbol



RoHS CAD

Specifications

1 MPa = 10 bar

Descriptions		SCPS		SCPS3 SCPS3-L			SCPH3 SCPH3-L		
Bore size	mm	φ2.5	φ4	φ6	φ10	φ16	φ6	φ10	φ16
Actuation		Single acting/push					Single acting/pull		
Working fluid		Compressed air							
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure	MPa	0.35 (≈51 psi, 3.5 bar)		0.3 (≈44 psi)	0.15 (≈22 psi, 1.5 bar)		0.39 (≈57 psi)	0.2 (≈29 psi, 2 bar)	
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size		Fitting for tube (tube φ2.5 x φ4)		M5					
Stroke tolerance	mm	+0.5 0		+1.0 0					
Working piston speed	mm/s	50 to 300		50 to 750					
Cushion		None		Rubber cushion					
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy	J	1.5×10^{-4}	4×10^{-4}	0.012	0.041	0.162	0.012	0.041	0.162

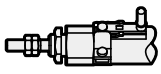
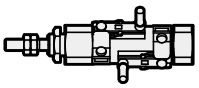
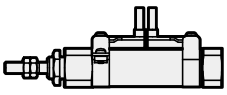
*1: Do not leave the single acting cylinder pressurized for long periods. If it is left pressurized for long periods, the piston rod may not return due to spring load when the pressure is released.

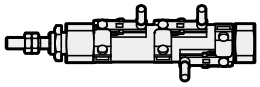
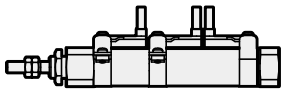
Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPS	φ2.5	5/10	10	5
	φ4	15/10/15/20	20	
SCPS3 SCPH3	φ6	15/30/45/60	100	
	φ10		120	
	φ16			

*1: The custom stroke length is available in 1 mm increments.

Min. stroke length with switch

	1		2	
Sketch	 Rod side installation	Head side installation	 Different surface mounting	 Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm

	3	
Sketch	 Different surface mounting	 Same surface mounting
Min. stroke length	38 mm	54 mm

Spring load of single acting (SCPS/SCPS3/SCPH3)

(Unit: N)

Bore size (mm)	At stroke length of 0 mm	At full stroke length operation
φ2.5	0.73	1.17
φ4	1.76	2.84
φ6	1.7	3.7
φ10	3.2	7.5
φ16	6.4	14.9

Switch specifications

Descriptions	Proximity 2-wire		Proximity 3-wire	
	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA		100 mA or less	50 mA or less
Indicator lamp	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

Descriptions	Reed 2-wire			
	T0H/T0V		T5H/T5V	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less
Indicator lamp	LED (Lit when ON)		Without indicator lamp	
Leakage current	0 mA		0 mA	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

Cylinder weight

● SCPS3/SCPH3 (Unit: g)

Descriptions / Bore size (mm)	Mounting bracket weight: Foot LS	Mounting bracket weight: Flange FA	Mounting bracket weight: Clevis CB	Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Mounting bracket weight
φ6	6	4	-	9	2	Refer to the weight in the switch specifications.	2
φ10	6	4	4	20	4		
φ16	15	12	10	35	8		

(Example) Product weight of SCPS3-L-LS-10-30-T0H-D

- ● Mounting bracket weight (foot) ..... 6 g
- ● Product weight for 0 mm stroke length .....20 g
- ● Additional weight for 30 mm stroke length ..... 4×30/10=12 g
- ● Switch weight ..... 2×(18+2)=40 g
- ● Product weight ..... 6+20+12+40=78 g

● SCPS (Unit: g)

Stroke length / Bore size (mm)	5st	10st
φ2.5	1.6	1.7
φ4	7	8

Theoretical thrust table

● SCPS (Unit: N)

Bore size (mm)	Working pressure MPa: 0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ2.5	0.793	1.28	1.78	2.27	2.76	3.25	3.74
φ4	2.19	3.44	4.70	5.96	7.21	8.47	9.73

● SCPS3

Bore size (mm)	Working pressure MPa: 0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ6	-	4.8	7.6	10.4	13.3	16.1	18.9	21.7	24.6
φ10	8.2	16.1	23.9	31.8	39.6	47.5	55.3	63.2	71.0
φ16	25.3	45.4	65.5	85.6	105.7	125.8	145.9	166.1	186.2

● SCPH3

Bore size (mm)	Working pressure MPa: 0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ6	-	-	4.8	6.9	9.0	11.1	13.3	15.4	17.5
φ10	5.7	12.3	18.9	25.5	32.1	38.7	45.3	51.9	58.5
φ16	21.4	39.5	57.7	75.8	94.0	112.1	130.2	148.4	166.5

How to order

SCPS - 00 - 2.5 - 5

Ⓐ Mounting
Ⓑ Bore size
Ⓒ Stroke length

Code	Content
Ⓐ Mounting	
00	Basic
Ⓑ Bore size (mm)	
2.5	φ2.5
4	φ4

Ⓒ Stroke length (mm)

Bore size		φ2.5	φ4
5	5	●	●
10	10	●	●
15	15		●
20	20		●

[Example of model No.]

SCPS-00-2.5-5

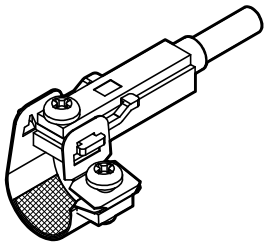
Model: Pencil shaped cylinder Single acting/push
Ⓐ Mounting : Basic
Ⓑ Bore size : φ2.5 mm
Ⓒ Stroke length : 5 mm

How to order switch

● Switch body + mounting bracket set

SCPD3 - T0H - 6

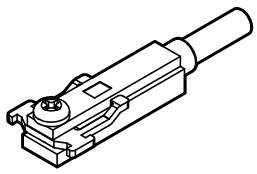
Bore size (Item Ⓒ on the next page)
Switch model No. (Item Ⓕ on the next page)



● Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No. (Item Ⓕ on the next page)

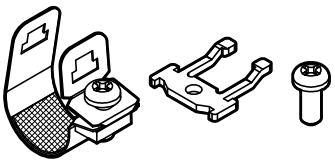


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size (Item Ⓒ on the next page)

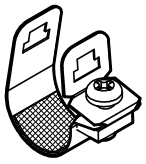


When 20 pcs or more are ordered, they will be packed together.

● Mounting bracket set

SCPD3 - T - 6

Bore size (Item Ⓒ on the next page)



When 20 pcs or more are ordered, they will be packed together.

How to order mounting bracket

Bore size (mm) / Mounting bracket	φ6	φ10	φ16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: The foot (LS) mounting bracket is provided as 1 pc./set.

How to order

Without switch (without magnet for switch)

SCPS3 - 00 - 10 - 15 - O ——— Y

With switch (built-in magnet for switch)

SCPS3-L - 00 - 10 - 15 - O - T2H - R - Y

Ⓐ Model No.

Ⓑ Mounting *1

Ⓒ Bore size

Ⓓ Stroke length

Ⓔ Head side port direction *1

Ⓕ Switch model No. *3, *6
* indicates the lead wire length.

Ⓖ Switch quantity

Ⓗ Accessory *4

Code	Content
Ⓐ Model No.	
SCPS3	Single acting/push
SCPS3-L	Single acting/push/with switch
SCPH3	Single acting/pull
SCPH3-L	Single acting/pull/with switch

Ⓑ Mounting

Bore size (φ)		6	10	16
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket (pin and snap ring attached)		●	●

Ⓒ Bore size (mm)

6	φ6
10	φ10
16	φ16

Ⓓ Stroke length (mm)

Bore size	Stroke length *2	Available stroke length	Custom stroke length
φ6	5 to 100	105	In 1 mm increments
φ10	5 to 120	120	
φ16	5 to 120	120	

Ⓔ Head side port direction

Blank	Vertical
O	Axial direction "not available for SCPH3(-L)"

Ⓕ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*			●		3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T3WH*	T3WV*			●		3-wire

*** Lead wire length**

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

Ⓖ Switch quantity

R	1 on rod side
H	1 on head side
D	2
T	3

Ⓗ Accessory

Bore size (φ)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring attached)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

Precautions for model No. selection

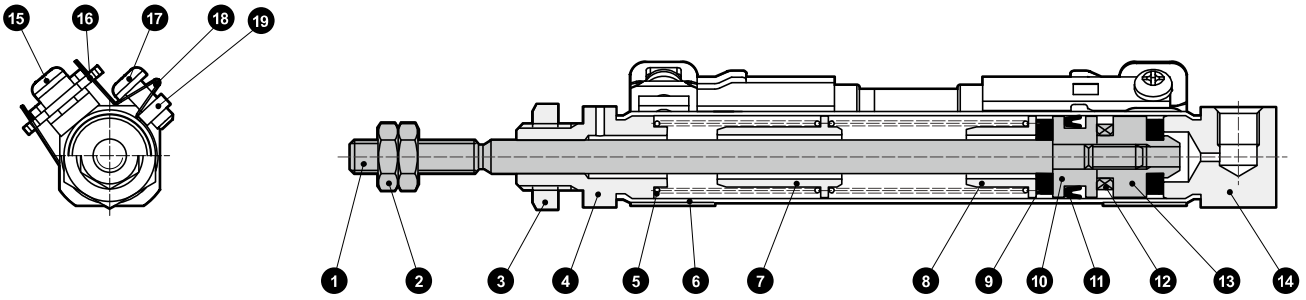
*1 : The "CB" mounting is not available when the port direction is "0" (axial direction).
*2 : Refer to page 16 for the min. stroke length with switch.
*3 : Magnet is not built into the type without switch.
*4 : "I" and "Y" cannot be selected together.
*5 : Copper and PTFE free as standard.
*6 : Switches are shipped with the product.

[Example of model No.]
SCPS3-L-00-10-30-O-T2H-R-I
Model: Pencil shaped cylinder

Ⓐ	Model No.	: Single acting/push
Ⓑ	Mounting	: Basic
Ⓒ	Bore size	: φ10 mm
Ⓓ	Stroke length	: 30 mm
Ⓔ	Head side port direction	: Axial direction
Ⓕ	Switch model No.	: Proximity switch T2H, lead wire 1 m
Ⓖ	Switch quantity	: 1 on rod side
Ⓗ	Accessory	: Rod eye

Internal structure and parts list

● Single acting push
SCPS3
SCPS3-L (with switch)

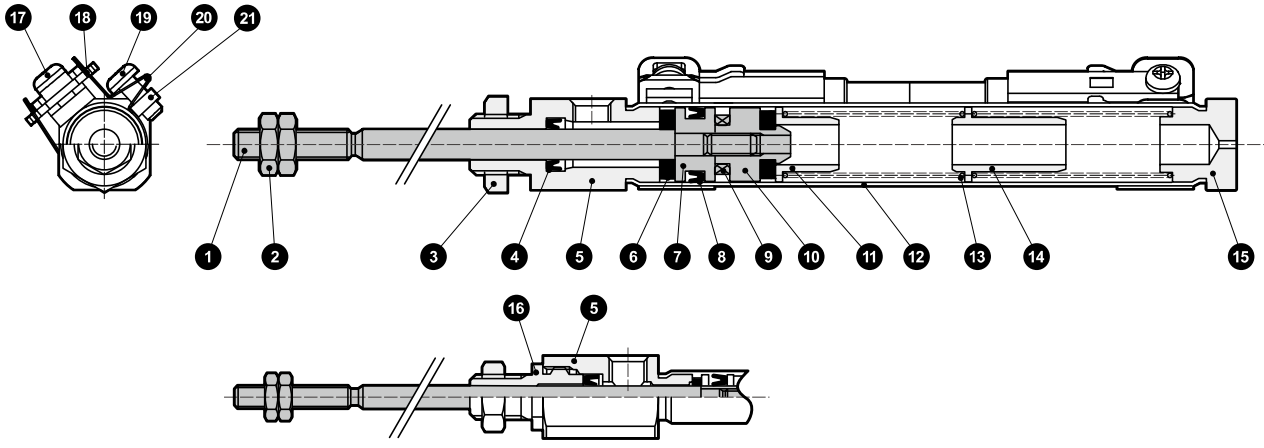


Cannot be disassembled

● This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		11	Piston packing	Nitrile rubber	
2	Rod nut	Steel	Nickeling	12	Magnet	-	With switch only
3	Hexagon nut	Steel	Nickeling	13	Spacer	Aluminum alloy	
4	Rod cover	Aluminum alloy	Hard alumite	14	Head cover	Aluminum alloy	Hard alumite
5	Coil spring	Piano wire	Zinc chromate	15	Phillips pan head machine screw	Stainless steel	With switch only
6	Cylinder tube	Stainless steel		16	Fixing bracket	Stainless steel	With switch only
7	Spring holder (A)	Aluminum alloy		17	Phillips pan head machine screw	Stainless steel	With switch only
8	Spring holder (B)	Aluminum alloy		18	Band	Stainless steel	With switch only
9	Cushion rubber	Urethane rubber		19	Fixing nut	Stainless steel	With switch only
10	Piston	Aluminum alloy					

● Single acting pull
SCPH3
SCPH3-L (with switch)



For φ6

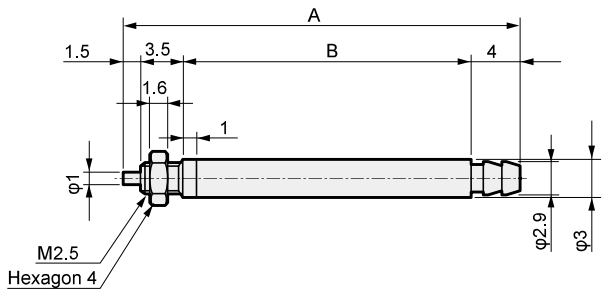
Cannot be disassembled

● This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		12	Cylinder tube	Stainless steel	
2	Rod nut	Steel	Nickeling	13	Coil spring	Piano wire	Zinc chromate
3	Hexagon nut	Steel	Nickeling	14	Spring holder (B)	Aluminum alloy	
4	Rod packing	Nitrile rubber		15	Head cover	Aluminum alloy	Hard alumite
5	Rod cover	Aluminum alloy	Hard alumite	16	Rod metal	Aluminum alloy	Hard alumite
6	Cushion rubber	Urethane rubber		17	Phillips pan head machine screw	Stainless steel	With switch only
7	Piston	Aluminum alloy		18	Fixing bracket	Stainless steel	With switch only
8	Piston packing	Nitrile rubber		19	Phillips pan head machine screw	Stainless steel	With switch only
9	Magnet	-	With switch only	20	Band	Stainless steel	With switch only
10	Spacer	Aluminum alloy		21	Fixing nut	Stainless steel	With switch only
11	Spring holder (A)	Aluminum alloy					

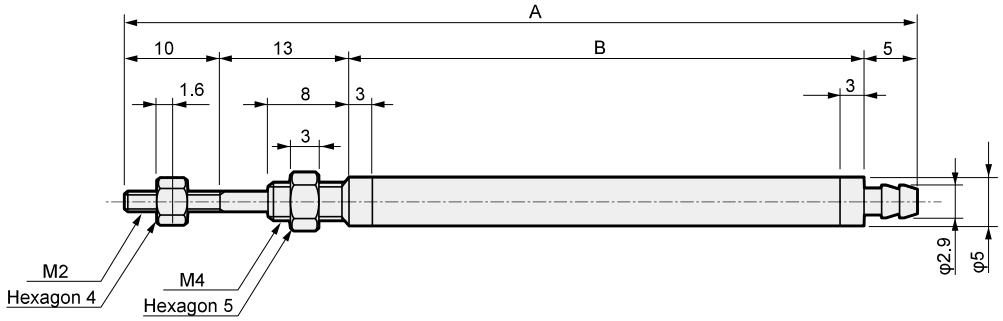
Dimensions

● SCPS Basic (00) φ2.5



Code / Stroke length (mm)	A	B
5	33	24
10	38	29

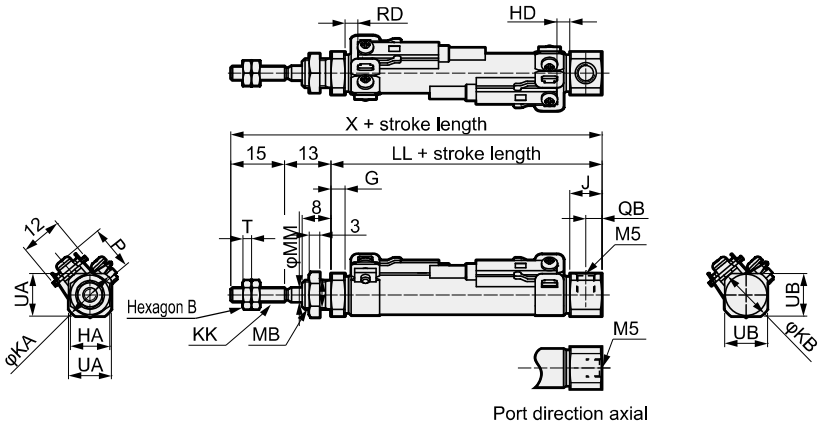
● SCPS Basic (00) φ4



Code / Stroke length (mm)	A	B
5	60.5	32.5
10	65.5	37.5
15	81.0	53.0
20	86.0	58.0

Dimensions

● SCPS3-(L) Basic (00)

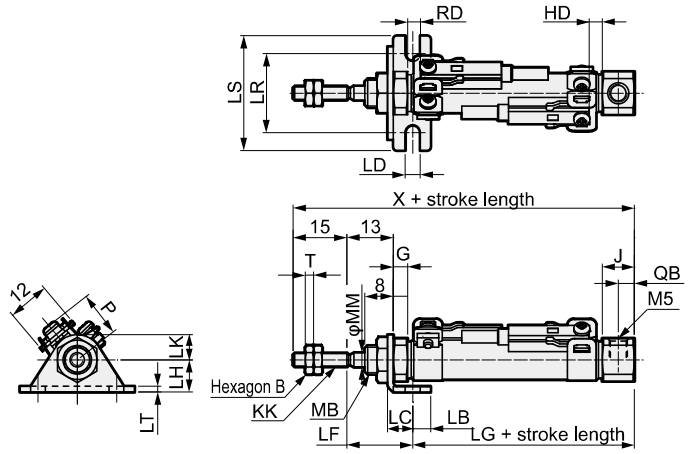


*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : Dimensions shown in ( ) are for when the head side port direction is "O" (axial direction).
*4 : For the dimensions of the accessories, refer to page 15.

Code	Basic (00) basic dimensions																						
Bore size (mm)	B	G	HA	J	KA	KB	KK	LL								MB	MM	QB	T	UA	UB	X		
								≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120							15 or less	Over 15 to 30	Over 30 to 45
φ6	5.5	3	8	8	10.5	13.5(10.5)	M3	43.5	48.5	63.5	68.5	83.5	88.5	103.5	-	M6	3	4	1.8	9	11(9)	71.5	76.5	91.5
φ10	7	4	11	9	14.5	14.5	M4	47	52	62	67	77	82	92	97	M8×1.0	4	4.5	2.4	12	12	75	80	90
φ16	8	4	14	9	21.5	21.5	M5	47	52	62	67	77	82	92	97	M10×1.0	5	4.5	3.2	18	18	75	80	90

Code	With switch																							
Bore size (mm)	X					T0, T5, T2, T3										T2W, T3W									P
						RD									HD	RD								HD	
	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120			≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120		
φ6	96.5	111.5	116.5	131.5	-	12	17	32	37	52	57	72	-	2		14	19	34	39	54	59	74	-	3.5	11.5	
φ10	95	105	110	120	125	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	2.5		15	20	30	35	45	50	60	65	4	13.5	
φ16	95	105	110	120	125	11.5	16.5	26.5	31.5	41.5	46.5	56.5	61.5	3.5		13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	5	17.0	

● Axial foot (single) (LS)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)
*2 : As the thread depth of φ6/φ10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.
*3 : For the dimensions of the accessories, refer to page 15.

Code	Axial foot (single) (LS) basic dimensions																	Mounting dimensions									
Bore size (mm)	B	G	KK	MB	MM	QB	T	X										LB	LC	LD	LF	LG					
								≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120					≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90
φ6	5.5	3	M3	M6	3	4	1.8	71.5	76.5	91.5	96.5	111.5	116.5	131.5	-			5	7	4.2	18.4	38.1	43.1	58.1	63.1	78.1	83.1
φ10	7	4	M4	M8×1.0	4	4.5	2.4	75	80	90	95	105	110	120	125			5	7	4.2	18.4	41.6	46.6	56.6	61.6	71.6	76.6
φ16	8	4	M5	M10×1.0	5	4.5	3.2	75	80	90	95	105	110	120	125			6	9	5.2	19.7	40.3	45.3	55.3	60.3	70.3	75.3

Code	With switch																											
Bore size (mm)	LG		LH	LK	LR	LS	LT	T0, T5, T2, T3										T2W, T3W										P
								RD									HD	RD									HD	
	Over 90 to 105	Over 105 to 120						≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120			≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120			
φ6	98.1	-	9	7	22	32	1.6	12	17	32	37	52	57	72	-	2		14	19	34	39	54	59	74	-	3.5	11.5	
φ10	86.6	91.6	9	7	22	32	1.6	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	2.5		15	20	30	35	45	50	60	65	4	13.5	
φ16	85.3	90.3	14	10	29	42	2.3	11.5	16.5	26.5	31.5	41.5	46.5	56.5	61.5	3.5		13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	5	17.0	