

Pencil Shaped Cylinder SCP*3 Series

PENCIL SHAPED CYLINDER SCP*3 SERIES



CKD Corporation

Series variation

Pencil shaped cylinder SCP*3 Series

Variation	Model JIS syr		Bore size (mm)		Standard stroke	length (mm))	
				15	30	45	60	-
			ø6	•	•	•	•	
Double acting, single rod type	SCPD3 SCPD3-L		ø10	•	•	•	•	
Single rod type	001 00 2	1 1	ø16	•	•	•	•	
Single acting,	SCPS3		ø6	•	•	•	•	
extend type	SCPS3-L		ø10/ø16	•	•	•	•	
Single acting,	SCPH3	MI	ø6	•	•	•	•	
retract type	SCPH3-L		ø10/ø16	•	•	•	•	
Daubla action			ø6	•	•	•	•	
Double acting heat resistant type	SCPD3-T		ø10	•	•	•	•	
			ø16	•	•	•	•	
Double acting rubber cushioned	SCPD3-*C SCPD3-L-*C		ø6 ø10 ø16	•	•	•	•	
Double acting fine speed type	SCPD3-F SCPD3-LF		ø6 ø10 ø16	•	•	•	•	
			ø6	•	•	•	•	
Double acting low speed type	SCPD3-O SCPD3-OL		ø10	•	•	•	•	
low speed type	001 00 01	1 1	ø16	•	•	•	•	
Double acting double rod type	SCPD3-D SCPD3-DL		ø6 ø10/ø16	•	•	•	•	
Single acting non-rotating type	SCPS3-M SCPS3-ML		ø10/ø16	•	•	•	•	
Double acting non-rotating type	SCPD3-M SCPD3-ML		ø10 ø16	•	•	•	•	

About custom order

The variations below are also available. Contact CKD for details.

Variation	Model no.	Bore size (mm)	Variation	Model no.	Bore size (mm)
Double acting	SCPD3-V	ø10	Double acting with	SCPD3-Z	ø10
with valve	SCPD3-VL	ø16	speed controller	SCPD3-ZL	ø16
Single acting	SCPS3-V	ø10	Double acting		ø6
with valve	SCPS3-VL	ø16	double rod heat	SCPD3-DT	ø10
		ø6	resistant type		ø16
Double acting high load type	SCPD3-K SCPD3-KL	ø10	Double acting		ø6
ingir iodd type	JOOI DO'NE	ø16	clean room	SCPD3P7* SCPD3P5*	ø10
	•	*	specifications	001 001 0	ø16

Series variation

●: Standard ۞: Semi-standard ۞: Custom order ☐: Not available

					Mou	unting s	tyle		Option		Acces	ssory			
Min. stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	By custom stroke length (mm) increment	Basic type	Both sides axial foot	One side axial foot rod end	Rod end flange type	Clevis bracket type	Copper and PTFE free	. Rod eye	Rod clevis	Eye bracket	Clevis Bracket	Switch	Page
	100	105		00	LB	LS	FA	СВ	P6 ●	I	Υ	B1	B2		
 5	200	105 210	1	•		•		•		0	0	0	0	0	1
	260	270		•		•	•	•	•	O	O	©	0	Ü	
-	100	105	4	•		•	•		•						
 5	120	120	1	•		•	•	•	•	0	0	0	0	0	9
 5	100	105	1	•		•	•		•					0	9
	120	120	'	•		•	•	•	•	0	0	0	0		
	100	100		•		•	•								
 5	200	200	1	•		•	•	•		0	0	0	0		19
	260	260		•		•	•	•		0	0	0	0		
_	100	100													24
5	200	200 260	1	•			•		. •	0	0		0		21
	260 100														
5	200	100 200	1	•				•		0	0	0	0	0	27
	260	260	'	•				•				>		>	-'
	100	100		•		•	•								
 5	200	200	1	•		•	•	•		0	0	0	0	\bigcirc	31
	260	260		•		•	•	•		0	0	0	0		
 5	60	60	1	•	•	•	•		•					0	35
J	120	120	ı	•	•	•	•		•	0	0				35
5	120	120	1	•		•	•	•	•	0	0	0	0	0	41
 5	200 260	210 270	1	•		•	•	•	•	0	0	0	0	0	41



Pencil shaped cylinder Double acting single rod type

SCPD3 Series

■ Bore size: ø6/ø10/ø16

JIS symbol





Specifications

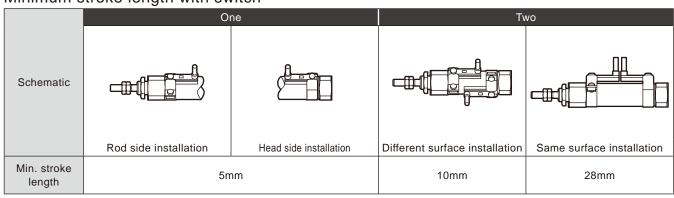
Descriptions			SCPD3 SCPD3-L									
Bore size	mm	ø6	ø10	ø16								
Actuation			Double acting									
Working fluid			Compressed air									
Max. working pressure	MPa		1.0									
Min. working pressure	MPa	0.15	0.15									
Withstanding pressure	MPa		1.6									
Ambient temperature	°C		-10 to 60 (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 (wh	en lubricating, use turbine oil Cla	ss 1 ISO VG32.)								
Allowable energy absorption	J	0.012	,									

Stroke length

Bore si (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
	ø6		100	105	
SCPD3	ø10	15/30/45/60	200	210	5
	ø16		260	270	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch





Specifications

Switch specifications

Descriptions	Proximit	y 2 wire	Proximity 3 win	е						
Descriptions	T2H / T2V	T2WH / T2WV	T3H / T3V	T3WH / T3WV						
Applications	Programmab	ole controller	Programmable control	ler, relay						
Output method	-		NPN output							
Power voltage	-	-	10 to 28VDC							
Load voltage	10 to 30VDC	24VDC±10%	30VDC or less	3						
Load current	5 to 2	20mA	100mA or less	50mA or less						
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting) Red/green (ON light							
Leakage current	1mA c	or less	10 μA or less							
Weight g	1m:18 3m	:49 5m:80	1m:18 3m:49 5	m:80						
Descriptions		Reed 2 wire								
Descriptions	T0H /	TOV	T5H / T5V							
Applications	Programmable	controller, relay	Programmable controll IC circuit (without light), seri							
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC						
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less						
Light	LED (ON	lighting)	Without indicator	light						
Leakage current	0m	nA	0mA							
Weight g	1m:18 3m	:49 5m:80	1m:18 3m:49 5m:80							

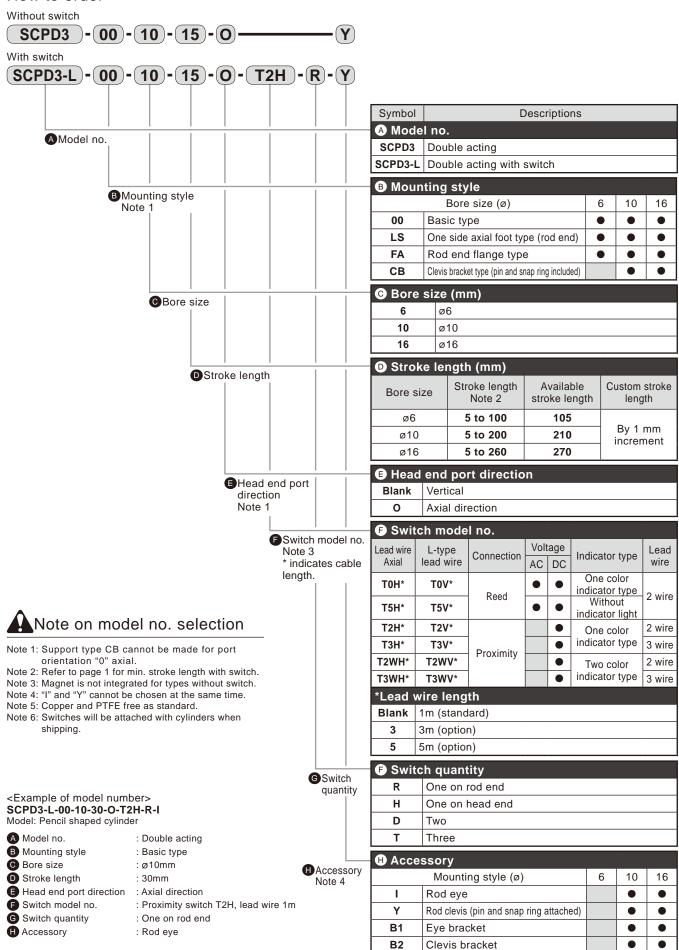
Cylinder weight (Unit: g)

Descriptions	Moun	iting bracket w	veight	Mainle Con	A statistics and associated	Out it also are in the	Danielani
Bore size(mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for 0mm stroke	Additional weight per 10mm stroke	Switch weight (per switch)	Bracket weight
ø6	6	4	-	13	1	Refer to weight	
ø10	6	4	4	21	2	written on switch	2
ø16	15	12	10	42	3	specifications.	

					-	
(ex.) Product weigl	ht of SCPD3-	L-LS-10-30-T0)H-D			
		Mounting b	racket weight	(foot type)	6g	
		 Additional v 	weight for 30n	nm stroke	2×30/10=6g	
		Switch weight	ght		2×(18+2)=40g	
		Product we	ight		6+21+6+40=73g	

SCPD3 Series

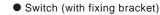
How to order



How to order

How to order switch







Switch model no. (previous page, point "F")

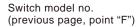
 Mounting bracket set + fixing bracket
 Mounting bracket set SCPD3)-TS-(6)

Bore size

(previous page, point "C")



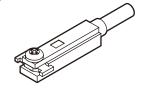
Bore size (previous page, point "C")



Bore size

(previous page, point "C")





Note) The small cross pan head screw for the fixed bracket differs from the T-type standard switch.



Orders of 20 or more are packaged as a set.



Orders of 20 or more are packaged as a set.

How to order mounting bracket

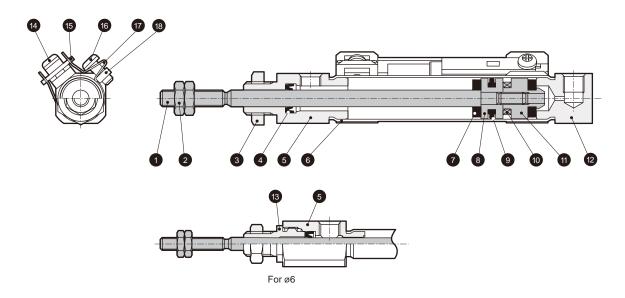
Bore size (mm) Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: 1 pc. / set is applied for a foot (LS) type mounting bracket.

SCPD3 Series

Internal structure and parts list

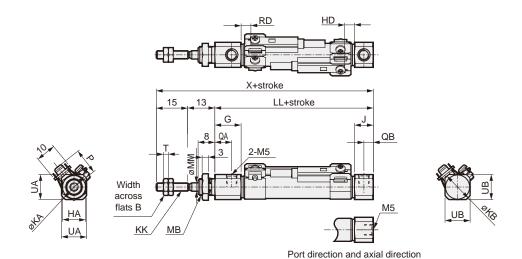
Double acting SCPD3-(L)



• This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		10	Magnet	-	Only with switch
2	Rod nut	Steel	Nickeling	11	Spacer	Aluminum alloy	
3	Hexagon nut	Steel	Nickeling	12	Head cover	Aluminum alloy	Hard alumite
4	Rod packing seal	Nitrile rubber		13	Rod bushing	Aluminum alloy	Hard alumite
5	Rod cover	Aluminum alloy	Hard alumite	14	Small cross pan head thread	Stainless steel	Only with switch
6	Cylinder tube	Stainless steel		15	Bracket	Stainless steel	Only with switch
7	Cushion rubber	Urethane rubber		16	Small cross pan head thread	Stainless steel	Only with switch
8	Piston	Aluminum alloy		17	Band	Stainless steel	Only with switch
9	Piston packing seal	Nitrile rubber		18	Fixing nut	Stainless steel	Only with switch

• SCPD3-(L) Basic type (00)



Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

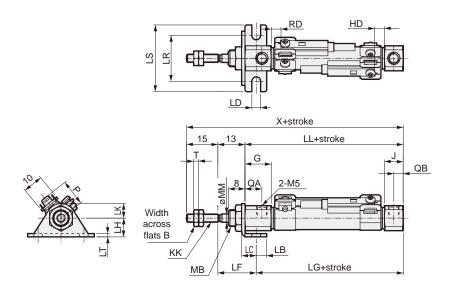
Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

Note 3: Refer to page 51 for accessory dimensions.

Note 4: Value in () parentheses represents the port direction axial type.

Symbol	Basi	c typ	e (00)) bas	ic din	nensions	5										With switch						
Bore size	В	G	НА		KA	КВ	KK	LL	МВ	мм	0.4	ΩP	_	UA	IID	х	T0,T5,	T2,T3	T2W,	T3W	В		
(mm)	▎▝▘	G	ПА	J	NA	VP	ΝN	LL	INID	IVIIVI	QA	QD	'	UA	UB	^	RD	HD	RD	HD			
ø6	5.5	17	8	8	13.5	13.5 (10)	МЗ	47	M6	3	13	4	1.8	11	11 (9)	75	2	2	4	3.5	5.5		
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	12.5		
ø16	8	13	14	9	21.5	21.5	M5	46	M10×1.0	5	8.5	4.5	3.2	18	18	74	3.5	2	5	3.5	15.5		

One side axial foot (LS)



Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

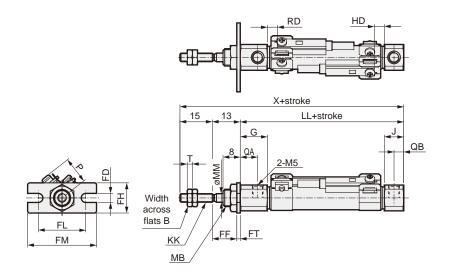
Note 3: Refer to page 51 for accessory dimensions.

Symbol	Bas	ic ty	pe (0	00) b	asic din		Mounting dimensions									With switch									
Bore size B		G		KK	МВ	мм	Ο Δ	OB.	т	х	LB LC LD LF LL LH L	ΙK	ΙĐ	16	ıт	T0,T5	T2,T3	T2W	T3W	Ь					
(mm) \	╚	G	J	ΝN	IVID	IVIIVI	WA	QD	_	^	LB	LC	LU	LF		LII	LK	LK	LS	<u> </u>	RD	HD	RD	HD	L
ø6	5.5	17	8	МЗ	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	5.5
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	12.5
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	3.5	2	5	3.5	15.5

SCPD3 Series

Dimensions

Rod end flange type (FA)



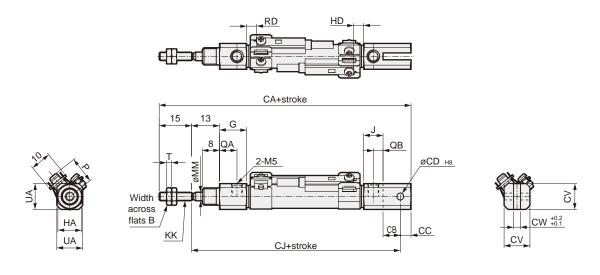
Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

Note 3: Refer to page 51 for accessory dimensions.

Symbol	Rod	end f	lange	(FA) star	ndard di	mens	sions				Moun	ting di	mensi	ons			With switch				
Bore size \	В	G		KK		МВ	ММ	QA	OB	_	v	ED	EE	EU	EI	ЕМ	ЕТ	T0,T5	,T2,T3	T2W	,T3W	ь
(mm)	⇃谐		J	KK		IVID	IVIIVI	QA.	QD	'	^	FD		FIII		FIVI		RD	HD	RD	HD	
ø6	5.5	17	8	МЗ	47	M6	3	13	4	1.8	75	4.2	11.4	14	22	32	1.6	2	2	4	3.5	5.5
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	12.5
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	3.5	2	5	3.5	15.5

Clevis bracket type (CB)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

 Note 2: The Ø6 and Ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

 Note 3: Pin and fastener are attached.

 Note 4: Refer to page 51 for accessory dimensions.

Symbol	Symbol Basic type (00) basic dimensions								Mounting dimensions							With switch					
Bore size \	В	G		KK	мм	0.4	OB	т	114	C 4	CB	CC	CD	CI	СУ	CW	T0,T5	T2,T3	T2W,	T3W	ь
(mm)	В	G	٠	NN.	IVIIVI	QA	םש	'	UA	CA	СБ	CC	CD	CJ	CV	CW	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	12.5
ø16	8	13	9	M5	5	8.5	4.5	3.2	18	94	10	10	5	69	18	6.5	3.5	2	5	3.5	15.5

MEMO



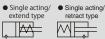
Pencil shaped cylinder Single acting, extend type / Single acting, retract type

SCPS3/SCPH3 Series

■ Bore size: ø6/ø10/ø16

JIS symbol







Specifications

Descriptions			SCPS3 SCPS3-L		SCPH3 SCPH3-L							
Bore size	mm	ø6	ø10	ø16	ø6	ø10	ø16					
Actuation		Sing	le acting, extend	type	Single acting, retract type							
Working fluid				Compre	ssed air							
Max. working pressure	MPa			1.	.0							
Min. working pressure	MPa	0.3	0.	15	0.39	0.	2					
Withstanding pressure	MPa		1.6									
Ambient temperature	°C			-10 to 60 (r	no freezing)							
Port size				N	15							
Stroke tolerance	mm			+1	.0							
Working piston speed	mm/s			50 to	750							
Cushion			Rubber air cushion									
Lubrication			Not required (wh	nen lubricating, u	se turbine oil Cla	ss 1 ISO VG32.)						
Allowable energy absorption	J	0.012	0.041	0.162	0.012	0.041	0.162					

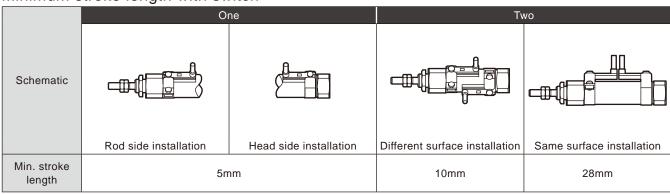
Note 1: Do not leave the single acting cylinder in a pressurized state. If left in the pressurized state, the piston rod may not return with spring force when pressure is released.

Stroke length

Bore size	(mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
00000	ø6		100	
SCPS3 SCPH3	ø10	15/30/45/60	120	5
001113	ø16		120	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch



SCPS3/SCPH3 Series

Specifications

Switch specifications

Descriptions	Proximi	ty 2 wire	Proximit	ty 3 wire				
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV				
Applications	Programmal	ole controller	Programmable	controller, relay				
Output method		-	NPN (output				
Power voltage		-	10 to 2	28VDC				
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less				
Load current	5 to 2	20mA	100mA or less	50mA or less				
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)				
Leakage current	1mA o	or less	10 μΑ	or less				
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80				
Descriptions		Reed	2 wire					
Descriptions	T0H	/T0V	T5H/T5V					
Applications	Programmable	controller, relay		elay IC circuit (without light), nnection				
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC				
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less				
Light	t LED (ON lighting		Without indicator light					
Leakage current	Or .	mA	0mA					
Weight g	1m:18 3m	:49 5m:80	1m:18 3m:49 5m:80					

Single acting spring load (SCPS3/SCPH3)

(Unit: N)

Bore size (mm)	When 0mm stroke	Full stroke length during operation
ø6	1.7	3.7
ø10	3.2	7.5
ø16	6.4	14.9

Cylinder weight

(Unit: g)

Descriptions	Mounting bracket weight		Matalat Can	A datition of contrals	Ouritale aussiales	Donalos	
Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for Omm stroke	Additional weight per 10mm stroke	Switch weight (per switch)	Bracket weight
ø6	6	4	-	9	2	Refer to weight	
ø10	6	4	4	20	4	written on switch	2
ø16	15	12	10	35	8	specifications.	

(ex.) Product weigh	ht of SCPD3-	L-LS-10-30-T0)H-D			
		Mounting b	racket weight	(foot type)	6g	
		Additional v	weight for 30n	nm stroke	4×30/10=12g	
		Product we	ight		6+20+12+40=78g	

SCPS3/SCPH3 Series

How to order Without switch SCPS3)-(00)-(10)-(15)-(0)-With switch (SCPS3-L)-(00)-(10)-(15)-(O)-(T2H)-(R)-(Y) Symbol Descriptions A Model no. A Model no. SCPS3 Single acting, extend type Single acting, extend type, with switch SCPS3-L SCPH3 Single acting, retract type SCPH3-L Single acting, retract type, with switch **B** Mounting style B Mounting Bore size (ø) 6 10 16 style Note 1 00 Basic type LS One side axial foot type (rod end) • • FΑ Rod end flange type СВ Clevis bracket type (pin and snap ring attached) Bore size(mm) ©Bore size 6 ø6 10 ø10 16 ø16 Stroke length (mm) Stroke Stroke length Available Custom stroke length Bore size Note 2 length stroke length ø6 5 to 100 105 By 1 mm 5 to 120 120 ø10 increment ø16 5 to 120 120 Head end port direction Head end port **Blank** Vertical direction Note 1 0 Axial direction "SCPH3(-L) can not be selected." F Switch model no. Switch model no. Voltage Axial lead Note 3 L-type Lead Connection Indicator * indicates wire lead wire wire AC DC cable length. T0H* T0V* lacktriangleOne color indicator type Note on model no. selection Reed 2 wire T5V* • Without indicator light T5H* Note 1: Support type CB cannot be made for port T2H* T2V* • 2 wire One color indicator orientation "0," axial. T3H* T3V* • type 3 wire Note 2: Refer to page 9 for min. stroke length with switch. Proximity Note 3: Magnet is not integrated for types without switch. T2WH* T2WV* • 2 wire Two color indicator Note 4: "I" and "Y" cannot be chosen at the same time. T3WH* type T3WV* 3 wire Note 5: Copper and PTFE free as standard. Note 6: Switches will be attached with cylinders when Lead wire length shipping. **Blank** 1m (standard) 3m (option) 5 5m (option) **6** Switch quantity <Example of model number> **G**Switch R One on rod end SCPS3-L-00-10-30-O-T2H-R-I quantity Model: Pencil shaped cylinder Н One on head end A Model no. : Single acting, extend type D Two B Mounting style : Basic type Т Three

H Accessory

Υ

B1

B2

Mounting style (ø)

Eye bracket

Clevis bracket

Rod clevis (pin and snap ring attached)

6

10

•

•

•

•

16

lacktriangle

•

Accessory

Note 4

CKD

: ø10mm

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

: Rod eye

: One on rod end

: 30mm

E Head end port direction: Axial direction

Bore size

Stroke length

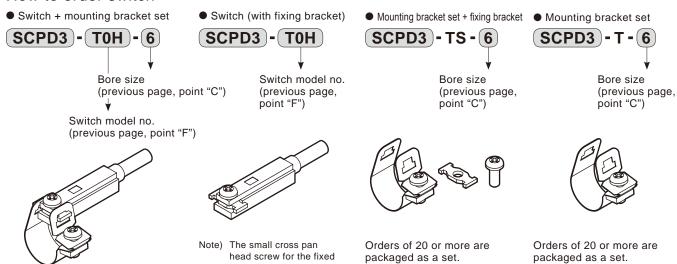
G Switch quantity

Accessory

SCPS3/SCPH3 Series

How to order

How to order switch



bracket differs from the T-type standard switch.

How to order mounting bracket

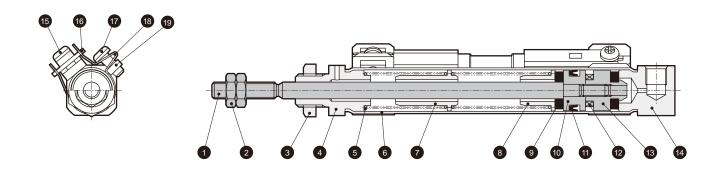
Bore size (mm) Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: 1 pc. / set is applied for a foot (LS) type mounting bracket.

SCPS3 Series

Internal structure and parts list

 Single acting extend type SCPS3 SCPS3-L (with switch)



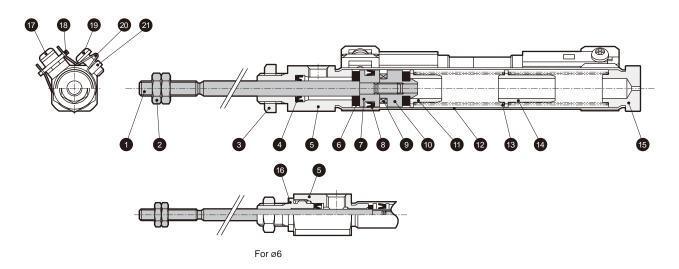
• This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		11	Piston packing seal	Nitrile rubber	
2	Rod nut	Steel	Nickeling	12	Magnet	-	Only with switch
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	Galvanized chromate	15	Small cross pan head thread	Stainless steel	Only with switch
6	Cylinder tube	Stainless steel		16	Bracket	Stainless steel	Only with switch
7	Spring holder (A)	Aluminum alloy		17	Small cross pan head thread	Stainless steel	Only with switch
8	Spring holder (B)	Aluminum alloy		18	Band	Stainless steel	Only with switch
9	Cushion rubber	Urethane rubber		19	Fixing nut	Stainless steel	Only with switch
10	Piston	Aluminum alloy					

Internal structure and parts list

Internal structure and parts list

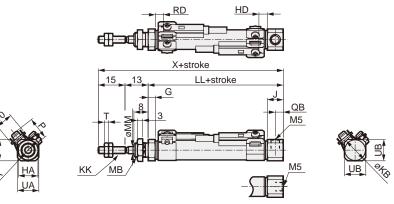
 Single acting retract type SCPH3 SCPH3-L (with switch)



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	Galvanized chromate
3	Hexagon nut	Steel	Nickeling	14	Spring holder (B)	Aluminum alloy	
4	Rod packing seal	Nitrile rubber		15	Head cover	Aluminum alloy	Hard alumite
5	Rod cover	Aluminum alloy	Hard alumite	16	Rod bushing	Aluminum alloy	Hard alumite
6	Cushion rubber	Urethane rubber		17	Small cross pan head thread	Stainless steel	Only with switch
7	Piston	Aluminum alloy		18	Bracket	Stainless steel	Only with switch
8	Piston packing seal	Nitrile rubber		19	Small cross pan head thread	Stainless steel	Only with switch
9	Magnet	-	Only with switch	20	Band	Stainless steel	Only with switch
10	Spacer	Aluminum alloy		21	Fixing nut	Stainless steel	Only with switch
11	Spring holder (A)	Aluminum alloy					

● SCPS3-(L) Basic type (00)



Port direction and axial direction

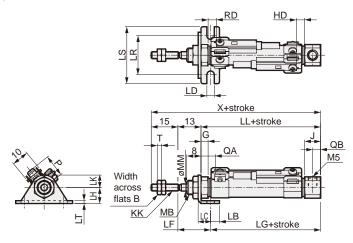
- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

 Note 2: The Ø6 and Ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

 Note 3: Dimensions listed in () parentheses are for "0" Axial type head-side port direction.
- Note 4: Refer to page 51 for accessory dimensions.

				,																					
Symbol	Bas	ic ty	pe (0	0) ba	asic	dime	nsio	ns																	
Bore size	В	G			1/ 4	KD.	IZ IZ				L	L.					. D	BABA	Δ Β	_	114	ш		Х	
(mm)	JB	G	HA	J	KA	KB	nn	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] ^{IVI}	IB	IVIIVI	QB		UA	UB	15 or less	Over 15 to 30	Over 30 to 45
ø6	5.5	3	8	8	9	13.5(10)	МЗ	43.5	48.5	63.5	68.5	83.5	88.5	103.5	-	M6		3	4	1.8	8	11(8)	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
Symbol						With	ı swi	tch																	
Bara sina			Х						T0,	T5,T	2,T3							T2	W,T3	3W					
Bore size (mm)			^						R	D				пр				R	D				HD	Р	
(''''')	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120		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 75 to 90	Over 90 to 105	Over 105 to 120	שו		
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	5.5	
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	12.5	
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	3.5	15.5	

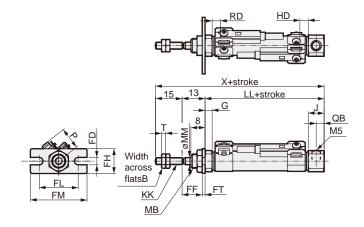
One side axial foot (LS)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The Ø6 and Ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	One	side	e axi	al fo	ot (L	.S) b	asic	dim	ensi	ons							Mou	ıntin	g diı	nens	sion	S				
Bore size	В	G	кк	М	ь	мм	QB	_					K				I B	1.0	LD	1.5			L	G		
(mm)	В	G	NN	IVI	Ь	IVIIVI	פט	'	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		LC	LD	LF	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90
ø6	5.5	3	МЗ	M6		3	4	1.8	71.5	76.5	91.5	96.5	111.5	116.5	131.5	-	5	7	4.2	18.4	38.1	43.1	58.1	63.1	78.1	83.1
ø10	7	4	M4	M8×	1.0	4	4.5	2.4	75	80	90	95	105	110	120	125	5	7	4.2	18.4	41.9	46.9	56.9	61.9	71.9	76.9
ø16	8	4	M5	M10×	1.0	5	4.5	3.2	75	80	90	95	105	110	120	125	6	9	5.2	19.7	40.1	45.1	55.1	60.1	70.1	75.1
Symbol								Witl	ı sw	itch																
Bara siza	L	G									T0,	T5,T	2,T3							T2	W,T	3W				
Bore size (mm)		<u> </u>	LH	LK	LR	LS	LT				R	D				HD				R	D				HD	Р
	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	חח		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	טח	
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	5.5
ø10	86.9	91.9	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	12.5
ø16	85.1	75.1	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	3.5	15.5

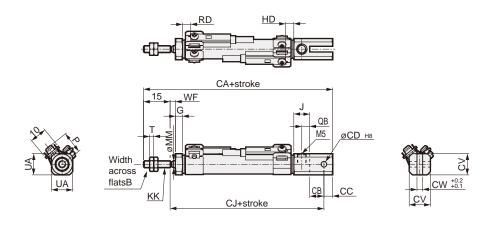
Rod end flange type (FA)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Rod	end	flan	ge (F	A) s	tand	ard o	dime	nsio	ns															
Bore size				IZ IZ				L	L				BAT.	, [DADA.	O.D.	T)	X			
(mm)	В	G	J	KK	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	ME	³	IVIIVI	QB	! !		Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75		Over 90 to 105	Over 105 to 120
ø6	5.5	3	8	МЗ	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
Symbol	Mou	nting	g din	nens	ions		With	ı swi	itch																
	Mou	nting	g din	nens	ions		With	ı swi	itch	T0,	T5,T2	2, T 3							T2	W,T	3W				j
Bore size	Mou FD				ions FM		With	ı swi	itch		T5,T2 D	2,T3			ПD					W,T:	3W			Пυ	Р
							With		Over 30 to 45		D Over 60	2,T3	Over 90 Over 90 to 105	Over 105 o 120	HD	15 or less	Over 15 to 30	Over 30 to 45	R Over 45		Over 75	Over 90 to 105	Over 105 to 120	HD	Р
Bore size							15 or	Over 15	Over 30	R Over 45	D Over 60	Over 75		Well 103	HD 2	15 or less 14			R Over 45	D Over 60	Over 75			HD	P 5.5
Bore size (mm)	FD	FF	FH	FL	FM	FT	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90	72 to 105	0 120		less	to 30	to 45	R Over 45 to 60	Over 60 to 75	Over 75 to 90	to 105			

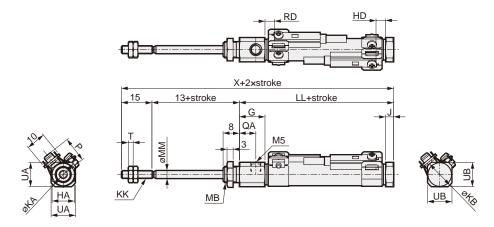
Clevis bracket type (CB)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: Pin and fastener are attached.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Clevi	s bra	cket ty	/pe (C	B) ba	sic di	mensi	ons	Μοι	untii	ng d	ime	nsio	ns														
Bore size \	В	G		ĸĸ	мм	OB	т	UA				С	Α				CB	СС	CD				С	J				cv
(mm) \			_ ّا	KK	IVIIVI	Q D	<u> </u>	0.7	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			CD	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	CV
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
Symbol										Wit	h sv	/itch	1															
Dana sina					١٨	/F							T0,	Г5,Т	2,T3							T2	W,T	3 W				
Bore size	CW				٧١	/							R	D				HD				R	D				HD	Р
(mm)		15 or less	Over 15 to 30	Over 30 to 45		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	עח	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	עח	
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	12.5
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	3.5	15.5

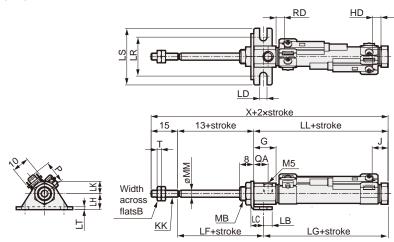
● SCPH3-(L) Basic type (00)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The Ø6 and Ø 10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Bas	ic ty	ре (0	0) ba	sic	dime	nsio	ns																	
Bore size	_	_	114		IZ A	KD.	M				L	L					_	BABA	~	_	110	ш		Х	
(mm)	В	G	НА	J	KA	KB	ΝN	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75		Over 90 to 105	Over 105 to 120	М	В	MM	QA		UA	UB	15 or less	Over 15 to 30	Over 30 to 45
ø6	5.5	17	8	3	13.5	10	МЗ	52.5	57.5	72.5	77.5	92.5	97.5	112.5	-	M6		3	13	1.8	11	8	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	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
Symbol						With	cwi	tch																	
						MIGH	/ith switch																		
							JWI	icii	T0,	T5,T	2,T3							T2	W,T	3W					
Bore size			х				i SWI	ten	Т0,		2,T3 ID				BD.			T2		BW D				Р	
	Over 45 to 60	Over 60 to 75	Over 75	Over 90 to 105	Over 105 to 120	RD			T0,		Ď	Over 75 to 90	Over 90 to 105	Over 105 to 120	RD		Over 15 to 30	Over 30			Over 75 to 90	Over 90 to 105	Over 105 to 120	Р	
Bore size			Over 75	Over 90 to 105	Over 105 to 120	RD	15 or	Over 15	Over 30	Over 45	D Over 60		Over 90 to 105	Over 105 to 120	RD 4			Over 30	H Over 45	D Over 60		Over 90 to 105 73.5	Over 105 to 120	P 5.5	
Bore size (mm)	to 60	to 75	Over 75 to 90	to 105	Over 105 to 120 - 129	RD	15 or less	Over 15	Over 30 to 45	Over 45 to 60	Over 60 to 75	to 90	to 105	to 120	RD 4 5.5	less	to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	to 90	to 105	Over 105 to 120 - 62.5	·	

One side axial foot (LS)



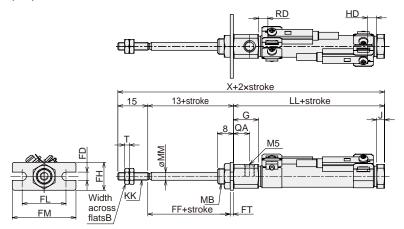
- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less. Note 3: Refer to page 51 for accessory dimensions

Note 3: Refer to	page	51 10	r acc	essoi	ry ain	nensi	ons.																				
Symbol	One	sid	e ax	ial fo	oot (LS)	basi	c dir	nen	sion	s							Μοι	ıntin	ıg di	men	sior	าร				
Bore size	В	G		ΚK	М	ь	MAM	QA	_				}	K				LB	1.0	LD				L	.G		
(mm)	╚	٦	J	VV	IVI	Ь	IALIAI	QA		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	LD	LC	[]		15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	Over 75 to 90
ø6	5.5	17	3	МЗ	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	45.5	50.5	60.5	65.5	75.5	80.5
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	44.2	49.2	59.2	64.2	74.2	79.2
Symbol								Witl	ı sw	itch																	
Bara sira		G									T0,	Γ5,Τ:	2,T3							T2	W,T	3 W					
Bore size (mm)				LK	LR	LS	LT	RD				Н	D				RD				Н	ID				Р	
(''''')	Over 90 to 105	Over 105 to 120						עט	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		
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	-	5.5	
ø10	90.5	95.5	9	7	22	32	1.6	3.5	10.5	15.5	25.5	30.5	40.5	45.5	55.5	60.5	5.5	12.5	17.5	27.5	32.5	42.5	47.5	57.5	62.5	12.5	
ø16	89.2	94.2	14	10	29	42	2.3	3.5	12.5	17.5	27.5	32.5	42.5	47.5	57.5	62.5	5	14	19	29	34	44	49	59	64	15.5	

Single acting, retract type

Dimensions

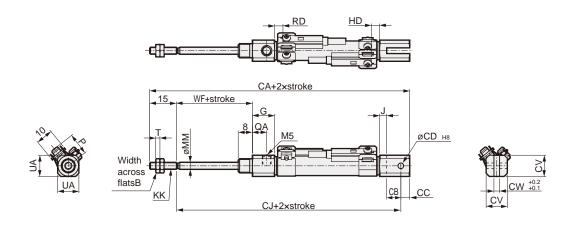
Rod end flange type (FA)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The Ø6 and Ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Rod	end	flan	ge k	pasic	dim	ensi	ons																	
Bore size					1717				L	L				MD			_				2	K			
(mm)	В	D	G	J	KK		Over 15 to 30	Over 30 to 45		Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	MB	MIM	QA	l l	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
ø6	5.5	6.8	17	3	МЗ	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	11	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	17.4	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
Symbol	Μοι	ıntin	g dir	nens	sions	S	Witl	ารพ	itch																
Dama sina							1			TO:	T5 T'	T2						Τo	W/ T	14/					
							L	T0,T5,T2,T3 T2W,T3W																	
Bore size \	FD	FF	FH	FL	FM	FT	BD.			10,		<u>,,13</u>			BD			12	W, I S					Р	
(mm)	FD	FF	FH	FL	FM	FT	RD	15 or less			H Over 45	Ď	Over 75 to 90	Over 90 Over to 105 to 12	RD		Over 15 to 30	Over 30 to 45	H Over 45	D Over 60	Over 75 to 90	Over 90 to 105	Over 105 to 120	Р	
	FD 4.2	FF	FH	FL 22	FM 32	FT	RD 2		Over 15 to 30	Over 30	H Over 45	D Over 60	Over 75 to 90 57	Over 90 Over to 12 72 -			Over 15 to 30 18.5	Over 30	H Over 45	D Over 60	Over 75 to 90 58.5	Over 90 to 105 73.5	Over 105 to 120	P 5.5	
(mm)							2	less	to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	to 90	to 105 to 12	4	less	to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75	to 90	to 105	Over 105 to 120 - 62.5		

Clevis bracket type (CB)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Pin and fastener are attached.
- Note 4: Refer to page 51 for accessory dimensions.

Symbol	Clev	is br	acket	type	(CB) bas	ic dir	nens	ions	Мо	unti	ng d	lime	nsid	ns														
Bore size (mm)	В	D	G	J	ΚK	мм	QA	Т	UA	15 or	Over 15	Over 30		A Over 60	Over 75	Over 90	Over 105	СВ	СС	CD	15 or	Over 15	Over 30	Over 45		Over 75	Over 90	Over 105	cv
ø10	7	11	12.5	4	M4	4	8	2.4	12	less 94	Over 15 to 30	to 45 118	Over 45 to 60	to 75 142	154	to 105 166	to 120 178	8	5	3.2	1ess 74	to 30 86	to 45 98	to 60	to 75 122	Over 75 to 90	to 105 146	to 120 158	12
ø16	8	17.4	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
Symbol										Wit	h sv	vitch	1																
Dava siza					١٨.	/F							T0,1	Г5,T	2,T3	3						T2	W,T	3W					
Bore size	CW				٧,	/ F				DD.				Н	D				DD.				Н	ID				Р	
(mm)		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	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	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		
ø10	3.2	15	22	24	31	33	40	42	49	3.5	10.5	15.5	25.5	30.5	40.5	45.5	55.5	60.5	5.5	12.5	17.5	27.5	32.5	42.5	47.5	57.5	62.5	12.5	
ø16	6.5	15	22	24	31	33	40	42	49	3.5	12.5	17.5	27.5	32.5	42.5	47.5	57.5	62.5	5	14	19	29	34	44	49	59	64	15.5	



Pencil shaped cylinder Double acting heat resistant type

SCPD3-T Series

• Bore size: ø6/ø10/ø16

JIS symbol





Specifications

Descriptions			SCPD3-T	
Bore size	mm	ø6	ø10	ø16
Actuation			Double acting heat resistant type	
Working fluid			Compressed air	
Max. working pressure	MPa		1.0	
Min. working pressure	MPa	0.15	0	.1
Withstanding pressure	MPa		1.6	
Ambient temperature	°C		5 to 120	
Port size			M5	
Stroke tolerance	mm		+1.0 0	
Working piston speed	mm/s		50 to 750	
Cushion			Rubber cushion	
Lubrication			Not available	
Allowable energy absorption	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		100	
SCPD3-T	ø10	15/30/45/60	200	5
	ø16		260	

Note 1: The custom stroke length is available by 1mm increment.

Cylinder weight

(Unit:	g)
--------	----

	Descriptions	Moun	ting bracket v	veight	Matala fan	A deficiency of control of the con-
Type	Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for 0mm stroke	Additional weight per 10mm stroke
	ø6	6	4	-	13	1
SCPD3-T	ø10	6	4	4	21	2
	ø16	15	12	10	42	3

(ex.) Product weight of SCPD3-T-LS-10-30

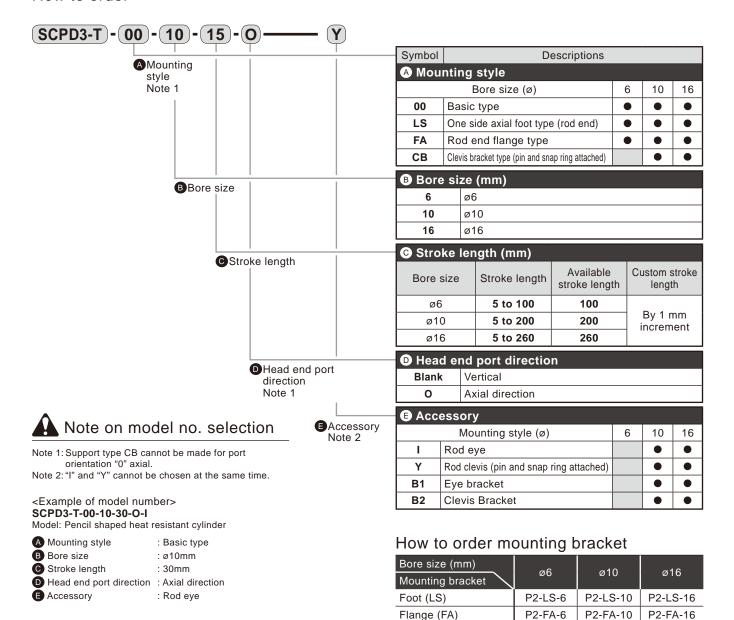
- Mounting bracket weight (foot type)
 Weight for 0mm stroke
 Additional weight for 30mm stroke
 2x30/10=6g
- Product weight6+21+6=33g

Dimensions

Same as double acting standard single rod type SCPD3 series. Refer to Pages 6 and 7.

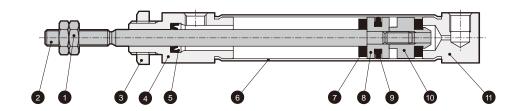
How to order

How to order



Note: 1pc. / set is applied for a foot (LS) type mounting bracket.

Internal structure and parts list



• Cannot be disassembled due to caulked structure.

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



Pencil shaped cylinder Double acting rubber cushioned

SCPD3-*C Series

Bore size: ø6/ø10/ø16

JIS symbol





Specifications

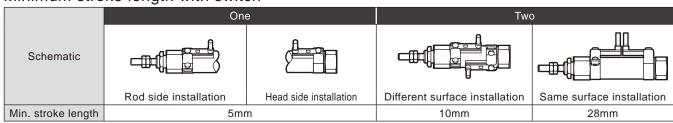
- p				
Descriptions			SCPD3-*C, SCPD3-L-*C	
Bore size	mm	ø6	ø10	ø16
Actuation			Double acting	
Working fluid			Compressed air	
Max. working pressure	MPa		1.0	
Min. working pressure	MPa	0	.3	0.2
Withstanding pressure	MPa		1.6	
Ambient temperature	°C		-10 to 60 (no freezing)	
Port size			M5	
Stroke tolerance	mm		+1.0 0	
Working piston speed	mm/s	50 to 750 (Us	e within the allowable energy abso	orption range.)
Cushion	Î		Rubber air cushion	
Lubrication		Not required (wh	nen lubricating, use turbine oil Cla	ss 1 ISO VG32.)
Allowable energy absorption	J	0.012	0.041	0.162

Stroke length

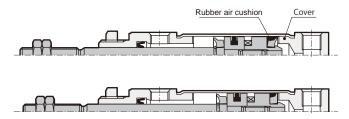
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ø6		100	
ø10	15/30/45/60	200	5
ø16		260	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch

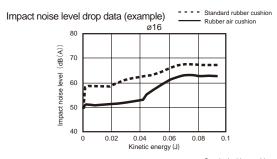


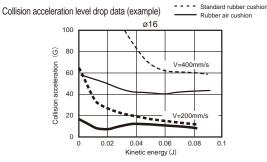
■ Rubber air cushion mechanism



Explained when pulled

When the piston moves and the rubber-air cushion and cover contact, a sealed air space is formed in the shaded section. The air in the shaded section is compressed as the piston moves, and energy is absorbed. Energy absorbed by the rubber air cushion's compression strain is also calculated at the stroke end.





Specifications

Switch specifications

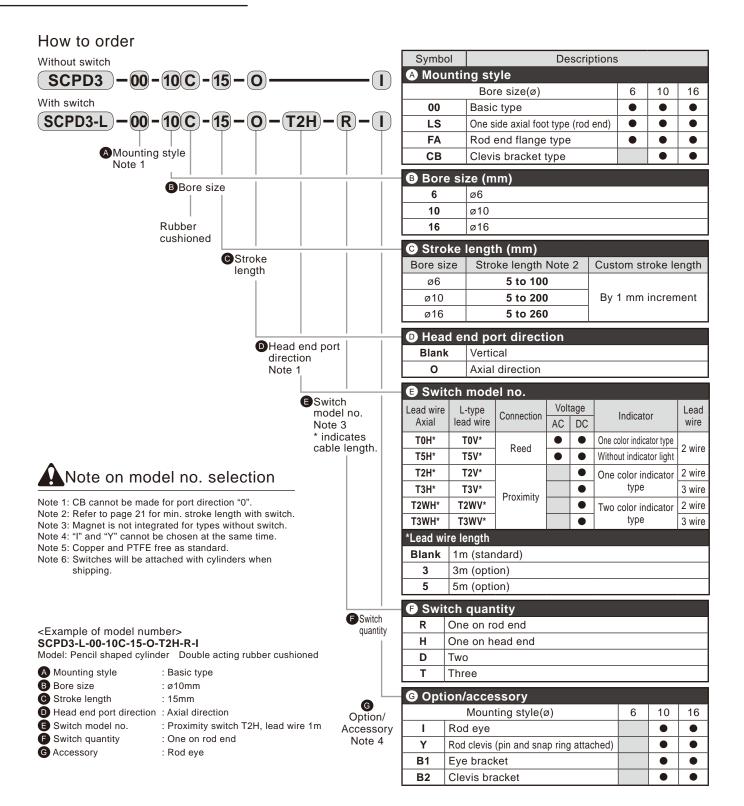
Descriptions	Proximi	ty 2 wire	Proximity 3 wire		
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV	
Applications	Programmal	ole controller	Programmable	controller, relay	
Output method		-	NPN (output	
Power voltage		-	10 to 2	8VDC	
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less	
Load current	5 to 2	20mA	100mA or less	50mA or less	
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	
Leakage current	1mA o	or less	10 μA or less		
Weight g	1m:18 3m	:49 5m:80	1m:18 3m:49 5m:80		
Descriptions		Reed	2 wire		
Descriptions	T0H	/T0V	T5H/	T5V	
Applications	Programmable	controller, relay	Programmable controller, re serial co	,	
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC	
Load current	5 to 50mA	7 to 20mA	50mA or less 20mA or less		
Light	LED (ON	l lighting)	Without indicator light		
Leakage current	- Or	mA	0n	nA	
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80	

Cylinder weight (Unit: g)

Туре	Descriptions	escriptions Mounting bracket weight		Mainle Con	Additional	Out it also such that	Mounting	
	Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for Omm stroke	weight per 10mm stroke	Switch weight (per switch)	bracket Weight
	ø6	6	4	-	13	1	Refer to weight	
SCPD3-*C	ø10	6	4	4	21	2	written on switch	2
	ø16	15	12	10	42	3	specifications.	

(ex.) Product weight of SCPD3-L-LS-10C-30-T0H-D	
Mounting bracket weight (foot type)	
Weight for 0mm stroke	
● Additional weight for 30mm stroke	
● Switch weight	
● Product weight	

SCPD3-*C Series

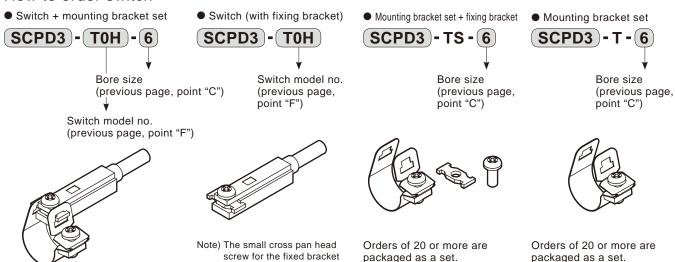


SCPD3-*C Series

packaged as a set.

How to order

How to order switch



differs from the T-type standard switch.

packaged as a set.

How to order mounting bracket

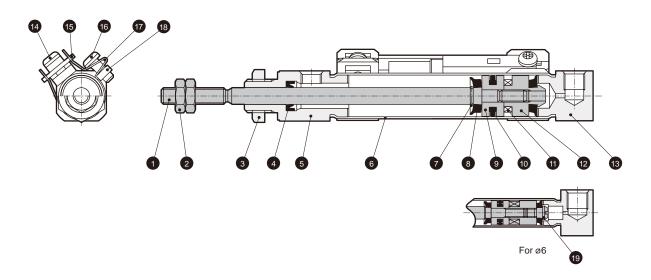
Bore size (mm) Mounting bracket	ø6	ø10	ø16	
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16	
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16	

Note: 1pc. / set is applied for a foot (LS) type mounting bracket.

SCPD3-*C Series

Internal structure and parts list

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



• This product cannot be disassembled.

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

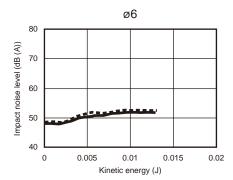
Dimensions

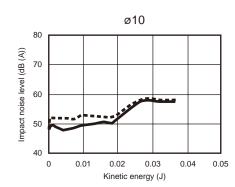
Same as double acting standard single rod type SCPD3 series. Refer to Pages 6 and 7.

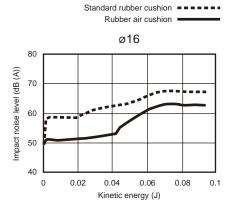
Technical data

Technical data

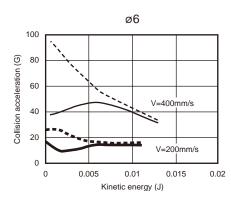
[Functional comparison of impact noise levels]

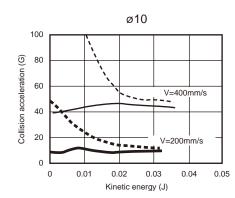


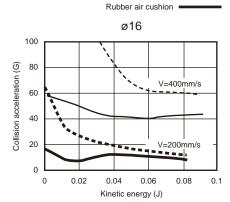




[Functional comparison of impact acceleration]

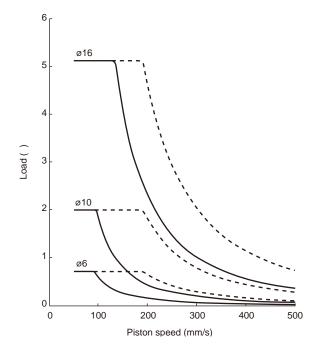






Standard rubber cushion

[Recommended energy ranges]



Can be used in the lower left range of the curve.
Use is possible within the range shown with the --- line in the graph, but to effectively use the silencing effect, the product should be used within the range shown by the solid line.



Pencil shaped cylinder Double acting fine speed type

SCPD3-F Series

■ Bore size: ø6/ø10/ø16

JIS symbol





Specifications

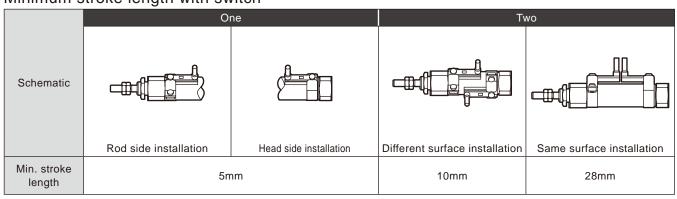
Descriptions		SCPD3-F/SCPD3-LF (With switch)						
Bore size	mm	ø6	ø6 ø10 ø16					
Actuation			Double acting					
Working fluid			Compressed air					
Max. working pressure	MPa		1.0					
Min. working pressure	MPa	0.15	0.15 0.1					
Withstanding pressure	MPa		1.6					
Ambient temperature	°C		5 to 60					
Port size			M5					
Stroke tolerance	mm		+1.0 0					
Working piston speed	mm/s		1 to 200					
Cushion			Rubber cushion					
Lubrication			Not available					
Allowable energy absorption	J	0.012	0.041	0.162				

Stroke length

Bore size	(mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
00000 5	ø6		100	
SCPD3-F SCPD3-LF	ø10	15/30/45/60	200	5
	ø16		260	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch



Dimensions

Same as double acting standard single rod type SCPD3 series. Refer to Pages 6 and 7.

Technical data

Refer to Pneumatic cylinders I (CB-029S-7) SSD-F Series for measuring methods.

Specifications

Switch specifications

Descriptions	Proximit	ty 2 wire	Proximity 3 wire			
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV		
Applications	Programmat	ole controller	Programmable	controller, relay		
Output method		-	NPN (output		
Power voltage		-	10 to 2	28VDC		
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less		
Load current	5 to 2	20mA	100mA or less	50mA or less		
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)		
Leakage current	1mA c	or less	10 μA or less			
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80		
Descriptions		Reed	2 wire	2 wire		
Descriptions	TOH	/T0V	T5H.	/T5V		
Applications	Programmable	controller, relay	Programmable controller, re serial co	,		
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC		
Load current	5 to 50mA	7 to 20mA	50mA or less 20mA or less			
Light	LED (ON	l lighting)	Without indicator light			
Leakage current	0n	nA	0n	nA		
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80		

Cylinder weight (Unit: g)

,	0							(- 3)
_	Descriptions	Mou	nting bracket	weight	Mariale Com	Additional	Outlieb and other	Donalos
	Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for Omm stroke	weight per 10mm stroke Switch weight (per switch)		Bracket weight
	ø6	6	4	-	13	1	Refer to weight	
SCPD3-F	ø10	6	4	4	21	2	written on switch	2
	ø16	15	12	10	42	3	specifications.	

						_			
(ex.) Product weight of SCPD3-LF-LS-10-30-T0H-D									
		6g							
		Weight for	0mm stroke			21g			
		Additional	weight for 3	0mm stroke		2×30/10=6g			
		Switch we	ight		2×	(18+2)=40g			
		Product w	eight		6+2	1+6+40=73g			

SCPD3-F Series

How to order Without switch (SCPD3-F)-(LS)-(10)-(15)-With switch SCPD3-LF - LS - 10 - 15 - T2H - R - I Symbol Descriptions **A** Mounting style **A**Mounting Bore size (ø) 16 6 10 style Model no. 00 Basic type • LS • One side axial foot type (rod end) • FΑ Rod end flange type • • СВ Clevis bracket type (pin and snap ring attached) B Bore size (mm) BBore size ø6 10 ø10 16 ø16 C Stroke length (mm) **C**Stroke length Bore size Stroke length Note 1 Custom stroke length 5 to 100 ø10 5 to 200 By 1 mm increment ø16 5 to 260 Switch model no. Switch Voltage Lead wire L-type Lead model no. Connection Indicator lead wire Note 2 Axial AC DC wire * indicates T0H* T0V* One color indicator type cable length. Reed 2 wire T5H* T5V* Without indicator light T2H* T2V* 2 wire One color indicator Note on model no. selection T3H* T3V* type 3 wire Proximity T2WH* T2WV* Note 1: Refer to page 27 for min. stroke length with switch. 2 wire Two color indicator Note 2: Magnet is not integrated for types without switch. T3WH* T3WV* type 3 wire Note 3: "I" and "Y" cannot be chosen at the same time. Note 4: Switches will be attached with cylinders when *Lead wire length shipping. Blank 1m (standard) 3m (option) 5 5m (option) Switch quantity Switch One on rod end quantity Н One on head end <Example of model number> SCPD3-LF-LS-10-15-T2H-R-I D Two Model: Pencil shaped cylinder Fine speed type т Three A Mounting style : One side axial foot type (rod end) Accessory B Bore size : ø10mm Accessory Mounting style (ø) 10 16 C Stroke length 6 : 15mm Note 3 Switch model no. : Proximity switch T2H, lead wire 1m • I Rod eye Switch quantity : One on rod end

Rod clevis (pin and snap ring

attached)

Eye bracket

Clevis bracket

•

•

Υ

В1

B2

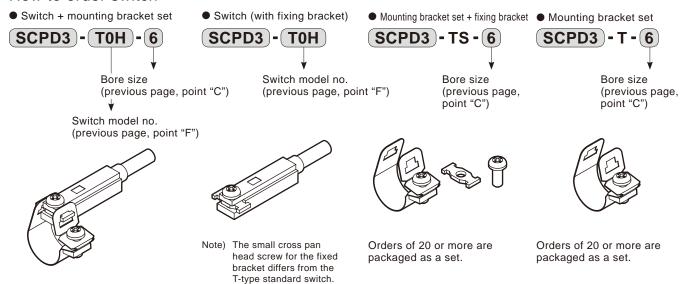
Accessory

: Rod eye

SCPD3-F Series

How to order

How to order switch



How to order mounting bracket

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

Note: 1pc. / set is applied for a foot (LS) type mounting bracket.



SCPD3-O Series

Bore size: ø6/ø10/ø16

JIS symbol





Specifications

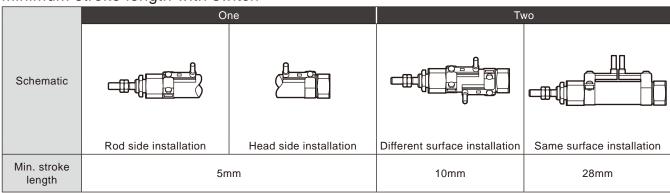
Descriptions			SCPD3-O SCPD3-OL	
Bore size	mm	ø6	ø10	ø16
Actuation			Double acting low speed type	
Working fluid			Compressed air	
Max. working pressure	MPa		1.0	
Min. working pressure	MPa	0.15	0	.1
Withstanding pressure	MPa		1.6	
Ambient temperature	°C		-10 to 60 (no freezing)	
Port size			M5	
Stroke tolerance	mm		+1.0 0	
Working piston speed	mm/s		10 to 200	
Cushion			Rubber cushion	
Lubrication			Not available	
Allowable energy absorption	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		100	
SCPD3-O	ø10	15/30/45/60	200	5
	ø16		260	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch



Specifications

Switch specifications

Descriptions	Proximi	ty 2 wire	Proximity 3 wire		
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV	
Applications	Programmal	ole controller	Programmable	controller, relay	
Output method	-		NPN output		
Power voltage	-		10 to 28VDC		
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less	
Load current	5 to 2	20mA	100mA or less	50mA or less	
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	
Leakage current	1mA c	or less	10 μΑ	or less	
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80	
Descriptions		Reed	2 wire		
Descriptions	TOH	/T0V	T5H	/T5V	
Applications	Programmable	controller, relay		elay IC circuit (without light),	
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC	
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less	
Light	LED (ON	l lighting)	Without indicator light		
Leakage current	0r	mA	0mA		
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80	

Cylinder weight (Unit: g)

	Descriptions	Mou	nting bracket v	weight	Mainle Con	Additional	Ouritale mariales	Donalos
Туре	Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for 0mm stroke	weight per 10mm stroke	Switch weight (per switch)	Bracket weight
	ø6	6	4	-	13	1	Refer to weight	
SCPD3-O	ø10	6	4	4	21	2	written on switch	2
	ø16	15	12	10	42	3	specifications.	

Mounting bracket weight(Foot type)	6g	
Weight for 0mm stroke		
 Additional weight for 30mm stroke 		
Switch weight	2× (18+2)=40g	
Product weight	6+21+6+40=73g	

SCPD3-O Series

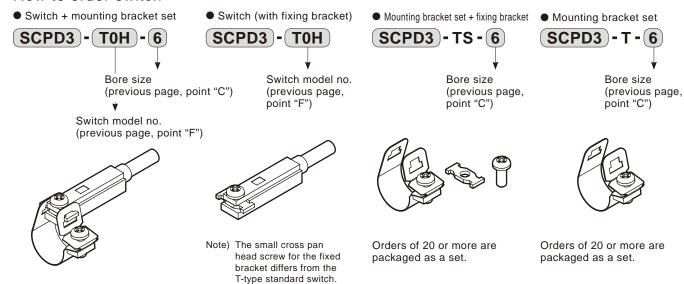
How to order Without switch SCPD3-O)-(00)-(10)-(15)-(O)-With switch SCPD3-OL)-(00)-(10)-(15)-(O)-(T2H)-(R)-(Y) Symbol Descriptions A Model no. A Model no. SCPD3-O Double acting low speed type SCPD3-OL Double acting low speed type with switch **B** Mounting style **B**Mounting Bore size (ø) 6 10 16 style Note 1 • 00 Basic type LS One side axial foot type (rod end) • • • FΑ Rod end flange type • • СВ Clevis bracket type (pin and snap ring attached) • G Bore size (mm) ©Bore size 6 ø6 10 ø10 16 ø16 Stroke length (mm) Stroke Stroke length Note 2 Bore size Custom stroke length length ø6 5 to 100 ø10 5 to 200 By 1 mm increment ø16 5 to 260 Head end port direction Head end port **Blank** Vertical direction Note 1 0 Axial direction Switch model no. Switch Voltage Lead wire Lead L-type model no. Connection Indicator lead wire Note 3 Axial AC wire DC * indicates T0H* T0V* One color indicator type cable length. Reed 2 wire T5H* T5V* • • Without indicator light Note on model no. selection T2V* T2H* • 2 wire One color T3H* T3V* • indicator type 3 wire Note 1: Support type CB cannot be made for port Proximity orientation "0" axial. T2WV* T2WH* • 2 wire Two color Note 2: Refer to page 31 for min. stroke length with switch. indicator type T3WH* T3WV* 3 wire Note 3: Magnet is not integrated for types without switch. Note 4: "I" and "Y" cannot be chosen at the same time. Lead wire length Note 5: Switches will be attached with cylinders when Blank 1m (standard) shipping. 3m (option) 3 <Example of model number> 5 5m (option) SCPD3-OL-00-10-30-O-T2H-R-I Model: Pencil shaped cylinder **G** Switch quantity **G** Switch A Model no. : Double acting low speed type R One on rod end quantity B Mounting style : Basic type Н One on head end Bore size : ø10mm D Two Stroke length : 30mm Head end port direction : Axial direction Т Three Switch model no. : Proximity switch T2H, lead wire 1m **H** Accessory : One on rod end G Switch quantity Accessory Accessory : Rod eye Mounting style (ø) 6 10 16 Note 4 ı Rod eye lacktriangleRod clevis (pin and snap Υ Head cover side port direction ring attached) The cover-side pipe port orientation for mounting types 00, В1 Eye bracket • • LB, and FA is available in vertical or horizontal for axial R2 Clevis bracket

types.

SCPD3-O Series

How to order

How to order switch



How to order mounting bracket

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

Note: 1pc. / set is applied for a foot (LS) type mounting bracket.

Dimensions

Same as double acting SCPD3 series. Refer to Pages 6 and 7.



Pencil shaped cylinder Double acting double rod type

SCPD3-D Series

● Bore size: ø6/ø10/ø16

JIS symbol





Specifications

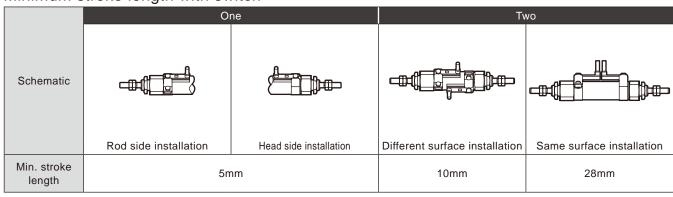
Descriptions			SCPD3-D SCPD3-DL						
Bore size	mm	ø6	ø10	ø16					
Actuation			Double acting double rod type						
Working fluid			Compressed air						
Max. working pressure	MPa		1.0						
Min. working pressure	Double acting double rod type Compressed air MPa 1.0 MPa 0.2 0.1								
Withstanding pressure	MPa		1.6						
Ambient temperature	°C		-10 to 60 (no freezing)						
Port size			M5						
Stroke tolerance	mm								
Working piston speed	mm/s		50 to 750						
Cushion			Rubber cushion						
Lubrication		Not required (who	en lubricating, use turbine oil Cla	ass 1 ISO VG32.)					
Allowable energy absorption	n 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		60	
ø10	15/30/45/60	120	5
ø16		120	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch





Specifications

Switch specifications

Descriptions	Proximi	ty 2 wire	Proximit	ty 3 wire					
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV					
Applications	Programmal	ole controller	Programmable	controller, relay					
Output method		-	NPN (output					
Power voltage		-	10 to 2	28VDC					
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less					
Load current	5 to 2	20mA	100mA or less	50mA or less					
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)					
Leakage current	1mA c	or less	10 μΑ	or less					
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80					
Descriptions		Reed	2 wire						
Descriptions	TOH	/T0V	T5H.	/T5V					
Applications	Programmable	controller, relay	Programmable controller, re serial co	elay IC circuit (without light), nnection					
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC					
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less					
Light	LED (ON	l lighting)	Without inc	dicator light					
Leakage current	0r	mA	0mA						
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80					

Cylinder weight (Unit: g)

	Descriptions	Moun	ting bracket	weight	107 : 1 . 6	Additional	0 11 1 11	5
Туре	Bore size (mm)	Foot type LS	Foot type LB	Flange type FA	Weight for Omm stroke	weight per 10mm stroke	Switch weight (per switch)	Bracket weight
000000	ø6	6	12	4	18	2	Refer to weight	
SCPD3-D SCPD3-DT	ø10	6	12	4	28	3	written on switch	2
001 00 01	ø16	15	30	12	55	5	specifications.	

(ex.) Product weight of SCPD3-I	DL-LS-10-30-T0H-D				
	 Mounting bracket we 	ight(Foot type)		6g	
	 Weight for 0mm strok 				
	 Additional weight for 	30mm stroke		2×3/10=9g	
	Switch weight			2× (18+2)=40g	
	Product weight		6-	+28+9+40=83g	

SCPD3-D Series

How to order Without switch (SCPD3-D)-(LS)-(10)-(15) With switch SCPD3-DL)-(LS)-(10)-(15)-(T2H)-(R)-(I) Symbol Descriptions **B** Mounting style **B**Mounting Bore size (ø) 6 10 16 style • 00 Basic type A Model no. LS • One side axial foot type (rod end) LB Double axial foot type • • FΑ Rod end flange type • • © Bore size (mm) Bore size 6 ø6 10 ø10 16 ø16 Stroke length(mm) Stroke Bore size Stroke lengthNote 1 Custom stroke length length 5 to 60 ø10 5 to 120 By 1 mm increment ø16 5 to 120 E Switch model no. Switch Voltage Lead wire L-type Lead model no. Connection Indicator lead wire Axial AC | DC Note 2 indicates T0H* T0V* lacktriangleOne color indicator type Reed 2 wire cable length. T5V* T5H* • Without indicator light T2H* T2V* One color indicator 2 wire Note on model no. selection T3H* T3V* type 3 wire Proximity T2WH* T2WV* • 2 wire Two color indicator Note 1: Refer to page 35 for min, stroke length with switch. T3WH* T3WV* type 3 wire Note 2: Magnet is not integrated for types without switch. Note 3: SCPD3-D is copper and PTFE free as standard. Lead wire length Note 4: Switches will be attached with cylinders when **Blank** 1m (standard) shipping. 3m (option) 3 5 5m (option) <Example of model number> Switch quantity SCPD3-DL-LS-10-15-T2H-R-I Switch R One on rod end Model: Pencil shaped cylinder Double rod type quantity Н One on head end A Model no. : Pencil shaped cylinder Double rod type D Two B Mounting style : One side axial foot type (rod end) C Bore size Т : ø10mm Three Stroke length : 15mm **G** Accessory E Switch model no. : Proximity switch T2H, lead wire 1m **G**Accessory

Mounting style (ø)

Rod clevis (pin and snap ring

Rod eye

attached)

I

Υ

6

10

16

•

How to order mounting bracket

: Rod eye

F Switch quantity : One on rod end

G Accessory

	•		
Bore size (mm) Mounting bracket	ø6	ø10	ø16
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: 1pc. / set is applied for a foot (LS) type mounting bracket.

SCPD3-D Series

How to order Internal structure and parts list

How to order switch

Switch + mounting bracket set (SCPD3)-(T0H)-(6)

(previous page, point "C")

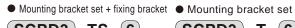
Switch (with fixing bracket)

no.

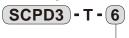
Switch model

(previous page, point "F")

(SCPD3)-(T0H)

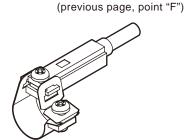




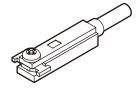


Bore size (previous page, point "C")

Bore size (previous page, point "C")



Switch model no.



Note) The small cross pan head screw for the fixed bracket differs from the T-type standard switch.



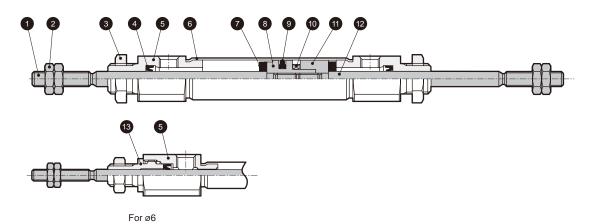
Orders of 20 or more are packaged as a set.



Orders of 20 or more are packaged as a set.

Internal structure and parts list

 Double rod type SCPD3-D SCPD3-DL (With switch)



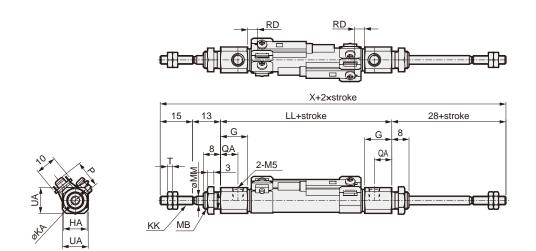
• This product cannot be disassembled.

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 seal	Nitrile rubber	
3	Hexagon nut	Steel	Nickeling	10	Magnet	-	Only with switch
4	Rod packing seal	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 bushing	Aluminum alloy	Hard alumite
7	Cushion rubber	Urethane rubber					

SCPD3-D Series

Dimensions

• SCPD3-D (L) Basic type (00)



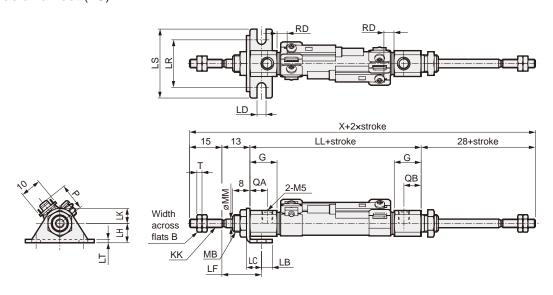
Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

Note 3: Refer to page 51 for accessory dimensions.

Symbol	Basic	type (00) bas	sic dim	ensior	าร							With switch				
Bore size	В	G	НА	KA	KK	LL	МВ	мм	QA	т	UA	v	T0,T5,T2,T3	T2W,T3W	P		
(mm) \	╵╏		ПА	NA	KK		IVID	IVIIVI	QA.	_ '	UA	^	RD	RD			
ø6	5.5	17	8	13.5	М3	56	M6	3	13	1.8	11	112	2	4	5.5		
ø10	7	12.5	11	14.5	M4	54.5	M8×1.0	4	8	2.4	12	110.5	5.5	7.5	12.5		
ø16	8	13	14	21.5	M5	55	M10×1.0	5	8.5	3.2	18	111	4	6	15.5		

One side axial foot (LS)



Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

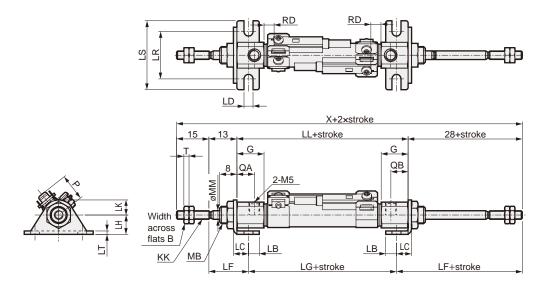
Note 3: Refer to page 51 for accessory dimensions.

Symbol	Basi	c typ	e (0	0) ba	sic dim	ensid	ons			Mou	nting	g dim	ensi		With switch						
Bore size	В	G	KK		МВ	мм	ο Δ	т	v	LB	1.0	ın	15		ıĸ	I D	16	ıт	T0,T5,T2,T3	T2W,T3W	ь
(mm) \		G	ΝN		IVID	IVIIVI	QA.	'	^	LB	LC	LD	L	LII	LK	LK	LS		RD	RD	
ø6	5.5	17	МЗ	56	M6	3	13	1.8	112	5	7	4.2	18.4	9	7	22	32	1.6	2	4	5.5
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	12.5
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	15.5

Double acting double rod type

Dimensions

Both sides axial foot (LB)

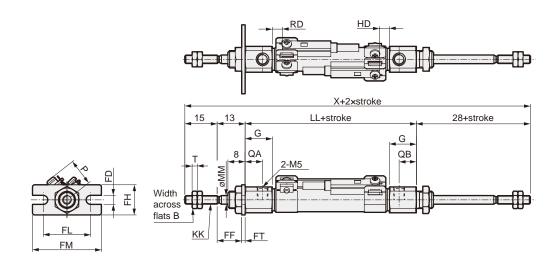


- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

Note 3: Refer to page 51 for accessory dimensions.

Symbol	Both	side	s axia	al foo	t type (LB) bas	ic din	nensi	ons	Μοι	ıntin	g diı	nens	sion	s					With swit	ch	
Bore size	В	G	кк		МВ	мм	Ο Δ	_	v	I B	1.0	ın	I E	1 11	ıc	ΙK	ΙĐ	LS	I T	T0,T5,T2,T3	T2W,T3W	В
(mm)		G	KK		IVID	IVIIVI	QA.	'	^					LII	LG	LK	LK	LJ	-	RD	RD	
ø6	5.5	17	М3	56	M6	3	13	1.8	112	5	7	4.2	18.4	9	45.2	7	22	32	1.6	2	4	5.5
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	3.5	5.5	12.5
ø16	8	13	M5	55	M10×1.0	5	8.5	3.5	111	6	9	5.2	19.7	14	41.6	10	29	42	2.3	3.5	5	15.5

• Rod end flange type (FA)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø6 and ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.

Note 3: Refer to page 51 for accessory dimensions.

Symbol	Rod	end fl	ange	(FA)	basic di	mens	ions			Mour	nting	dimer		With switch				
Bore size	В	G	VV	LL	МВ	мм	QA	_	х	FD	FF	FH	FL	FM	FT	T0,T5,T2,T3	T2W,T3W	P
(mm)		ď	ΝN	LL	IVID	IVIIVI	QA	'	^			rn	FL	FIVI	Г	RD	RD	
ø6	5.5	17	МЗ	56	M6	3	13	1.8	112	4.2	11.4	14	22	32	1.6	2	4	5.5
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	3.5	5.5	12.5
ø16	8	13	M5	55	M10×1.0	5	8.5	3.2	111	5.2	10.7	20	29	34	2.3	3.5	5	15.5



Pencil shaped cylinder

Single acting extended non-rotating type SCPS3-M Series

SCPD3-M Series Double acting non-rotating type

Bore size: ø10/ø16

JIS symbol





Specifications

Descriptions			S3-M 63-ML		D3-M D3-ML
Bore size	mm	ø10	ø16	ø10	ø16
Actuation		Single acting n	on-rotating type	Double acting r	on-rotating type
Working fluid			Compre	ssed air	
Max. working pressure	MPa		1	.0	
Min. working pressure	MPa	0.	15	0	.1
Withstanding pressure	MPa		1	.6	
Ambient temperature	°C		-10 to 60 (r	no freezing)	
Port size			N	15	
Stroke tolerance	mm		+1	.0)	
Working piston speed	mm/s		50 to	750	
Cushion			Rubber	cushion	
Lubrication		Not requir	ed (when lubricating, u	se turbine oil Class 1 I	SO VG32.)
Revolvable angle tolerance (Note)			±ź	2°	
Allowable energy absorption	J	0.042	0.162	0.042	0.162

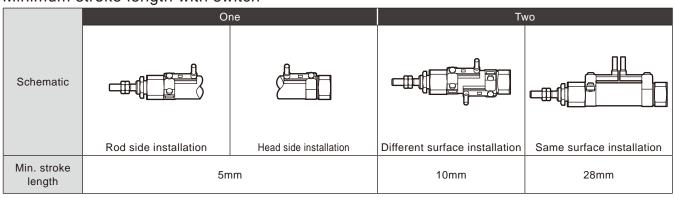
(Note): Stroke length at 0 o'clock (deflection of piston rod excluded)

Stroke length

Bore size	(mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPS3-M	ø10		120	
3CF33-W	ø16	15/30/45/60	120	_
SCPD3-M	ø10	13/30/43/60	200	5
30FD3-IVI	ø16		260	

Note 1: The custom stroke length is available by 1mm increment.

Minimum stroke length with switch



Specifications

Switch specifications

Descriptions	Proximi	ty 2 wire	Proximit	y 3 wire
Descriptions	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV
Applications	Programmal	ole controller	Programmable	controller, relay
Output method		-	NPN (output
Power voltage		-	10 to 2	28VDC
Load voltage	10 to 30VDC	24VDC±10%	30VDC	or less
Load current	5 to 2	20mA	100mA or less	50mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Leakage current	1mA c	or less	10 μΑ	or less
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80
Descriptions		Reed	2 wire	
Descriptions	T0H	/T0V	T5H	T5V
Applications	Programmable	controller, relay	Programmable controller, re serial co	, , ,
Load voltage	12/24VDC	110VAC	5/12/24VDC	110VAC
Load current	5 to 50mA	7 to 20mA	50mA or less	20mA or less
Light	LED (ON	l lighting)	Without inc	licator light
Leakage current	0r	mA	0n	nA
Weight g	1m:18 3m	:49 5m:80	1m:18 3m	:49 5m:80

Single acting spring load (SCPS3-M)

(Unit: g)

Bore size (mm)	0mm stroke	Full stroke length during operation
ø10	3.2	7.5
ø16	6.4	14.9

Cylinder weight

(Unit: g)

•	•							, 0,
	Descriptions	Mou	nting bracket v	weight	Mainle Con	Additional	Outlink outlinks	Danabas
Туре	Bore size (mm)	Foot type LS	Flange type FA	Clevis type CB	Weight for 0mm stroke	weight per 10mm stroke	Switch weight (per switch)	Bracket weight
SCPS3-M	ø10	6	4	4	20	4		
3CF33-IVI	ø16	15	12	10	35	8	Refer to weight written on switch	,
SCPD3-M	ø10	6	4	4	21	2	specifications.	
SCPD3-IVI	ø16	15	12	10	42	3		

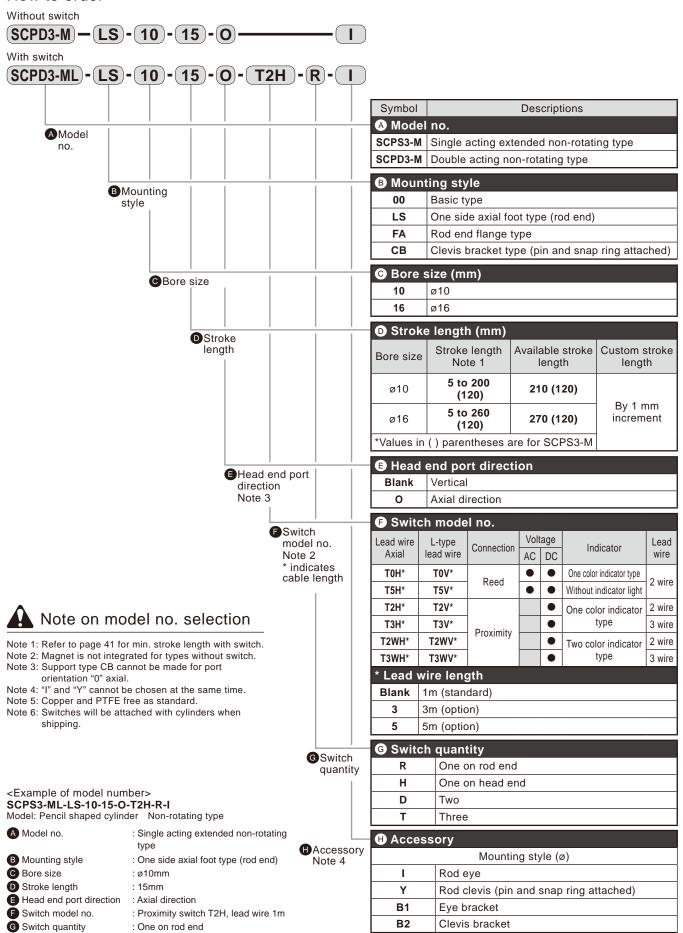
(ex) Product weight of. SCPS3-ML-LS-10-30-T0H-D

- Mounting bracket weight(Foot type)6g

- Product weight.....6+20+12+40=78g

SCP_D3-M series

How to order



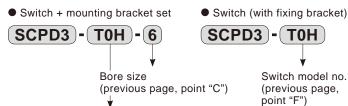
: Rod eye

Accessory

SCP^S_D3-M Series

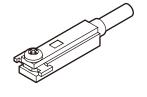
How to order

How to order switch



Switch model no. (previous page, point "F")



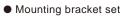


Note) The small cross pan head screw for the fixed bracket differs from the T-type standard switch.

Mounting bracket set + fixing bracket



Bore size (previous page, point "C")





Bore size (previous page, point "C")



Orders of 20 or more are packaged as a set.



Orders of 20 or more are packaged as a set.

How to order mounting bracket

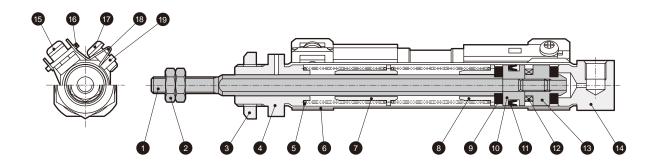
Bore size (mm) Mounting bracket	ø10	ø16
Foot (LS)	P2-LS-10M	P2-LS-16M
Flange (FA)	P2-FA-10M	P2-FA-16M

Note: 1pc. / set is applied for a foot (LS) type mounting bracket.

SCPS3-M Series

Internal structure and parts list

 Single acting non-rotating type SCPS3-M SCPS3-ML (With switch)



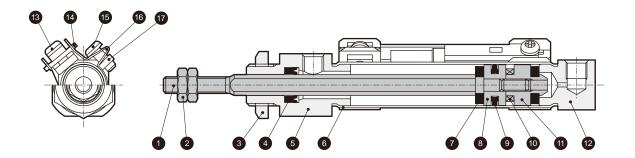
• This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		11	Piston packing seal	Nitrile rubber	
2	Rod nut	Steel	Nickeling	12	Magnet	-	Only with switch
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	Galvanized chromate	15	Small cross pan head thread	Stainless steel	Only with switch
6	Cylinder tube	Stainless steel		16	Bracket	Stainless steel	Only with switch
7	Spring holder (A)	Aluminum alloy		17	Small cross pan head thread	Stainless steel	Only with switch
8	Spring holder (B)	Aluminum alloy		18	Band	Stainless steel	Only with switch
9	Cushion rubber	Urethane rubber		19	Fixing nut	Stainless steel	Only with switch
10	Piston	Aluminum alloy					

Internal structure and parts list

Internal structure and parts list

 Double acting non-rotating type SCPD3-M SCPD3-ML (With switch)

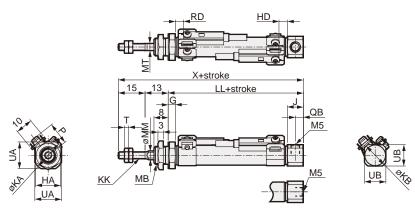


• This product cannot be disassembled.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		10	Magnet	-	Only with switch
2	Rod nut	Steel	Nickeling	11	Spacer	Aluminum alloy	
3	Hexagon nut	Steel	Nickeling	12	Head cover	Aluminum alloy	Hard alumite
4	Rod packing seal	Nitrile rubber		13	Small cross pan head thread	Stainless steel	Only with switch
5	Rod cover	Aluminum alloy	Hard alumite	14	Bracket	Stainless steel	Only with switch
6	Cylinder tube	Stainless steel		15	Small cross pan head thread	Stainless steel	Only with switch
7	Cushion rubber	Urethane rubber		16	Band	Stainless steel	Only with switch
8	Piston	Aluminum alloy		17	Fixing nut	Stainless steel	Only with switch
9	Piston packing seal	Nitrile rubber					

Dimensions

• SCPS3-M (L) Basic type (00)



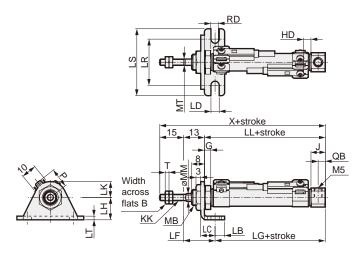
Port direction and axial direction

- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)

 Note 2: The ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Bas	ic ty	ре ((00) b	asic	dim	ensi	ons																		
Bore size	В	G	на	Ĺ.	KA	V.D.	VV				L	L.				М	ь	DADA	МТ	QВ	_	1114	шв		Х	
(mm)	J ₽	٦	ПА		KA	VD	NN	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	i w	Ь	INIM	МТ	פט	'	UA		15 or less	Over 15 to 30	Over 30 to 45
ø10	7	4	14	9	17	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	M12x	1.0	6	5	4.5	3.2	18	18	75	80	90
Symbol							With	ı sw	itch																	
Barra sirra			v							T0,1	Γ5,T:	2,T3							T2	W,T	3W					
Bore size			^			Υ				R	D				ш				R	D				шь	Р	
(mm)	Over 45 to 60	Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120		15 or less		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	нυ		
ø10	95	105	110	120	125	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	12.5	
ø16	95	105	110	120	125	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	3.5	15.5	

One side axial foot (LS)

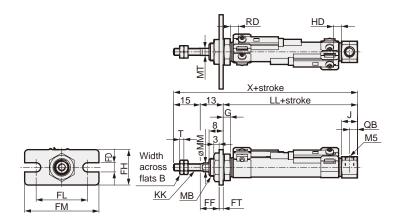


- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	One	sic	le ax	cial (LS)	basi	c di	mer	sio	ns											Μοι	untir	ng d	ime	nsio	ns		
Bore size (mm)	В	G	J	кв	ΚK	М	В	ММ	МТ	QВ	Т	UB	15 or less	Over 15 to 30	Over 30 to 45		Over 60 to 75	Over 75 to 90	Over 90 to 105	Over 105 to 120	LB	LC	LD	LF	15 or less	Over 15	G Over 30 to 45	Over 45 to 60
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		41.9	$\overline{}$	56.9	61.9
ø16	8	4	9	21.5	M5	M12x	1.0	6	5	4.5	3.2	18	75	80	90	95	105	110	120	125	6	9	5.2	19.7	40.1	45.1	55.1	60.1
Symbol		With switch																										
Dana sina			G																T2	W,T	3 W							
Bore size (mm)					LH	LK	LR	LS	LT				R	D				HD				R	D				пυ	Р
(''''')	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	טח		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	טח	
ø10	71.9	76.9	86.9	91.9	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	12.5
ø16	70.1	75.1	85.1	90.1	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	3.5	15.5

Dimensions

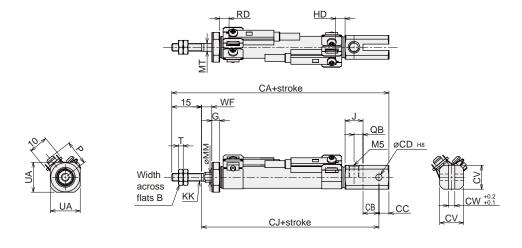
Rod end flange type (FA)



- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Roc	l end	l fla	nge	(FA)	bas	ic di	mer	sior	าร																	
Bore size	В	D	G		VΒ	VV				L	L				D.A	В	BABA	NAT	QВ	_	шв)	K		
(mm)	▮▫		٦	J	VD	NN	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	М	Ь	IVIIVI	IVI I	שט	'	UB	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	11	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	17.4	4	9	21.5	M5	47	52	62	67	77	82	92	97	M12x	1.0	6	5	4.5	3.2	18	75	80	90	95	105	110
Symbol			Μοι	ıntin	g di	men	sior	าร	Wit	n sw	itch																
D	,	K										T0,	Γ5,T:	2,T3							T2	W,T	3W				
Bore size	<i>'</i>	`	FD	FF	FΗ	FL	FM	FT				R	D				HD				R	D				ш	Р
(mm)	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 105 to 120	טח	15 or less	Over 15 to 30	Over 30 to 45	Over 45 to 60	Over 60 to 75		Over 90 to 105	Over 105 to 120	HD	
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	12.5
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	3.5	15.5

Clevis bracket type (CB) with pin



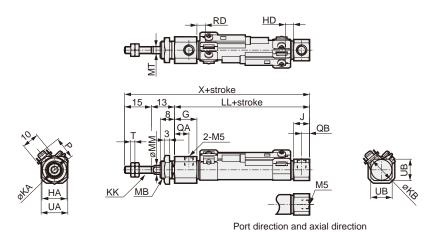
- Note 1: The dimensions without switch are same as the ones with switch. (The magnet is not integrated.)
- Note 2: The ø10 port thread depth is 3.8 mm. When using a fitting, prepare a fitting with a thread length of 3.8 mm or less.
- Note 3: Refer to page 51 for accessory dimensions.

Symbol	Clev	/is bi	rack	et ty	oe (C	B) b	asic	dime	ensio	ns	Mo	unti	ng d	lime	nsio	ons													
Bore size	В	D	G		ĸĸ	мм	мт	QВ	т	114				С	Α				CB	СС	CD				С	J			
(mm)			G		ΝN	IVIIVI	IVII	שט	<u>'</u>	UA	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	СВ	CC	CD	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	11	4	9	M4	5	4	4.5	2.4	15	80	92	104	116	128	140	152	164	8	5	3.2	60	72	84	96	108	120	132	144
ø16	8	17.4	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
Symbol											Wit	h sv	vitcl	า															
Dava siza						10	/F				With switch T0,T5,T2,T3												T2	W,T	3W				
Bore size	CV	CW				٧,								R	D				HD				R	D				пр	Р
(mm)			15 or less		Over 30 to 45		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 75 to 90	Over 90 to 105	Over 105 to 120	טח	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	חט	
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	12.5
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	3.5	15.5

SCPD3-M Series

Dimensions

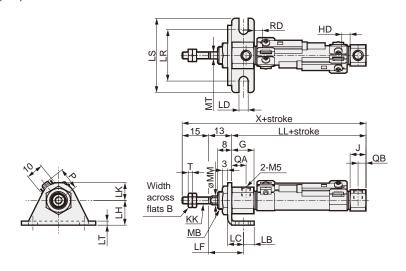
• SCPD3-M (L) Basic type (00)



Note 1: Refer to page 51 for accessory dimensions.

Symbol	Basic	type (0	0) basi	ic dime	ensions	;									
Bore size (mm)	В	HA	G	J	KA	KB	K	K	LL	MB	ММ	MT	QA	QB	Т
ø10	7	14	12.5	9	17	14.5	N	14	46	M10×1.0	5	4	8	4.5	2.4
ø16	8	17	13.0	9	21.5	21.5	N	15	46	M12×1.0	6	5	8.5	4.5	3.2
Symbol				With s	witch										
Bore size (mm)	UA	UB	Х	T0,T5	,T2,T3	T2W	T3W	Р							
Bore Size (IIIIII)	JUA	UB	^	RD	HD	RD	HD	Г							
ø10	15	12	74	3.5	2.5	5.5	4	12.5							
ø16	18	18	74	3.5	2	5	3.5	15.5							

One side axial foot (LS)

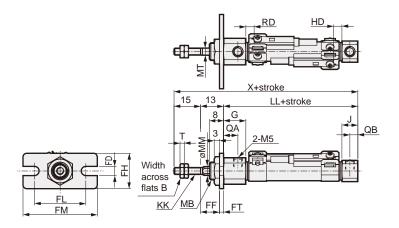


Note 1: Refer to page 51 for accessory dimensions.

Symbol	One si															ensions
Bore size (mm)	В	G	J	KK	M	В	MM	MT	QA	QB	T	UB	Х	LD	LH	LB
ø10	7	12.5	9	M4	M10	×1.0	5	4	8	4.5	2.4	12	74	5.2	14	6
ø16	8	13.0	9	M5	M12	×1.0	6	5	8.5	4.5	3.2	18	74	5.2	14	6
Symbol								With switch								
Bore size	LT	LC	LK	LR	LS	LF	LL	T0,T5	,T2,T3	T2W	T3W	Р				
(mm)		LC	LK	LK	LO	LF		RD	HD	RD	HD					
ø10	2.3	9	10	29	42	19.7	46	3.5	2.5	5.5	4	12.5				
ø16	2.3	9	10	29	42	19.7	46	3.5	2	5	3.5	15.5				

Dimensions

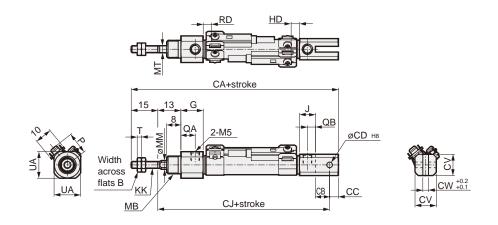
Rod end flange type (FA)



Note 1: Refer to page 51 for accessory dimensions.

Symbol	Rod fla	od flange type (FA) basic dimensions													
Bore size (mm)	В	G	J	KB	KK	LL	M	В	MM	MT	QA	QB	Т	UB	Х
ø10	7	12.5	9	14.5	M4	46	M10	×1.0	5	4	8.0	4.5	2.4	12	74
ø16	8	13.0	9	21.5	M5	46	M12	×1.0	6	5	8.5	4.5	3.2	18	74
Symbol	Mounti	ng dim	ension	S			With s	witch							
Bore size	FH	FD	FT	FL	FM	FF	T0,T5	,T2,T3	T2W	T3W	P				
(mm)		רט	[F1	FL	FIVI	""	RD	HD	RD	HD	F				
ø10	20	5.2	2.3	29	42	10.7	3.5	2.5	5.5	4	12.5				
ø16	20	5.2	2.3	29	42	10.7	3.5	2	5	3.5	15.5				

• Clevis bracket type (CB) with pin



Note 1: Refer to page 51 for accessory dimensions.

Symbol	Clevis	bracke	t type (CB) bas	sic dim	ensions	;							Mounting dimensions			
Bore size (mm)	В	G	J	KK	MM	M	В	MT	QA	QB	T	UA	CV	CW	CD		
ø10	7	12.5	9	M4	5	5 M10×1.0 4				4.5	2.4	15	12	3.2	3.2		
ø16	8	13.0	9	M5	6	M12	×1.0	5	8.5	4.5	3.2	18	18	6.5	5		
Symbol					With s	witch											
Bore size	СВ	СС	CJ	CA	T0,T5	,T2,T3	T2W,	T3W	P								
(mm)	CB		GJ	CA	RD												
ø10	8	5	67	87	3.5	3.5 2.5 5.5 4 12.5											
ø16	10	10	69	94	3.5	3.5 2 5 3.5 15.5											

SCP*3 Series

Common accessory dimensions

Dimensions



Material: Steel

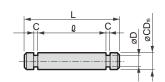
• Rod eye (Y)

Ball R10

øCD

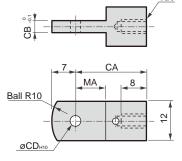
Material: Steel ● Rod clevis

Pin for bracket (P) Clevis Material: Stainless steel



Note: The pin and fastener for use with the rod clevis is attached with the product.

Model no.	Applicable tube bore (mm)	Applicable	С	D	CD	ę	L	Weight (g)
P2-P-10	10	Rod clevis/ Bracket/Clevis	0.6	2.5	22	13	17	1.2
P2-P-10Z		Clevis for Z	0.0	2.5	3.2	16	20	1.4
P2-P-16	16	Rod clevis/Bracket	0.7	4	5	13	18	3.0
P2-P-16A		Clevis	0.7	4	5	19	24	3.9



Model no.	Applicable tube bore (mm)	CA	СВ	CD	KK	MA	Weight (g)
P2-I-10	ø10	21	3.1	3.2	M4	9	17
P2-I-16	ø16	25	6.4	5	M5	14	21

Note: Pin and snap ring are attached.

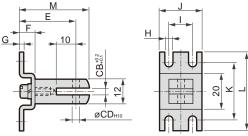
Model no.	AA	СВ	CD	KK	Weight (g)
P2-Y-10	8	3.2	3.2	M4	25
P2-Y-16	10	6.5	5	M5	20

10

AA

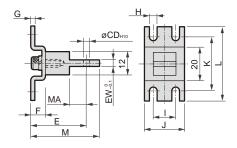
Clevis Bracket (B2)

Material: Steel • Eye bracket (B1) Material: Steel



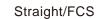
Note: Pin and snap ring are attached

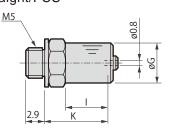
11010. 1 111	and onap mig a	o ana	onou.										
Model no.	Applicable tube bore (mm)	CD	E	СВ	F	G	н	ı	J	к	L	M	Weight (g)
P2-B2-10	ø10	3.2	29	3.2	8	2	4.2	12	22	30.2	40	36	44
P2-B2-16	ø16	5	31	6.5	10	2.3	5.2	16	28	35.2	48	38	44



Model no.	Applicable tube bore (mm)	CD	Ε	EW	F	G	Н	ı	J	K	L	M	MA	Weight (g)
P2-B1-10	ø10	3.2	29	3.1	8	2	4.2	12	22	30.2	40	36	9	37
P2-B1-16	ø16	5	35	6.4	10	2.3	5.2	16	28	35.2	48	42	14	48

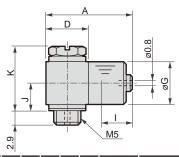
- Hose nipples for pencil shaped cylinders (Sales unit 1 bag/10 pieces)
- Barbed fitting





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	7	

Elbow/l	FCL
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Model no.	Applicable tube bore (mm)	G	ı	К	Weight (g)	Effective sectional area (mm²)
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.	Applicable tube bore (mm)	Α	D	G	ı	J	к	Weight (g)	Effective sectional area (mm²)
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



Safety precautions

Always read this section before starting use.

When designing and manufacturing a device using CKD products, the manufacturer is obligated to check that device safety mechanism, pneumatic control circuit, or water control circuit and the system operated by electrical control that controls the devices is secured.

It is important to select, use, handle, and maintain the product appropriately to ensure that the CKD product is used safely. Observe warnings and precautions to ensure device safety.

Check that device safety is ensured, and manufacture a safe device.



WARNING

- This product is designed and manufactured as a general industrial machine part. It must be handled by an operator having sufficient knowledge and experience in handling.
- 2 Use this product in accordance of specifications.

This product must be used within its stated specifications. It must not be modified or machined. This product is intended for use as a general-purpose industrial device or part. It is not intended for use outdoors or for use under the following conditions or environment.
(Note that this product can be used when CKD is consulted prior to use and the customer consents to CKD product specifications. The customer must provide safety measures to avoid risks in the event of problems.)

- Ouse for special applications including nuclear energy, railway, aircraft, marine vessel, vehicle, medicinal devices, devices or applications coming into contact with beverages or foodstuffs, amusement devices, emergency cutoff circuits, press machines, brake circuits, or safety devices or applications
- ②Use for applications where life or assets could be adversely affected, and special safety measures are required.
- 3 Observe corporate standards and regulations, etc., related to the safety of device design and control,

ISO4414, JIS B 8370 (pneumatic system rules)
JFPS2008 (principles for pneumatic cylinder selection and use)
Including High Pressure Gas Maintenance Law, Occupational Safety and Sanitation Laws, other safety rules, body standards and regulations, etc.

- Do not handle, pipe, or remove devices before confirming safety.

- Inspect and service the machine and devices after confirming safety of the entire system related to this product.
 Note that there may be hot or charged sections even after operation is stopped.
 When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay enough attention to possible water leakage and leakage of electricity.
- When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.
- 5 Observe warnings and cautions on the pages below to prevent accidents.
- The precautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.

🛕 DANGER: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.



🛕 WARNING: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries.



CAUTION: When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.

Note that some items described as "CAUTION" may lead to serious results depending on the situation. In any case, important information that must be observed is explained.

Limited Warranty and Disclaimer

- 1 "Warranty Period" is one (1) year from the first delivery to the customer.
- In case any defect attributable to CKD is found during Warranty Period, CKD shall, at its own discretion, repair the defect or replace the relevant product in whole or in part, according to its own judgment. In no event CKD shall never be liable for the costs in relation to and the damages resulting from the (de)installation of the product.

This Limited Warranty will not apply to:

- (1) Product abuse/misuse contrary to conditions/environment recommended in its catalogs/specifications.
- (2) Failure due to other causes.
- (3) Use other than original design purposes.
- (4) Third-party repair/modification.
- (5) Failure due to causes not foreseeable with technology at the time of delivery.
- (6) Failure attributable to force majeure.
- IN NO EVENT SHALL CKD BE LIABLE FOR BUSINESS INTERRUPTIONS, LOSS OF PROFITS, PERSONAL INJURY, COSTS OF DELAY OR FOR ANY OTHER SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSSES, COSTS OR DAMAGES.
- 4 IN NO EVENT SHALL CKD BE LIABLE FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, notwithstanding any disclosure to CKD of the use to which the product is to be put.





Safety precautions

Always read this section before starting use. For general details on cylinders, please consult Pneumatic Cylinders Catalog I

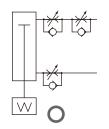
Design & selection

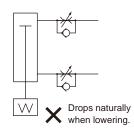
1. Rubber cushioned SCPD3-*C

A CAUTION

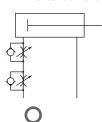
■ Due to the structure, the stroke limit position cannot be maintained if the air supply is cut off. When detecting stroke ends via switch, it is possible that they are outside the detectable range, so always set the switch position while in an air pressurized state.

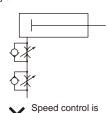
(Note2) When vertical installation, a meter-in circuit results in falling by its self-weight. So, provide a meter-out circuit.





(Note3) For serial connection of speed control valve, provide a circuit as the following diagram.





unstable

(Cause for popping out symptom)

Reduce the flow rate to reach a fine speed at the exhaust side in a mater-out circuit. This results in the same pressure level on the both sides immediately after valve switched. The thrust caused by the differential of pressurized area of piston is applied to the PUSH direction and a popping-out of piston rod occurs.

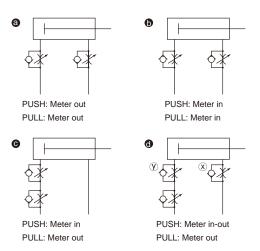
(Reference for popping out occurrence)

- Occurs when [piston rod area] x [air pressure] > [load resistance]
- Do note apply lateral load.
 Install so the sliding guide is not twisted.
 - The presence of load or resistance variation may result in unstable operations.
 - Large differential between static friction and dynamic friction of guide results in unstable operation.
- Avoid use with vibration.
 - The product will be adversely affected by vibration and operation will be unstable.

2. Fine speed type SCPD3-F

A CAUTION

- Use oil-free.
 - Lubrication may change characteristics.
- Install a speed control valve close to a cylinder.
 - If this is installed away from a cylinder, adjustment will be unstable.
 - SC-M3/M5-F, SC3W, SCD-M3/M5-F Series speed control valves are recommended.
- Generally, the higher air pressure, and the smaller load result in the more stable operation.
 - Use load factor with 50% or less.
- Stable speed control is achieved with a meterout circuit.
 - When driving the single rod cylinder at fine speed with the operation direction set to PUSH, popping-out may occur if operation is started when load resistance is small. As a corrective action, use circuit (), () or (). Circuit () is the most stable.



How to adjust the push operation speed on circuit d:

- 1.Set the speed with the x speed control valve.
- 2. Lower the flow rate with the y speed control valve until popping out no longer occurs.
- 3. Reconfirmation of speed

(Note 1) Comparing **(b)**, **(c)**, and **(d)**, circuit **(d)** has the most stable operation.

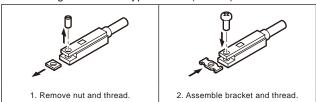
Installation and adjustment

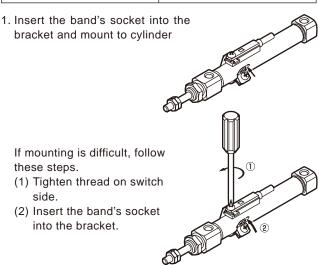
1. Common

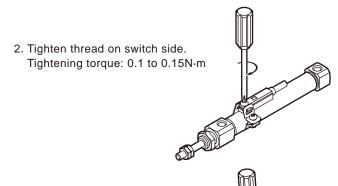
CAUTION

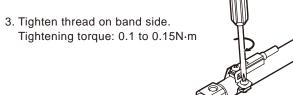
■ Install T-type switches according to the diagram below.

When using standard T type switch (SW-T*)









4. When adjusting the switch's installation position Loosen the thread on the switch's side and adjust to the optimal position, then tighten to stabilize.

Tightening torque: 0.1 to 0.15N·m

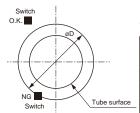
■ If cylinders with switches are installed adjacently in parallel, the cylinder switch could malfunction. Separate cylinders by the distances shown in Table 1.

Talbe 1: A dimensions (mm)

Switch Port size	T0/T5 Reed	T2/T3 Proximity
ø6	0 and over * 1	3 and over
ø10	0 and over	3 and over
ø16	0 and over	3 and over

1 For an SCPS-6 with axial-type ports, please separate by at least 3mm.

■ If cylinders with switches are installed adjacently in parallel, the cylinder switch could malfunction. Separate cylinders by the distances shown in Table 2.



Talbe 2: D dimension (mm)

Switch Port size	T0/T5 Reed	T2/T3 proximity
ø6	ø16.5 or more	ø22.5 and over
ø10	ø21 and over	ø26.5 and over
ø16	ø34 and over	ø35 and over

■ Do not pipe forciblu so lateral force is not applied onto cylinder tube. The cylinder tube can tilt, causing a malfunction.

■ Use hose nipple (with fixed aperture) or speed control valve when piping. Refer to page 51 for hose nipple.

■ Do not turn the cover

- If the cover is turned when the cylinder is installed and the pipe joint is screwed into the port, the cover engagement section may be damaged.
- When fixing a workpiece on the end of the piston rod, check that tightening torque is not applied to the cylinder.
- Tighten the hexagon nut (Part No. (3) in internal structure and parts list on page 5) within the following tightening torque range.

ø 6: 1.46N·m±10% ø10: 4.09N·m±10%

ø16: 8.78N·m±10%

2. Single acting SCPS3/SCPH3

A CAUTION

When using the extending single acting cylinder, check that load is not applied when the piston rod is retracted. When using the retracting type, check that load is not applied when the piston rod is extended.

Spring in the cylinder has minimum force to return the piston rod, and the piston rod will not return to the stroke limit if load is applied.

- Bleed holes on the cover for the single acting type must not be blocked when installed. Otherwise, malfunctioning may occur.
- Do not leave the single acting cylinder in a pressurized state.

If left in the pressurized state, the piston rod may not return with spring force when pressure is released.

3. Fine speed type SCPD3-F

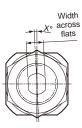
A CAUTION

- Adjust the alignment, etc., so lateral load is not applied to the cylinder.
 - Adjust so that the cylinder does not twist in relation to the sliding guide.
 - The presence of load or resistance variation may result in unstable operations.
 - Large differential between static friction and dynamic friction of guide results in unstable operation.

4. Non-rotating type SCPS3-M/SCPD3-M

A CAUTION

- When using the non-rotating type, check that rotation torque is not applied to the piston rod. The bushing may warp and life-cycle may be reduced.
- The orientation of the width across flats on the piston rod is manufactured to be parallel to the rod cover, however the degree of precision is not guaranteed.



During use and maintenance

1. Common

A CAUTION

■ This cylinder cannot be disassembled, so do not apply excessive force to the end cover or tube.

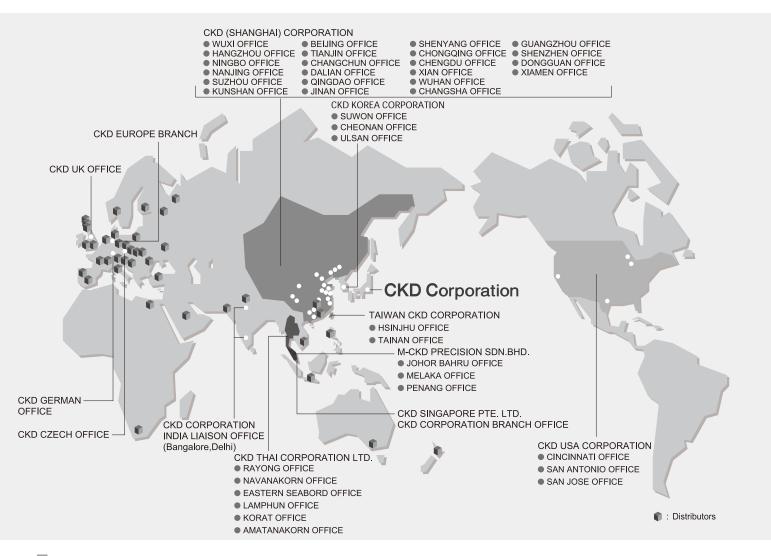
2. Rubber cushioned SCPD3-* C

A CAUTION

■ If left standing for a long time, the stroke may be slightly shorter than the reference when used at low pressure settings because of changes in cushion elasticity. Conduct test runs by operating several times or by reciprocating at high supply pressure.

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