



Pencil shaped cylinder Single acting, extend/retract types

SCPS/SCPS2/SCPH2 Series

● Bore size: $\phi 2.5$, $\phi 4$, $\phi 6$, $\phi 10$, $\phi 16$

● Single acting, extend type
 JIS symbol 

● Single acting, retract type
 JIS symbol 



Specifications

Descriptions	SCPS		SCPS2 SCPS2-L			SCPH2 SCPH2-L		
Bore size mm	ϕ 2.5	ϕ 4	ϕ 6	ϕ 10	ϕ 16	ϕ 6	ϕ 10	ϕ 16
Actuation	Single acting, extend type					Single acting, retract type		
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.35		0.3	0.15		0.39	0.2	
Withstanding pressure MPa	1.6							
Ambient temperature $^{\circ}$ C	-10 to 60 (no freezing)							
Port size	Joint for tube (tube ϕ 2.5 x ϕ 4)		M5					
Stroke tolerance mm	+0.5		+1.0					
	0		0					
Working piston speed mm/s	50 to 300		50 to 500					
Cushion	None		Rubber cushion					
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)							
Allowable energy absorption J	1.5×10^{-4}	4×10^{-4}	0.011	0.041	0.162	0.011	0.041	0.162

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

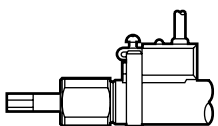
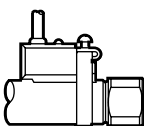
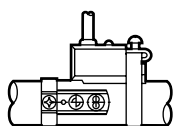
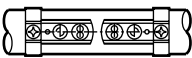
Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SCPS	$\phi 2.5$	5, 10	10
	$\phi 4$	15, 10, 15, 20	20
SCPS2 SCPH2	$\phi 6$	15, 30, 45, 60	100
	$\phi 10$		120
	$\phi 16$		120

Note 1: Custom stroke length is available per 1mm increment.

Note 2: If the maximum stroke is exceeded, product specifications may not be satisfied depending on conditions. Refer to Ending 74.

Min. stroke length of type with switch

Rough sketch	With 1 switch		With 2 switches	
	Rod side installation	Head side installation	Different surface installation	Same surface installation
				
Min. stroke length	5mm		10mm	28mm

Switch specifications

Descriptions	Proximity 2-wire		Proximity 3-wire		
	M2V	M2WV (2 color indicator type)	M3V	M3PV (Custom order)	M3WV (2 color indicator type)
Applications	Programmable controller		Programmable controller, relay, IC circuit, small solenoid valve		
Output method	————		NPN output	PNP output	NPN output
Power voltage	————		4.5 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		
Load current	5 to 20 mA		200 mA or less	100 mA or less	150 mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Yellow LED (ON lighting)	Red/green LED (ON lighting)
Leakage current	1 mA or less		10 μ A or less	0.05 mA or less	10 μ A or less
Descriptions	Reed 2 wire				
	M0V		M5V		
Applications	Programmable controller, relay		Programmable controller, relay, IC circuit (w/o light), serial connection		
Load voltage / current	5 to 50 mA at 12/24 VDC 7 to 20 mA at 110 VAC		50 mA or less at 5/12/24 VDC, 20 mA or less at 110 VAC		
Light	LED (ON lighting)		Without indicator light		
Leakage current	0mA				

Single acting spring load (SCPS, SCPS2, SCPH2) (Unit: N)

Bore size (mm)	Stroke length 0 mm	Full stroke length during operation
ϕ 2.5	0.73	1.17
ϕ 4	1.76	2.84
ϕ 6	2.25	4.70
ϕ 10	2.84	6.37
ϕ 16	5.19	11.5

Cylinder weight

Type	Stroke length	Without switch							With switch (2 switches)				Switch weight (per switch)
	Bore size (mm)	5st	10st	15st	20st	30st	45st	60st	15st	30st	45st	60st	
SCPS	ϕ 2.5	1.6	1.7	-	-	-	-	-	-	-	-	-	24
	ϕ 4	7	8	9	10	-	-	-	-	-	-	-	
SCPS2	ϕ 6	-	-	12	-	16	20	24	58	62	66	70	
	ϕ 10	-	-	26	-	33	40	47	72	79	86	93	
	ϕ 16	-	-	48	-	62	76	90	96	110	124	138	
SCPH2	ϕ 6	-	-	15	-	18	21	24	61	64	67	70	
	ϕ 10	-	-	26	-	32	38	44	72	78	84	90	
	ϕ 16	-	-	51	-	63	76	88	99	101	124	136	

Mounting bracket weight (Unit: g)

Applicable bore size	Mounting style		
	Foot type LS	Flange type FA	Clevis type CB
ϕ 6	6	4	-
ϕ 10	6	4	4
ϕ 16	15	12	10

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Pencil shaped cylinder
Standard type

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

How to order

SCPS - 00 - 2.5 - 5

A Mounting style

B Bore size

C Stroke length

Note 1: Custom stroke length is available per 1 mm increment.

Symbol	Descriptions	
A Mounting style		
00	Basic type	
B Bore size (mm)		
2.5	φ 2.5	
4	φ 4	
C Stroke length (mm)		
Bore size	Stroke length	Custom stroke length
φ 2.5	5 to 10	1 mm increment
φ 4	5 to 20	

<Example of model number>

SCPS-00-2.5-5

Model: Pencil shaped cylinder Single acting, extend type

A Mounting style : Basic type

B Bore size : φ 2.5 mm

C Stroke length : 5 mm

How to order switch

● Switch body + mounting bracket

SCPD2 - M2V - 6

Switch model no.
(Item F the following page)

Bore size
(Item C the following page)

● Only switch body

SW - M2V

Switch model no.
(Item F the following page)

● Mounting bracket

SCPD2 - M - 6

Bracket
Bore size
(Item C the following page)

How to order mounting bracket

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

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

How to order

Without switch

SCPS2 - 00 - 10 - 15 - 0 - B1

With switch

SCPS2-L - 00 - 10 - 15 - 0 - M2V - R - B1

A Model no.

B Mounting style
Note 1

C Bore size

D Stroke length

E Head end port direction
Note 1

Note on model no. selection

Note 1: For axial port direction "0", mounting style "CB" is not available.

Note 2: Refer to page 18 for min. stroke length with switch.

Note 3: If the maximum stroke is exceeded, product specifications may not be satisfied depending on conditions. Refer to Ending 74.

Note 4: Magnet is not integrated for types without switch.

Note 5: "I" and "Y" can not be selected at the same time.

Note 6: Copper and PTFE free as standard.

Note 7: Refer to Ending 89 for custom specifications of rod end form.

Note 8: Refer to page 6 for variation/option combination.

* Refer to previous page for how to order discrete switch and mounting bracket.

F Switch model no.
Note 4

* indicates lead wire length.

G Switch quantity

H Accessory
Note 5

<Example of model number>

SCPS2-L-00-10-30-0-M2V-R-I

Model: Pencil shaped cylinder

A Model no. : Single acting, extend type

B Mounting style : Basic type

C Bore size : $\phi 10$ mm

D Stroke length : 30 mm

E Head end port direction: Axial

F Switch model no. : Proximity switch M2V, lead wire 1 m

G Switch quantity : 1 on rod end

H Accessory : Rod eye

Head cover side port direction

The direction of the piping port on the support type 00, LB, and FA head cover can be selected from vertical or horizontal based on the axis direction.

Symbol	Descriptions			
A Model no.				
SCPS2	Single acting, extend type			
SCPS2-L	Single acting, extend type with switch			
SCPH2	Single acting, retract type			
SCPH2-L	Single acting, retract type with switch			
B Mounting style				
Bore size (φ)		6	10	16
00	Basic type	●	●	●
LS	Single axial foot type (rod side)	●	●	●
FA	Rod side flange type	●	●	●
CB	Clevis bracket type (pin and snap ring attached)		●	●
C Bore size (mm)				
6	φ6			
10	φ10			
16	φ16			
D Stroke length (mm)				
Bore size	Stroke length Note 2	Available stroke length Note 3	Custom stroke length	
φ6	5 to 100	105	1 mm increment	
φ10	5 to 120	120		
φ16	5 to 120	120		
E Head end port direction				
Blank	Vertical			
0	The axial direction "SCPH2(-L)" is not available.			
F Switch model no.				
Lead wire L type	Contact	Indicator	Lead wire	
M2V*	Proximity	1 color indicator	2-wire	
M2WV*		2 color indicator		
M3V*		1 color indicator	3-wire	
M3PV*		1 color indicator (custom order)		
M3WV*		2 color indicator		
M0V*	Reed	1 color indicator	2-wire	
M5V*		Without indicator light		
*Lead wire length				
Blank	1 m (standard)			
3	3 m (option)			
5	5 m (option)			
G Switch quantity				
R	1 on rod end			
H	1 on head end			
D	Two			
T	Three			
H Accessory				
Bore size (φ)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring attached)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Pencil shaped cylinder
Standard type

Port size of $\phi 6$ cylinder

M3 thread is also available.

SCPS2 - M3

Model no.