

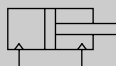


Compact cylinder Double acting low speed type

# SSD-O Series

● Bore size:  $\phi 12$ ,  $\phi 16$ ,  $\phi 20$ ,  $\phi 25$ ,  $\phi 32$ ,  
 $\phi 40$ ,  $\phi 50$ ,  $\phi 63$ ,  $\phi 83$ ,  $\phi 100$

JIS symbol



## Specifications

Item	SSD-O SSD-OL (with switch)										
Bore size      mm	$\phi$ 12	$\phi$ 16	$\phi$ 20	$\phi$ 25	$\phi$ 32	$\phi$ 40	$\phi$ 50	$\phi$ 63	$\phi$ 80	$\phi$ 100	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0										
Min. working pressure MPa	0.1							0.05			
Withstanding pressure MPa	1.6										
Ambient temperature    °C	-10 to 60 (no freezing)										
Port size	M5				Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance      mm	+1.0 0										
Working piston speed   mm/s	10 to 200										
Cushion	None										
Lubrication	Not available										
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ 12	5, 10, 15, 20, 25, 30	30	1
φ 16			
φ 20			
φ 25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ 32			
φ 40			
φ 50			
φ 63	5, 10, 20, 30, 40, 50	50	
φ 80			
φ 100			

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)

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

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

## Switch specifications

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

\* The T0/T5 switch can be used with 220 VAC.  
Consult with CKD for 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 )

## Cylinder weight table (weight with switch includes weight with two cylinder switches)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
φ12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-
φ16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-
φ20	63	118	75	150	88	163	101	176	113	188	126	201	-	-	-	-
φ25	87	178	102	193	118	209	134	225	150	241	165	256	197	288	228	319
φ32	122	236	144	258	166	280	188	302	209	323	231	345	275	389	318	432
φ40	183	326	210	353	236	379	263	406	290	433	316	459	369	512	422	565
φ50	299	493	341	535	383	577	425	619	467	661	510	704	594	788	678	872
φ63	452	731	507	786	-	-	617	896	-	-	727	1006	838	1117	948	1227
φ80	841	1254	928	1341	-	-	1101	1514	-	-	1274	1687	1448	1861	1621	2034
φ100	1319	1886	1433	2000	-	-	1660	2227	-	-	1888	2455	2115	2682	2343	2910

## Dimensions

It is the same as the double acting single rod type SSD Series. Refer to pages 743 to 745.

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

## How to order

Without switch

**SSD-O** - **12** - **5** - **N** - **LB** - **I**

With switch

**SSD-OL** - **12** - **5** - **T0H** - **R** - **N** - **LB** - **I**

2 color indicator type, off-delay type, with T1\* switch (only  $\phi 12$ ,  $\phi 16$ )

**SSD-OL1** - **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

## Caution for model No. selection

Note 1: Switches other than listed **E** switch model No. (custom order) are available. Refer to Ending 1 for details.

Note 2: Strong magnetic field proof switches are not available for  $\phi 12$ ,  $\phi 16$ . T8\* switch cannot be installed on  $\phi 12$  to  $\phi 32$ .

Note 3:  $\phi 12$  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 4: Mounting bracket is attached at shipment.

Note 5: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 6: "I" and "Y" can not be selected at the same time.

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

Note 8: Refer to pages 720 to 725 for the variation and option combination.

## <Example of model number>

**SSD-OL-12-5-T0H-R-N**

Model: Compact cylinder

Double acting low speed type

**B** Bore size :  $\phi 12$ mm

**C** Port thread type : Rc thread

**D** Stroke length : 5mm

**E** Switch model no. : Reed switch T0H

**F** Switch quantity : One on rod end

**G** Option : Rod end male thread

Switch model no.

How to indicate

**SW** - **T0H**

Switch model no.  
(Item **E** above)

**CKD**

Symbol	Descriptions
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## A Model no.

**SSD-O** Double acting low speed type

**SSD-OL** Double acting low speed type with switch

**SSD-OL1**  $\phi 12$ ,  $\phi 16$ , 2 color indicator, off-delay type, with T1\* switch

## B Bore size (mm)

<b>12</b>	$\phi 12$
<b>16</b>	$\phi 16$
<b>20</b>	$\phi 20$
<b>25</b>	$\phi 25$
<b>32</b>	$\phi 32$
<b>40</b>	$\phi 40$
<b>50</b>	$\phi 50$
<b>63</b>	$\phi 63$
<b>80</b>	$\phi 80$
<b>100</b>	$\phi 100$

## C Port thread type

<b>Blank</b>	Rc thread
<b>NN</b>	NPT thread ( $\phi 32$ and over) (custom order)
<b>GN</b>	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.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator	2-wire
<b>T2H*</b>	<b>T2V*</b>			
<b>T3H*</b>	<b>T3V*</b>		1 color indicator (custom order)	3-wire
<b>T3PH*</b>	<b>T3PV*</b>			
<b>T2YH*</b>	<b>T2YV*</b>		2 color indicator	2-wire
<b>T3YH*</b>	<b>T3YV*</b>			3-wire
<b>T2YFH*</b>	<b>T2YFV*</b>		2 color indicator (w/o light for preventive maintenance output)	3-wire
<b>T3YFH*</b>	<b>T3YFV*</b>			4-wire
<b>T2YMH*</b>	<b>T2YMV*</b>		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
<b>T3YMH*</b>	<b>T3YMV*</b>			4-wire
<b>T2JH*</b>	<b>T2JV*</b>		Off-delay type	2-wire
<b>T2YD*</b>	-		Switch for strong magnetic field	2-wire
<b>T2YDT*</b>	-			

## \*Lead wire length

<b>Blank</b>	1 m (standard)
<b>3</b>	3 m (option)
<b>5</b>	5 m (option)

## F Switch quantity

<b>R</b>	One on rod end
<b>H</b>	One on head end
<b>D</b>	Two

## G Option

<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread
<b>M</b>	Piston rod material (stainless steel)

## H Mounting bracket

<b>LB</b>	Axial foot
<b>LB2</b>	Axial foot (compact type)
<b>CB</b>	Clevis (pin and snap ring attached)
<b>CB2</b>	Clevis (compact type) (pin and snap ring attached)
<b>FA</b>	Rod end flange type
<b>FB</b>	Head end flange type

## I Accessory (permissible if rod end male thread "N" was selected)

<b>I</b>	Rod eye
<b>I2</b>	Rod eye (compact type)
<b>Y</b>	Rod clevis (pin and snap ring attached)
<b>Y2</b>	Rod clevis (compact type) (pin and snap ring attached)

**I** Accessory  
Note 6

**H** Mounting bracket  
Note 4  
Note 5

**G** Option  
Note 3

**F** Switch quantity

### (Stroke length table)

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	●	●	●	●	●	●	●	●	●	●
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 808 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)	φ 12	φ 16	φ 20	φ 25	φ 32	φ 40	φ 50	φ 63	φ 80	φ 100
Mounting bracket										
Foot (LB)	SSD-LB-12	SSD-LB-16	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-LB2-12	SSD-LB2-16	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-12	SSD-FA-16	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-12	SSD-CB-16	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-CB2-12	SSD-CB2-16	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
<b>SSD</b>
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