

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder/double acting/single rod

SCPD3 Series

● Bore size: $\varnothing 6/\varnothing 10/\varnothing 16$

JIS symbol



Specifications

Item		SCPD3 SCPD3-L		
Bore size	mm	ø6	ø10	ø16
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	$\varnothing 6$	100	105	5
	$\varnothing 10$	200	210	
	$\varnothing 16$	260	270	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Item	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Mounting bracket weight
	Bore size (mm)	Foot LS	Flange FA	Clevis CB			
	ø6	6	4	-	13	Refer to the weight in the switch specifications.	2
	ø10	6	4	4	21		
	ø16	15	12	10	42		

(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 $2 \times 30 / 10 = 6$ g
- Switch weight $2 \times (18 + 2) = 40$ g
- Product weight $6 + 21 + 6 + 40 = 73$ g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCPD3 Series

SCP*3
CMK2
CMA2
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MDC2
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SRT3
MRL2
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Contr
Ending

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**

A Model No.

B Mounting
*1

C Bore size

D Stroke length

E Head side port
direction
*1

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

G Switch
quantity

H Accessory
*4

⚠ Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "O" (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

- A** Model No. : Double acting
- B** Mounting : Basic
- C** Bore size : $\phi 10$ mm
- D** Stroke length : 30 mm
- E** Head side port direction : Axial direction
- F** Switch model No. : Proximity switch T2H, lead wire 1 m
- G** Switch quantity : 1 on rod side
- H** Accessory : Rod eye

Code	Description					
A Model No.						
SCPD3	Double acting					
SCPD3-L	Double acting/with switch					
B Mounting						
Bore size (ø)		6	10	16		
00	Basic	●	●	●		
LS	Axial foot (one side) (rod side)	●	●	●		
FA	Rod side flange	●	●	●		
CB	Clevis bracket (pin and snap ring incl.)		●	●		
C Bore size (mm)						
6	ø6					
10	ø10					
16	ø16					
D Stroke length (mm)						
Bore size	Stroke length *2	Available stroke length	Custom stroke length			
ø6	5 to 100	105	In 1 mm increments			
ø10	5 to 200	210				
ø16	5 to 260	270				
E Head side port direction						
Blank	Vertical					
O	Axial direction					
F Switch model No.						
Lead wire Straight	Lead wire L-shaped	Contact	Voltage		Indicator	Lead wire
			AC	DC		
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)					
G Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					
H Accessory						
Bore size (ø)			6	10	16	
I	Rod eye			●	●	
Y	Rod clevis (pin and snap ring included)			●	●	
B1	Eye bracket			●	●	
B2	Clevis bracket			●	●	

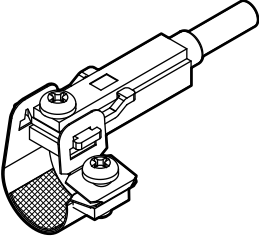
How to order switch

● Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item ㉔ on page 10)

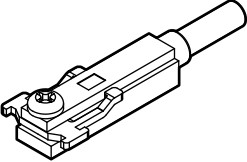
Switch model No.
(Item ㉕ on page 10)



● Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item ㉕ on page 10)



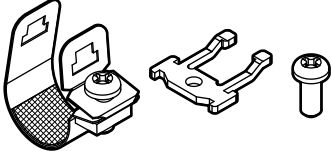
Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item ㉔ on page 10)

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



● Mounting bracket set

SCPD3 - T - 6

Bore size
(Item ㉔ on page 10)

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



How to order mounting bracket

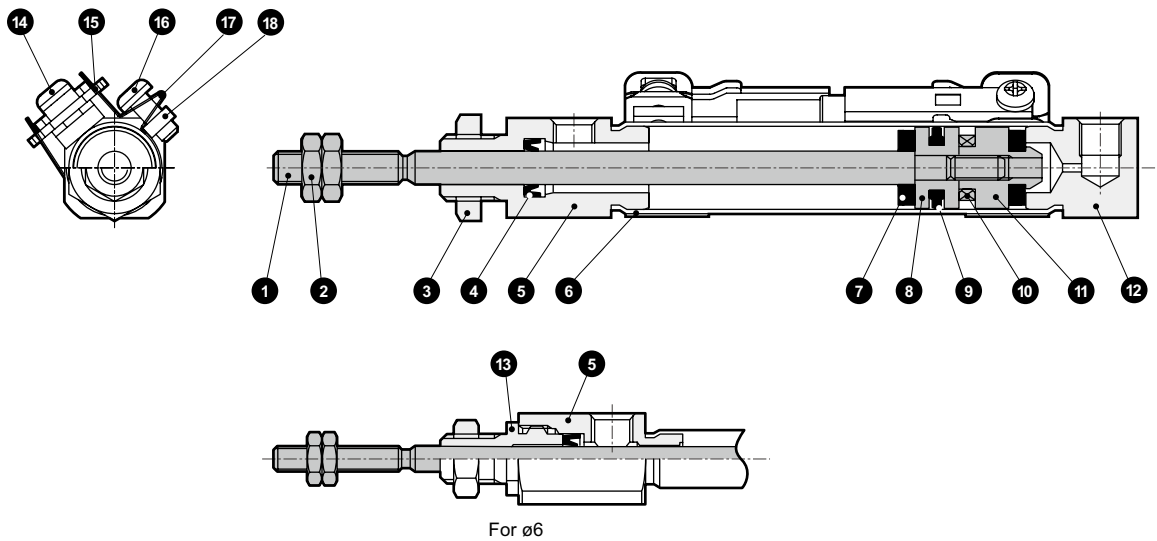
Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

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

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CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
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MRG2
SM-25
ShkAbs
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Spd Contr
Ending

SCP*3 Internal structure and parts list

- Double acting
SCPD3-(L)



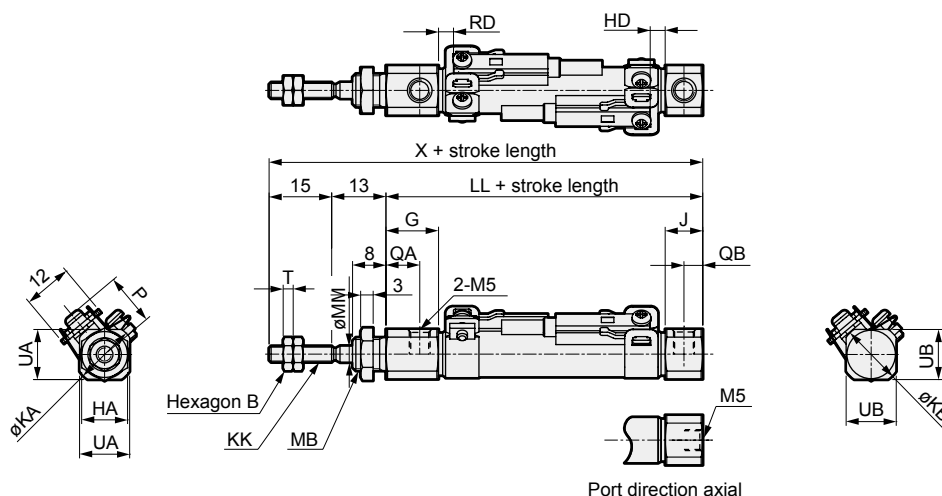
Cannot be disassembled

- 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	Phillips 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	Phillips 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.)

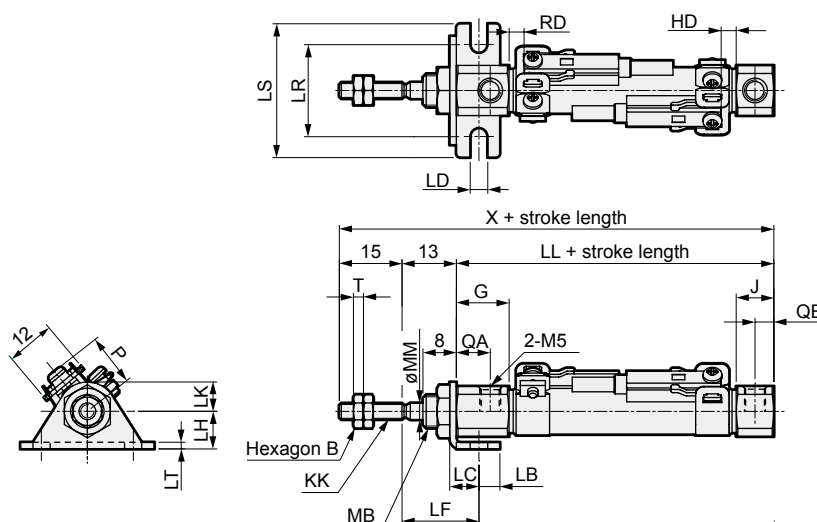
*2 : As the thread depth of ø6/ø10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*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	
ø6		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
ø10		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
ø16		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 ø6/ø10 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)	Axial foot (single) (LS) basic dimensions										Mounting dimensions										With switch				
	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	
ø6	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
ø10	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
ø16	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

SCP*3

Dimensions

CMK2

● Rod side flange (FA)

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

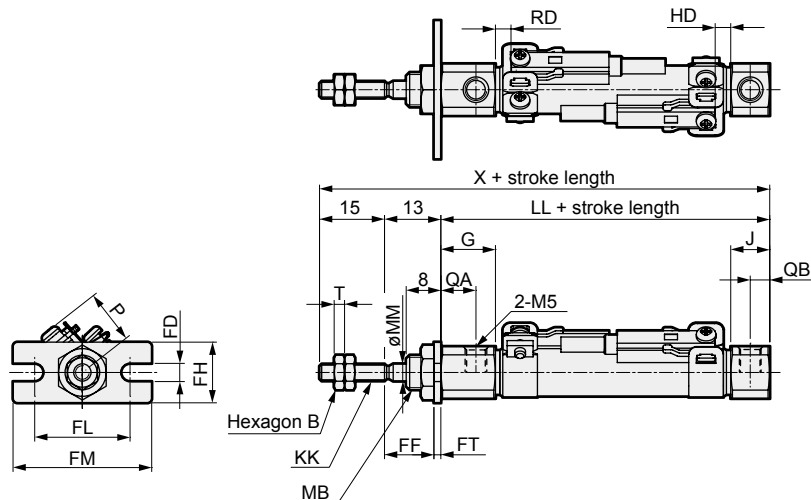
ShkAbs

FJ

FK

Spd
Contr

Ending



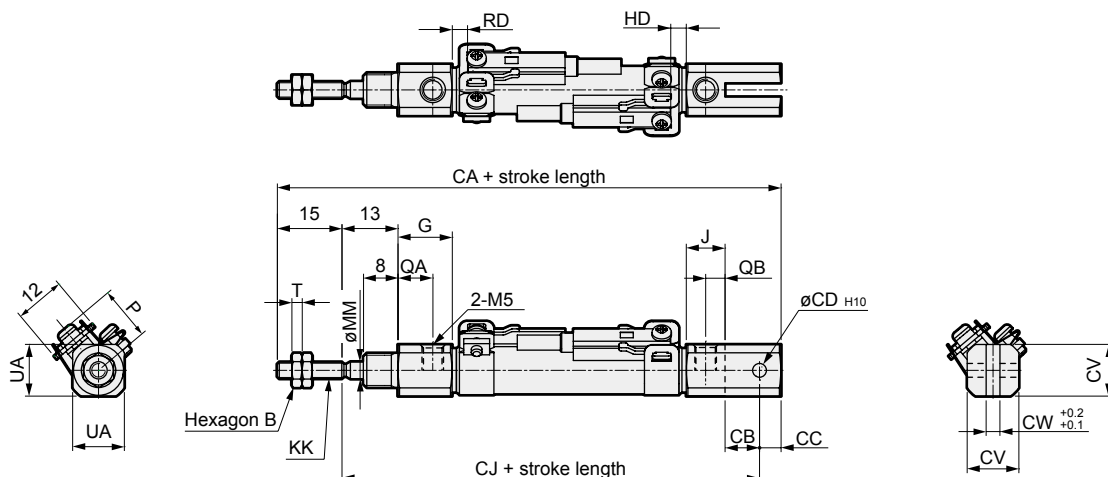
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of $\phi 6/\phi 10$ 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	
ø6	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
ø10	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
ø16	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 $\phi 6/\phi 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

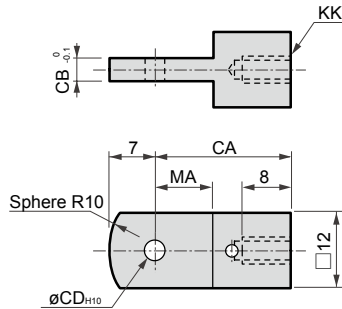
*3 : A pin and retaining bracket are included.

*4 : For the dimensions of the accessories, refer to page 15.

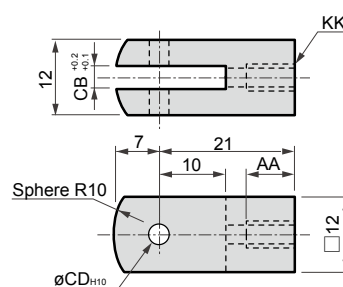
Code Bore size (mm)	Clevis bracket (CB) basic dimensions									Mounting dimensions							With switch				
	B	G	J	KK	MM	QA	QB	T	UA	CA	CB	CC	CD	CJ	CV	CW	T0, T5, T2, T3		T2W, T3W		P
																	RD	HD	RD	HD	
ø10	7	12.5	9	M4	4	8	4.5	2.4	12	87	8	5	3.2	67	12	3.2	3.5	2.5	5.5	4	13.5
ø16	8	13	9	M5	5	8.5	4.5	3.2	18	94	10	10	5	69	18	6.5	2	3.5	3.5	5	17.0

Dimensions

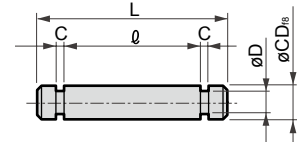
- Rod eye (I) Material: Steel
Zinc chromate treatment



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



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



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

Note: A pin and a snap ring are included.

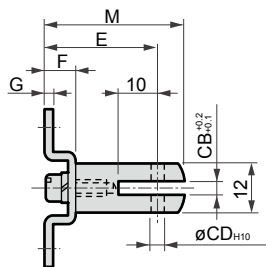
Model No.	Bore size (mm)	CA	CB	CD	KK	MA	Wt. (g)
P2-I-10	ø10	21	3.1	3.2	M4	9	17
P2-I-16	ø16	25	6.4	5	M5	14	21

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

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	10	Clevis for Z	0.6	2.5	3.2	16	20	1.4
P2-P-16	16	Rod eye/bracket	0.7	4	5	13	18	3.0
P2-P-16A	16	Clevis	0.7	4	5	19	24	3.9

- Clevis bracket (B2)

Material: Steel
Zinc chromate treatment

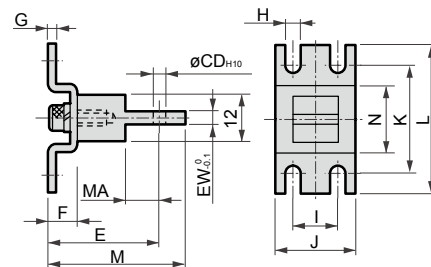


Note: A pin and a snap ring are included.

Model No.	Bore size (mm)	CD	E	CB	F	G	H	I	J	K	L	M	N	Wt. (g)
P2-B2-10	ø10	3.2	29	3.2	8	2	4.2	12	22	30.2	40	36	18	44
P2-B2-16	ø16	5	31	6.5	10	2.3	5.2	16	28	35.2	48	38	20	44

- Eye bracket (B1)

Material: Steel
Zinc chromate treatment

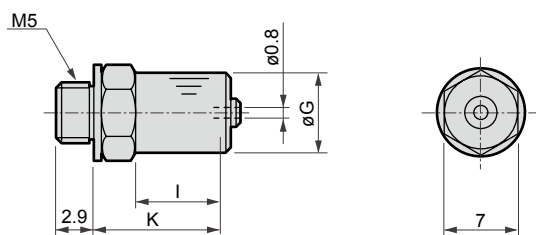


Model No.	Bore size (mm)	CD	E	EW	F	G	H	I	J	K	L	M	N	MA	Wt. (g)
P2-B1-10	ø10	3.2	29	3.1	8	2	4.2	12	22	30.2	40	36	18	9	37
P2-B1-16	ø16	5	35	6.4	10	2.3	5.2	16	28	35.2	48	42	20	14	48

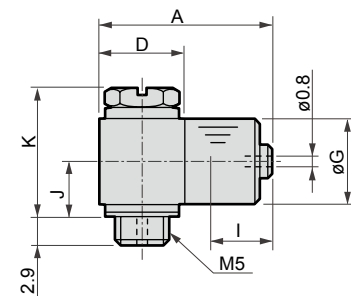
- Hose nipple for pencil shaped cylinder (sales unit is 10 pcs./bag)

- Barbed fitting

Straight/FCS



Elbow/FCL



Model No.	Compatible tube O.D.	G	I	K	Weight (g)	Eff. X-sectional area (mm ²)
FCS4-M5P	ø4	7	4.3	11.7	3.2	0.35
FCS6-M5P	ø6	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 (mm ²)
FCL4-M5P	ø4	16.1	8	7	4.3	5.1	11.6	6.8	0.35
FCL6-M5P	ø6	17.8	9	9	5	6.1	13.6	10.1	0.35

SCP*3

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SSD2

SSG

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CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

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SRM3

SRT3

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MRG2

SM-25

ShkAbs

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Spd
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Ending

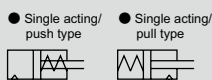


Pencil shaped cylinder Single acting/push and single acting/pull

SCPS/SCPS3/SCPH3 Series

● Bore size: $\varnothing 2.5/\varnothing 4/\varnothing 6/\varnothing 10/\varnothing 16$

JIS symbol



Specifications

1 MPa = 10 bar

Item		SCPS		SCPS3 SCPS3-L			SCPH3 SCPH3-L		
Bore size	mm	ø2.5	ø4	ø6	ø10	ø16	ø6	ø10	ø16
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 ø2.5 x ø4)			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	ø2.5	5/10	10	5
	ø4	15/10/15/20	20	
SCPS3 SCPH3	ø6	15/30/45/60	100	
	ø10		120	
	ø16			

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	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
$\varnothing 2.5$	0.73	1.17
$\varnothing 4$	1.76	2.84
$\varnothing 6$	1.7	3.7
$\varnothing 10$	3.2	7.5
$\varnothing 16$	6.4	14.9

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

● SCPS3/SCPH3

Item	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Mounting bracket weight
	Foot LS	Flange FA	Clevis CB				
ø6	6	4	-	9	2	Refer to the weight in the switch specifications.	2
ø10	6	4	4	20	4		
ø16	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

(Unit: g) ● SCPS

Stroke length	5st	10st
Bore size (mm)		
ø2.5	1.6	1.7
ø4	7	8

Theoretical thrust table

● SCPS

(Unit: N)

Bore size (mm)	Working pressure MPa							
	0.35	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø2.5	0.694	0.793	1.28	1.78	2.27	2.76	3.25	3.74
ø4	1.92	2.19	3.44	4.70	5.96	7.21	8.47	9.73

● SCPS3

Bore size (mm)	Working pressure MPa									
	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	-	-	4.8	7.6	10.4	13.3	16.1	18.9	21.7	24.6
ø10	6.2	8.2	16.1	23.9	31.8	39.6	47.5	55.3	63.2	71.0
ø16	19.0	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
ø6	-	-	4.8	6.9	9.0	11.1	13.3	15.4	17.5
ø10	5.7	12.3	18.9	25.5	32.1	38.7	45.3	51.9	58.5
ø16	21.4	39.5	57.7	75.8	94.0	112.1	130.2	148.4	166.5

SCP*3

How to order

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SCPS - **00** - **2.5** - **5**

A Mounting

B Bore size

C Stroke length

Code	Description		
A Mounting			
00	Basic		
B Bore size (mm)			
2.5	ø2.5		
4	ø4		
C Stroke length (mm)			
Bore size		ø2.5	ø4
5	5	●	●
10	10	●	●
15	15		●
20	20		●

[Example of model No.]

SCPS-00-2.5-5

Model: Pencil shaped cylinder Single acting/push

- A** Mounting : Basic
- B** Bore size : ø2.5 mm
- C** Stroke length : 5 mm

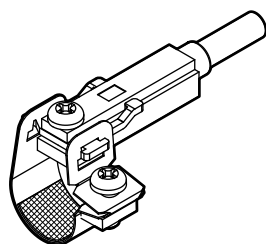
How to order switch

● Switch body + mounting bracket set

SCPD3 - **T0H** - **6**

Bore size
(Item **C** on page 19)

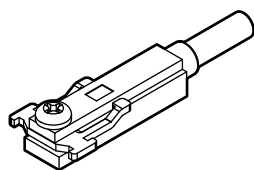
Switch model No.
(Item **F** on page 19)



● Switch body (with fixing bracket)

SCPD3 - **T0H**

Switch model No.
(Item **F** on page 19)

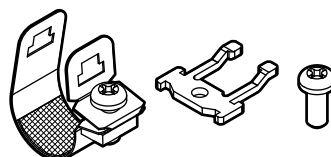


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - **TS** - **6**

Bore size
(Item **C** on page 19)

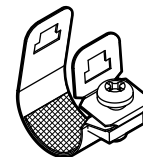


When 20 pcs or more are ordered, they will be packed together.

● Mounting bracket set

SCPD3 - **T** - **6**

Bore size
(Item **C** on page 19)



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

How to order mounting bracket

Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
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

A Model No.

B Mounting
*1

C Bore size

D Stroke length

E Head side port direction
*1F Switch model No.
*3, *6
* indicates the lead wire length. Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "O" (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

- A Model No. : Single acting/push
 B Mounting : Basic
 C Bore size : $\phi 10$ mm
 D Stroke length : 30 mm
 E Head side port direction : Axial direction
 F Switch model No. : Proximity switch T2H, lead wire 1 m
 G Switch quantity : 1 on rod side
 H Accessory : Rod eye

Code		Description				
A Model No.						
SCPS3	Single acting/push					
SCPS3-L	Single acting/push/with switch					
SCPH3	Single acting/pull					
SCPH3-L	Single acting/pull/with switch					
B Mounting						
Bore size (ø)		6	10	16		
00	Basic	●	●	●		
LS	Axial foot (one side) (rod side)	●	●	●		
FA	Rod side flange	●	●	●		
CB	Clevis bracket (pin and snap ring included)		●	●		
C Bore size (mm)						
6	ø6					
10	ø10					
16	ø16					
D Stroke length (mm)						
Bore size	Stroke length *2	Available stroke length	Custom stroke length			
ø6	5 to 100	105	In 1 mm increments			
ø10	5 to 120	120				
ø16	5 to 120	120				
E Head side port direction						
Blank	Vertical					
O	Axial direction “not available for SCPH3(-L)”					
F Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*			●	display	3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T3WH*	T3WV*			●	display	3-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
G Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
T	3					
H Accessory						
Bore size (ø)			6	10	16	
I	Rod eye			●	●	
Y	Rod clevis (pin and snap ring included)			●	●	
B1	Eye bracket			●	●	
B2	Clevis bracket			●	●	

G Switch quantity

H Accessory
*4

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

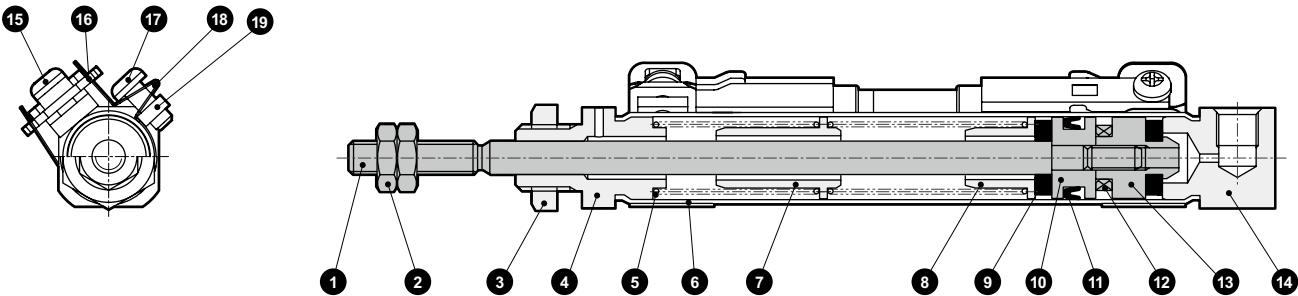
Ending

SCPS3/SCPH3 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list

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

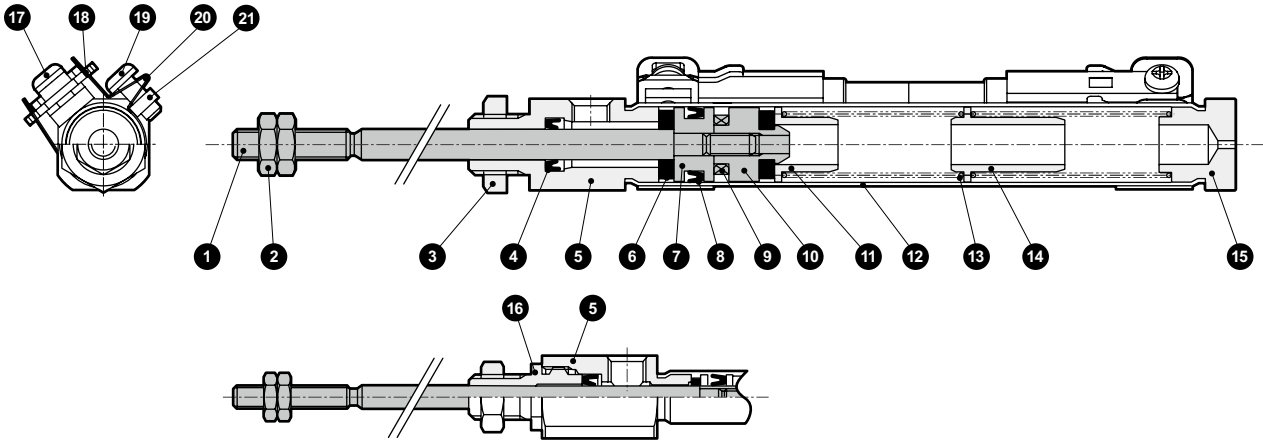


Cannot be disassembled

- 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)



Cannot be disassembled

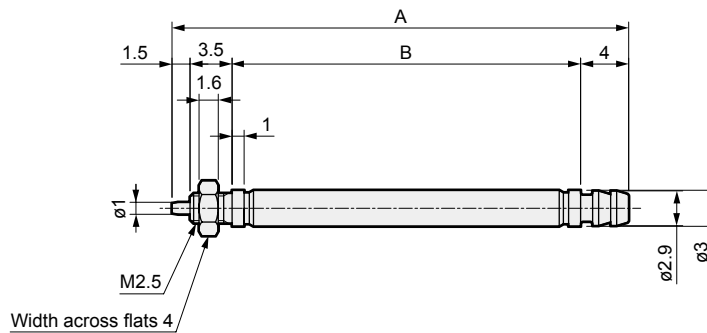
- This product cannot be disassembled.

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

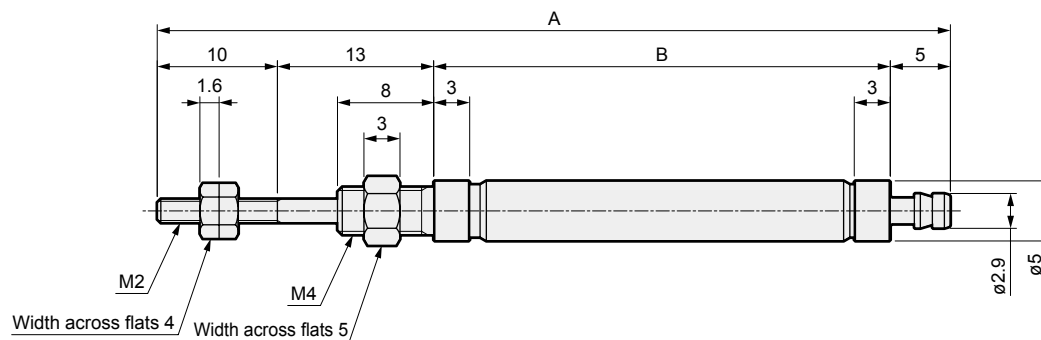


- SCPS Basic (00) ø2.5



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

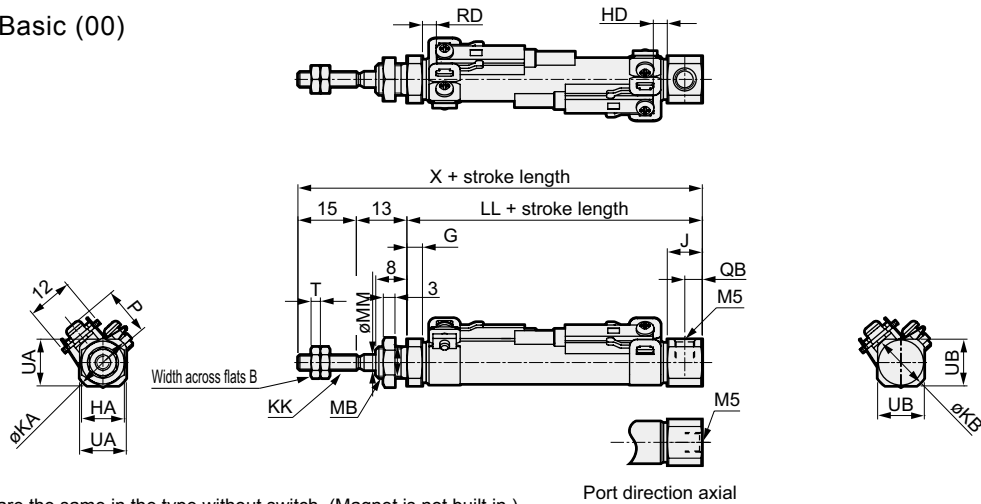
- SCPS Basic (00) ø4



Code	A	B
Stroke length (mm)		
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.)

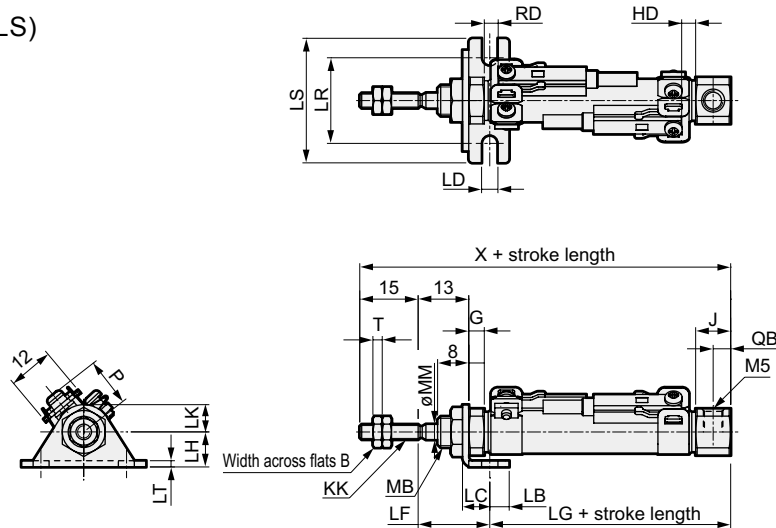
*2 : As the thread depth of $\phi 6/\phi 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*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
ø6	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
ø10	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
ø16	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		
ø6	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
ø10	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
ø16	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)



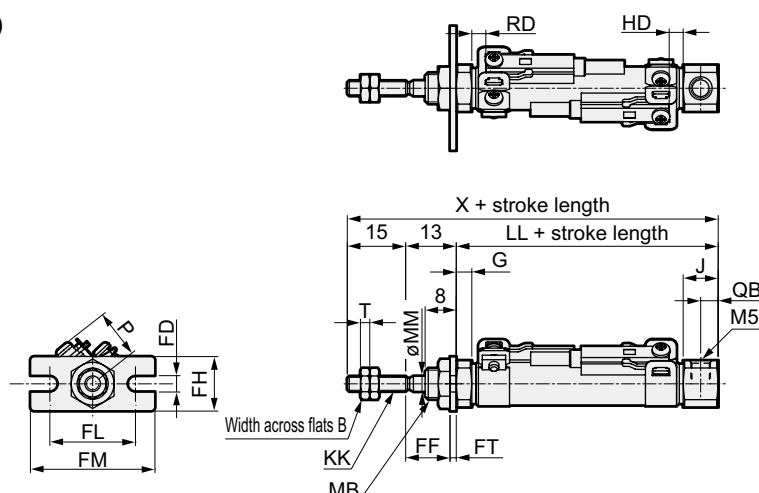
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of $\phi 6/\phi 10$ 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	
ø6	5.5	3	M3	M6	3	4	1.8	71.5	76.5	91.5	96.5	111.5	116.5	131.5	120	125	5	7	4.2	18.4	38.1	43.1	58.1	63.1	78.1	83.1
ø10	7	4	M4	M8×1.0	4	4.5	2.4	75	80	90	95	105	110	120	120	125	5	7	4.2	18.4	41.6	46.6	56.6	61.6	71.6	76.6
ø16	8	4	M5	M10×1.0	5	4.5	3.2	75	80	90	95	105	110	120	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									
	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	HD						
ø6	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
ø10	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
ø16	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

- Rod side flange (FA)



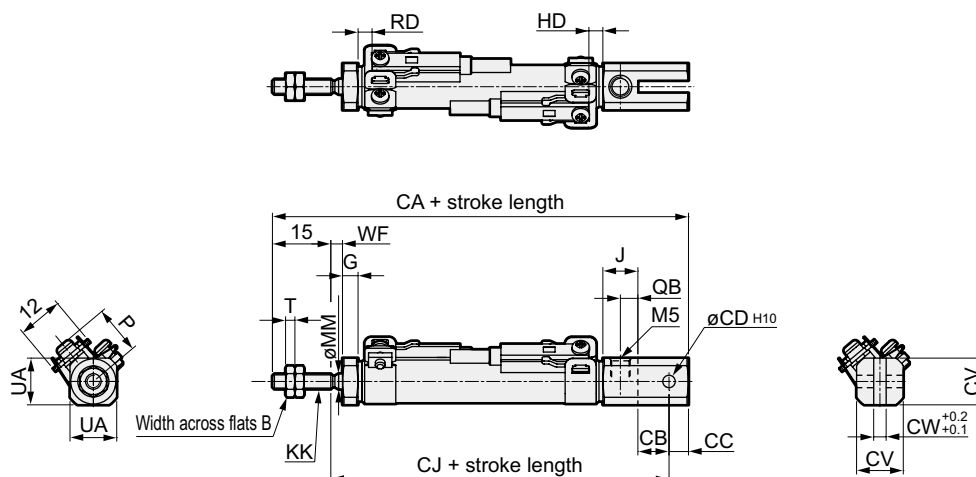
*3: For the dimensions of the accessories, refer to page 15.

Continuation of the dimensions of the access device, refer to page 10:

Code		Rod side flange (FA) basic dimensions																						
Bore size (mm)	B	G	J	KK	LL								MB	MM	QB	T	X							
					≤ 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
ø6	5.5	3	8	M3	43.5	48.5	63.5	68.5	83.5	88.5	103.5	-	M6	3	4	1.8	71.5	76.5	91.5	96.5	111.5	116.5	131.5	-
ø10	7	4	9	M4	47	52	62	67	77	82	92	97	M8×1.0	4	4.5	2.4	75	80	90	95	105	110	120	125
ø16	8	4	9	M5	47	52	62	67	77	82	92	97	M10×1.0	5	4.5	3.2	75	80	90	95	105	110	120	125

Code		Mounting dimensions						With switch																	
Bore size (mm)	FD	FF	FH	FL	FM	FT	T0, T5, T2, T3								T2W, T3W						P				
							RD								HD	RD						HD			
							≤ 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
ø6	4.2	11.4	14	22	32	1.6	12	17	32	37	52	57	72	-	2	14	19	34	39	54	59	74	-	3.5	11.5
ø10	4.2	11.4	14	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
ø16	5.2	10.7	20	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

- Clevis bracket (CB)

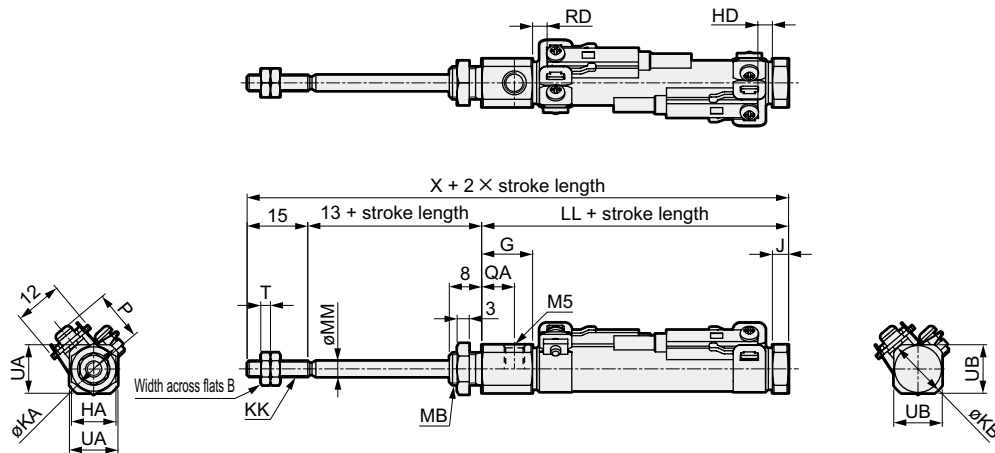


*3: For the dimensions of the accessories, refer to page 15.

0-1 of the dimensions of the accessories; refer to page 18.																												
Code	Clevris bracket (CB) basic dimensions								Mounting dimensions																			
Bore size (mm)	B	G	J	KK	MM	QB	T	UA	CA								CB	CC	CD	CJ								CV
									≤ 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	
ø10	7	4	9	M4	4	4.5	2.4	12	80	92	104	116	128	140	152	164	8	5	3.2	60	72	84	96	108	120	132	144	12
ø16	8	4	9	M5	5	4.5	3.2	18	87	99	111	123	135	147	159	171	10	10	5	62	74	86	98	110	122	134	146	18
Code									With switch																			
Bore size (mm)	CW	WF								T0, T5, T2, T3								T2W, T3W								P		
										RD								RD										
		≤ 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	HD	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105		106 ≤ 120	HD
ø10	3.2	5	12	14	21	23	30	32	39	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
ø16	6.5	5	12	14	21	23	30	32	39	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

Dimensions

● SCPH3-(L) Basic (00)



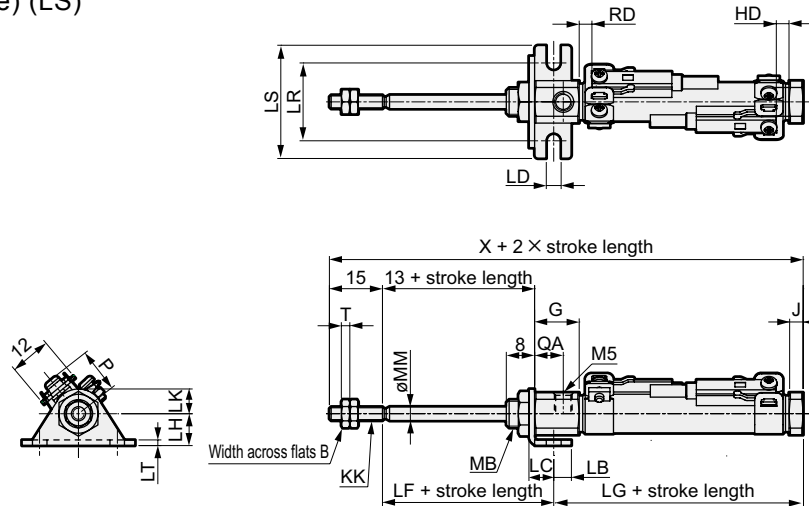
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of $\phi 6/\phi 10$ 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	Basic (00) basic dimensions																							
Bore size (mm)	B	G	HA	J	KA	KB	KK	LL								MB	MM	QA	T	UA	UB	X		
								≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120							≤ 15	16 ≤ 30	31 ≤ 45
ø6	5.5	17	8	3	13.5	10.5	M3	52.5	57.5	72.5	77.5	92.5	97.5	112.5	-	M6	3	13	1.8	11	9	80.5	85.5	100.5
ø10	7	12.5	11	4	14.5	14.5	M4	51	56	66	71	81	86	96	101	M8×1.0	4	8	2.4	12	12	79	84	94
ø16	8	13	14	4	21.5	21.5	M5	51	56	66	71	81	86	96	101	M10×1.0	5	8.5	3.2	18	18	79	84	94
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
ø6	105.5	120.5	125.5	140.5	-	2	12	17	32	37	52	57	72	-	4	13.5	18.5	33.5	38.5	53.5	58.5	73.5	-	11.5
ø10	99	109	114	124	129	3.5	12	17	27	32	42	47	57	62	5.5	14	19	29	34	44	49	59	64	13.5
ø16	99	109	114	124	129	2	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	3.5	15	20	30	35	45	50	60	65	17.0

● Axial foot (one side) (LS)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

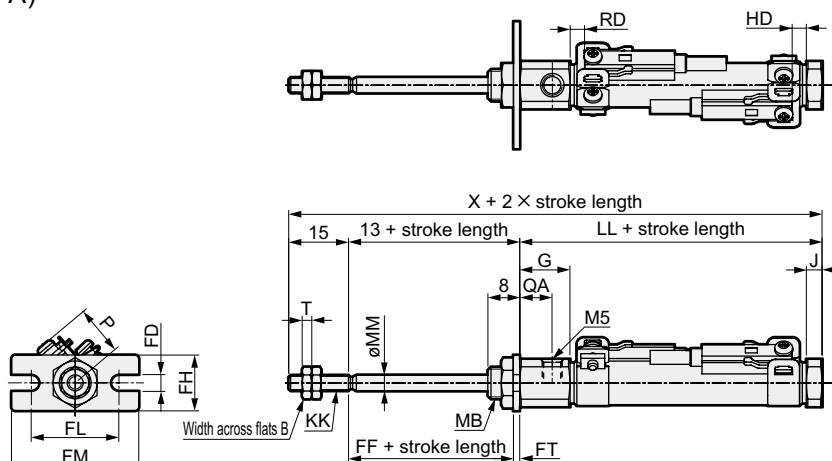
*2 : As the thread depth of $\phi 6/\phi 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*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	J	KK	MB	MM	QA	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											
ø6	5.5	17	3	M3	M6	3	13	1.8	80.5	85.5	100.5	105.5	120.5	125.5	140.5	-	5	7	4.2	18.4	47.1	52.1	67.1	72.1	87.1	92.1
ø10	7	12.5	4	M4	M8×1.0	4	8	2.4	79	84	94	99	109	114	124	129	5	7	4.2	18.4	45.6	50.6	60.6	65.6	75.6	80.6
ø16	8	13	4	M5	M10×1.0	5	8.5	3.2	79	84	94	99	109	114	124	129	6	9	5.2	19.7	44.3	49.3	59.3	64.3	74.3	79.3
Code	With switch																									
Bore size (mm)	LG						T0, T5, T2, T3								T2W, T3W								P			
							HD								HD											
	RD	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120	RD	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120								
ø6	107.1	-	9	7	22	32	1.6	2	12	17	32	37	52	57	72	-	4	13.5	18.5	33.5	38.5	53.5	58.5	73.5	-	11.5
ø10	90.6	95.6	9	7	22	32	1.6	3.5	12	17	27	32	42	47	57	62	5.5	14	19	29	34	44	49	59	64	13.5
ø16	89.3	94.3	14	10	29	42	2.3	2	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	3.5	15	20	30	35	45	50	60	65	17.0

Dimensions

● Rod side flange (FA)



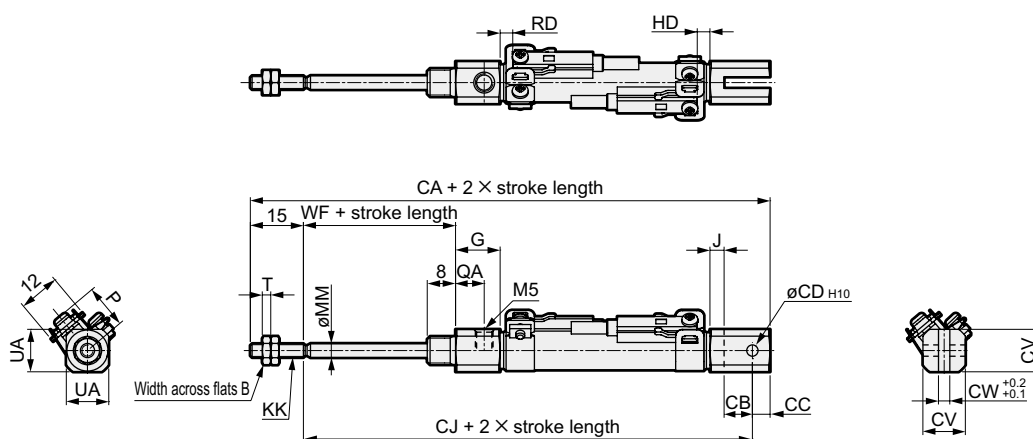
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of ø6/ø10 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		Rod side flange basic dimensions																								
Bore size (mm)		B	G	J	KK	LL								MB	MM	QA	T	X								
						≤ 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	
ø6		5.5	17	3	M3	52.5	57.5	72.5	77.5	92.5	97.5	112.5	-	M6	3	13	1.8	80.5	85.5	100.5	105.5	120.5	125.5	140.5	-	
ø10		7	12.5	4	M4	51	56	66	71	81	86	96	101	M8×1.0	4	8	2.4	79	84	94	99	109	114	124	129	
ø16		8	13	4	M5	51	56	66	71	81	86	96	101	M10×1.0	5	8.5	3.2	79	84	94	99	109	114	124	129	
Code		Mounting dimensions					With switch																			
Bore size (mm)		FD	FF	FH	FL	FM	FT	T0, T5, T2, T3								T2W, T3W						P				
								RD	HD							RD	HD									
≤ 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									
ø6		4.2	11.4	14	22	32	1.6	2	12	17	32	37	52	57	72	-	4	13.5	18.5	33.5	38.5	53.5	58.5	73.5	-	11.5
ø10		4.2	11.4	14	22	32	1.6	3.5	12	17	27	32	42	47	57	62	5.5	14	19	29	34	44	49	59	64	13.5
ø16		5.2	10.7	20	29	42	2.3	2	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	3.5	15	20	30	35	45	50	60	65	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 ø10 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 included.

*4 : For the dimensions of the accessories, refer to page 15.

4.1 of the dimensions of the accessories, refer to page 16.

Code	Clevis bracket (CB) basic dimensions								Mounting dimensions																			
Bore size (mm)	B	G	J	KK	MM	QA	T	UA	CA								CB	CC	CD	CJ								CV
									≤ 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	
ø10	7	12.5	4	M4	4	8	2.4	12	94	106	118	130	142	154	166	178	8	5	3.2	74	86	98	110	122	134	146	158	12
ø16	8	13	4	M5	5	8.5	3.2	18	101	113	125	137	149	161	173	185	10	10	5	76	88	100	112	124	136	148	160	18

Code	With switch																											
Bore size (mm)	CW	WF								T0, T5, T2, T3								T2W, T3W								P		
										HD								HD										
		≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120	RD	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90	91 ≤ 105	106 ≤ 120	RD	≤ 15	16 ≤ 30	31 ≤ 45	46 ≤ 60	61 ≤ 75	76 ≤ 90		91 ≤ 105	106 ≤ 120
ø10	3.2	15	22	24	31	33	40	42	49	3.5	12	17	27	32	42	47	57	62	5.5	14	19	29	34	44	49	59	64	13.5
ø16	6.5	15	22	24	31	33	40	42	49	2	13.5	18.5	28.5	33.5	43.5	48.5	58.5	63.5	3.5	15	20	30	35	45	50	60	65	17.0

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

Pencil shaped cylinder Double acting/heat resistance

SCPD3-T Series

● Bore size: ø6/ø10/ø16

JIS symbol



Specifications

Item	SCPD3-T		
Bore size mm	ø6	ø10	ø16
Actuation	Double acting/heat resistant		
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	5 (41°F) to 120 (248°F)		
Port size	M5		
Stroke tolerance mm	+1.0 0		
Working piston speed mm/s	50 to 750		
Cushion	Rubber cushion		
Lubrication	Not available		
Allowable absorbed energy J	0.012	0.041	0.162

Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPD3-T	ø6	15/30/45/60	100	5
	ø10		200	
	ø16		260	

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

Cylinder weight

(Unit: g)

Type	Item	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length
	Bore size (mm)	Foot LS	Flange FA	Clevis CB		
SCPD3-T	ø6	6	4	-	13	1
	ø10	6	4	4	21	2
	ø16	15	12	10	42	3

(Example) Product weight of SCPD3-T-LS-10-30

- 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
- Product weight 6+21+6=33 g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09 × 10 ²	1.27 × 10 ²	1.45 × 10 ²	1.63 × 10 ²	1.81 × 10 ²

Dimensions

Same as those of double acting SCPD3 Series. Refer to pages 13 and 14.

How to order

SCPD3-T - 00 - 10 - 15 - O ——— Y

A Mounting
*1

B Bore size

C Stroke length

D Head side port direction
*1

E Accessory
*2

Precautions for model No. selection

*1: The "CB" mounting is not available when the port direction is "O" (axial direction).

*2: "I" and "Y" cannot be selected together.

[Example of model No.]

SCPD3-T-00-10-30-O-I

Model: Pencil shaped cylinder Heat resistance

- A Mounting : Basic
- B Bore size : $\phi 10$ mm
- C Stroke length : 30 mm
- D Head side port direction : Axial direction
- E Accessory : Rod eye

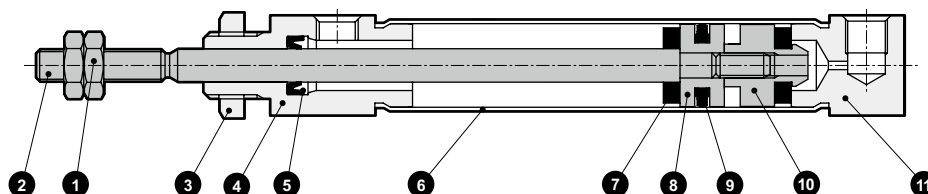
Code		Description		
A Mounting				
Bore size (ø)		6	10	16
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket (pin and snap ring included)		●	●
B Bore size (mm)				
6	ø6			
10	ø10			
16	ø16			
C Stroke length (mm)				
Bore size	Stroke length	Available stroke length	Custom stroke length	
ø6	5 to 100	100	In 1 mm increments	
ø10	5 to 200	200		
ø16	5 to 260	260		
D Head side port direction				
Blank	Vertical			
O	Axial direction			
E Accessory				
Bore size (ø)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

How to order mounting bracket

Bore size (mm)	$\phi 6$	$\phi 10$	$\phi 16$
Mounting bracket			
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



Cannot be disassembled

● This product is a caulked and cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod nut	Steel	Nickeling	7	Cushion rubber	Fluoro rubber	
2	Piston rod	Stainless steel		8	Piston	Aluminum alloy	
3	Hexagon nut	Steel	Nickeling	9	Piston packing	Fluoro rubber	
4	Rod cover	Aluminum alloy	Hard alumite	10	Spacer	Aluminum alloy	
5	Rod packing	Fluoro rubber		11	Head cover	Aluminum alloy	Hard alumite
6	Cylinder tube	Stainless steel					

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder Double acting/rubber-air cushioned

SCPD3-*C Series

● Bore size: $\phi 6/\phi 10/\phi 16$

JIS symbol

● Double acting



RoHS

CAD

Specifications

Item	SCPD3-*C, SCPD3-L-*C			
Bore size	mm	$\phi 6$	$\phi 10$	$\phi 16$
Actuation		Double acting		
Working fluid		Compressed air		
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)		
Min. working pressure	MPa	0.3 (≈ 44 psi, 3 bar)		0.2 (≈ 29 psi, 2 bar)
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)		
Ambient temperature	$^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$) (no freezing)		
Port size		M5		
Stroke tolerance	mm	+1.0 0		
Working piston speed	mm/s	50 to 750 (Operate within the allowable absorbed energy.)		
Cushion		Rubber-air cushion		
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)		
Allowable absorbed energy	J	0.012	0.041	0.162

Stroke length

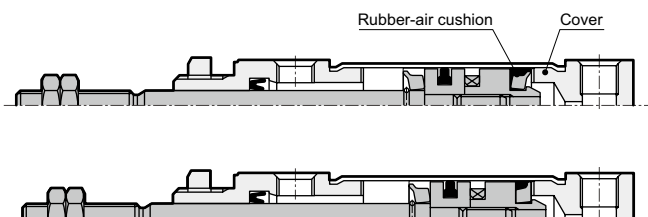
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 6$	15/30/45/60	100	5
$\phi 10$		200	
$\phi 16$		260	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

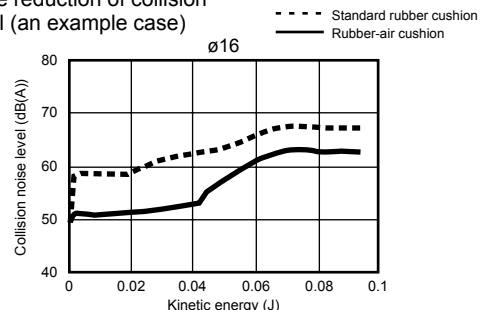
Rubber-air cushion mechanism



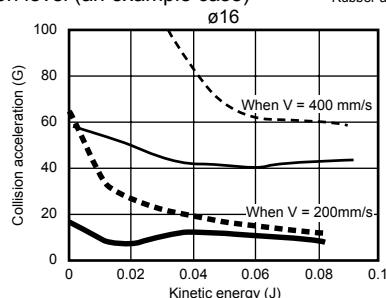
When pulled

An airtight space is created in the XXXX area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates. At the end of the stroke, energy generated by compression distortion of the air cushion is also added.

Data of the reduction of collision noise level (an example case)



Data of the reduction of collision acceleration level (an example case)



Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Item Bore size (mm)	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10mm stroke length	Switch weight (per switch)	Mounting bracket weight
		Foot LS	Flange FA	Clevis CB				
SCPD3-*C	ø6	6	4	-	13	1	Refer to the weight in the switch specifications.	2
	ø10	6	4	4	21	2		
	ø16	15	12	10	42	3		

(Example) Product weight of SCPD3-L-LS-10C-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 $2 \times 30 / 10 = 6$ g
- Switch weight $2 \times (18 + 2) = 40$ g
- Product weight $6 + 21 + 6 + 40 = 73$ g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa								
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	-	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	-	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCPD3-*C Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SCPD3 - **00** - **10C** - **15** - **O** - **I**

With switch (built-in magnet for switch)

SCPD3-L - **00** - **10C** - **15** - **O** - **T2H** - **R** - **I**

A Mounting
*1

B Bore size

Rubber-air
cushioned

C Stroke length

D Head side port
direction
*1

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

⚠ Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "O" (axial direction).

*2 : Refer to page 28 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-00-10C-15-O-T2H-R-I

Model: Pencil shaped cylinder Double acting/rubber-air cushioned

- A** Mounting : Basic
- B** Bore size : $\phi 10$ mm
- C** Stroke length : 15 mm
- D** Head side port direction : Axial direction
- E** Switch model No. : Proximity switch T2H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- G** Accessory : Rod eye

F Switch
quantity

G Options/
accessories
*4

Code	Description			
A Mounting				
	Bore size (ϕ)	6	10	16
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket		●	●

B Bore size (mm)	
6	$\phi 6$
10	$\phi 10$
16	$\phi 16$

C Stroke length (mm)		
Bore size	Stroke length *2	Custom stroke length
$\phi 6$	5 to 100	In 1 mm increments
$\phi 10$	5 to 200	
$\phi 16$	5 to 260	

D Head side port direction	
Blank	Vertical
O	Axial direction

E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
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)

F Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

G Options/accessories				
Bore size (ø)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

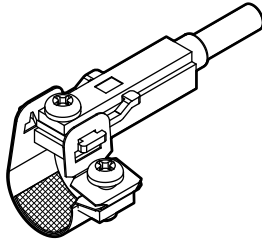
How to order switch

- Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item (B) on page 30)

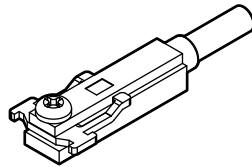
Switch model No.
(Item (E) on page 30)



- Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item (E) on page 30)

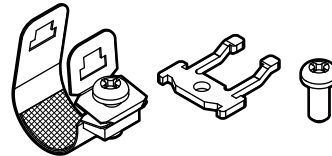


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

- Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item (B) on page 30)



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

- Mounting bracket set

SCPD3 - T - 6

Bore size
(Item (B) on page 30)



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

How to order mounting bracket

Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
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.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

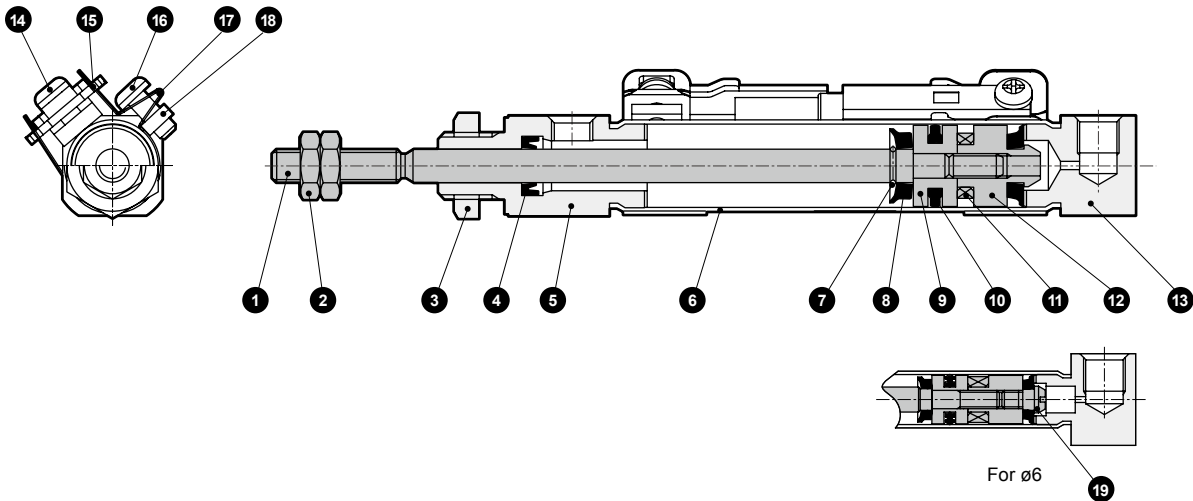
Spd
Contr

Ending

SCPD3-*C Series

Internal structure and parts list

- Rubber-air cushioned
SCPD3-*C
SCPD3-L-*C (with switch)



Cannot be disassembled

- This product cannot be disassembled.

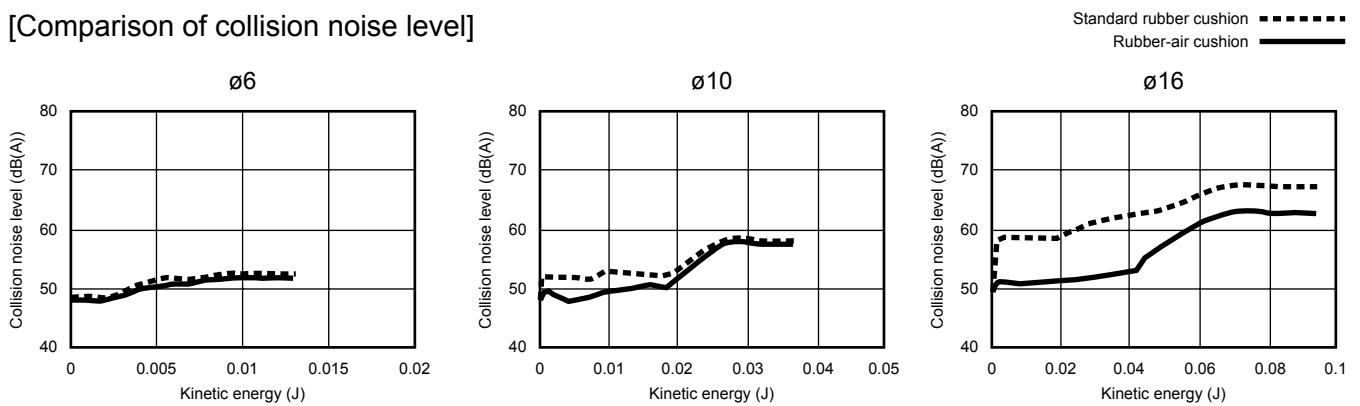
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		11	Magnet	-	With switch only
2	Rod nut	Steel	Nickeling	12	Spacer	Aluminum alloy	
3	Hexagon nut	Steel	Nickeling	13	Head cover	Aluminum alloy	Hard alumite
4	Rod packing	Nitrile rubber		14	Phillips pan head machine screw	Stainless steel	With switch only
5	Rod cover	Aluminum alloy	Hard alumite	15	Fixing bracket	Stainless steel	With switch only
6	Cylinder tube	Stainless steel		16	Phillips pan head machine screw	Stainless steel	With switch only
7	Retaining ring	Stainless steel		17	Band	Stainless steel	With switch only
8	Rubber-air cushion	Special rubber		18	Fixing nut	Stainless steel	With switch only
9	Piston	Aluminum alloy		19	Pin	Stainless steel	ø6 only
10	Piston packing	Nitrile rubber					

Dimensions

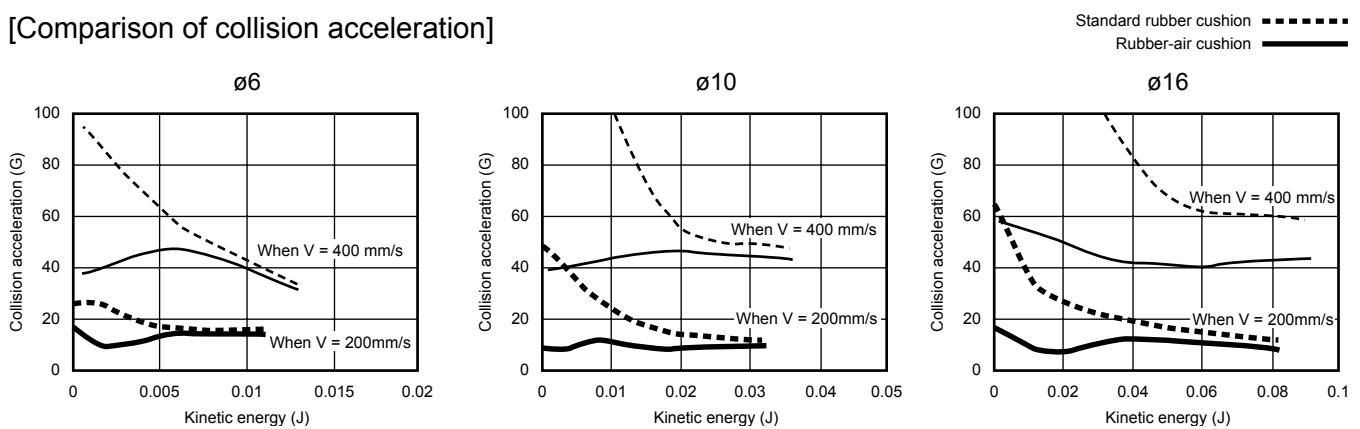
Same as those of SCPD3 Series (double acting/single rod). Refer to pages 13 and 14.

Technical data

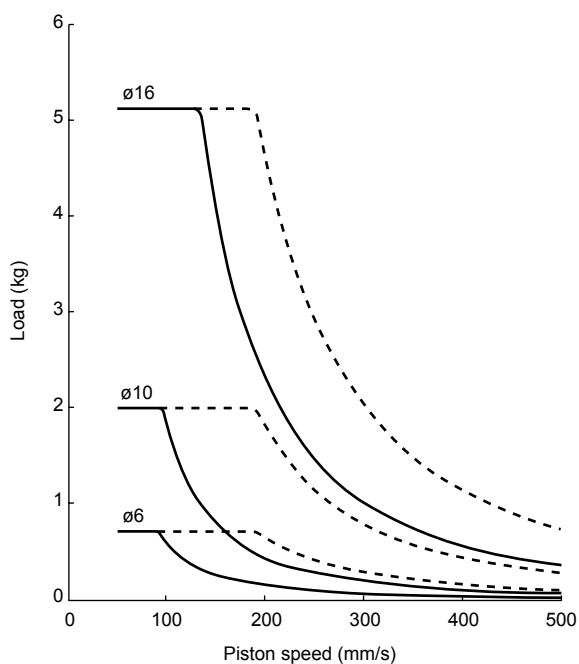
[Comparison of collision noise level]



[Comparison of collision acceleration]



[Recommended energy range]



Usable in the range below and to the left of the curve.

Although it can also be used in the range marked with --- in the figure, we recommend use within the range marked with a solid line to maximize the noise reduction effect and damping effect.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder Double acting/fine speed

SCPD3-F Series

● Bore size: $\phi 6/\phi 10/\phi 16$

JIS symbol

● Double acting



Specifications

Item	SCPD3-F/SCPD3-LF (with switch)		
Bore size mm	ø6	ø10	ø16
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	5 (41°F) to 60 (140°F)		
Port size	M5		
Stroke tolerance mm	+1.0 0		
Working piston speed mm/s	1 to 200		
Cushion	Rubber cushion		
Lubrication	Not available		
Allowable absorbed energy J	0.012	0.041	0.162

Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPD3-F SCPD3-LF	$\phi 6$	15/30/45/60	100	5
	$\phi 10$		200	
	$\phi 16$		260	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Dimensions

Same as SCPD3 Series (double acting/single rod). Refer to pages 13 and 14.

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Item Bore size (mm)	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Switch mounting bracket weight
		Foot LS	Flange FA	Clevis CB				
SCPD3-F	ø6	6	4	-	13	1	Refer to the weight in the switch specifications.	2
	ø10	6	4	4	21	2		
	ø16	15	12	10	42	3		

(Example) Product weight of SCPD3-LF-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

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09 × 10 ²	1.27 × 10 ²	1.45 × 10 ²	1.63 × 10 ²	1.81 × 10 ²

SCPD3-F Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SCPD3-F - LS - 10 - 15 - I

With switch (built-in magnet for switch)

SCPD3-LF - LS - 10 - 15 - T2H - R - I

Model No.

A Mounting

B Bore size

C Stroke length

D Switch model No.
*2, *4
* indicates the lead wire length.

E Switch quantity

F Accessory
*3

Precautions for model No. selection

*1 : Refer to page 34 for the min. stroke length with switch.

*2 : Magnet is not built into the type without switch.

*3 : "I" and "Y" cannot be selected together.

*4 : Switches are shipped with the product.

[Example of model No.]

SCPD3-LF-LS-10-15-T2H-R-I

Model: Pencil shaped cylinder Fine speed

A Mounting : Axial foot (single) (rod side)

B Bore size : ø10 mm

C Stroke length : 15 mm

D Switch model No. : Proximity switch T2H, lead wire 1 m

E Switch quantity : 1 on rod side

F Accessory : Rod eye

Code	Description	6	10	16
A Mounting				
	Bore size (ø)			
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket (pin and snap ring included)		●	●

B Bore size (mm)	
6	ø6
10	ø10
16	ø16

C Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length
ø6	5 to 100	In 1 mm increments
ø10	5 to 200	
ø16	5 to 260	

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

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

E Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

F Accessory				
	Bore size (ø)	6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

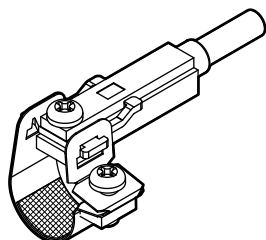
How to order switch

- Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item ⑧ on page 36)

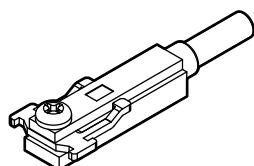
Switch model No.
(Item ① on page 36)



- Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item ① on page 36)

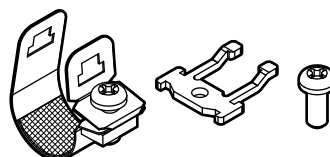


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

- Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item ⑧ on page 36)

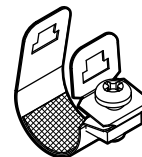


When 20 pcs or more are ordered, they will be packed together.

- Mounting bracket set

SCPD3 - T - 6

Bore size
(Item ⑧ on page 36)



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

How to order mounting bracket

Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
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.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

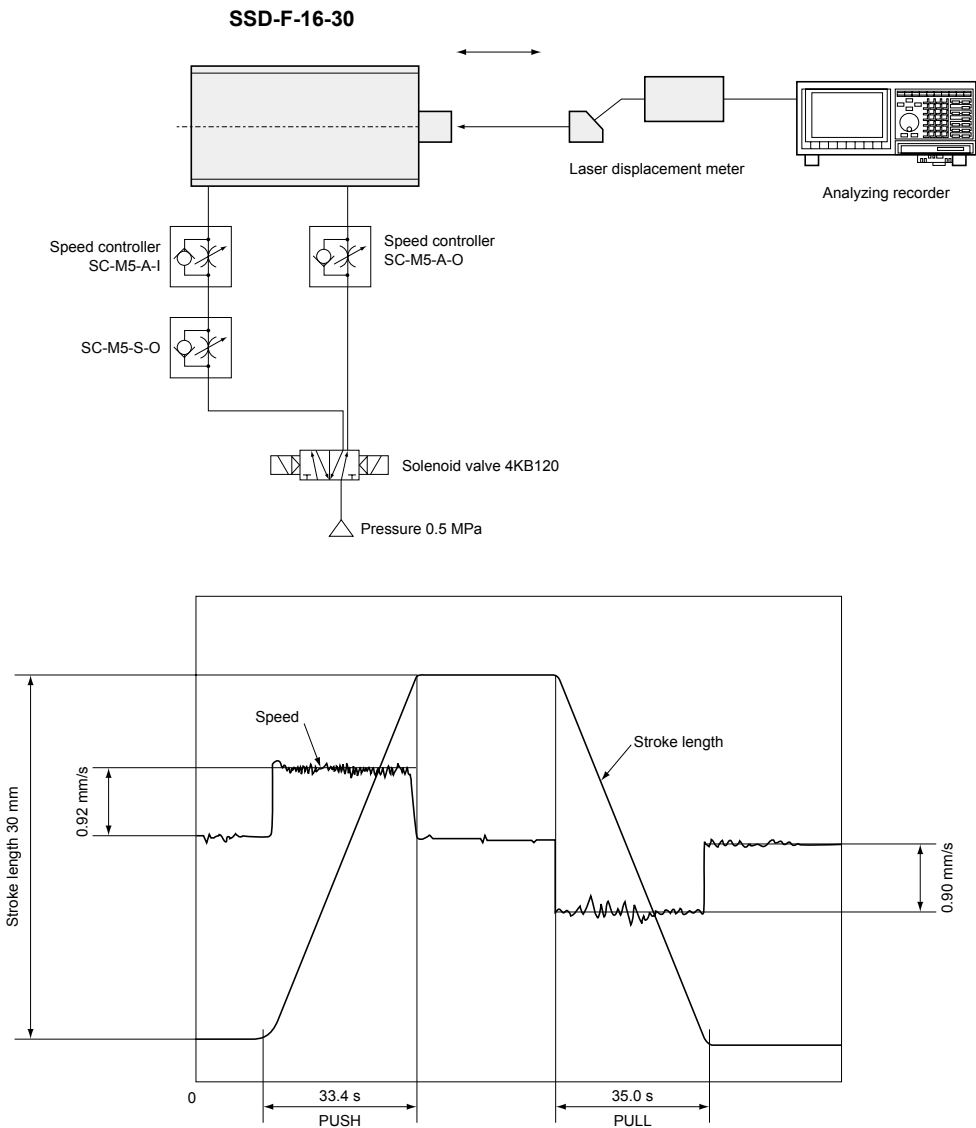
FJ

FK

Spd
Contr

Ending

Measuring method



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder Double acting/low speed

SCPD3-O Series

● Bore size: ø6/ø10/ø16

JIS symbol



Specifications

Item	SCPD3-O SCPD3-OL		
Bore size mm	ø6	ø10	ø16
Actuation	Double acting/low speed		
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	10 to 200		
Cushion	Rubber cushion		
Lubrication	Not available		
Allowable absorbed energy J	0.012	0.041	0.162

Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPD3-O	ø6	15/30/45/60	100	5
	ø10		200	
	ø16		260	

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

Min. stroke length with switch

	1		2	
	Sketch	Sketch	Sketch	Sketch
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
	3			
	Sketch	Sketch		
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm		54 mm	

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Item Bore size (mm)	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Switch mounting bracket weight
		Foot LS	Flange FA	Clevis CB				
SCPD3-O	ø6	6	4	-	13	1	Refer to the weight in the switch specifications.	2
	ø10	6	4	4	21	2		
	ø16	15	12	10	42	3		

(Example) Product weight of SCPD3-OL-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 $2 \times 30 / 10 = 6$ g
- Switch weight $2 \times (18 + 2) = 40$ g
- Product weight $6 + 21 + 6 + 40 = 73$ g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCPD3-O Series

SCP*3

How to order

Without switch (without magnet for switch)

SCPD3-O - **00** - **10** - **15** - **O** - **Y**

With switch (built-in magnet for switch)

SCPD3-OL - **00** - **10** - **15** - **O** - **T2H** - **R** - **Y**

A Model No.

B Mounting
*1

C Bore size

D Stroke length

E Head side port direction
*1

F Switch model No.
*3, *5
* indicates the lead wire length.

G Switch quantity

H Accessory
*4

Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "O" (axial direction).

*2 : Refer to page 40 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 : Switches are shipped with the product.

[Example of model No.]

SCPD3-OL-00-10-30-O-T2H-R-I

Model: Pencil shaped cylinder

A Model No. : Double acting/low speed

B Mounting : Basic

C Bore size : $\phi 10$ mm

D Stroke length : 30 mm

E Head side port direction : Axial direction

F Switch model No. : Proximity switch T2H, lead wire 1 m

G Switch quantity : 1 on rod side

H Accessory : Rod eye

Head cover port direction

For the OO, LB and FA mounting, the head cover port direction can be selected from two options: perpendicular and horizontal to the axial direction.

Code	Description
A Model No.	
SCPD3-O	Double acting/low speed
SCPD3-OL	Double acting/low speed/with switch

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

C Bore size (mm)	
6	$\phi 6$
10	$\phi 10$
16	$\phi 16$

C Stroke length (mm)		
Bore size	Stroke length *2	Custom stroke length
$\phi 6$	5 to 100	In 1 mm increments
$\phi 10$	5 to 200	
$\phi 16$	5 to 260	

E Head side port direction	
Blank	Vertical
O	Axial direction

F Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
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)

G Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

H Accessory				
Bore size (ø)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

How to order switch

● Switch body + mounting bracket set

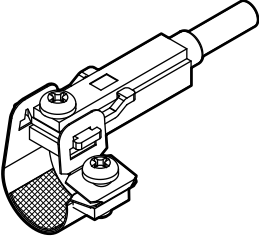
SCPD3 - T0H - 6

↓

Bore size
(Item ㉔ on page 42)

↓

Switch model No.
(Item ㉕ on page 42)

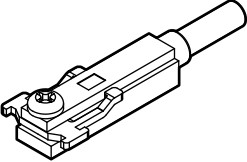


● Switch body (with fixing bracket)

SCPD3 - T0H

↓

Switch model No.
(Item ㉕ on page 42)



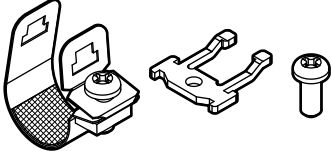
Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

↓

Bore size
(Item ㉔ on page 42)



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

● Mounting bracket set

SCPD3 - T - 6

↓

Bore size
(Item ㉔ on page 42)



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

How to order mounting bracket

Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
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.

Dimensions

Same as those of double acting SCPD3 Series. Refer to pages 13 and 14.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

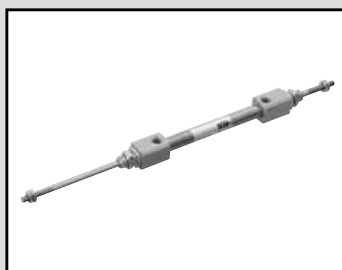
ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder Double acting/double rod

SCPD3-D/SCPD3-DT Series

● Bore size: $\phi 6/\phi 10/\phi 16$

JIS symbol

● Double acting double rod



DT: Made to order



Specifications

1 MPa = 10 bar

Item	SCPD3-D SCPD3-DL			SCPD3-DT		
Bore size mm	ø6	ø10	ø16	ø6	ø10	ø16
Actuation	Double acting/double rod			Double acting/double rod heat resistance		
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)					
Min. working pressure MPa	0.2 (≈29 psi)	0.1 (≈15 psi, 1 bar)		0.2 (≈29 psi)	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)			5 (41°F) to 120 (248°F)		
Port size	M5					
Stroke tolerance mm	+1.0 0					
Working piston speed mm/s	50 to 750			50 to 750		
Cushion	Rubber cushion					
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)			Not available		
Allowable absorbed energy J	0.012	0.041	0.162	0.012	0.041	0.162

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ø6	15/30/45/60	60	5
ø10		120	
ø16			

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Item Bore size (mm)	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Switch mounting bracket weight
		Foot LS	Foot LB	Flange FA				
SCPD3-D SCPD3-DT	ø6	6	12	4	18	2	Refer to the weight in the switch specifications.	2
	ø10	6	12	4	28	3		
	ø16	15	30	12	55	5		

(Example) Product weight of SCPD3-DL-LS-10-30-TOH-D

- Mounting bracket weight (foot) 6 g
- Product weight for 0 mm stroke length 28 g
- Additional weight for 30 mm stroke length 2×3/10=9 g
- Switch weight 2×(18+2)=40 g
- Product weight 6+28+9+40=83 g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push/Pull	-	-	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push/Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push/Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09 × 10 ²	1.27 × 10 ²	1.45 × 10 ²	1.63 × 10 ²	1.81 × 10 ²

SCPD3-D Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SCPD3-D - LS - 10 - 15 - I

With switch (built-in magnet for switch)

SCPD3-DL - LS - 10 - 15 - T2H - R - I

A Model No.

Double rod

Double rod heat resistance

Code	Description	SCPD3-D	SCPD3-DT
B Mounting			
00	Basic	●	●
LS	Axial foot (one side) (rod side)	●	●
LB	Two-sided axial foot	●	●
FA	Rod side flange	●	●

C Bore size (mm)			
6	ø6	●	●
10	ø10	●	●
16	ø16	●	●

D Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length
ø6	5 to 60	In 1 mm increments
ø10	5 to 120	
ø16	5 to 120	

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

* Lead wire length			
Blank	1 m (standard)	●	
3	3 m (option)	●	
5	5 m (option)	●	

F Switch quantity			
R	1 on rod side	●	
H	1 on head side	●	
D	2	●	
T	3	●	

G Accessory							
		Bore size (ø)			ø6	ø10	ø16
I	Rod eye		●	●		●	●
Y	Rod clevis (pin and snap ring included)		●	●		●	●

Precautions for model No. selection

*1 : Refer to page 44 for the min. stroke length with switch.

*2 : Magnet is not built into the type without switch.

*3 : SCPD3-D is copper and PTFE free as standard.

*4 : Switches are shipped with the product.

[Example of model No.]

SCPD3-DL-LS-10-15-T2H-R-I

- A** Model No. : Pencil shaped cylinder/double rod
- B** Mounting : Axial foot (single) (rod side)
- C** Bore size : ø10 mm
- D** Stroke length : 15 mm
- E** Switch model No. : Proximity switch T2H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- G** Accessory : Rod eye

F Switch quantity

G Accessory

How to order mounting bracket

Bore size (mm)	ø6	ø10	ø16
Mounting bracket			
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Foot (LB)	P2-LB-6	P2-LB-10	P2-LB-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

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

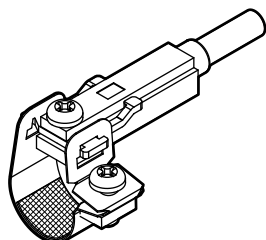
How to order switch

- Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item ③ on page 46)

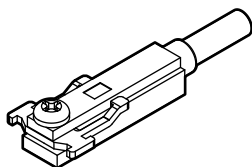
Switch model No.
(Item ⑤ on page 46)



- Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item ⑤ on page 46)

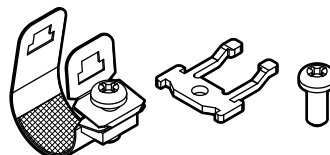


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

- Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item ③ on page 46)

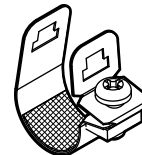


When 20 pcs or more are ordered, they will be packed together.

- Mounting bracket set

SCPD3 - T - 6

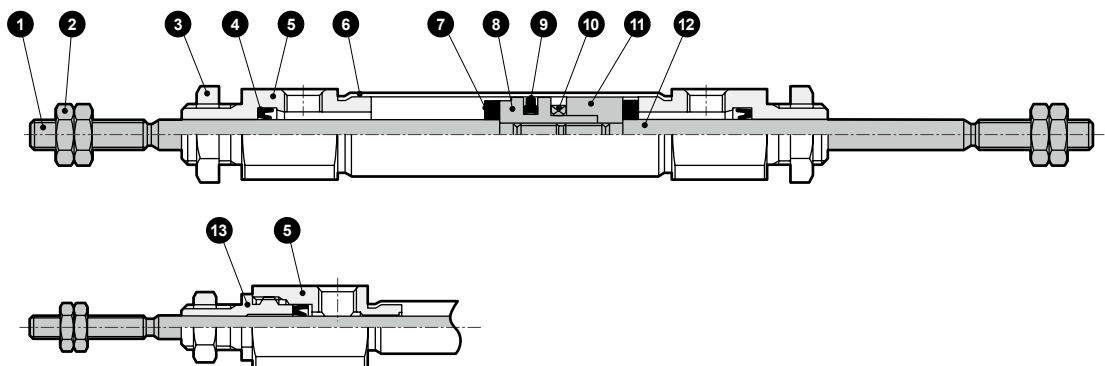
Bore size
(Item ③ on page 46)



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

Internal structure and parts list

- Double rod
SCPD3-D
SCPD3-DL (with switch)



For ø6

Cannot be disassembled

- This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod 1	Stainless steel		8	Piston	Aluminum alloy	
2	Rod nut	Steel	Nickeling	9	Piston packing	Nitrile rubber	
3	Hexagon nut	Steel	Nickeling	10	Magnet	-	With switch only
4	Rod packing	Nitrile rubber		11	Spacer	Aluminum alloy	
5	Rod cover	Aluminum alloy	Hard alumite	12	Piston rod 2	Stainless steel	
6	Cylinder tube	Stainless steel		13	Rod metal	Aluminum alloy	Hard alumite
7	Cushion rubber	Urethane rubber					

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

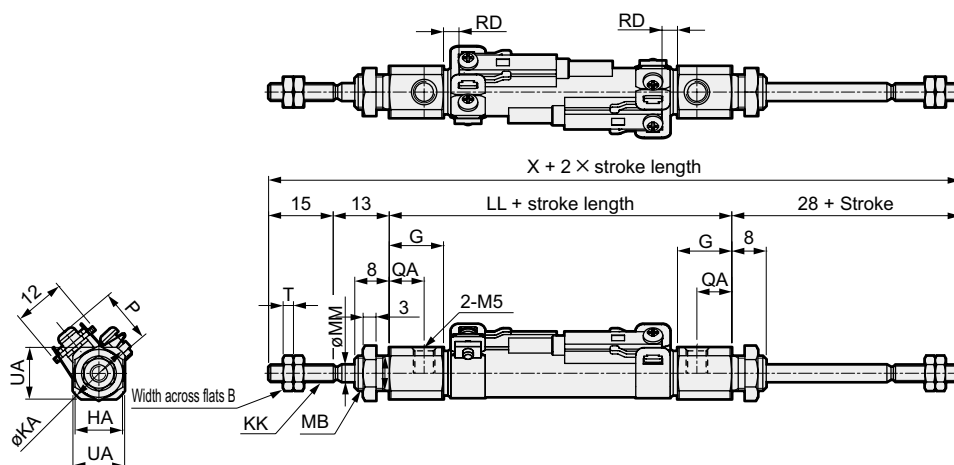
Spd
Contr

Ending

SCPD3-D Series

Dimensions

● SCPD3-D (L) Basic (00)



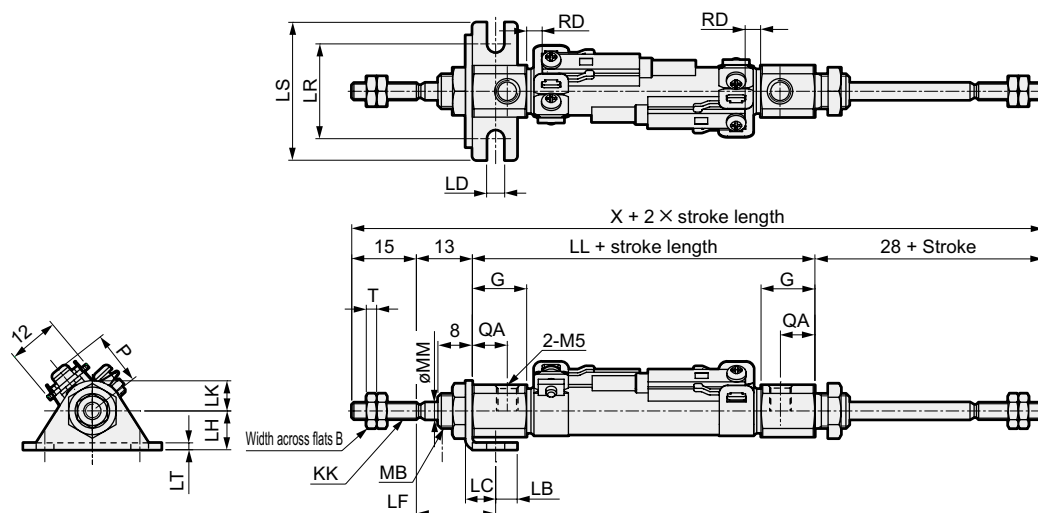
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of ø6/ø10 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	Basic (00) basic dimensions												With switch		
Bore size (mm)	B	G	HA	KA	KK	LL	MB	MM	QA	T	UA	X	T0, T5, T2, T3	T2W, T3W	P
													RD	RD	
ø6	5.5	17	8	13.5	M3	56	M6	3	13	1.8	11	112	2	4	11.5
ø10	7	12.5	11	14.5	M4	54.5	M8×1.0	4	8	2.4	12	110.5	5.5	7.5	13.5
ø16	8	13	14	21.5	M5	55	M10×1.0	5	8.5	3.2	18	111	4	6	17.0

● Axial foot (one side) (LS)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

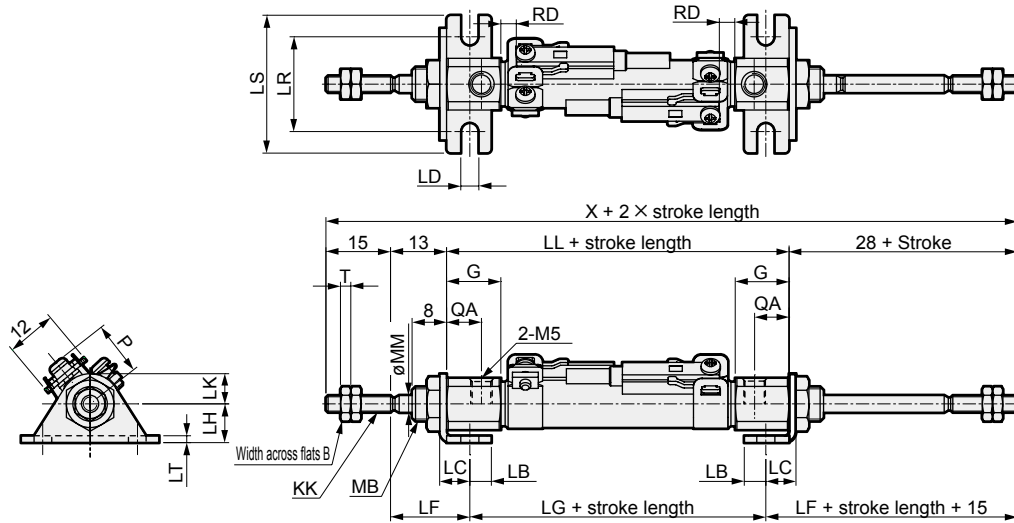
*2 : As the thread depth of ø6/ø10 port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*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	KK	LL	MB	MM	QA	T	X	LB	LC	LD	LF	LH	LK	LR	LS	LT	T0, T5, T2, T3 RD	T2W, T3W RD	P
ø6	5.5	17	M3	56	M6	3	13	1.8	112	5	7	4.2	18.4	9	7	22	32	1.6	2	4	11.5
ø10	7	12.5	M4	54.5	M8×1.0	4	8	2.4	110.5	5	7	4.2	18.4	9	7	22	32	1.6	5.5	7.5	13.5
ø16	8	13	M5	55	M10×1.0	5	8.5	3.2	111	6	9	5.2	19.7	14	10	29	42	2.3	4.0	6	17.0

Dimensions

● Two-sided axial foot (LB)



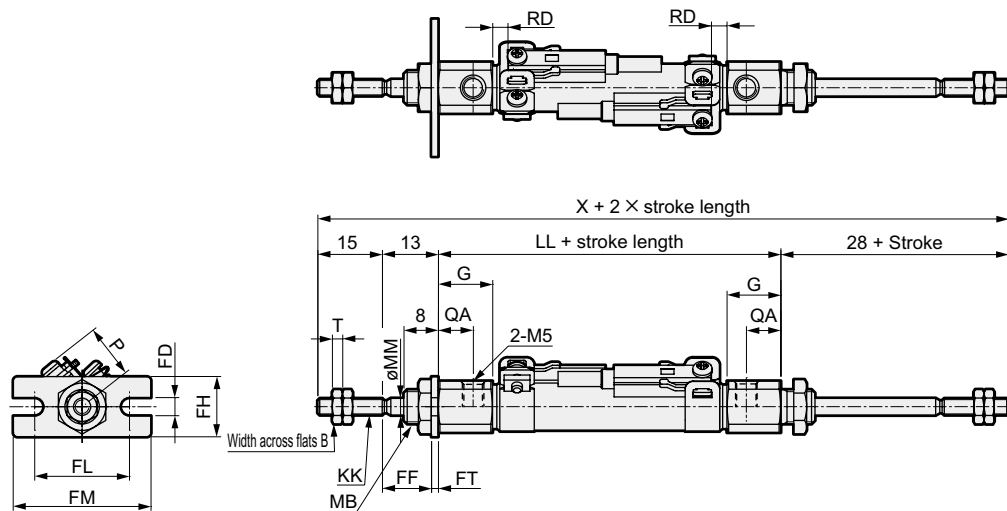
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of $\phi 6/\phi 10$ 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	Two-sided axial foot (LB) basic dimensions									Mounting dimensions										With switch		
Bore size (mm)	B	G	KK	LL	MB	MM	QA	T	X	LB	LC	LD	LF	LH	LG	LK	LR	LS	LT	T0, T5, T2, T3	T2W, T3W	P
																				RD	RD	
ø6	5.5	17	M3	56	M6	3	13	1.8	112	5	7	4.2	18.4	9	45.2	7	22	32	1.6	2	4	11.5
ø10	7	12.5	M4	54.5	M8×1.0	4	8	2.4	110.5	5	7	4.2	18.4	9	43.7	7	22	32	1.6	5.5	7.5	13.5
ø16	8	13	M5	55	M10×1.0	5	8.5	3.2	111	6	9	5.2	19.7	14	41.6	10	29	42	2.3	4	6	17.0

● 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 $\phi 6/\phi 10$ 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	Rod side flange (FA) basic dimensions									Mounting dimensions						With switch		
Bore size (mm)	B	G	KK	LL	MB	MM	QA	T	X	FD	FF	FH	FL	FM	FT	T0, T5, T2, T3	T2W, T3W	P
																RD	RD	
ø6	5.5	17	M3	56	M6	3	13	1.8	112	4.2	11.4	14	22	32	1.6	2	4	11.5
ø10	7	12.5	M4	54.5	M8×1.0	4	8	2.4	110.5	4.2	11.4	14	22	32	1.6	5.5	7.5	13.5
ø16	8	13	M5	55	M10×1.0	5	8.5	3.2	111	5.2	10.7	20	29	42	2.3	4	6	17.0

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Pencil shaped cylinder
Double acting/with speed controller

SCPD3-Z Series

● Bore size: $\varnothing 10/\varnothing 16$

Made to order



Specifications

Item	SCPD3-Z SCPD3-ZL	
Bore size mm	$\varnothing 10$	$\varnothing 16$
Actuation	Double acting/with speed controller	
Working fluid	Compressed air	
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)	
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)	
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)	
Ambient temperature $^{\circ}\text{C}$	-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	0.041	0.162

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 10$	15/30/45/60	200	5
$\varnothing 16$		260	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Switch specifications

Item	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 $\pm 10\%$	30 VDC or less	
Load current	5 to 20 mA (*3)		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 μ A or less	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Stroke length	Without switch				With switch (2 switches)				Switch mounting bracket	Switch weight (per switch)
	Bore size (mm)	15st	30st	45st	60st	15st	30st	45st	60st		
SCPD3-Z	$\phi 10$	36	41	46	51	84	89	94	99	2	Refer to the weight in the switch specifications.
	$\phi 16$	66	74	82	90	114	122	130	138		

Mounting bracket weight

(Unit: g)

Applicable bore size	Mounting		
	Foot LS	Flange FA	Clevis CB
$\phi 10$	6	4	4
$\phi 16$	15	12	10

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 10$	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
$\phi 16$	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCPD3-Z Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SCPD3-Z - **LS** - **10** - **15** - **I**

With switch (built-in magnet for switch)

SCPD3-ZL - **LS** - **10** - **15** - **T2H** - **R** - **I**

A Mounting

B Bore size

C Stroke length

D Switch model No.

E Switch quantity

F Accessory
*2

⚠ Precautions for model No. selection

- *1 : Refer to page 50 for the min. stroke length with switch.
- *2 : "I" and "Y" cannot be selected together.
- *3 : Refer to Ending Page 85 for custom specifications of rod end form.
- *4 : Refer to page 6 for combination of variations/ options.

[Example of model No.]

SCPD3-ZL-00-10-15-T2H-R-I

Model: Pencil shaped cylinder Double acting with speed controller

- A** Mounting : Basic
- B** Bore size : $\phi 10$ mm
- C** Stroke length : 15 mm
- D** Switch model No. : Proximity switch T2H
- E** Switch quantity : 1 included (on rod side)
- F** Accessory : Rod eye

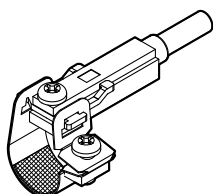
How to order switch

● Switch body + mounting bracket set

SCPD3 - **T0H** - **6**

Bore size
(Item **B** above)

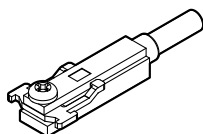
Switch model No.
(Item **D** above)



● Switch body (with fixing bracket)

SCPD3 - **T0H**

Switch model No.
(Item **D** above)

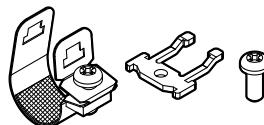


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - **TS** - **6**

Bore size
(Item **B** above)



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

● Mounting bracket set

SCPD3 - **T** - **6**

Bore size
(Item **B** above)



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

How to order mounting bracket

Bore size (mm)	$\phi 10$	$\phi 16$
Mounting bracket		
Foot (LS)	P2-LS-10M	P2-LS-16M
Flange (FA)	P2-FA-10M	P2-FA-16M

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

Code	Description
A Mounting	
00	Basic
LS	Axial foot (one side) (rod side)
FA	Rod side flange
CB	Clevis bracket (pin and snap ring included)

B	Bore size (mm)
10	$\phi 10$
16	$\phi 16$

C Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length
ø10	5 to 200	In 1 mm increments
ø16	5 to 260	

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

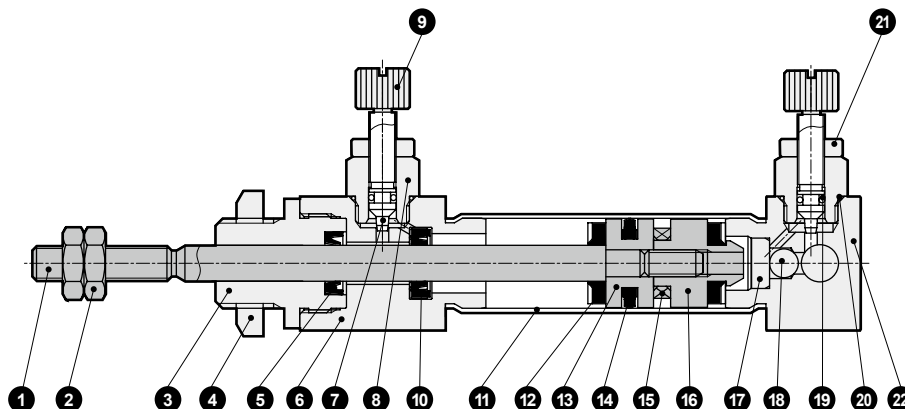
* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

E	Switch quantity
R	1 on rod side
H	1 on head side
D	2
T	3

F	Accessory
I	Rod eye
Y	Rod clevis (pin and snap ring included)

Internal structure and parts list

● SCPD3-Z



Cannot be disassembled

* This product is a caulked and cannot be disassembled.

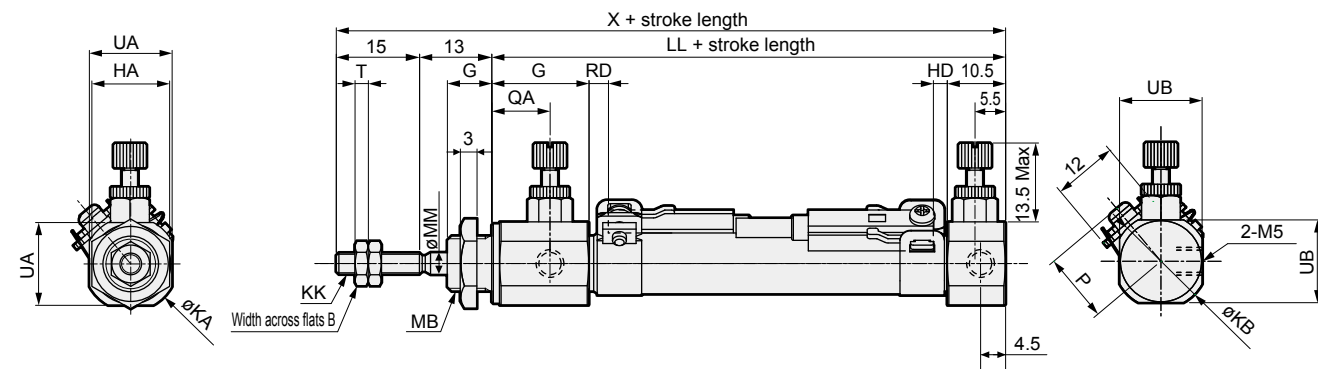
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		12	Cushion rubber	Urethane rubber	
2	Rod nut	Steel	Nickeling	13	Piston	Aluminum alloy	
3	Rod metal	Aluminum alloy	Hard alumite	14	Piston packing	Nitrile rubber	
4	Hexagon nut	Steel	Nickeling	15	Magnet	-	With switch only
5	Rod packing	Nitrile rubber		16	Spacer	Aluminum alloy	
6	Rod cover	Aluminum alloy	Hard alumite	17	Check ball holder	Aluminum alloy	
7	Needle B	Stainless steel		18	Check ball	Urethane rubber	
8	Needle holder	Aluminum alloy	Hard alumite	19	O-ring	Nitrile rubber	
9	Knob	Aluminum alloy	Chromate	20	O-ring	Nitrile rubber	
10	Check packing	Nitrile rubber		21	Lock nut	Aluminum alloy	Chromate
11	Cylinder tube	Stainless steel		22	Head cover	Aluminum alloy	Hard alumite

SCPD3-Z Series

Dimensions



● SCPD3-Z(L) Basic (00)



*2 : As the thread depth of $\phi 6/\phi 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

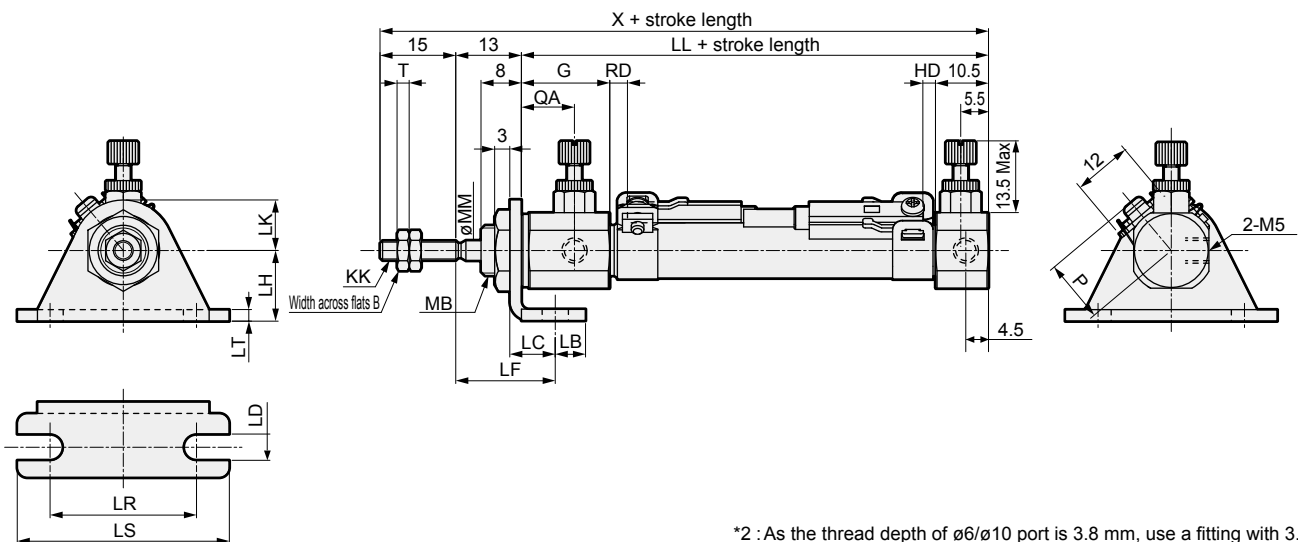
*3 : For the dimensions of the accessories, refer to page 15.

*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

Code	Basic (00) basic dimensions														
Bore size (mm)	B	G	HA	KA	KB	KK	LL	MB	MM	QA	T	UA	UB	X	
ø10	7	17.5	14	17.5	17.5	M4	52.5	M10×1.0	4	10.5	2.4	15	15	80.5	
ø16	8	18	17	21.5	21.5	M5	52.5	M12×1.0	5	11	3.2	18	18	80.5	

Code	With switch					
Bore size (mm)	T0, T5, T2, T3		T2W, T3W		P	
	RD	HD	RD	HD		
ø10	3.5	2.5	5.5	4	13.5	
ø16	2	3.5	3.5	5	17	

● Axial foot (one side) (LS)



*2 : As the thread depth of $\phi 6/\phi 10$ 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.

*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

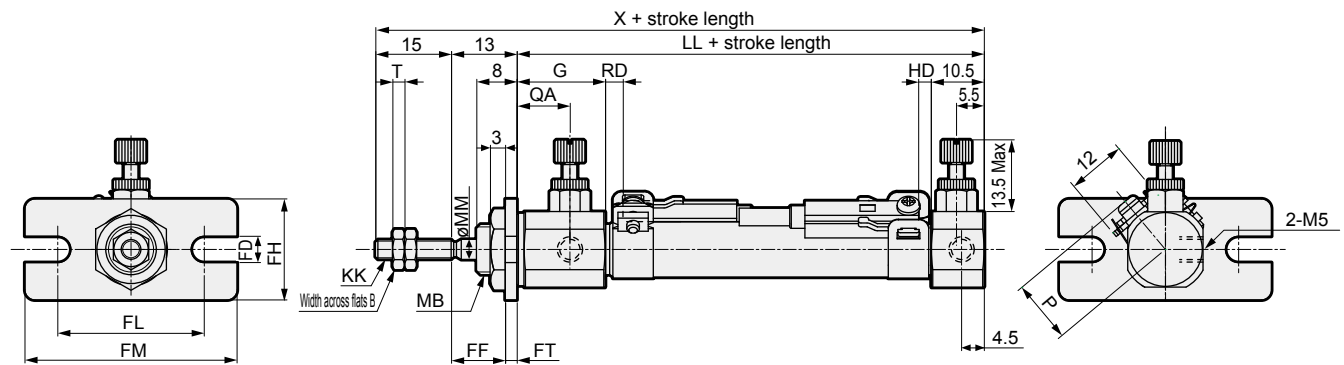
Code	Axial foot (single) (LS) basic dimensions								Mounting dimensions								
Bore size (mm)	B	G	KK	MB	MM	QA	T	X	LB	LC	LD	LF	LL	LH	LK	LR	LS
ø10	7	17.5	M4	M10×1.0	4	10.5	2.4	80.5	6	9	5.2	19.7	52.5	14	10	29	42
ø16	8	18	M5	M12×1.0	5	11	3.2	80.5	6	9	5.2	19.7	52.5	14	10	29	42

Code		With switch					
Bore size (mm)	LT	T0, T5, T2, T3		T2W, T3W		P	
		RD	HD	RD	HD		
ø10	2.3	3.5	2.5	5.5	4	13.5	
ø16	2.3	2	3.5	3.5	5	17	

Dimensions



● Rod side flange (FA)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

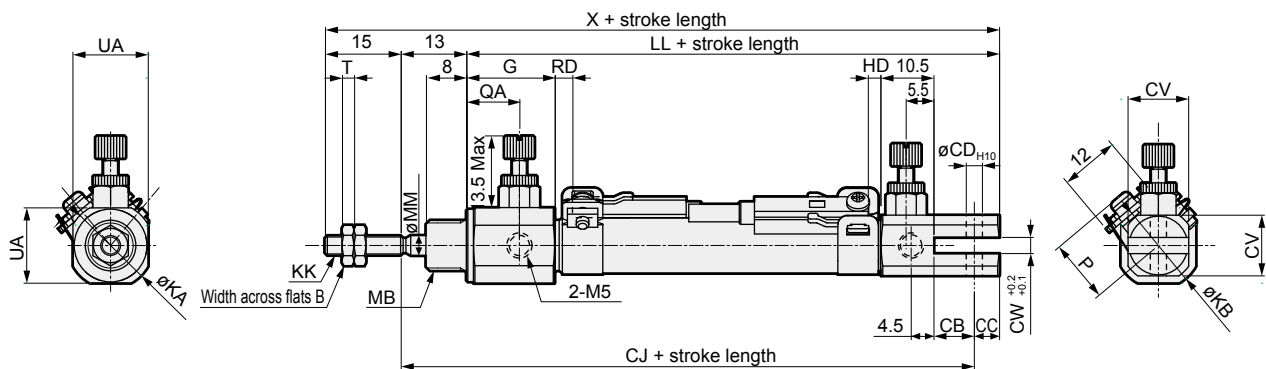
*2 : As the thread depth of $\phi 6/\phi 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*3: For the dimensions of the accessories, refer to page 15.

Code	Rod side flange (FA) basic dimensions										Mounting dimensions				
Bore size (mm)	B	G	KK	LL	MB	MM	QA	T	X		FD	FF	FH	FL	FM
$\phi 10$	7	17.5	M4	52.5	M10×1.0	4	10.5	2.4	80.5		5.2	10.7	20	29	42
$\phi 16$	8	18	M5	52.5	M12×1.0	5	11	3.2	80.5		5.2	10.7	20	29	42

Code	With switch										
Bore size (mm)	FT	T0, T5, T2, T3		T2W, T3W		P					
		RD	HD	RD	HD						
$\phi 10$	2.3	3.5	2.5	5.5	4	13.5					
$\phi 16$	2.3	2	3.5	3.5	5	17					

● 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 $\phi 6/\phi 10$ 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	Clevis bracket (CB) basic dimensions											Mounting dimensions		
Bore size (mm)	B	G	KA	KB	KK	LL	MB	MM	QA	T	UA	CA	CB	CC
ø10	7	17.5	17.5	17.5	M4	65.5	M10×1.0	4	10.5	2.4	15	93.5	8	5
ø16	8	18	21.5	21.5	M5	72.5	M12×1.0	5	11	3.2	18	100.5	10	10

Code					With switch						
Bore size (mm)	CD	CJ	CV	CW	T0, T5, T2, T3		T2W, T3W		P		
					RD	HD	RD	HD			
ø10	3.2	73.5	15	3.2	3.5	2.5	5.5	4	13.5		
ø16	5	75.5	18	6.5	2	3.5	3.5	5	17		

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



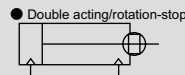
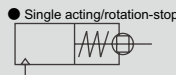
Pencil shaped cylinder

Single acting/push/rotation-stop

Double acting/rotation-stop

● Bore size: $\phi 10/\phi 16$

JIS symbol



SCPS3-M Series

SCPD3-M Series



Specifications

Item		SCPS3-M SCPS3-ML		SCPD3-M SCPD3-ML	
Bore size	mm	ø10	ø16	ø10	ø16
Actuation		Single acting/rotation-stop		Double acting/rotation-stop	
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)			
Non-rotating accuracy ^(Note)		±2°			
Allowable absorbed energy	J	0.041	0.162	0.041	0.162

(Note): Value for 0 mm stroke length. (excluding sag of piston rod)

Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPS3-M	$\phi 10$	15/30/45/60	120	5
	$\phi 16$			
SCPD3-M	$\phi 10$		200	
	$\phi 16$		260	

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

Min. stroke length with switch

	1		2	
	Sketch	Sketch	Sketch	Sketch
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
	3			
	Sketch	Sketch		
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm		54 mm	

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Single acting spring load (SCPS3-M)

(Unit: N)

Bore size (mm)	At stroke length of 0 mm	At full stroke length operation
ø10	3.2	7.5
ø16	6.4	14.9

Cylinder weight

(Unit: g)

Type	Item Bore size (mm)	Mounting bracket weight			Product weight when at 0 mm stroke length	Additional weight per 10 mm stroke length	Switch weight (per switch)	Mounting bracket weight
		Foot LS	Flange FA	Clevis CB				
SCPS3-M	ø10	6	4	4	20	4	Refer to the weight in the switch specifications.	2
	ø16	15	12	10	35	8		
SCPD3-M	ø10	6	4	4	21	2		
	ø16	15	12	10	42	3		

(Example) Product weight of SCPS3-ML-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

Theoretical thrust table

● SCPS3-M

(Unit: N)

Bore size (mm)	Working pressure MPa									
	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø10	7.01	9.34	17.2	25.0	32.9	40.8	48.6	56.5	64.3	72.2
ø16	21.5	28.7	48.8	68.9	89.0	1.09 × 10 ²	1.29 × 10 ²	1.49 × 10 ²	1.69 × 10 ²	1.90 × 10 ²

● SCPD3-M

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCP_D3-M Series

SCP*3

How to order

Without switch (without magnet for switch)

SCPD3-M - **LS** - **10** - **15** - **O** - **I**

With switch (built-in magnet for switch)

SCPD3-ML - **LS** - **10** - **15** - **O** - **T2H** - **R** - **I**

A Model No.

B Mounting

C Bore size

D Stroke length

E Head side port direction
*3

F Switch model No.
*2, *6
* indicates the lead wire length.

G Switch quantity

H Accessory
*4

! Precautions for model No. selection

- *1 : Refer to page 56 for the min. stroke length with switch.
- *2 : Magnet is not built into the type without switch.
- *3 : The "CB" mounting is not available when the port direction is "O" (axial direction).
- *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-ML-LS-10-15-O-T2H-R-I

Model: Pencil shaped cylinder rotation-stop

- A** Model No. : Single acting/push rotation-stop
- B** Mounting : Axial foot (single) (rod side)
- C** Bore size : ø10 mm
- D** Stroke length : 15 mm
- E** Head side port direction: Axial direction
- F** Switch model No. : Proximity switch T2H, lead wire 1 m
- G** Switch quantity : 1 on rod side
- H** Accessory : Rod eye

How to order mounting bracket

Bore size (mm)	ø10	ø16
Mounting bracket		
Foot (LS)	P2-LS-10M	P2-LS-16M
Flange (FA)	P2-FA-10M	P2-FA-16M

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

Code	Description
A Model No.	
SCPS3-M	Single acting push/rotation-stop
SCPD3-M	Double acting/rotation-stop

B Mounting	
00	Basic
LS	Axial foot (one side) (rod side)
FA	Rod side flange
CB	Clevis bracket (pin and snap ring included)

C Bore size (mm)	
10	ø10
16	ø16

D Stroke length (mm)			
Bore size	Stroke length *1	Available Stroke length	Custom stroke length
ø10	5 to 200 (120)	210(120)	In 1 mm increments
ø16	5 to 260 (120)	270(120)	

* The value in () is for SCPS3-M.

E Head side port direction	
Blank	Vertical
O	Axial direction

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

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

G Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

H Accessory	
I	Rod eye
Y	Rod clevis (pin and snap ring included)
B1	Eye bracket
B2	Clevis bracket

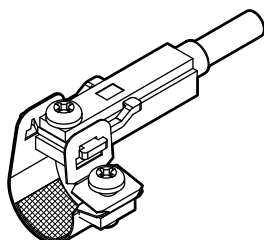
How to order switch

- Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item ③ on page 58)

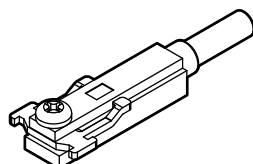
Switch model No.
(Item ⑤ on page 58)



- Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item ⑤ on page 58)

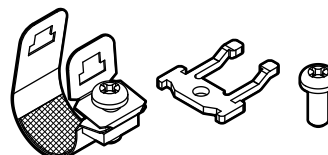


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

- Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item ③ on page 58)

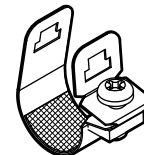


When 20 pcs or more are ordered, they will be packed together.

- Mounting bracket set

SCPD3 - T - 6

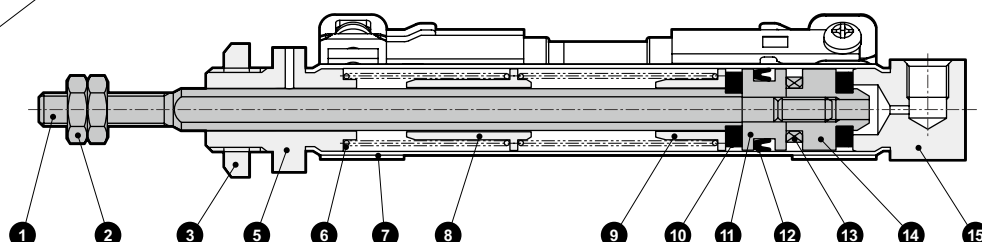
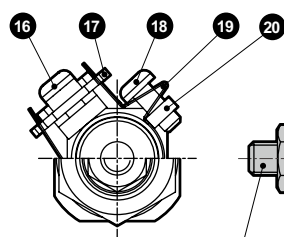
Bore size
(Item ③ on page 58)



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

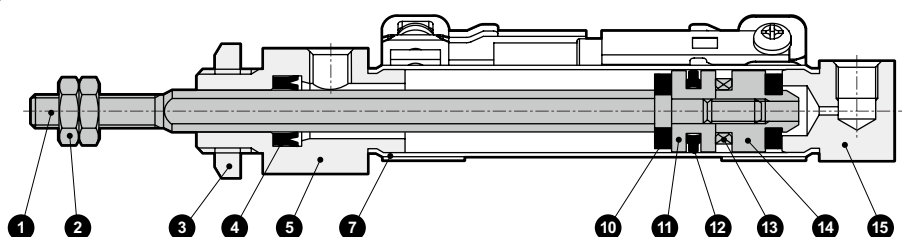
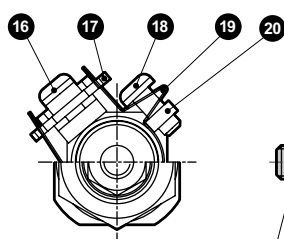
Internal structure and parts list

- Single acting/rotation-stop
SCPS3-M
SCPS3-ML (with switch)



Cannot be disassembled

- Double acting/rotation-stop
SCPD3-M
SCPD3-ML (with switch)



- This product cannot be disassembled.

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

SCPS3-M Series

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRI 2

MRG2

SM-25

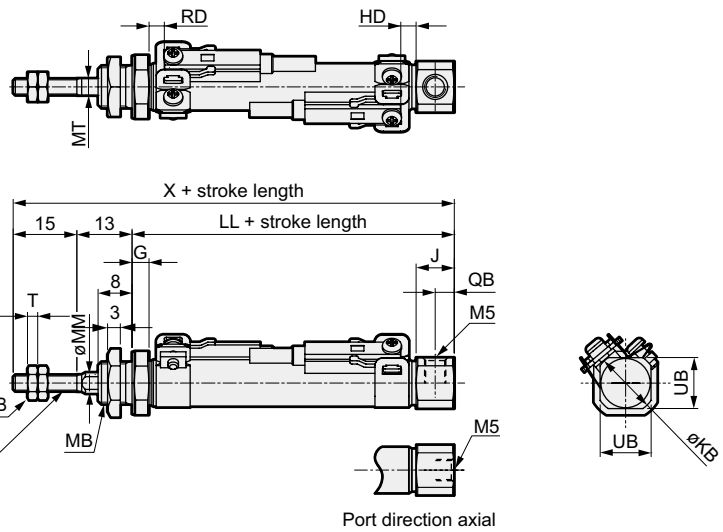
ShkAbs

E.I.

FK

Spd
Contr

Ending



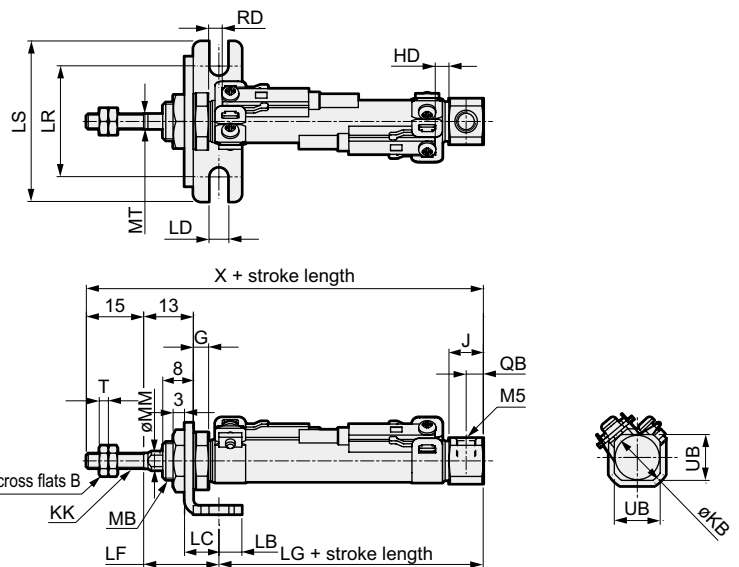
*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 :As the thread depth of $\varnothing 10$ 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	Basic (00) basic dimensions																									
Bore size (mm)	B	G	HA	J	KA	KB	KK	LL								MB		MM	MT	QB	T	UA	UB	X		
								15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120								15 or less	Over 15 to 30	Over 30 to 45	
ø10	7	4	14	9	17.5	14.5	M4	47	52	62	67	77	82	92	97	M10×1.0	5	4	4.5	2.4	15	12	75	80	90	
ø16	8	4	17	9	21.5	21.5	M5	47	52	62	67	77	82	92	97	M12×1.0	6	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								RD										
	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	HD	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	HD			
ø10	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		
ø16	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 (one side) (LS)



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

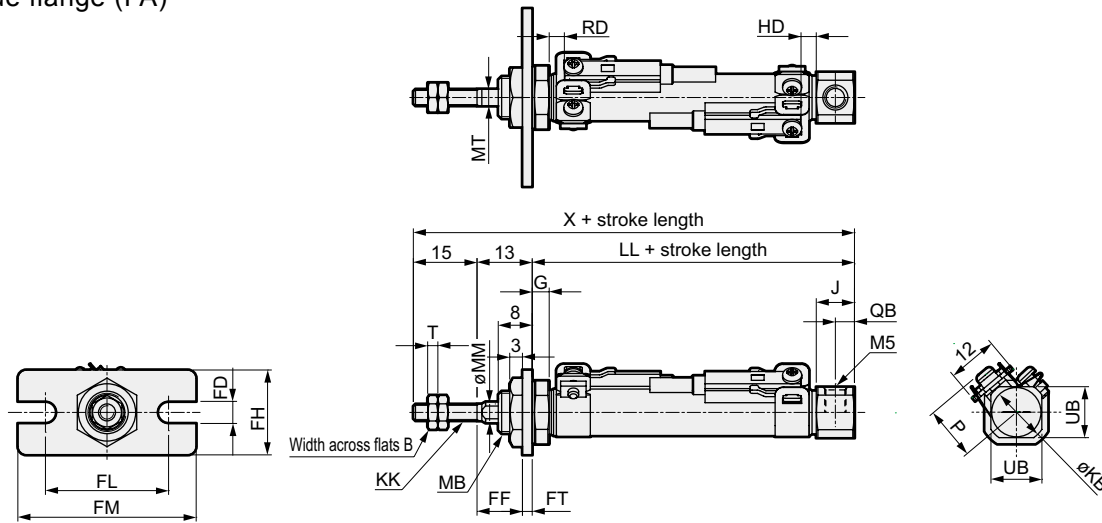
*2 :As the thread depth of $\varnothing 10$ port is 3.8 mm, use a fitting with 3.8 mm or less thread length if necessary.

*3:For the dimensions of the accessories, refer to page 15.

Code		Axial direction (LS) basic dimensions															Mounting dimensions											
Bore size (mm)	B	G	J	KB	KK	MB	MM	MT	QB	T	UB	X								LB	LC	LD	LF	LG				
	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	6	9	12	15	18	20	25	30	35	40	45	50	55	60	65	70				
ø10	7	4	9	14.5	M4	M10×1.0	5	4	4.5	2.4	12	75	80	90	95	105	110	120	125	6	9	5.2	19.7	40.3	45.3	55.3	60.3	
ø16	8	4	9	21.5	M5	M12×1.0	6	5	4.5	3.2	18	75	80	90	95	105	110	120	125	6	9	5.2	19.7	40.3	45.3	55.3	60.3	
Code		With switch																										
Bore size (mm)	LG					LH	LK	LR	LS	LT	T0, T5, T2, T3								T2W, T3W								P	
											RD				HD				RD				HD					
	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less						Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less		Over 15 to 30
ø10	70.3	75.3	85.3	90.3	14	10	29	42	2.3	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
ø16	70.3	75.3	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

Dimensions

● Rod side flange (FA)



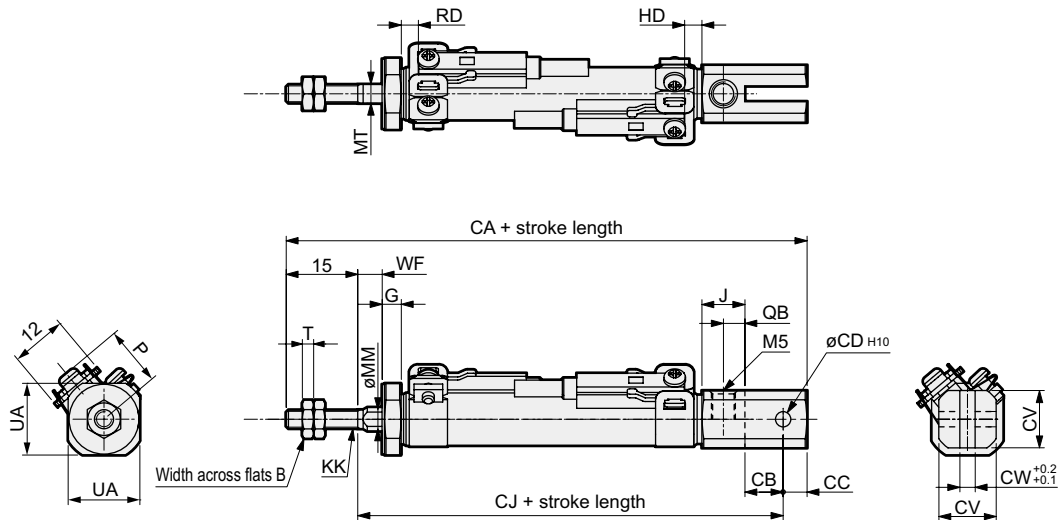
*1: The dimensions are the same in the type without switch. (Magnet is not built in.)

*2: As the thread depth of ø10 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		Rod side flange (FA) basic dimensions																									
Bore size (mm)	B	G	J	KB	KK	LL										MB	MM	MT	QB	T	UB	X					
						15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120							15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90		
ø10	7	4	9	14.5	M4	47	52	62	67	77	82	92	97	M10×1.0	5	4	4.5	2.4	12	75	80	90	95	105	110		
ø16	8	4	9	21.5	M5	47	52	62	67	77	82	92	97	M12×1.0	6	5	4.5	3.2	18	75	80	90	95	105	110		
Code		Mounting dimensions							With switch																		
Bore size (mm)	X	FD	FF	FH	FL	FM	FT	T0, T5, T2, T3								T2W, T3W							P				
								RD								RD								HD	P		
								15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105				Over 105 to 120	
ø10	120	125	5.2	10.7	20	29	42	2.3	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
ø16	120	125	5.2	10.7	20	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

● Clevis bracket (CB) with pin



*1 : The dimensions are the same in the type without switch. (Magnet is not built in.)

*2 : As the thread depth of ø10 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		Clevis bracket (CB) basic dimensions								Mounting dimensions																				
Bore size (mm)		B	G	J	KK	MM	MT	QB	T	UA	CA								CB	CC	CD	CJ								
											15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120				15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	
ø10		7	4	9	M4	5	4	4.5	2.4	12	80	92	104	116	128	140	152	164	8	5	3.2	60	72	84	96	108	120	132	144	
ø16		8	4	9	M5	6	5	4.5	3.2	18	87	99	111	123	135	147	159	171	10	10	5	62	74	86	98	110	122	134	146	
Code												With switch																		
Bore size (mm)		CV	CW	WF								T0, T5, T2, T3								T2W, T3W								HD	P	
												RD								RD										
				15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120			
ø10		12	3.2	5	12	14	21	23	30	32	39	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
ø16		18	6.5	5	12	14	21	23	30	32	39	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

SCPD3-M Series

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

Code	Basic (00) basic dimensions													
Bore size (mm)	B	HA	G	J	KA	KB	KK	LL	MB	MM	MT	QA	QB	T
ø10	7	14	12.5	9	17.5	14.5	M4	46	M10×1.0	5	4	8	4.5	2.4
ø16	8	17	13.0	9	21.5	21.5	M5	46	M12×1.0	6	5	8.5	4.5	3.2
Code				With switch										
Bore size (mm)	UA	UB	X	T0, T5, T2, T3		T2W, T3W		P						
				RD	HD	RD	HD							
ø10	15	12	74	3.5	2.5	5.5	4	13.5						
ø16	18	18	74	2	3.5	3.5	5	17.0						

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

Code	Axial foot (single) (LS) basic dimensions													Mounting dimensions			
Bore size (mm)	B	G	J	KB	KK	MB	MM	MT	QA	QB	T	UB	X	LD	LH	LB	
ø10	7	12.5	9	14.5	M4	M10×1.0	5	4	8	4.5	2.4	12	74	5.2	14	6	
ø16	8	13.0	9	21.5	M5	M12×1.0	6	5	8.5	4.5	3.2	18	74	5.2	14	6	
Code								With switch									
Bore size (mm)	LT	LC	LK	LR	LS	LF	LL	T0, T5, T2, T3		T2W, T3W		P					
								RD	HD	RD	HD						
ø10	2.3	9	10	29	42	19.7	46	3.5	2.5	5.5	4	13.5					
ø16	2.3	9	10	29	42	19.7	46	2	3.5	3.5	5	17.0					

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

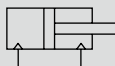


Pencil shaped cylinder double acting/high load

SCPD3-K Series

- Port size: M5
- Bore size: ø6/ø10/ø16

JIS symbol



Made to order



Specifications

1 MPa = 10 bar

Item	SCPD3-K SCPD3-KL		
Bore size mm	ø6	ø10	ø16
Actuation	Double acting/high load		
Working fluid	Compressed air		
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)		
Min. working pressure MPa	0.15 (≈22 psi)	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)	Min. stroke length (mm)
ø6	15/30/45/60	100	5
ø10		200	
ø16		260	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

Cylinder weight

[Unit: g]

Type	Stroke length	Without switch				With switch (2 switches)				Switch mounting bracket	Switch weight (per switch)
	Bore size (mm)	15 st	30 st	45 st	60 st	15 st	30 st	45 st	60 st		
SCPD3-K	ø6	15	17	19	21	65	67	69	71	2	Refer to the weight in the switch specifications.
	ø10	27	30	33	36	80	83	86	89		
	ø16	64	69	74	79	118	123	128	133		

Mounting bracket weight

(Unit: g)

Applicable bore size	Mounting		
	Foot LS	Flange FA	Clevis CB
ø6	6	4	-
ø10	6	4	4
ø16	15	12	10

Allowable lateral load

[Unit: g]

Type	Bore size (mm)	Stroke length			
		15 st	30 st	45 st	60 st
SCPD3-K	ø6	132	109	93	81
	ø10	338	277	234	203
	ø16	861	705	597	518

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	-	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	-	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

SCPD3-K Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SCPD3-K - 00 - 10 - 15 - O - I

With switch (built-in magnet for switch)

SCPD3-KL - 00 - 10 - 15 - O - T2H - R - I

Model No.

A Mounting
*1

B Bore size

C Standard stroke length

D Head side port direction
*1

E Switch model No.

Precautions for model No. selection

*1 : The "CB" mounting is not available when the port direction is "O" (axial direction).

*2 : Refer to page 64 for the min. stroke length with switch.

*3 : "I" and "Y" cannot be selected together.

*4 : For the OO, LS and FA mounting, the head cover port direction can be selected from two options: perpendicular and horizontal to the axial direction.

*5 : For ø6, the port size M3 is also available.

*6 : Refer to Ending Page 85 for custom specifications of rod end form.

*7 : Refer to page 6 for combination of variations/ options.

[Example of model No.]

SCPD3-K-00-10-15-O-T2H-R-I

Model: Pencil shaped cylinder double acting/high load

- A Mounting : Basic
- B Bore size : ø10 mm
- C Standard stroke length : 15 mm
- D Head side port direction : Axial direction
- E Switch model No. : Proximity switch T2H
- F Switch quantity : 1 on rod side
- G Accessory : Rod eye

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

B Bore size (mm)				
6	ø6			
10	ø10			
16	ø16			

C Standard stroke length (mm)				
Bore size	Stroke length *2	Custom stroke length		
ø6	5 to 100	In 1 mm increments		
ø10	5 to 200			
ø16	5 to 260			

D Head side port direction				
Blank	Vertical			
O	Axial direction			

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

* Lead wire length				
Blank	1 m (standard)			
3	3 m (option)			
5	5 m (option)			

F Switch quantity				
R	1 on rod side			
H	1 on head side			
D	2			
T	3			

G Accessory				
Bore size (ø)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin/snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

G Accessory
*3

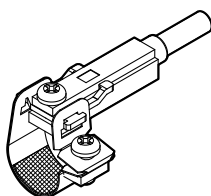
How to order switch

● Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item B on page 66)

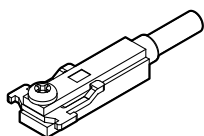
Switch model No.
(Item E on page 66)



● Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item E on page 66)

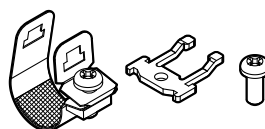


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item B on page 66)



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

● Mounting bracket set

SCPD3 - T - 6

Bore size
(Item B on page 66)



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

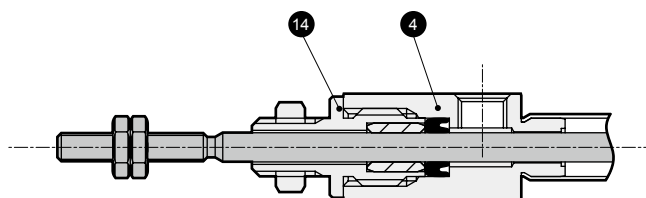
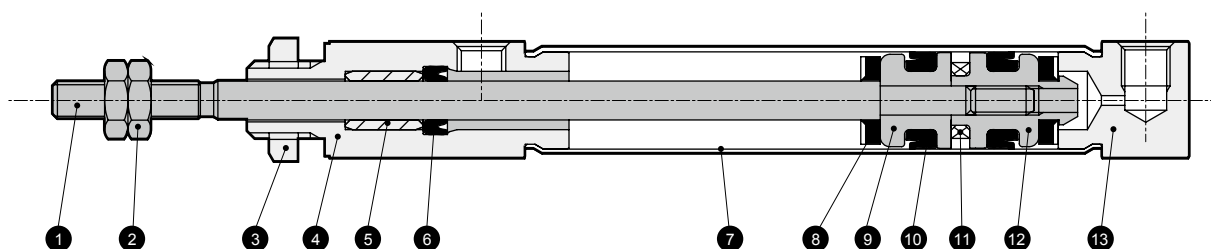
How to order mounting bracket

Bore size	ø6	ø10	ø16
Mounting bracket			
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

● SCPD3-K(ø6)



For ø6

Cannot be disassembled

* This product is a caulked and cannot be disassembled.

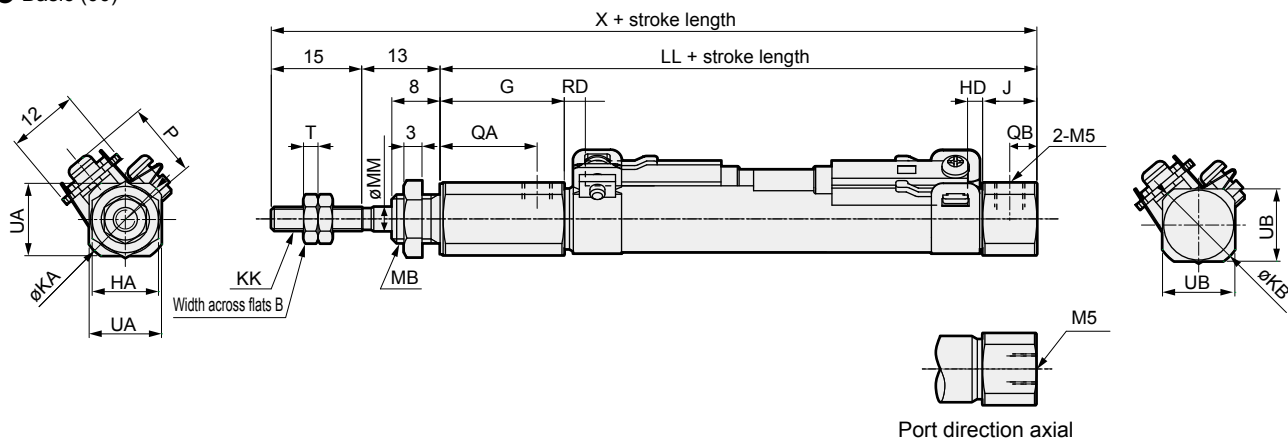
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		8	Cushion rubber	Urethane rubber	
2	Rod nut	Steel	Nickeling	9	Piston (R)	Aluminum alloy	Chromate
3	Hexagon nut	Steel	Nickeling	10	Piston packing	Nitrile rubber	
4	Rod cover	Aluminum alloy	Hard alumite	11	Magnet	-	With switch only
5	Bush	Dry bearing		12	Piston (H)	Aluminum alloy	Chromate
6	Rod packing	Nitrile rubber		13	Head cover	Aluminum alloy	Hard alumite
7	Cylinder tube	Stainless steel		14	Rod metal	Aluminum alloy	Hard alumite

SCPD3-K Series



Dimensions

● Basic (00)



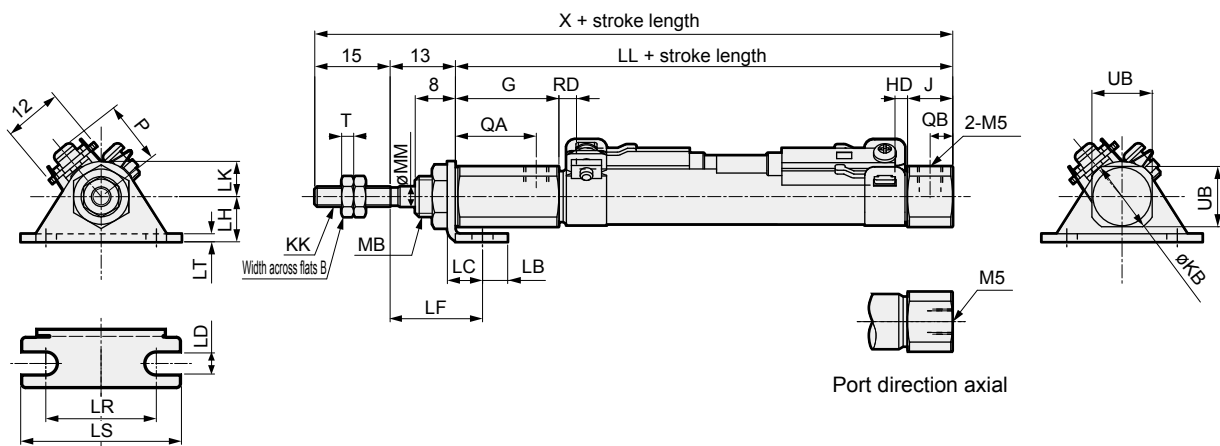
*1 : Dimensions shown in () are for when the head side port direction is "0" (axial direction).

*2: 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	QA	QB	T	UA	UB	X
ø6	5.5	20	8	8	13.5	13.5	M3	55	M6	3	16	4	1.8	11	11(8)	83
ø10	7	20.5	11	9	14.5	14.5	M4	59	M8×1.0	4	16	4.5	2.4	12	12	87
ø16	8	21	14	9	21.5	21.5	M5	62	M10×1.0	5	16.5	4.5	3.2	18	18	90

Code	With switch					
Bore size (mm)	T0, T5, T2, T3		T2W, T3W		P	
	RD	HD	RD	HD		
ø6	2	2	4	3.5	11.5	
ø10	3.5	2.5	5.5	4	13.5	
ø16	2	3.5	3.5	5	17	

● Axial foot (one side) (LS)



*1: For the dimensions of the accessories, refer to page 15.

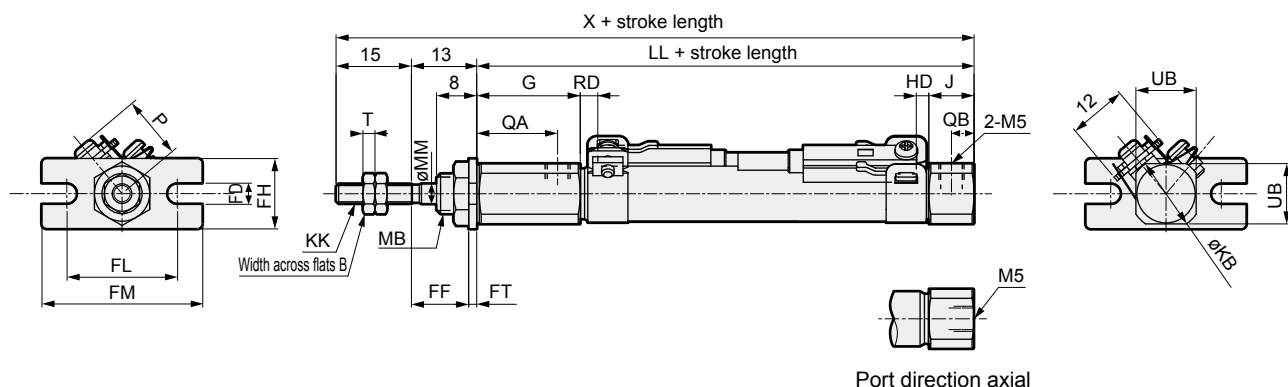
Code	Axial foot (single) (LS) basic dimensions													Mounting dimensions		
Bore size (mm)	B	G	J	KB	KK	LL	MB	MM	QA	QB	T	UB	X	LB	LC	LD
ø6	5.5	20	8	13.5	M3	55	M6	3	16	4	1.8	11(8)	83	5	7	4.2
ø10	7	20.5	9	14.5	M4	59	M8×1.0	4	16	4.5	2.4	12	87	5	7	4.2
ø16	8	21	9	21.5	M5	62	M10×1.0	5	16.5	4.5	3.2	18	90	6	9	5.2

Code							With switch									
Bore size (mm)	LF	LH	LK	LR	LS	LT	T0, T5, T2, T3		T2W, T3W		P					
							RD	HD	RD	HD						
ø6	18.4	9	7	22	32	1.6	2	2	4	3.5	11.5					
ø10	18.4	9	7	22	32	1.6	3.5	2.5	5.5	4	13.5					
ø16	19.7	14	10	29	42	2.3	2	3.5	3.5	5	17					

Dimensions



● Rod side flange (FA)

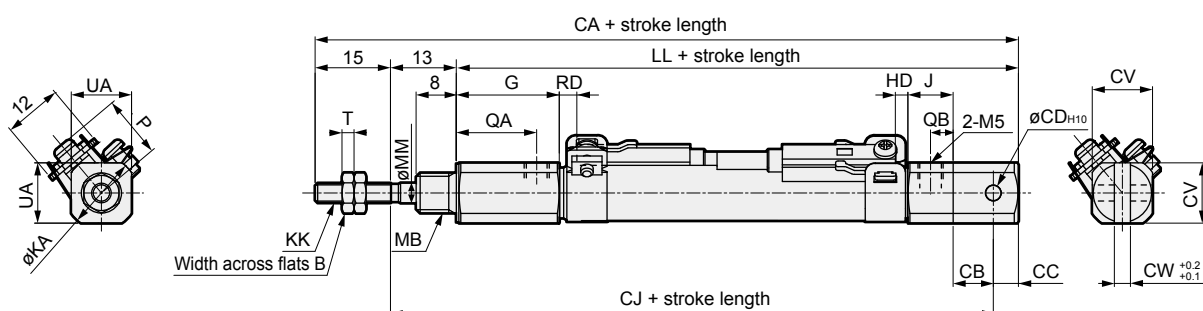


*1: For the dimensions of the accessories, refer to page 15.

Code	Rod side flange (FA) basic dimensions													Mounting dimensions		
Bore size (mm)	B	G	J	KB	KK	LL	MB	MM	QA	QB	T	UB	X	FD	FF	FH
$\phi 6$	5.5	20	8	13.5	M3	55	M6	3	16	4	1.8	11(8)	83	4.2	11.4	14
$\phi 10$	7	20.5	9	14.5	M4	59	M8×1.0	4	16	4.5	2.4	12	87	4.2	11.4	14
$\phi 16$	8	21	9	21.5	M5	62	M10×1.0	5	16.5	4.5	3.2	18	90	5.2	10.7	20

Code	With switch										
Bore size (mm)	FL	FM	FT	T0, T5, T2, T3		T2W, T3W		P			
				RD	HD	RD	HD	P			
$\phi 6$	22	32	1.6	2	2	4	3.5	11.5			
$\phi 10$	22	32	1.6	3.5	2.5	5.5	4	13.5			
$\phi 16$	29	42	2.3	2	3.5	3.5	5	17			

● Clevis bracket (CB)



*1: For the dimensions of the accessories, refer to page 15.

Code	Clevis bracket (CB) basic dimensions											Mounting dimensions				
Bore size (mm)	B	G	J	KA	KK	MB	MM	QA	QB	T	UA	CA	CB	CC	CD	CJ
ø10	7	20.5	9	14.5	M4	M8×1.0	4	16	4.5	2.4	12	100	8	5	3.2	80
ø16	8	21	9	21.5	M5	M10×1.0	5	16.5	4.5	3.2	18	110	10	10	5	85

Code			With switch								
Bore size (mm)	CV	CW	T0, T5, T2, T3		T2W, T3W						
			RD	HD	RD	HD	P				
ø10	12	3.2	3.5	2.5	5.5	4	13.5				
ø16	18	6.5	2	3.5	3.5	5	17				

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



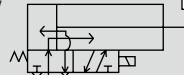
Pencil shaped cylinder single acting/with valve, double acting/with valve

SCPS3-V Series

SCPD3-V Series

● Bore size: $\phi 10/\phi 16$

JIS symbol

● Single acting/
with valve● Double acting/
with valve

Made to order



Specifications

Item		SCPS3-V SCPS3-VL		SCPD3-V SCPD3-VL	
Bore size	mm	ø10	ø16	ø10	ø16
Actuation		Single acting/with valve		Double acting/with valve	
Working fluid		Compressed air			
Max. working pressure	MPa	1 (≈150 psi, 10 bar)		0.7 (≈100 psi, 7 bar)	
Min. working pressure	MPa	0.15 (≈22 psi, 1.5 bar)			
Proof pressure	MPa	1.5 (≈220 psi, 15 bar)		1.05 (≈150 psi, 10.5 bar)	
Ambient temperature	°C	-10 (14°F) to 50 (122°F) (no freezing)			
Port size		M5			
Stroke tolerance	mm	^{+1.0} ₀ (to 60), ^{+1.5} ₀ (61 to 120)		^{+1.0} ₀ (to 120), ^{+1.5} ₀ (^{121 to 200: ø10} _{121 to 260: ø16})	
Working piston speed	mm/s	50 to 750			
Cushion		Rubber cushion			
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			
Manual operating device		Non-locking push type			
Allowable absorbed energy	J	0.041	0.162	0.041	0.162
Solenoid valve specifications					
Applicable valve series		P5132(SCPS3-V, SCPS3-VL) P5142(SCPD3-V, SCPD3-VL)			
Rated voltage	V	AC100(50/60 Hz)	AC200(50/60 Hz)	DC24	
Starting current	A	0.056/0.044	0.034/0.026	0.075	
Holding current	A	0.028/0.022	0.017/0.013	0.075	
Power consumption	W	1.8/1.4	2.1/1.6	1.8	
Voltage fluctuation range		±10%			
Thermal class		Class B (molded coil)			
Temperature rise	°C	45			

Note: Refer to "Pneumatic Valves (No. CB-023SA)" for details on valves.

Stroke length

Bore size (mm)			Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPS3-V	Single acting	$\phi 10$	15/30/45/60	120	15
		$\phi 16$			
SCPD3-V	Double acting	$\phi 10$	15/30/45/60	200	
		$\phi 16$		260	

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

Min. stroke length with switch

Sketch	1		2	
	Rod side installation	Head side installation	Different surface mounting	Same surface mounting
Min. stroke length	5 mm		10 mm	28 mm
Sketch	3			
	Different surface mounting	Same surface mounting		
Min. stroke length	38 mm	54 mm		

Switch specifications

Item	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 (*3)		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	
Item	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 detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C.
(5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Type	Stroke length	Without switch				With switch (2 switches)				Switch mounting bracket weight	Switch weight (per switch)
	Bore size (mm)	15st	30st	45st	60st	15st	30st	45st	60st		
SCPS3-V	ø10	89	96	103	110	139	146	153	160	2	Refer to the weight in the switch specifications.
	ø16	107	121	135	149	159	173	187	201		
SCPD3-V	ø10	131	134	138	142	181	184	188	192		
	ø16	151	156	161	166	203	208	213	218		

Mounting bracket weight

(Unit: g)

Applicable bore size	Mounting		
	Foot LS	Foot LB	Flange FA
ø10	6	12	4
ø16	15	30	12

Single acting spring load (SCPS3-V)

(Unit: N)

Bore size (mm)	At stroke length of 0mm	At full stroke length operation
ø10	3.2	7.5
ø16	6.4	14.9

Theoretical thrust table

● SCPS3-V

(Unit: N)

Bore size (mm)	Working pressure MPa									
	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø10	7.01	9.34	17.2	25.0	32.9	40.8	48.6	56.5	64.3	72.2
ø16	21.5	28.7	48.8	68.9	89.0	1.09 × 10 ²	1.29 × 10 ²	1.49 × 10 ²	1.69 × 10 ²	1.90 × 10 ²

● SCPD3-V

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa						
		0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø10	Push	11.8	15.7	23.6	31.4	39.3	47.1	55.0
	Pull	9.90	13.2	19.8	26.4	33.0	39.6	46.2
ø16	Push	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²
	Pull	27.2	36.3	54.4	72.6	90.7	1.09 × 10 ²	1.27 × 10 ²

SCP^SD3-V* Series

SCP*3 How to order

Without switch (without magnet for switch)

SCPD3-V - **LS** - **10** - **15** - **1** - **I**

With switch (built-in magnet for switch)

SCPD3-VL - **LS** - **10** - **15** - **1** - **T2H** - **R** - **I**

A Model No.

B Mounting

C Bore size

D Stroke length

E Valve voltage

F Switch model No.

G Switch quantity

H Option

I Accessory
*3

⚠ Precautions for model No. selection

*1 : Refer to page 70 for the min. stroke length with switch.

*2 : Magnet is not built into the without switch.

*3 : "I" and "Y" cannot be selected together.

*4 : Refer to Ending Page 85 for custom specifications of rod end form.

*5 : Refer to page 6 for combination of variations/options.

*6 : For P6 (copper and PTFE free), check the delivery date as it is a made-to-order product.

*7 : Cannot be selected for single acting push (SCPS3).

[Example of model No.]

SCPD3-VL-LS-10-15-1-T2H-R-I

Model: Pencil shaped cylinder

A Model No. : Double acting/with valve and switch

B Mounting : Axial foot (single) (rod side)

C Bore size : ø10 mm

D Stroke length : 15 mm

E Valve voltage : 100 VAC

F Switch model No. : Proximity switch T2H, lead wire 1 m

G Switch quantity : 1 on rod side

H Option : None

I Accessory : Rod eye

Code	Description
A Model No.	
SCPS3-V	Single acting push with valve
SCPD3-V	Double acting with valve

B Mounting	
00	Basic
LS	Axial foot (one side)
LB	Two-sided axial foot *7
FA	Rod side flange

C Bore size (mm)	
10	ø10
16	ø16

D Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length
ø10	15 to 200(120)	In 1 mm increments
ø16	15 to 260(120)	

* The value in () is for SCPS3-V.

E Valve voltage	
1	100 VAC
2	200 VAC
3	24 VDC

F Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
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)

G Switch quantity	
R	1 on rod side
H	1 on head side
D	2

H Option	
P6	Copper and PTFE free (made-to-order product)

I Accessory	
I	Rod eye
Y	Rod clevis (pin and snap ring included)
B1	Eye bracket
B2	Clevis bracket

How to order mounting bracket

Bore size (mm)	ø10	ø16
Mounting bracket		
Foot (LS)	P2-LS-10	P2-LS-16
Foot (LB)	P2-LB-10	P2-LB-16
Flange (FA)	P2-FA-10	P2-FA-16

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

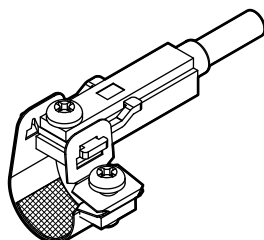
How to order switch

- Switch body + mounting bracket set

SCPD3 - T0H - 6

Bore size
(Item ③ on page 72)

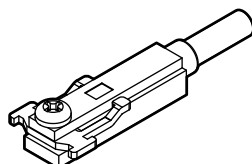
Switch model No.
(Item ⑤ on page 72)



- Switch body (with fixing bracket)

SCPD3 - T0H

Switch model No.
(Item ⑤ on page 72)

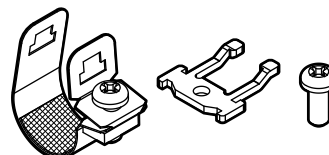


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T type standard switch.

- Mounting bracket set + fixing bracket

SCPD3 - TS - 6

Bore size
(Item ③ on page 72)

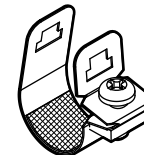


When 20 pcs or more are ordered, they will be packed together.

- Mounting bracket set

SCPD3 - T - 6

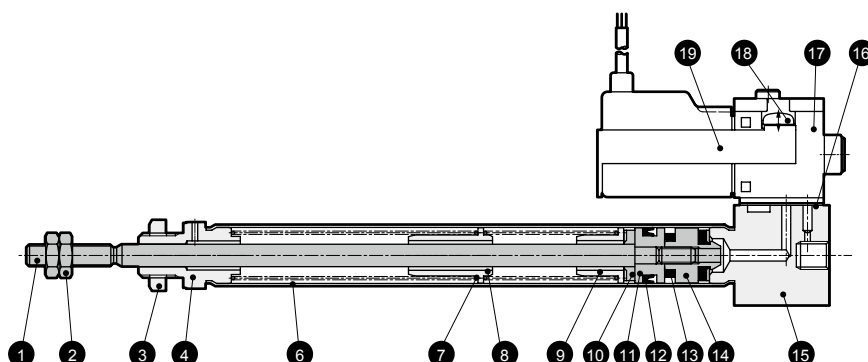
Bore size
(Item ③ on page 72)



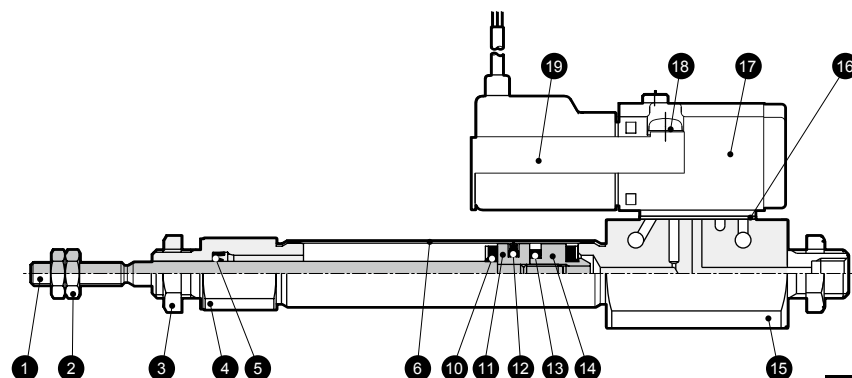
When 20 pcs or more are ordered, they will be packed together.

Internal structure and parts list (with switch)

- SCPS3-VL



- SCPD3-VL



Cannot be disassembled

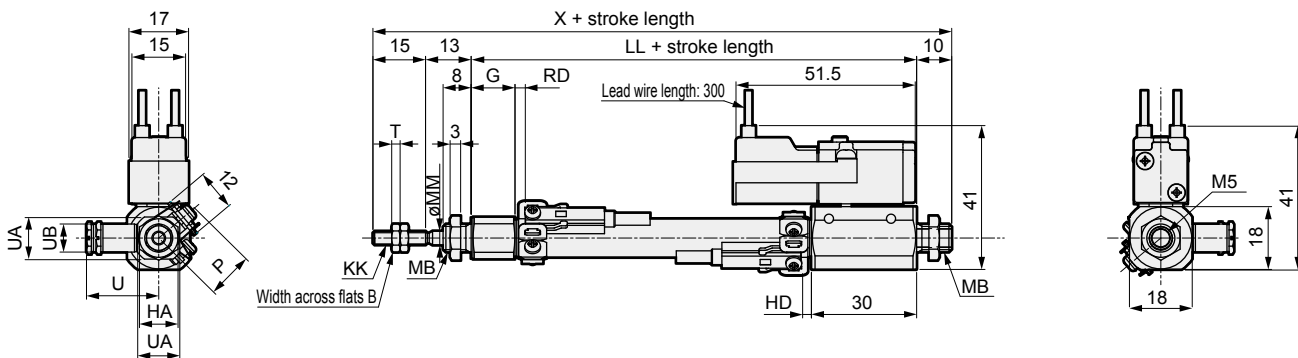
* This product is caulked and cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		11	Piston	Aluminum alloy	
2	Rod nut	Steel	Nickeling	12	Piston packing	Nitrile rubber	
3	Hexagon nut	Steel	Nickeling	13	Magnet	-	With switch only
4	Rod cover	Aluminum alloy	Hard alumite	14	Spacer	Aluminum alloy	
5	Rod packing	Nitrile rubber		15	Head cover	Aluminum alloy	Hard alumite
6	Cylinder tube	Stainless steel		16	Gasket	Nitrile rubber	
7	Spring	Piano wire	Zinc chromate	17	Solenoid valve	-	3-way valve - single acting, 4-way valve - double acting
8	Collar	Aluminum alloy		18	Pan head machine screw	Steel	Zinc chromate
9	Spring holder	Aluminum alloy		19	Shielding plate	Steel	With switch only
10	Cushion rubber	Urethane rubber					



SCPD3- $\frac{V}{V_L}$ Series

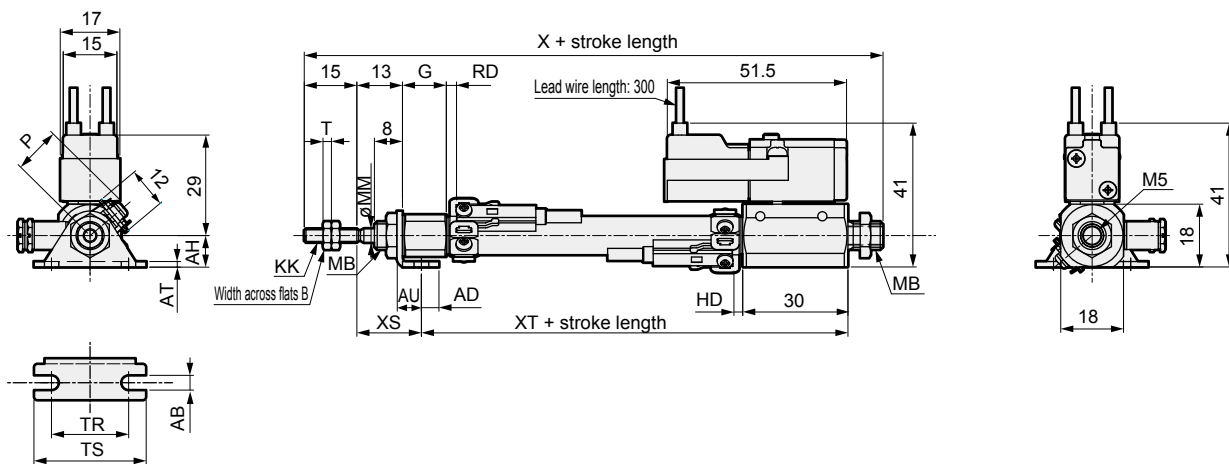
- Basic (00)



*1: For the dimensions of the accessories, refer to page 15.

Code Bore size	Basic (00) basic dimensions												With switch				
	B	HA	G	KK	LL	MB	MM	T	U	UA	UB	X	T0, T5, T2, T3		T2W, T3W		P
													RD	HD	RD	HD	
ø10	7	11	12.5	M4	67	M8×1.0	4	2.4	21	12	8	105	3.5	2.5	5.5	4	13.5
ø16	8	14	13	M4	67	M10×1.0	5	3.2	21	18	8	105	2	3.5	3.5	5	17

● Axial foot (one side) (LS)

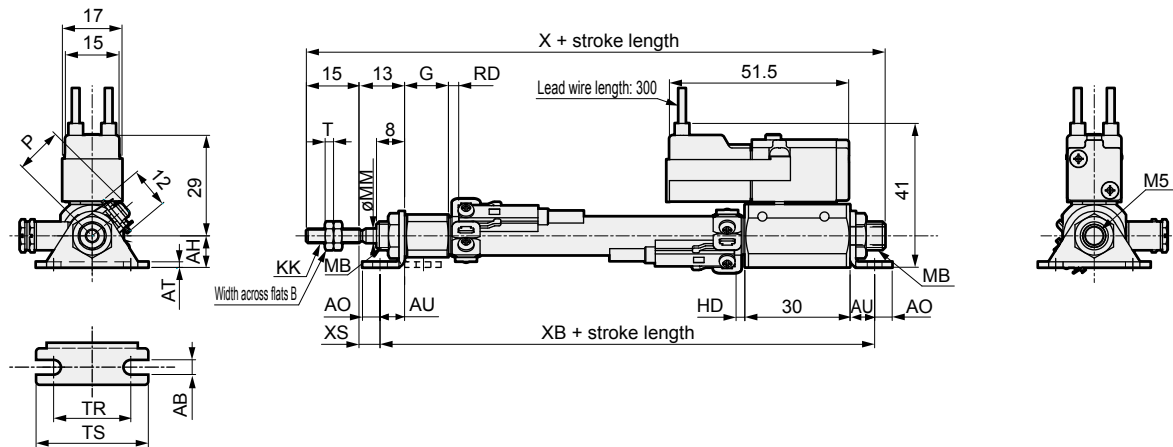


*1: For the dimensions of the accessories, refer to page 15.

Code	Axial foot (one side) (LS) basic dimensions							Mounting dimensions								
	B	G	KK	MB	MM	T	X	AB	AH	AO	AT	AU	TR	TS	XS	XT
ø10	7	12.5	M4	M8×1.0	4	2.4	105	4.2	9	5	1.6	7	22	32	18.4	61.6
ø16	8	13	M5	M10×1.0	5	3.2	105	5.2	14	6	2.3	9	29	42	19.7	60.3
Code	With switch															
	T0, T5, T2, T3		T2W, T3W		P											
Bore size	RD	HD	RD	HD												
ø10	3.5	2.5	5.5	4	13.5											
ø16	2	3.5	3.5	5	17											

Dimensions

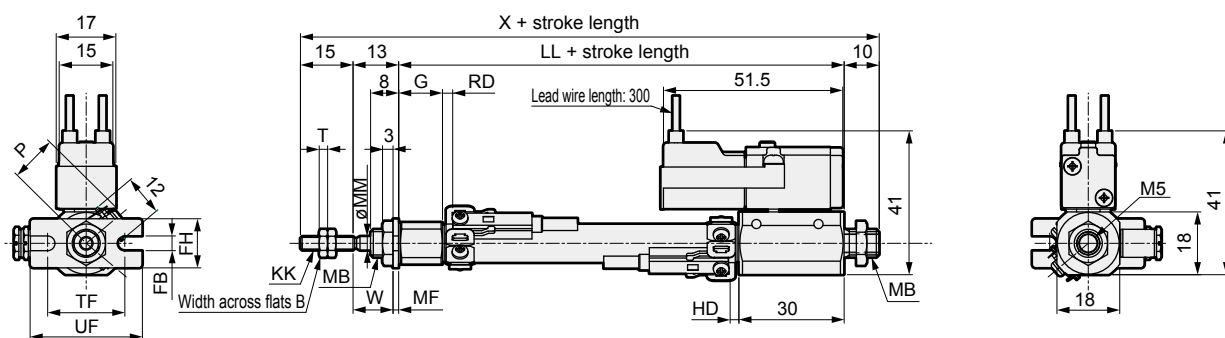
● Two-sided axial foot (LB)



*1: For the dimensions of the accessories, refer to page 15.

Code	Two-sided axial foot (LB) basic dimensions							Mounting dimensions								
Bore size	B	G	KK	MB	MM	T	X	AB	AH	AO	AT	AU	TR	TS	XB	XS
ø10	7	12.5	M4	M8×1.0	4	2.4	105	4.2	9	5	1.6	7	22	32	81	6
ø16	8	13	M5	M10×1.0	5	3.2	105	5.2	14	6	2.3	9	29	42	85	4
Code	With switch															
Bore size	T0, T5, T2, T3		T2W, T3W		P											
	RD	HD	RD	HD												
ø10	3.5	2.5	5.5	4	13.5											
ø16	2	3.5	3.5	5	17											

● Rod side flange (FA)



*1: For the dimensions of the accessories, refer to page 15.

Code	Rod side flange (FA) basic dimensions								Mounting dimensions						With switch					
	Bore size	B	G	KK	LL	MB	MM	T	X	FB	FH	MF	TF	UF	W	T0, T5, T2, T3		T2W, T3W		P
																RD	HD	RD	HD	
ø10	7	12.5	M4	67	M8×1.0	4	2.4	105	4.2	14	1.6	22	32	11.4	3.5	2.5	5.5	4	13.5	
ø16	8	13	M5	67	M10×1.0	5	3.2	105	5.2	20	2.3	29	42	10.7	2	3.5	3.5	5	17	