

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



Compact cylinder Double acting fine speed type

SSD-F/SSD-KF Series

● Bore size: ϕ 12, ϕ 16, ϕ 20, ϕ 25, ϕ 32, ϕ 40,
 ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



Specifications

Item		SSD-F, SSD-LF (with switch)										SSD-KF, SSD-KLF (with switch)									
Bore size	mm	φ 12	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100	φ 12	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100
Actuation		Double acting																			
Working fluid		Compressed air																			
Max. working pressure	MPa	1.0																			
Min. working pressure	MPa	0.1							0.05			0.1									0.05
Withstanding pressure	MPa	1.6																			
Ambient temperature	℃	5 to 60																			
Port size		M5				Rc1/8		Rc1/4		Rc3/8		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	+1.0 0										+2.0 0									
Working piston speed	mm/s	1 to 200																			
Cushion		None										Rubber cushion									
Lubrication		Not available																			
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Model no.	Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SSD-F SSD-LF	ϕ 12, ϕ 16, ϕ 20	5, 10, 15, 20, 25, 30	30	1
	ϕ 25, ϕ 32, ϕ 40, ϕ 50	5, 10, 15, 20, 25, 30, 40, 50	50	
	ϕ 63, ϕ 80, ϕ 100	5, 10, 20, 30, 40, 50	50	
SSD-KF SSD-KLF	ϕ 12, ϕ 16, ϕ 20	5, 10, 15, 20, 25, 30, 40, 50	100	
	ϕ 25, ϕ 32, ϕ 40, ϕ 50	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150	
	ϕ 63, ϕ 80, ϕ 100	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

● SSD-LF

Switch quantity	1	2	3	4	5
Switch model no.	T*	T*	T*	T*	T*
Bore size (mm)					
ϕ 12	5	5	25	-	-
ϕ 16	5	5	25	-	-
ϕ 20	5	5	-	-	-
ϕ 25	5	5	35	50	-
ϕ 32	5	5	35	50	-
ϕ 40	5	5	35	50	-
ϕ 50	5	5	35	50	-
ϕ 63	5	5	35	50	-
ϕ 80	5	5	35	50	-
ϕ 100	5	5	35	50	-

Note: Stroke less than 10mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

● SSD-KLF

Switch quantity	1	2	3	4	5
Switch model no.	T*	T*	T*	T*	T*
Bore size (mm)					
φ 12	5	5	25	-	-
φ 16	5	5	25	-	-
φ 20	5	5	35	50	65
φ 25	5	5	35	50	65
φ 32	5	5	35	50	65
φ 40	5	5	35	50	65
φ 50	5	5	35	50	65
φ 63	5	5	35	50	65
φ 80	5	5	35	50	65
φ 100	5	5	35	50	65

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

220 VAC is available for T0/T5 switches. Consult with CKD for working conditions.

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						Proximity 2-wire		
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V	T8H/T8V			T2YD			
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay			Programmable controller		
Output method	-			NPN output	PNP output	NPN output	-								
Power voltage	-			10 to 28 VDC			-								
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ± 10%	
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less		20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)	
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less	

● With preventive maintenance output

Item		Proximity 3-wire		Proximity 4-wire		Proximity 3-wire		Proximity 4-wire	
		T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V	
Applications		Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay	
Output method		NPN output							
Light	Installation position adjustment	Red/green LED (ON lighting)							
	Preventive maintenance output	-				Yellow LED (ON lighting)			
Regular output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20 mA		50 mA or less		5 to 20 mA		50 mA or less	
	Leakage current	1 mA or less		10 μA or less		1.2 mA or less		10 μA or less	
Preventive maintenance output	Load voltage	30 VDC or less							
	Load current	20 mA or less		50 mA or less		5 to 20 mA or less		50 mA or less	
	Leakage current	10 μA or less							

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20 mA at 25°C. The current will be lower than 20 mA if ambient temperature around switch is higher than 25°C.
(5 to 10 mA at 60°C)

Clean room specifications (catalog No. CB-033SA)

● Dust preventive structure for inside the clean room

SSD-F..... P7*

SSD-KF..... P7*

Dimensions

It is the same as the double acting single rod type SSD Series and the double acting high load type SSD-K Series. Refer to pages 743 to 745 and 754 to 757.

SSD-F/SSD-KF Series

How to order

● Without switch

SSD-F - 12 - 5 - N - LB - I

● With switch

SSD-LF - 12 - 5 - T0H - R - N - LB - I

● 2 color indicator and off-delay type, T1* with switch (only double acting single rod type $\phi 12$, $\phi 16$)

SSD-L1F - 12 - 5 - T2YH - R - N - LB - I

A Model no.

B Bore size

C Port thread type

D Stroke length

E Switch model no.

Note 1
Note 2
Note 3

F Switch quantity

G Option
Note 4

H Mounting bracket
Note 5
Note 6

I Accessory
Note 7

Caution for model No. selection

Note 1: Switches other than E switch model no. are also available. (Custom order)
Refer to Ending 1 for details.

Note 2: Strong magnetic field proof switch cannot be installed on $\phi 12$, $\phi 16$.

Note 3: When selecting the T8* switch, the switch cannot be mounted on the tube bore sizes below.
· SSD-L1F: $\phi 12$ to $\phi 32$
· SSD-KLF: $\phi 12$, $\phi 16$

Note 4: $\phi 12$ to $\phi 25$ piston rod material is stainless steel as standard. The C type snap-ring is stainless steel instead of steel. A nut material is stainless steel when a rod end male thread type.

Note 5: The mounting bracket is attached at shipment.

Note 6: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 7: "I" and "Y" can not be selected at the same time.

Note 8: Refer to Ending 89 for custom specifications of rod end form.

Note 9: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

SSD-LF-12-5-T0H-R-N

Model: Compact cylinder fine speed type

A Model no. : Double acting single rod type

B Bore size : $\phi 12$ mm

C Port thread type : Rc thread

D Stroke length : 5mm

E Switch model no. : Reed switch T0H, lead wire 1 m

F Switch quantity : One on rod end

G Option : Rod end male thread

How to order switch

SW - T0H

Switch model no.
(Item E above)

Symbol	Descriptions
A Model no.	
SSD-F	Double acting single rod type
SSD-LF	Double acting single rod type with switch
SSD-L1F	$\phi 12$, $\phi 16$, 2 color indicator, off-delay type, with T1* switch
SSD-KF	Double acting high load type
SSD-KLF	Double acting high load type with switch

B Bore size (mm)	
12	$\phi 12$
16	$\phi 16$
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

C Port thread type	
Blank	Rc thread
NN	NPT thread ($\phi 32$ and over) (custom order)
GN	G thread ($\phi 32$ and over) (custom order)

D Stroke length (mm)	
Refer to the stroke length table on the following page.	

E Switch model no.		contact	Display	Lead wire
Axial lead wire	Radial lead wire			
T0H*	T0V*	Reed	1 color indicator	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator	2-wire
T1H*	T1V*			
T2H*	T2V*	Proximity	1 color indicator	2-wire
T3H*	T3V*			
T3PH*	T3PV*		1 color indicator (custom order)	3-wire
T2YH*	T2YV*		2 color indicator	2-wire
T3YH*	T3YV*			3-wire
T2YFH*	T2YFV*		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	T3YFV*			4-wire
T2YMH*	T2YMV*		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	T3YMV*			4-wire
T2JH*	T2JV*		Off-delay type	2-wire
T2YD*	-	Switch for strong magnetic field		2-wire
T2YDT*	-			

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

F Switch quantity	
R	One on rod end
H	One on head end
D	Two

G Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)

H Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact type)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

I Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

(Stroke length table)

● SSD-F

Stroke length (mm)		Applicable bore size									
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●
Min. stroke length (mm) Note 1		1									
Max. stroke length (mm)		30			50						
Custom stroke length Note 2		Per 1 mm increment									

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available.
Refer to page 802 for switch quantity and min. stroke length.

Note 2: The total length is the same as the next longer standard stroke length.

● SSD-KF

Stroke length (mm)		Applicable bore size									
		φ 12	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100
Standard stroke length	5	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●	●
	60				●	●	●	●	●	●	●
	70				●	●	●	●	●	●	●
	80				●	●	●	●	●	●	●
	90				●	●	●	●	●	●	●
100				●	●	●	●	●	●	●	
Min. stroke length (mm) Note 1		1									
Max. stroke length (mm)		100			150				200		
Custom stroke length Note 2		Per 1 mm increment									

Note 1: The 1 color indication type is not available with a stroke less than 5mm, and the 2 color indication type or strong magnetic field proof type with a stroke less than 10mm are not available.
Refer to page 802 for switch quantity and min. stroke length.

Note 2: The total length is the same as the next longer standard stroke length.

How to order mounting bracket

Bore size (mm)	20	25	32	40	50	63	80	100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

Note 1: Foot type mounting bracket is a two-piece/set.

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

Compact cylinder
Space saving structure