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Compact Cylinder SSD2 Series



Installation on four faces

New Product

**Compact Cylinder  
 SSD2 Series**

COMPACT CYLINDER SSD2 SERIES



# Wide cover from general environment to specific use SSD2 Series

Substantial series for specific use

## Welding environment G1/G4 series

Available from spot welding to arc welding.

## Dust environment G/G5 series

Reinforced scraper (G) and replaceable dust wiper (G5) options for dusty environment.

## Clean room specification P71/P7 series

Vacuuming type (P71) or exhaust treatment type (P7) is available for the application where to be used from the center of the workpiece.

P5 series with material restriction (Copper, silicon, and halogen) is also available.

NBR (G2) or FKM (G3) seal option for various coolant.

## High-temperature environment T1/T1L (with switch) series

Suitable for use in high-temperature environment due to use FKM packing and fluorinate grease.

## LiB manufacturing process P4 series

Available for restriction on copper related materials, dust countermeasure and longer lifespan with super dry air at LiB manufacturing process.

## Other variation

### Rubber-air cushioned c

Able to reduce the impact noise and force at stroke end. Suitable for impact reduction in the operation and noise reduction in the facilities.

Noise reduction

### Fine speed type F

The special friction structure reduced stickiness of packing, stick-slip phenomenon, and makes it possible to move at ultra-low speed, 1mm/sec. It is suitable for the prevent of popping out and pressure control when we need to push breakable workpiece slowly.

Slow  
1mm/s

**RoHS**

Available for RoHS  
All substances that can adversely affect the environment, including lead and hexavalent chrome, have been eliminated.

COMPACT CYLINDER **SSD2 Series**





## Variation and option selection table

### SSD2 (ø100 or less)

● : Standard   ◎ : Option   ○ : Available (custom order)   △ : Available (consult with CKD.)   X mark depending on conditions: Not available

Code	Code	Variation										
		Double acting basic type	High load type	Single acting spring return type	Single acting spring retract types	Double acting double rod types	Back to back type	Two stage type	Position locking	Non-rotating type	Heat resistance type (150°C specifications)	Packing seal fluorine rubber
	Symbol	No	K	X	Y	D	B	W	Q	M	T1	T2
Variation	Double acting basic type	Blank									○	○
	High load type	K		X	X	△	○	△	△	○	X	○
	Single acting spring return type	X			X	△	○	X	X	△	X	○
	Single acting spring retract types	Y				△	○	X	X	△	X	○
	Double acting double rod types	D					X	X	△	○	○	○
	Back to back type	B						X	○	○	○	○
	Two stage type	W							X	○	○	○
	Position locking	Q								△	△	○
	Non-rotating type	M									X	X
	Heat resistance type (150°C)	T1										X
	Packing seal fluorine rubber	T2										X
	Low speed type	O										
	With rubber scraper	G										
	With metal scraper	G1										
	With coolant proof scraper (general)	G2										
	With coolant proof scraper (chlorine system)	G3										
	Anti-spatter type	G4										
	With cylinder switch	L										
	With cylinder switch (strong magnetic field proof)	L4										
	With cylinder switch (heat resistance)	T1L										
	Fine speed type	F										
Piping	NPT (ø32 to ø100)	N										
	G (ø32 to ø100)	G										
Option	Piston rod material stainless steel (including C ring)	M										
	Piston rod end male thread	N										
	Clean room specifications, copper and PTFE free type (exhaust treatment)	P5										
	Clean room specifications, copper and PTFE free type (vacuum treatment)	P51										
	Copper and PTFE free type	P6										
	Clean room specifications (exhaust treatment)	P7										
	Clean room specifications (vacuum treatment)	P71										
	Customized piston rod end form	N**										
Rod nut quantity assignment (only male thread permissible)	A ( )											
Accessory	Cylinder switch	Listed on another section	◎	◎	◎	◎	◎	◎	◎	◎	X	◎
	Rod eye (only male thread permissible)	I	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Rod clevis (only male thread permissible)	Y	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	Mounting bracket LB with bolt	LB	◎	◎	◎	◎	◎	△	△	◎	◎	◎
	Mounting bracket CB with bolt and pin	CB	◎	◎	◎	◎	X	X	△	◎	◎	◎
	Mounting bracket FA with bolt	FA	◎	◎	◎	◎	◎	△	△	◎	◎	◎
	Mounting bracket FB with bolt	FB	◎	◎	◎	◎	X	X	△	◎	◎	◎
	Installation bolt	Listed on another section	◎	◎	◎	◎	◎	X	X	◎	◎	◎

#### Cautions

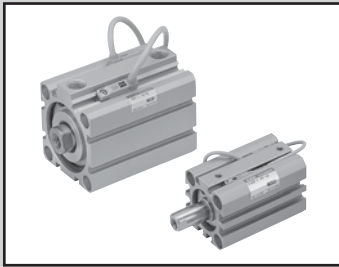
Note 1. The P6 specifications apply as standard only for ø12 to 25. Not available for ø32 to 63.

Note 2. When "G2" or "G3" is selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.

Note 3. When "P5", "P51", "P7", "P71" female threads are selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required. A combination with "M" is required to use a stainless steel male rod nut.

Note 4. P6 specifications are applied even if not indicated.





Compact cylinder double acting single rod type

# SSD2 Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$

JIS symbol



## Specifications

Descriptions		SSD2 SSD2-L (with switch)									
		$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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	$^{\circ}\text{C}$	-10 to 60 (no freezing)									
Port size		M5				Rc1/8, Note 1		Rc1/4		Rc3/8	
Stroke tolerance	mm	Rubber cushioned		No cushion		+2.0 0					+1.0 0
Working piston speed	mm/s	50 to 500					50 to 300				
Cushion		The type with rubber cushion or without rubber cushion can be selected.									
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)									
Allowable absorption	mm <sup>3</sup>	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92
Energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

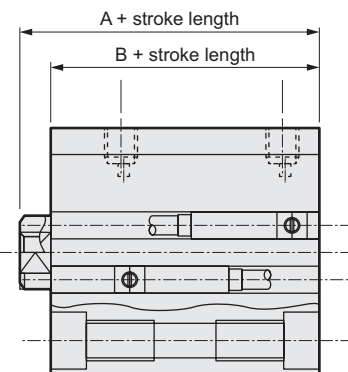
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2 Series

Descriptions	Standard products	Options		
	Standard stroke length spacer type	Exclusive body type (-S)		
Model no.	Refer to How to order.	"option" symbol-S of how to order shown		
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	Manufacturing of dedicated is made for assignment stroke length.		
Stroke range	Bore size	Bore size		
	Stroke range	Stroke range		
	12·16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Example of model number	Model no.: SSD2-32-38 +2 mm spacer is provided on the standard cylinder SSD2-32-40 to attain a 38 mm stroke. The B dimension is 63 mm.	Model no.: SSD2-32-41 Exclusive body for 41 stroke length is made. The B dimension is 64 mm.		



## Min. stroke length with switch (with 2 switches.)

Bore size (mm)	T0H/V, T5H/V	T2H/V, T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Values in ( ) apply to the type with one switch on the rod end.

## Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-		-						
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100VAC, 2mA or less at 200VAC	1mA or less		10µA or less				0mA				1mA or less			

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045



## How to order

Without switch

SSD2 - 12 - 5 - N - LB - I

With switch

SSD2-L - 12 - 10 - T0H - R - N - LB - I

A Model no.

B Bore size

C Port thread type

D Cushion

E Stroke length

F Switch model no.

Note 1  
Note 2  
Note 3  
Note 8  
Note 9

G Switch quantity

H Option  
Note 4

### ⚠ Note on model no. selection

Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .

Note 2: T8\* switch can not be installed for  $\phi 12$  to  $\phi 32$ .

Note 3: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .

Note 4:  $\phi 12$  to  $\phi 25$  piston rod material stainless steel standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5: The mounting bracket is enclosed when shipped.

Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.

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

Note 8:  $\phi 20$  F-type switch lead wire L type is not available for the 15 or shorter stroke.

Note 9: Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 10: Refer to intro 3, 4 page about combination of variations and options.

<Example of model number>

**SSD2-L-12-10-T0H-R-N-LB-I**

Model: Compact cylinder standard type

B Bore size :  $\phi 12\text{mm}$

C Port thread type : Rc thread

D Cushion : no cushion

E Stroke length : 10mm

F Switch model no.: Reed switch T0H/Lead wire length 1m

G Switch quantity : 1 on rod end

H Option : Rod end male thread

I Mounting bracket: Axial foot

J Accessory : Rod eye

I Mounting bracket

Note 5  
Note 6

J Accessory

Note 7

Symbol	Descriptions																
<b>A Model no.</b>																	
SSD2	Double acting single rod type																
SSD2-L	Double acting single rod type/with switch																
<b>B Bore size (mm)</b>																	
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	$\phi 100$																
<b>C Port thread type</b>																	
Blank	Rc thread																
NN	NPT thread ( $\phi 32$ and over) (custom order)																
GN	G thread ( $\phi 32$ and over) (custom order)																
<b>D Cushion</b>																	
Blank	No cushion																
D	Rubber cushioned																
<b>E Stroke length (mm)</b>																	
Refer to the stroke length table on following page.																	
<b>F Switch model no.</b>																	
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size												
					12	16	20	25	32	40	50	63	80	100			
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●									
				3-wire			●	●									
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire			●	●									
				3-wire			●	●									
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●
				Without light	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	1 color indicator type	2-wire						●	●	●	●	●	●	●	●
				Without light	2-wire						●	●	●	●	●	●	●
T8H*	T8V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*	Proximity	1 color indicator type (PNP output) (custom order)	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	Proximity	2 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Proximity	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2YDT*	-	Proximity	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Proximity	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				3-wire			●	●	●	●	●	●	●	●	●	●	●
<b>* Lead wire length</b>																	
Blank	1m (standard)																
3	3m (option)																
5	5m (option)																
<b>G Switch quantity</b>																	
R	1 on rod end																
H	1 on head end																
D	2																
<b>H Option</b>																	
	Bore size (mm)	12	16	20	25	32	40	50	63	80	100						
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●						
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●						
P6	Copper and PTFE free									●	●						
M	Note 4 Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●						
S	Custom stroke (exclusive body)	●	●	●	●	●	●	●	●	●	●						
P4	Specification for LIB production line	●	●	●	●	●	●	●	●	●	●						
P40	Specification for LIB production line	●	●	●	●	●	●	●	●	●	●						
<b>I Mounting bracket</b>																	
Blank	Without mounting bracket																
LB	Axial foot																
CB	Clevis (pin and snap ring attached)																
FA	Rod end flange type																
FB	Head end flange type																
<b>J Accessory (permissible if rod end male thread "N" was selected.)</b>																	
I	Rod eye																
Y	Rod clevis (pin and snap ring attached)																

## (Stroke length table)

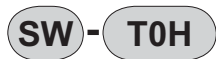
Stroke length (mm)		Applicable bore size									
		12	16	20	25	32	40	50	63	80	100
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Min. stroke length (mm) Note 1		1									
Max. stroke length (mm)		30		50			100				
Custom stroke length Note 2		By 1 mm increment									

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 2 for minimum stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch



Switch model no.  
(item previous page ⑥)

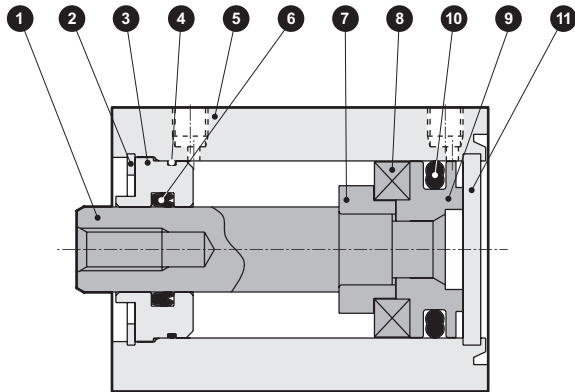
## How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	ø63	ø80	ø100				
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

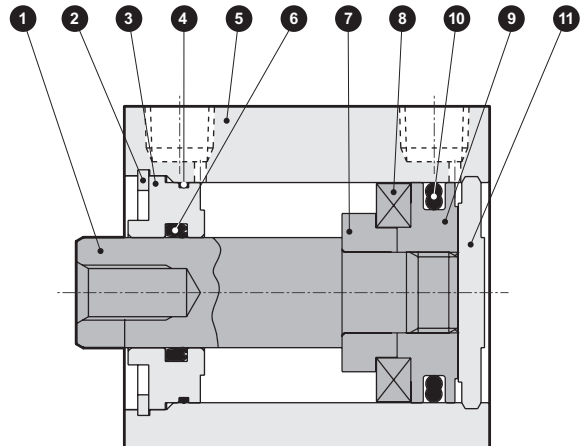
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

## Internal structure and parts list (ø12 to ø50) (w/o cushion)

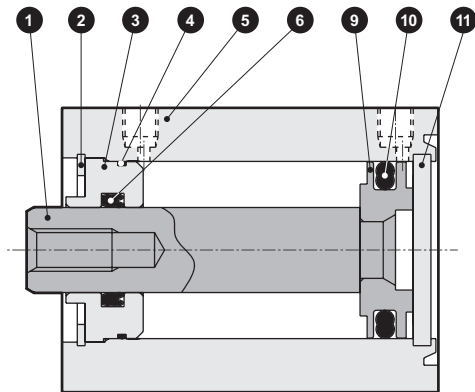
● SSD2-L-12 to 25 (double acting/with switch)



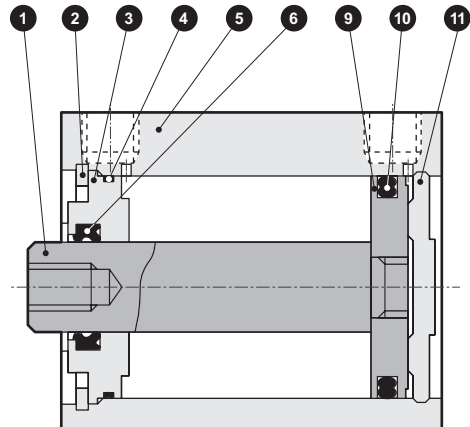
● SSD2-L-32 to 50 (double acting/with switch)



● SSD2-12 to 25 (double acting)



● SSD2-32 to 50 (double acting)



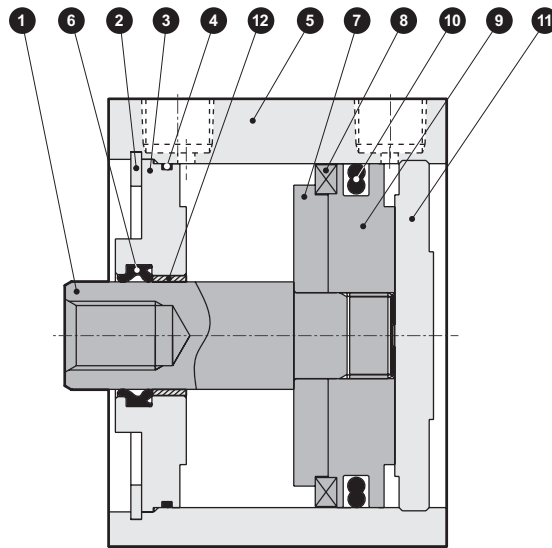
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: Industrial chrome plating	7	Spacer	Aluminum alloy	ø12 to ø32: chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	ø12 to ø25: stainless steel ø32 to ø50: aluminum alloy	ø32 to ø50: alumite
6	Rod packing seal	Nitrile rubber					

### Repair parts list

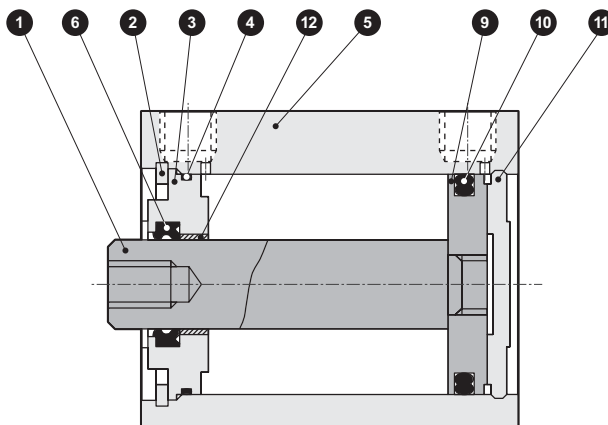
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-12K	4 6 10
ø16	SSD2-16K	
ø20	SSD2-20K	
ø25	SSD2-25K	
ø32	SSD2-32K	
ø40	SSD2-40K	
ø50	SSD2-50K	

### Internal structure and parts list (ø63 to ø100) (w/o cushion)

- SSD2-L-63 to 100 (double acting/with switch)



- SSD2-63 to 100 (double acting)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Aluminum alloy	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	Aluminum alloy	Alumite
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	Note 1

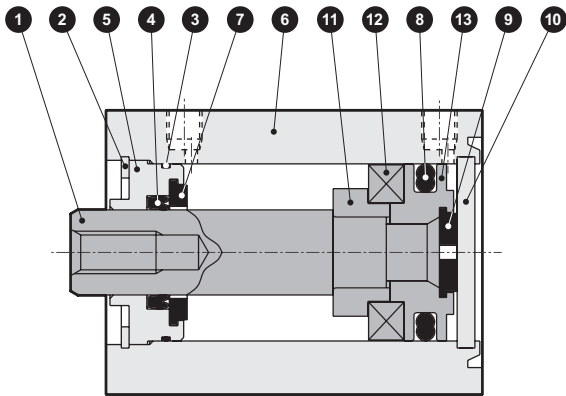
Note 1: Steel is used for copper and PTFE free.

### Repair parts list

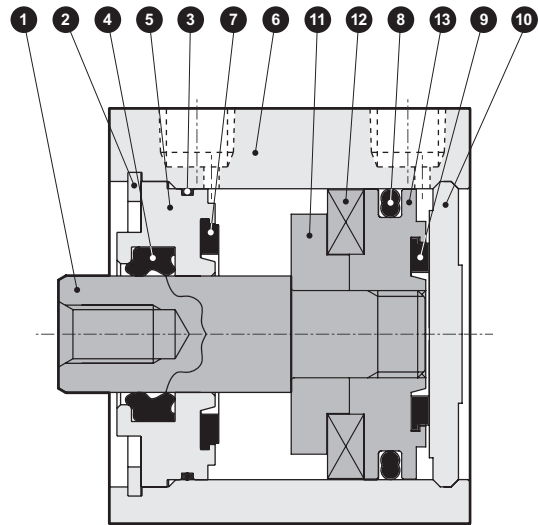
Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-63K	4 6 10
ø80	SSD2-80K	
ø100	SSD2-100K	

## Internal structure and parts list (ø12 to ø50) (Rubber cushioned)

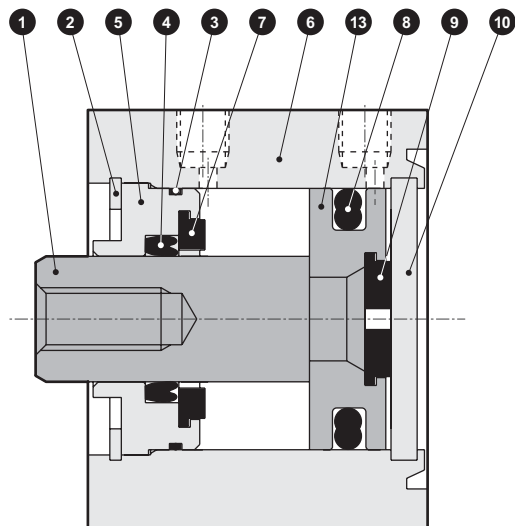
● SSD2-L-12D to 32D (double acting/with switch)



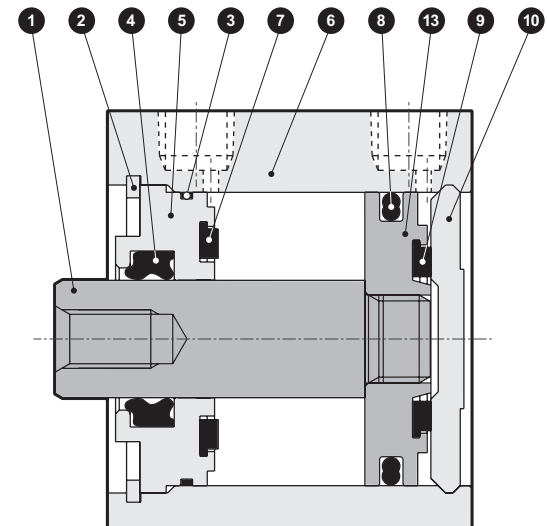
● SSD2-L-40D and 50D (double acting/with switch)



● SSD2-12D to 32D (double acting)



● SSD2-40D and 50D (double acting)



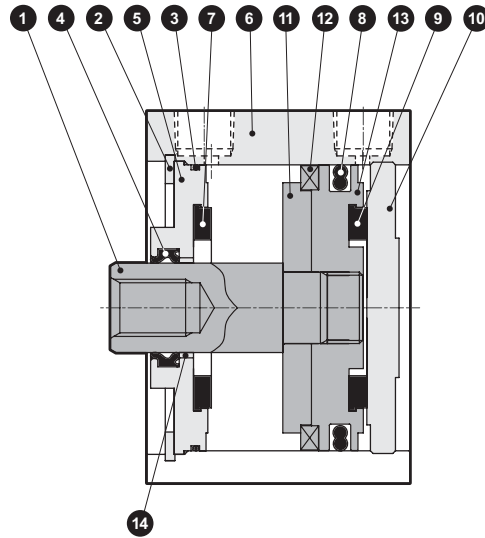
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: Industrial chrome plating	8	Piston packing seal	Nitrile rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Guard	ø12 to ø25: stainless steel ø32 to ø50: aluminum alloy	ø32 to ø50: alumite
4	Rod packing seal	Nitrile rubber		11	Spacer	Aluminum alloy	ø12 to ø32: chromate
5	Rod bushing	Aluminum alloy	Alumite	12	Magnet	Plastic	
6	Body	Aluminum alloy	Hard alumite	13	Piston	Aluminum alloy	Chromate
7	Cushion rubber (R)	Urethane rubber					

### Repair parts list

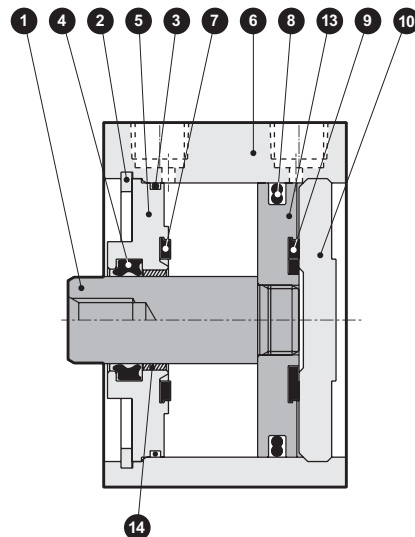
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-12DK	3 4 7 8 9
ø16	SSD2-16DK	
ø20	SSD2-20DK	
ø25	SSD2-25DK	
ø32	SSD2-32DK	
ø40	SSD2-40DK	
ø50	SSD2-50DK	

### Internal structure and parts list (ø63 to ø100) (Rubber cushioned)

● SSD2-L-63D to 100D (double acting/with switch)



● SSD2-63D to 100D (double acting)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Piston packing seal	Nitrile rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Guard	Aluminum alloy	Alumite
4	Rod packing seal	Nitrile rubber		11	Spacer	Aluminum alloy	
5	Rod bushing	Aluminum alloy	Chromate	12	Magnet	Plastic	
6	Body	Aluminum alloy	Hard alumite	13	Piston	Aluminum alloy	Chromate
7	Cushion rubber (R)	Urethane rubber		14	Bush	Oilless dry met	

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-63DK	
ø80	SSD2-80DK	
ø100	SSD2-100DK	

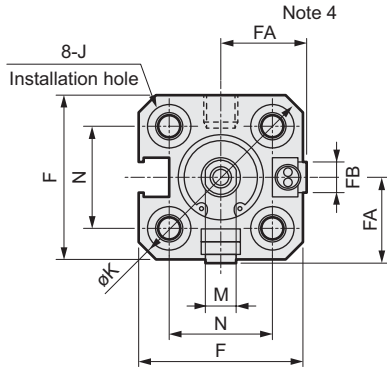
# SSD2 Series

## Dimensions

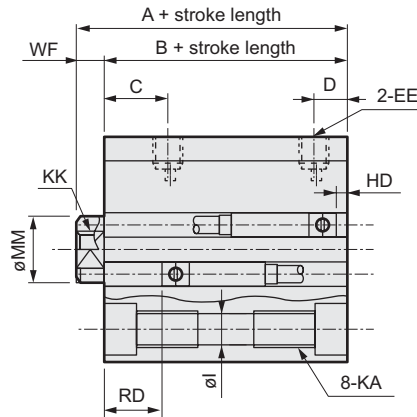
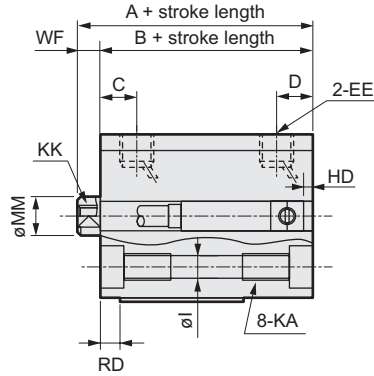
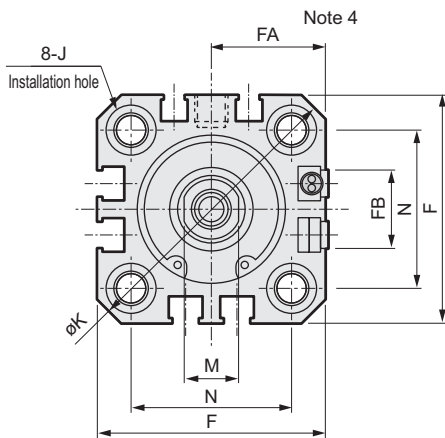


### ● SSD2-L-12 to 25 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

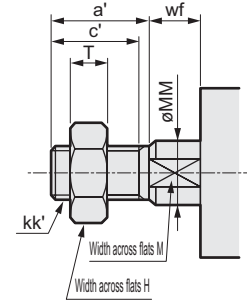
ø12·ø16



ø20, ø25



### ● Rod end male thread



### ● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Symbol	Common dimension with switch																
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 3</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	25.5	22	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	25.5	22	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	34	29.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	37.5	32.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5
Switch dimension	Reed T0H/TOV and T5H/T5V Note 6				Proximity T2H/T2V and T3H/T3V Note 6				Proximity T2WH/T2WV and T3WH/T3WV Note 6				Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV				
Bore size (mm)	HD		RD		HD		RD		HD		RD		HD		RD		
ø12	1.5 (0)		1.5 (3)		1.5 (0)		1.5 (3)		3.5 (2)		3.5 (5)						
ø16	0		4		0		4.5		1		6						
ø20	3		7.5		3		7.5		5		9.5		7.5		12		
ø25	4		9.5		4		9.5		6		11.5		8.5		14		

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: If the custom stroke is 7mm, calculate including standard stroke 10mm.

• For ø16 A + stroke length = 26.5/B + stroke length = 32

For custom stroke (exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

• For ø16 A + stroke length = 32.5/B + stroke length = 29

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions of the 2color indicator, off-delay, strong magnetic field proof, or T1\* and T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Dimensions in ( ) of HD/RD columns are values when cushion is installed.

### ● Rod end male thread

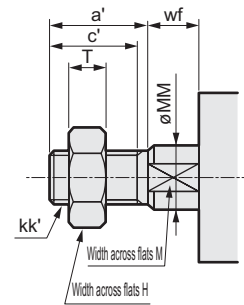
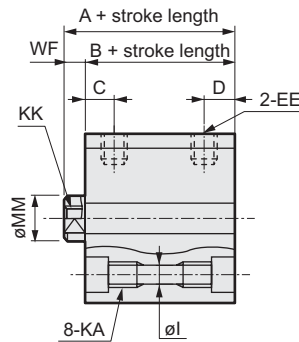
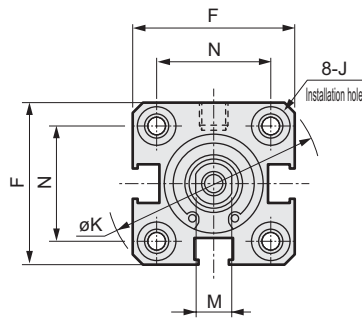
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

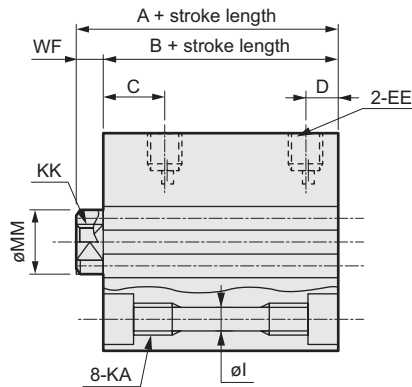
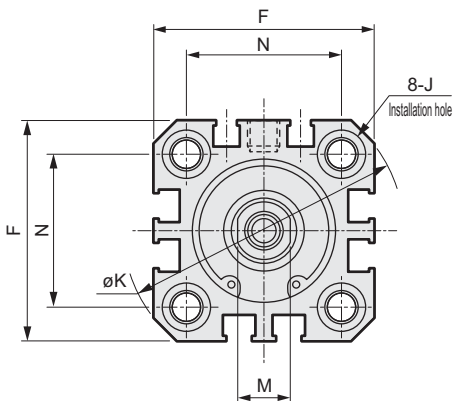
● SSD2-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20, ø25



Symbol	Without switch and common dimension														
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	20.5	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	20.5	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	24	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	27.5	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: If the custom stroke is 7mm, calculate including standard stroke 10mm.

• For ø16 A + stroke length = 30.5/B + stroke length = 27

For custom stroke (exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

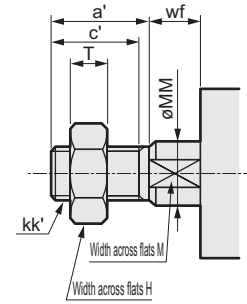
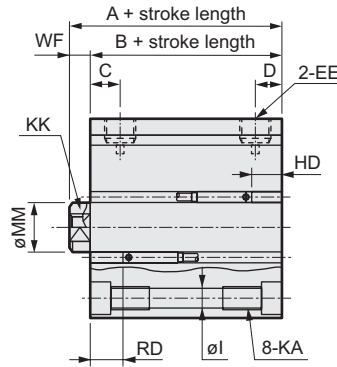
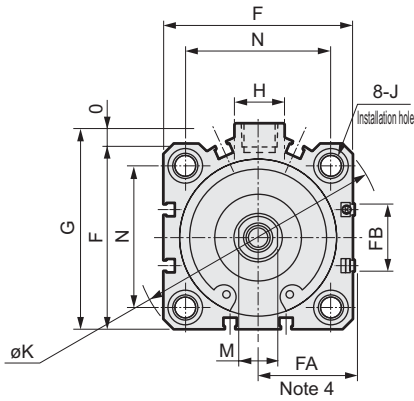
• For ø16 A + stroke length = 27.5/B + stroke length = 24

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

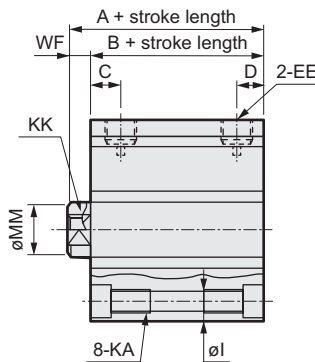
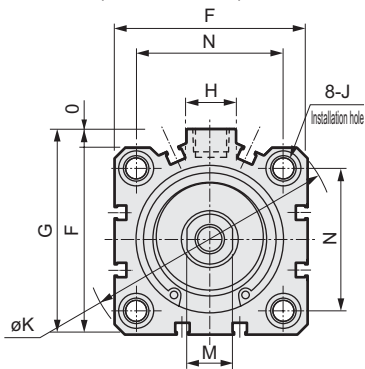


● SSD2-L-32 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread



● SSD2-32 to 100 (without switch)



Symbol	Without switch																	Common dimension with switch									
	A	B	A	B	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF					
ø32	30 (40)	23 (33)	40	33	8 (10)	8 (5.5)	Rc1/8 <sup>Note 7</sup>	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7					
ø40	36.5 (46.5)	29.5 (39.5)	46.5	39.5	12 (11.5)	8.5 (8)	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7					
ø50	38.5 (48.5)	30.5 (40.5)	48.5	40.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8					
ø63	44 (54)	36 (46)	54	46	13	11	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8					
ø80	53.5 (63.5)	43.5 (53.5)	63.5	53.5	16	13	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10					
ø100	65 (75)	53 (63)	75	63	23	15	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12					
Switch dimension	Reed T0H/TOV and T5H/T5V							Proximity T2H/T2V and T3H/T3V						Proximity T2WH/T2WV and T3WH/T3WV													
	HD <sup>Note 2</sup>		RD <sup>Note 2</sup>		HD <sup>Note 2</sup>		RD <sup>Note 2</sup>		HD		RD		HD		RD												
ø32	4		9.5		4		9.5		6		11.5																
ø40	7		12		7		12		8.5		13.5																
ø50	7.5		12.5		7.5		12.5		9		14																
ø63	12.5		13		12.5		13		14		14.5																
ø80	17.5		15.5		17.5		15.5		19		17																
ø100	23		19.5		23		19.5		24.5		21																

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: If the custom stroke is 7mm, calculate including standard stroke 10mm.

• For ø40 A + stroke length = 40/B + stroke length = 33

For custom stroke (exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

• For ø40 A + stroke length = 37/B + stroke length = 30

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions of the 2color indicator, off-delay, strong magnetic field proof, or T1\* and T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Values in ( ) for symbols A and B are for when 50 stroke is exceeded.

Note 7: The port size is M5 for the 5 stroke ø32 without switch.

Note 8: Dimensions in ( ) of C and D columns are values for the 5 stroke with no switch.

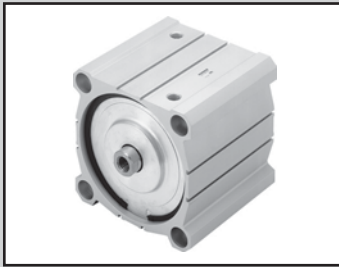
● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

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MEMO

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Compact cylinder double acting single rod type (large bore size)

# SSD2 Series

● Bore size:  $\phi 125 \cdot \phi 140 \cdot \phi 160 \cdot \phi 180 \cdot \phi 200$

JIS symbol



## Specifications

Descriptions	SSD2 SSD2-L (with switch)				
	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Bore size mm	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0			0.7	
Min. working pressure MPa	0.05				
Withstanding pressure MPa	1.6			1.05	
Ambient temperature °C	-10 to 60 (no freezing)				
Port size	Rc3/8			Rc1/2	
Stroke tolerance mm	$+2.0$ $0$				
Working piston speed mm/s	50 to 300			20 to 300	
Cushion	Rubber cushioned (standard)				
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)				
Allowable absorbing	Rubber cushioned	6.52	6.52	7.78	12.4
Energy J	No cushion	-			

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 125$	10, 20, 30, 40, 50 75, 100, 125, 150 175, 200, 250, 300	300	1
$\phi 140$			
$\phi 160$			
$\phi 180$			
$\phi 200$			

Note 1: Refer to the switch quantity and min. stroke length table on the following page when using a cylinder with a switch.

### Switch quantity and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model no.	T*	T*	T*	T*	T*
Tube descriptions (mm)					
ø125	5	5	40	55	70
ø140	5	5	40	55	70
ø160	5	5	40	55	70
ø180	5	5	40	55	70
ø200	5	5	40	55	70

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\* switches.

### Switch specifications

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-			NPN output	PNP output	NPN output	NPN output	-							
Power voltage	-			10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less		10 µA or less				0 mA					1 mA or less		

Note 1: The maximum load current of 20 mA above is at 25°C. When ambient temperature is higher than 25°C, the value is lower than 20mA. (5 to 10mA at 60°C)

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø125	4.58	4.68	4.85	4.95	5.11	5.21	5.38	5.48	5.64	5.74	6.30	6.40	6.97	7.07
ø140	6.36	6.47	6.66	6.77	6.97	7.08	7.27	7.38	7.58	7.69	8.34	8.45	9.10	9.21
ø160	8.64	8.76	9.02	9.14	9.40	9.52	9.78	9.90	10.16	10.28	11.11	11.23	12.06	12.18
ø180	12.98	13.06	13.38	13.46	13.78	13.86	14.18	14.26	14.58	14.66	15.59	15.67	16.59	16.67
ø200	17.23	17.31	17.69	17.77	18.16	18.24	18.62	18.70	19.08	19.16	20.23	20.31	21.39	21.47

Stroke length (mm)	125		150		175		200		250		300	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø125	7.63	7.73	8.30	8.40	8.96	9.06	9.62	9.72	10.95	11.05	12.27	12.37
ø140	9.86	9.97	10.63	10.74	11.39	11.50	12.15	12.26	13.68	13.79	15.20	15.31
ø160	13.01	13.13	13.96	14.08	14.91	15.03	15.86	15.98	17.76	17.88	19.66	19.78
ø180	17.59	17.67	18.59	18.67	19.60	19.68	20.60	20.68	22.60	22.68	24.61	24.69
ø200	22.54	22.62	23.70	23.78	24.85	24.93	26.01	26.09	28.32	28.40	30.63	30.71

# SSD2 (large bore size) Series

## How to order

Without switch

**SSD2** - **125** - **50** - **N**

With switch

**SSD2-L** - **200** - **100** - **T0H** - **R** - **N**

**A** Model no.

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.  
Note 1

### ⚠ Note on model no. selection

Note 1: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-L-125-50-T0H-R-N**

Model: Compact cylinder standard type

- B** Bore size : 125mm
- C** Port thread type : Rc thread
- D** Stroke length : 50mm
- E** Switch model no.: Reed switch TOH/  
Lead wire length 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread

**F** Switch quantity

**G** Option

Symbol	Descriptions			
<b>A Model no.</b>				
<b>SSD2</b>	Double acting single rod type			
<b>SSD2-L</b>	Double acting single rod type/with switch			
<b>B Bore size (mm)</b>				
<b>125</b>	ø125			
<b>140</b>	ø140			
<b>160</b>	ø160			
<b>180</b>	ø180			
<b>200</b>	ø200			
<b>C Port thread type</b>				
<b>Blank</b>	Rc thread			
<b>NN</b>	NPT thread (ø125 to ø160) (custom order)			
<b>GN</b>	G thread (ø125 to ø160) (custom order)			
<b>D Stroke length (mm)</b>				
Refer to the stroke length table on following page.				
<b>E Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead Line
<b>TOH*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire
<b>T5H*</b>	<b>T5V*</b>		Without indicator light	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire
<b>T2H*</b>	<b>T2V*</b>			1 color indicator type (custom order)
<b>T3H*</b>	<b>T3V*</b>		2 color indicator type	
<b>T3PH*</b>	<b>T3PV*</b>			3-wire
<b>T2WH*</b>	<b>T2WV*</b>			
<b>T2YH*</b>	<b>T2YV*</b>		Strong magnetic field proof switch	2-wire
<b>T3WH*</b>	<b>T3WV*</b>			
<b>T3YH*</b>	<b>T3YV*</b>			
<b>T2JH*</b>	<b>T2JV*</b>			
<b>T2YD*</b>	-			
<b>T2YDT*</b>	-			
<b>* Lead wire length</b>				
<b>Blank</b>	1m (standard)			
<b>3</b>	3m (option)			
<b>5</b>	5m (option)			
<b>F Switch quantity</b>				
<b>R</b>	1 on rod end			
<b>H</b>	1 on head end			
<b>D</b>	2			
<b>G Option</b>				
<b>Blank</b>	Rod end female thread			
<b>N</b>	Rod end male thread			
<b>P4</b>	Specification for LiB production line			
<b>P40</b>				

### (Stroke length table)

Stroke length (mm)	Applicable bore size					
	ø125	ø140	ø160	ø180	ø200	
Standard stroke length	10	●	●	●	●	●
	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
	125	●	●	●	●	●
	150	●	●	●	●	●
	175	●	●	●	●	●
	200	●	●	●	●	●
	250	●	●	●	●	●
	300	●	●	●	●	●
Min. stroke length (mm) Note 1	1					
Max. stroke length (mm)	300					
Custom stroke length Note 2	By 1 mm increment					

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches. Refer to page 14 for the switch installation number and minimum stroke.

Note 2: The total intermediate stroke length is handled with the length with the length dedicated for the intermediate stroke.

### How to order switch

**SW - T0H**

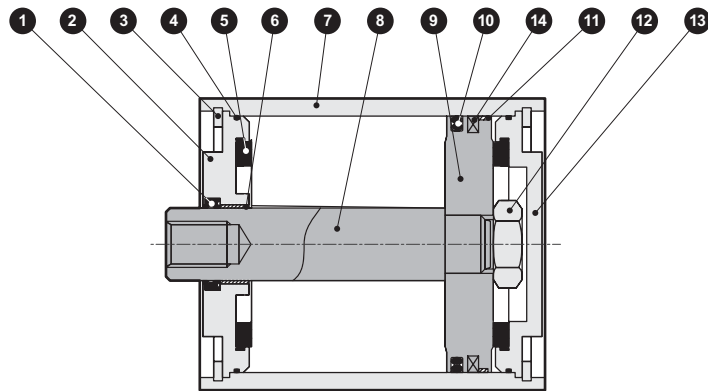


Switch model no.  
(item previous page ⑤)

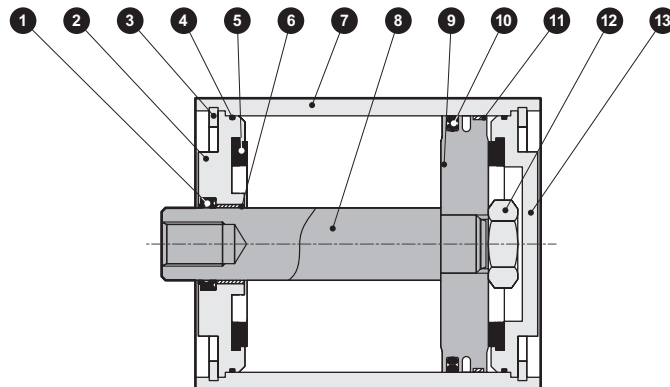
# SSD2 (large bore size) Series

## Internal structure drawing and parts list (ø180, ø200)

● SSD2-L-ø125 to ø160 (double acting/single rod type/with switch)



● SSD2-125 to 160 (double acting/single rod type/without switch)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		9	Piston	Aluminum alloy die-casting	
2	Rod bushing	Aluminum alloy die-casting	Chromate	10	Piston packing seal	Nitrile rubber	
3	C type snap ring	Steel	Phosphoric acid zinc	11	Wear ring	Acetar resin	
4	Metal gasket	Nitrile rubber		12	Hexagon nut	Steel	Zinc chromate
5	Cushion rubber	Urethane rubber		13	Base plate	Aluminum alloy die-casting	Chromate
6	Bush	Oilless dry met		14	Magnet	Rubber	Only with switch
7	Body	Aluminum alloy	Hard alumite				
8	Piston rod	Steel	Industrial chrome plating				

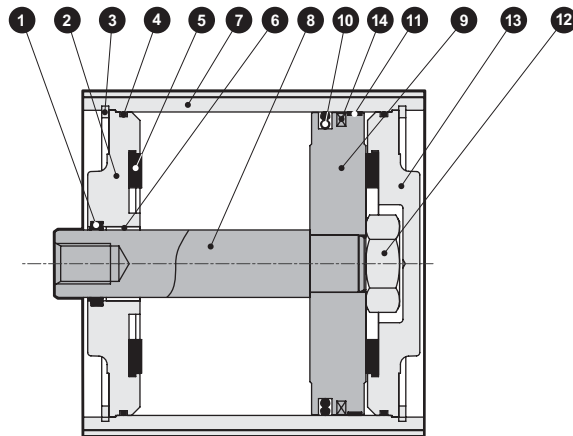
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø125	SSD2-125K	1 4 5 10 11
ø140	SSD2-140K	
ø160	SSD2-160K	

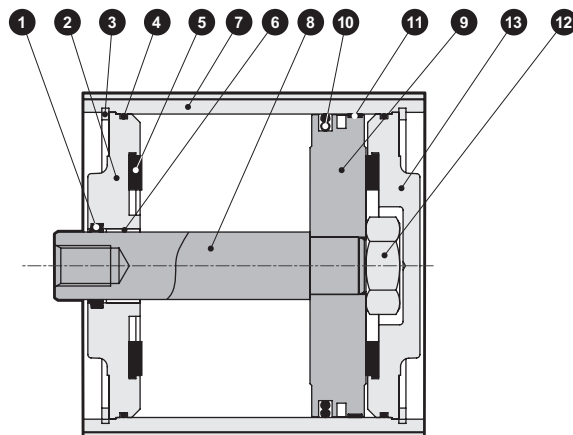
Note 1: Use kit numbers when placing an order.

## Internal structure drawing and parts list (ø180, ø200)

- SSD2-L-180, 200 (double acting/single rod type/with switch)



- SSD2-180, 200 (double acting/single rod type/without switch)



### Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		9	Piston	Aluminum alloy	
2	Rod bushing	Cast iron	Paint	10	Piston packing seal	Nitrile rubber	
3	C type snap ring	Steel	Phosphoric acid zinc	11	Wear ring	Acetar resin	
4	Gasket	Nitrile rubber		12	Hexagon nut	Steel	Zinc chromate
5	Cushion rubber	Urethane rubber		13	Guard	Cast iron	Paint
6	Bush	Oilless dry met		14	Magnet	Rubber	Only with switch
7	Body	Aluminum alloy	Hard alumite				
8	Piston rod	Steel	Industrial chrome plating				

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø180	SSD2-180K	1 4 5 10 11
ø200	SSD2-200K	

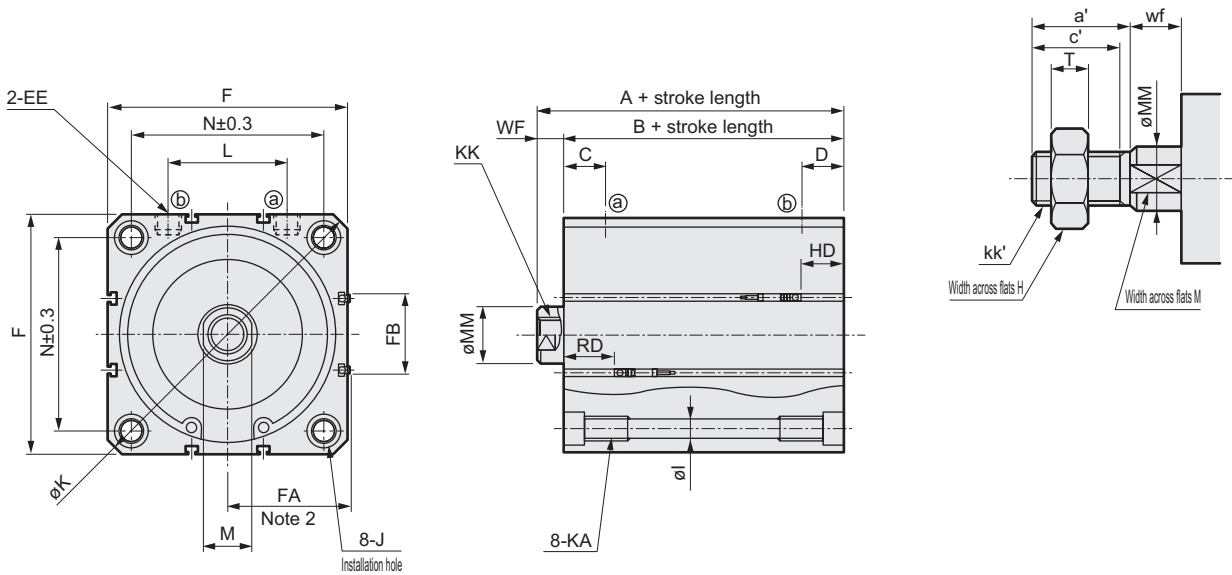


# SSD2 (large bore size) Series

## Dimensions (ø125 to ø160)

● SSD2-(L)-125 to 160 (double acting single rod type)

● Rod end male thread



Symbol	Common dimension with switch																			
Bore size (mm)	A	B	C	D	EE	F	I	J	K	KA	KK	L	M	MM	N	WF				
ø125	99	83	29	29	Rc3/8	142	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30	72	30	35	114	16				
ø140	99	83	27.5	27.5	Rc3/8	158	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30	80	30	35	128	16				
ø160	108	91	30	30	Rc3/8	178	14.5	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33	90	36	40	144	17				
Symbol	T0H/V, T2H/V, T3H/V or T5/V				T2YH/V, T3YH/V or T2JH/V				T1H/V and T2YD				T2WH/V and T3WH/V				T8H/V			
Bore size (mm)	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB
ø125	30	35	71.5 (75)	44.5	28.5	33.5	77 (80)	48	28.5	33.5	82.5 (85.5)	48	31.5	36.5	71.5 (75)	44.5	24	29	77 (80)	48
ø140	31.5	33.5	79.5 (83)	44.5	30	32	85 (88)	48	30	32	90.5 (93.5)	48	33	35	79.5 (83)	44.5	25.5	27.5	85 (88)	48
ø160	34	39	89.5 (93)	48.5	32.5	37.5	95 (98)	52	32.5	37.5	100.5 (103.5)	52	35.5	40.5	89.5 (93)	48.5	28	33	95 (98)	52

Note 1: Dimensions shown in parentheses of FA are for a dimension of radial lead wire.

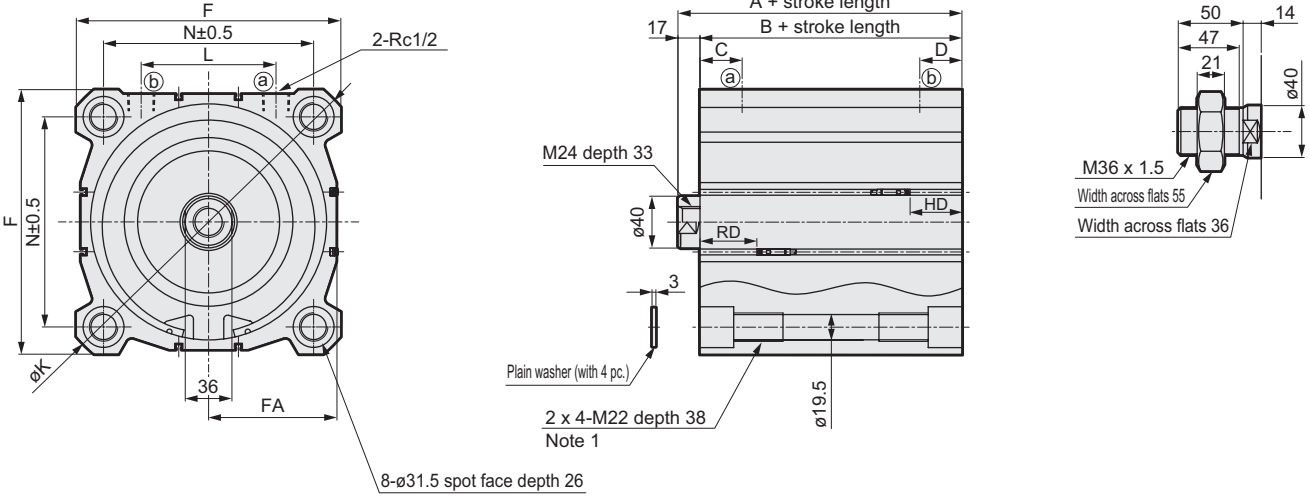
Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø125	45	42	46	M30 x 1.5	30	35	18	13
ø140	45	42	46	M30 x 1.5	30	35	18	13
ø160	50	47	55	M36 x 1.5	36	40	21	14

### Dimensions (ø180, ø200)

● SSD2-(L)-180, 200 (double acting/single rod type)

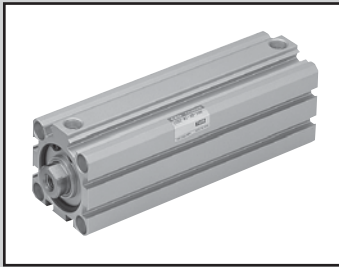
● Rod end male thread



Note 1: 2 x 4-M22 through applies to 20 strokes or less.  
 Note 2: 2-M24 depth 27 (180 diameter) or 2-M24 depth 29 (200 diameter) is used for 10 strokes.

Symbol	A	B	C	D	F	K	L	N							
Bore size (mm)															
ø180	119	102	32.5	32.5	204	270	104	162							
ø200	126	109	33.5	33.5	226	300	110	182							
Symbol	T0H/V, T2H/V, T3H/V or T5H/V			T2YH/V, T3YH/V or T2JH/V			T1H/V and T2YD			T2WH/V and T3WH/V			T8H/V		
Bore size (mm)	HD	RD	FA	HD	RD	FA	HD	RD	FA	HD	RD	FA	HD	RD	FA
ø180	39.5	43.5	99 (102.5)	38.5	42.5	104.5 (107.5)	38.5	42.5	110 (113)	41.5	45.5	99 (102.5)	33.5	37.5	104.5 (107.5)
ø200	44.5	45.5	109.5 (113)	43.5	44.5	115 (118)	43.5	44.5	120.5 (123.5)	46.5	47.5	109.5 (113)	38.5	39.5	115 (118)

Note 1: Dimensions shown in parentheses of FA are for a dimension of radial lead wire.



Compact cylinder double acting single rod, high load type

# SSD2-K Series

- Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32$   
 $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-K										
	SSD2-KL (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	+ 2.0 0										
Working piston speed mm/s	50 to 500						50 to 300				
Cushion	Rubber cushion										
Lubrication	Not required (when lubricating, use turbine oil ISO VG32.)										
Allowable energy absorption J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

## Stroke length

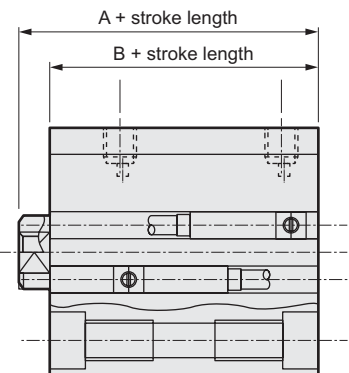
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-K Series

Descriptions	Standard products		Options	
	Standard stroke length spacer type		Dedicating body type (-S)	
Model no. display	Refer to How to order.		"option" symbol-S of how to order shown	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.		Manufacturing of dedicated is made for assignment stroke length.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12·16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Example of model number	Model no.: SSD2-K-32-41 +4 mm spacer is provided on the standard cylinder SSD2-K-32-45 to attain a 41 mm stroke. The B dimension is 88mm.		Model no.: SSD2-K-32-41 A dedicating body manufacturing of for 41 stroke length is made. The B dimension is 74mm.	



Min. stroke length with switch (with switch 1 piece or 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Each. if ( ) inside is of the type with a rod end.

## Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V	T2YH/	T2WH/	T3H/T3V	T3PH/T3PV	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD				
		T2JH/T2JV	T2YV	T2WV		(custom order)											
Applications	Programmable controller, relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable controller, relay	Programmable controller, relay / IC circuit (w/o light), serial connection		Programmable controller, relay	Programmable controller			
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-			
Power voltage	-	-				10 to 28 VDC				-				-			
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less				10µA or less				0mA				1mA or less			

# SSD2-K Series

## How to order

Without switch

SSD2-K-12-10-N-LB-I

With switch

SSD2-KL-12-10-T0H-R-N-LB-I

A Bore size

B Port thread type

C Stroke length

D Switch model no.

Note 1  
Note 2  
Note 3  
Note 8  
Note 9

E Switch quantity

F Option  
Note 4

G Mounting bracket  
Note 5  
Note 6

### ⚠ Note on model no. selection

Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .

Note 2: T8\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .

Note 3: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .

Note 4:  $\phi 12$  to  $\phi 25$  piston rod material stainless steel standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5: The mounting bracket is enclosed when shipped.

Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.

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

Note 8:  $\phi 20$  F-type switch lead wire L type is not available for the 10 or shorter stroke.

Note 9: Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 10: Refer to intro 3, 4 page about combination of variations and options.

<Example of model number>

**SSD2-KL-12-10-T0H-R-N**

Model: Compact cylinder high load type

A Bore size :  $\phi 12\text{mm}$

B Port thread type : Rc thread

C Stroke length : 10mm

D Switch model no.: Reed switch T0H/  
Lead wire 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

H Accessory  
Note 7

Symbol	Descriptions
<b>A Bore size (mm)</b>	
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	$\phi 100$

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

<b>C Stroke length (mm)</b>
Refer to the stroke length table on following page.

<b>D Switch model no.</b>		Contact	Indicator	Lead wire	Bore size													
Lead wire Axial	Lead wire Radial				12	16	20	25	32	40	50	63	80	100				
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●										
F3H*	F3V*			3-wire														
F2YH*	F2YV*			2-wire			●	●										
F3YH*	F3YV*	Reed	2 color indicator type	3-wire			●	●										
T0H*	T0V*			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*			Without light	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●	
T1H*	T1V*			3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	2 color indicator type	3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	
T3PH*	T3PV*			1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Reed	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●	●	
T3WH*	T3WV*			3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●	
T2YDT*	-			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>E Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>F Option</b>		Bore size ( $\phi$ )									
		12	16	20	25	32	40	50	63	80	100
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●
M	Note 4 Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free	Standard	●	●	●	●	●	●	●	●	●
S	Custom stroke (exclusive body)	●	●	●	●	●	●	●	●	●	●
P4	Specification for LiB production line	●	●	●	●	●	●	●	●	●	●
P40		●	●	●	●	●	●	●	●	●	●

<b>G Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

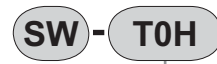
### (Stroke length table)

Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
	100					●	●	●	●	●	●

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches. Refer to page 22 for minimum stroke length with switch.

Note 2: The same dimension as next longer standard stroke length applies to the total length.

### How to order switch



Switch model no.  
(item previous page ②)

### Cylinder weight table

(Weight with switch includes weight with two cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100		
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	
ø12	44	86	53	95	61	103	70	112	78	121	87	129	-	-	-	-	-	-	-	-	-	-	-	-	-
ø16	59	104	69	114	80	125	91	136	102	147	113	158	-	-	-	-	-	-	-	-	-	-	-	-	-
ø20	75	150	88	163	101	176	113	188	126	201	138	213	151	226	163	238	176	251	188	263	-	-	-	-	-
ø25	102	193	118	209	134	225	150	241	165	256	182	273	198	289	214	305	230	321	246	337	-	-	-	-	-
ø32	167	281	188	302	209	323	231	345	253	367	275	389	297	411	318	432	340	454	361	475	534	583	642	690	-
ø40	236	379	263	406	290	433	316	459	342	485	369	512	396	539	422	565	449	592	475	618	702	751	834	883	-
ø50	-	-	425	619	467	661	510	704	553	747	594	788	636	830	678	872	720	914	762	956	1109	1166	1319	1376	-
ø63	-	-	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1003	1282	1058	1337	1548	1612	1823	1887	-
ø80	-	-	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	1708	2121	1794	2207	2574	2640	3006	3072	-
ø100	-	-	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	2457	3024	2571	3138	3636	3708	4206	4278	-

### How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket										
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

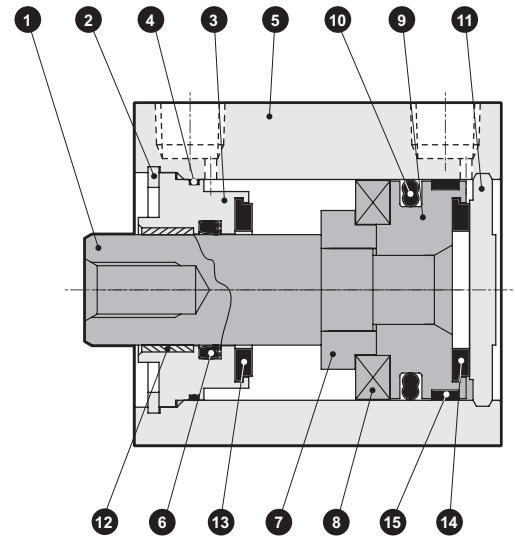
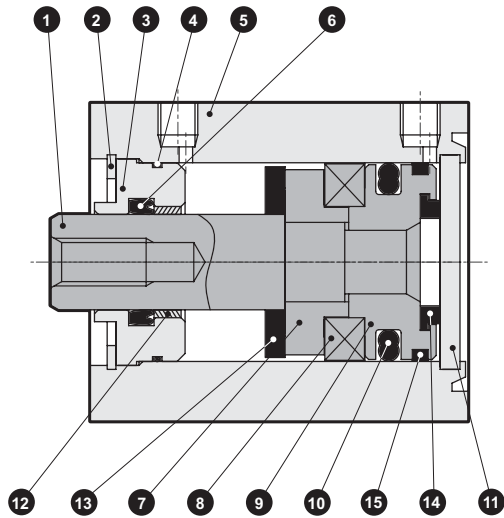
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

# SSD2-K Series

## Internal structure and parts list

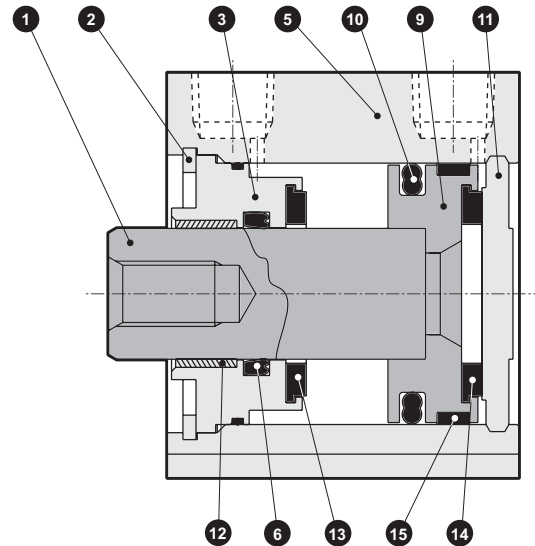
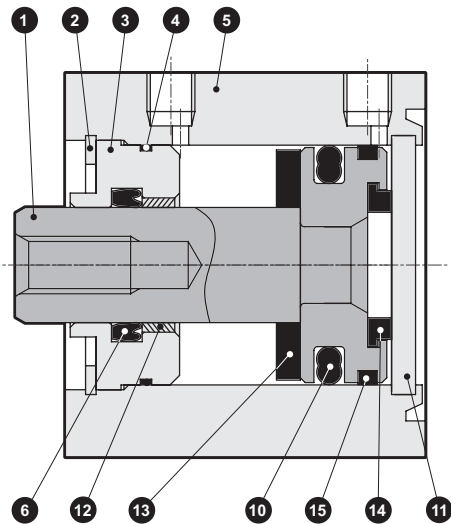
● SSD2-KL-12 to 25 (double acting/single rod high load type/with switch)

● SSD2-KL-32 (double acting/single rod high load type/with switch)



● SSD2-K-12 to 25 (double acting/single rod high load type)

● SSD2-K-32 (double acting/single rod high load type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32: steel	ø16 to ø32 Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum	Alumite	11	Guard	ø12 to ø25: stainless steel ø32: aluminum alloy	ø32: alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oilless dry met	ø20 to ø32 (Note 1)
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber (R)	Urethane rubber	
6	Rod packing seal	Nitrile rubber		14	Cushion rubber (H)	Urethane rubber	
7	Spacer	Aluminum alloy	Chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic					

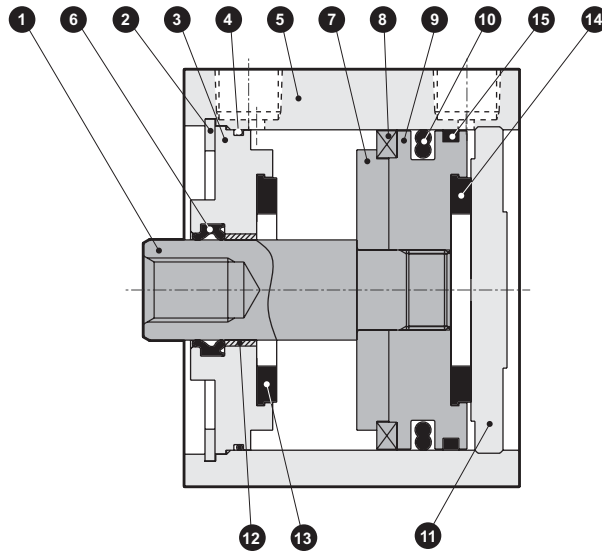
Note 1: Steel is used for copper and PTFE free.

## Repair parts list

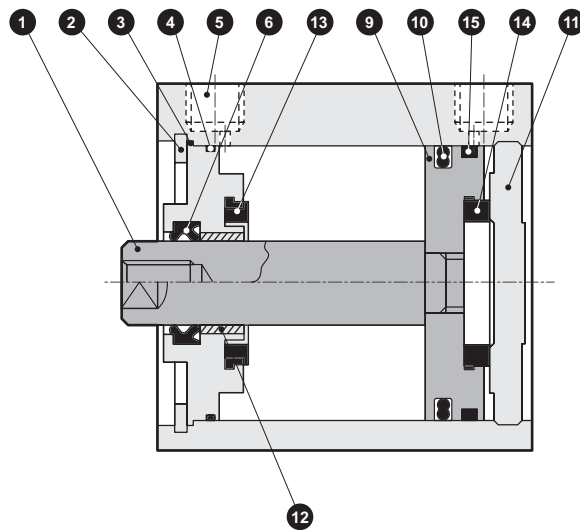
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-K-12K	
ø16	SSD2-K-16K	
ø20	SSD2-K-20K	
ø25	SSD2-K-25K	
ø32	SSD2-K-32K	

### Internal structure and parts list

- SSD2-KL-40 to 100 (double acting/single rod high load type/with switch)



- SSD2-K-40 to 100 (double acting/single rod high load type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Aluminum alloy	Alumite	11	Guard	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oilless dry met	Note 1
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber (R)	Urethane rubber	
6	Rod packing seal	Nitrile rubber		14	Cushion rubber (H)	Urethane rubber	
7	Spacer	Aluminum alloy		15	Wear ring	Polyacetal resin	
8	Magnet	Plastic					

Note 1: Steel is used for copper and PTFE free.

### Repair parts list

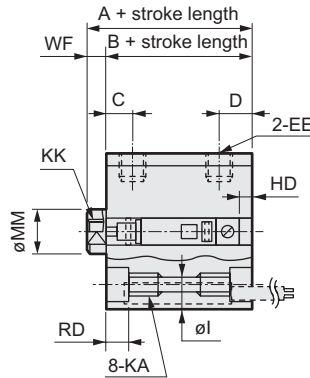
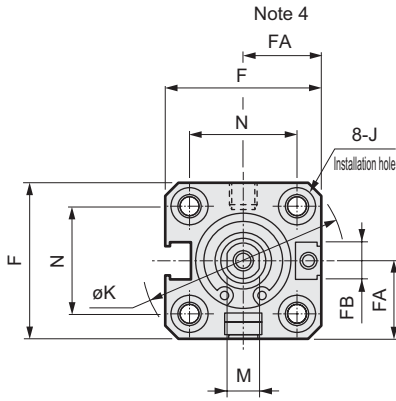
Bore size (mm)	Kit No.	Repair parts number
ø40	SSD2-K-40K	<div style="display: flex; flex-wrap: wrap; justify-content: center; gap: 10px;"> <span>4</span> <span>6</span> <span>10</span>  <span>13</span> <span>14</span> <span>15</span> </div>
ø50	SSD2-K-50K	
ø63	SSD2-K-63K	
ø80	SSD2-K-80K	
ø100	SSD2-K-100K	



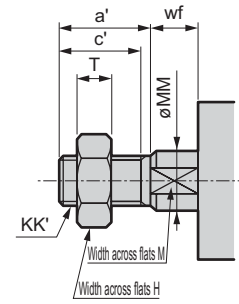
# SSD2-K Series

## Dimensions

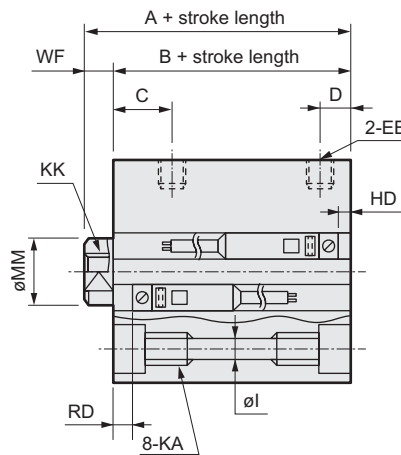
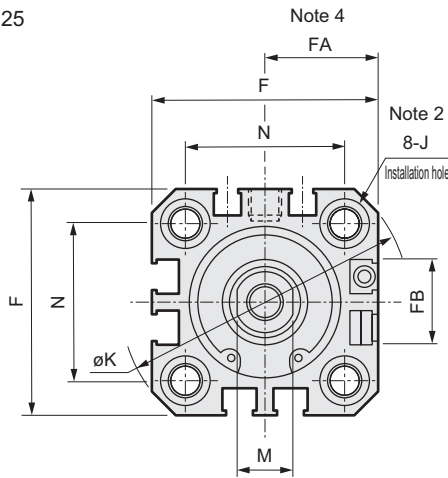
● SSD2-KL-12 to 25 (with switch)  
 $\phi 12 \cdot \phi 16$



● Rod end male thread



$\phi 20, \phi 25$



• Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size  $\phi 20$  and  $\phi 25$  piping port surface.

Symbol	Common dimension with switch																
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 3</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	30.5	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
$\phi 16$	30.5	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
$\phi 20$	39	34.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
$\phi 25$	42.5	37.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimension	Reed T0H/TOV and T5H/T5V		Proximity T2H/T2V and T3H/T3V			Proximity T2WH/T2WV and T3WH/T3WV			Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV								
Bore size (mm)	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD			
$\phi 12$	4.5	3.5	4.5	3.5	6.5	5.5											
$\phi 16$	3	5	3	5	5	7											
$\phi 20$	6.5	9	6.5	9	8.5	11	11	13.5									
$\phi 25$	6	12.5	6	12.5	8	14.5	10.5	17									

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: If the custom stroke is 7mm, calculate including standard stroke 10mm.

• For  $\phi 16$  A + stroke length = 40.5/B + stroke length = 37

For custom stroke (exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

• For  $\phi 16$  A + stroke length = 37.5/B + stroke length = 34

Note 2: Refer to page 244 for HD/RD dimensions of the 2color indicator, off-delay, strong magnetic field proof, or T1\* and T8\* switch.

Note 3: Refer to page 244 for projection dimensions of the 2color indicator, off-delay, strong magnetic field proof, or T1\* and T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

● Rod end male thread section dimensions table

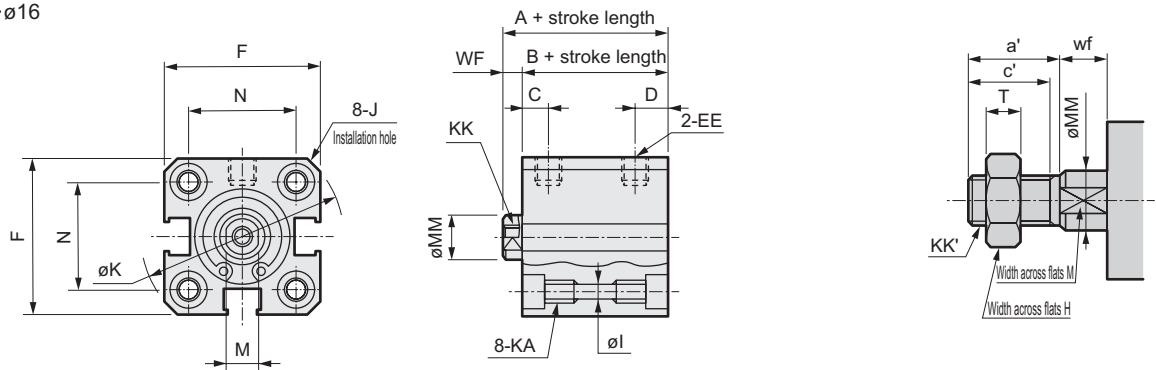
Symbol	a'	c'	H	kk'	M	MM	T	wf
$\phi 12$	10.5	9	8	M5	5	6	3.2	3.5
$\phi 16$	12	10	8	M6	6	8	3.6	3.5
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

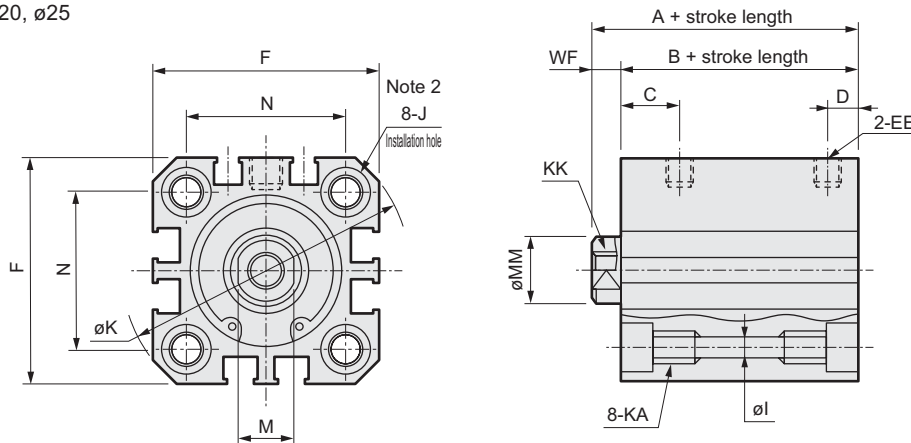
● SSD2-K-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20, ø25



Symbol	Without switch and common dimension														
Bore size (mm)	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	25.5	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	25.5	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	29	24.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	32.5	27.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: If the custom stroke is 7mm, calculate including standard stroke 10mm.

• For ø16 A + stroke length = 35.5/B + stroke length = 32

For custom stroke (Exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

• For ø16 A + stroke length = 32.5/B + stroke length = 29

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

● Rod end male thread section dimensions table

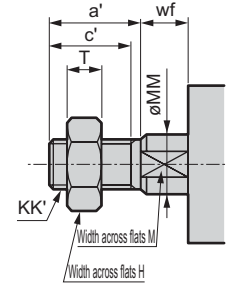
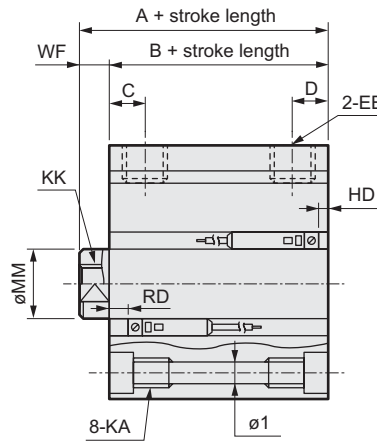
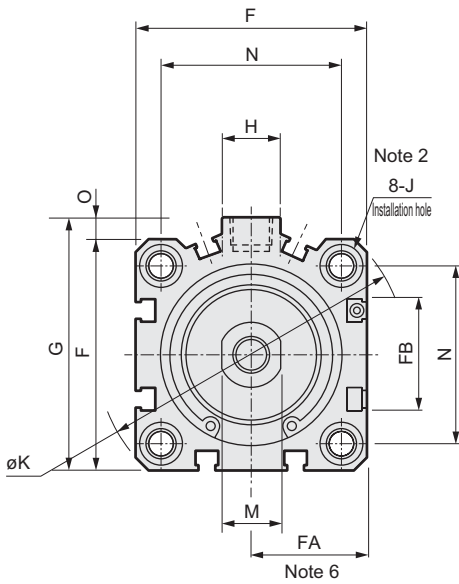
Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

# SSD2-K Series

## Dimensions

● SSD2-KL-32 to 100 (with switch)

● Rod end male thread



Symbol	Common dimension with switch																			
Bore size (mm)	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 5</sup>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
ø32	50	43	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	56.5	49.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	58.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	64	56	13	11	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	73.5	63.5	16	13	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	85	73	23	15	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12
Switch dimension	Reed T0H/TOV and T5H/T5V			Proximity T2H/T2V and T3H/T3V			Proximity T2WH/T2WV and T3WH/T3WV													
Bore size (mm)	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD										
ø32	9	15	9	15	11	17														
ø40	9.5	19.5	9.5	19.5	11	21														
ø50	10	20	10	20	11.5	21.5														
ø63	17.5	18	17.5	18	19	19.5														
ø80	22	20.5	22.5	20.5	24	22														
ø100	28	24.5	28	24.5	29.5	26														

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

• For ø40 A + stroke length = 60/B + stroke length = 53

For custom stroke (Exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

• For ø40 A + stroke length = 57/B + stroke length = 50

Note 2: HD and RD dimensions for 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 244 for HD/RD dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Refer to page 244 for projection dimensions of the 2color indicator, off-delay, strong magnetic field proof, and T1\* or T8\* switch.

Note 5: Dimensions in ( ) of FA are the values for radial lead wire.

Note 6: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

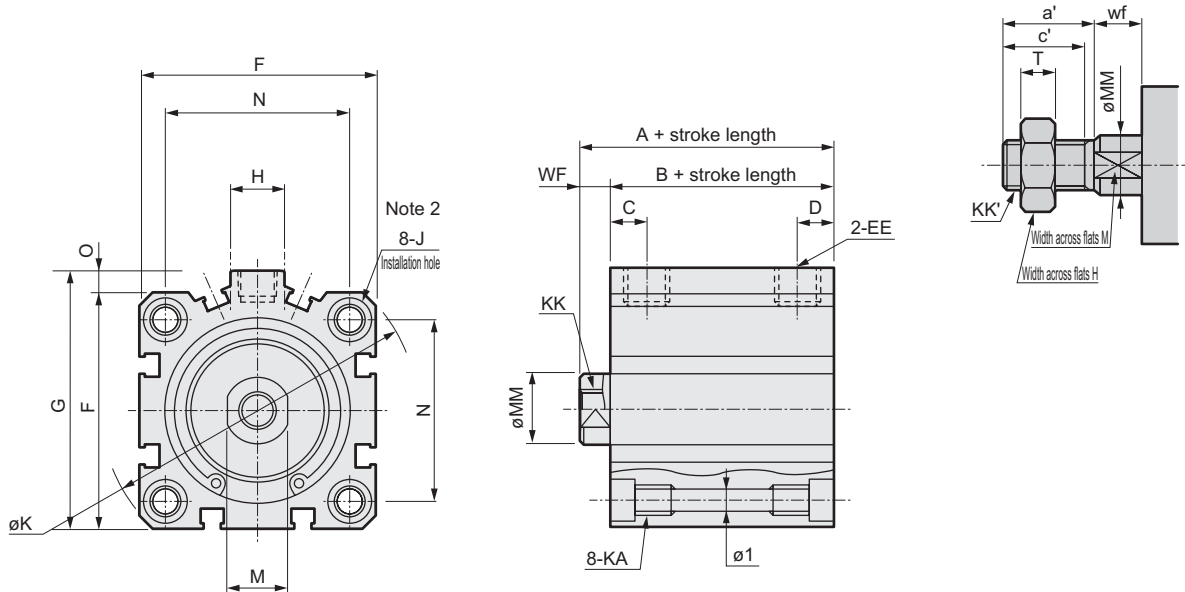
● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

### Dimensions

● SSD2-K-32 to 100 (without switch)

● Rod end male thread



Symbol	Without switch and common dimension																	
Bore size (mm)	A <small>Note 1, Note 3</small>	B <small>Note 1, Note 3</small>	C	D	EE	F	G	H	I	J	K	KA	KK	M	MM	N	O	WF
ø32	40 (50)	33 (43)	8	8	Rc1/8	45	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	46.5 (56.5)	39.5 (49.5)	12	8.5	Rc1/8	52	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	48.5 (58.5)	40.5 (50.5)	10.5	10.5	Rc1/4	64	71	18	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	54 (64)	46 (56)	13	11	Rc1/4	77	84	23	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	63.5 (73.5)	53.5 (63.5)	16	13	Rc3/8	98	104	31	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	75 (85)	63 (73)	23	15	Rc3/8	117	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example: For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

• For ø40 A + stroke length = 50/B + stroke length = 43

For custom stroke (Exclusive body) "S", the length is calculated by inputting custom stroke length 7mm.

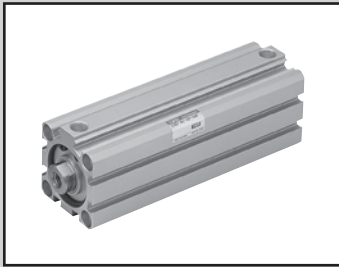
• For ø40 A + stroke length = 47/B + stroke length = 40

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 3: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8



Compact cylinder, double acting single rod long stroke

# SSD2 Series (long stroke)

- Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32$   
 $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2									
	SSD2-L (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	+ 2.0 0									
Working piston speed mm/s	50 to 500					50 to 300				
Cushion	Rubber cushion									
Lubrication	Not required (when lubricating, use turbine oil ISO VG32.)									
Allowable energy absorption J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

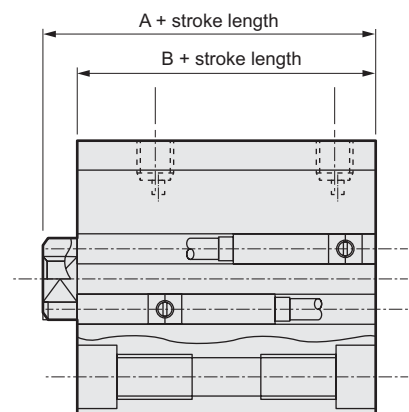
## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)
$\phi 12$	35·40·45·50·75·100	100
$\phi 16$		
$\phi 20$	75·100·125·150·175·200	200
$\phi 25$	75·100·125·150·175·200·250·300	300
$\phi 32$	125·150·175·200·250·300	
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

## Custom stroke length

### ● SSD2 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	31 to 99
	20	51 to 199
	25	51 to 299
Example of model number	32 to 100	101 to 299
	Model no.: SSD2-32-121 +4 mm spacer is provided on the standard cylinder SSD2-32-125 to attain a 121 mm stroke. The B+stroke length dimension is 107.5mm.	



### Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire			Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	Programmable controller, relay and small solenoid valve	Programmable controller			Programmable Controller and relay				Programmable controller, relay	Programmable controller, relay / IC circuit (w/o light), serial connection		Programmable controller, relay		Programmable controller		
Output method	-	-			NPN output	PNP output	NPN output	NPN output	-					-		
Power voltage	-															
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)			100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less			10µA or less				0mA					1mA or less		

# SSD2 (long stroke) Series

## How to order

Without switch

SSD2 - 12 - 100 - N - LB - I

With switch

SSD2-L - 12 - 100 - T0H - R - N - LB - I

A Bore size

B Port thread type

C Stroke length

D Switch model no.

Note 1  
Note 2  
Note 3  
Note 8

E Switch quantity

F Option  
Note 4

G Mounting bracket  
Note 5  
Note 6

### ⚠ Note on model no. selection

Note 1: T2YD\* switch can not be installed for ø12, ø16.

Note 2: T8\* switch can not be installed for ø12, ø16.

Note 3: F type switch is installable only on the piping port of tube bore size ø20, ø25.

Note 4: ø12 to ø25 piston rod material stainless steel standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5: The mounting bracket is enclosed when shipped.

Note 6: Piston rod dimensions of projecting section WF standard differ when LB and FA a selection. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.

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

Note 8: Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 9: Refer to intro 3, 4 page about combination of variations and options.

### <Example of model number>

#### SSD2-L-12-100-T0H-R-N

Model: Compact cylinder long stroke

A Bore size : ø12mm

B Port thread type : Rc thread

C Stroke length : 100mm

D Switch model no.: Reed switch T0H/  
Lead wire 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

H Accessory  
Note 7

Symbol	Descriptions
<b>A Bore size (mm)</b>	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

<b>B Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (custom order)
GN	G thread (ø32 and over) (custom order)

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>D Switch model no.</b>																					
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size																
					12	16	20	25	32	40	50	63	80	100							
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●													
F3H*	F3V*			3-wire			●	●													
F2YH*	F2YV*			2-wire			●	●													
F3YH*	F3YV*	3-wire	2 color indicator type	3-wire			●	●													
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*				1 color indicator type			●	●	●	●	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
T2H*	T2V*				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*			3-wire	1 color indicator type (PNP output) (custom order)	3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*			2-wire	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*			3-wire		3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*			2-wire	Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	3-wire	3-wire	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
T3YH*	T3YV*	2-wire	Off-delay type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
T2YD*	-	2-wire		2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
T2YDT*	-	2-wire	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
T2JH*	T2JV*	2-wire	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>E Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>F Option</b>											
Bore size (ø)		12	16	20	25	32	40	50	63	80	100
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●
M	Note 4 Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free	Standard	●	●	●	●	●	●	●	●	●
P4	Specification for LIB production line	●	●	●	●	●	●	●	●	●	●
P40		●	●	●	●	●	●	●	●	●	●

<b>G Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

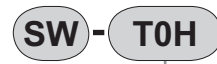
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

### (Stroke length table)

Stroke length (mm)	Applicable bore size									
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
35	●	●								
40	●	●								
45	●	●								
50	●	●								
75	●	●	●	●						
100	●	●	●	●						
125			●	●	●	●	●	●	●	●
150			●	●	●	●	●	●	●	●
175			●	●	●	●	●	●	●	●
200			●	●	●	●	●	●	●	●
250				●	●	●	●	●	●	●
300				●	●	●	●	●	●	●
Max. stroke length (mm)	100		200		300					
Custom stroke length Note 1	By 1 mm increment									

Note 1: The same dimension as next longer standard stroke length applies to the total length.

### How to order switch



Switch model no.  
(item previous page ⑩)

### Cylinder weight table

(Weight with switch includes weight with two cylinder switches.)

(Unit: g)

Stroke length (mm)	35		40		45		50		75		100		125		150		175		200		250		300	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	144	146	153	155	161	163	170	172	212	214	255	257	-	-	-	-	-	-	-	-	-	-	-	-
ø16	179	180	190	191	201	202	212	213	267	268	322	323	-	-	-	-	-	-	-	-	-	-	-	-
ø20	-	-	-	-	-	-	-	-	321	326	383	388	446	451	508	513	571	576	633	638	-	-	-	-
ø25	-	-	-	-	-	-	-	-	412	417	492	497	572	577	652	657	732	737	812	817	972	977	1132	1137
ø32	-	-	-	-	-	-	-	-	-	-	-	-	790	799	897	905	1003	1012	1111	1119	1326	1334	1541	1549
ø40	-	-	-	-	-	-	-	-	-	-	-	-	1000	1016	1133	1148	1265	1281	1398	1413	1663	1678	1928	1943
ø50	-	-	-	-	-	-	-	-	-	-	-	-	1553	1571	1779	1796	2004	2022	2217	2234	2642	2659	3067	3084
ø63	-	-	-	-	-	-	-	-	-	-	-	-	2138	2162	2413	2437	2688	2712	2963	2987	3512	3536	4062	4086
ø80	-	-	-	-	-	-	-	-	-	-	-	-	3478	3505	3911	3937	4343	4370	4776	4802	5640	5666	6505	6531
ø100	-	-	-	-	-	-	-	-	-	-	-	-	4816	4848	5386	5418	5956	5988	6526	6558	7667	7699	8807	8839

### How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

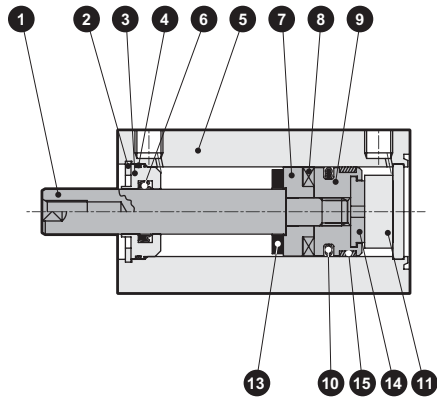
Note 1: The foot type mounting bracket is provided as 2 pcs./set.



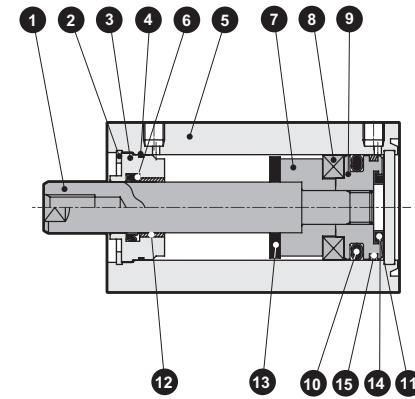
# SSD2 (long stroke) Series

## Internal structure and parts list

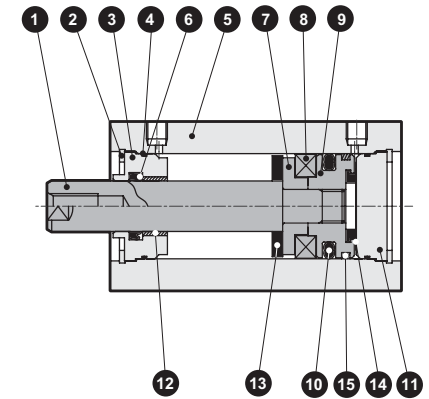
● SSD2 (long stroke)-L-12, 16  
(Double acting single rod type/with switch)



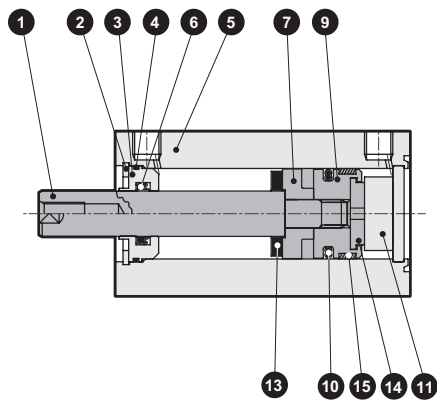
● SSD2 (long stroke)-L-20 to 100  
(Double acting single rod type/with switch)



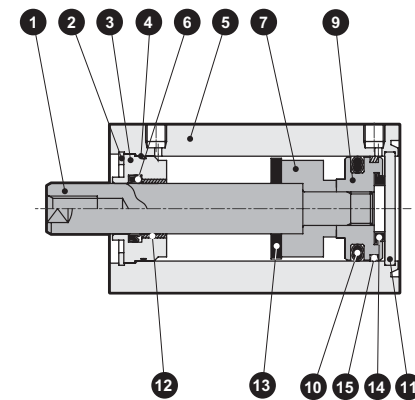
ø20: 100 to 200mm stroke  
ø25: 150 to 300mm stroke  
ø32 to ø50: 150 to 300mm stroke  
ø63 to ø100: 200 to 300mm stroke



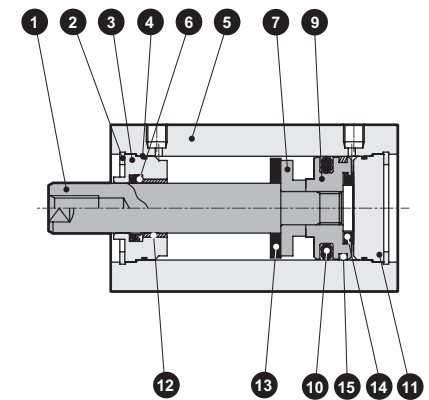
● SSD2 (long stroke) -12, 16  
(Double acting single rod type)



● SSD2 (long stroke) -20 to 100  
(Double acting single rod type)



ø20: 100 to 200mm stroke  
ø25: 150 to 300mm stroke  
ø32 to ø50: 150 to 300mm stroke  
ø63 to ø100: 200 to 300mm stroke



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to 25: stainless steel ø32 to 100: steel	ø16 to 100 Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum	Alumite	11	Guard	ø12 to 25: stainless steel ø32 to 100: aluminum alloy	ø32 to 100: alumite (Note 1)
4	Rod metal gasket	Nitrile rubber		12	Bush	Oilless dry met	ø20 to 100 (Note 2)
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber (R)	Urethane rubber	
6	Rod packing seal	Nitrile rubber		14	Cushion rubber (H)	Urethane rubber	
7	Spacer	Aluminum alloy	ø12 to 32: chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic					

Note 1: The cover when ø20: 150 stroke is exceeded is made of aluminum alloy (reference: alumite treated).

Note 2: Steel is used for copper and PTFE free.

## Repair parts list

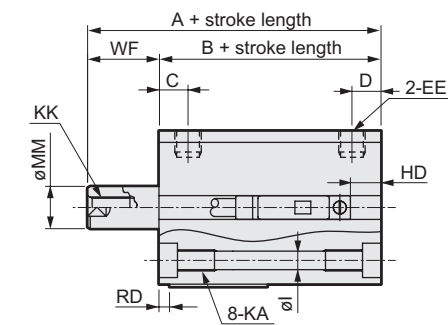
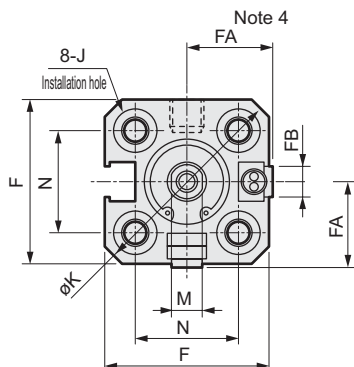
It is the same as the double acting/high load type SSD2-K series. Refer to pages 25, 26.

### Dimensions

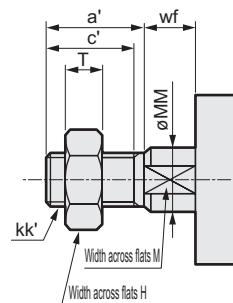
#### ● SSD2 (long stroke) - (L) - 12~25

\* Dimensions are the same for cylinders with and without switches.

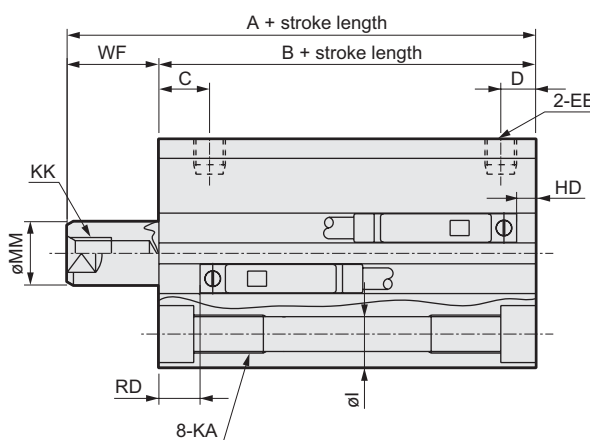
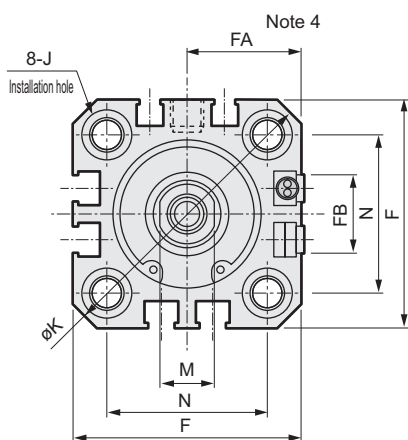
ø12·ø16



#### ● Rod end male thread



ø20·ø25



· Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Symbol	Common dimension with switch																
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D <sup>Note 3</sup>	EE	F	FA <sup>Note 6</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	45.5	32	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	13.5
ø16	45.5	32	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	13.5
ø20	55.5	41	8	5 (8)	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	14.5
ø25	59	44	11	6 (11)	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	15
Switch dimension	Reed T0H/TOV and T5H/T5V Note 3				Proximity T2H/T2V and T3H/T3V Note 3				Proximity T2WH/T2WV and T3WH/T3WV Note 3				Proximity F2WH/F2, T3H/T3V, F2YH/F2YV, F3YH/F3YV Note 3				
	HD		RD		HD		RD		HD		RD		HD		RD		
ø12	8.5		5		8.5		5		10.5		6.5						
ø16	8.5		5		8.5		5		10.5		6.5						
ø20	6 (12.5)		16 (10)		6 (12.5)		16 (10)		7.5 (14)		17.5 (12)		10 (16.5)		20 (14.5)		
ø25	5.5 (14)		19.5 (12)		5.5 (14)		19.5 (12)		7 (15.5)		21 (14)		9.5 (18)		23.5 (16.5)		

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

Example : For 70mm custom stroke, the length is calculated by inputting standard stroke length 75mm.

Note 2: Stop face J is not provided when ø20: 100 strokes or ø25: 150 strokes is exceeded.

Note 3: Values in ( ) apply when ø20: 100 strokes or ø25: 150 strokes is exceeded.

Note 4: Refer to page 243 for HD and RD dimensions of the 2 color indicator type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 5: Refer to page 243 for projection dimensions of the 2 color indicator type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 6: Dimensions in ( ) of FA are values for radial lead wire.

Note 7: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

#### ● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	13.5
ø16	12	10	8	M6	6	8	3.6	13.5
ø20	14	12	13	M8	8	10	5	14.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	15

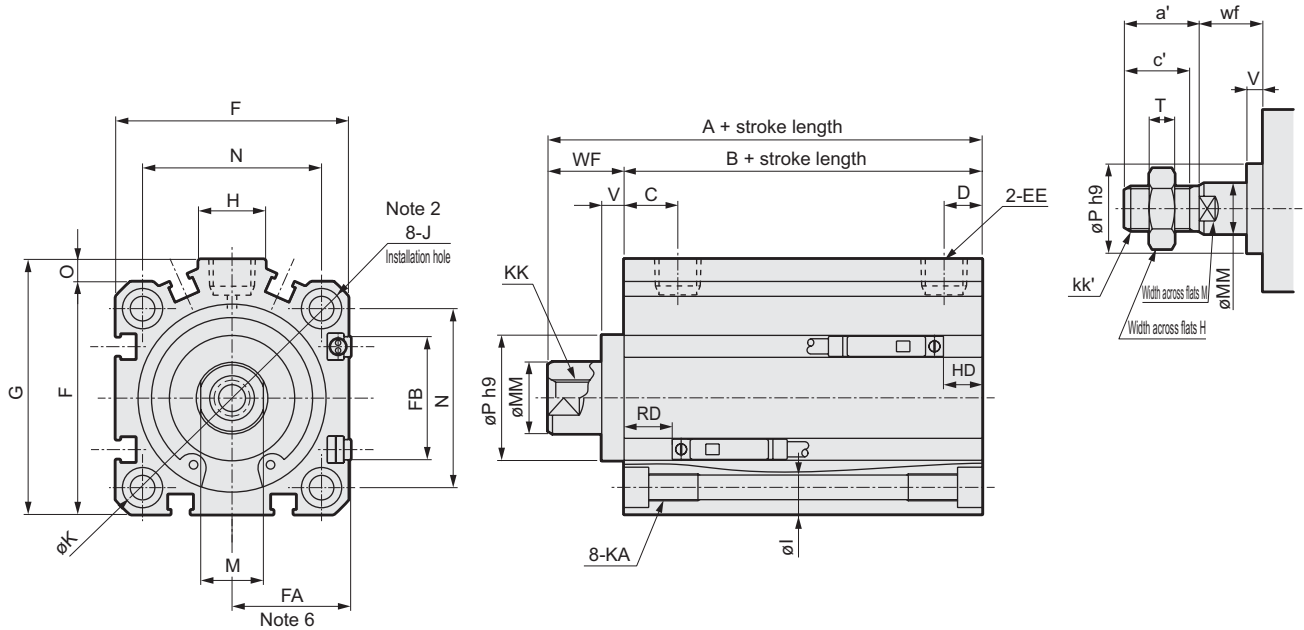
# SSD2 (long stroke) Series

## Dimensions

● SSD2(long stroke)-(L)-32~100

\* Without switch dimensions with switch are both common.

● Rod end male thread



Symbol	Common dimension with switch																					
Bore size (mm)	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D <sup>Note 3</sup>	EE	F	FA <sup>Note 6</sup>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	P	V	WF
ø32	62.5	45.5	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	22	5	17
ø40	72	55	12	8.5 (12)	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	28	5	17
ø50	73.5	55.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	35	5	18
ø63	75	57	13	11 (13)	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	35	5	18
ø80	86	66	16	13 (16)	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	43	5	20
ø100	97.5	75.5	23	15 (23)	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59	5	22
Switch dimension	Reed T0H/TOV and T5H/T5V Note 3					Proximity T2H/T2V and T3H/T3V Note 3					Proximity T2WH/T2WV and T3WH/T3WV Note 3											
Bore size (mm)	HD		RD		HD		RD		HD		RD											
ø32	8.5 (16)		18 (10)		8.5 (16)		18 (10)		10 (17.5)		19.5 (12)											
ø40	9.5 (19)		26.5 (16.5)		9.5 (19)		26.5 (16.5)		11 (20.5)		28 (18.5)											
ø50	10 (19)		26 (17)		10 (19)		26 (17)		11.5 (20.5)		27.5 (19)											
ø63	17.5 (23)		20 (14.5)		17.5 (23)		20 (14.5)		19 (24.5)		21.5 (16.5)											
ø80	22.5 (28)		24 (18.5)		22.5 (28)		24 (18.5)		24 (29.5)		25.5 (20.5)											
ø100	28 (33.5)		28 (22.5)		28 (33.5)		28 (22.5)		29.5 (35)		29.5 (24.5)											

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. Example: For 121mm custom stroke, the length is calculated by inputting standard stroke length 125mm.

Note 2: Stop face J is not provided when ø32 to ø50: 150 strokes or ø63 to ø100: 200 strokes is exceeded.

Note 3: Values in ( ) apply when ø32 to ø50: 150 strokes or ø63 to ø100: 200 strokes is exceeded.

Note 4: Refer to page 243 for HD and RD dimensions of the 2 color indicator type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 5: Refer to page 243 for projection dimensions of the 2 color indicator type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 6: Dimensions in ( ) of FA are values for radial lead wire.

Note 7: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

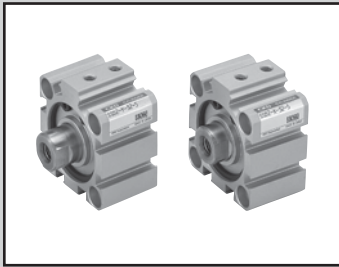
● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	15
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	15
ø50	28.5	26	27	M18 x 1.5	17	20	11	15
ø63	28.5	26	27	M18 x 1.5	17	20	11	15
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	18
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	18

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MEMO

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Compact cylinder single acting, extend type

# SSD2-X Series

Single acting, retract type/with switch

# SSD2-Y Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50$

JIS symbol SSD2-X



SSD2-Y



## Specifications

Descriptions	SSD2-X SSD2-XL (with switch)				SSD2-Y SSD2-YL (with switch)			
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	
Actuation	SSD2-X and XL: single acting/extend type, SSD2-Y and YL: single acting/retract type							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.2		0.17		0.12			
Withstanding pressure MPa	1.6							
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (no freezing)							
Port size	M5				Rc1/8, Note 2		Rc1/4	
Stroke tolerance mm	+ 1.0 0							
Working piston speed mm/s	50 to 500							
Cushion	None							
Lubrication	Not required (when lubricating, use turbine oil ISOVG32.)							
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	

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. Use the double-acting type when the cylinder must be left pressurized.

Note 2: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5, 10	10	5
$\phi 16$			
$\phi 20$			
$\phi 25$			
$\phi 32$			
$\phi 40$	10, 20	20	10
$\phi 50$			

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

## Min.stroke length with switch (1 or 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
$\phi 12$	10 Note 2	5
$\phi 16$		
$\phi 20$	5	
$\phi 25$		
$\phi 32$		
$\phi 40$	10	10
$\phi 50$		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Five strokes is used only when one switch is installed on the rod side.

## Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection			Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA	
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less		10µA or less				0mA					1mA or less		

## Cylinder weight table (weight with switch is with a cylinder switch 2 pieces)

(Unit: g)

Stroke length (mm)	5		10		20	
	No switch	With switch	No switch	With switch	No switch	With switch
ø12	40	80	49	89	-	-
ø16	52	92	64	104	-	-
ø20	74	114	89	129	-	-
ø25	107	147	127	167	-	-
ø32	155	195	183	223	-	-
ø40	249	289	285	325	-	-
ø50	-	-	459	499	572	612

## SSD2-X/SSD2-Y spring load

(Unit: N)

Bore size (mm)	Stroke length (mm)	SSD2-X		SSD2-Y	
		Stroke length 0	Full stroke length during operation	Stroke length 0	Full stroke length during operation
12	5	4	14	3	10
	10	4	14	3	10
16	5	6	15	4	19
	10	6	15	4	19
20	5	6	15	5	27
	10	6	15	5	27
25	5	11	21	10	29
	10	11	21	10	29
32	5	23	30	20	29
	10	16	30	20	29
40	5	13	30	20	29
	10	21	39	20	29
50	10	30	50	24	83
	20	24	54	24	83

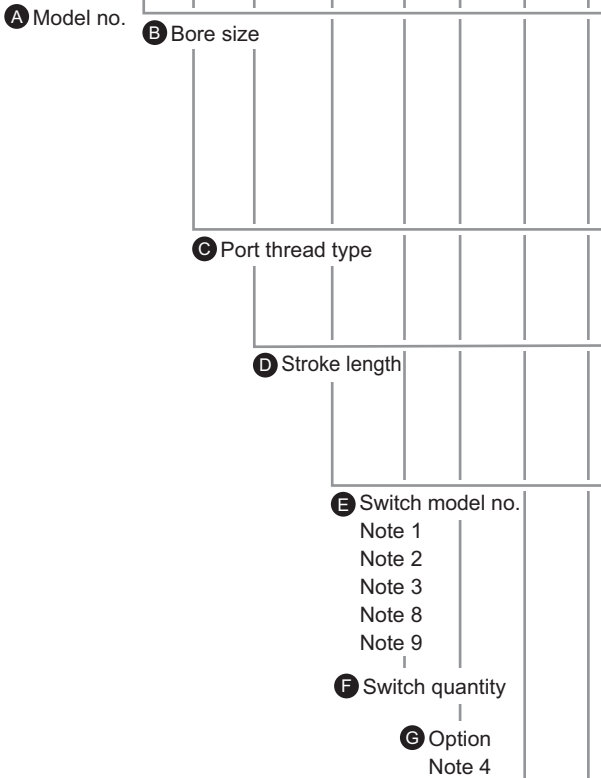
## How to order

Without switch

SSD2-X - 12 - 5 - N - LB - I

With switch

SSD2-XL - 12 - 10 - T0H - R - N - LB - I



### ⚠ Note on model no. selection

- Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .
- Note 2: T8\* switch can not be installed for  $\phi 12$  to  $\phi 32$ .
- Note 3: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .
- Note 4:  $\phi 12$  to  $\phi 25$  piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel.  
When the rod end male thread type is selected, the nut is made of stainless steel.
- Note 5: The mounting bracket is enclosed when shipped.
- Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.
- Note 7: "I" and "Y" can not be selected at the same time.
- Note 8:  $\phi 20$  F-type switch lead wire L type is not available
- Note 9: Switches are shipped with the product. Contact CKD when shipment must be assembled.
- Note 10: Refer to intro 3, 4 page about combination of variations and options.

### <Example of model number>

#### SSD2-XL-12-5-T0H-R-N

Model: Compact cylinder

- A** Model no. : Single acting spring return 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 length 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread
- H** Mounting bracket : Note 5  
Note 6
- I** Accessory : Note 7

Symbol	Descriptions
<b>A Model no.</b>	
SSD2-X	Single acting, extend type
SSD2-XL	Single acting, extend type/with switch
SSD2-Y	Single acting, retract type
SSD2-YL	Single acting, retract type/with switch

<b>B Bore size (mm)</b>	
12	$\phi 12$
16	$\phi 16$
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$

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

<b>D Stroke length (mm)</b>								
	Bore size (mm)	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$
5	5	●	●	●	●	●	●	●
10	10	●	●	●	●	●	●	●
20	20							●

<b>E Switch model no.</b>												
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size							
					12	16	20	25	32	40	50	
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●					
F3H*	F3V*			3-wire			●	●				
F2YH*	F2YV*			2-wire			●	●				
F3YH*	F3YV*	Reed	2 color indicator type	3-wire			●	●				
T0H*	T0V*			2-wire	●	●	●	●	●	●	●	
T5H*	T5V*			Without light								
T8H*	T8V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●
T1H*	T1V*			3-wire	●	●	●	●	●	●	●	
T2H*	T2V*			1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	
T3H*	T3V*	Proximity	2 color indicator type	3-wire	●	●	●	●	●	●	●	●
T3PH*	T3PV*			2-wire	●	●	●	●	●	●	●	
T2WH*	T2WV*			3-wire	●	●	●	●	●	●	●	
T2YH*	T2YV*	Proximity	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●
T3WH*	T3WV*			3-wire	●	●	●	●	●	●	●	
T3YH*	T3YV*			2-wire			●	●	●	●	●	
T2YD*	-	Proximity	Off-delay type	2-wire			●	●	●	●	●	
T2YDT*	-			2-wire			●	●	●	●	●	
T2JH*	T2JV*			2-wire			●	●	●	●	●	

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

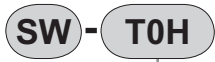
<b>F Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>G Option</b>									
	Bore size (mm)	12	16	20	25	32	40	50	
Blank	Rod end female thread	●	●	●	●	●	●	●	
N	Rod end male thread	●	●	●	●	●	●	●	
P6	Copper and PTFE free	As standard							
M Note 4	Piston rod material (stainless steel)	●	●	●	●	●	●	●	
P4	Specification for LiB production line	●	●	●	●	●	●	●	
P40	(Custom order)	●	●	●	●	●	●	●	

<b>H Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

How to order switch



Switch model no.  
 (item previous page ⑥)

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50

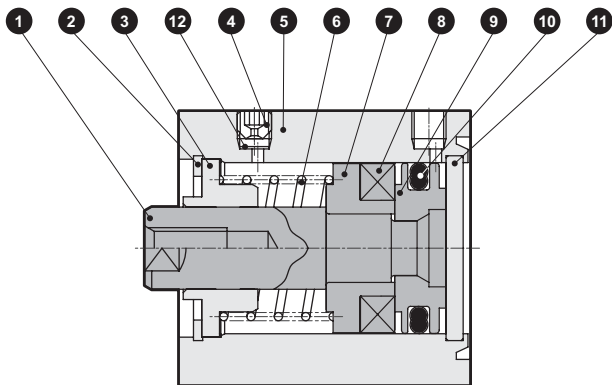
Note 1: The foot type mounting bracket is provided as 2 pcs./set.



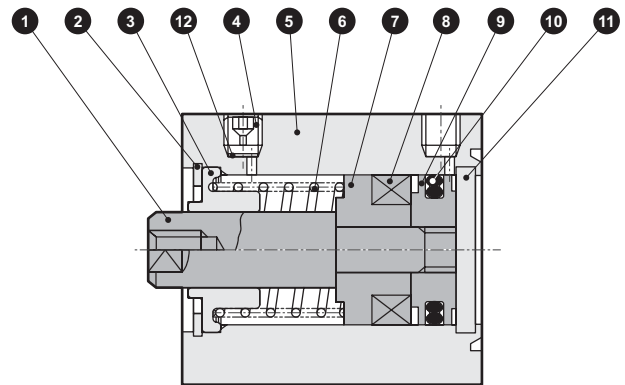
# SSD2-X Series

## Internal structure and parts list

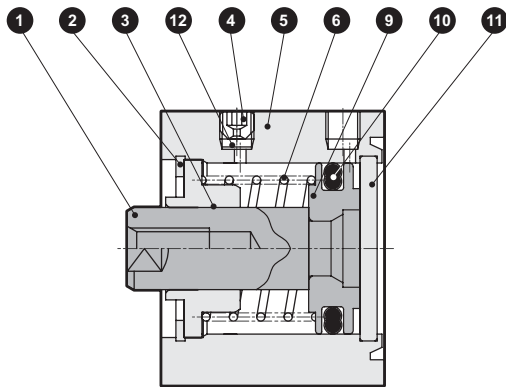
● SSD2-XL-12 to 32 (single acting/extend type/with switch)



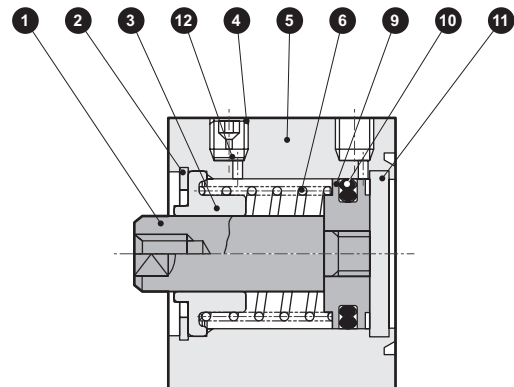
● SSD2-XL-40, 50 (single acting/extend type/with switch)



● SSD2-X-12 to 32 (single acting/extend type)



● SSD2-X-40, 50 (single acting/extend type)



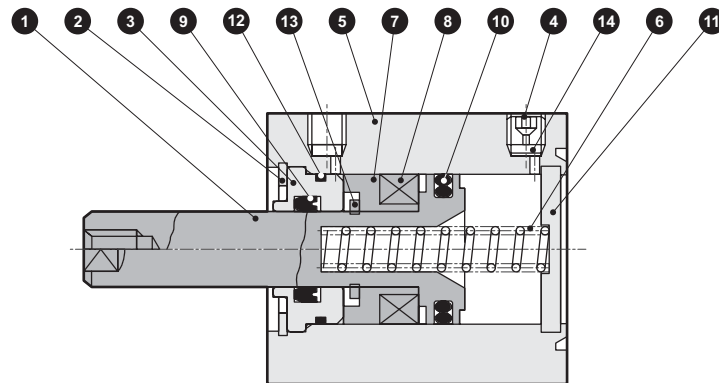
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Plug	Stainless steel		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	ø12 to ø25: stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: alumite
6	Spring	Piano wire	Electrodeposition coating	12	Stainless steel wire net	Stainless steel	

## Repair parts list

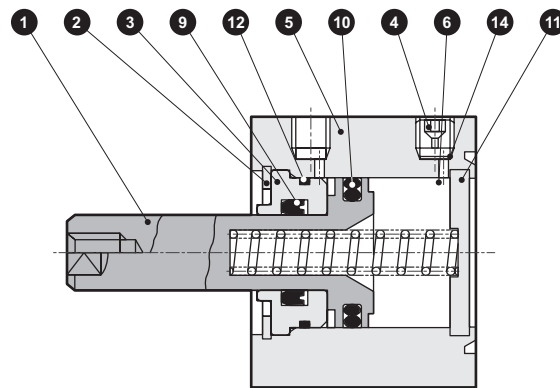
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-X-12K	10
ø16	SSD2-X-16K	
ø20	SSD2-X-20K	
ø25	SSD2-X-25K	
ø32	SSD2-X-32K	
ø40	SSD2-X-40K	
ø50	SSD2-X-50K	

### Internal structure and parts list

● SSD2-YL (single acting/retract type/with switch)



● SSD2-Y (single acting/retract type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston	Stainless steel		8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Rod packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum alloy	Alumite	10	Piston packing seal	Nitrile rubber	
4	Plug	Stainless steel		11	Guard	ø12 to ø25: stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: alumite
5	Body	Aluminum alloy	Hard alumite	12	Metal gasket	Nitrile rubber	
6	Spring	Piano wire	Electrodeposition coating	13	Round S type snap ring	Steel	Phosphoric acid zinc
7	Spacer	Aluminum alloy	Chromate	14	Stainless steel wire net	Stainless steel	

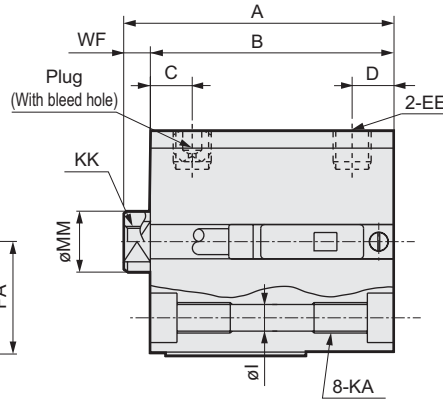
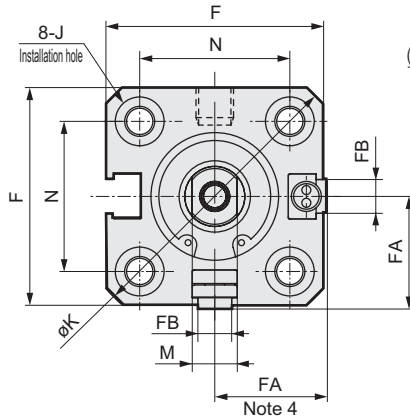
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-Y-12K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">9</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">12</span>
ø16	SSD2-Y-16K	
ø20	SSD2-Y-20K	
ø25	SSD2-Y-25K	
ø32	SSD2-Y-32K	
ø40	SSD2-Y-40K	
ø50	SSD2-Y-50K	

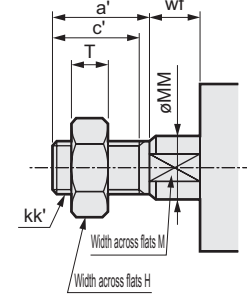
# SSD2-X Series

## Dimensions

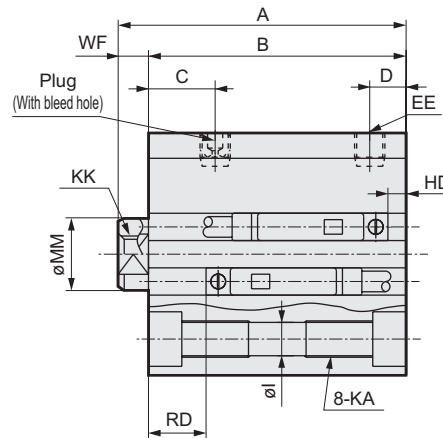
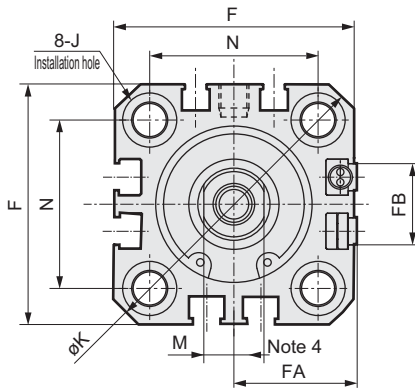
- SSD2-XL-12 to 25 (with switch)  
ø12·ø16



- Rod end male thread



- ø20·ø25



- Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Symbol		Common dimension with switch																	
Bore size (mm)		A	B	C	D	EE	F	FA <sup>Note 4</sup>	FB	I	J	K	KA	KK	M	MM	N	WF	
ø12	Stroke length	5	30.5	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	Stroke length	10	35.5	32															
ø16	Stroke length	5	30.5	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
	Stroke length	10	35.5	32															
ø20	Stroke length	5	39	34.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	Stroke length	10	44	39.5															
ø25	Stroke length	5	42.5	37.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
	Stroke length	10	47.5	42.5															
Switch dimension		Reed T0H/TOV and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV											
Bore size (mm)		HD		RD		HD		RD		HD		RD							
ø12		1.5		1.5		1.5		1.5		3.5		3.5							
ø16		0		4		0		4.5		1		6							
ø20		3		7.5		3		7.5		5		9.5							
ø25		4		9.5		4		9.5		6		11.5							

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

- Rod end male thread

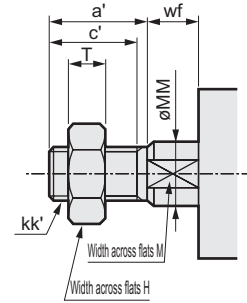
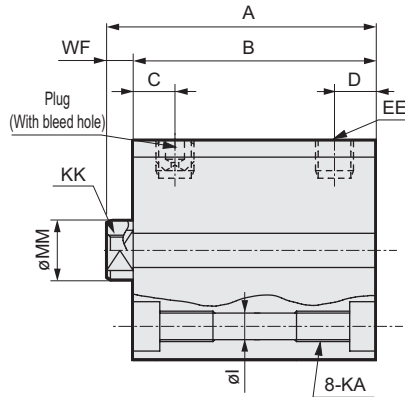
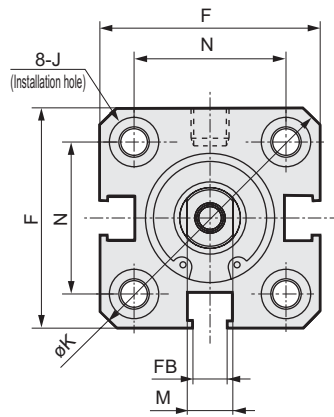
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

## Dimensions

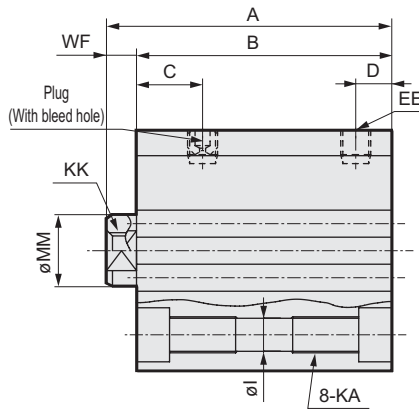
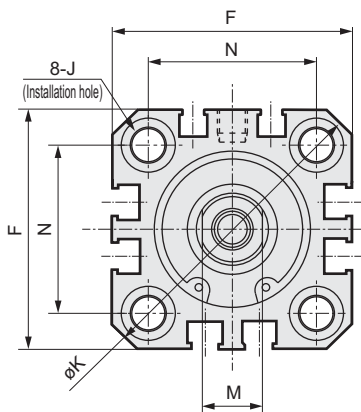
● SSD2-X-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20·ø25



Symbol		Without switch and common dimension																	
Bore size (mm)		A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK	M	MM	N	WF	
ø12	Stroke length	5	25.5	22	5.5	5.5	M5	25	13	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	Stroke length	10	30.5	27															
ø16	Stroke length	5	25.5	22	5.5	5.5	M5	29	15	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
	Stroke length	10	30.5	27															
ø20	Stroke length	5	29	24.5	8	5.5	M5	36	18.5	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	Stroke length	10	34	29.5															
ø25	Stroke length	5	32.5	27.5	11	6	M5	40	20.5	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
	Stroke length	10	37.5	32.5															

● Rod end male thread section dimensions table

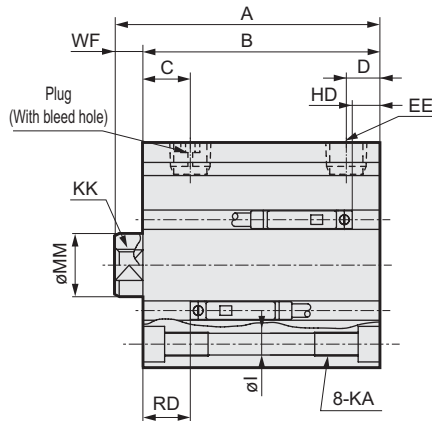
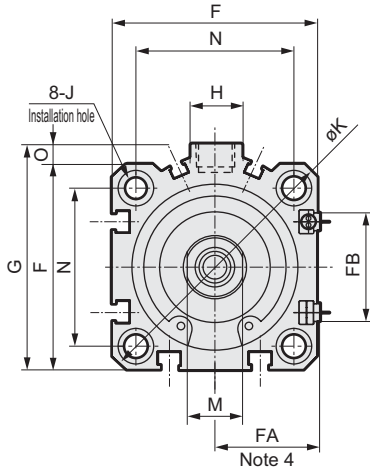
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: Refer to pages 245 to 256 for dimension drawings for discrete accessories.

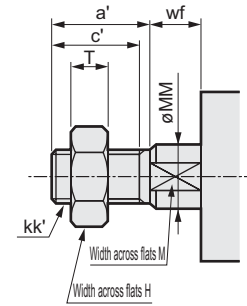
# SSD2-X Series

## Dimensions

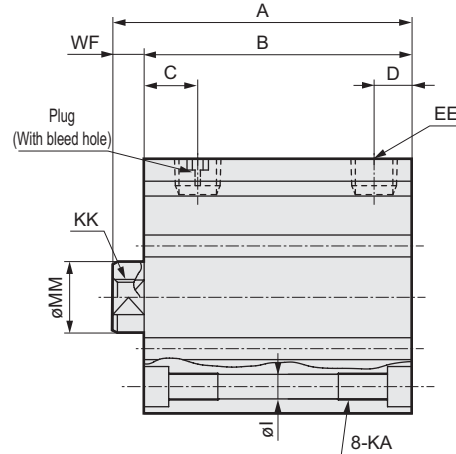
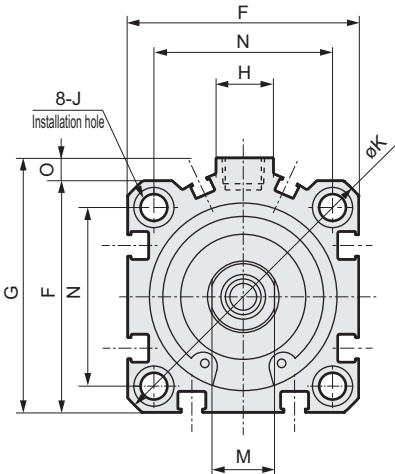
### ● SSD2-XL-32 to 50 (with switch)



### ● Rod end male thread



### ● SSD2-X-32 to 50 (without switch)



Symbol	Without switch		Common dimension with switch																					
	A	B	A	B	C	D	EE Note 6	F	FA Note 4	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF		
ø32	Stroke length	5	35	28	45	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 Depth 11	M8 Depth 13	14	16	34	4.5	7
	Stroke length	10	40	33	50	43																		
ø40	Stroke length	5	41.5	34.5	51.5	44.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 Depth 11	M8 Depth 13	14	16	40	5	7
	Stroke length	10	46.5	39.5	56.5	49.5																		
ø50	Stroke length	10	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 Depth 13	M10 Depth 15	17	20	50	7	8
	Stroke length	20	58.5	50.5	68.5	60.5																		
Switch dimension	Reed T0H/TOV and T5H/T5V				Proximity T2H/T2V and T3H/T3V				Proximity T2WH/T2WV and T3WH/T3WV															
	HD Note 2		RD Note 2		HD Note 2		RD Note 2		HD		RD													
ø32	4		9.5		4		9.5		6		11.5													
ø40	7		12		7		12		8.5		13.5													
ø50	7.5		12.5		7.5		12.5		9		14													

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. Example: For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: The port size is M5 for 5 stroke ø32 without switch.

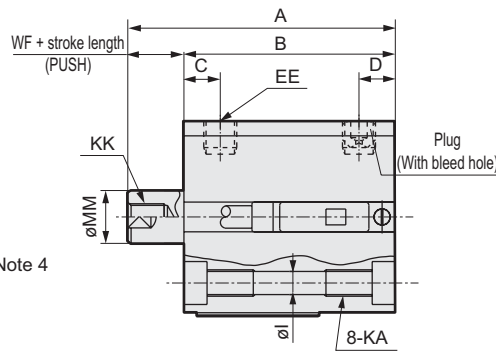
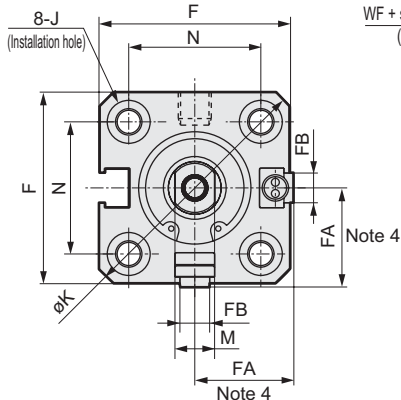
### ● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5

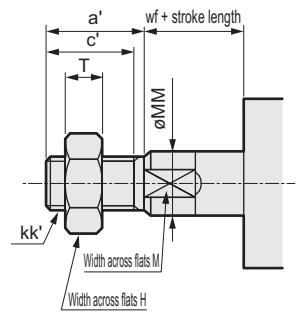
## Dimensions

### ● SSD2-YL-12 to 25 (with switch)

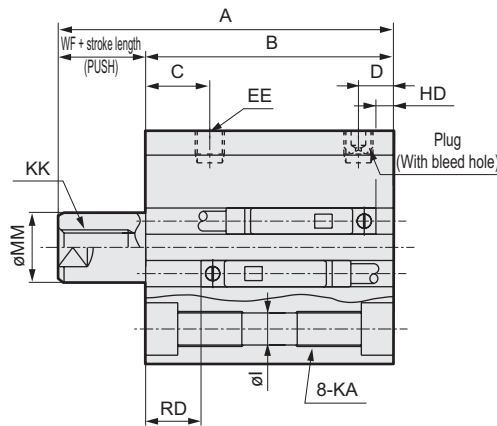
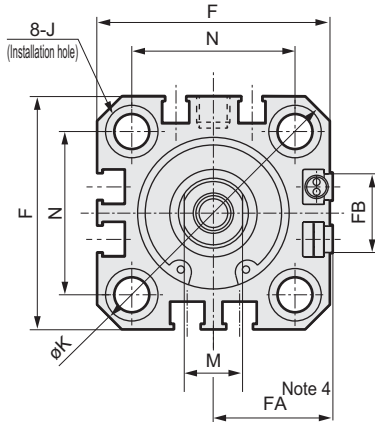
ø12·ø16



### ● Rod end male thread



ø20·ø25



### ● Cautions on switch installation groove

Note 1: A piping port plane of bore size ø20, 25 becomes only F type switch.

Symbol		Without switch		Common dimension with switch																	
Bore size (mm)		A	B	A	B	C	D	EE	F	FA <sup>Note 4</sup>	FB	I	J	K	KA	KK	M	MM	N	WF	
ø12	Stroke length	5	30.5	22	35.5	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 Depth 7	M3 Depth 6	5	6	15.5	3.5
	Stroke length	10	40.5	27	45.5	32															3.5
ø16	Stroke length	5	30.5	22	35.5	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 Depth 7	M4 Depth 8	6	8	20	3.5
	Stroke length	10	40.5	27	45.5	32															3.5
ø20	Stroke length	5	34	24.5	44	34.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face Depth 5.5	47	M6 Depth 11	M5 Depth 7	8	10	25.5	4.5
	Stroke length	10	44	29.5	54	39.5															4.5
ø25	Stroke length	5	37.5	27.5	47.5	37.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face Depth 5.5	51	M6 Depth 11	M6 Depth 12	10	12	28	5
	Stroke length	10	47.5	32.5	57.5	42.5															5
Switch dimension		Reed T0H/TOV and T5H/T5V				Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV											
Bore size (mm)		HD		RD		HD		RD		HD		RD		HD		RD					
ø12		1.5		1.5		1.5		1.5		3.5		3.5									
ø16		0		4		0		4.5		1		6									
ø20		3		7.5		3		7.5		5		9.5		7.5		12					
ø25		4		9.5		4		9.5		6		11.5		8.5		14					

Note2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note4: Dimensions in ( ) of FA are the values for radial lead wire.

Note5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

### ● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

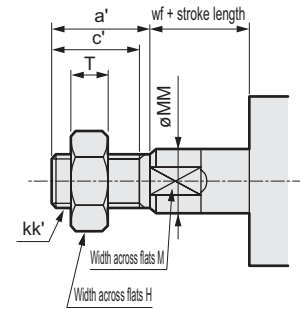
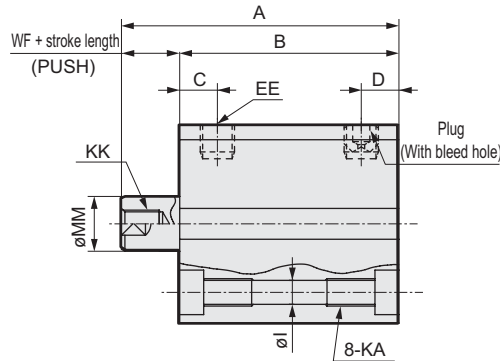
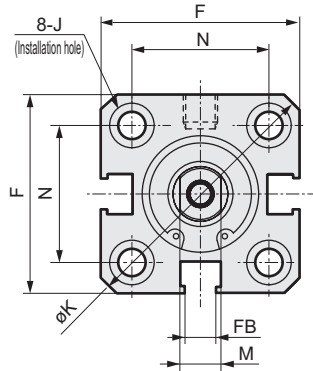
# SSD2-Y Series

## Dimensions

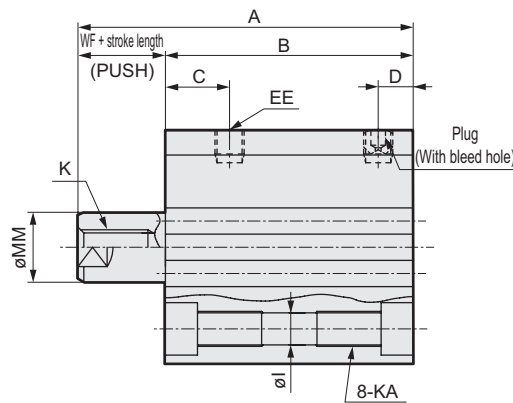
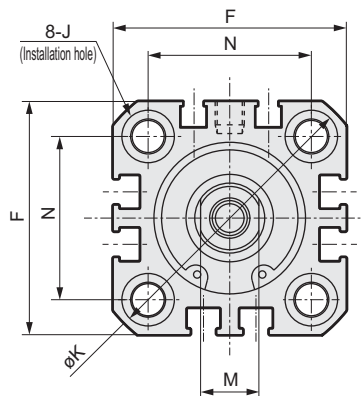
● SSD2-Y-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20·ø25



Symbol		Without switch															
Bore size (mm)		A	B	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	Stroke length 5	30.5	22	5.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	Stroke length 10	40.5	27														3.5
ø16	Stroke length 5	30.5	22	5.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
	Stroke length 10	40.5	27														3.5
ø20	Stroke length 5	34	24.5	8	5.5	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	Stroke length 10	44	29.5														4.5
ø25	Stroke length 5	37.5	27.5	11	6	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
	Stroke length 10	47.5	32.5														5

● Rod end male thread section dimensions table

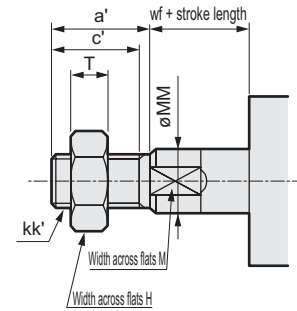
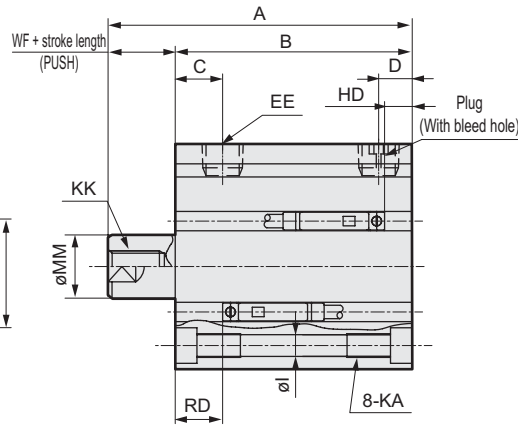
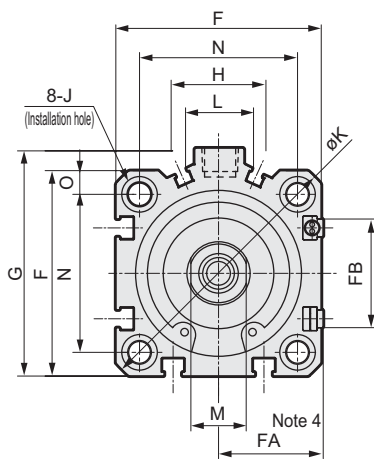
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: Refer to pages 245 to 256 for dimension drawings for discrete accessories.

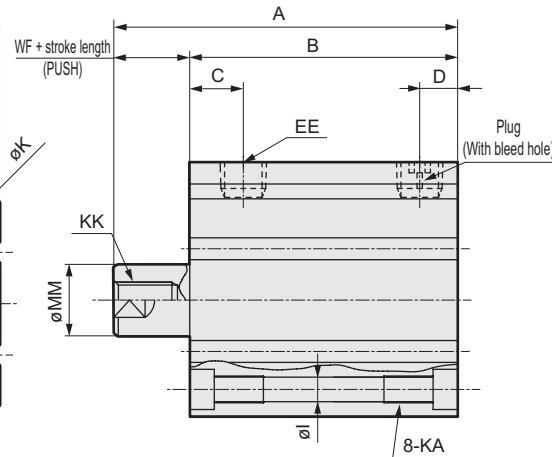
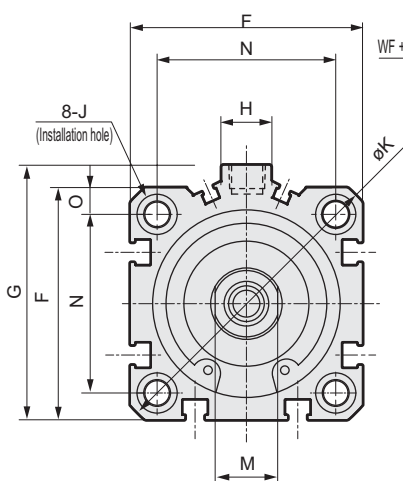
## Dimensions

● SSD2-YL-32 to 50 (with switch)

● Rod end male thread



● SSD2-Y-32 to 50 (without switch)



Symbol		Without switch		Common dimension with switch																				
Bore size (mm)		A	B	A	B	C	D	EE <sup>Note 5</sup>	F	FA <sup>Note 3</sup>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF	
ø32	Stroke length	5	40	28	50	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 Depth 11	M8 Depth 13	14	16	34	4.5	7
	Stroke length	10	50	33	60	43																		7
ø40	Stroke length	5	46.5	34.5	56.5	44.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	11 spot face Depth 6.5	69	M6 Depth 11	M8 Depth 13	14	16	40	5	7
	Stroke length	10	56.5	39.5	66.5	49.5																		7
ø50	Stroke length	10	58.5	40.5	68.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 Depth 13	M10 Depth 15	17	20	50	7	8
	Stroke length	20	78.5	50.5	88.5	60.5																		8
Switch dimension		Reed T0H/TOV and T5H/T5V					Proximity T2H/T2V and T3H/T3V					Proximity T2WH/T2WV and T3WH/T3WV												
Bore size (mm)		HD <sup>Note 1</sup>		RD <sup>Note 1</sup>			HD <sup>Note 1</sup>		RD <sup>Note 1</sup>			HD		RD										
ø32		4		9.5			4		9.5			6		11.5										
ø40		7		12			7		12			8.5		13.5										
ø50		7.5		12.5			7.5		12.5			9		14										

Note 1: HD and RD dimensions for 5 stroke will differ from these due to manufacturing.

Note 2: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 3: Dimensions in ( ) of FA are the values for radial lead wire.

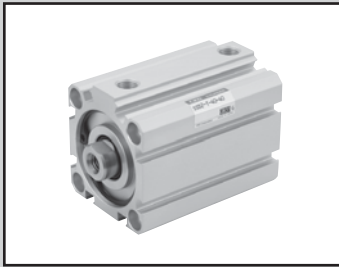
Note 4: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 5: The port size is M5 for 5 stroke ø32 without switch.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5

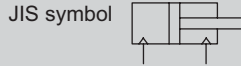




Compact cylinder double acting heat resistance type

# SSD2-T1 Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-T1									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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	5 to 150									
Port size	M5				Rc1/8, Note 1		Rc1/4		Rc3/8	
Stroke tolerance mm	$+1.0$ 0									
Working piston speed mm/s	50 to 500					50 to 300				
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

Note 1: 5 stroke length of  $\phi 32$  allows M5 port size.

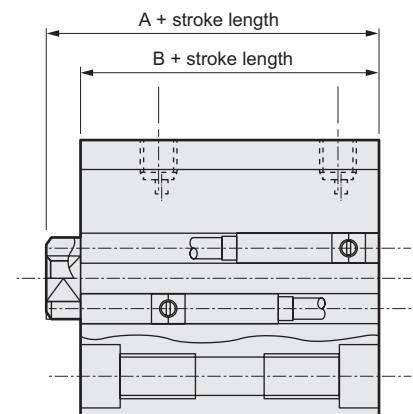
## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

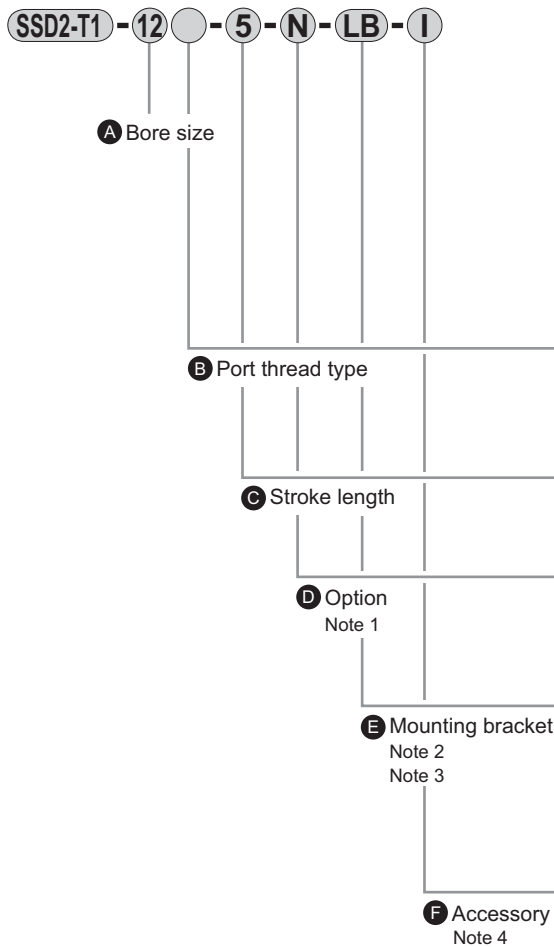
## Custom stroke length

### ● SSD2-T1 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-T32-38 +2mm spacer is provided on the standard cylinder SSD2-T32-40 to attain a 38mm stroke. The B+stroke length dimension is 63mm.	



### How to order



Symbol	Descriptions
<b>A Bore size (mm)</b>	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
<b>B Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (custom order)
GN	G thread (ø32 and over) (custom order)
<b>C Stroke length (mm)</b>	
Refer to the following stroke length table.	
<b>D Option</b>	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
<b>E Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type
<b>F Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

### ⚠ Note on model no. selection

Note 1: ø12 to ø25 piston rod material is as stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 2: The mounting bracket is enclosed when shipped.

Note 3: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

Note 4: "I" and "Y" can not be selected at the same time.

Note 5: Refer to intro 3, 4 page about combination of variations and options.

### <Example of model number>

#### SSD2-T1-12-5-N

Model: Compact cylinder heat resistance type

- A** Bore size : ø12mm
- B** Port thread type: Rc thread
- C** Stroke length : 5mm
- D** Option : Rod end male thread

### (Stroke length table)

Stroke length (mm)	Applicable bore size									
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
5	●	●	●	●	●	●				
10	●	●	●	●	●	●	●	●	●	●
15	●	●	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●	●	●	●
35			●	●	●	●	●	●	●	●
40			●	●	●	●	●	●	●	●
45			●	●	●	●	●	●	●	●
50			●	●	●	●	●	●	●	●
75					●	●	●	●	●	●
100					●	●	●	●	●	●
Min. stroke length (mm)	1									
Max. stroke length (mm)	30		50		100					
Custom stroke length Note 1	By 1 mm increment									

Note 1: Total length of the custom stroke is the same as the next longer standard stroke.

### How to order mounting bracket

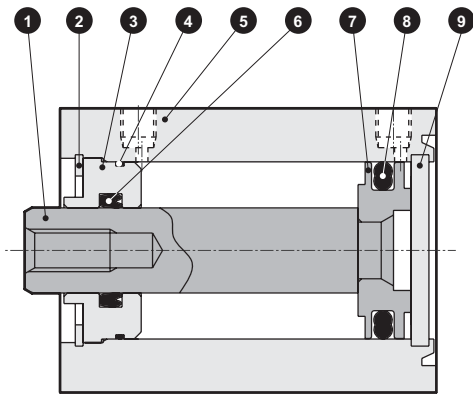
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

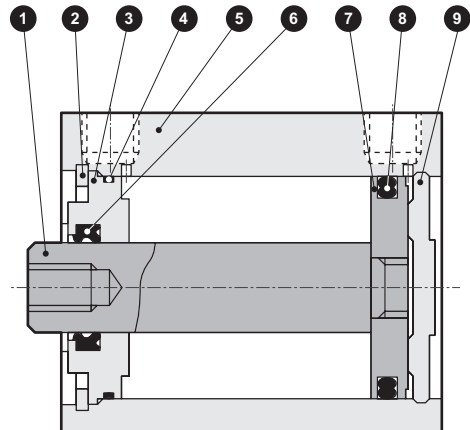
# SSD2-T1 Series

## Internal structure and parts list

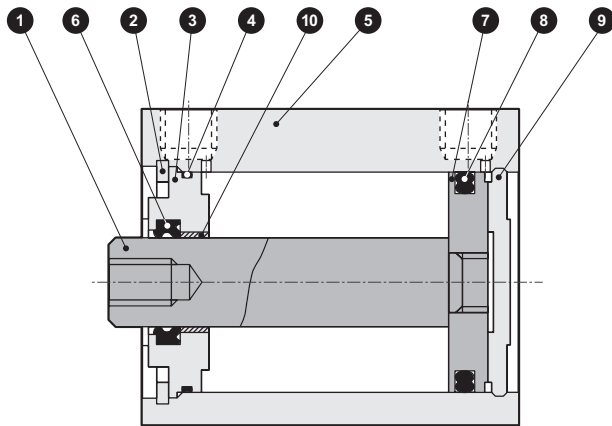
● SSD2-T1-12 to 25



● SSD2-T1-32 to 50



● SSD2-T1-63 to 100



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø100: steel	ø16 to ø100: Industrial chrome plating	7	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Piston packing seal	Fluoro rubber	
3	Rod bushing	ø12 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø12 to ø50: Alumite ø63 to ø100: Chromate	9	Guard	ø12 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: alumite
4	Rod metal gasket	Fluoro rubber		10	Bush	Oilless dry met	
5	Body	Aluminum alloy	Hard alumite				
6	Rod packing seal	Fluoro rubber					

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-T-12K	4 6 8
ø16	SSD2-T-16K	
ø20	SSD2-T-20K	
ø25	SSD2-T-25K	
ø32	SSD2-T-32K	
ø40	SSD2-T-40K	
ø50	SSD2-T-50K	
ø63	SSD2-T-63K	
ø80	SSD2-T-80K	
ø100	SSD2-T-100K	

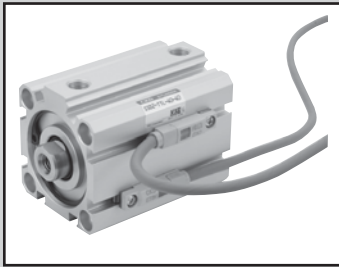
### Dimensions

It is the same as the double acting single rod type. Refer to pages 9 to 11.

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MEMO

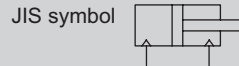
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With compact cylinder double acting heat resistance cylinder switch

# SSD2-T1L Series

● Bore size:  $\phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63$



## Specifications

Descriptions		SSD2-T1L						
Bore size	mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
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	$^{\circ}\text{C}$	5 to 150 (Note 1)						
Port size		M5			Rc1/8		Rc1/4	
Stroke tolerance	mm	$+1.0$ $0$						
Working piston speed	mm/s	50 to 500						50 to 300
Cushion		None						
Lubrication	(Note 2)	-						

Note 1: External leakage occurs gradually after 500 thousand cycles at ambient temperature 150 $^{\circ}\text{C}$ .

Note 2: Apply heat proof grease periodically.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	
			With switch 1 piece	With switch 2 piece
$\phi 16$	10·15·20·25·30	30	10	20
$\phi 20$	15·20·25·30·	50	15	25
$\phi 25$	35·40·45·50			
$\phi 32$	15·20·25·30·35· 40·45·50·70·100	100	15	20
$\phi 40$				
$\phi 50$				
$\phi 63$				

Note: Custom stroke length is available per 1mm increment. (7mm or less not available) The total length is the same dimension as the next longer standard stroke length.

## Cylinder switch specifications

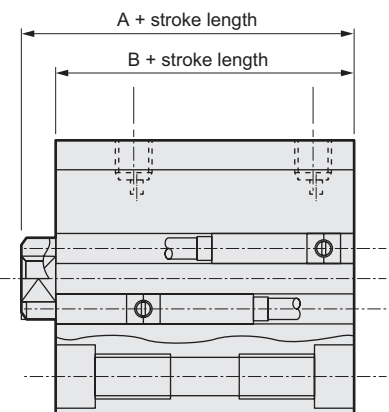
Descriptions	Reed 2 wire	
	ET0H and ET0V	
Applications	Relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50mA	7 to 20mA
Internal voltage drop	2.4V or less	
Leakage current	0mA	
Light	LED	
	ON lighting (note)	
Lead wire	Heat resistance fluorine insulation sheath electric wire 1m (0.5SQ (100V/0.8) annealed copper wire x 2C)	
Insulation resistance	100M $\Omega$ and over with 500 VDC megger	
Withstand voltage	No failure at 1000 VAC for 1 minute	
Maximum shock resistance	294m/s <sup>2</sup>	
Ambient temperature	-10 to 150 $^{\circ}\text{C}$	
Protective structure	IEC standards IP67, JIS C0920 (water tight type)	

Note: LED is used for a light. Using this product at high temperature gradually decreases visibility. Even LED dose not light, the switch output circuit works correctly because the switch output line is separated.

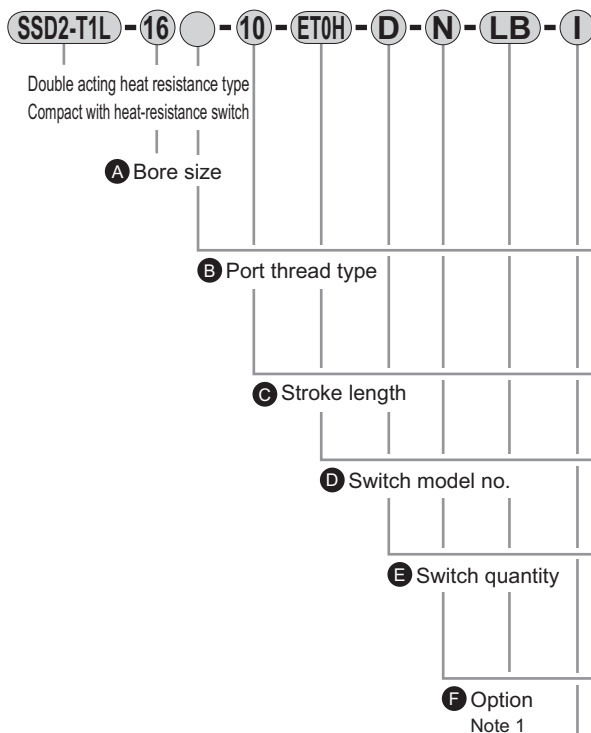
## Custom stroke length

### ● SSD2-T1L Series

Descriptions	Standard products	
	Standard stroke length	Spacer type
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 63	1 to 99
Example of model number	Model no.: SSD2-T1L-32-38 +2mm spacer is provided on the standard cylinder SSD2-T1L-32-40 to attain a 38mm stroke. The B+stroke length dimension is 73mm.	



### How to order



### ⚠ Note on model no. selection

- Note 1:  $\phi 12$  to  $\phi 25$  piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.
- Note 2: The mounting bracket is enclosed when shipped.
- Note 3: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.
- Note 4: "I" and "Y" can not be selected at the same time.
- Note 5: Refer to intro 3, 4 page about combination of variations and options.
- Note 6: Switches are shipped with the product. Contact CKD when shipment must be assembled.

### <Example of model number>

#### SSD2-T1L-16-10-ET0H-D-N

Model: Compact cylinder  
With heat resistance cylinder switch

- A** Bore size :  $\phi 16$
- B** Port thread type : Rc thread
- C** Stroke length : 10mm
- D** Switch model no.: Reed switch ET0H/Lead wire length 1m
- E** Switch quantity : 2
- F** Option : Rod end male thread

### How to order switch



Switch model no.  
(item previous page ④)

### How to order mounting bracket

Bore size (mm)	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Mounting bracket							
Foot (LB)	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63
Flange (FA/FB)	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63
Clevis (CB)	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

Symbol	Descriptions		
<b>A Bore size (mm)</b>			
16	$\phi 16$		
20	$\phi 20$		
25	$\phi 25$		
32	$\phi 32$		
40	$\phi 40$		
50	$\phi 50$		
63	$\phi 63$		
<b>B Port thread type</b>			
Blank	Rc thread		
NN	NPT thread ( $\phi 32$ and over) (custom order)		
GN	G thread ( $\phi 32$ and over) (custom order)		
<b>C Stroke length (mm)</b>			
Refer to a stroke length table of below table.			
<b>D Switch model no.</b>			
ET0H	Reed	2-wire	Axial lead wire
ET0V			Radial lead wire
<b>E Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	2		
<b>F Option</b>			
Blank	Rod end female thread		
N	Rod end male thread		
M	Piston rod material (stainless steel)		
<b>G Mounting bracket</b>			
Blank	Without mounting bracket		
LB	Axial foot		
CB	Clevis (pin and snap ring attached)		
FA	Rod end flange type		
FB	Head end flange type		
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		

### (Stroke length table)

Stroke length (mm)	Applicable bore size						
	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Standard stroke length	10	●					
	15	●	●	●	●	●	●
	20	●	●	●	●	●	●
	25	●	●	●	●	●	●
	30	●	●	●	●	●	●
	35		●	●	●	●	●
	40		●	●	●	●	●
	45		●	●	●	●	●
	50		●	●	●	●	●
	70				●	●	●
100				●	●	●	
Min. stroke length (mm)	10 (20)	15 (25)	15 (20)	15 (20)			
Max. stroke length (mm)	30	50		100			
Custom stroke length Note 2	By 1 mm increment						

Note 1: Value in ( ) is the type with two switches.

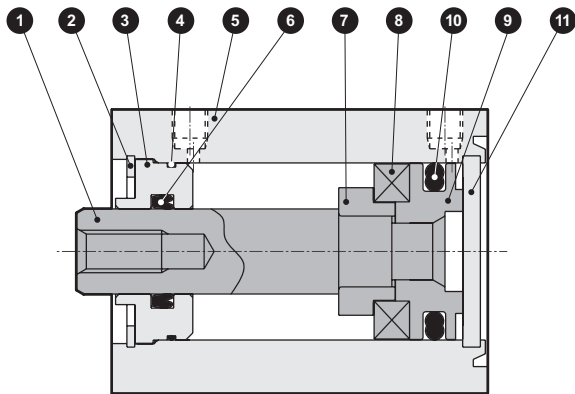
Refer to page 55 for switch quantity min. stroke length.

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

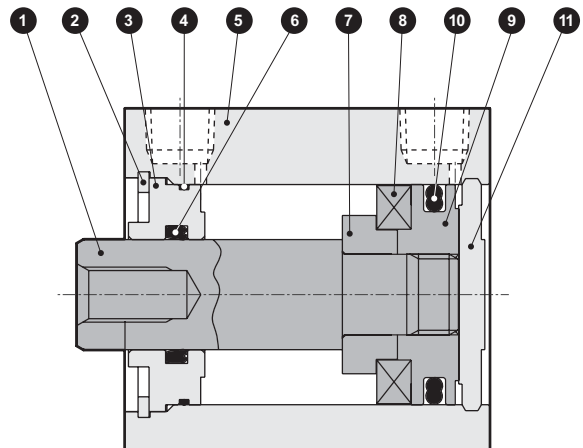
# SSD2-T1L Series

## Internal structure and parts list

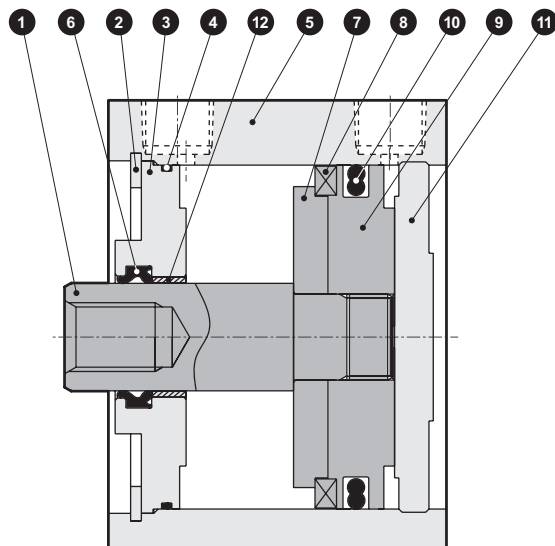
● SSD2-T1L-16 to 25



● SSD2-T1L-32 to 50



● SSD2-T1L-63



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø16 to ø25: stainless steel ø32 to ø63: steel	Industrial chrome plating	7	Spacer	Aluminum alloy	ø32: chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Special alloy	
3	Rod bushing	ø16 to ø50: special aluminum ø63: aluminum alloy	ø16 to ø50: alumite ø63: chromate	9	Piston	ø16 to ø32: aluminum alloy ø40 to ø63: stainless steel	ø32: chromate
4	Rod metal gasket	Fluoro rubber		10	Piston packing seal	Fluoro rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	ø16 to ø25: stainless steel ø32 to ø63: aluminum alloy	ø32 to ø100: alumite
6	Rod packing seal	Fluoro rubber		12	Bush	Oilless dry met	

Fluorine system grease is used for grease.

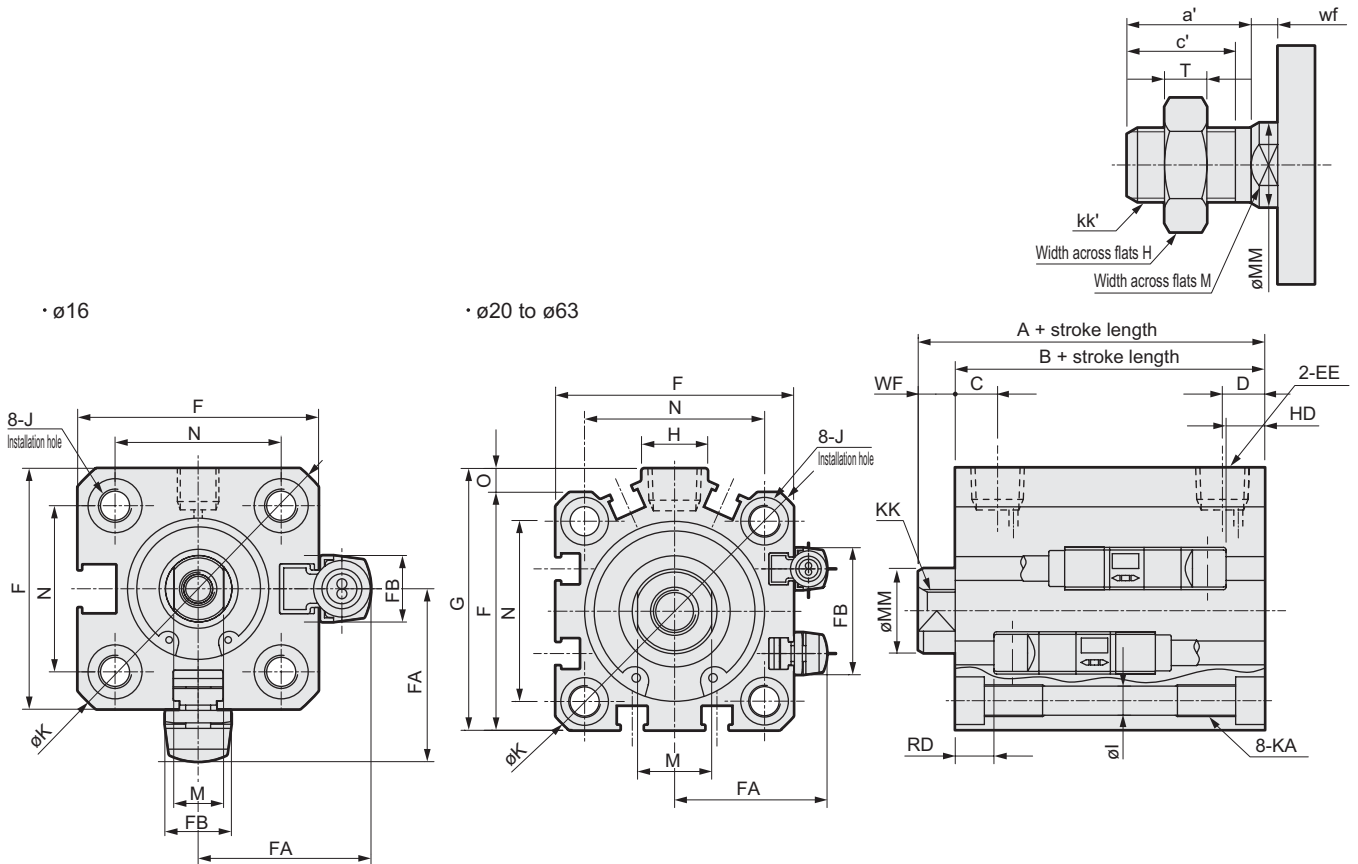
## Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø16	SSD2-T-16K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø20	SSD2-T-20K	
ø25	SSD2-T-25K	
ø32	SSD2-T-32K	
ø40	SSD2-T-40K	
ø50	SSD2-T-50K	
ø63	SSD2-T-63K	

### Dimensions

● SSD2-T1L-16 to 63

● Rod end male thread



Symbol	Common dimension with switch																			
Bore size (mm)	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
ø16	35.5	32	5.5	5.5	M5	29	21	8	-	-	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	-	3.5
ø20	34	29.5	8	5.5	M5	36	24.5	16	-	-	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	-	4.5
ø25	37.5	32.5	11	6	M5	40	26.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	-	5
ø32	40	33	8	8	Rc1/8	45	29	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	46.5	39.5	12	8.5	Rc1/8	52	32.5	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	48.5	40.5	10.5	10.5	Rc1/4	64	38.5	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	54	46	13	11	Rc1/4	77	45	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8

Switch dimension	Reed T0H/TOV and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV	
Bore size (mm)	HD	RD	HD	RD	HD	RD
ø16	0	1	0	1	0	1
ø20	0	0	0	0	0	0
ø25	0.5	1	0.5	1	0.5	1
ø32	0	1	0	1	0	1
ø40	1	6.5	1	6.5	1	6.5
ø50	2	6.5	2	6.5	2	6.5
ø63	7	7	7	7	7	7

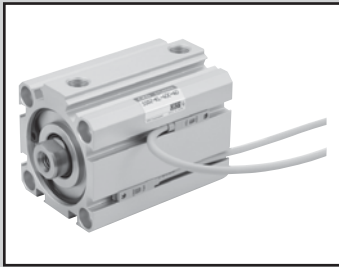
Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. Example : For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5





Compact cylinder high load type/rubber-air cushioned

# SSD2-K-\*C Series

● Bore size:  $\varnothing 20 \cdot \varnothing 25 \cdot \varnothing 32 \cdot \varnothing 40 \cdot \varnothing 50 \cdot \varnothing 63 \cdot \varnothing 80 \cdot \varnothing 100$

JIS symbol



## Specifications

Descriptions	SSD2									
	Bore size	mm	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure	MPa	1.0								
Min. working pressure	MPa	0.25			0.2					
Withstanding pressure	MPa	1.6								
Ambient temperature	$^{\circ}\text{C}$	-10 to 60 (no freezing)								
Port size		Rc1/8			Rc1/4			Rc3/8		
Stroke tolerance	mm	$+2.0$ $0$								
Working piston speed	mm/s	50 to 500				50 to 300				
Cushion	Rubber-air cushion									
Lubrication	Not required (when lubricating, use turbine oil ISO VG32.)									
Allowable energy absorption	J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 20$	5·10·15·20·25·30·	50	5
$\varnothing 25$	35·40·45·50		
$\varnothing 32$	5·10·15·20·25·30·	100	
$\varnothing 40$	35·40·45·50·75·100		
$\varnothing 50$	10·15·20·25·30·		10
$\varnothing 63$	35·40·45·50·75·100		
$\varnothing 80$			
$\varnothing 100$			

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.

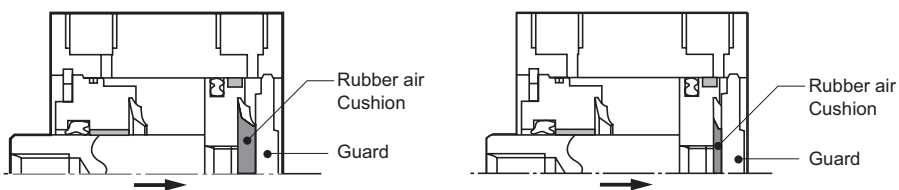
Note 2: Refer to the following table when a switch is used.

## Min. stroke length with switch (2 pcs.)

Bore size (mm)	T0H/N/T5H/V	T2H/N/T3H/V
$\varnothing 20$	5	5
$\varnothing 25$		
$\varnothing 32$		
$\varnothing 40$		
$\varnothing 50$		
$\varnothing 63$		
$\varnothing 80$		
$\varnothing 100$		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

## Rubber-air cushion mechanism

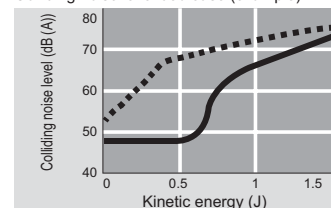


### Explanation at PULL

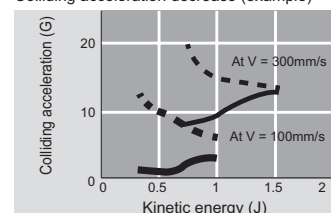
When the piston moves and the rubber-air cushion and cover contact, a sealed air space is formed in the shaded section in which air is compressed as the piston moves and energy is absorbed by the rubber air cushion's compression strain, calculated at the stroke end.

- Rubber cushioned cylinder
- Rubber-air cushioned cylinder

Colliding noise level decrease (example)



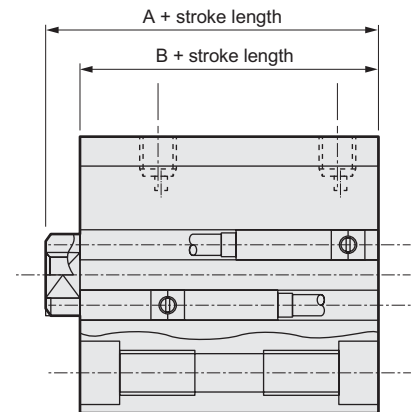
Colliding acceleration decrease (example)



## Custom stroke length

### ● SSD2-K-\*C Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-K-32C-38 +2mm spacer is provided on the standard cylinder SSD2-K-32C-40 to attain a 38mm stroke. The B+stroke length dimension is 73mm.	



## Switch specifications (F type switch)

### ● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire		
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay I/C circuit (w/o light), serial connection		Programmable controller, relay	Programmable Controller dedicated		
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-		
Power voltage	-	-				10 to 28 VDC				-				-		
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less				10µA or less				0mA				1mA or less		

# SSD2-K-\*C Series

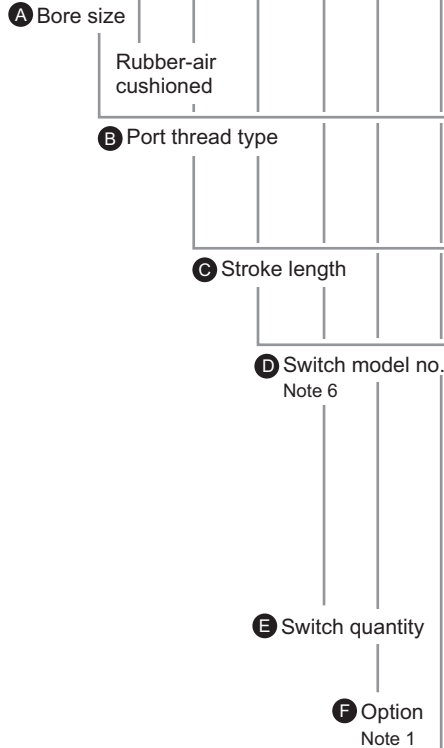
## How to order

Without switch

SSD2-K-40-C-10-N-LB-I

With switch

SSD2-KL-40-C-10-T0H-R-N-LB-I



## Note on model no. selection

Note 1: A piston rod material of  $\phi 20$ ,  $\phi 25$  is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 2: The mounting bracket is enclosed when shipped.

Note 3: When selecting FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 249. And the length of ledge indicate on the tail of part number in the label.

Note 4: "I" and "Y" can not be selected at the same time.

Note 5: Refer to intro 3, 4 page about combination of variations and options.

Note 6: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-KL-32C-10-T0H-R-N**

Model: Compact cylinder rubber-air cushioned

- A** Bore size :  $\phi 32$ mm
- B** Port thread type : Rc thread
- C** Stroke length : 10mm
- D** Switch model no.: Reed switch T0H/Lead wire length 1m
- E** Switch quantity : 1 on rod end
- F** Option : Rod end male thread

## How to order switch

SW - T0H

(Item above **D**)

**CKD**

Symbol	Descriptions
<b>A Bore size (mm)</b>	
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

<b>B Port thread type</b>	
Blank	Rc thread
N	NPT thread ( $\phi 32$ and over) (custom order)
G	G thread ( $\phi 32$ and over) (custom order)

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>D Switch model no.</b>						<b>Bore size</b>								
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead wire		20	25	32	40	50	63	80	100	
F2H*	F2V*	Proximity	1 color indicator type	2-wire		●	●							
F3H*	F3V*			3-wire	●	●								
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire	●	●								
F3YH*	F3YV*			3-wire	●	●								
T0H*	T0V*	Reed	1 color indicator type		●	●	●	●	●	●	●	●	●	
T5H*	T5V*		Without light	2-wire	●	●	●	●	●	●	●	●	●	
T8H*	T8V*		1 color indicator type					●	●	●	●	●	●	
T1H*	T1V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
T2H*	T2V*				●	●	●	●	●	●	●	●	●	●
T3H*	T3V*					●	●	●	●	●	●	●	●	
T3PH*	T3PV*		1 color indicator type (PNP output) (custom order)	3-wire	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*				2-wire	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*			2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*				3-wire	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*				3-wire	●	●	●	●	●	●	●	●	●
T2YD*	-			Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	●
T2YDT*	-					2-wire	●	●	●	●	●	●	●	●
T2JH*	T2JV*		Off-delay type	2-wire	●	●	●	●	●	●	●	●	●	

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>E Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

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

<b>G Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

**G** Mounting bracket  
Note 2  
Note 3

**H** Accessory  
Note 4

### (Stroke length table)

Stroke length (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke length	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	
Min. stroke length (mm) Note 1		5				10			
Max. stroke length (mm)		50			100				
Custom stroke length Note 2		By 1 mm increment							

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.  
Refer to page 59 for switch quantity and min. stroke length.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

### How to order mounting bracket

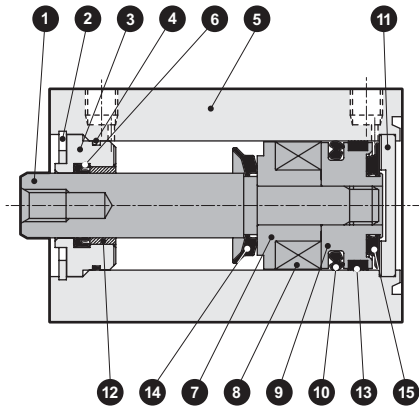
Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
<b>Bore size (mm)</b>	<b>ø100</b>						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis (CB)	SSD2-CB-100						

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

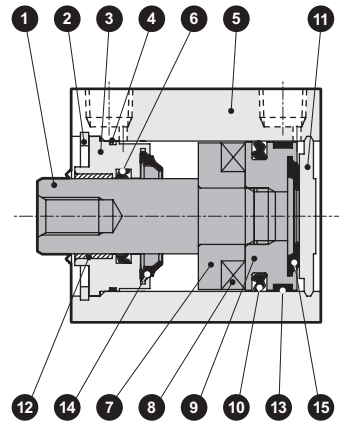
# SSD2-K-\*C Series

## Internal structure and parts list

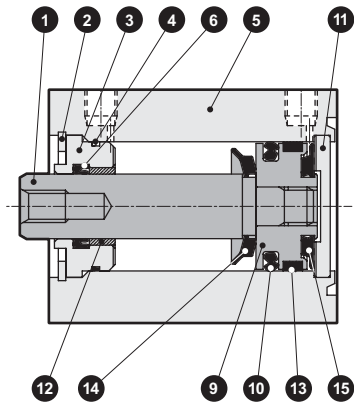
● SSD2-KL-20C to 25C  
(Double acting single rod high load type/rubber-air cushion, with switch)



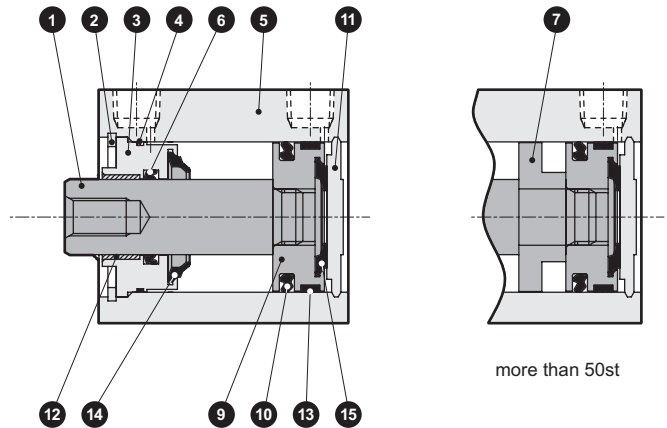
● SSD2-KL-32C to 100C  
(Double acting single rod high load type/rubber-air cushion, with switch)



● SSD2-K-20C to 25C  
(Double acting single rod high load type/rubber-air cushioned)



● SSD2-K-32C to 100C  
(Double acting single rod high load type/rubber-air cushion)



more than 50st

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø20 to ø25: stainless steel ø32 to ø100: steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	ø20 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø20 to ø50: alumite ø63 to ø100: chromate	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	ø20 to 25: stainless steel ø32 to ø100: aluminum alloy	ø32 to ø100: alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oilless dry met	
6	Rod packing seal	Nitrile rubber		13	Wear ring	Polyacetal resin	
7	Spacer	Aluminum alloy	Chromate	14	Rubber-air cushion (R)	Special rubber	
				15	Rubber-air cushion (H)	Special rubber	

## Repair parts list



Bore size (mm)	Kit No.	Repair parts number
ø20	SSD2-K-20CK	4 6 10 13 14 15
ø25	SSD2-K-25CK	
ø32	SSD2-K-32CK	
ø40	SSD2-K-40CK	
ø50	SSD2-K-50CK	
ø63	SSD2-K-63CK	
ø80	SSD2-K-80CK	
ø100	SSD2-K-100CK	

## Dimensions

It is the same as the double acting/high load type SSD2-K series. Refer to pages 27 to 30.

## Technical data

### (Comparison of colliding noise level performance)

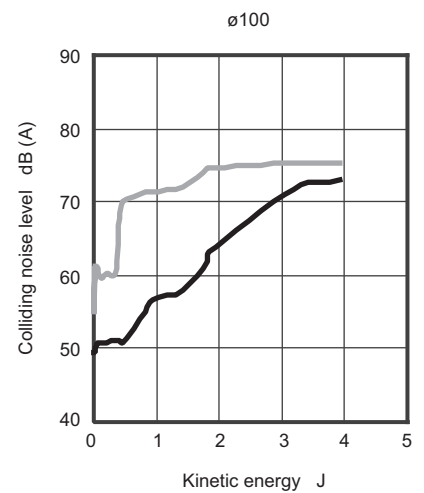
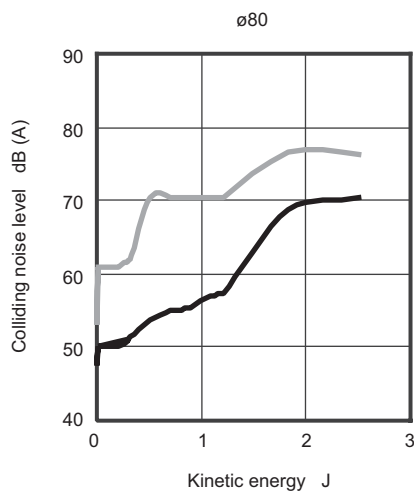
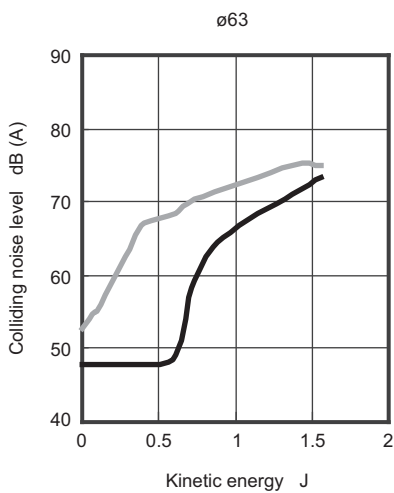
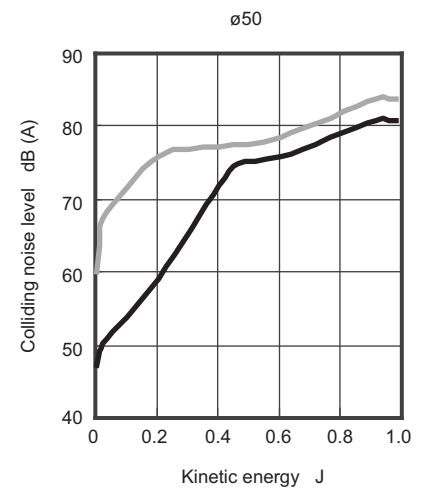
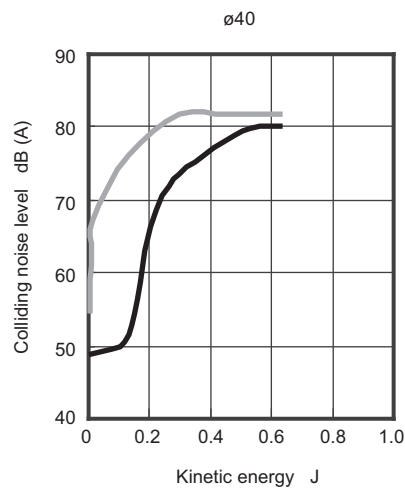
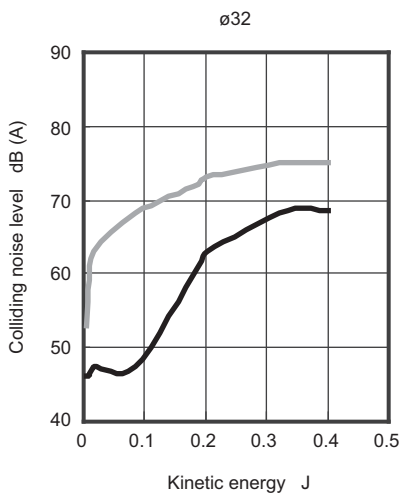
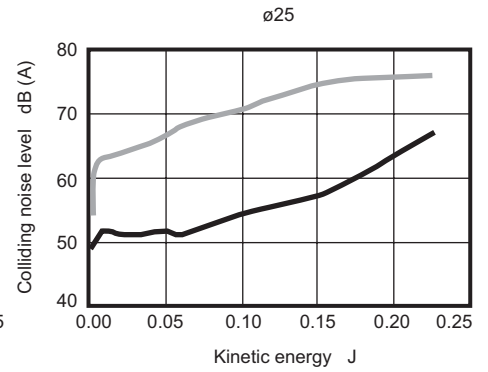
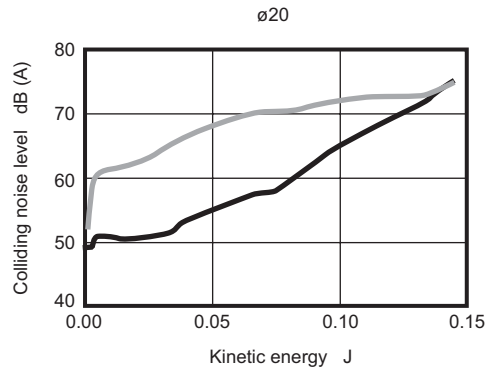
Standard rubber cushion:   
 Rubber-air cushion: 

Example data are compared at following conditions.

The value is not guaranteed because the value may differ depending on platform.



(Test conditions)

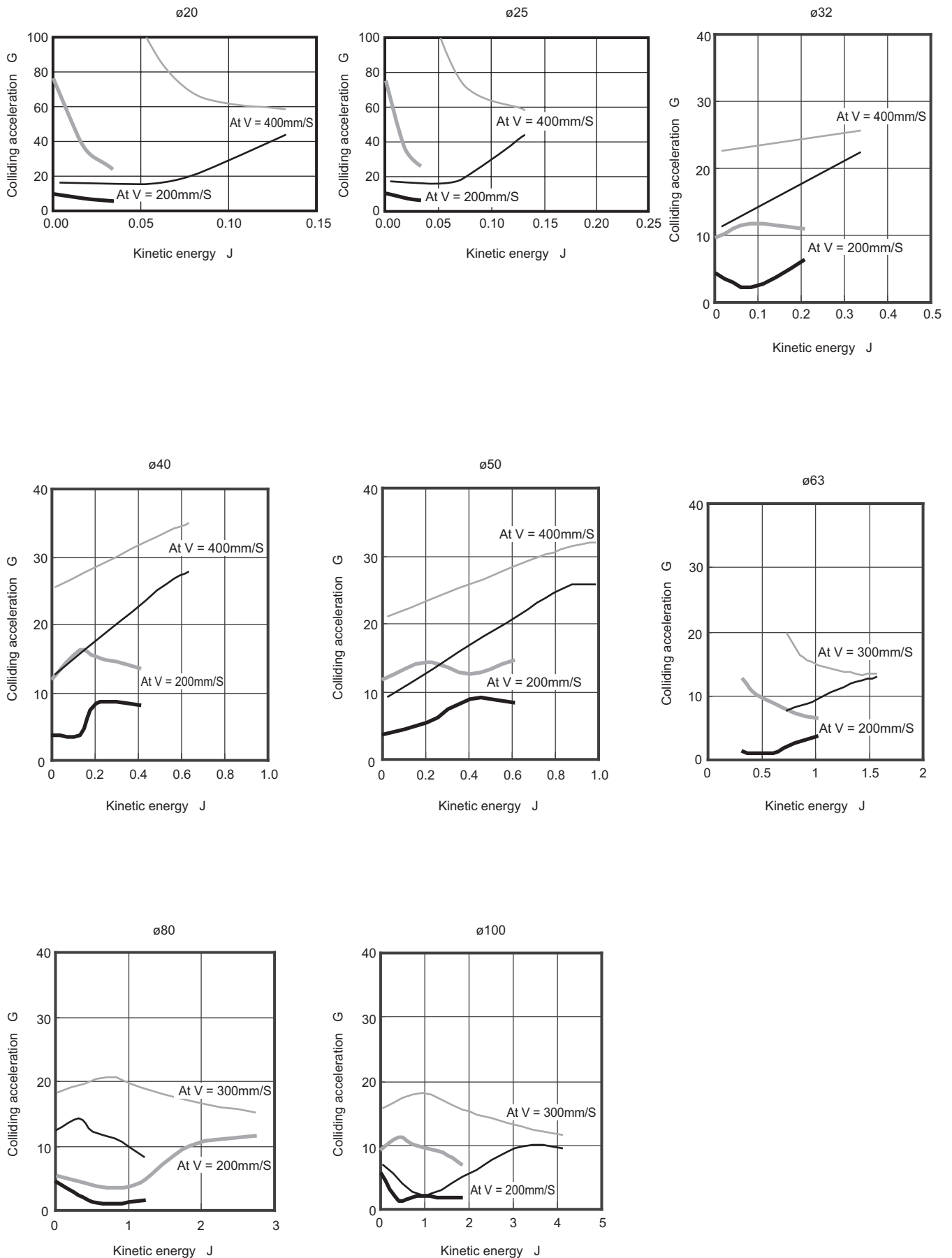
- Cylinder type: SSD2
- Cylinder installation attitude: Vertical rod upward
- Cylinder supply pressure: 0.5MPa
- Noise meter measurement position: 1m from sample



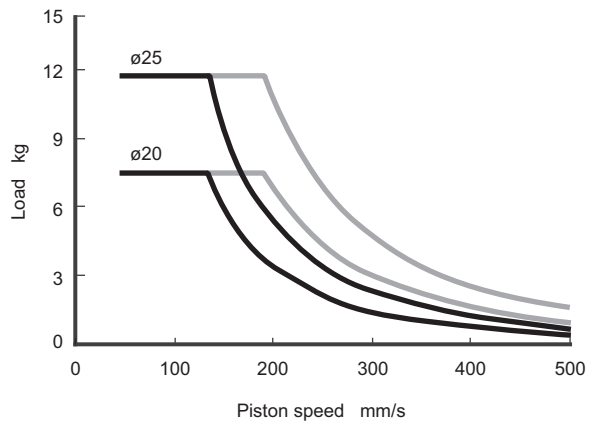
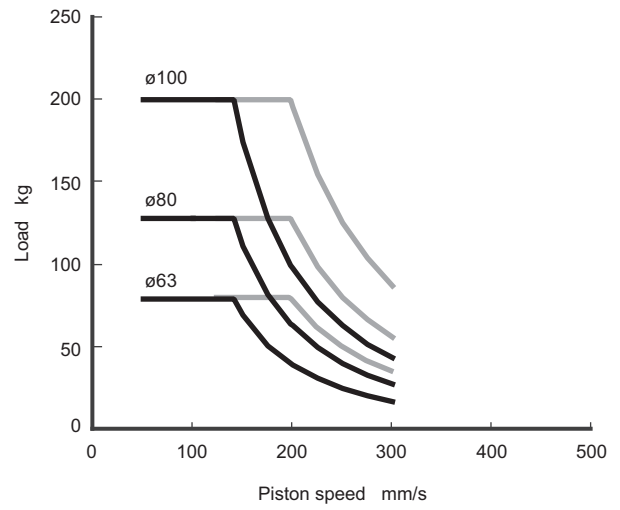
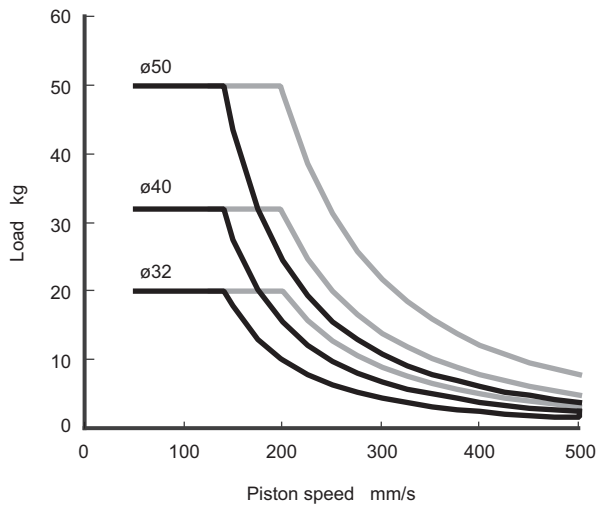
## Technical data

### (Comparative colliding acceleration)

Standard rubber cushion:   
 Rubber-air cushion: 



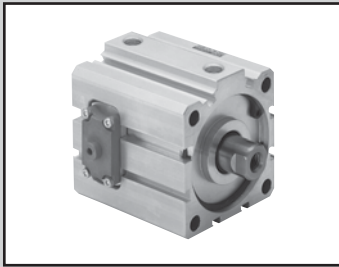
(Allowable energy)



Left and below curve is usable range.

This can be used in the range indicated by  in the graph. In order to draw an effective performance, we recommend to use this in the range indicated by continuous line.



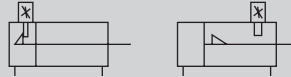


Compact cylinder double acting position locking

# SSD2-Q Series

● Bore size:  $\varnothing 20 \cdot \varnothing 25 \cdot \varnothing 32 \cdot \varnothing 40 \cdot \varnothing 50 \cdot \varnothing 63 \cdot \varnothing 80 \cdot \varnothing 100$

JIS symbol



## Specifications

Descriptions	SSD2-Q SSD2-QL (with switch)							
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Bore size mm	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Actuation	Double acting position locking type							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.15							
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	+2.5 0							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	Rubber cushion							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)							
Position locking mechanism	Rod end or head end							
Holding force N	Maximum thrust x 0.7							
Allowable energy absorption J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 20$	10, 15, 20, 25, 50, 75, 100	100	10
$\varnothing 25$			
$\varnothing 32$			
$\varnothing 40$			
$\varnothing 50$			
$\varnothing 63$			
$\varnothing 80$	25, 50, 75, 100		25
$\varnothing 100$			

⚠ Refer to Safety Precautions for (position locking mechanism) on pages 265 to 270 before use.

## Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection		Programmable controller, relay	Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA	
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less		10µA or less				0mA					1mA or less		

## Cylinder weight table (weight with switch is with a cylinder switch 2 pieces.)

- Rod end position locking

(Unit: g)

Stroke length (mm)	10		15		20		25		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø20	201	242	213	254	226	267	238	279	330	370	392	433	455	495
ø25	274	315	290	331	306	347	322	363	439	480	519	560	599	640
ø32	430	474	451	495	473	517	494	538	602	646	709	753	817	861
ø40	632	681	658	708	685	734	711	761	844	893	976	1026	1109	1158
ø50	1096	1147	1138	1189	1180	1231	1222	1273	1432	1483	1642	1693	1852	1903
ø63	1609	1663	1664	1718	1719	1773	1774	1828	2049	2103	2324	2378	2599	2653
ø80	-	-	-	-	-	-	3822	3882	4255	4315	4904	4964	5336	5396
ø100	-	-	-	-	-	-	5769	5835	6339	6405	7194	7260	7764	7830

- With head end position locking

(Unit: g)

Stroke length (mm)	10		15		20		25		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø20	217	258	230	270	242	283	255	295	330	370	392	433	455	495
ø25	295	336	311	352	327	368	343	384	439	480	519	560	599	640
ø32	462	506	484	528	505	549	527	571	634	678	742	786	849	893
ø40	688	737	714	763	741	790	767	816	900	949	1032	1081	1165	1214
ø50	1180	1231	1222	1273	1264	1315	1306	1357	1516	1567	1726	1777	1936	1987
ø63	1675	1729	1730	1784	1785	1839	1840	1894	2115	2169	2390	2444	2665	2719
ø80	-	-	-	-	-	-	3952	4012	4385	4445	4904	4964	5336	5396
ø100	-	-	-	-	-	-	5940	6006	6510	6576	7194	7260	7764	7830

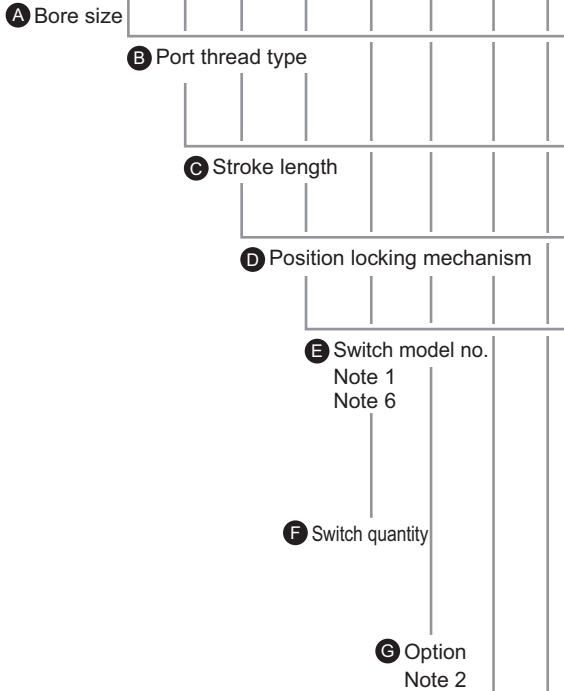
## How to order

● Without switch

SSD2-Q - 20 - 10 - R - NMO - LB - I

● With switch

SSD2-QL - 20 - 10 - R - T0H - R - NMO - LB - I



### ⚠ Note on model no. selection

- Note 1: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .
- Note 2: Only the nonlocking manual override is used if M0 or M1 is not selected for the (G) option. Release bolt is not attached.
- Note 3: The mounting bracket is enclosed when shipped.
- Note 4: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.
- Note 5: "I" and "Y" can not be selected at the same time.
- Note 6: Switches are shipped with the product. Contact CKD when shipment must be assembled.
- Note 7: Refer to intro 3, 4 page about combination of variations and options.

### <Example of model number>

**SSD2-QL-20-10-R-T0H-R-N-LB-I**

Model: Compact cylinder position locking type

- A** Bore size :  $\phi 20\text{mm}$
- B** Port thread type : Rc thread
- C** Stroke length : 10mm
- D** Position locking mechanism: Rod end position locking
- E** Switch model no. : Reed switch T0H/Lead wire 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread
- H** Mounting bracket : Axial foot
- I** Accessory : Rod eye

- H** Mounting bracket  
Note 3  
Note 4
- I** Accessory  
Note 5

Symbol	Descriptions
<b>A Bore size (mm)</b>	
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

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

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>D Position locking mechanism</b>	
R	Rod end position locking
H	head end position locking

<b>E Switch model no.</b>		Contact	Indicator	Lead wire	Bore size									
Lead wire Axial	Lead wire Radial				20	25	32	40	50	63	80	100		
F2H*	F2V*	Proximity	1 color indicator type	2-wire	●	●								
F3H*	F3V*			3-wire	●	●								
F2YH*	F2YV*			2-wire	●	●								
F3YH*	F3YV*	3-wire	2 color indicator type	●	●									
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●
T8H*	T8V*			1 color indicator type	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*				●	●	●	●	●	●	●	●	●	●
T3H*	T3V*			3-wire	1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*				●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*			3-wire	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*				●	●	●	●	●	●	●	●	●	●
T2YDT*	-			2-wire	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Proximity	Off-delay type	2-wire	●	●	●	●	●	●	●	●	●	●

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>F Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>G Option</b>	
Blank	Rod end female thread
N	Rod end male thread
M0	Non-locking manual override (release bolt attached)
M1	Locking manual override
P4	Specification for LiB production line
P40	

<b>H Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

## How to order switch

SW - T0H

Switch model no. (item previous page ⑤)

## (Stroke length table)

Stroke length (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke length	10	●	●	●	●	●	●		
	15	●	●	●	●	●	●		
	20	●	●	●	●	●	●		
	25	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●
Min. stroke length (mm)		10						25	
Max. stroke length (mm)		100							

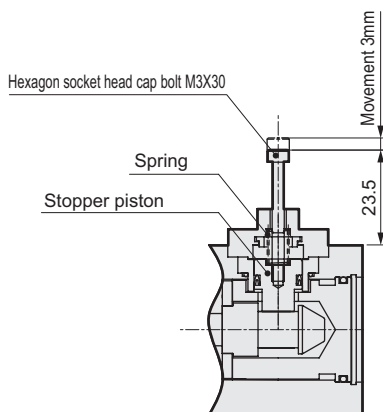
## How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
<b>Bore size (mm)</b>	<b>ø100</b>						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis (CB)	SSD2-CB-100						

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

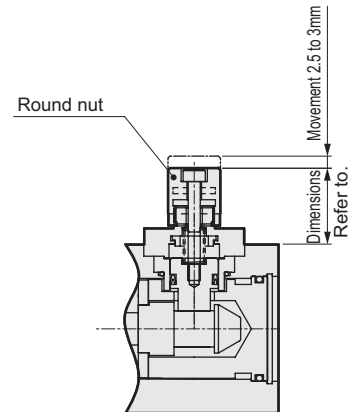
## <Explanation of manual override>

● Non-locking manual override (option symbol: M0)



Screw a hexagon socket bolt (M3\*30) into the stopper piston and pull the bolt up with a force of 20 or more. The stopper piston moved and the lock is released. (Operate loadless horizontal installation or opposition side port with pressurized.) When the hand is released from the bolt, and the stopper piston returns by the internal spring and enters the piston rod groove, the piston is locked.

● Locking manual override (option symbol: M1)

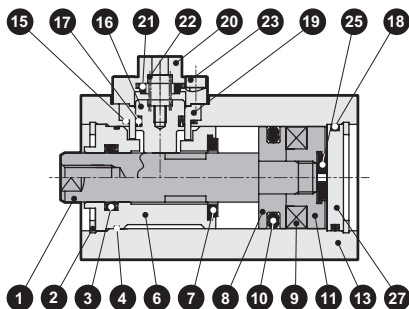


When the round nut is turned counterclockwise, the stopper piston moved and the lock is released. When the nut is turned clockwise to the lock position, the stopper piston is returned. When it fits into the piston rod slot again, the piston is locked. If the stopper piston is not deeply fit into the slot when locked, damage could occur. Check the round nut fits into the back.

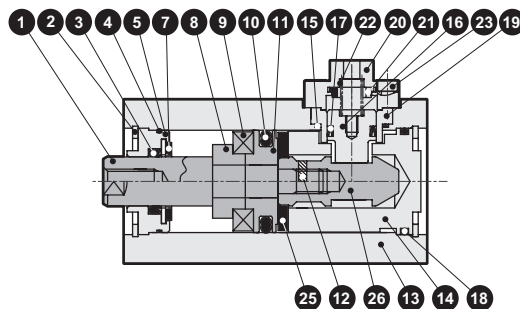
# SSD2-Q Series

## Internal structure drawing and parts list (ø20 to ø50)

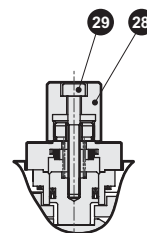
● SSD2-QL-20 to 50-R  
(Double acting single rod type/with switch, rod end position locking)



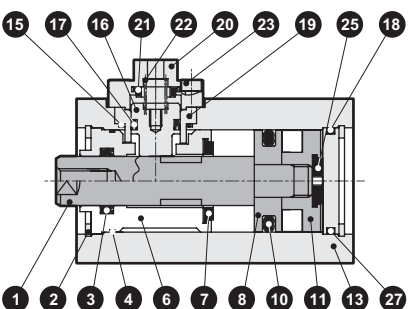
● SSD2-QL-20 to 50-H  
(Double acting single rod type/with switch, head end position locking)



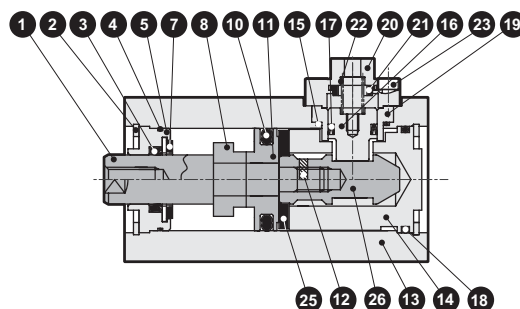
● Locking manual override



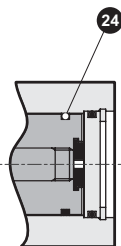
● SSD2-Q-20 to 50-R  
(Double acting single rod type/rod end position locking)



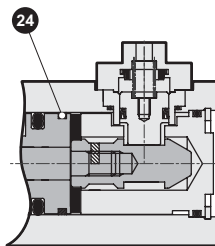
● SSD2-Q-20 to 50-H  
(Double acting single rod type/head end position locking)



● ø20, ø25: 50 mm stroke and over



● ø20, ø25: 50 mm stroke and over



### Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø20 to ø25: stainless steel ø32 to ø50: steel	Industrial chrome plating	16	Stopper piston	Steel	Nitriding
2	C type snap ring	Steel	Phosphoric acid zinc	17	Stopper packing seal	Nitrile rubber	
3	Rod packing seal	Nitrile rubber		18	O ring	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		19	Stopper housing	ø20 to ø30, ø50: aluminum alloy ø40: alloy steel	Alumite Chromate
5	Rod bushing	Special aluminum	Alumite	20	Stopper guard	Aluminum alloy	Chromate
6	Rod cover	Aluminum alloy	Alumite	21	Cushion rubber	Urethane rubber	
7	Cushion rubber (R)	Urethane rubber		22	Coil spring	Piano wire	Electrodeposition coating
8	Spacer	Aluminum alloy	ø20 to ø32: chromate	23	Hexagon socket head cap bolt	Steel	
9	Magnet	Plastic		24	Wear ring	Polyacetal resin (Only 50 mm stroke and over of ø20, ø25)	
10	Piston packing seal	Nitrile rubber		25	Cushion rubber (H)	Urethane rubber	
11	Piston	Aluminum alloy	Chromate	26	Sleeve	Steel	Nitriding
12	Spring pin	Steel	Blackening	27	Guard	Aluminum alloy	Chromate
13	Body	Aluminum alloy	Hard alumite	28	Round nut	Aluminum alloy	
14	Head cover	Aluminum alloy	Chromate	29	Hexagon socket head cap bolt	Steel	
15	O ring	Nitrile rubber					

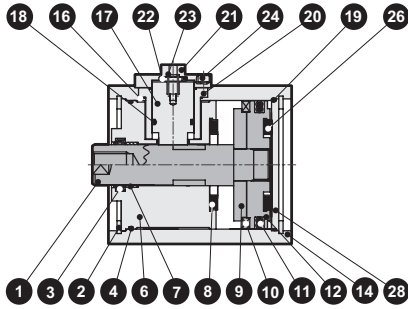
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø20	SSD2-Q-20K	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <span>3</span><span>4</span><span>7</span><span>10</span><span>15</span>  <span>17</span><span>18</span><span>21</span><span>24</span><span>25</span> </div>
ø25	SSD2-Q-25K	
ø32	SSD2-Q-32K	
ø40	SSD2-Q-40K	
ø50	SSD2-Q-50K	

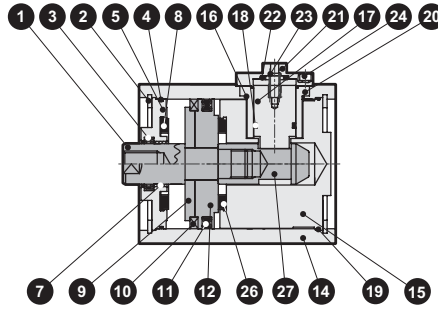
Note 1: 24 can be used only on ø20 and ø25.

### Internal structure drawing and parts list (ø63 to ø100)

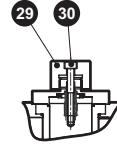
● SSD2-QL-63 to 100-R  
(Double acting single rod type/with switch, rod end position locking)



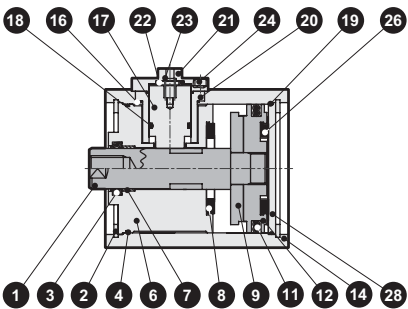
● SSD2-QL-63 to 100-H  
(Double acting single rod type/with switch, head end position locking)



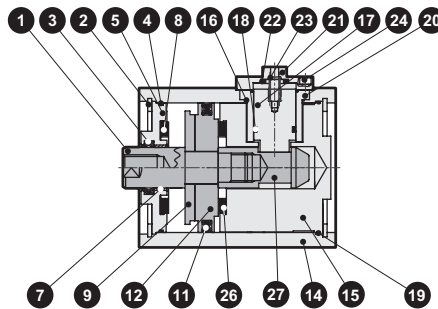
● Locking manual override



● SSD2-Q-63 to 100-R  
(Double acting single rod type/rod end position locking)



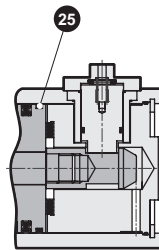
● SSD2-Q-63 to 100-H  
(Double acting single rod type/head end position locking)



● ø80, ø100: 75 mm stroke and over



● ø80, ø100: 75 mm stroke and over



### Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	17	Stopper piston	Steel	Nitriding
2	C type snap ring	Steel	Phosphoric acid zinc	18	Stopper packing seal	Nitrile rubber	
3	Rod packing seal	Nitrile rubber		19	O ring	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		20	Stopper housing	ø80: aluminum alloy ø63, ø100: alloy steel	Alumite Chromate
5	Rod bushing	Special aluminum	Alumite	21	Stopper guard	Aluminum alloy	Chromate
6	Rod cover	Aluminum alloy	Alumite	22	Stopper rubber	Urethane rubber	
7	Bush	Oilless dry met		23	Cushion rubber	Piano wire	Electrodeposition coating
8	Cushion rubber (R)	Urethane rubber		24	Hexagon socket head cap bolt	Steel	
9	Spacer	Aluminum alloy		25	Wear ring	Polyacetal resin (Only 75 mm stroke and over ø80, ø100)	
10	Magnet	Plastic		26	Cushion rubber (H)	Urethane rubber	
11	Piston packing seal	Nitrile rubber		27	Sleeve	Steel	Nitriding
12	Piston	Aluminum alloy	Chromate	28	Guard	Aluminum alloy	Chromate
13	Spring pin	Steel	Blackening	29	Round nut	Aluminum alloy	
14	Body	Aluminum alloy	Hard alumite	30	Hexagon socket head cap bolt	Steel	
15	Head cover	Aluminum alloy	Chromate				
16	O ring	Nitrile rubber					

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-Q-63K	3 4 8 11 16
ø80	SSD2-Q-80K	18 19 22 25 26
ø100	SSD2-Q-100K	

Note 1: 25 can be used only on ø80 and ø100.

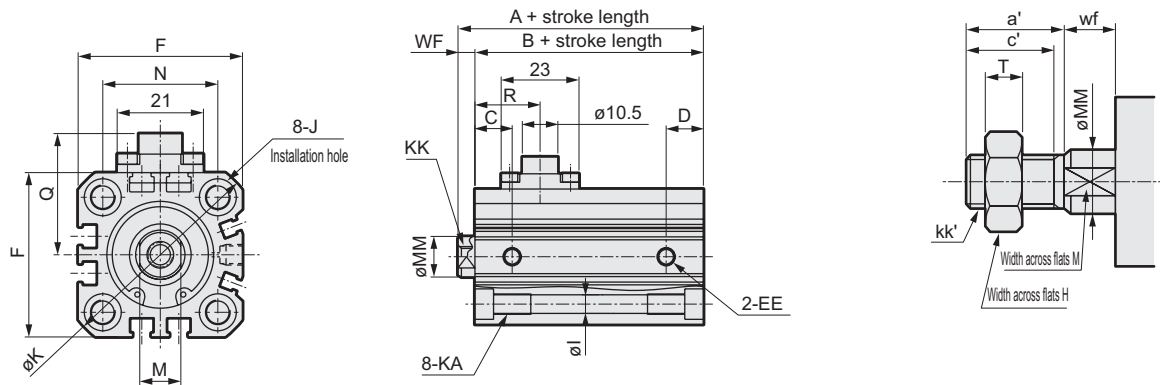
# SSD2-Q Series

## Dimensions (ø20, ø25)

### ● SSD2-Q (L) -20 to 25-R

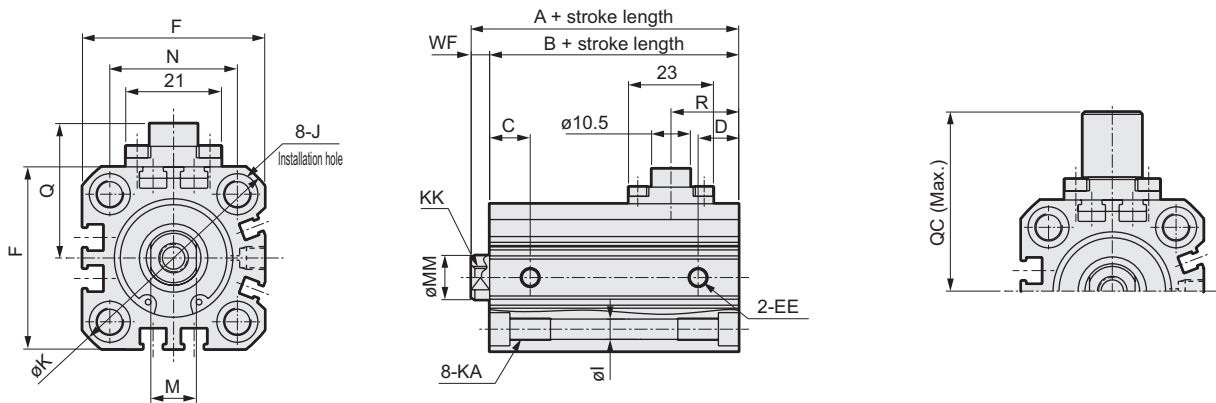
\* Dimensions are the same for cylinders with and without switches.

### ● Rod end male thread



### ● SSD2-Q (L) -20 to 25-H

\* Dimensions are the same for cylinders with and without switches.



### ● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Symbol	Common dimension												
	EE	F	I	J	K	KA	KK	M	MM	N	WF <sup>Note 1</sup>	Q	QC
ø20	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5 (14.5)	28.5	40
ø25	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5 (15)	29.5	41

Symbol	Rod end position locking mechanism						With head end position locking mechanism				
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	R	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	R	
ø20	59 (80.5)	54.5 (66)	9.5	8	18.6	65.5 (80.5)	61 (66)	9.5	8	17.3	
ø25	62.5 (84)	57.5 (69)	12	8.5	19.3	69 (84)	64 (69)	12	8.5	18.4	

### ● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf <sup>Note 1</sup>
ø20	14	12	13	M8	8	10	5	4.5 (14.5)
ø25	17.5	15	17	M10 x 1.25	10	12	6	5 (15)

Note 1: Value in ( ) apply when 25 stroke is exceeded.

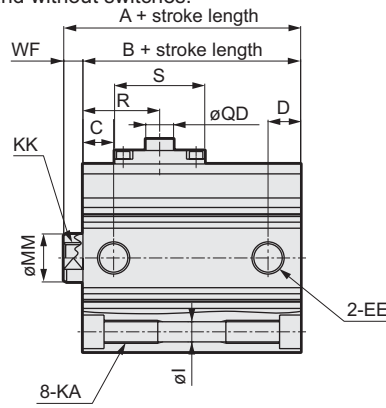
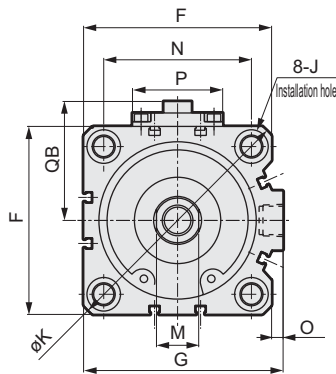
Note 2: Refer to page 75, 76 for a switch installation position.

Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

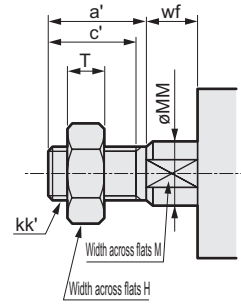
### Dimensions (ø32 to ø100)

● SSD2-Q (L) -32 to 100-R

\* Dimensions are the same for cylinders with and without switches.

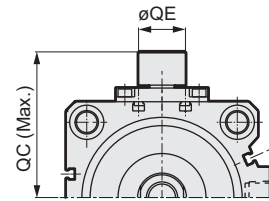
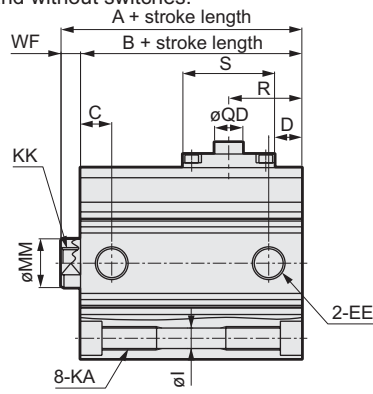
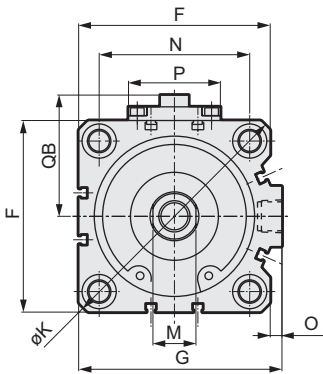


● Rod end male thread



● SSD2-Q (L) -32 to 100-H

\* Dimensions are the same for cylinders with and without switches.



Symbol	Common dimension										
Bore size (mm)	EE	F	G	I	J	K	KA	KK	M	MM	N
ø32	Rc1/8	45	49.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34
ø40	Rc1/8	52	57	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40
ø50	Rc1/4	64	71	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50
ø63	Rc1/4	77	84	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60
ø80	Rc3/8	98	104	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77
ø100	Rc3/8	117	123.5	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94

Symbol	Common dimension							
Bore size (mm)	O	P	S	QB	QC	QD	QE	WF <sup>Note 1</sup>
ø32	4.5	22	30.5	33.5	46.3	10.5	13	7
ø40	5	22	30.5	37	49.8	10.5	13	7
ø50	7	40.5	23	44	56.3	10.5	13	8
ø63	7	40.5	23	50.5	62.8	10.5	13	8
ø80	6	47	47	62	77.5	14.5	24	10 (20)
ø100	6.5	47	47	71.5	87	14.5	24	12 (22)

Symbol	Rod end position locking mechanism					With head end position locking mechanism				
Bore size (mm)	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	R	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	R
ø32	65	58	11	9	19.2	72.5	65.5	11	9	20.9
ø40	71.5	64.5	14	11	21.7	82	75	14	14	23.9
ø50	73.5	65.5	15	12.5	24.7	83.5	75.5	15	12.5	29.8
ø63	79	71	19	16	26.2	85	77	15	16	25.5
ø80	113.5 (136)	103.5 (116)	18	17	40	121 (136)	111 (116)	18	17	37.5
ø100	125 (147.5)	113 (125.5)	23	21	44.5	132.5 (147.5)	120.5 (125.5)	23	21	40

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf <sup>Note 1</sup>
Bore size (mm)								
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8 (18)
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8 (18)

Note 1: Value in ( ) apply when 50 stroke is exceeded.

Note 2: Refer to page 75, 76 for a switch installation position.

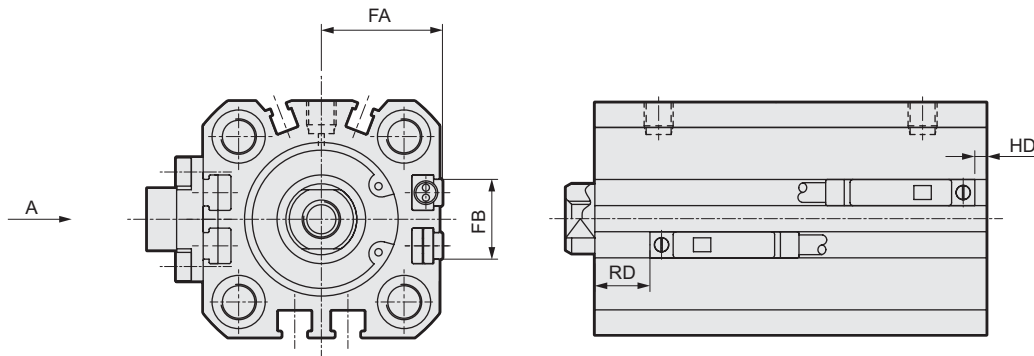
Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.



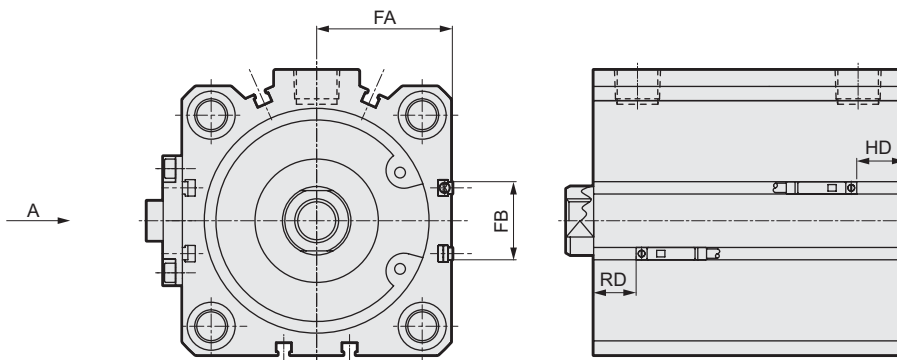
# SSD2-Q Series

Dimensions (1 color indicator type, 2 color indicator type, off-delay type, strong magnetic field, T1\*, T8\*with switch)

● SSD2-QL-20 to 25-R (rod end position locking with switch)



● SSD2-QL-32 to 100-R (rod end position locking with switch)



Symbol	Common dimension		T0H/T0V, T5H and T5V		T2H/T2V, T3H and T3V		T2WH/T2WV, T3WH and T3WV		F2H/F2V, F3H/F3V F2YH, F2YV, F3YH and F3YV	
	FA	FB	HD	RD	HD	RD	HD	RD	HD	RD
ø20	18.5	12.5	4	32	4	32	6	33.5	8.5	36
ø25	20.5	13.5	6.5	33.5	6.5	33.5	8.5	35	11	37.5
ø32	23	20.5	5.5	34	5.5	34	7.5	36		
ø40	26.5	27.5	8	38	8	38	10	39.5		
ø50	32.5	28.5	6.5	41	6.5	41	8.5	42.5		
ø63	39	28.5	10.5	42	10.5	42	12.5	44		
ø80	49.5	28.5	19	66	19	66	21	68		
ø100	59	28.5	24.5	70	24.5	70	26.5	72		

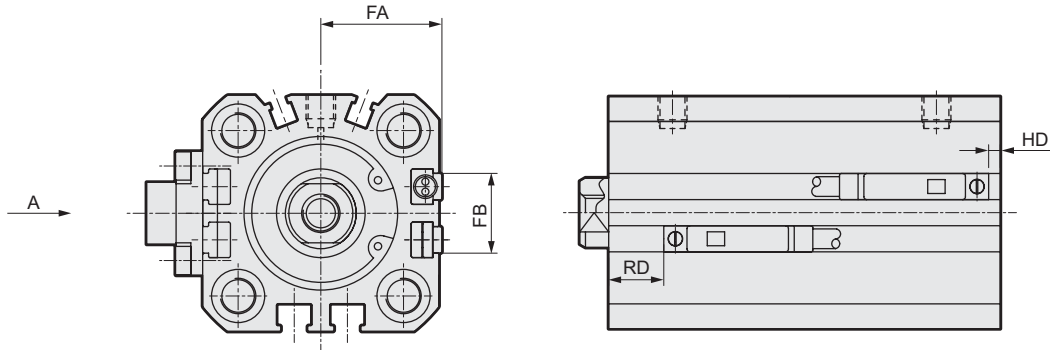
Symbol	T2YH/T2YV, T3YH, T3YV or T2JH and T2JV				T2YD, T2YDT or T1H/T1V				T8H/T8V <sup>Note 1</sup>			
	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD
ø20	24.3	16	3	30	29.3	16	3	30	24.3	16	0	25.5
ø25	26.3	17	5.5	32	31.3	17	5.5	32	26.3	17	0.5	27
ø32	28.8	24	4	32.5	33.8	24	4	32.5	28.8	24	0	28
ø40	32.3	31	7	36.5	37.3	31	7	36.5	32.3	31	2	31.5
ø50	38.3	32	5.5	39.5	43.3	32	5.5	39.5	38.3	32	0.5	34.5
ø63	44.8	32	9	40.5	49.8	32	9	40.5	44.8	32	4	35.5
ø80	55.3	32	17.5	64.5	60.3	32	17.5	64.5	55.3	32	12.5	60
ø100	64.8	32	23	68.5	69.8	32	23	68.5	64.8	32	18	64

Note 1: The T8 switch cannot be used on the A side (position locking mechanism side).

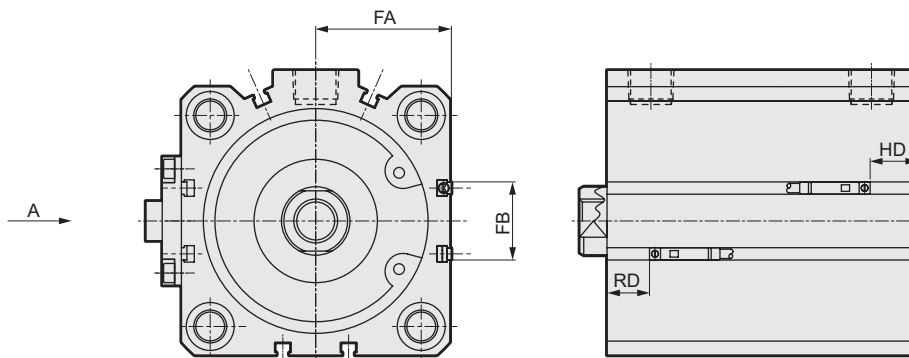
Note 2: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Dimensions (1 color indicator type, 2 color indicator type, off-delay type, strong magnetic field, T1\*, T8\*with switch)

● SSD2-QL-20 to 25-H (with/head end position locking with switch)



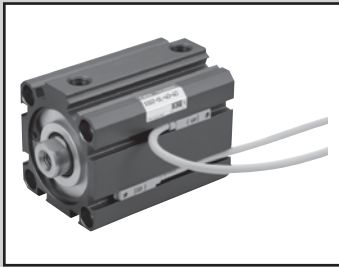
● SSD2-QL-32 to 100-H (with/head end position locking with switch)



Symbol	Common dimension				T0H/T0V, T5H and T5V		T2H/T2V, T3H and T3V		T2WH/T2WV, T3WH and T3WV		F2H/F2V, F3H/F3V F2YH, F2YV, F3YH and F3YV	
	FA	FB	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD
ø20	18.5	12.5	33.5	9	33.5	9	35.5	10.5	38	13		
ø25	20.5	13.5	35.5	10	35.5	10	37.5	12	40	14		
ø32	23	20.5	38	9	38	9	40	11				
ø40	26.5	27.5	46	10.5	46	10.5	48	12				
ø50	32.5	28.5	46	11	46	11	48	12.5				
ø63	39	28.5	46.5	12	46.5	12	48.5	14				
ø80	49.5	28.5	78	14.5	78	14.5	80	16				
ø100	59	28.5	84.5	28	84.5	28	86.5	29.5				
Symbol	T2YH/T2YV, T3YH, T3YV or T2JH and T2JV				T2YD, T2YDT or T1H/T1V				T8H/T8V <sup>Note 1</sup>			
	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD
ø20	24.3	16	32.5	7.5	29.3	16	32.5	7.5	24.3	16	27.5	2.5
ø25	26.3	17	34	8.5	31.3	17	34	8.5	26.3	17	29.5	3.5
ø32	28.8	24	36.5	7.5	33.8	24	36.5	7.5	28.8	24	32	2.5
ø40	32.3	31	44.5	9	37.3	31	44.5	9	32.3	31	40	4
ø50	38.3	32	45	9	43.3	32	45	9	38.3	32	40	4.5
ø63	44.8	32	45	10.5	49.8	32	45	10.5	44.8	32	40	5.5
ø80	55.3	32	76.5	13	60.3	32	76.5	13	55.3	32	72	8
ø100	64.8	32	83	26	69.8	32	83	26	64.8	32	78	21

Note 1: The T8 switch cannot be used on the A side (position locking mechanism side).

Note 2: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.



Compact cylinder double acting fine speed type

# SSD2-F/SSD2-KF Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-F SSD2-LF (with switch)										SSD2-KF SSD2-KLF (with switch)									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm																				
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 °C	5 to 60																			
Port size	M5				Rc1/8, Note 1		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 energy absorption 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

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

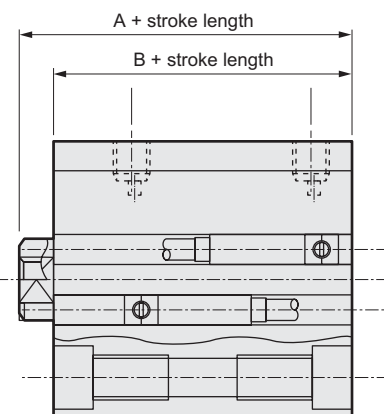
Model no.	Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SSD2-F	$\phi 12$	5·10·15·20	30	1
	$\phi 16$	25·30		
SSD2-LF	$\phi 20$	5·10·15·20·25	50	
	$\phi 25$	30·35·40·45·50		
SSD2-KF	$\phi 32$	5·10·15·20·25·30·	100	
	$\phi 40$	35·40·45·50·75·100		
SSD2-KLF	$\phi 50$	10·15·20·25		
	$\phi 63$	30·35·40·45·50		
	$\phi 80$	75·100		
	$\phi 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-F Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-F-32-38 +2mm spacer is provided on the standard cylinder SSD2-F-32-40 to attain a 38mm stroke. The B+stroke length dimension is 63mm.	



Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Value in ( ) is the type with a rod end.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay IC circuit (w/o light), serial connection		Programmable controller, relay		Programmable Controller dedicated		
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-							
Power voltage	-	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less				10µA or less				0mA				1mA or less			

### Dimensions

It is the same as the double acting single rod type SSD2 Series and the double acting high load type SSD2-K Series. Refer to pages 9 to 11 and 27 to 30.

# SSD2-F/SSD2-KF Series

## How to order

Without switch

SSD2-F - 12 - 5 - N - LB - I

With switch

SSD2-LF - 12 - 10 - T0H - 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  
Note 8  
Note 10

F Switch quantity

G Option  
Note 4

### ⚠ Note on model no. selection

- Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .  
 Note 2: T8\* switch can not be installed for  $\phi 12$  to  $\phi 32$ .  
 Note 3: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .  
 Note 4:  $\phi 12$  to  $\phi 25$  piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel.  
 When the rod end male thread type is selected, the nut is made of stainless steel.  
 Note 5: The mounting bracket is enclosed when shipped.  
 Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.  
 Note 7: "I" and "Y" can not be selected at the same time.  
 Note 8:  $\phi 20$  F-type switch lead wire L type is not available for the 15 or shorter stroke.  
 Note 9: Refer to intro 3, 4 page about combination of variations and options.  
 Note 10: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-LF-12-10-T0H-R-N-LB-I**

Model: Compact cylinder fine speed type

- B Bore size :  $\phi 12$ mm  
 C Port thread type : Rc thread  
 D Stroke length : 10mm  
 E Switch model no.: Reed switch T0H/Lead wire length 1m  
 F Switch quantity : 1 on rod end  
 G Option : Rod end male thread  
 H Mounting bracket: Axial foot  
 I Accessory : Rod eye

H Mounting bracket  
Note 5  
Note 6

I Accessory  
Note 7

Symbol	Descriptions																
<b>A Model no.</b>																	
SSD2-F	Double acting single rod type																
SSD2-LF	Double acting single rod type/with switch																
SSD2-KF	Double acting high load type																
SSD2-KLF	Double acting high load type/with switch																
<b>B Bore size (mm)</b>																	
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	$\phi 100$																
<b>C Port thread type</b>																	
Blank	Rc thread																
NN	NPT thread ( $\phi 32$ and over) (custom order)																
GN	G thread ( $\phi 32$ and over) (custom order)																
<b>D Stroke length (mm)</b>																	
Refer to the stroke length table on following page.																	
<b>E Switch model no.</b>																	
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size												
					Axial	Radial	12	16	20	25	32	40	50	63	80	100	
F2H*	F2V*	Proximity	1 color indicator type	2-wire		●	●										
				3-wire		●	●										
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire		●	●										
				3-wire		●	●										
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●
				Without light	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	1 color indicator type	2-wire					●	●	●	●	●	●	●	●	●
				T8H*	T8V*	2-wire					●	●	●	●	●	●	●
T1H*	T1V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				T2H*	T2V*	2-wire	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	1 color indicator type (PNP output) (custom order)	3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●
				T2WH*	T2WV*	2-wire	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				T3WH*	T3WV*	3-wire	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	Proximity	2 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				T3YH*	T3YV*	3-wire			●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●	●
				T2YDT*	-	2-wire			●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Reed	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●
				T2JH*	T2JV*	2-wire			●	●	●	●	●	●	●	●	●

### \* Lead wire length

Blank	1m (standard)
3	3m (option)
5	5m (option)

### F Switch quantity

R	1 on rod end
H	1 on head end
D	2

### G Option

	Bore size (mm)
Blank	Rod end female thread
N	Rod end male thread
M Note 4	Piston rod material (stainless steel)

### H Mounting bracket

Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (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
Y	Rod clevis (pin and snap ring attached)

## (Stroke length table)

### ● SSD2-F/SSD2-KF

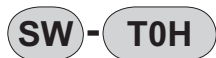
Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
	100					●	●	●	●	●	●
Min. stroke length (mm) Note 1	1										
Max. stroke length (mm)	30		50			100					
Custom stroke length Note 2	By 1 mm increment										

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 78 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch

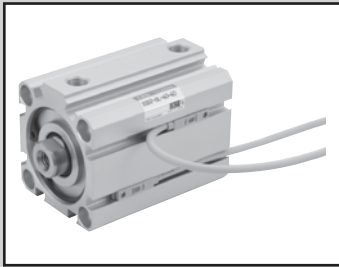


Switch model no.  
(item previous page ㊦)

## How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	ø63	ø80	ø100				
Mounting bracket							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

Note 1: The foot type mounting bracket is provided as 2 pcs./set.



Compact cylinder double acting low speed type

# SSD2-O Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-O SSD2-OL (with switch)									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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 $^{\circ}\text{C}$	-10 to 60 (no freezing)									
Port size	M5				Rc1/8, Note 1		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

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

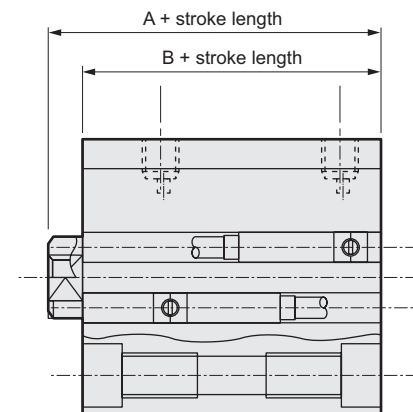
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-O Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-O-32-38 +2mm spacer is provided on the standard cylinder SSD2-O-32-40 to attain a 38mm stroke. The B+stroke length dimension is 63mm.	



Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Value in ( ) is the type with a rod end.

### Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay IC circuit (w/ light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA		
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)		
Leakage current	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less		10µA or less				0mA				1mA or less			

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit : g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

### Dimensions

It is the same as the double acting/single rod type SSD2 series. Refer to pages 9 to 11.



# SSD2-O Series

## How to order

Without switch

SSD2-O - 12 - 5 - N - LB - I

With switch

SSD2-OL - 12 - 10 - T0H - 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  
Note 8  
Note 10

F Switch quantity

G Option  
Note 4

### ⚠ Note on model no. selection

- Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .  
 Note 2: T8\* switch can not be installed for  $\phi 12$  to  $\phi 32$ .  
 Note 3: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .  
 Note 4:  $\phi 12$  to  $\phi 25$  piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel.  
 When the rod end male thread type is selected, the nut is made of stainless steel.  
 Note 5: The mounting bracket is enclosed when shipped.  
 Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard.  
 Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.  
 Note 7: "I" and "Y" can not be selected at the same time.  
 Note 8:  $\phi 20$  F-type switch lead wire L type is not available for the 15 or shorter stroke.  
 Note 9: Refer to intro 3, 4 page about combination of variations and options.  
 Note 10: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-OL-12-10-T0H-R-N-LB-I**

Model: Compact cylinder double acting low speed type

- B Bore size :  $\phi 12\text{mm}$   
 C Port thread type : Rc thread  
 D Stroke length : 10mm  
 E Switch model no.: Reed switch T0H/Lead wire length 1m  
 F Switch quantity : 1 on rod end  
 G Option : Rod end male thread  
 H Mounting bracket: Axial foot  
 I Accessory : Rod eye

H Mounting bracket

Note 5  
Note 6

I Accessory

Note 7

Symbol	Descriptions													
<b>A Model no.</b>														
SSD2-O	Double acting single rod type													
SSD2-OL	Double acting single rod type/with switch													
<b>B Bore size (mm)</b>														
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	$\phi 100$													
<b>C Port thread type</b>														
Blank	Rc thread													
NN	NPT thread ( $\phi 32$ and over) (custom order)													
GN	G thread ( $\phi 32$ and over) (custom order)													
<b>D Stroke length (mm)</b>														
Refer to the stroke length table on following page.														
<b>E Switch model no.</b>														
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size									
Axial	Radial				12	16	20	25	32	40	50	63	80	100
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●						
F3H*	F3V*			3-wire			●	●						
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire			●	●						
F3YH*	F3YV*			3-wire			●	●						
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*			Without light	2-wire	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	1 color indicator type	2-wire					●	●	●	●	●	●
T1H*	T1V*			3-wire						●	●	●	●	●
T2H*	T2V*	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*			3-wire	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	1 color indicator type (PNP output) (custom order)	2-wire	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*			3-wire	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire			●	●	●	●	●	●	●	●
T3WH*	T3WV*			3-wire	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	Proximity	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●
T2YD*	-			2-wire			●	●	●	●	●	●	●	●
T2YDT*	-	Proximity	Off-delay type	2-wire			●	●	●	●	●	●	●	●
T2JH*	T2JV*			2-wire			●	●	●	●	●	●	●	●
<b>* Lead wire length</b>														
Blank	1m (standard)													
3	3m (option)													
5	5m (option)													
<b>F Switch quantity</b>														
R	1 on rod end													
H	1 on head end													
D	2													
<b>G Option</b>														
Blank	Rod end female thread													
N	Rod end male thread													
M Note 4	Piston rod material (stainless steel)													
<b>H Mounting bracket</b>														
Blank	Without mounting bracket													
LB	Axial foot													
CB	Clevis (pin and snap ring attached)													
FA	Rod end flange type													
FB	Head end flange type													
<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>														
I	Rod eye													
Y	Rod clevis (pin and snap ring attached)													

## (Stroke length table)

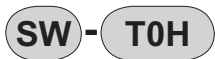
Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1										
Max. stroke length (mm)	30		50			100					
Custom stroke length Note 2	By 1 mm increment										

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 82 for minimum stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch



Switch model no.  
(item previous page ㊦)

## How to order mounting bracket

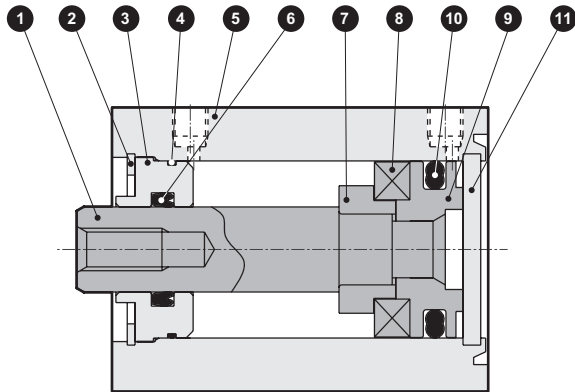
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	ø63	ø80	ø100				
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

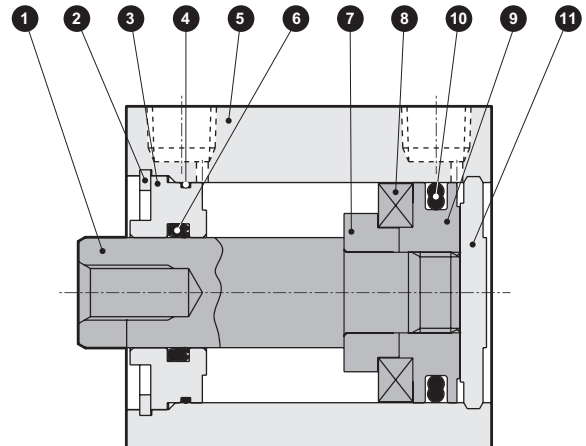
# SSD2-O Series

## Internal structure drawing and parts list (ø12 to 50)

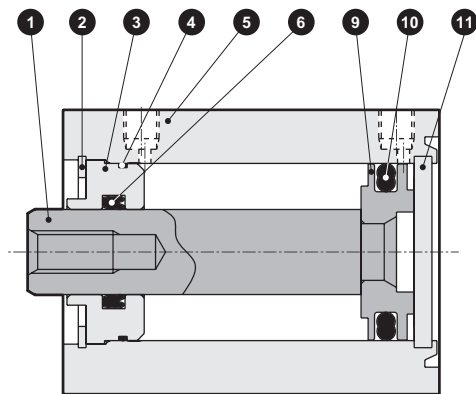
● SSD2-O-L-12 to 25 (double acting/with switch)



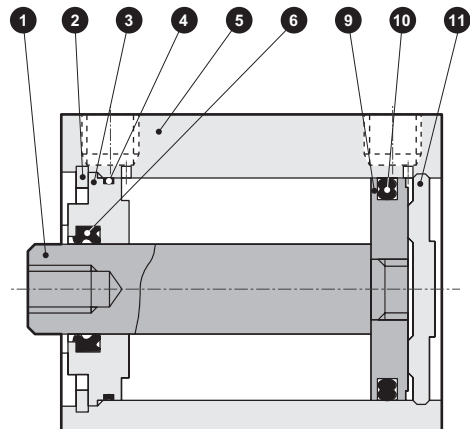
● SSD2-O-L-32 to 50 (double acting/with switch)



● SSD2-O-12 to 25 (double acting)



● SSD2-O-32 to 50 (double acting)



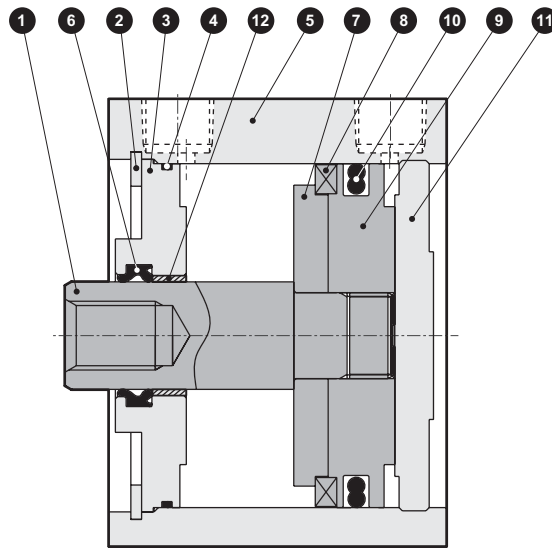
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: Industrial chrome plating	7	Spacer	Aluminum alloy	ø12 to ø32: chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: alumite
6	Rod packing seal	Nitrile rubber					

### Repair parts list

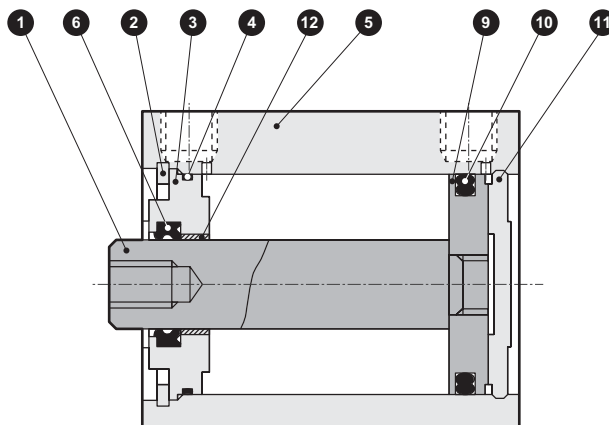
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-O-12K	● 4 ● 6 ● 10
ø16	SSD2-O-16K	
ø20	SSD2-O-20K	
ø25	SSD2-O-25K	
ø32	SSD2-O-32K	
ø40	SSD2-O-40K	
ø50	SSD2-O-50K	

### Internal structure drawing and parts list (ø63 to ø100)

- SSD2-O-L-63 to 100 (double acting/with switch)



- SSD2-O-63 to 100 (double acting)

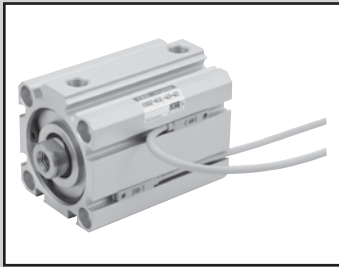


No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Aluminum alloy	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	Aluminum alloy	Alumite
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	Note 1

Note 1: Steel is used for copper and PTFE free.

### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-O-63K	4 6 10
ø80	SSD2-O-80K	
ø100	SSD2-O-100K	



Compact cylinder double acting low friction type

# SSD2-KU Series

- Bore size:  $\varnothing 20 \cdot \varnothing 25 \cdot \varnothing 32 \cdot \varnothing 40$   
 $\varnothing 50 \cdot \varnothing 63 \cdot \varnothing 80 \cdot \varnothing 100$

JIS symbol



## Specifications

Descriptions	SSD2-KU SSD2-KUL (with switch)							
	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Bore size mm	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	0.7							
Min. working pressure MPa	0.03							
Withstanding pressure MPa	1.0							
Ambient temperature °C	5 to 60							
Port size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+ 2.0 0							
Working piston speed mm/s	10 to 500					10 to 300		
Cushion	Rubber cushion							
Lubrication	Not available							
Allowable energy absorption J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92
Internal leakage volume $\ell/\text{min.}$	5						8	

## Stroke length

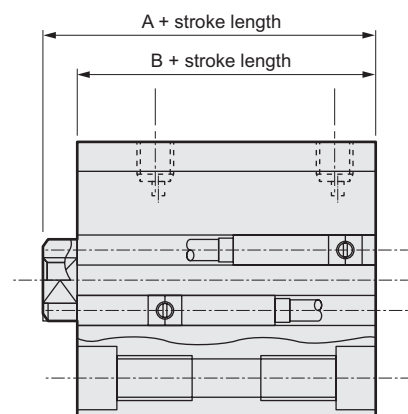
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 20$	5·10·15·20·25	50	1
$\varnothing 25$	30·35·40·45·50		
$\varnothing 32$	5·10·15·20·25·30·	100	
$\varnothing 40$	35·40·45·50·75·100		
$\varnothing 50$	10·15·20·25		
$\varnothing 63$	30·35·40·45·50		
$\varnothing 80$	75·100		
$\varnothing 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-KU Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-KU-32-41 +4mm spacer is provided on the standard cylinder SSD2-KU-32-45 to attain a 41mm stroke. The B+stroke length dimension is 78mm.	



Min. stroke length with switch (with switch 1 piece or 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø20	5	5
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable controller, relay	Programmable controller, relay /C circuit (w/o light), serial connection	Programmable controller, relay		Programmable controller			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA	
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less		10µA or less				0mA					1mA or less		

### Dimensions

It is the same as the double acting/high load type SSD2-K series. Refer to pages 27 to 30.

### Technical data

Refer to SCM-U Series "Pneumatic Cylinder Catalog no.CB-029SA-7". (Page 294)  
Data is for the "SCM-U Series", but similar trends apply to the SSD2-KU Series.

# SSD2-KU Series

## How to order

Without switch

SSD2-KU - 20 - 10 - N - LB - I

With switch

SSD2-KUL - 20 - 10 - T0H - R - N - LB - I

A Bore size

B Port thread type

C Stroke length

D Switch model no.

Note 1  
Note 6  
Note 8

E Switch quantity

F Option  
Note 2

G Mounting bracket  
Note 3  
Note 4

### ⚠ Note on model no. selection

Note 1: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .

Note 2: A piston rod material of  $\phi 20$ ,  $\phi 25$  is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 3: The mounting bracket is enclosed when shipped.

Note 4: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

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

Note 6:  $\phi 20$  F-type switch lead wire L type is not available for the 10 or shorter stroke.

Note 7: Refer to intro 3, 4 page about combination of variations and options.

Note 8: Switches are shipped with the product. Contact CKD when shipment must be assembled.

### <Example of model number>

#### SSD2-KUL-20-10-T0H-R-N

Model: Compact cylinder high load type/low friction type

A Bore size :  $\phi 20$ mm

B Port thread type : Rc thread

C Stroke length : 10mm

D Switch model no.: Reed switch T0H/  
Lead wire 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

Symbol	Descriptions
<b>A Bore size (mm)</b>	
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

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

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

Lead wire		Contact	Indicator	Lead wire	Bore size									
Axial	Radial				20	25	32	40	50	63	80	100		
F2H*	F2V*	Proximity	1 color indicator type	2-wire	●	●								
F3H*	F3V*			3-wire	●	●								
F2YH*	F2YV*			2-wire	●	●								
F3YH*	F3YV*	3-wire	●	●										
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
T5H*	T5V*			Without light	2-wire	●	●	●	●	●	●	●	●	
T8H*	T8V*			1 color indicator type	2-wire	●	●	●	●	●	●	●	●	
T1H*	T1V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
T2H*	T2V*			3-wire	●	●	●	●	●	●	●	●	●	
T3PH*	T3PV*			1 color indicator type (PNP output) (custom order)	3-wire	●	●	●	●	●	●	●	●	
T2WH*	T2WV*	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
T2YH*	T2YV*			3-wire	●	●	●	●	●	●	●	●	●	
T3WH*	T3WV*			2-wire	●	●	●	●	●	●	●	●	●	
T3YH*	T3YV*	3-wire	●	●	●	●	●	●	●	●	●	●		
T2YD*	-	Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	●		
T2YDT*	-			●	●	●	●	●	●	●	●	●		
T2JH*	T2JV*	Off-delay type	2-wire	●	●	●	●	●	●	●	●	●		

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

<b>E Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>F Option</b>	
Blank	Rod end female thread
N	Rod end male thread
M Note 2	Piston rod material (stainless steel)

<b>G Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

H Accessory  
Note 5

### (Stroke length table)

Stroke length (mm)	Applicable bore size								
	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm)	1								
Max. stroke length (mm)	50		100						
Custom stroke length Note 2	By 1 mm increment								

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 88 for min. stroke length with switch.

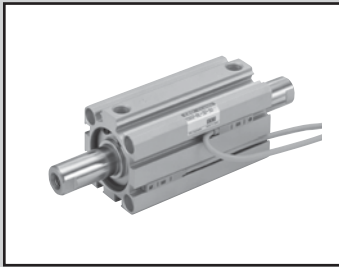
Note 2: The same dimension as next longer standard stroke length applies to the total length.

### How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.





Compact cylinder double acting double rod type

# SSD2-D Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$

JIS symbol



## Specifications

Descriptions		SSD2-D SSD2-DL (with switch)									
		$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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	0.15					0.1				
Withstanding pressure	MPa	1.6									
Ambient temperature	$^{\circ}\text{C}$	-10 to 60 (no freezing)									
Port size		M5			Rc1/8, Note 1			Rc1/4		Rc3/8	
Stroke tolerance	Rubber cushioned	+2.0 0									
	No cushion										
Working piston speed	mm/s	50 to 500					50 to 300				
Cushion		The type with rubber cushion or without rubber cushion can be selected.									
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)									
Allowable absorbing	Rubber cushioned	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92
Energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	5
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	10
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

## Min. stroke length with switch (with switch 1 pc or 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
$\phi 12$	5	5
$\phi 16$		
$\phi 20$		
$\phi 25$		
$\phi 32$		
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

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\* switches.

## Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection		Programmable controller, relay	Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA	
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less		10µA or less				0mA					1mA or less		

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-
ø16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-
ø20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-
ø25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-
ø32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012
ø40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490
ø50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270
ø63	-	-	902	1266	977	1341	1052	1416	1127	1491	1202	1566	1278	1642	1353	1717	1428	1792	1503	1867	2218	2242	2593	2617
ø80	-	-	1608	1538	1725	1916	1841	2294	1958	2411	2074	2527	2191	2649	2308	2771	2425	2888	2541	3004	3560	3587	4143	4169
ø100	-	-	2483	3105	2652	3254	2820	3402	2989	3586	3158	3770	3327	3934	3495	4097	3664	4261	3833	4425	5213	5245	6033	6065

# SSD2-D Series

## How to order

Without switch

SSD2-D - 12 - 5 - N - LB - I

With switch

SSD2-DL - 12 - 10 - T0H - R - N - LB - I

A Model no.

B Bore size

C Port thread type

D Cushion

E Stroke length

F Switch model no.

Note 1 Note 2  
Note 3 Note 8  
Note 9

G Switch quantity

H Option  
Note 4

### ⚠ Note on model no. selection

Note 1: T2YD\* switch can not be installed for ø12, ø16.

Note 2: T8\* switch can not be installed for ø12, ø16.

Note 3: F type switch is installable only on the piping port of tube bore size ø20, ø25.

Note 4: ø12 to ø25 piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel.

When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5: The mounting bracket is enclosed when shipped.

Note 6: When selecting LB, FA, piston rod projecting dimension WF differs from standard. Refer to Page dimensions 247 page and 250. And the length of ledge indicate on the tail of part number in the label.

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

Note 8: ø20 F-type switch lead wire L type is not available for the 15 or shorter stroke.

Note 9: Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 10: Refer to intro 3, 4 page about combination of variations and options.

<Example of model number>

### SSD2-DL-12-5-T0H-R-N-LB-I

Model: Compact cylinder double acting double rod type

B Bore size : ø12mm

C Port thread type : Rc thread

D Cushion : no cushion

E Stroke length : 5mm

F Switch model no.: Reed switch T0H/  
Lead wire length 1m

G Switch quantity : 1 on rod end

H Option : Rod end male thread

I Mounting bracket: Axial foot

J Accessory : Rod eye

## How to order switch

SW - T0H

Switch model no. (item previous page F)

Symbol	Descriptions
<b>A Model no.</b>	
SSD2-D	Double acting double rod type
SSD2-DL	Double acting double rod type/with switch

<b>B Bore size (mm)</b>	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

<b>C Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (custom order)
GN	G thread (ø32 and over) (custom order)

<b>D Cushion</b>	
Blank	No cushion
D	Rubber cushioned

<b>E Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>F Switch model no.</b>		Contact	Indicator	Lead wire	Bore size											
Lead wire Axial	Lead wire Radial				12	16	20	25	32	40	50	63	80	100		
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●								
F3H*	F3V*			3-wire			●	●								
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire			●	●								
F3YH*	F3YV*			3-wire			●	●								
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Reed	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●
T1H*	T1V*							●	●	●	●	●	●	●	●	●
T2H*	T2V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*			3-wire	●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	1 color indicator type (PNP output) (custom order)	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*			3-wire	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*			3-wire	●	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-			3-wire	●	●	●	●	●	●	●	●	●	●	●	●
T2YDT*	-	Proximity	Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*			2-wire	●	●	●	●	●	●	●	●	●	●	●	●

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>G Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>H Option</b>												
	Bore size (mm)	12	16	20	25	32	40	50	63	80	100	
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	
P6	Copper and PTFE free	As standard								●	●	●
M	Note 4	●	●	●	●	●	●	●	●	●	●	
P4	Specification for LIB production line	●	●	●	●	●	●	●	●	●	●	
P40	(Custom order)	●	●	●	●	●	●	●	●	●	●	

<b>I Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
FA	Rod end flange type

<b>J Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

I Mounting bracket

Note 5

Note 6

J Accessory

Note 7

## (Stroke length table)

Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1										
Max. stroke length (mm)	30		50			100					
Custom stroke length Note 2	-			5mm every							

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 91 for min. stroke length with switch.

Note 2: It is only possible, if over 50 stroke length.

## How to order mounting bracket

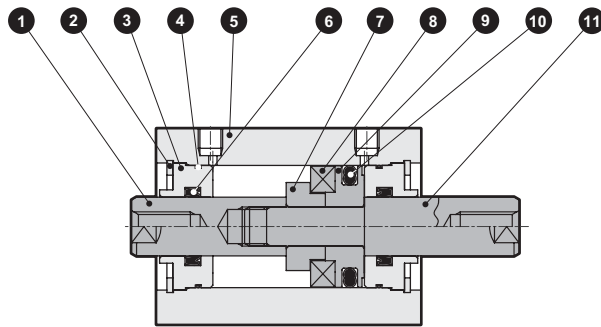
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Bore size (mm)	ø63	ø80	ø100				
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

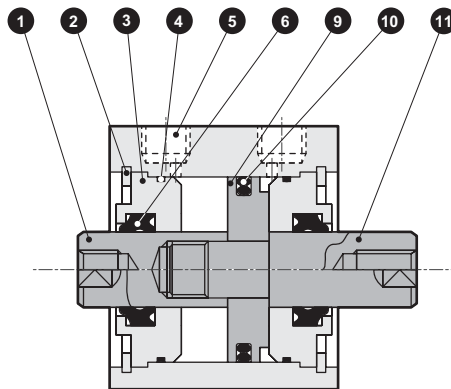
# SSD2-D Series

## Internal structure and parts list (ø12 to ø50) (w/o cushion)

● SSD2-DL-12 to 50 (double acting/double rod type/with switch)



● SSD2-D-12 to 50 (double acting/double rod type)



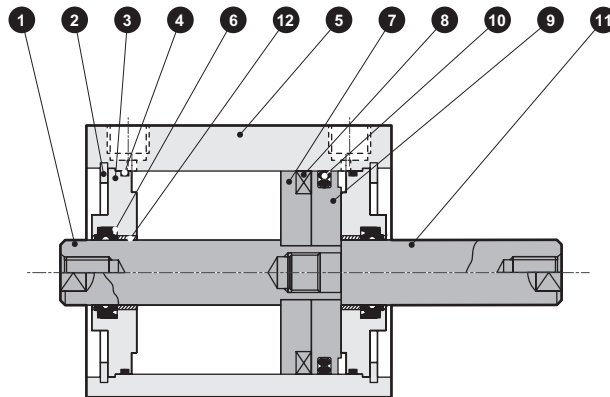
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod <sup>Ⓐ</sup>	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: Industrial chrome plating	7	Spacer	ø12, ø20, ø32, ø40: Aluminum ally ø16, ø25, ø50: Special resin	ø12, 20, 32, 40: chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Piston rod <sup>Ⓑ</sup>	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: Industrial chrome plating
6	Rod packing seal	Nitrile rubber					

### Repair parts list

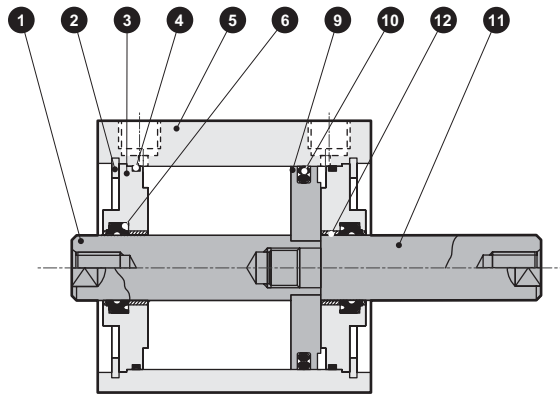
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-D-12K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø16	SSD2-D-16K	
ø20	SSD2-D-20K	
ø25	SSD2-D-25K	
ø32	SSD2-D-32K	
ø40	SSD2-D-40K	
ø50	SSD2-D-50K	

### Internal structure and parts list (ø63 to ø100) (w/o cushion)

- SSD2-DL-63 to 100 (double acting/double rod type/with switch)



- SSD2-D-63 to 100 (double acting/double rod type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod <sup>Ⓐ</sup>	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Aluminum alloy	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Piston rod <sup>Ⓑ</sup>	Steel	Industrial chrome plating
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	Note 1

Note 1: Steel is used for copper and PTFE free.

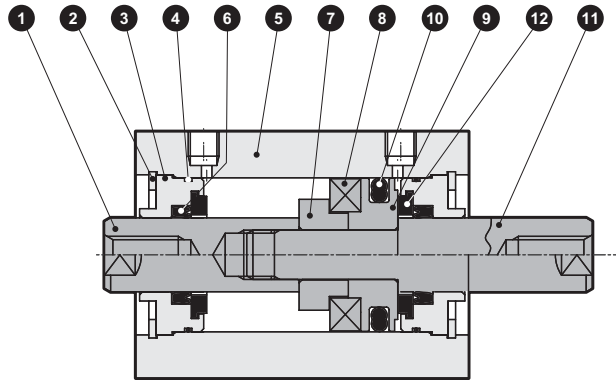
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-D-63K	● 4 ● 6 ● 10
ø80	SSD2-D-80K	
ø100	SSD2-D-100K	

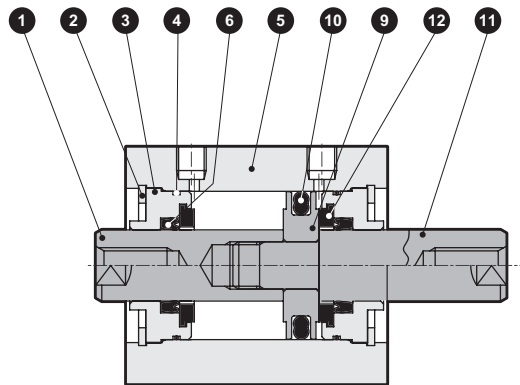
# SSD2-D Series

## Internal structure and parts list (ø12 to ø50) (Rubber cushioned)

● SSD2-DL-12D to 50D (double acting/double rod type/with switch)



● SSD2-D-12D to 50D (double acting/double rod type)



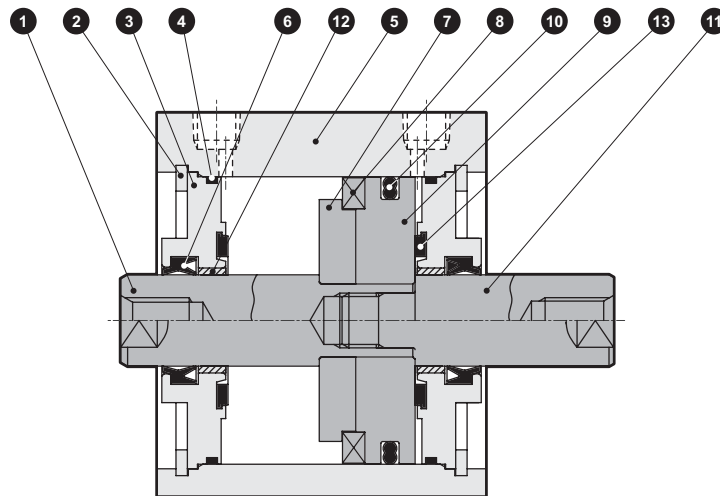
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod <sup>Ⓐ</sup>	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Special aluminum	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Piston rod <sup>Ⓑ</sup>	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50: industrial chrome plating
5	Body	Aluminum alloy	Hard alumite	12	Cushion rubber	Urethane rubber	
6	Rod packing seal	Nitrile rubber					
7	Spacer	ø12, ø20, ø32, ø40: Aluminum ally ø16, ø25, ø50: Special resin	ø12, 20, 32, 40: chromate				

### Repair parts list

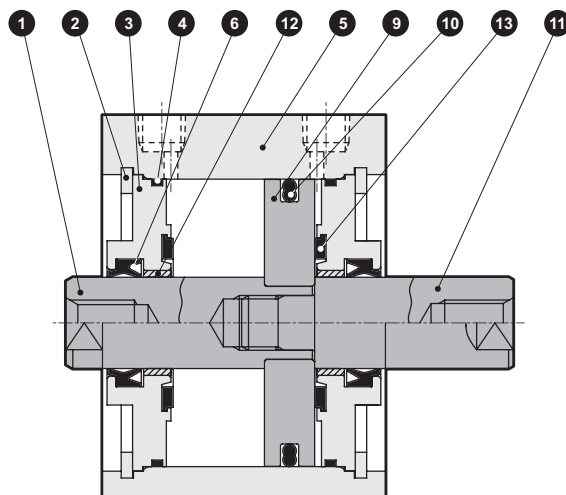
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-D-12DK	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">12</span>
ø16	SSD2-D-16DK	
ø20	SSD2-D-20DK	
ø25	SSD2-D-25DK	
ø32	SSD2-D-32DK	
ø40	SSD2-D-40DK	
ø50	SSD2-D-50DK	

### Internal structure and parts list (ø63 to ø10) (Rubber cushioned)

- SSD2-DL-63D to 100D (double acting/double rod type/with switch)



- SSD2-D-63D to 100D (double acting/double rod type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod <sup>Ⓐ</sup>	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Aluminum alloy	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Piston rod <sup>Ⓑ</sup>	Steel	Industrial chrome plating
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oilless dry met	Note 1
6	Rod packing seal	Nitrile rubber		13	Cushion rubber	Urethane rubber	
7	Spacer	Aluminum alloy	Chromate				

Note 1: Steel is used for copper and PTFE free.

### Repair parts list

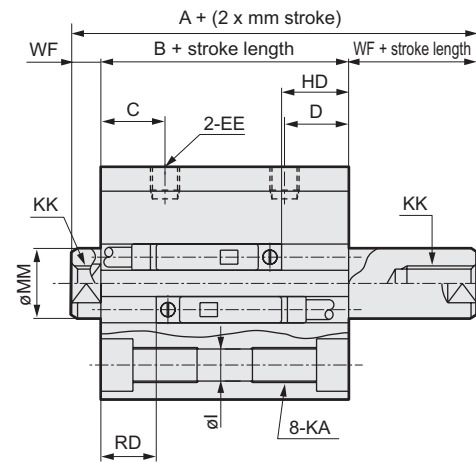
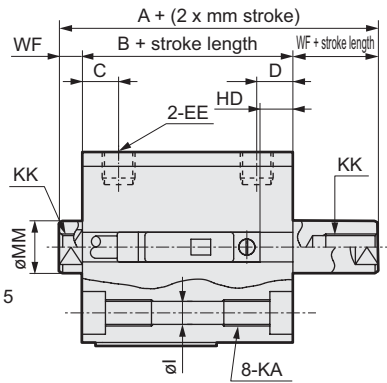
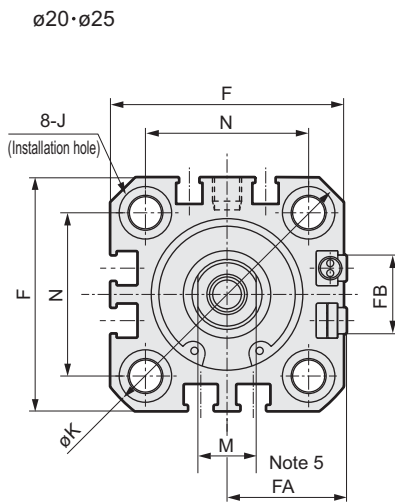
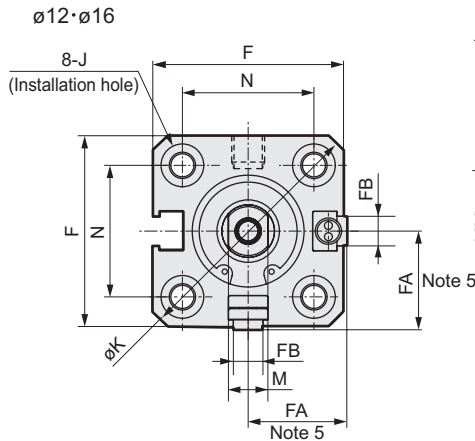
Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-D-63DK	
ø80	SSD2-D-80DK	4 6 10 13
ø100	SSD2-D-100DK	



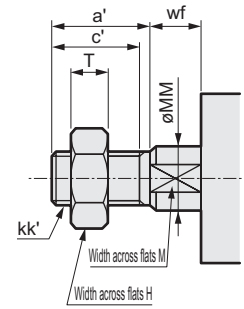
# SSD2-D Series

## Dimensions

### ● SSD2-DL-12 to 25 (with switch)



### ● Rod end male thread



### ● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Note: The cross-width position for the left/right wrench is not specified.

Symbol	Common dimension with switch																
	A	B	C	D	EE	F	FA <sup>Note 5</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	34	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	34	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	45	36	8	8	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	49	39	11	11	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimension	Reed T0H/TOV and T5H/T5V Note 6				Proximity T2H/T2V and T3H/T3V Note 6				Proximity T2WH/T2WV and T3WH/T3WV Note 6				Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV				
Bore size (mm)	HD		RD		HD		RD		HD		RD		HD		RD		
ø12	5		2.5		5		2.5		6.5		4						
ø16	5		2		5		2		6.5		3.5						
ø20	9.5		6.5		9.5		6.5		11		8		14		12		
ø25	11.5		9.5		11.5		9.5		13		11		15		13		

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Dimensions in ( ) HD/RD column are values when cushion is installed.

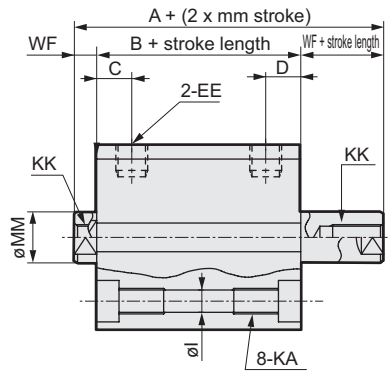
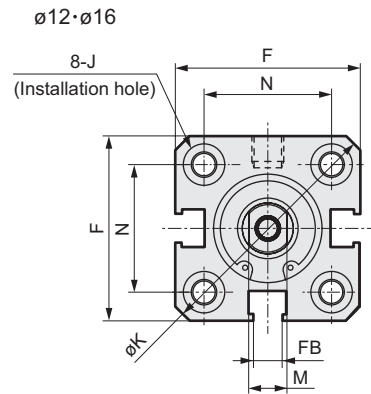
Note 7: The side with a mark on the main port is the RD side.

### ● Rod end male thread section dimensions table

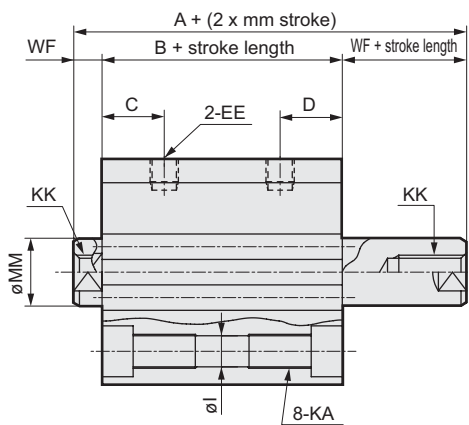
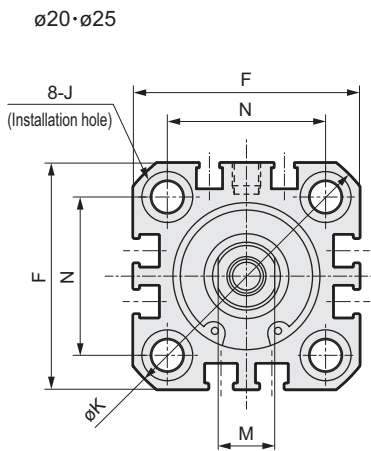
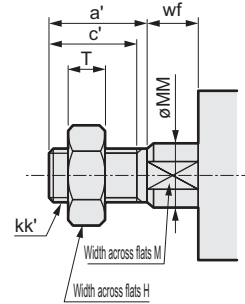
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

● SSD2-D-12 to 25 (without switch)



● Rod end male thread



Note: The cross-width position for the left/right wrench is not specified.

Symbol	Without switch and common dimension															
Bore size (mm)	A	B	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	29	22	5.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	29	22	5.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	35	26	8	8	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	39	29	11	11	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Rod end male thread section dimensions table

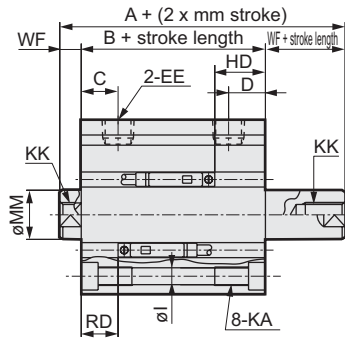
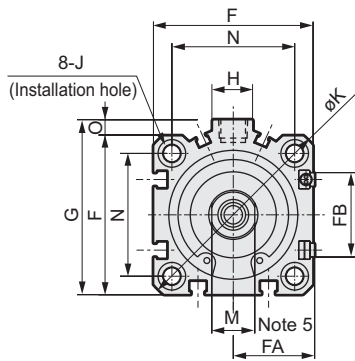
Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

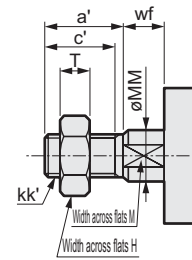
# SSD2-D Series

## Dimensions

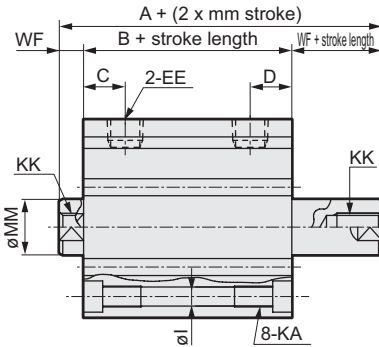
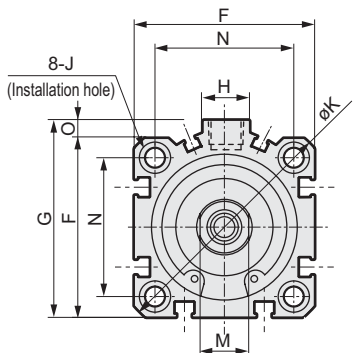
### ● SSD2-DL-32 to 100 (with switch)



### ● Rod end male thread



### ● SSD2-D-32 to 100 (without switch)



Note: The cross-width position for the left/right wrench is not specified.

Symbol	Without switch		Common dimension with switch														
	A Note 2/Note 8	B Note 3/Note 8	A Note 2	B Note 3	C Note 10	D Note 10	EE Note 9	F	FA Note 6	FB	G	H	I	J	K	KA	KK
ø32	44.5 (54.5)	30.5 (40.5)	54.5	40.5	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
ø40	54 (64)	40 (50)	64	50	12	12	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ø50	56.5 (66.5)	40.5 (50.5)	66.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ø63	58 (68)	42 (52)	68	52	13	13	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
ø80	71 (81)	51 (61)	81	61	16	16	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ø100	84.5 (94.5)	60.5 (70.5)	94.5	70.5	23	23	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Symbol	Common dimension with switch					Switch dimension					
	M	MM	N	O	WF	Reed T0H/TOV and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV	
						HD Note 4	RD Note 4	HD Note 4	RD Note 4	HD	RD
ø32	14	16	34	4.5	7	11	9	11	9	12.5	10.5
ø40	14	16	40	5	7	16.5	12	16.5	12	18	13.5
ø50	17	20	50	7	8	16.5	12.5	16.5	12.5	18	14
ø63	17	20	60	7	8	18	13	18	13	19.5	14.5
ø80	22	25	77	6	10	23	15.5	23	15.5	24.5	17
ø100	27	30	94	6.5	12	28.5	19.5	28.5	19.5	30	21

- Note 1: The intermediate stroke is used only when the stroke exceeds 50.
- Note 2: When calculating custom stroke dimensions of A+ (2xstroke length), the length is calculated by inputting [A+the following increment of standard stroke length+custom stroke length.] (Example) For 7mm custom stroke, the length is calculated by inputting A+standard stroke 75mm+custom stroke.
- Note 3: When calculating B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (Example) For 70mm custom stroke, the length is calculated by inputting standard stroke length 75mm.
- Note 4: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
- Note 5: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.
- Note 6: Dimensions in ( ) of FA are the values for radial lead wire.
- Note 7: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.
- Note 8: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.
- Note 9: The port size is M5 for the 5 stroke ø32 without switch.
- Note 10: Dimensions in ( ) C, D column are values when 5 strokes without switch.
- Note 11: The side with a mark on the main port is the RD side.

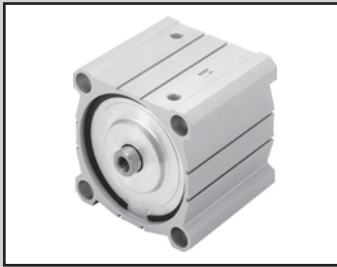
### ● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

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MEMO

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Compact cylinder double acting double rod type (large bore size)

# SSD2-D Series

● Bore size:  $\phi 125 \cdot \phi 140 \cdot \phi 160 \cdot \phi 180 \cdot \phi 200$

JIS symbol



## Specifications

Descriptions	SSD2-D SSD2-DL (with switch)				
	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Bore size mm	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Actuation	Double acting double rod type				
Working fluid	Compressed air				
Max. working pressure MPa	1.0			0.7	
Min. working pressure MPa	0.05				
Withstanding pressure MPa	1.6			1.05	
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (no freezing)				
Port size	Rc3/8			Rc1/2	
Stroke tolerance mm	+ 2.0 0				
Working piston speed mm/s	50 to 300			20 to 300	
Cushion	Rubber cushioned (standard)				
Lubrication	Not required (when lubricating, use turbine oil ISOVG32.)				
Allowable energy absorption J	6.52	6.52	7.78	12.4	

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 125$	10, 20, 30, 40, 50 75, 100, 125, 150 175, 200, 250, 300	300	10
$\phi 140$			
$\phi 160$			
$\phi 180$			
$\phi 200$			

Note 1: The total custom stroke length is handled with the length dedicated for the custom stroke.

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*
$\phi 125$	10	10	40	55	70
$\phi 140$	10	10	40	55	70
$\phi 160$	10	10	40	55	70
$\phi 180$	10	10	40	55	70
$\phi 200$	10	10	40	55	70

### Switch specifications

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD		
Applications	Programmable controller Relay and small solenoid valve		Programmable Controller and relay				Programmable Controller and relay		Programmable controller, relay /IC circuit (w/o light), serial connection		Programmable controller, relay		Programmable Controller dedicated		
Output method	-		NPN output	PNP output	NPN output	NPN output	-		-				-		
Power voltage	-		10 to 28 VDC				-		-				-		
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less		10µA or less				0mA				1mA or less			

Note1: The maximum load current of 20mA above is at 25°C. When ambient temperature is higher than 25°C, the value is lower than 20mA.  
(5 to 10mA at 60°C)

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

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø125	4.64	4.74	4.98	5.08	5.32	5.42	5.66	5.76	6.00	6.10	6.85	6.95	7.70	7.80
ø140	6.62	6.73	7.00	7.11	7.38	7.49	7.77	7.88	8.15	8.26	9.00	9.11	10.07	10.18
ø160	9.10	9.22	9.58	9.70	10.06	10.18	10.54	10.66	11.02	11.14	12.22	12.34	13.41	13.53
ø180	13.12	13.27	13.62	13.77	14.12	14.27	14.62	14.77	15.12	15.27	16.36	16.51	17.61	17.76
ø200	16.09	16.27	16.65	16.83	17.21	17.39	17.77	17.95	18.33	18.51	19.73	19.91	21.13	21.31
Stroke length (mm)	125		150		175		200		250		300			
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch		
ø125	8.55	8.65	9.40	9.50	10.25	10.35	11.10	11.20	12.80	12.90	14.50	14.60		
ø140	11.02	11.13	11.87	11.98	12.72	12.83	13.57	13.68	15.27	15.38	16.97	17.08		
ø160	14.61	14.73	15.81	15.93	17.01	17.13	18.21	18.33	20.61	20.73	23.01	23.13		
ø180	18.85	19.00	20.10	20.25	21.35	21.50	22.59	22.74	25.09	25.24	27.58	27.73		
ø200	22.53	22.71	23.93	24.11	25.32	25.50	26.72	26.90	29.52	29.70	32.32	32.50		

# SSD2-D (large bore size) Series

## How to order

Without switch

**SSD2-D** - (125) - (50) - (N)

With switch

**SSD2-DL** - (125) - (50) - (T0H) - (R) - (N)

**A** Bore size

**B** Port thread type

**C** Stroke length

**D** Switch model no.  
Note 1

**E** Switch quantity

**F** Option

### ⚠ Note on model no. selection

Note 1: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-DL-125-50-T0H-R-N**

Model: Compact cylinder double acting double rod type

**A** Bore size : 125mm

**B** Port thread type : Rc thread

**C** Stroke length : 50mm

**D** Switch model no.: Reed switch T0H/  
Lead wire length 1m

**E** Switch quantity : 1 on rod end

**F** Option : Rod end male thread

Symbol	Descriptions
<b>A Bore size (mm)</b>	
125	ø125
140	ø140
160	ø160
180	ø180
200	ø200

<b>B Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø125 to ø160) (custom order)
GN	G thread (ø125 to ø160) (custom order)

<b>C Stroke length (mm)</b>
Refer to the stroke length table on following page.

<b>D Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead Line
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator type	
T1H*	T1V*	Proximity	1 color indicator type	2-wire
T2H*	T2V*			1 color indicator type (custom order)
T3H*	T3V*		2 color indicator type	
T3PH*	T3PV*			3-wire
T2WH*	T2WV*			
T2YH*	T2YV*		Off-delay type	2-wire
T3WH*	T3WV*			Strong magnetic field proof switch
T3YH*	T3YV*			
T2JH*	T2JV*			
T2YD*	-			
T2YDT*	-			

### \* Lead wire length

Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>E Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>F Option</b>	
Blank	Rod end female thread
N	Rod end male thread
P4	Specification for LiB production line (custom order)
P40	

## How to order switch

**SW** - **T0H**

Switch model no.  
(item previous page ④)

(Stroke length table)

Stroke length (mm)	Applicable bore size					
	ø125	ø140	ø160	ø180	ø200	
Standard stroke length	10	●	●	●	●	●
	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
	125	●	●	●	●	●
	150	●	●	●	●	●
	175	●	●	●	●	●
	200	●	●	●	●	●
	250	●	●	●	●	●
300	●	●	●	●	●	
Min. stroke length (mm) Note 1	10					
Max. stroke length (mm)	300					
Custom stroke length Note 2	By 1 mm increment					

Note 1: Refer to page 103 for switch quantity min. stroke length.

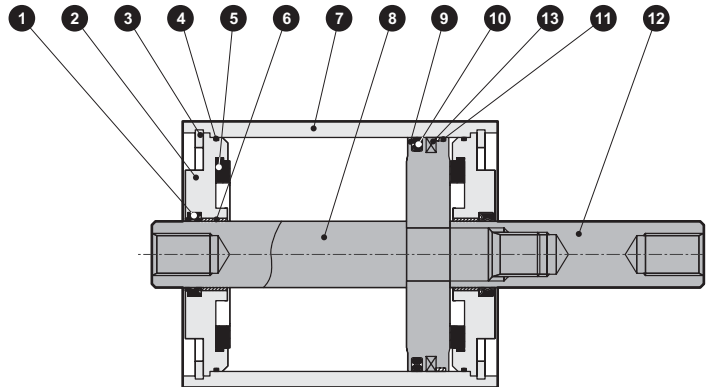
Note 2: The total custom stroke length is handled with the length dedicated for the custom stroke.



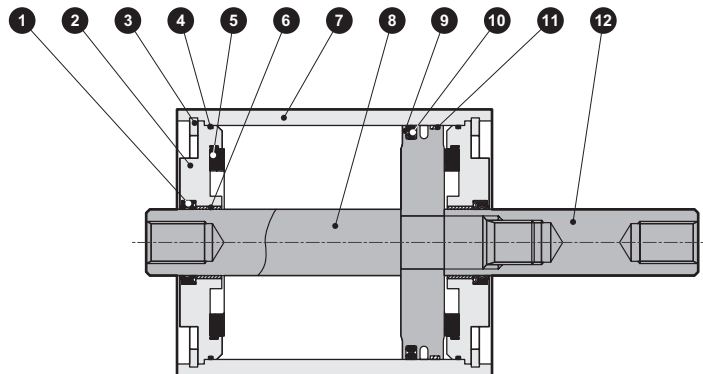
# SSD2-D (large bore size) Series

## Internal structure drawing and parts list (ø125 to ø160)

- SSD2-DL-125 to 160 (double acting/double rod type/with switch)



- SSD2-D-125 to 160 (double acting/double rod type/without switch)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		8	Piston rod <sup>Ⓐ</sup>	Steel	Industrial chrome plating
2	Rod bushing	Aluminum alloy die-casting	Chromate	9	Piston	Aluminum alloy die-casting	
3	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
4	Metal gasket	Nitrile rubber		11	Wear ring	Polyacetal	
5	Cushion rubber	Urethane rubber		12	Piston rod <sup>Ⓑ</sup>	Steel	Industrial chrome plating
6	Bush	Oilless dry met		13	Magnet	Rubber	Only with switch
7	Body	Aluminum alloy	Hard alumite				

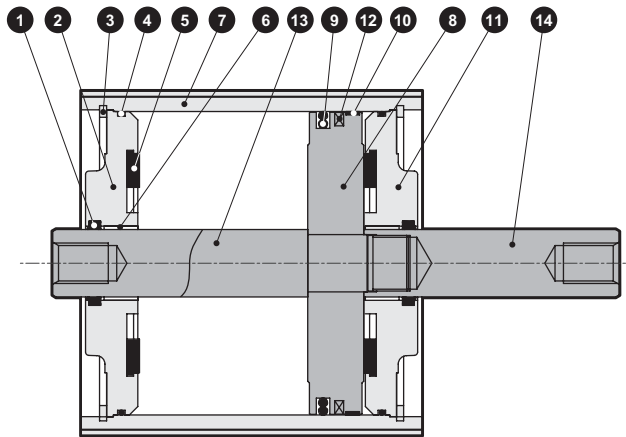
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø125	SSD2-D-125K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">11</span>
ø140	SSD2-D-140K	
ø160	SSD2-D-160K	

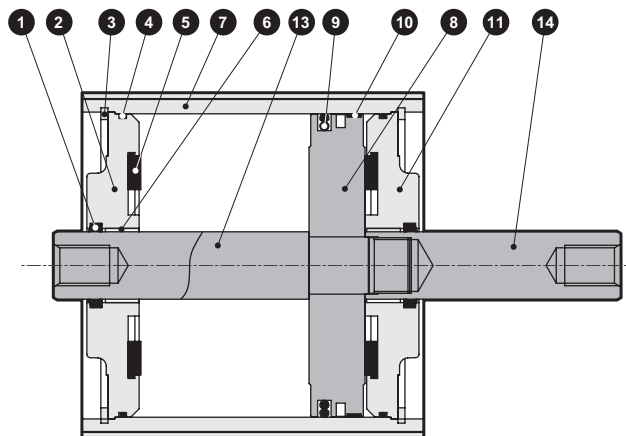
Note 1: Use kit numbers when placing an order.

## Internal structure drawing and parts list (ø180, ø200)

- SSD2-DL-180, 200 (double acting/double rod type/with switch)



- SSD2-D-180, 200 (double acting/double rod type/without switch)



### Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		8	Piston	Aluminum alloy	
2	Rod bushing	Cast iron	Paint	9	Piston packing seal	Nitrile rubber	
3	C type snap ring	Steel	Phosphoric acid zinc	10	Wear ring	Acetar resin	
4	Gasket	Nitrile rubber		11	Guard	Cast iron	Paint
5	Cushion rubber	Urethane rubber		12	Magnet	Rubber	Only with switch
6	Bush	Oilless dry met		13	Piston rod A	Steel	Industrial chrome plating
7	Body	Aluminum alloy	Hard alumite	14	Piston rod B	Steel	Industrial chrome plating

### Repair parts list

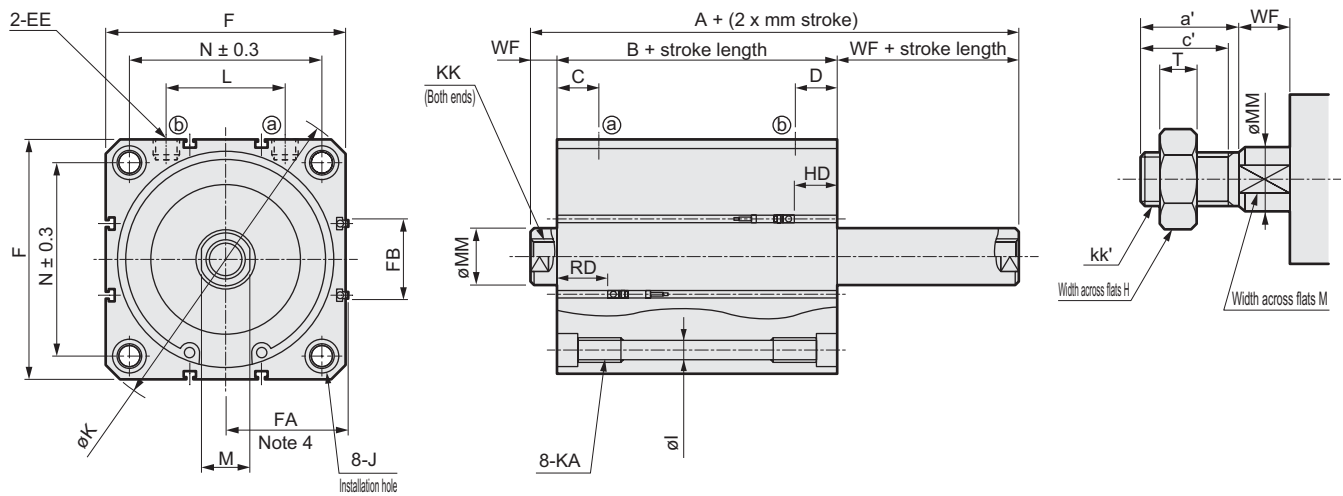
Bore size (mm)	Kit No.	Repair parts number
ø180	SSD2-180K	1 4 5 9 10
ø200	SSD2-200K	

# SSD2-D (large bore size) Series

## Dimensions (ø125 to ø160)

● SSD2-D (L) -125~160 (double acting single rod type)

● Rod end male thread



Note: The cross-width position for the left/right wrench is not specified.

Symbol	Common dimension with switch															
Bore size (mm)	A	B	C	D	EE	F	I	J	K	KA	KK (Note 1)	L	M	MM	N	WF
ø125	115	83	29	29	Rc3/8	142	12.5	20 spot face depth 13	190	M14 depth 25	M22 x 2.5 depth 30 (22.5)	72	30	35	114	16
ø140	115	83	27.5	27.5	Rc3/8	158	12.5	20 spot face depth 13	210	M14 depth 25	M22 x 2.5 depth 30 (22.5)	80	30	35	128	16
ø160	125	91	30	30	Rc3/8	178	14.5	23 spot face depth 15.2	238	M16 depth 28	M24 x 3 depth 33 (24)	90	36	40	144	17

Symbol	T0H/V, T2H/V, T3H/V or T5/V				T2YH/V, T3YH/V or T2JH/V				T1H/V and T2YD				T2WH/V and T3WH/V				T8H/V			
Bore size (mm)	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB
ø125	30	35	71.5 (75)	44.5	28.5	33.5	77 (80)	48	28.5	33.5	82.5 (85.5)	48	31.5	36.5	71.5 (75)	44.5	24	29	77 (80)	48
ø140	31.5	33.5	79.5 (83)	44.5	30	32	85 (88)	48	30	32	90.5 (93.5)	48	33	35	79.5 (83)	44.5	25.5	27.5	85 (88)	48
ø160	34	39	89.5 (93)	48.5	32.5	37.5	95 (98)	52	32.5	37.5	100.5 (103.5)	52	35.5	40.5	89.5 (93)	48.5	28	33	95 (98)	52

Note 1: Value in ( ) for KK dimensions indicate the effective thread length on one side for a stroke of 10.

Note 2: Dimensions in ( ) of FA are the values for radial lead wire.

Note 3: The side with a mark on the main port is the RD side.

### Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø125	45	42	46	M30 x 1.5	30	35	18	13
ø140	45	42	46	M30 x 1.5	30	35	18	13
ø160	50	47	55	M36 x 1.5	36	40	21	14

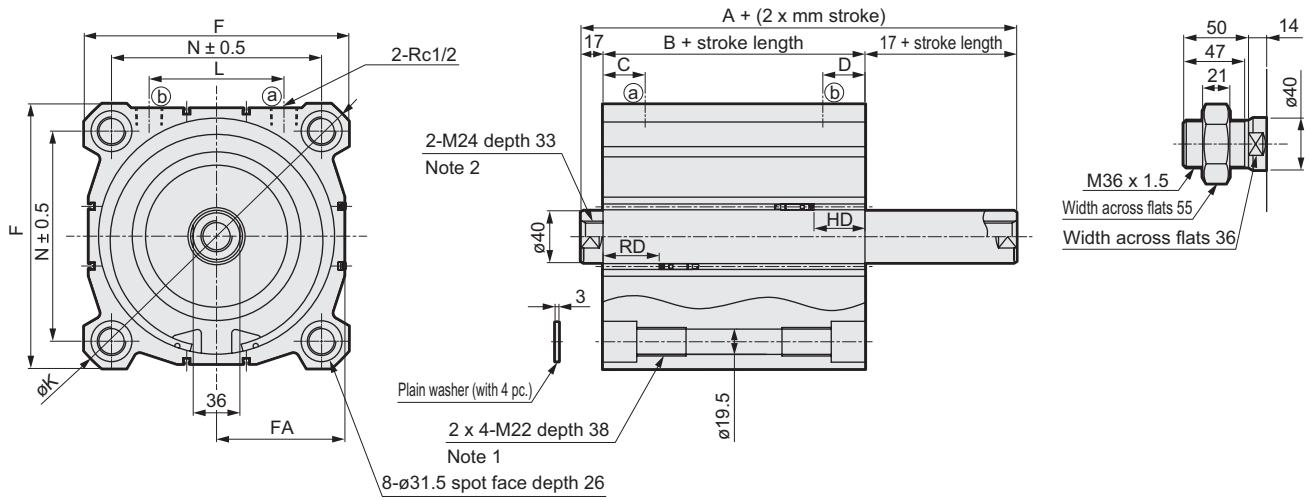
# SSD2-D (large bore size) Series

## Dimensions

### Dimensions (ø180, ø200)

● SSD2-D (L) -180, 200 (Double acting double rod type)

● Rod end male thread



Note 1: 2 x 4-M22 through applies to 20 stroke or less.

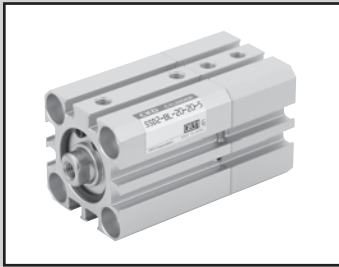
Note 2: 2-M24 depth 27 (ø180) or 2-M24 depth 29 (ø200) is used for 10 strokes.

Note 3: The cross-width position for the left/right wrench is not specified.

Symbol	A	B	C	D	F	K	L	N							
Bore size (mm)															
ø180	136	102	32.5	32.5	204	270	104	162							
ø200	143	109	33.5	33.5	226	300	110	182							
Symbol	T0H/V, T2H/V, T3H/V or T5H/V			T2YH/V, T3YH/V or T2JH/V			T1H/V and T2YD			T2WH/V and T3WH/V			T8H/V		
Bore size (mm)	HD	RD	FA	HD	RD	FA	HD	RD	FA	HD	RD	FA	HD	RD	FA
ø180	39.5	43.5	99 (102.5)	38.5	42.5	104.5 (107.5)	38.5	42.5	110 (113)	41.5	45.5	99 (102.5)	33.5	37.5	104.5 (107.5)
ø200	44.5	45.5	109.5 (113)	43.5	44.5	115 (118)	43.5	44.5	120.5 (123.5)	46.5	47.5	109.5 (113)	38.5	39.5	115 (118)

Note 1: Dimensions in ( ) of FA are the values for radial lead wire.

Note 2: The side with a mark on the main port is the RD side.



Compact cylinder double acting back to back type

# SSD2-B Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$

JIS symbol



## Specifications

Descriptions	SSD2-B SSD2-BL (with switch)									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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 back to back type									
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 $^{\circ}\text{C}$	-10 to 60 (no freezing)									
Port size	M5				Rc1/8, Note 1		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = \begin{matrix} +1.0 \\ 0 \end{matrix}$					$S_2 = \begin{matrix} +1.0 \\ 0 \end{matrix}$				
Working piston speed mm/s	50 to 500						50 to 300			
Cushion	None									
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)									
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

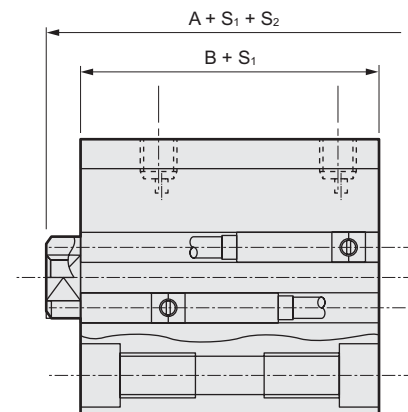
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-B Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-B-32-38-50 +2mm spacer is provided on the standard cylinder SSD2-B-32-40 to attain a 38mm stroke. The $B+S_1$ length dimension is 63mm.	



Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Value in ( ) is the type with a rod end.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire					
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated				
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-							
Power voltage	-		-		10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA	
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less		10µA or less				0mA				1mA or less				

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch	No switch and	With switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	160	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1887	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

### Hexagon socket head cap bolt weight

Stroke length (mm)	Cylinder 2 stroke												Connector
Bore size (mm)	5	10	15	20	25	30	35	40	45	50	75	100	
ø12	3.2	4	4.8	5.6	6.4	7.2	-	-	-	-	-	-	5.6
ø16	3.2	2.4	2.4	2.4	2.4	2.4	-	-	-	-	-	-	5.6
ø20	8	11	14	16	19	22	25	28	30	33	-	-	14
ø25	8	11	14	16	19	22	25	28	30	33	-	-	14
ø32	8	11	14	16	19	22	25	28	30	33	47	61	14
ø40	8	11	14	16	19	22	25	28	30	33	47	61	14
ø50	-	16.7	20.6	24.5	28.5	32.4	36.3	40.3	44.2	48.1	67.8	87.5	28.8
ø63	-	40.8	47.2	53.6	60	66.4	72.8	79.2	85.6	92	124	156	60
ø80	-	60	72	84	96	108	120	132	144	156	216	276	116
ø100	-	60	72	84	96	108	120	132	144	156	216	276	116

A cylinder.

Total weight = Cylinder 1 weight + Cylinder 2 weight + (Hexagon socket head cap bolt + Connector weight)

<Example: Total weight of SSD-25-30-N-10-N>

Weight: of 30 stroke length of ø25, (1)

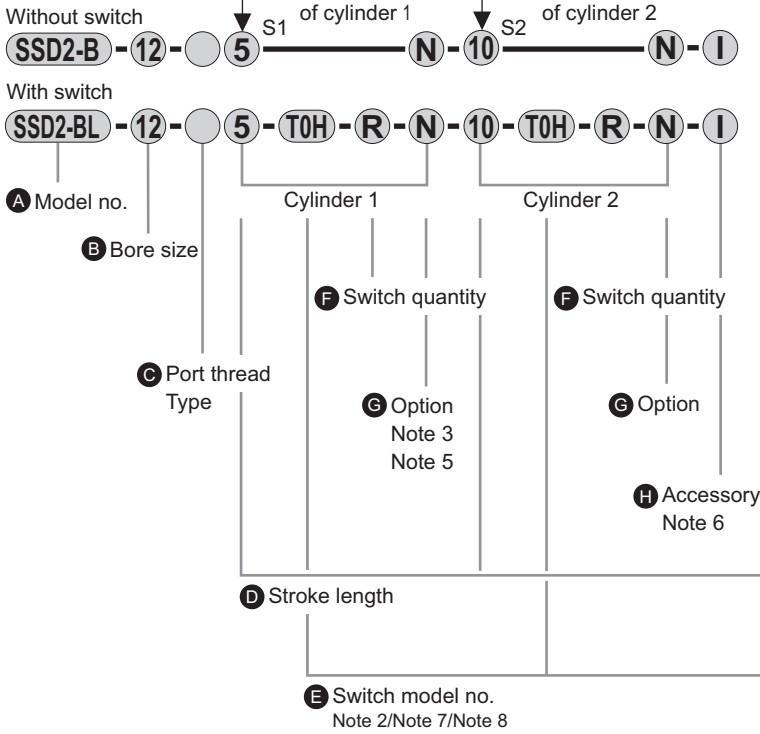
Weight: of 10 stroke length of ø25, (2)

Weight: of ø25 cylinder 2 Hexagon socket head cap bolt weight + connector weight of 10 stroke, (3)

Total weight = (1) + (2) + (3) = 165g + 102g + 11g + 14g = 292g

# SSD2-B Series

## How to order



## ⚠ Note on model no. selection

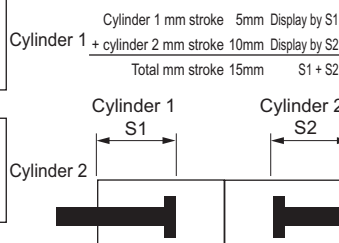
- Note 1: Two cylinders are combined from cylinder 2 side. (Refer to the dimensions.) Consider installation method and decide cylinder 1 and 2.
- Note 2: T2YD\* switch can not be installed for ø12, ø16. T8\* switch can not be installed on ø12 to ø32.
- Note 3: ø12 to ø25 piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.
- Note 4: Refer to intro 3, 4 page about combination of variations and options.
- Note 5: Option symbol "N" is indicated for both S1 and S2, but other option symbols are indicated only for S2.
- Note 6: 2pcs. are enclosed when accessories are selected. 1pc. each is enclosed when "IY" is selected.
- Note 7: ø20 F-type switch lead wire L type is not available for the 15 or shorter stroke.
- Note 8: Switches are shipped with the product. Contact CKD when shipment must be assembled.

### <Example of model number>

## SSD2-BL-12-5-T0H-R-N-10-T0H-R-N

Model: Compact cylinder back to back type

- B** Bore size : ø12mm
- C** Port thread type : Rc thread
- D** Stroke length S1 : 5mm
- E** Switch model no.: Reed switch T0H/  
Lead wire 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread
- D** Stroke length S2 : 10mm
- E** Switch model no.: Reed switch T0H/  
Lead wire 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread



Symbol	Descriptions
<b>A Model no.</b>	
<b>SSD2-B</b>	Double acting back to back type
<b>SSD2-BL</b>	Double acting back to back type/with switch

<b>B Bore size (mm)</b>	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

<b>C Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (custom order)
GN	G thread (ø32 and over) (custom order)

<b>D Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>E Switch model no.</b>		Contact	Indicator	Lead wire	Bore size													
Lead wire Axial	Lead wire Radial				12	16	20	25	32	40	50	63	80	100				
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●										
F3H*	F3V*						●	●										
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire			●	●										
F3YH*	F3YV*						●	●										
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●		
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*				1 color indicator type					●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●		
T2H*	T2V*						●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*						●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	1 color indicator type (PNP output) (custom order)	3-wire	●	●	●	●	●	●	●	●	●	●	●	●		
T2WH*	T2WV*						●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*						●	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	2 color indicator type	3-wire			●	●	●	●	●	●	●	●	●	●		
T3YH*	T3YV*						●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-				Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●
T2YDT*	-			●			●	●	●	●	●	●	●	●	●	●	●	
T2JH*	T2JV*	Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●		

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>F Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>G Option</b>	
Blank	Rod end female thread
N	Rod end male thread
M Note 3	Piston rod material (stainless steel)

<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

(Stroke length table)

Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1										
Max. stroke length (mm)	30		50			100					
Custom stroke length Note 2	By 1 mm increment										

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 112 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch

**SW - T0H**



Switch model no.  
(item previous page ⑥)

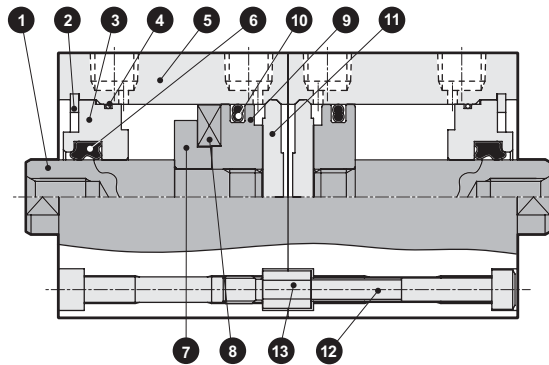
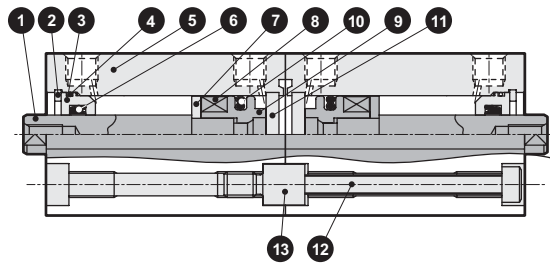


# SSD2-B Series

## Internal structure and parts list

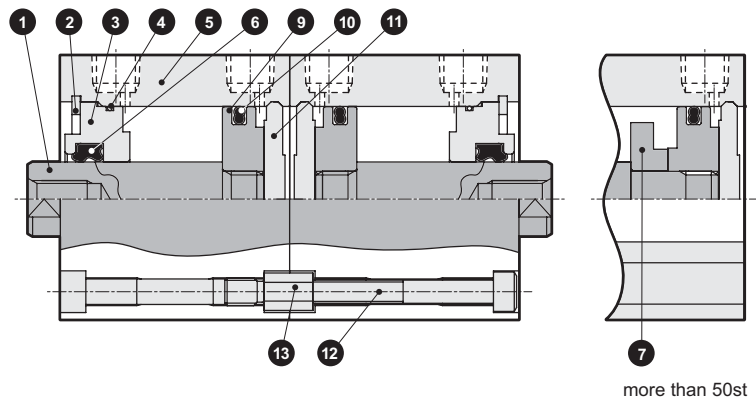
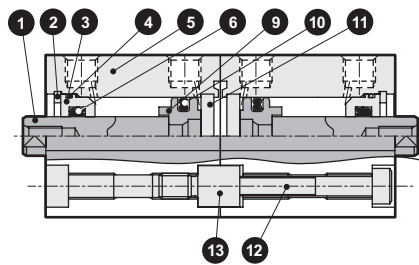
● SSD2-BL-12 to 25 (double acting/back to back type/with switch)

● SSD2-BL-32 to 50 (double acting/back to back type/with switch)



● SSD2-B-12 to 25 (double acting/back to back type)

● SSD2-B-32 to 50 (double acting/back to back type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: stainless steel ø32 to ø50: steel	ø16 to ø50 Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Special aluminum	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	ø12 to 25: stainless steel ø32 to ø50: aluminum alloy	ø32 to ø50: alumite
5	Body	Aluminum alloy	Hard alumite	12	Hexagon socket head cap bolt	Steel	Blackening
6	Rod packing seal	Nitrile rubber		13	Connector	Steel	Zinc chromate
7	Spacer	Aluminum alloy	Chromate				

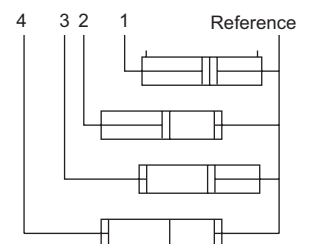
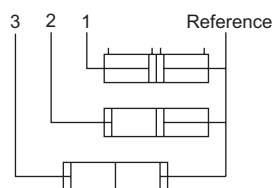
## Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-B-12K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø16	SSD2-B-16K	
ø20	SSD2-B-20K	
ø25	SSD2-B-25K	
ø32	SSD2-B-32K	
ø40	SSD2-B-40K	
ø50	SSD2-B-50K	

## Example of SSD2-B

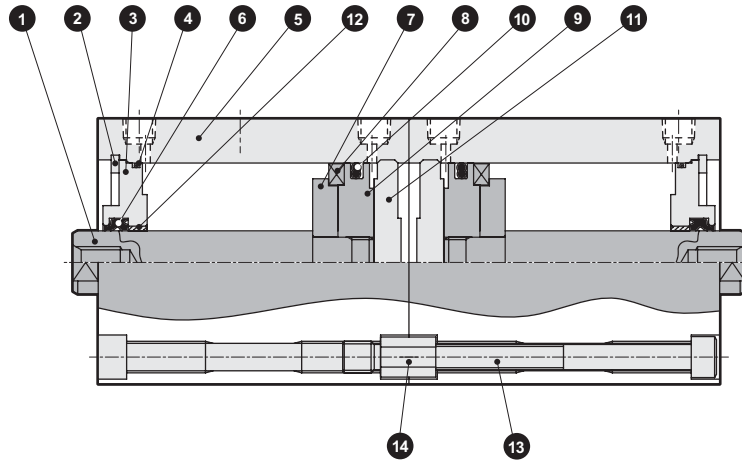
Three positions are available when the same stroke is combined.

Four positions are available when different strokes are combined.

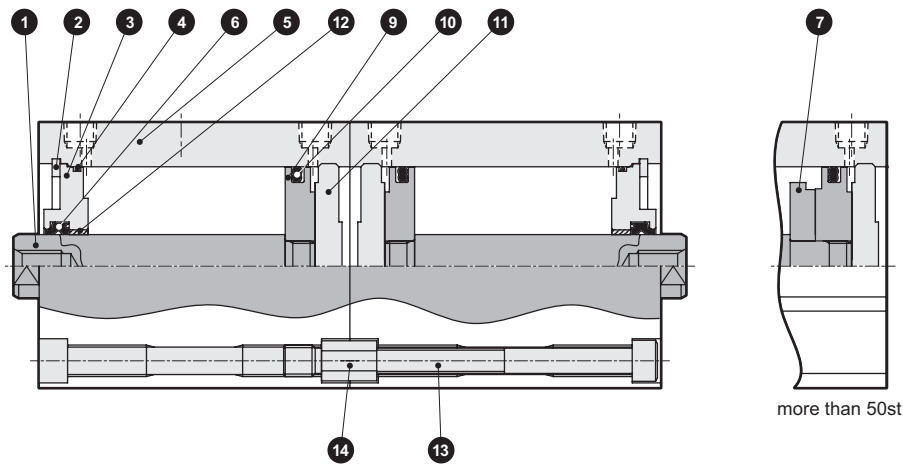


### Internal structure and parts list

- SSD2-BL-63 to 100 (double acting/back to back type/with switch)



- SSD2-B-63 to 100 (double acting/back to back type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Aluminum alloy	Chromate	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oilless dry met	Note 1
6	Rod packing seal	Nitrile rubber		13	Hexagon socket head cap bolt	Steel	Blackening
7	Spacer	Aluminum alloy	Chromate	14	Connector	Steel	Zinc chromate

Note 1: Steel is used for copper and PTFE free.

### Repair parts list

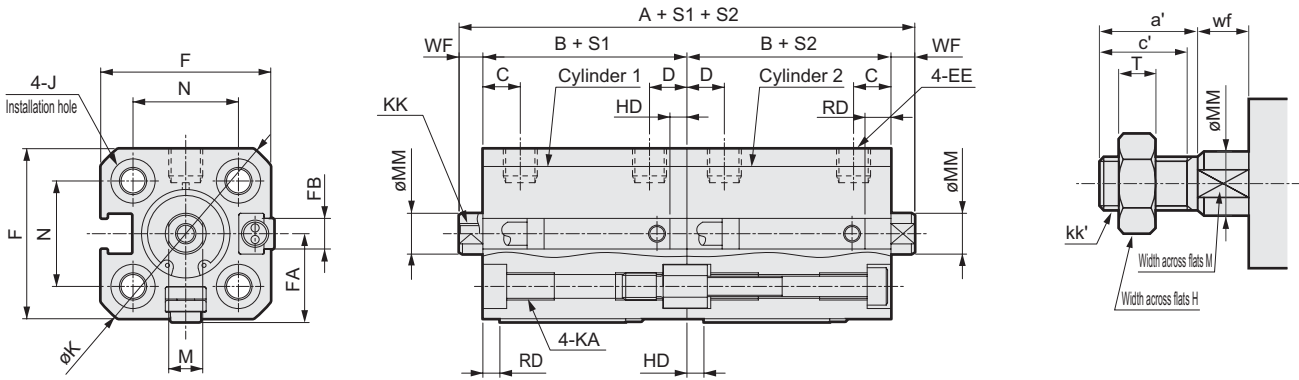
Bore size (mm)	Kit No.	Repair parts number
ø63	SSD2-B-63K	4 6 10
ø80	SSD2-B-80K	
ø100	SSD2-B-100K	

# SSD2-B Series

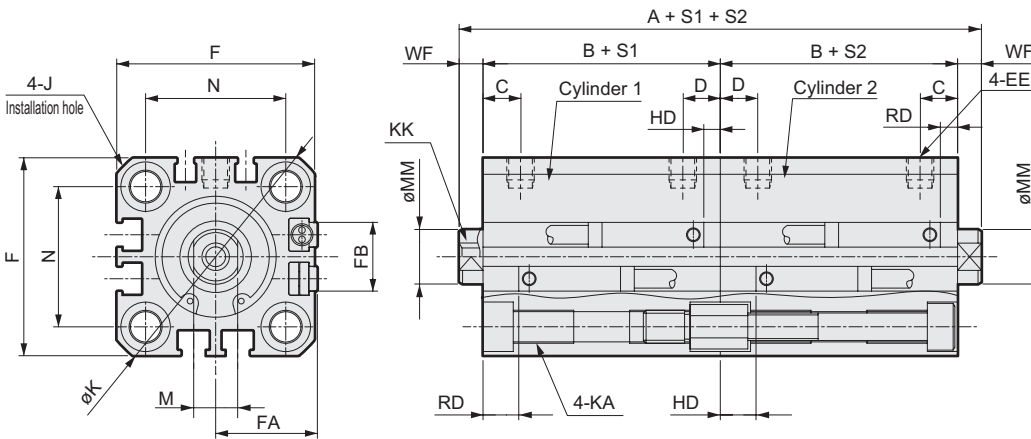
## Dimensions

### ● SSD2-BL-12/16 (with switch)

### ● Rod end male thread



### ● SSD2-BL-25, 32 (with switch)



### ● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size  $\phi 20$  and  $\phi 25$  piping port surface.

Symbol	Common dimension with switch																
	A Note 1	B Note 1	C	D	EE	F	FA Note 3	FB	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	51	22	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
$\phi 16$	51	22	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
$\phi 20$	68	29.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
$\phi 25$	75	32.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5
Switch dimension	Reed T0H/TOV and T5H/T5V Note 6				Proximity T2H/T2V and T3H/T3V Note 6				Proximity T2WH/T2WV and T3WH/T3WV Note 6				Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV				
	HD		RD		HD		RD		HD		RD		HD		RD		
$\phi 12$	1.5 (0)		1.5 (3)		1.5 (0)		1.5 (3)		3.5 (2)		3.5 (5)						
$\phi 16$	0		4		0		4.5		1		6						
$\phi 20$	3		7.5		3		7.5		5		9.5		7.5		12		
$\phi 25$	4		9.5		4		9.5		6		11.5		8.5		14		

Note 1: When calculating custom stroke dimensions of  $\langle A+S1+S2 \rangle$ ,  $\langle B+S1 \rangle$  and  $\langle B+S2 \rangle$ , the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.

(Example): For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Dimensions in ( ) of HD/RD columns are values when cushion is installed.

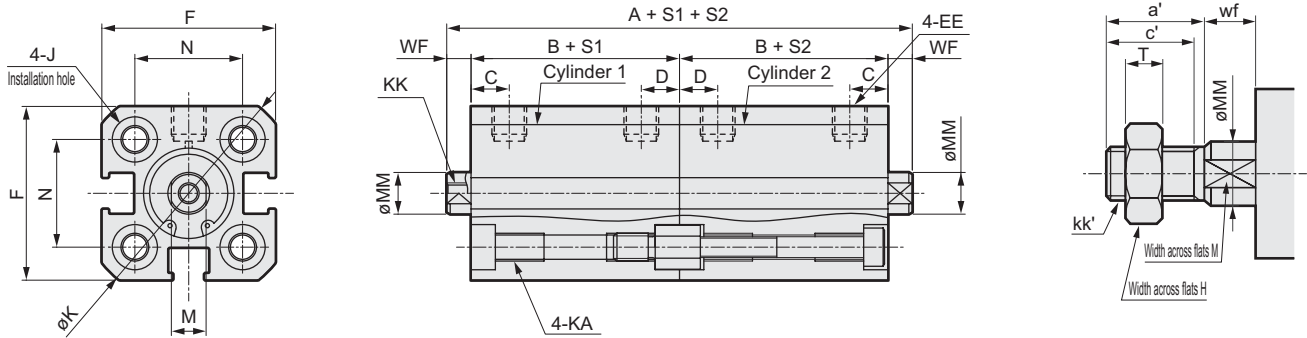
### ● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
$\phi 12$	10.5	9	8	M5	5	6	3.2	3.5
$\phi 16$	12	10	8	M6	6	8	3.6	3.5
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

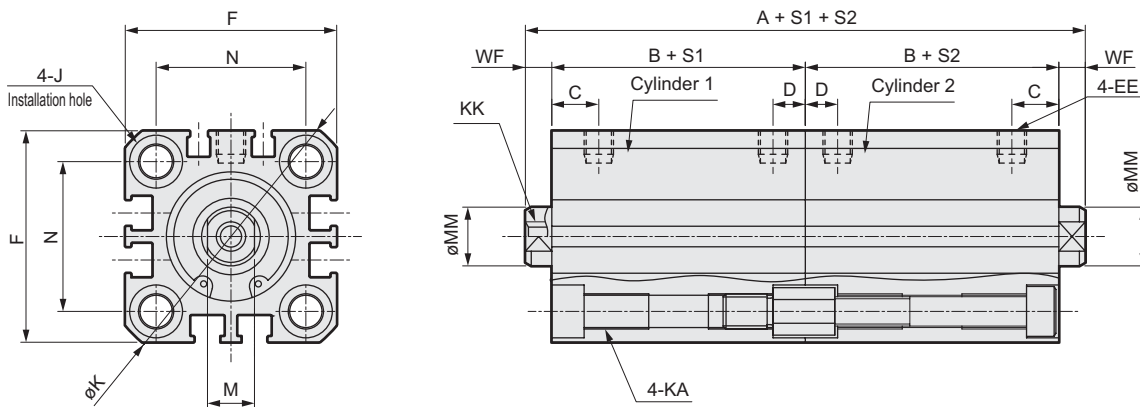
### Dimensions

● SSD2-B-12/16 (without switch)

● Rod end male thread



● SSD2-B-20, 25 (without switch)



Symbol	Without switch and common dimension														
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	41	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
$\phi 16$	41	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
$\phi 20$	48	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
$\phi 25$	55	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
$\phi 12$	10.5	9	8	M5	5	6	3.2	3.5
$\phi 16$	12	10	8	M6	6	8	3.6	3.5
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: When calculating custom stroke dimensions of (A+S1+S2), (B+S1) and (B+S2), the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.

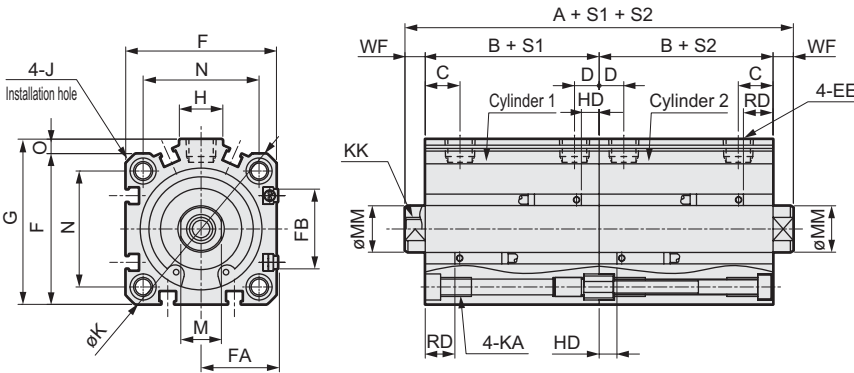
(Example): For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

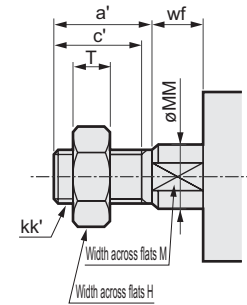
# SSD2-B Series

## Dimensions

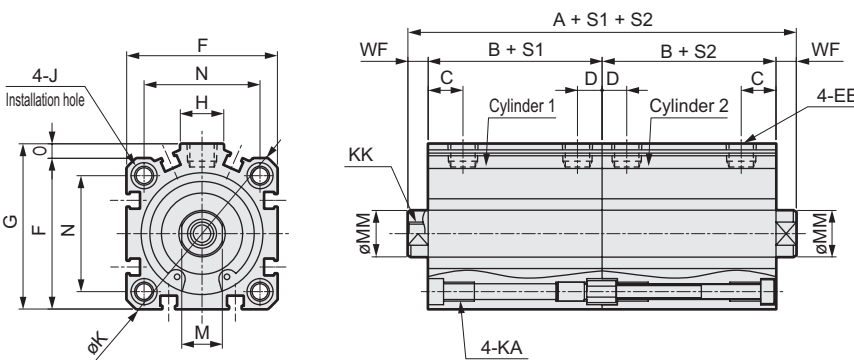
### ● SSD2-BL-32 to 100 (with switch)



### ● Rod end male thread



### ● SSD2-B-32 to 100 (without switch)



Symbol	Without switch		Common dimension with switch																			
	A <small>Note 1, Note 6</small>	B <small>Note 1, Note 6</small>	A <small>Note 1</small>	B <small>Note 1</small>	C <small>Note 8</small>	D <small>Note 8</small>	EE	F	FA <small>Note 4</small>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
ø32	60 (80)	23 (33)	80	33	8 (10)	8 (5.5)	Rc1/8 <small>Note 7</small>	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	73 (93)	29.5 (39.5)	93	39.5	12 (11.5)	8.5 (8)	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	77 (97)	30.5 (40.5)	97	40.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	88 (108)	36 (46)	108	46	13	11	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	107 (127)	43.5 (53.5)	127	53.5	16	13	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	130 (150)	53 (63)	150	63	23	15	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12
Switch dimension	Reed T0H/TOV and T5H/T5V				Proximity T2H/T2V and T3H/T3V				Proximity T2WH/T2WV and T3WH/T3WV													
	HD <small>Note 2</small>		RD <small>Note 2</small>		HD <small>Note 2</small>		RD <small>Note 2</small>		HD		RD											
ø32	4		9.5		4		9.5		6		11.5											
ø40	7		12		7		12		8.5		13.5											
ø50	7.5		12.5		7.5		12.5		9		14											
ø63	12.5		13		12.5		13		14		14.5											
ø80	17.5		15.5		17.5		15.5		19		17											
ø100	23		19.5		23		19.5		24.5		21											

Note 1: When calculating custom stroke dimensions of (A+S1+S2), (B+S1) and (B+S2), the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length. (Example): For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 7: The port size is M5 for the 5 stroke ø32 without switch.

Note 8: Dimensions in ( ) C, D column are values when 5 strokes without switch.

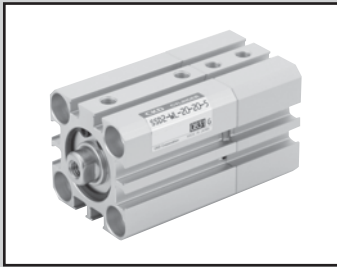
### ● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

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MEMO

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Compact cylinder double acting two stage type

# SSD2-W Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-W SSD2-WL (with switch)									
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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 two stage type									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (note)									
Min. working pressure MPa	0.15						0.1			
Withstanding pressure MPa	1.6									
Ambient temperature $^{\circ}\text{C}$	-10 to 60 (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$					$S_2 = \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$				
Working piston speed mm/s	50 to 500						50 to 300			
Cushion	None									
Lubrication	Not required (when lubricating, use turbine oil ISO VG32.)									
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: If S1 and S2 are the same, the maximum working pressure is 0.5MPa.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25 30·35·40·45·50	50	
$\phi 25$			
$\phi 32$			
$\phi 40$			
$\phi 50$	10·15·20·25 30·35·40·45·50	50	
$\phi 63$			
$\phi 80$			
$\phi 100$			

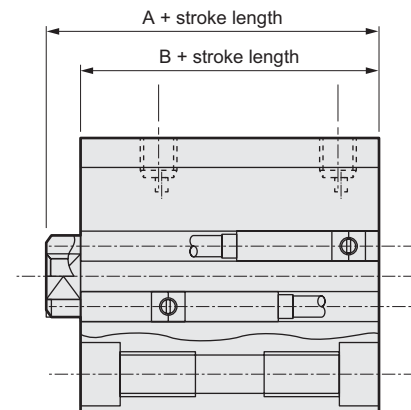
Note 1: Custom stroke length is available per 1mm increment. The total length is the same dimension as the next longer standard stroke length.

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

## Custom stroke length

### ● SSD2-W Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-W-32-38 +2mm spacer is provided on the standard cylinder SSD2-W-32-40 to attain a 38mm stroke. The B+stroke length dimension is 63mm.	



### Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Value in ( ) is the type with a rod end.

### Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

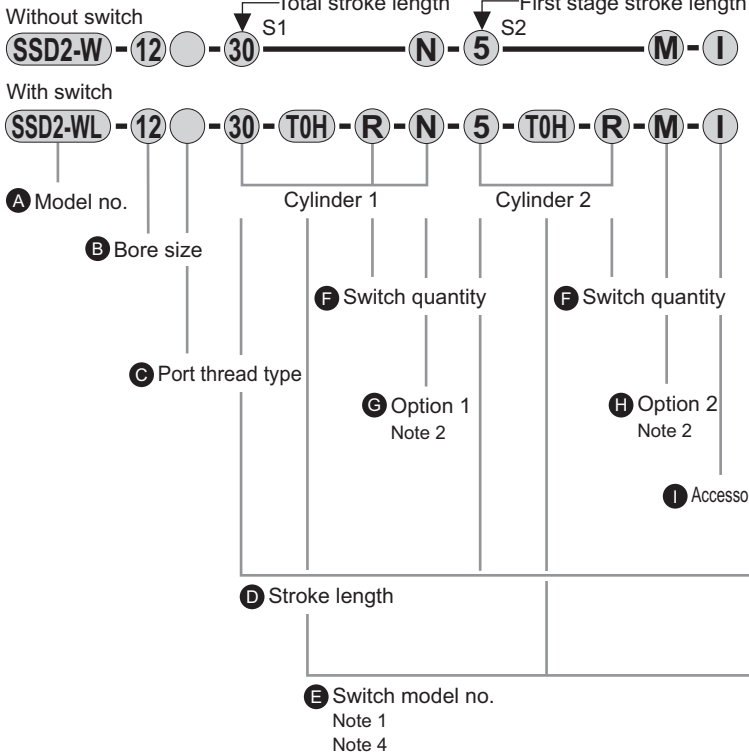
- 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire	
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD		
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated	
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-	
Power voltage	-	-				10 to 28 VDC				-				-	
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110VAC	5/12/24 VDC	100/110VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less	50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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	1mA or less at 100 VAC, 2mA or less at 200 VAC	1mA or less				10µA or less				0mA				1mA or less	



# SSD2-W Series

## How to order



### ⚠ Note on model no. selection

- Note 1: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ . T8\* switch can not be installed on  $\phi 12$  to  $\phi 32$ .
- Note 2:  $\phi 12$  to  $\phi 25$  piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.
- Note 3: Refer to intro 3, 4 page about combination of variations and options.
- Note 4: Switches are shipped with the product. Contact CKD when shipment must be assembled.

### <Example of model number>

#### SSD2-WL-12-30-T0H-R-N-5-T0H-R-I

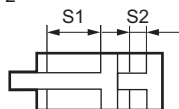
Model: Compact cylinder two stage type

- B Bore size :  $\phi 12$ mm
- C Port thread type : Rc thread
- D Total stroke length S1 : 30mm
- E Switch model no. : Reed switch T0H and lead wire 1m
- F Switch quantity : 1 on rod end
- G Option 1 : Rod end male thread
- D First stage stroke length S2: 5mm
- Second stage stroke length : 25mm
- E Switch model no. : Reed switch T0H and lead wire 1m
- F Switch quantity : 1 on rod end
- I Accessory : Rod eye

Cylinder 1

1 step eye mm stroke 5mm Display by S2  
+ 2 step eye mm stroke 25mm  
Total mm stroke 30mm Display by S1

Cylinder 2



Symbol	Descriptions
<b>A Model no.</b>	
SSD2-W	Double acting two stage type
SSD2-WL	Double acting two stage 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 following page.	

E Switch model no.		Contact	Indicator	Lead wire	Bore size												
Lead wire Axial	Lead wire Radial				12	16	20	25	32	40	50	63	80	100			
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●									
F3H*	F3V*			3-wire			●	●									
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire			●	●									
F3YH*	F3YV*			3-wire			●	●									
T0H*	T0V*	Reed	1 color indicator type	2-wire	Without light	●	●	●	●	●	●	●	●	●	●	●	
T5H*	T5V*				1 color indicator type					●	●	●	●	●	●	●	●
T8H*	T8V*			2-wire	1 color indicator type												
T1H*	T1V*																
T2H*	T2V*	2-wire	1 color indicator type		●	●	●	●	●	●	●	●	●	●	●	●	
T3H*	T3V*				●	●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	3-wire	1 color indicator type (PNP output) (custom order)		●	●	●	●	●	●	●	●	●	●	●	●	
T2WH*	T2WV*				●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	3-wire	2 color indicator type														
T3WH*	T3WV*				●	●	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*																
T2YD*	-	2-wire	Strong magnetic field proof switch														
T2YD*	-				●	●	●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	2-wire	Off-delay type														

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

F Switch quantity	
R	1 on rod end
H	1 on head end
D	2

G Option 1	
Blank	Rod end female thread
N	Rod end male thread

H Option 2		Note 2
M	Piston rod material (stainless steel)	

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

### (Stroke length table)

Stroke length (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke length	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
Min. stroke length (mm)		1									
Max. stroke length (mm)		30			50						
Custom stroke length Note 1		By 1 mm increment									

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 121 for switch installation number and min.stroke length.

Note 2: The same dimension as next longer standard stroke length applies to the total length.

### How to order switch

**SW - T0H**

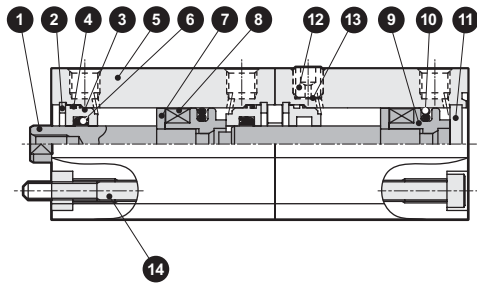


Switch model no.  
(item previous page ⑥)

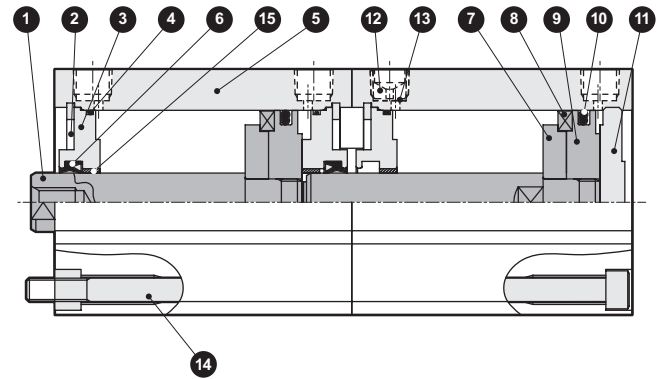
# SSD2-W Series

## Internal structure and parts list

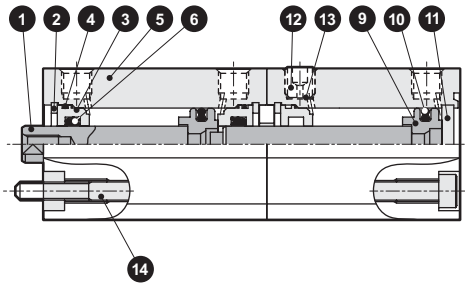
● SSD2-WL-12 to 50 (double acting/two stage type/with switch)



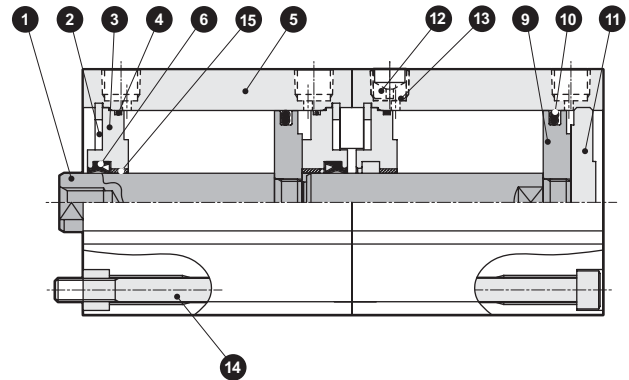
● SSD2-WL-63 to 100 (double acting/two stage type/with switch)



● SSD2-W-12 to 50 (double acting/two stage type)



● SSD2-W-63 to 100 (double acting/two stage type)



No.	Parts name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø100: Steel	ø16 to ø100 Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	ø12 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø12 to ø50: alumite ø63 to ø100: chromate
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	
7	Spacer	Aluminum alloy	Chromate
8	Magnet	Plastic	

No.	Parts name	Material	Remarks
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Guard	ø12 to 25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100 Alumite
12	Plug	Stainless steel	
13	Stainless steel money rope	Stainless steel	
14	Hexagon socket head cap bolt	Steel	Blackening
15	Bush	Oilless dry met	

## Repair parts list

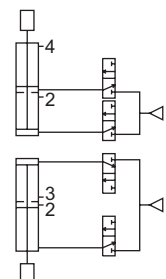
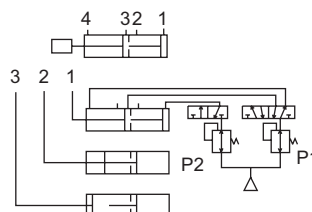
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-W-12K	
ø16	SSD2-W-16K	
ø20	SSD2-W-20K	
ø25	SSD2-W-25K	
ø32	SSD2-W-32K	
ø40	SSD2-W-40K	
ø50	SSD2-W-50K	
ø63	SSD2-W-63K	
ø80	SSD2-W-80K	
ø100	SSD2-W-100K	

## Example of SSD2-W

The set pressure should be  $P2 > P1$ .

- First stage push-out  
Pressurize Port1 at the state that Port4 is pressurized.
- Second stage push-out  
Pressurize Port3 at the state that Port1 is pressurized.

Could  $P2 = P1$  depended on load direction. Not always  $P2 = P1$  depending on direction of load. When using a single acting cylinder with falling down of load by its self weight, in the case of the figure above, Port 2 and 4 are bleeding Ports, while in the case of figure below, Port 2 and 3 are bleeding port. Basically, Port 2 which is unnecessary to pipe is plugged with a plug with filter.

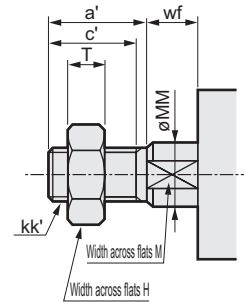
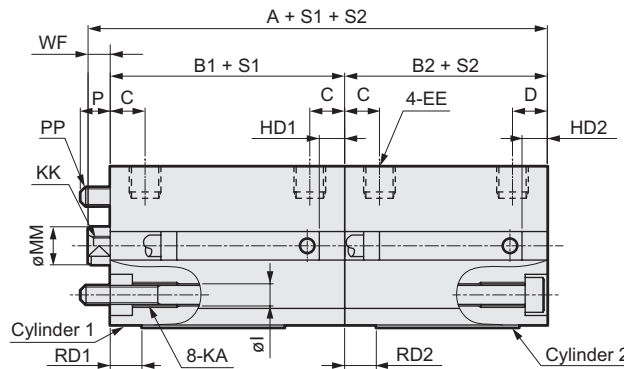
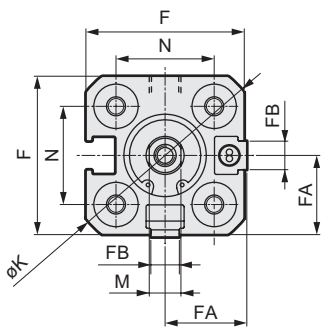


### Dimensions

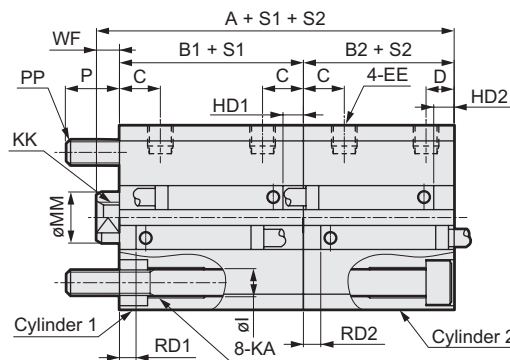
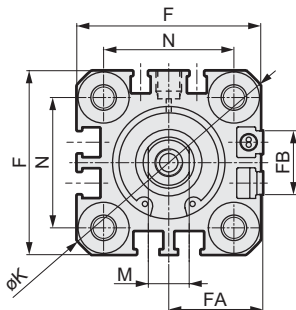
● SSD2-WL-12 to 25 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread

ø12·ø16



ø20·ø25



● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and ø25 piping port surface.

Symbol	Common dimension with switch																			
Bore size (mm)	A	B1	B2	C	D	EE	F	FA <sup>Note 3</sup>	FB	I	J	K	KA	KK	M	MM	N	WF	P	PP
ø12	52.5	27	22	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	4.5	M3
ø16	52.5	27	22	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	4.5	M3
ø20	70	36	29.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	10	M5
ø25	76.5	39	32.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5	9	M5
Switch dimension	Reed T0H/TOV and T5H/T5V						Proximity T2H/T2V and T3H/T3V						Proximity T2WH/T2WV and T3WH/T3WV							
Bore size (mm)	RD1, RD2		HD1		HD2		RD1, RD2		HD1		HD2		RD1, RD2		HD1		HD2			
ø12	1.5		6.5		1.5		1.5		6.5		1.5		3.5		8.5		3.5			
ø16	3.5		4.5		0		3.5		4.5		0		5.5		6.5		1.5			
ø20	7.5		9.5		3		7.5		9.5		3		9.5		11.5		5			
ø25	9.5		10.5		4		9.5		10.5		4		11.5		12.5		6			

Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B + S1> and <B + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.

(Example): For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

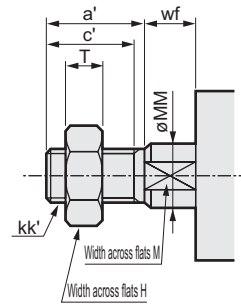
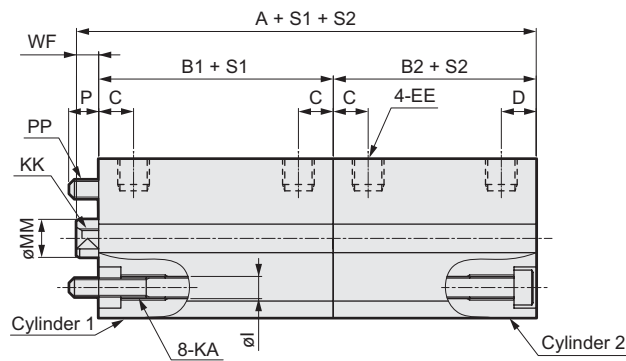
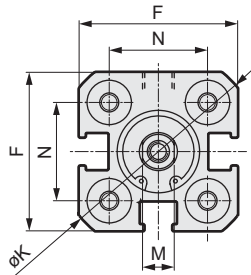
# SSD2-W Series

## Dimensions

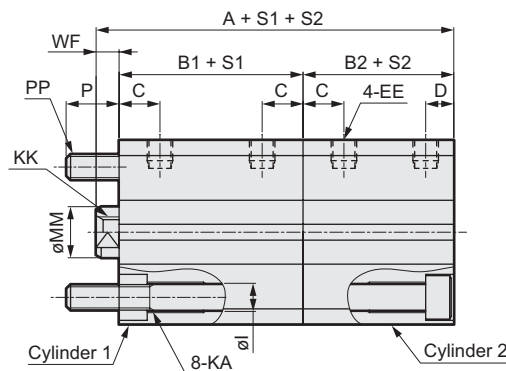
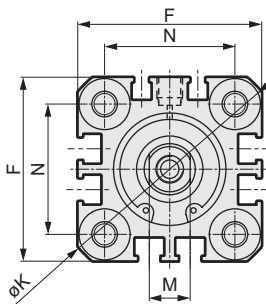
● SSD2-W-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20·ø25



Symbol	Without switch and common dimension																	
	A	B1	B2	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF	P	PP
ø12	42.5	22	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	4.5	M3
ø16	42.5	22	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	4.5	M3
ø20	50	26	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	10	M5
ø25	56.5	29	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5	9	M5

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: When calculating custom stroke dimensions of <math>\langle A + S1 + S2 \rangle</math>, <math>\langle B1 + S1 \rangle</math> and <math>\langle B2 + S2 \rangle</math>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.

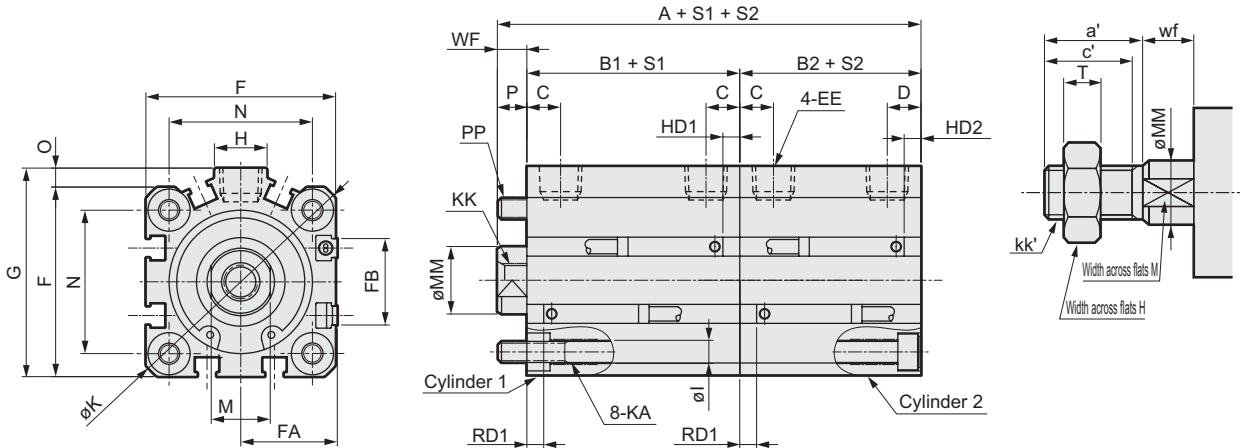
(E.g) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: Refer to page 245 to 256 for accessory dimensions.

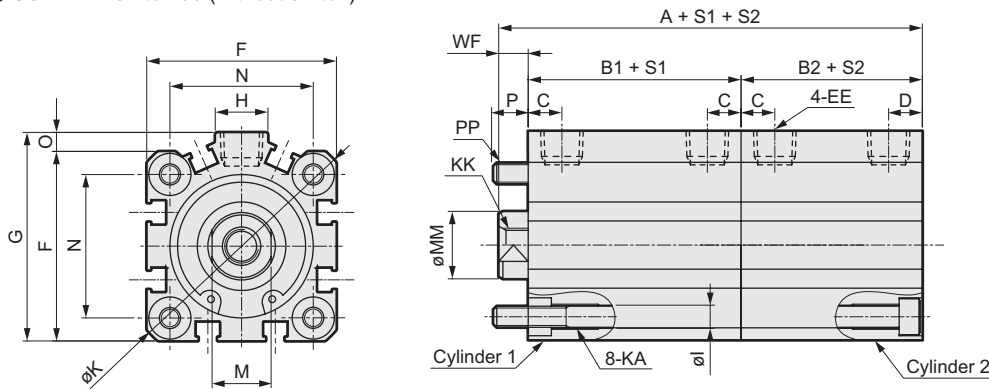
### Dimensions

● SSD2-WL-32 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread



● SSD2-WL-32 to 100 (without switch)



Symbol	Without switch			Common dimension with switch																						
	A	B1	B2	A	B1	B2	C	D	EE	F	FA <sup>Note 4</sup>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF	P	PP
ø32	60.5	30.5	23	80.5	40.5	33	8 (11)	8 (5.5)	Rc1/8 <sup>Note 7</sup>	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	7	M5
ø40	76.5	40	29.5	96.5	50	39.5	12 (11.5)	8.5 (8)	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7	6	M5
ø50	79	40.5	30.5	99	50.5	40.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face depth 5.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8	10.5	M6
ø63	86	42	36	106	52	46	13	11	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8	11	M8
ø80	104.5	51	43.5	104.5	61	53.5	16	13	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10	11.5	M10
ø100	125.5	60.5	53	145.5	70.5	63	23	15	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	12.5	M10
Switch dimension	Reed T0H/TOV and T5H/T5V						Proximity T2H/T2V and T3H/T3V						Proximity T2WH/T2WV and T3WH/T3WV													
	RD1, RD2		HD1	HD2	RD1, RD2		HD1	HD2	RD1, RD2		HD1	HD2	RD1, RD2		HD1	HD2										
ø32	10		11.5	4	10		11.5	4	12		13.5	6														
ø40	13		18	7.5	13		18	7.5	15		20	9.5														
ø50	13		18.5	8.5	13		18.5	8.5	15		20.5	10.5														
ø63	13.5		19.5	13.5	13.5		19.5	13.5	15.5		21.5	15.5														
ø80	16		26	18.5	16		26	18.5	18		28	20.5														
ø100	20.5		31.5	24	20.5		31.5	24	22.5		33.5	26														

Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B1 + S1> and <B2 + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length. (E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

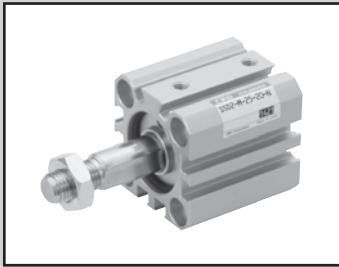
Note 6: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 7: The port size is M5 for the 5 stroke ø32 without switch.

Note 8: ( ) dimension in C, D column is the value without switch at 5mm stroke.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8



Compact cylinder double acting non-rotating type

# SSD2-M Series

- Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25$   
 $\phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63$



## Specifications

Descriptions	SSD2-M SSD2-ML (with switch)							
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
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 $^{\circ}\text{C}$	-10 to 60 (no freezing)							
Port size	M5				Rc1/8, Note 1		Rc1/4	
Stroke tolerance mm	+ 1.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)							
Revolvable angle tolerance (Note 2)	$\pm 1^{\circ}$		$\pm 0.7^{\circ}$			$\pm 0.8^{\circ}$		
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

Note 2: This is default at a pull end.

## Stroke length

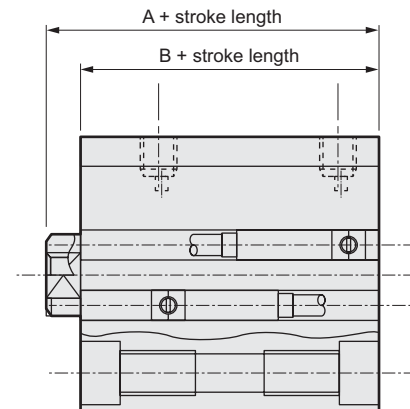
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15· 20·25·30		
$\phi 63$	35·40·45·50·75·100		

Note 1: Refer to the switch quantity and min. stroke length on the next page when using cylinder with switch.

## Custom stroke length

### ● SSD2-M Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 63	1 to 99
Example of model number	Model no.: SSD2-M-32-38 +2 mm spacer is provided on the standard cylinder SSD2-32-40 to attain a 38 mm stroke. B + stroke length is 72 mm.	



### Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10 (5)	5
ø16		
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Each ( ) inside is of the type with a rod end.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD				
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-			
Power voltage	-	-				10 to 28 VDC				-				-			
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	AC100/110V	5/12/24 VDC	AC100/110V	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less			

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	44	94	52	94	61	103	69	11	78	120	80	122	-	-	-	-	-	-	-	-	-	-	-	-
ø16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-	-	-	-	-	-	-	-	-
ø20	76	131	88	163	101	176	114	189	126	201	139	214	152	227	165	240	178	253	191	266	-	-	-	-
ø25	102	193	117	208	133	224	149	240	165	256	180	271	196	287	212	303	228	319	243	334	-	-	-	-
ø32	166	280	188	302	210	324	232	346	253	367	275	389	297	411	319	433	341	455	362	476	575	583	682	691
ø40	-	-	210	353	237	380	263	406	290	433	317	460	343	486	370	513	396	539	423	566	683	698	815	831
ø50	-	-	341	535	383	577	425	619	467	661	509	703	552	746	594	788	636	830	678	872	1065	1082	1275	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	837	1116	893	1172	948	1227	1478	1502	1753	1777



# SSD2-M Series

## How to order

Without switch

**SSD2-M** - **12** - **5** - **N** - **LB** - **I**

With switch

**SSD2-ML** - **12** - **5** - **T0H** - **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  
Note 8  
Note 9

**F** Switch quantity

**G** Option  
Note 4

### ⚠ Note on model no. selection

Note 1: T2YD\* switch can not be installed for ø12, ø16.

Note 2: T8\* switch can not be installed for ø12 to ø32.

Note 3: F type switch is installable only on the piping port of tube bore size ø20, ø25.

Note 4: ø12 to ø25 piston rod material is as stainless steel as standard. The snap-ring is stainless steel instead of steel.

When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5: The mounting bracket is enclosed when shipped.

Note 6: Piston rod dimensions of projecting section WF standard differ when LB and FA a selection. Refer to Page dimensions 245 page and 249. And the length of ledge indicate on the tail of part number in the label.

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

Note 8: ø20 F-type switch lead wire L type is not available for the 10 or shorter stroke.

Note 9: Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 10: Refer to intro 3 to 4 for available variation and options

<Example of model number>

### SSD2-ML-12-5-T0H-R-N-LB-I

Model: Compact cylinder non-rotating type

**B** Bore size : ø12mm

**C** Port thread type : Rc thread

**D** Stroke length : 5mm

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

**F** Switch quantity : 1 on rod end

**G** Option : Rod end male thread

**H** Mounting bracket: Axial foot

**I** Accessory : Rod eye

**H** Mounting bracket

Note 5

Note 6

**I** Accessory

Note 7

Symbol	Descriptions
<b>A Model no.</b>	
SSD2-M	Double acting non-rotating type
SSD2-ML	Double acting non-rotating type/with switch

<b>B Bore size (mm)</b>	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

<b>C Port thread type</b>	
Blank	Rc thread
NN	NPT thread (ø32 and over) (custom order)
GN	G thread (ø32 and over) (custom order)

<b>D Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>E Switch model no.</b>		Contact	Indicator	Lead wire	Bore size									
Lead wire Axial	Lead wire Radial				12	16	20	25	32	40	50	63		
F2H*	F2V*	Proximity	1 color indicator type	2-wire			●	●						
F3H*	F3V*			3-wire			●	●						
F2YH*	F2YV*			2-wire			●	●						
F3YH*	F3YV*	Reed	2 color indicator type	3-wire			●	●						
T0H*	T0V*			2-wire	1 color indicator type	●	●	●	●	●	●	●	●	●
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	1 color indicator type	2-wire							●	●	●	
T1H*	T1V*												●	●
T2H*	T2V*												●	●
T3H*	T3V*	Proximity	2 color indicator type	3-wire							●	●	●	
T3PH*	T3PV*												●	●
T2WH*	T2WV*												●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire							●	●	●	
T3WH*	T3WV*												●	●
T3YH*	T3YV*												●	●
T2YD*	-	Proximity	Strong magnetic field proof switch	2-wire							●	●	●	
T2YDT*	-												●	●
T2JH*	T2JV*	Proximity	Off-delay type	2-wire							●	●	●	
													●	●

<b>* Lead wire length</b>	
Blank	1m (standard)
3	3m (option)
5	5m (option)

<b>F Switch quantity</b>	
R	1 on rod end
H	1 on head end
D	2

<b>G Option</b>	
Blank	Rod end female thread
N	Rod end male thread
M	Note 5
Material of Piston rod (Stainless steel) (Custom made) (ø32 to ø63))	

<b>H Mounting bracket</b>	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

## (Stroke length table)

Stroke length (mm)	Applicable bore size								
	12	16	20	25	32	40	50	63	
Standard stroke length	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●
	40			●	●	●	●	●	●
	45			●	●	●	●	●	●
	50			●	●	●	●	●	●
	75					●	●	●	●
100					●	●	●	●	
Min. stroke length (mm) Note 1	1								
Max. stroke length (mm)	30		50		100				
Custom stroke length Note 2	By 1 mm increment								

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches. Refer to page 130 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch



Switch model no.  
(item previous page ㊞)

## How to order mounting bracket

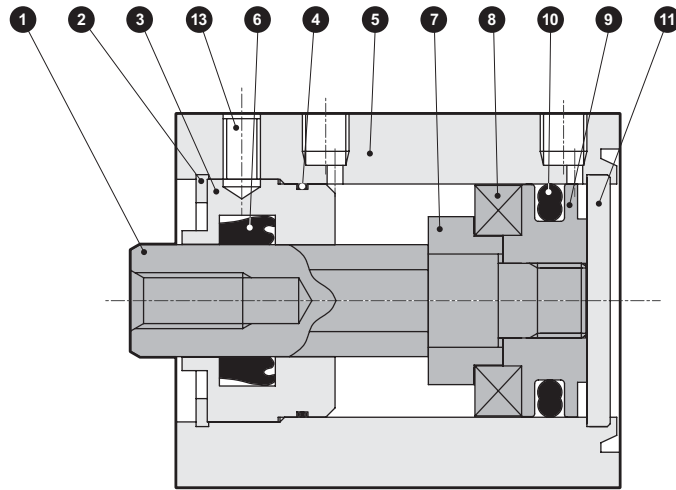
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
<b>Bore size (mm)</b>	<b>ø63</b>						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-63						
Flange (FA/FB)	SSD2-FA-63						
Clevis (CB)	SSD2-CB-63						

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

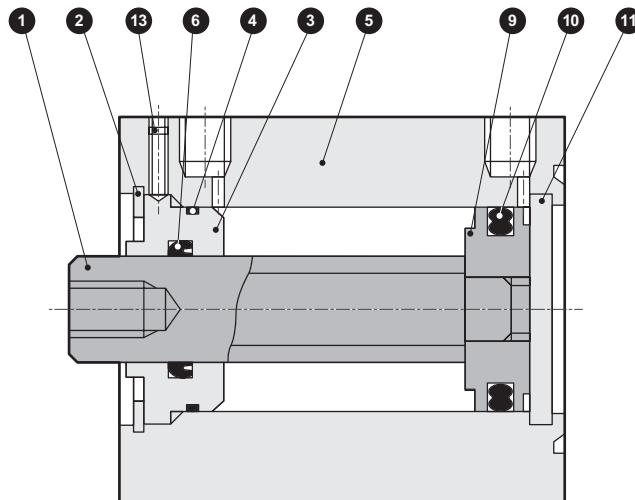
# SSD2-M Series

## Internal structure drawing and parts list (ø12 to ø25)

● SSD2-ML-12 to 25 (double acting/non-rotating type/with switch)



● SSD2-M-12 to 25 (double acting/non-rotating type)



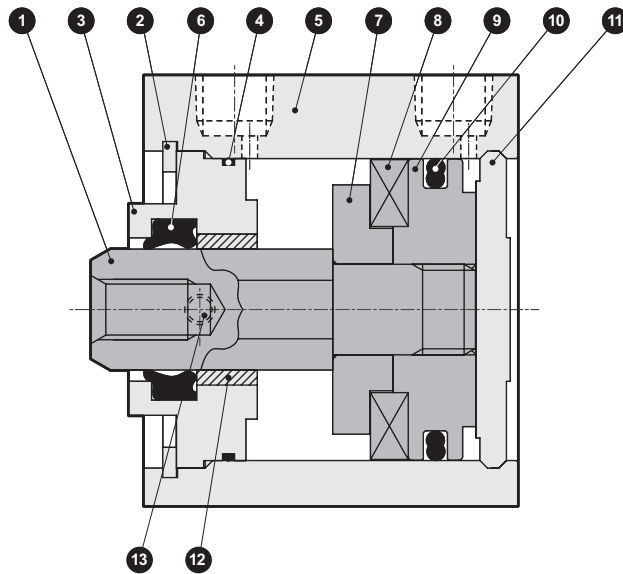
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Stainless steel		8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Special aluminum	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	Stainless steel	
5	Body	Aluminum alloy	Hard alumite	13	Hexagon socket head set screw	Steel	
6	Rod packing seal	Nitrile rubber					
7	Spacer	Aluminum alloy	Chromate				

### Repair parts list

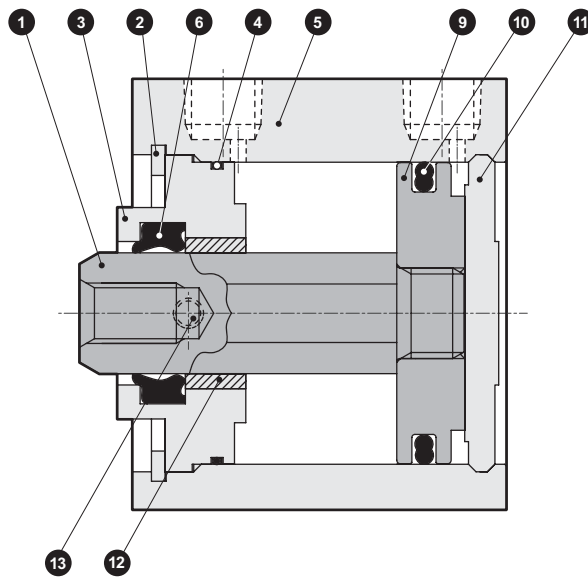
Bore size (mm)	Kit No.	Repair parts number
ø12	SSD2-M-12K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø16	SSD2-M-16K	
ø20	SSD2-M-20K	
ø25	SSD2-M-25K	

### Internal structure drawing and parts list (ø32 to ø63)

● SSD2-ML-32 to 63 (double acting/non-rotating type/with switch)



● SSD2-M-32 to 63 (double acting/non-rotating type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	ø32 to ø50: Special aluminum ø63: Aluminum alloy	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oil impregnated bearing alloy	
6	Rod packing seal	Nitrile rubber		13	Hexagon socket head set screw	Steel	
7	Spacer	Aluminum alloy	Chromate				

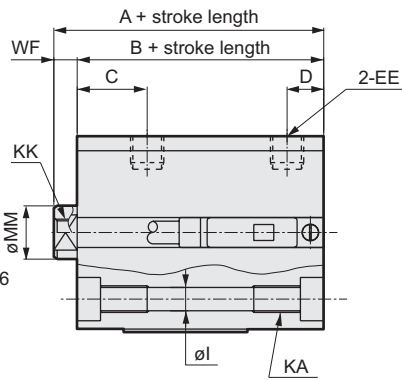
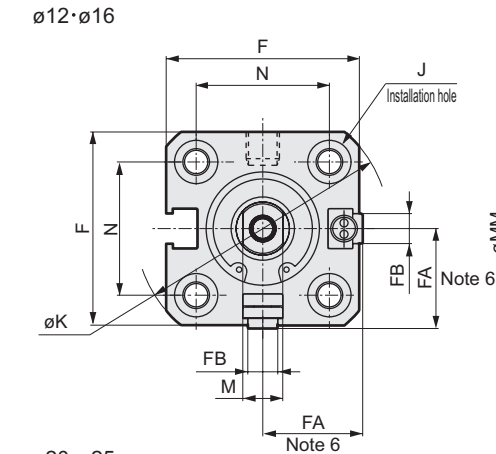
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø32	SSD2-M-32K	4 6 10
ø40	SSD2-M-40K	
ø50	SSD2-M-50K	
ø63	SSD2-M-63K	

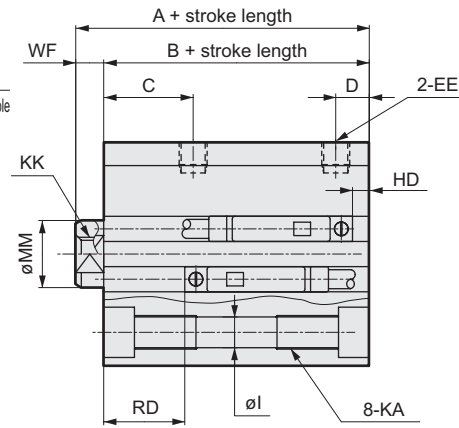
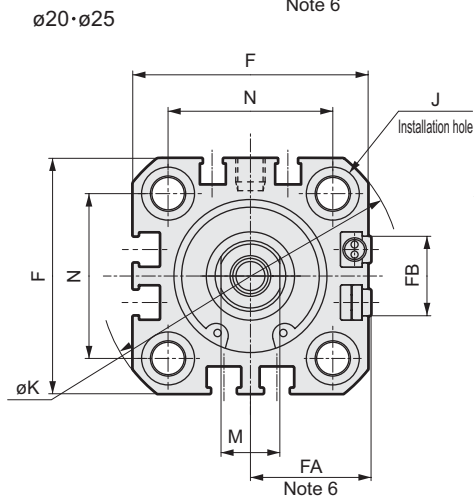
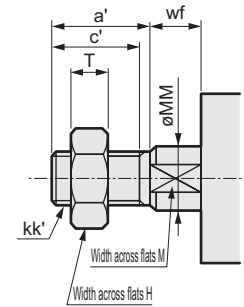
# SSD2-M Series

## Dimensions

### ● SSD2-ML-12 to 25 (with switch)



### ● Rod end male thread



### ● Cautions on switch installation groove

Note 1: A piping port plane of bore size  $\phi 20, 25$  becomes only F type switch.

Symbol	Common dimension with switch																
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 4</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	30.5	27	10.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
$\phi 16$	30.5	27	10.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
$\phi 20$	39	34.5	13	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
$\phi 25$	42.5	37.5	16	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimension	Reed T0H/TOV and T5H/T5V				Proximity T2H/T2V and T3H/T3V				Proximity T2WH/T2WV and T3WH/T3WV				Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV				
	HD		RD		HD		RD		HD		RD		HD		RD		
$\phi 12$	0		7.5		0		7.5		2		9.5						
$\phi 16$	0		7		0		7		2.5		9.5						
$\phi 20$	3		11.5		3		11.5		5		13		7.5		15.5		
$\phi 25$	3		14.5		3		14.5		6		16		8.5		18.5		

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

(E.g.) For 7 mm custom stroke, the length calculated by inputting standard stroke length 10 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer page 243 for HD & RD dimension and extended rod dimension of 2 color indicator, off-delay, strong magnetic field proof, or 10mm or shorter types with T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

### ● Rod end male thread section dimensions table

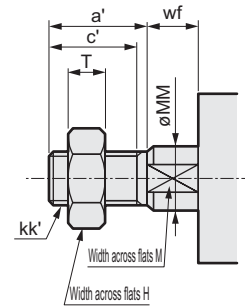
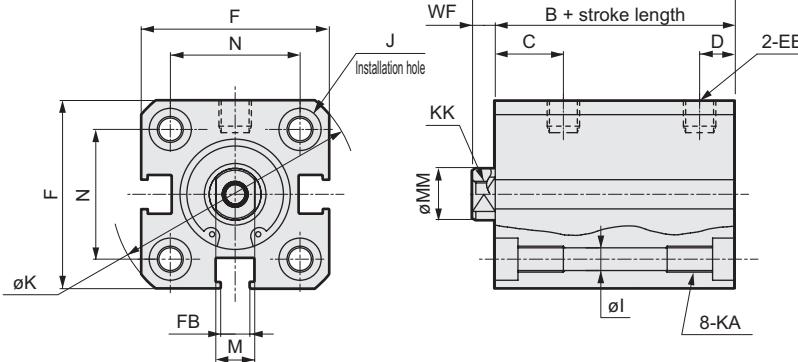
Symbol	$a'$	$c'$	H	$kk'$	M	MM	T	wf
$\phi 12$	10.5	9	8	M5	5	6	3.2	3.5
$\phi 16$	12	10	8	M6	6	8	3.6	3.5
$\phi 20$	14	12	13	M8	8	10	5	4.5
$\phi 25$	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

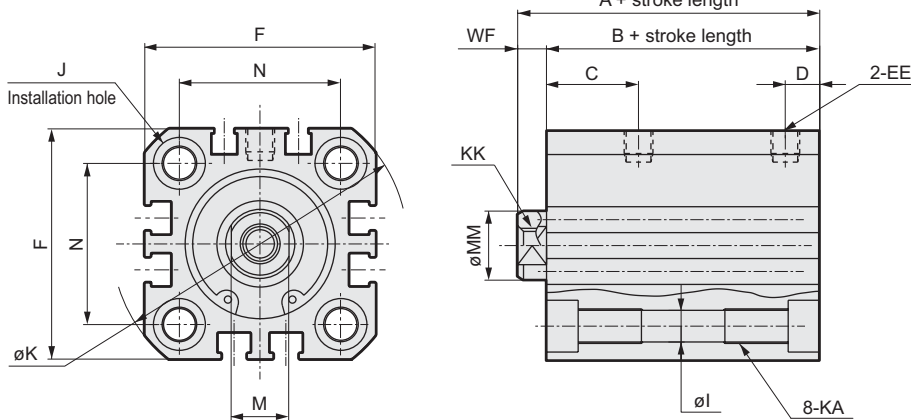
● SSD2-M-12 to 25 (without switch)

● Rod end male thread

ø12·ø16



ø20·ø25



Symbol	Without switch															
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	25.5	22	10.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	25.5	22	10.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	29	24.5	13	5.5	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	32.5	27.5	16	6	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

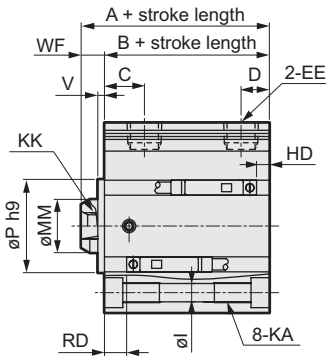
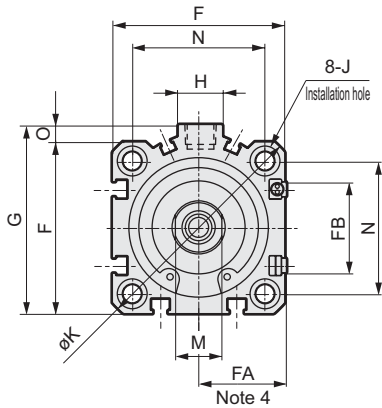
● Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

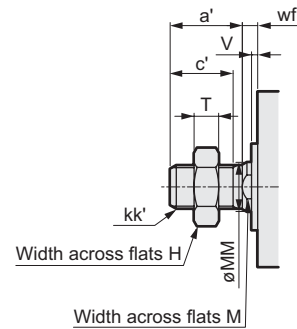
# SSD2-M Series

## Dimensions

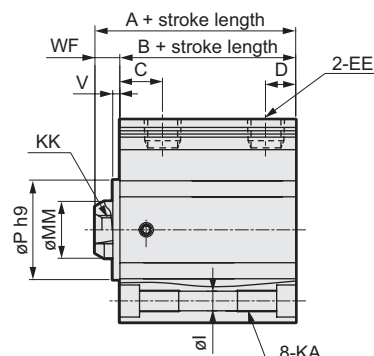
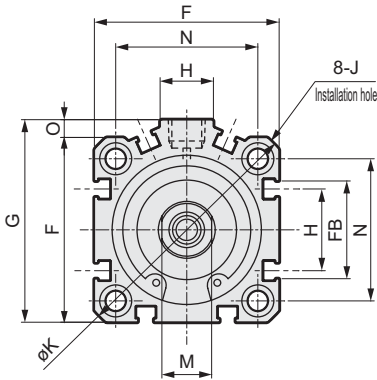
### ● SSD2-ML-32 to 63 (with switch)



### ● Rod end male thread



### ● SSD2-M-32 to 63 (without switch)



Symbol	Without switch		Common dimension with switch																					
	A <small>Note 1*Note 6</small>	B <small>Note 1*Note 6</small>	A <small>Note 1</small>	B <small>Note 1</small>	C <small>Note 6</small>	D <small>Note 6</small>	EE	F	FA <small>Note 4</small>	FB	G	H	I	J	K	KA	KK	M	MM	N	O	P	V	WF
$\phi 32$	39 (49)	32 (42)	49	42	18 (20)	8 (5.5)	Rc1/8 <small>Note 7</small>	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	21	2	7
$\phi 40$	36.5 (46.5)	29.5 (39.5)	46.5	39.5	12 (11.5)	8.5 (8)	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	28	2	7
$\phi 50$	38.5 (48.5)	30.5 (40.5)	48.5	40.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	18	20	50	7	35	2	8
$\phi 63$	44 (54)	36 (46)	54	46	13	11	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	18	20	60	7	35	2	8
Switch dimension	Reed T0H/TOV and T5H/T5V				Proximity T2H/T2V and T3H/T3V				Proximity T2WH/T2WV and T3WH/T3WV															
	HD <small>Note 2</small>		RD <small>Note 2</small>		HD <small>Note 2</small>		RD <small>Note 2</small>		HD		RD													
$\phi 32$	4.5		19		4.5		19		5		20.5													
$\phi 40$	7		12		7		12		8.5		13.5													
$\phi 50$	7.5		12.5		7.5		12.5		9		14													
$\phi 63$	12.5		13		12.5		13		14		14.5													

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (E.g) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to page 245 to 256 for accessory dimensions.

Note 6: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 7: The port size is M5 for the 5 stroke  $\phi 32$  without switch.

Note 8: Dimension shown in ( ) without switch at 5 mm stroke.

### ● Rod end male thread

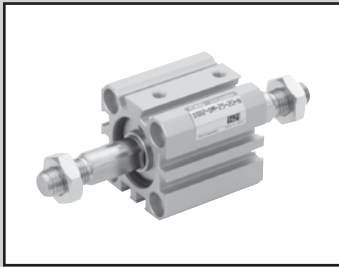
Symbol	a'	c'	H	kk'	M	MM	T	wf
$\phi 32$	23.5	20.5	22	M14 x 1.5	14	16	8	5
$\phi 40$	23.5	20.5	22	M14 x 1.5	14	16	8	5
$\phi 50$	28.5	26	27	M18 x 1.5	17	20	11	5
$\phi 63$	28.5	26	27	M18 x 1.5	17	20	11	5

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MEMO

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Compact cylinder double acting double rod non-rotating type

# SSD2-DM Series

- Bore size:  $\phi 12$ ,  $\phi 16$ ,  $\phi 20$ ,  $\phi 25$   
 $\phi 32$ ,  $\phi 40$ ,  $\phi 50$ ,  $\phi 63$



## Specifications

Descriptions	SSD2-DM SSD2-DML (with switch)							
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting							
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				Rc1/8 Note 1		Rc1/4	
Stroke tolerance mm	+1.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)							
Revolvable angle tolerance (Note 2)	$\pm 1^\circ$		$\pm 0.7^\circ$			$\pm 0.8^\circ$		
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

Note 1: The port size is M5 for the 5 stroke  $\phi 32$  without switch.

Note 2: This is default at a pull end.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5, 10, 15, 20	30	5
$\phi 16$	25, 30		
$\phi 20$	5, 10, 15, 20, 25	50	
$\phi 25$	30, 35, 40, 45, 50		
$\phi 32$	5, 10, 15, 20, 25, 30,	100	
$\phi 40$	35, 40, 45, 50, 75, 100		
$\phi 50$	10, 15, 20, 25, 30		
$\phi 63$	35, 40, 45, 50, 75, 100		

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch

## Minimum stroke length with switch (2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø12	10(5)	5
ø16		
ø20		
ø25		
ø32		
ø40	10	10
ø50		
ø63		

Note 1: Stroke less than 10 mm is not available for 2 color indicator type, off-delay type, strong magnetic field proof type, a type with T1\* or T8\* switch.

Note 2: Values in ( ) apply to the type with one switch on the rod side.

## Switch specifications

- 1/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ± 10%	30 VDC or less	
Load current	5 to 20 mA		100 mA or less	50 mA or less
Light	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Leakage current	1 mA or less		10 µA or less	

## Switch specifications (T type switch)

- 1/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/ T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/ T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller relay and small solenoid valve	Programmable controller		Programmable controller and relay				Programmable controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller and relay		Programmable controller			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ± 10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ± 10%
Load current	5 to 100mA	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)	Red/ Green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/ 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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less			

## Cylinder weight table

(Weight with switch includes weight with two cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-
ø16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-
ø20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-
ø25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-
ø32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012
ø40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490
ø50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270
ø63	-	-	902	1266	977	1341	1052	1416	1127	1491	1202	1566	1278	1642	1353	1717	1428	1792	1503	1867	2218	2242	2593	2617

# SSD2-DM Series

## How to order

Without switch

SSD2-DM - 12 - 5 - N - LB - I

With switch

SSD2-DML - 12 - 5 - T0H - 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  
Note 8  
Note 9

F Switch quantity

G Option  
Note 4

### ⚠ Note on model no. selection

Note 1:T2YD\* switch can not be installed for ø12, ø16.

Note 2:T8\* switch can not be installed for ø12 to ø32.

Note 3:F type switch is installable only on the piping port of tube bore size ø20, ø25.

Note 4:ø12 to ø25 piston rod material is stainless steel as standard. The snap-ring is stainless steel instead of steel. When the rod end male thread type is selected, the nut is made of stainless steel.

Note 5:The mounting bracket is enclosed when shipped.

Note 6:When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to 247 and 249 pages for dimensions. The model number assigning the piston rod projecting length is printed in the end of model number on the name plate put on the body.

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

Note 8:ø20 F-type switch lead wire L-type is not available for the 10 or shorter stroke.

Note 9:Switches are shipped with the product. Contact CKD when shipment must be assembled.

Note 10:Refer to intro 3, 4 page for available variation and options.

<Example of model number>

**SSD2-DML-12-5-T0H-R-N-LB-I**

Model: Compact cylinder non-rotating type

B Bore size : ø12 mm

C Port thread type : Rc thread

D Stroke length : 5 mm

E Switch model no. : Reed switch T0H

F Switch quantity : 1 on rod end

G Option : Rod end male thread

H Mounting bracket : Axial foot

I Accessory : Rod eye

H Mounting bracket  
Note 5  
Note 6

I Accessory  
Note 7

Symbol	Descriptions													
<b>A Model no.</b>														
SSD2-DM	Double acting double rod non-rotating type													
SSD2-DML	Double acting double rod non-rotating type with switch													
<b>B Bore size (mm)</b>														
12	ø12													
16	ø16													
20	ø20													
25	ø25													
32	ø32													
40	ø40													
50	ø50													
63	ø63													
<b>C Port thread type</b>														
Blank	Rc thread													
NN	NPT thread (ø32 and over) (custom order)													
GN	G thread (ø32 and over) (custom order)													
<b>D Stroke length (mm)</b>														
Refer to stroke length table on the following page .														
<b>E Switch model no.</b>														
Lead wire Straight type	Lead wire Radial	Contact	Indicator	Lead wire	Bore size									
					12	16	20	25	32	40	50	63		
F2H*	F2V*	Proximity	1 color indicator type	2 wire			●	●						
F3H*	F3V*			3 wire			●	●						
F2YH*	F2YV*			2 wire					●	●				
F3YH*	F3YV*	Reed	2 color indicator type	3 wire			●	●						
T0H*	T0V*			2 wire	1 color indicator type		●	●	●	●	●	●	●	●
T5H*	T5V*				Without light		●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	1 color indicator type	2 wire							●	●	●	
T1H*	T1V*				1 color indicator type		●	●	●	●	●	●	●	●
T2H*	T2V*				1 color indicator type (PNP output) (custom order)	3 wire		●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	2 color indicator type	2 wire							●	●	●	
T2WH*	T2WV*				3 wire	1 color indicator type		●	●	●	●	●	●	●
T2YH*	T2YV*					2 color indicator type				●	●	●	●	●
T3WH*	T3WV*	Proximity	Strong magnetic field proof switch	2 wire							●	●	●	
T3YH*	T3YV*				2 color indicator type	3 wire				●	●	●	●	●
T2YD*	-				Off-delay type	2 wire							●	●
T2YDT*	-										●	●	●	
T2JH*	T2JV*										●	●	●	
<b>*Lead wire length</b>														
Blank	1 m (standard)													
3	5 m (option)													
5	5 m (option)													
<b>F Switch quantity</b>														
R	1 on rod end													
H	1 on head end													
D	2													
<b>G Option</b>														
Blank	Rod end female thread													
N	Rod end male thread													
M Note 4	Piston rod material (stainless steel) (custom order)(ø32 to ø63)													
<b>H Mounting bracket</b>														
Blank	Mounting bracket													
LB	Axial foot													
FA	Rod end flange type													
<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>														
I	Rod eye													
Y	Rod clevis (pin and snap ring attached)													

[Stroke length table]

Stroke length (mm)	Applicable bore size								
	12	16	20	25	32	40	50	63	
Standard stroke length	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●
	40			●	●	●	●	●	●
	45			●	●	●	●	●	●
	50			●	●	●	●	●	●
	75					●	●	●	●
100					●	●	●	●	
Min. stroke length (mm) Note 1	5					10			
Max. stroke length (mm)	30		50		100				
Custom stroke length Note 2	-				By 5 mm increment				

Note 1: Stroke less than 5 mm is not available for a type with 1-color indicator switch, and stroke less than 10 mm is not available for 2 color indicator, off-delay type, strong magnetic field proof, a type with T1\* or T8\* switch.

Refer to page 140 for minimum stroke length with switch.

Note 2: It is only possible when over 50 stroke length.

## How to order switch



Switch model no.  
(item ⑤ above)

## How to order for mounting bracket

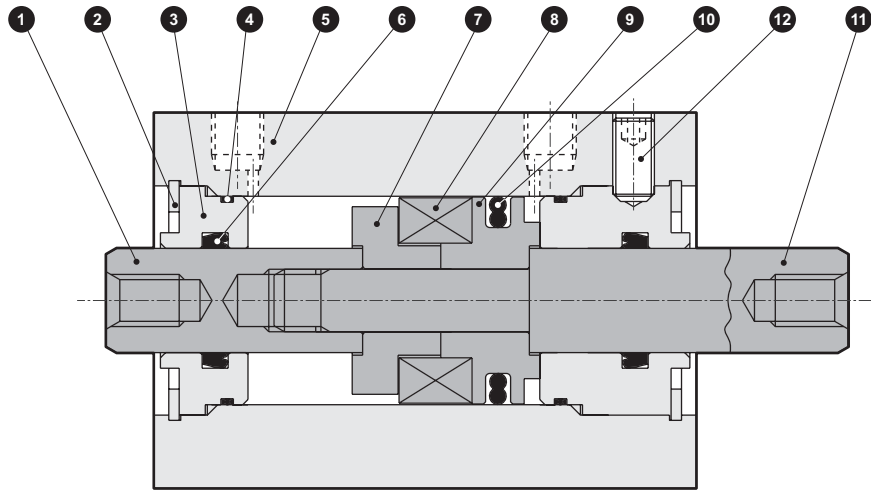
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
<b>Bore size (mm)</b>	ø63						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-63						
Flange (FA)	SSD2-FA-63						

Note 1: The foot type bracket is provided as 2 pcs./set.

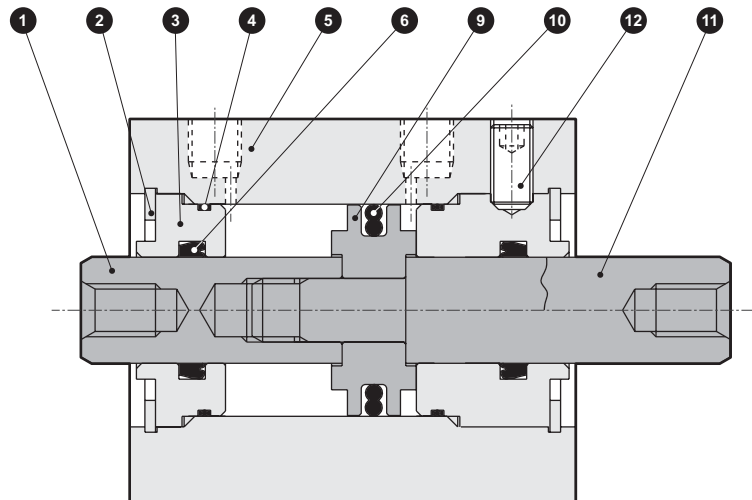
# SSD2-DM Series

## Internal structure and parts list (ø12 to ø25)

- SSD2-DML-12 to 25 (Double acting double rod non-rotating type with switch)



- SSD2-DM-12 to 25 (Double acting double rod non-rotating type)



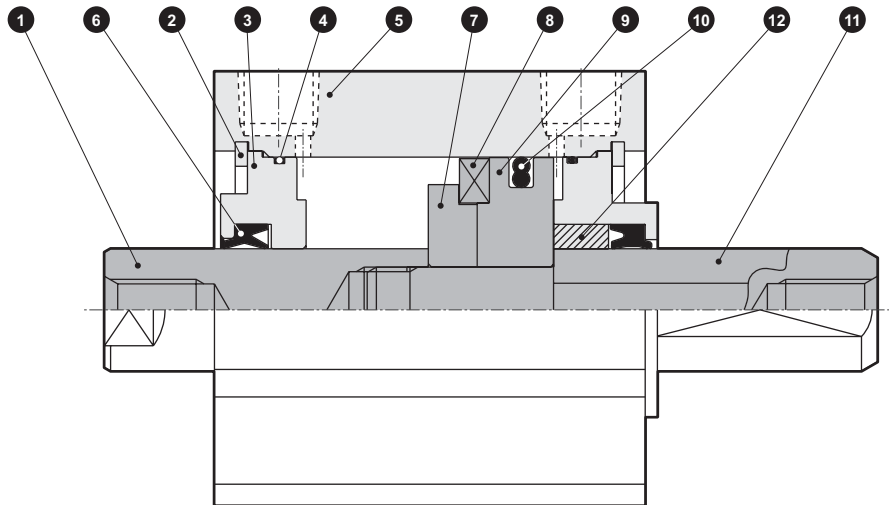
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	Stainless steel	Industrial chrome plated	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Piston rod B	Stainless steel	Industrial chrome plated
6	Rod packing seal	Nitrile rubber		12	Hexagon socket head set screw	Steel	

## Repair parts list

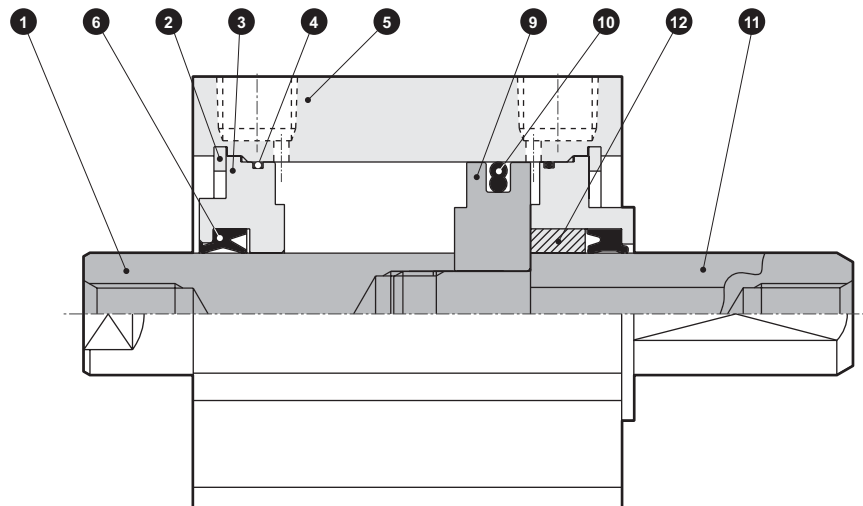
Bore size (mm)	Kit no.	Repair parts number
ø12	SSD2-DM-12K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø16	SSD2-DM-16K	
ø20	SSD2-DM-20K	
ø25	SSD2-DM-25K	

### Internal structure and parts list (ø32 to ø63)

- SSD2-DML-32 to 63 (Double acting double rod non-rotating type with switch)



- SSD2-DM-32 to 63 (Double acting double rod non-rotating type)



No.	Parts name	Material	Remarks	No.	parts name	material	Remarks
1	Piston rod	Steel	Industrial chrome plated	7	Spacer	Aluminum alloy	ø32: Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Special aluminum	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Piston rod B	Steel	Industrial chrome plated
6	Rod packing seal	Nitrile rubber		12	Bush	Oil-impregnated bearing alloy	

### Repair parts list

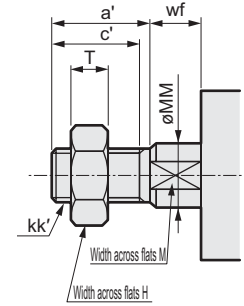
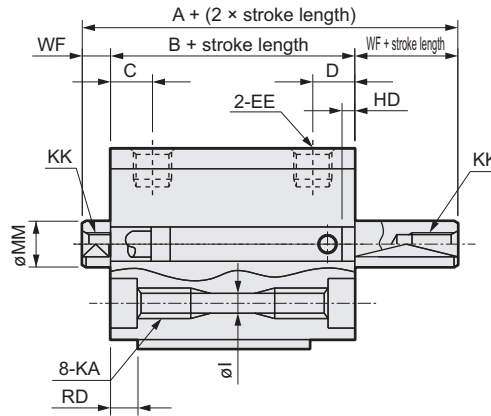
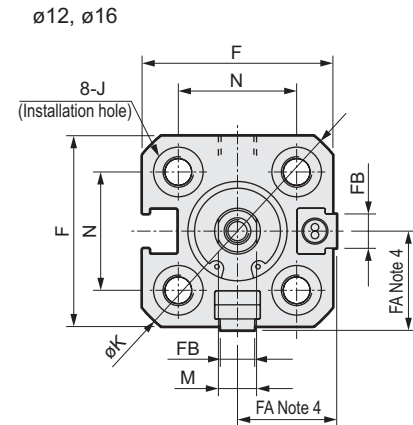
Bore size (mm)	Kit no.	Repair parts number
ø32	SSD2-DM-32K	4 6 10
ø40	SSD2-DM-40K	
ø50	SSD2-DM-50K	
ø63	SSD2-DM-63K	

# SSD2-DM Series

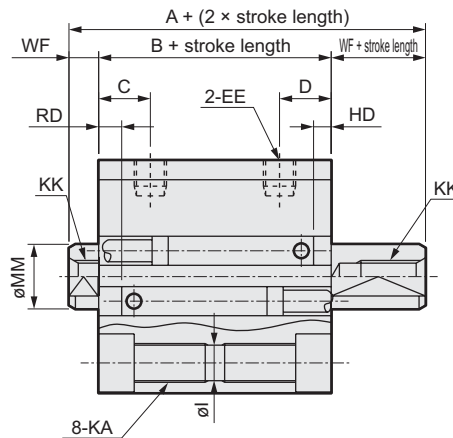
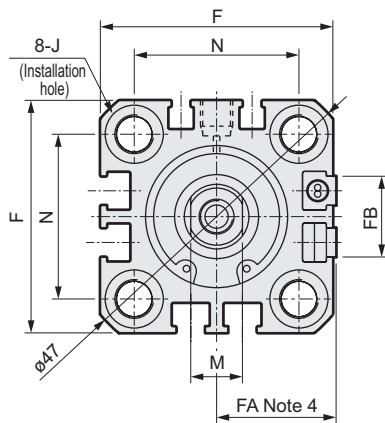
## Dimensions

● SSD2-DML-12 to 25 (with switch)

● Rod end male thread



ø20, ø25



● Cautions on switch installation groove

Note 1: Only the F type switch is provided for the tube bore size ø20 and 25 piping port surface.

Note: The cross-width position for the left/right wrench is not specified.

Symbol	Common dimension with switch																
	A	B	C	D	EE	F	FA <sup>Note 5</sup>	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	39	32	5.5	10.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot facing depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	39	32	5.5	10.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot facing depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	50	41	8	13	M5	36	18.5 (22)	12.5	5.5	9 spot facing depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	54	44	11	16	M5	40	20.5 (24)	13.5	5.5	9 spot facing depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimension	Reed T0H/TOV, T5H/T5V Note 6				Proximity T2H/T2V, T3H/T3V Note 6				Proximity T2WH/T2WV, T3WH/T3WV Note 6				Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV				
	HD		RD		HD		RD		HD		RD		HD		RD		
ø12	10		2.5		10		2.5		11.5		4						
ø16	10		2		10		2		11.5		3.5						
ø20	14.5		6.5		14.5		6.5		16		8		19		12		
ø25	16.5		9.5		16.5		9.5		18		11		20		13		

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2 color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimensions with accessories and dimensions for discrete accessories.

Note 6: Dimensions in ( ) of HD/RD column are values when cushion is installed.

Note 7: The side with a mark on the main port is the RD side.

● Dimension of rod end male thread

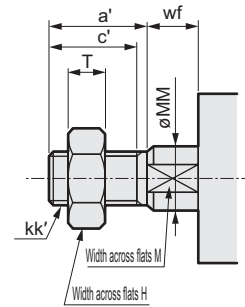
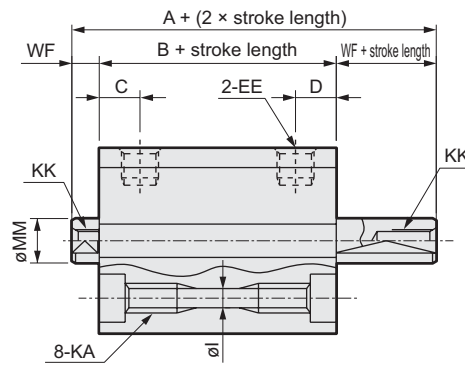
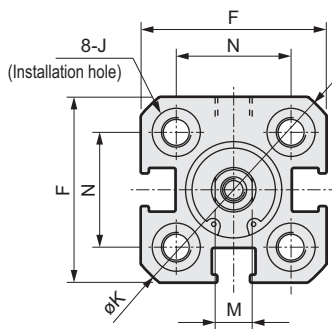
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 × 1.25	10	12	6	5

## Dimensions

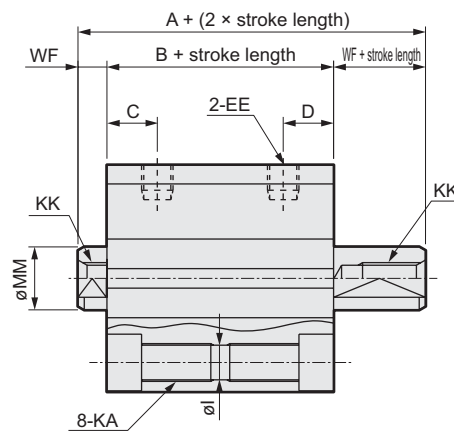
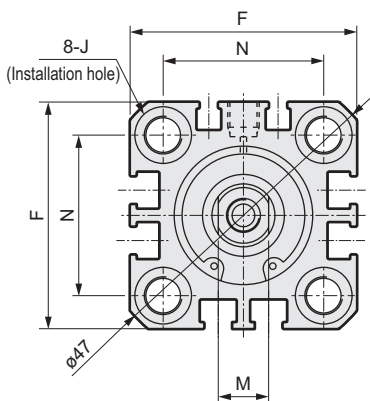
● SSD2-DM-12 to 25 (without switch)

● Rod end make thread

ø12, ø16



ø20, ø25



Note: The cross-width position for the left/right wrench is not specified.

Symbol Bore size (mm)	Without switch and common dimension															
	A	B	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	34	27	5.5	10.5	M5	25	4.5	3.5	6.5 spot facing depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	34	27	5.5	10.5	M5	29	4.5	3.5	6.5 spot facing depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	40	31	8	13	M5	36	12.5	5.5	9 spot facing depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	44	34	11	16	M5	40	13.5	5.5	9 spot facing depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Dimension of rod end male thread

Symbol Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

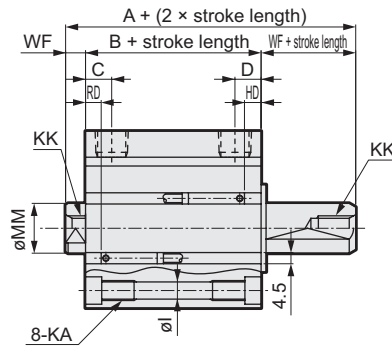
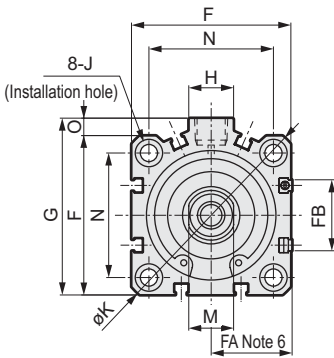
Note 1: Refer to pages 245 to 256 for dimension drawings for discrete accessories.



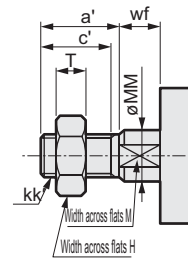
# SSD2-DM Series

## Dimensions

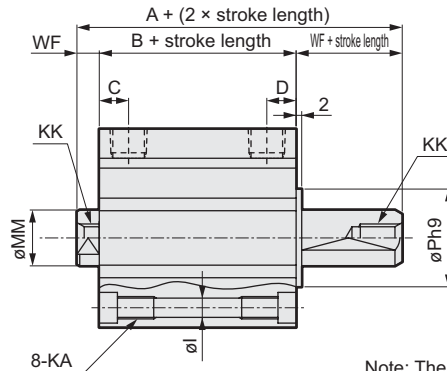
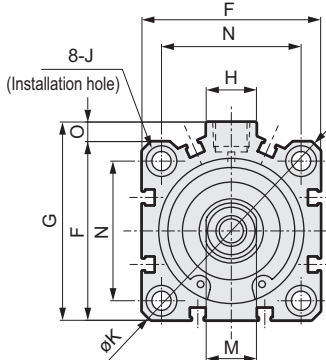
### ● SSD2-DML-32 to 63 (with switch)



### ● Rod end male thread



### ● SSD2-DML-32 to 63 (without switch)



Note: The cross-width position for the left/right wrench is not specified.

Symbol	Without switch		Common dimension with switch														
	A Note 2, Note 8	B Note 3, Note 8	A Note 2	B Note 3	C Note 10	D Note 10	EE Note 9	F	FA Note 6	FB	G	H	I	J	K	KA	KK
Ø32	53.5 (63.5)	39.5 (49.5)	63.5	49.5	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot facing depth 5.5	60	M6 depth 11	M8 depth 13
Ø40	54 (64)	40 (50)	64	50	12	12	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot facing depth 5.5	69	M6 depth 11	M8 depth 13
Ø50	56.5 (66.5)	40.5 (50.5)	66.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot facing depth 6.5	86	M8 depth 13	M10 depth 15
Ø63	58 (68)	42 (52)	68	52	13	13	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot facing depth 9	103	M10 depth 25	M10 depth 15

Symbol	Common dimension with switch						Switch dimension					
	M	MM	N	O	P	WF	Reed T0H/TOV, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
Bore size (mm)							HD Note 4	RD Note 4	HD Note 4	RD Note 4	HD	RD
Ø32	14	16	34	4.5	21	7	11	9	11	9	12.5	10.5
Ø40	14	16	40	5	28	7	16.5	12	16.5	12	18	13.5
Ø50	17	20	50	7	35	8	16.5	12.5	16.5	12.5	18	14
Ø63	17	20	60	7	35	8	18	13	18	13	19.5	14.5

Note 1: The intermediate stroke is used only when the stroke exceeds 50.

Note 2: When calculating A+ (2 x stroke length) for the custom stroke length, calculate as "A+ the above standard stroke length + custom stroke length" instead of using the custom stroke length. Example: If the custom stroke length is 70 mm, calculate as "A+ standard stroke length 75 mm + custom stroke length 70 mm".

Note 3: When calculating custom stroke dimensions of B+ stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.

(E.g.) For 70 mm custom stroke, the length is calculated by inputting standard stroke length 75 mm.

Note 4: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 5: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2 color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 6: Dimensions in ( ) of FA are values for L type lead wire.

Note 7: Refer to pages 245 to 256 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

Note 8: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 9: The port size is M5 for the 5 stroke Ø32 without switch.

Note 10: Dimensions in ( ) of C and D column are values for the 5 stroke with no switch.

Note 11: The side with a mark on the main port is the RD side.

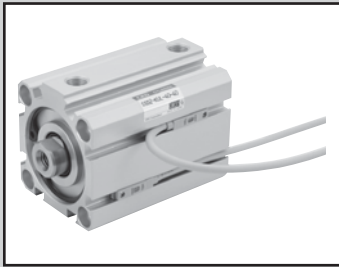
### ● Dimension of rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
Ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
Ø50	28.5	26	27	M18 x 1.5	17	20	11	5
Ø63	28.5	26	27	M18 x 1.5	17	20	11	5

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MEMO

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Compact cylinder double acting single rod, rubber scraper type

# SSD2-G Series

● Bore size:  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$

JIS symbol



## Specifications

Descriptions	SSD2-G SSD2-GL (with switch)							
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.15				0.1			
Withstanding pressure MPa	1.6							
Ambient temperature °C	-10 to 60 (no freezing)							
Port size	M5		Rc1/8, Note 1		Rc1/4		Rc3/8	
Stroke tolerance mm	$+1.0$ 0							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	None							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)							
Allowable energy absorption J	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

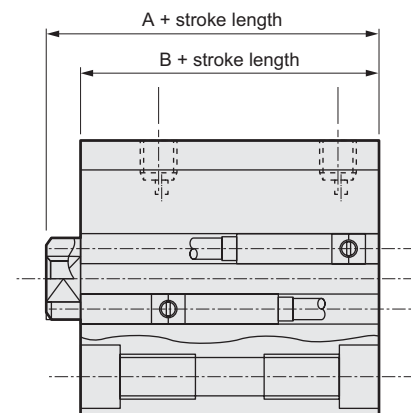
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 20$	5·10·15·20·25	50	1
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$	75·100		

Note 1: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-G-32-38 The standard cylinder SSD2-G-32-40 (+2mm spacer) makes 38mm stroke. The dimension (B + Stroke) is 63mm.	



## Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø20	5	5
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.  
 Note 2: Each ( ) inside is of the type with a rod end.

## Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

## Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD				
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-			
Power voltage	-	-				10 to 28 VDC				-				-			
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	AC100/110V	5/12/24 VDC	AC100/110V	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less			

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
ø25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
ø32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
ø40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
ø50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
ø63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
ø80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
ø100	-	-	2212	2779	2326	2893	2439	3006	2553	3120	2667	3234	2781	3348	2894	3461	3121	3575	3122	3689	3622	4259	4757	4829

# SSD2-G Series

## How to order

Without switch

SSD2-G - 32 - 5 - N - LB - I

With switch

SSD2-GL - 32 - 10 - T0H - R - N - LB - I

A Model no.

B Bore size

C Stroke length

D Switch model no.

Note 1  
Note 2  
Note 6  
Note 7

E Switch quantity

F Option

G Mounting bracket

Note 3  
Note 4

### ⚠ Note on model no. selection

Note 1: T8\* switch is not available in ø20 to ø32 bore size.

Note 2: F type switch is installable only on the piping port of tube bore size ø20, ø25.

Note 3: The mounting bracket is enclosed when shipped.

Note 4: If piston rod dimensions of projecting section WF are standard, differs when LB and FA a selection.

Refer pages dimensions 245 to 249.

And the length of ledge indicate on the tail of part number in the label.

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

Note 6: ø20 F-type switch lead wire L type is not available for the 15 or shorter stroke.

Note 7: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-GL-20-10-T0H-R-N-LB-I**

Model: Compact cylinder rubber scraper type

B Bore size : ø20mm

C Stroke length : 10mm

D Switch model no.: Reed switch T0H/Lead wire length 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

G Mounting bracket: Axial foot

H Accessory : Rod eye

H Accessory  
Note 5

Symbol	Descriptions													
<b>A Model no.</b>														
SSD2-G	Double acting single rod, rubber scraper type													
SSD2-GL	Double acting single rod, rubber scraper type/with switch													
<b>B Bore size (mm)</b>														
20	ø20													
25	ø25													
32	ø32													
40	ø40													
50	ø50													
63	ø63													
80	ø80													
100	ø100													
<b>C Stroke length (mm)</b>														
Refer to the stroke length table on following page.														
<b>D Switch model no.</b>														
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size									
Axial	Radial				20	25	32	40	50	63	80	100		
F2H*	F2V*	Proximity	1 color indicator type	2-wire	●	●								
F3H*	F3V*			3-wire	●	●								
F2YH*	F2YV*			2 color indicator type	2-wire	●	●							
F3YH*	F3YV*				3-wire	●	●							
T0H*	T0V*	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●		
T5H*	T5V*				Without light	●	●	●	●	●	●	●	●	●
T8H*	T8V*			1 color indicator type					●	●	●	●	●	
T1H*	T1V*	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●		
T2H*	T2V*				●	●	●	●	●	●	●	●	●	
T3H*	T3V*			3-wire	1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	●	
T3PH*	T3PV*				●	●	●	●	●	●	●	●	●	
T2WH*	T2WV*			2-wire	2 color indicator type	●	●	●	●	●	●	●	●	
T2YH*	T2YV*					●	●	●	●	●	●	●	●	●
T3WH*	T3WV*			3-wire	2 color indicator type	●	●	●	●	●	●	●	●	
T3YH*	T3YV*					●	●	●	●	●	●	●	●	●
T2YD*	-			Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	
T2YDT*	-					●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Off-delay type	2-wire	●	●	●	●	●	●	●	●			
<b>* Lead wire length</b>														
Blank	1m (standard)													
3	3m (option)													
5	5m (option)													
<b>E Switch quantity</b>														
R	1 on rod end													
H	1 on head end													
D	2													
<b>F Option</b>														
Blank	Rod end female thread													
N	Rod end male thread													
<b>G Mounting bracket</b>														
Blank	Without mounting bracket													
LB	Axial foot (custom order)													
CB	Clevis (pin and snap ring attached)													
FA	Rod end flange type (custom order)													
FB	Head end flange type													
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>														
I	Rod eye													
Y	Rod clevis (pin and snap ring attached)													

## (Stroke length table)

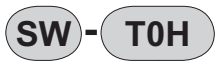
Stroke length (mm)	Applicable bore size								
	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1								
Max. stroke length (mm)	50		100						
Custom stroke length Note 2	By 1 mm increment								

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 150 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

## How to order switch



Switch model no.  
(item previous page ©)

## How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
<b>Bore size (mm)</b>	<b>ø100</b>						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis (CB)	SSD2-CB-100						

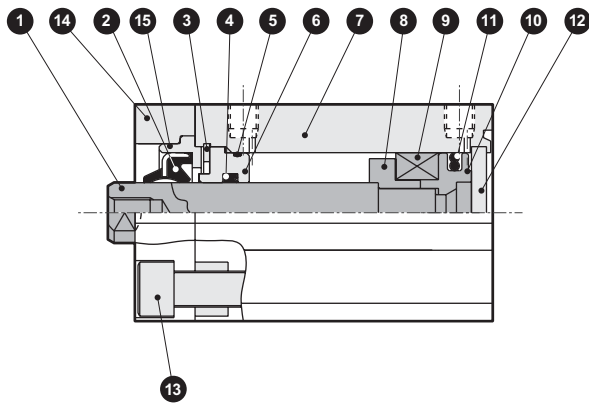
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

Note 2: Structurally, the foot bracket (LB) and flange bracket (FA) can not be retrofitted on 20 to 32 diameters. Consult with CKD.

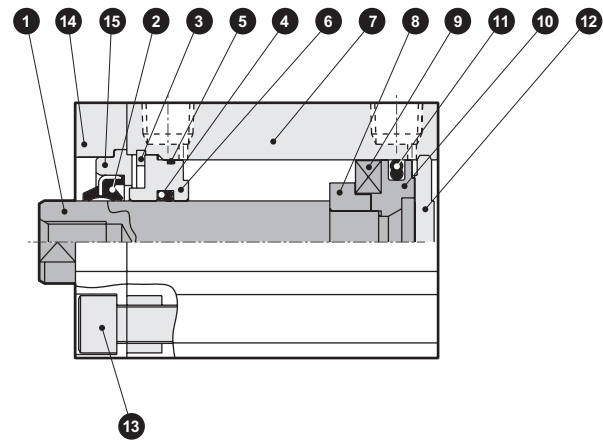
# SSD2-G Series

## Internal structure and parts list

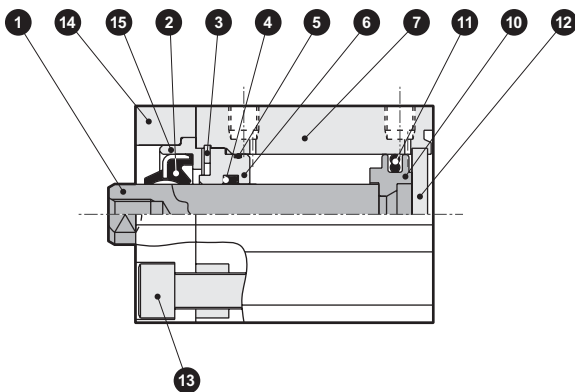
● SSD2-GL-20, 25 (Double acting single rod, rubber scraper type/ with switch)



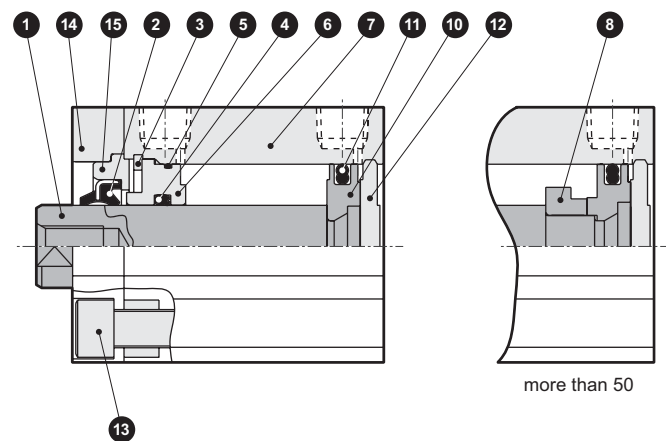
● SSD2-GL-32 (Double acting single rod, rubber scraper type/with switch)



● SSD2-G-20, 25 (double acting/single rod/rubber scraper type)



● SSD2-G-32 (double acting/single rod/rubber scraper type)



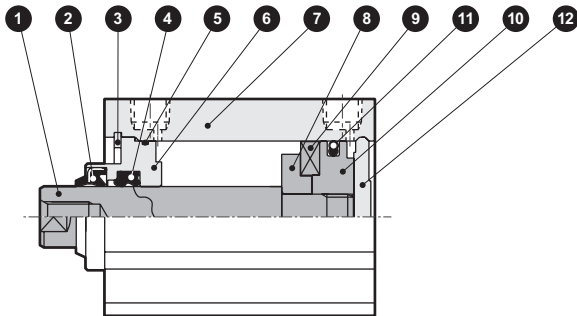
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø20, ø25: Stainless steel ø32: Steel	Industrial chrome plating	9	Magnet	Plastic	
2	Scraper	Nitrile rubber		10	Piston	Aluminum alloy	Chromate
3	C type snap ring	Stainless steel		11	Piston packing seal	Nitrile rubber	
4	Rod packing seal	Nitrile rubber		12	Guard	ø20 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite
5	Rod metal gasket	Nitrile rubber		13	Hexagon socket head cap bolt	Stainless steel	
6	Rod bushing	Special aluminum	Alumite	14	Adaptor (A)	Aluminum alloy	Alumite
7	Body	Aluminum alloy	Hard alumite	15	Adaptor (B)	Aluminum alloy	Alumite
8	Spacer	Aluminum alloy	Chromate				

## Repair parts list

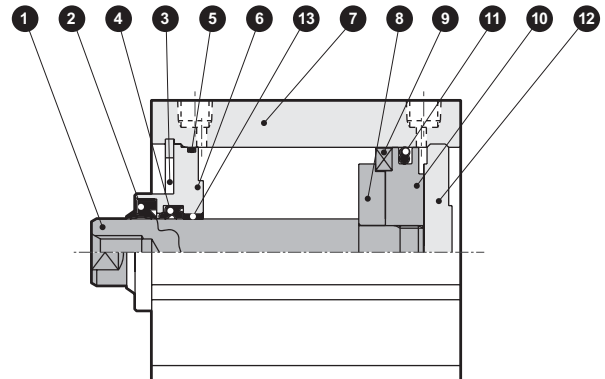
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø20	SSD2-G-20K	2 4 5 11
ø25	SSD2-G-25K	
ø32	SSD2-G-32K	

### Internal structure and parts list

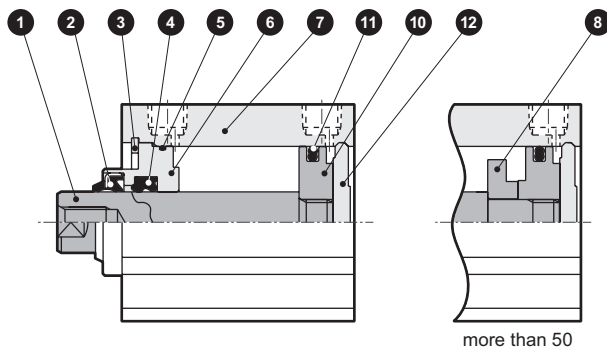
● SSD2-GL-40, 50 (Double acting single rod, rubber scraper type/ with switch)



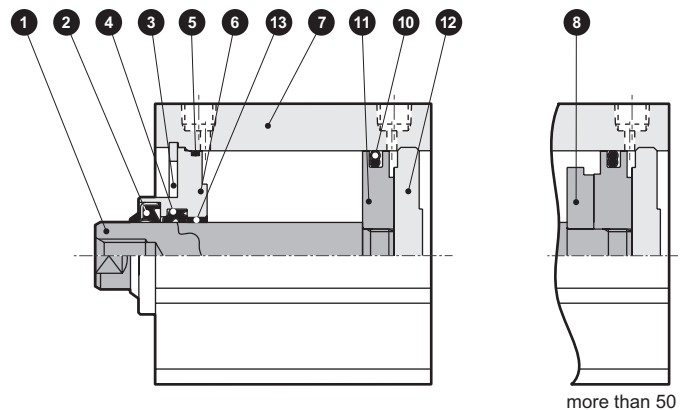
● SSD2-GL-63 to 100 (Double acting single rod, rubber scraper type/with switch)



● SSD2-G-40, 50 (double acting/single rod/rubber scraper type)



● SSD2-G-63 to 100 (double acting/single rod/rubber scraper type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Body	Aluminum alloy	Hard alumite
2	Scraper	Nitrile rubber		8	Spacer	Aluminum alloy	Chromate
3	C type snap ring	Stainless steel		9	Magnet	Plastic	
4	Rod packing seal	Nitrile rubber		10	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		11	Piston packing seal	Nitrile rubber	
6	Rod bushing	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	12	Guard	Aluminum alloy	Alumite
				13	Bush	Oilless dry met	For ø63 to ø100

### Repair parts list

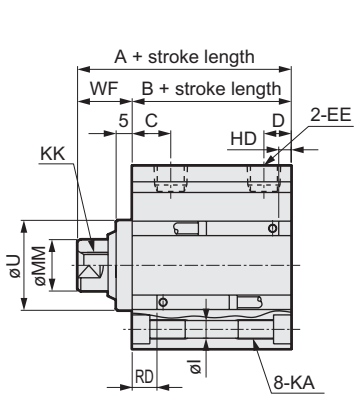
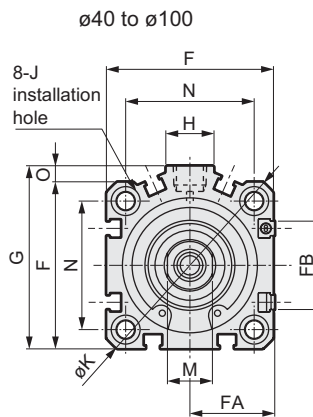
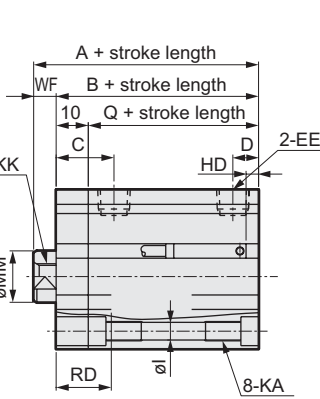
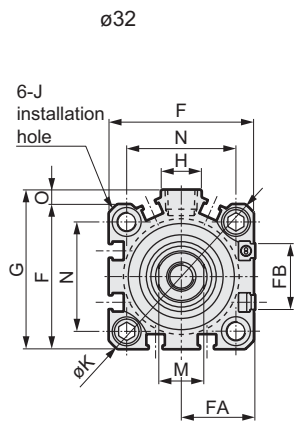
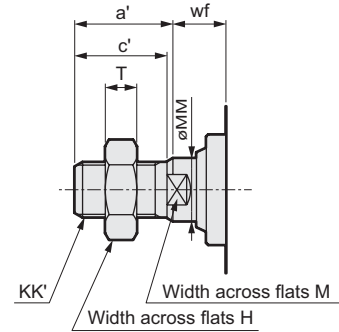
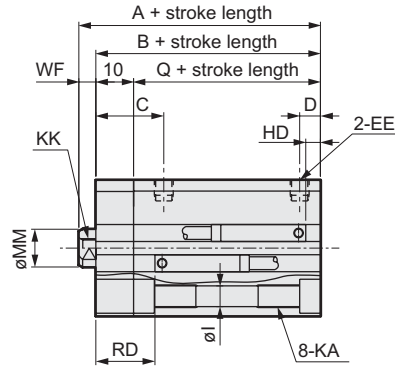
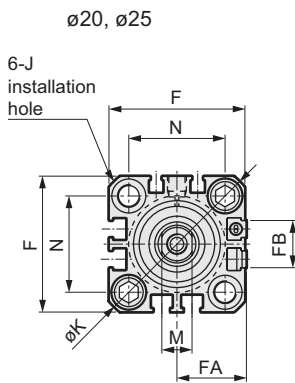
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø40	SSD2-G-40K	2 4 5 11
ø50	SSD2-G-50K	
ø63	SSD2-G-63K	
ø80	SSD2-G-80K	
ø100	SSD2-G-100K	



## Dimensions

● SSD2-G (L)

● Rod end male thread



Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: HD and RD dimensions for 5 stroke differ from these due to manufacturing.

Note 3: Refer to pages 245 to 256 for dimensions with accessories and dimensions for discrete accessories.

Note 4: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 5: The port size is M5 for the 5 stroke ø32 without switch.

Symbol	Dimension without switch						Common dimension with switch												
	A	B	Q	A	B	Q	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
ø20	34	29.5	19.5	46	41.5	29.5	18	5.5	M5	36	24.5	20.5	—	—	5.5	9 spot facing depth 15.5	47	M6 depth 11	M5 depth 7
ø25	37.5	32.5	22.5	47.5	42.5	32.5	21	6	M5	40	26.5	21.5	—	—	5.5	9 spot facing depth 15.5	51	M6 depth 11	M6 depth 12
ø32	40 (50)	33 (43)	23 (33)	50	43	33	18	8	Rc1/8	45	29	24	49.5	24	5.5	9 spot facing depth 15.5	60	M6 depth 11	M8 depth 13
ø40	46.5 (56.5)	29.5 (39.5)	—	56.5	39.5	—	12	8.5	Rc1/8	52	32.5	31	57	24	5.5	9 spot facing depth 5.5	69	M6 depth 11	M8 depth 13
ø50	48.5 (58.5)	30.5 (40.5)	—	58.5	40.5	—	10.5	10.5	Rc1/4	64	38.5	32	71	33	6.9	11 spot facing depth 6.5	86	M8 depth 13	M10 depth 15
ø63	54 (64)	36 (46)	—	64	46	—	13	11	Rc1/4	77	45	32	84	33	8.7	14 spot facing depth 9	103	M10 depth 25	M10 depth 15
ø80	63.5 (73.5)	43.5 (53.5)	—	73.5	53.5	—	16	13	Rc3/8	98	55.5	32	104	38	10.5	17.5 spot facing depth 11	132	M12 depth 28	M16 depth 21
ø100	75 (85)	53 (63)	—	85	63	—	23	15	Rc3/8	117	65	32	123.5	38	10.5	17.5 spot facing depth 11	156	M12 depth 28	M20 depth 27

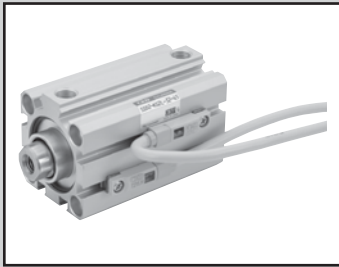
  

Symbol	Common dimension with switch						Reed T0H/TOV, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV		Rod end male thread section dimensions							
	M	MM	N	O	U	WF	HD	RD	HD	RD	HD	RD	a'	c'	H	KK'	M	MM	T	wf
ø20	8	10	25.5	—	—	4.5	3	17.5	3	17.5	5	19.5	14	12	—	M8	8	10	5	4.5
ø25	10	12	28	—	—	5	4	19.5	4	19.5	6	21.5	17.5	15	—	M10 × 1.25	10	12	6	5
ø32	14	16	34	4.5	—	7	4	19.5	4	19.5	6	21.5	23.5	20.5	12.5	M14 × 1.5	14	16	8	5
ø40	14	16	40	5	28	17	7	12	7	12	8.5	13.5	23.5	20.5	15	M14 × 1.5	14	16	8	15
ø50	17	20	50	7	35	18	7.5	12.5	7.5	12.5	9	14	28.5	26	18	M18 × 1.5	17	20	11	15
ø63	17	20	60	7	35	18	12.5	13	12.5	13	14	14.5	28.5	26	23	M18 × 1.5	17	20	1	15
ø80	22	25	77	5	43	20	17.5	15.5	17.5	15.5	19	17	35.5	32.5	31	M22 × 1.5	22	25	13	18
ø100	27	30	94	6.5	59	22	23	19.5	23	19.5	24.5	21	35.5	32.5	38	M26 × 1.5	27	30	16	18

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MEMO

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Compact cylinder double acting coolant proof type

# SSD2-G2/G3 Series

● Bore size:  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-G2/G3									
	SSD2-G2L/G3L (with switch)									
Bore size mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.15					0.1				
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	50 to 500					50 to 300				
Cushion	None									
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)									

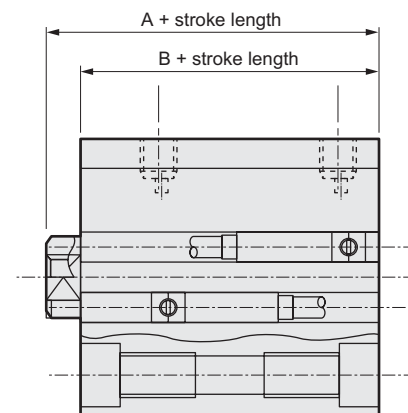
## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 16$	5·10·15·20·25·30	30	1
$\phi 20$	5·10·15·20·25·30	50	
$\phi 25$	30·35·40·45·50	50	
$\phi 32$	5·10·15·20·25·30·35	100	
$\phi 40$	35·40·45·50·75·100	100	
$\phi 50$	10·15·20·25·30	100	
$\phi 63$	30·35·40·45·50	100	
$\phi 80$	50·75·100	100	
$\phi 100$	50·75·100	100	

## Custom stroke length

### ● SSD2-G2/G3 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-G2-32-38 +2mm spacer is provided on the standard cylinder SSD2-B-32-40 to attain a 38mm stroke. The B+stroke length dimension is 73mm.	



### Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø16	10	10
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

### Switch specifications

● Proximity switch

Type/model no.	Proximity and 2 wire	Proximity and 3 wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Programmable controller	Programmable controller, relay
Power voltage	-	10 to 28 VDC
Load voltage and current	10 to 30 VDC and 5 to 20mA Note 1	30 VDC 50m or less or less A
Light	Red/green LED (ON lighting)	
Leakage current	1mA or less	10µA or less
Maximum shock resistance	980m/S <sup>2</sup>	

Note 1: The maximum load current: above this is a product. When 20mA is 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA with 60°C)

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø16	62	118	73	118	83	158	94	139	105	150	116	161	-	-	-	-	-	-	-	-	-	-	-	-
ø20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
ø25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
ø32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
ø40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
ø50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
ø63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
ø80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
ø100	-	-	2212	2779	2326	2893	2439	3006	2553	3120	2667	3234	2781	3348	2894	3461	3121	3575	3122	3689	3622	4259	4757	4829

# SSD2-G2/G3 Series

## How to order

Without switch

SSD2 - G2 - 20 - 30 - N - LB - I

With switch

SSD2 - G2L - 20 - 30 - T2YLH - R - N - LB - I

A Protective structure

B Bore size

C Port thread type

D Stroke length

E Switch model no.

Note 1

Note 7

F Switch quantity

G Option

H Mounting bracket

Note 2

Note 3

Note 4

I Accessory

Note 5

### ⚠ Note on model no. selection

Note 1: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .

Note 2: The mounting bracket is enclosed when shipped.

Note 3:  $\phi 16$  to  $\phi 25$  can not be attached with LB bracket and FA bracket afterwards due to the structure. This is treated as when shipping custom order for the Assembled of the product.

Note 4: If piston rod dimensions of projecting section WF are standard, differs when a FA selection. Refer pages dimensions 245 to 256. And the length of ledge indicate on the tail of part number in the label.

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

Note 6: Refer to intro 3, 4 page about combination of variations and options.

Note 7: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-G2L-32-30-T2YLH-R-N**

Model: Compact cylinder

A Protective structure: Coolant proof scraper + packing seal NBR with switch

B Bore size :  $\phi 32$ mm

C Port thread type : Rc thread type

D Stroke length : 30mm

E Switch model no. : Proximity switch T2YLH and lead wire 1m

F Switch quantity : 1 on rod end

G Option : Rod end male thread

H Mounting bracket : Axial foot

Symbol	Descriptions			
<b>A Protective structure</b>				
G2	Coolant proof scraper + packing seal NBR			
G3	Coolant proof scraper + packing seal FKM			
G2L	Coolant proof scraper + packing seal NBR with switch			
G3L	Coolant proof scraper + packing seal FKM with switch			
<b>B Bore size (mm)</b>				
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	$\phi 100$			
<b>C Port thread type</b>				
Blank	Rc thread			
NN	NPT thread ( $\phi 32$ and over) (custom order)			
GN	G thread ( $\phi 32$ and over) (custom order)			
<b>D Stroke length (mm)</b>				
Refer to the stroke length table on following page.				
<b>E Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead wire
T2YLH*	T2YLV*	Proximity	2 color indicator type	2-wire
T3YLH*	T3YLV*			3-wire
<b>* Lead wire length</b>				
Blank	1m (standard)			
3	3m (option)			
5	5m (option)			
<b>F Switch quantity</b>				
R	1 on rod end			
H	1 on head end			
D	2			
<b>G Option</b>				
Blank	Rod end female thread			
N	Rod end male thread			
<b>H Mounting bracket</b>				
Blank	Without mounting bracket			
LB	Axial foot (custom order)			
CB	Clevis (pin and snap ring attached)			
FA	Rod end flange type (custom order)			
FB	Head end flange type			
<b>I Accessory (permissible if rod end male thread "N" was selected.)</b>				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			

### (Stroke length table)

Stroke length (mm)		Applicable bore size								
		16	20	25	32	40	50	63	80	100
Standard stroke length	5	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	●	●	
Min. stroke length (mm) Note 1		1								
Max. stroke length (mm)		30	50	100						
Custom stroke length Note 2										

Note 1: Less than 10mm of the type with a switch is not available.

Refer to page 146 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

### How to order switch

**SW - T2YLH**

Switch model no.

(item previous page ㊞)

### How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63
Flange (FA/FB)	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63
Clevis (CB)	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63
<b>Bore size (mm)</b>	<b>ø80</b>	<b>ø100</b>					
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-80	SSD2-LB-100					
Flange (FA/FB)	SSD2-FA-80	SSD2-FA-100					
Clevis (CB)	SSD2-CB-80	SSD2-CB-100					

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

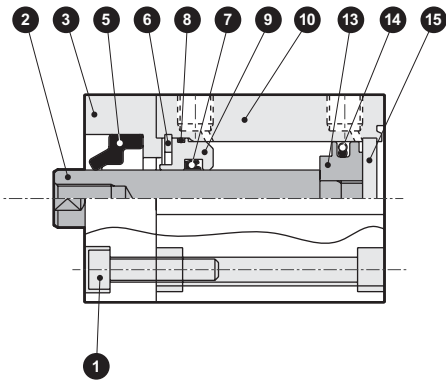
Note 2: Structurally, the foot bracket (LB) and flange bracket (FA) can not be retrofitted on 16 to 32 diameters. Consult with CKD.

# SSD2-G2/G3 Series

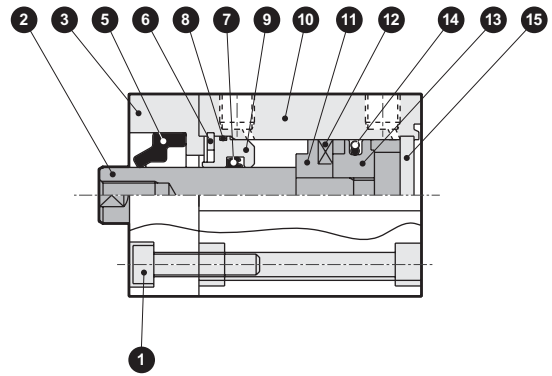
## Internal structure and parts list

- Protective structure: Packing seal NBR SSD2-G2/G2L  
Packing seal FKM SSD2-G3/G3L

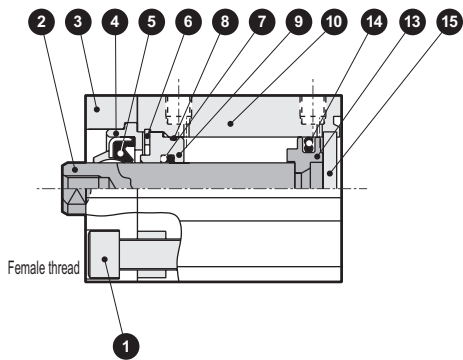
- SSD2-G<sub>3</sub><sup>2</sup>-16 (without switch)



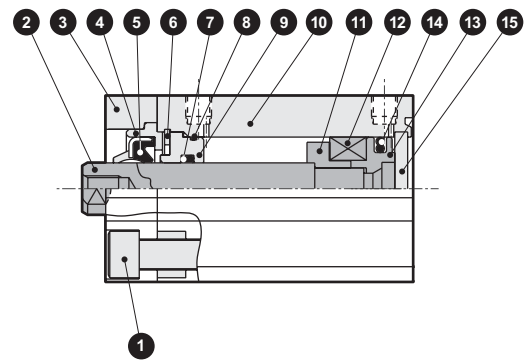
- SSD2-G<sub>3</sub><sup>2</sup>L-16 (with switch)



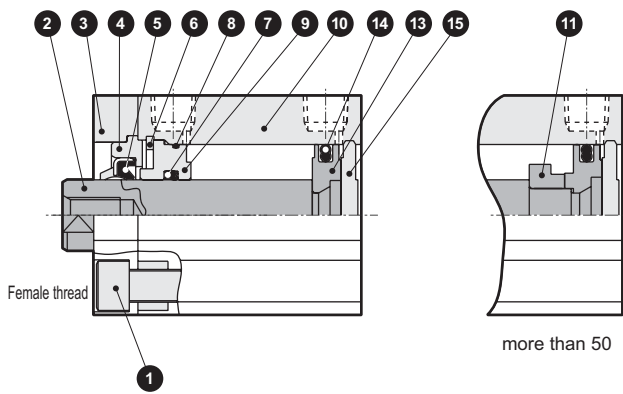
- SSD2-G<sub>3</sub><sup>2</sup>-20, 25 (without switch)



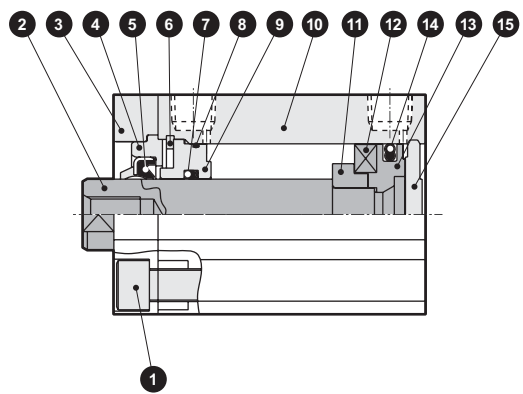
- SSD2-G<sub>3</sub><sup>2</sup>L-20, 25 (with switch)



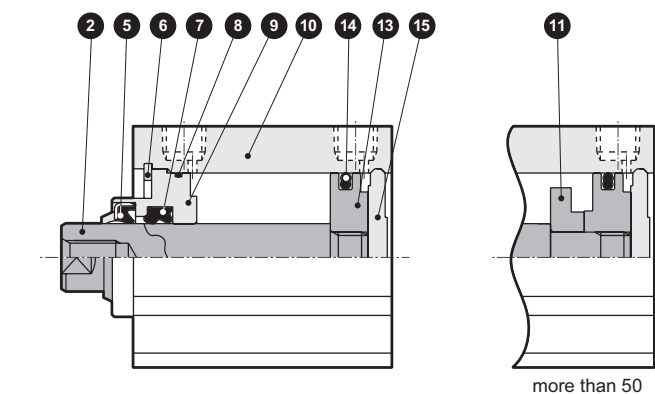
- SSD2-G<sub>3</sub><sup>2</sup>-32 (without switch)



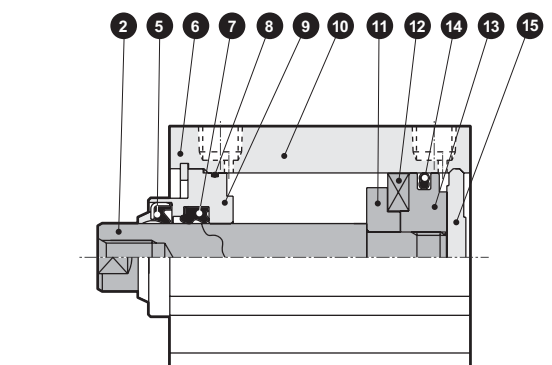
- SSD2-G<sub>3</sub><sup>2</sup>L-32 (with switch)



- SSD2-G<sub>3</sub><sup>2</sup>-40, 50 (without switch)



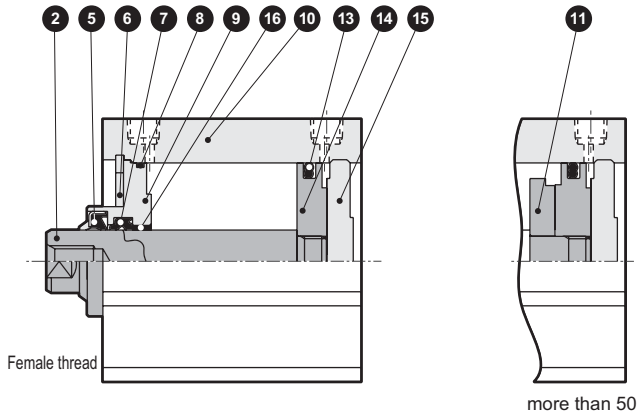
- SSD2-G<sub>3</sub><sup>2</sup>L-40, 50 (with switch)



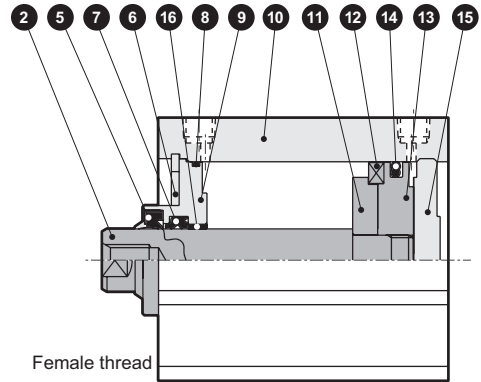
## Internal structure and parts list

- Protective structure: Packing seal NBR SSD2-G2/G2L  
Packing seal FKM SSD2-G3/G3L

- SSD2-G<sub>2</sub>-63 to 100 (without switch)



- SSD2-G<sub>2</sub>L-63,100 (with switch)



## Main parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap bolt	Stainless steel	For $\phi 16$ to $\phi 32$	9	Rod bushing	$\phi 16$ to $\phi 50$ : Special aluminum $\phi 63$ to $\phi 100$ : Aluminum alloy	$\phi 16$ to $\phi 50$ : Alumite $\phi 63$ to $\phi 100$ : Chromate
2	Piston rod	Stainless steel	Industrial chrome plating	10	Body	Aluminum alloy	Hard alumite
3	Adaptor (A)	Aluminum alloy	For alumite: $\phi 16$ to $\phi 32$	11	Spacer	Aluminum alloy	Chromate
4	Adaptor (B)	Aluminum alloy	For alumite: $\phi 16$ to $\phi 32$	12	Magnet	Plastic	
5	Scraper	G2 Nitrile rubber G3 Fluoro rubber		13	Piston	Aluminum alloy	Chromate
6	C type snap ring	Stainless steel		14	Piston packing seal	G2 Nitrile rubber G3 Fluoro rubber	
7	Rod packing seal	G2 Nitrile rubber G3 Fluoro rubber		15	Guard	$\phi 16$ to $\phi 25$ : Stainless steel $\phi 32$ to $\phi 100$ : Aluminum alloy	Alumite: $\phi 32$ to $\phi 100$
8	Rod metal gasket	G2 Nitrile rubber G3 Fluoro rubber		16	Bush	Oilless dry met	For $\phi 63$ to $\phi 100$

## Repair parts list

Parts name Bore size (mm)	Kit No.	Repair parts number
$\phi 16$	SSD2-G2-16K	5 7 8 14
	SSD2-G3-16K	
$\phi 20$	SSD2-G2-20K	
	SSD2-G3-20K	
$\phi 25$	SSD2-G2-25K	
	SSD2-G3-25K	
$\phi 32$	SSD2-G2-32K	
	SSD2-G3-32K	
$\phi 40$	SSD2-G2-40K	
	SSD2-G3-40K	
$\phi 50$	SSD2-G2-50K	
	SSD2-G3-50K	
$\phi 63$	SSD2-G2-63K	
	SSD2-G3-63K	
$\phi 80$	SSD2-G2-80K	
	SSD2-G3-80K	
$\phi 100$	SSD2-G2-100K	
	SSD2-G3-100K	

Note: Specify the kit No.

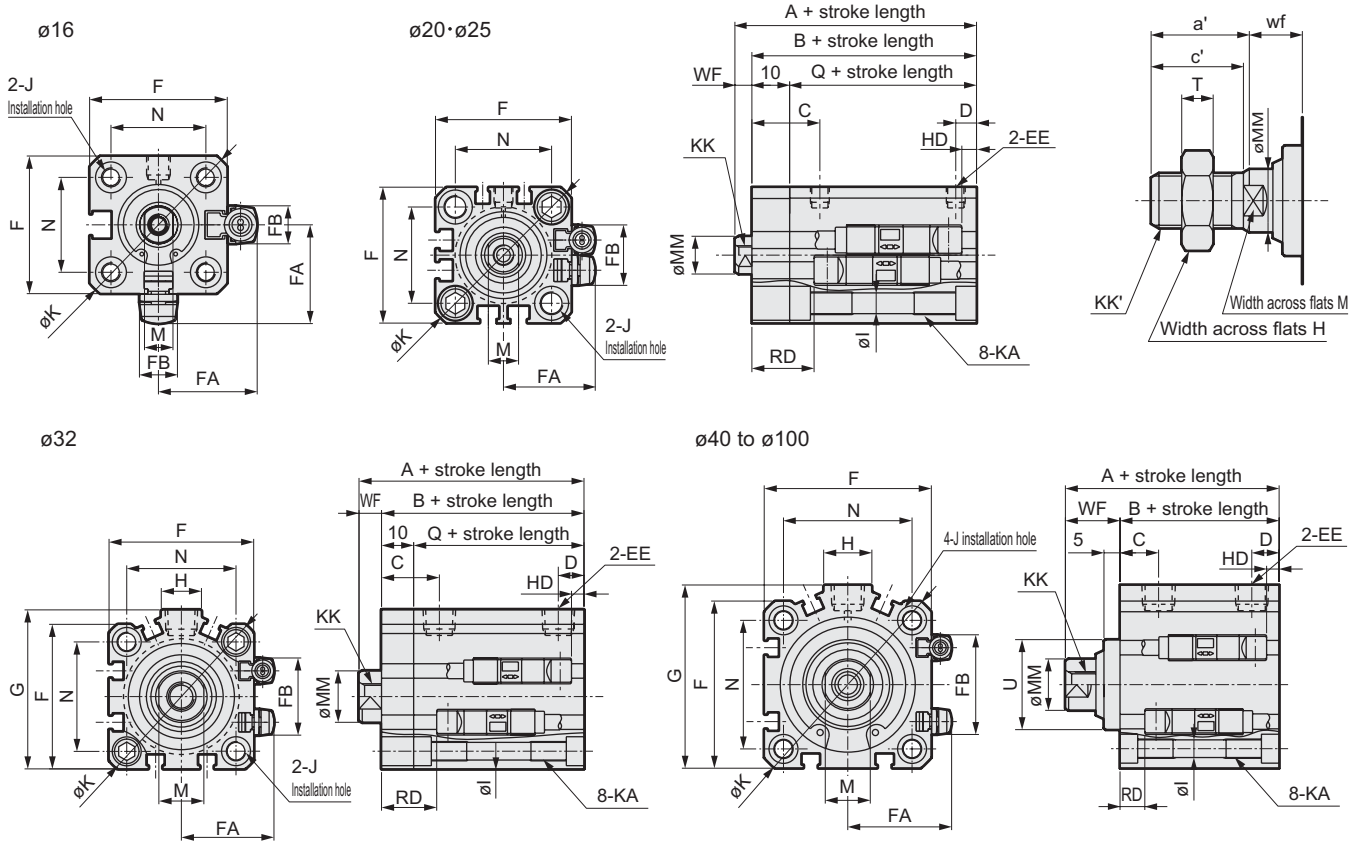


# SSD2-G2/G3 Series

## Dimensions

- Protective structure: Packing seal NBR  
SSD2-G2/G2L
- Protective structure: Packing seal FKM  
SSD2-G3/G3L

- Rod end male thread



Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 4: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

Note 5: The port size is M5 for the 5 stroke ø32 without switch.

Symbol	Without switch dimension			Common dimension with switch															
	A Note 1, Note 4	B Note 1, Note 4	Q	A Note 1	B Note 1	Q	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
ø16	35.5	27	17	40.5	32	27	15.5	5.5	M5	29	20.5	8	-	-	3.5	6.5 spot face depth 13.5	38	M4 depth 7	M4 depth 8
ø20	39	29.5	19.5	51	41.5	29.5	18	5.5	M5	36	24.5	20.5	-	-	5.5	9 spot face depth 15.5	47	M6 depth 11	M5 depth 7
ø25	42.5	32.5	22.5	52.5	42.5	32.5	21	6	M5	40	26.5	21.5	-	-	5.5	9 spot face depth 15.5	51	M6 depth 11	M6 depth 12
ø32	45 (55)	33 (43)	23 (33)	55	43	33	18	8	Rc1/8	45	29	24	49.5	24	5.5	9 spot face depth 15.5	60	M6 depth 11	M8 depth 13
ø40	46.5 (56.5)	29.5 (39.5)	-	56.5	39.5	-	12	8.5	Rc1/8	52	32.5	31	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ø50	48.5 (58.5)	30.5 (40.5)	-	58.5	40.5	-	10.5	10.5	Rc1/4	64	38.5	32	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ø63	54 (64)	36 (46)	-	64	46	-	13	11	Rc1/4	77	45	32	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
ø80	63.5 (73.5)	43.5 (53.5)	-	73.5	53.5	-	16	13	Rc3/8	98	55.5	32	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ø100	75 (85)	53 (63)	-	85	63	-	23	15	Rc3/8	117	65	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

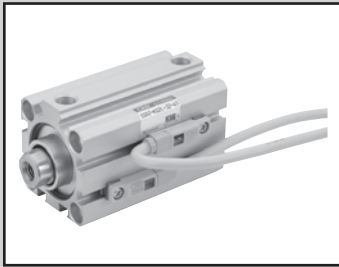
  

Symbol	Common dimension with switch						Proximity T2YLH and T2YLV, T3YLH or T3YLV		Rod end male thread section dimensions							
	M	MM	N	O	U	WF	RD	HD	a'	c'	H	KK'	M	MM	T	wf
ø16	6	8	20	-	-	8.5	-	-	12	10	8	M6	6	8	3.6	8.5
ø20	8	10	25.5	-	-	9.5	16.5	2	14	12	13	M8	8	10	5	9.5
ø25	10	12	28	-	-	10	18.5	3	17.5	15	17	M10 x 1.25	10	12	6	10
ø32	14	16	34	4.5	-	12	19	3	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø40	14	16	40	5	28	17	12	6.5	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø50	17	20	50	7	35	18	12	7.5	28.5	26	27	M18 x 1.5	17	20	11	15
ø63	17	20	60	7	35	18	12.5	12.5	28.5	26	27	M18 x 1.5	17	20	1	15
ø80	22	25	77	5	43	20	15	17.5	35.5	32.5	32	M22 x 1.5	22	25	13	18
ø100	27	30	94	6.5	59	22	19	23	35.5	32.5	41	M26 x 1.5	27	30	16	18

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MEMO

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Compact cylinder double acting high load, coolant proof type

# SSD2-KG2/KG3 Series

- Bore size:  $\phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50$   
 $\phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-KG2/KG3									
	SSD2-KG2L/KG3L (with switch)									
Bore size mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.15					0.1				
Withstanding pressure MPa	1.6									
Ambient temperature °C	-10 to 60 (no freezing)									
Port size	M5 x 0.8			Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance mm	$+2.0$ 0									
Working piston speed mm/s	50 to 500					50 to 300				
Cushion	Rubber cushion									
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)									
Allowable energy absorption J	0.09	0.16	0.16	0.4	0.63	0.98	1.56	2.51	3.92	

## Stroke length

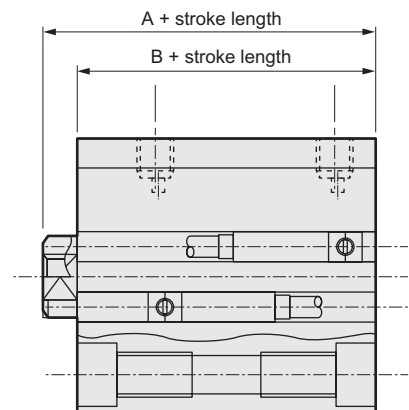
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 16$	5·10·15·20·25·30	30	1
$\phi 20$	5·10·15·20·25·30	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·35	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25·30	100	
$\phi 63$	30·35·40·45·50		
$\phi 80$	50·75·100		
$\phi 100$			

Note 1: Custom stroke length is available per 1mm increment. (For types with switch, the stroke length less than 10mm is not available) The total length is the same as the next longer standard stroke length.

## Custom stroke length

### ● SSD2-KG2/KG3 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-KG2-32-41 +4mm spacer is provided on the standard cylinder SSD2-B-32-45 to attain a 41mm stroke. B + Stroke is 88mm.	



### Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø16	10	10
ø20		
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

### Switch specifications

● Proximity switch

Type/model no.	Proximity and 2 wire	Proximity and 3 wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Programmable controller	Programmable controller, relay
Power voltage	-	10 to 28 VDC
Load voltage and current	10 to 30 VDC and 5 to 20mA Note 1	30 VDC 50m or less or less A
Light	Red/green LED (ON lighting)	
Leakage current	1mA or less	10µA or less
Maximum shock resistance	980m/S <sup>2</sup>	

Note 1: The maximum load current: above this is a product. When 20mA is 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA with 60°C)

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø16	69	114	79	124	90	135	101	146	112	157	123	168	-	-	-	-	-	-	-	-	-	-	-	-
ø20	68	163	101	176	114	189	126	201	139	214	151	226	164	239	176	251	189	264	201	276	-	-	-	-
ø25	118	209	134	225	150	241	166	257	181	272	198	289	214	305	230	321	246	337	262	353	-	-	-	-
ø32	211	325	232	346	253	367	275	389	297	411	319	433	341	455	362	476	384	498	405	519	513	627	620	734
ø40	289	432	316	459	343	486	369	512	395	538	422	565	449	592	475	618	502	645	528	671	661	804	793	936
ø50	-	-	509	703	551	745	594	788	637	831	678	872	720	914	762	956	804	998	846	1040	1056	1250	1266	1460
ø63	-	-	727	1006	782	1061	837	1116	893	1172	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1443	1722	1718	1997
ø80	-	-	1274	1687	1361	1774	1447	1860	1534	1947	1621	2034	1708	2121	1794	2207	1881	2294	1967	2380	2400	2813	2832	3245
ø100	-	-	1887	2454	2001	2568	2115	2682	2229	2796	2342	2909	2456	3023	2570	3137	2684	3251	2798	3365	3368	3935	3938	4505

# SSD2-KG2/KG3 Series

## How to order

Without switch

**SSD2-KG2** - **16** - **30** - **N** - **LB** - **I**

With switch

**SSD2-KG2L** - **16** - **30** - **T2YLH** - **R** - **N** - **LB** - **I**

**A** Protective structure

**B** Bore size

**C** Stroke length

**D** Switch model no.  
Note 6

**E** Switch quantity

**F** Option

**G** Mounting bracket  
Note 1  
Note 2  
Note 3

**H** Accessory  
Note 4

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2:  $\varnothing 16$  to  $\varnothing 25$  can not be attached with LB bracket and FA bracket afterwards due to the structure. This is treated as when shipping custom order for the Assembled of the product.

Note 3: If piston rod dimensions of projecting section WF are standard, differs when LB and FA a selection. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

Note 4: "I" and "Y" can not be selected at the same time.

Note 5: Refer to intro 3, 4 page about combination of variations and options.

Note 6: Switches are shipped with the product. Contact CKD when shipment must be assembled.

<Example of model number>

**SSD2-KG2L-32-30-T2YLH-R-N-LB**

Model: Compact cylinder high load type

**A** Protective structure: Cutting scraper + packing seal NBR and proof with switch

**B** Bore size :  $\varnothing 32\text{mm}$

**C** Stroke length : 30mm

**D** Switch model no. : Proximity switch T2YLH and lead wire 1m

**E** Switch quantity : 1 on rod end

**F** Option : Rod end male thread

**G** Mounting bracket : Axial foot

Symbol	Descriptions
<b>A Protective structure</b>	
<b>G2</b>	Coolant proof scraper + packing seal NBR
<b>G3</b>	Coolant proof scraper + packing seal FKM
<b>G2L</b>	Coolant proof scraper + packing seal NBR with switch
<b>G3L</b>	Coolant proof scraper + packing seal FKM with switch

<b>B Bore size (mm)</b>	
<b>16</b>	$\varnothing 16$
<b>20</b>	$\varnothing 20$
<b>25</b>	$\varnothing 25$
<b>32</b>	$\varnothing 32$
<b>40</b>	$\varnothing 40$
<b>50</b>	$\varnothing 50$
<b>63</b>	$\varnothing 63$
<b>80</b>	$\varnothing 80$
<b>100</b>	$\varnothing 100$

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

<b>D Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead wire
<b>T2YLH*</b>	<b>T2YLV*</b>	Proximity	2 color indicator type	2-wire
<b>T3YLH*</b>	<b>T2YLV*</b>			3-wire
<b>* Lead wire length</b>				
<b>Blank</b>	1m (standard)			
<b>3</b>	3m (option)			
<b>5</b>	5m (option)			

<b>E Switch quantity</b>	
<b>R</b>	1 on rod end
<b>H</b>	1 on head end
<b>D</b>	2

<b>F Option</b>	
<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread

<b>G Mounting bracket</b>	
<b>Blank</b>	Without mounting bracket
<b>LB</b>	Axial foot (custom order)
<b>CB</b>	Clevis (pin and snap ring attached)
<b>FA</b>	Rod end flange type (custom order)
<b>FB</b>	Head end flange type

<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
<b>I</b>	Rod eye
<b>Y</b>	Rod clevis (pin and snap ring attached)

### How to order switch

**SW** - **T2YLH**

Switch model no.  
(item previous page ①)

### (Stroke length table)

Stroke length (mm)	Applicable bore size									
	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●
	35		●	●	●	●	●	●	●	●
	40		●	●	●	●	●	●	●	●
	45		●	●	●	●	●	●	●	●
	50		●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●
	100				●	●	●	●	●	●
	Min. stroke length (mm) Note 1	1								
Max. stroke length (mm)	30	50	100							
Custom stroke length Note 2										

Note 1: Less than 10mm of the type with a switch is not available.

Refer to page 166 for switch quantity and min. stroke length.

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

### How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket									
Foot (LB)	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

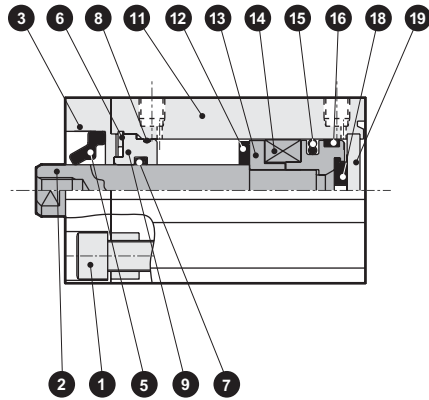
Note 2: ø16 to ø25 can not be attached with LB bracket and FA bracket afterwards due to the structure. Consult with CKD sales office.

# SSD2-KG2/KG3 Series

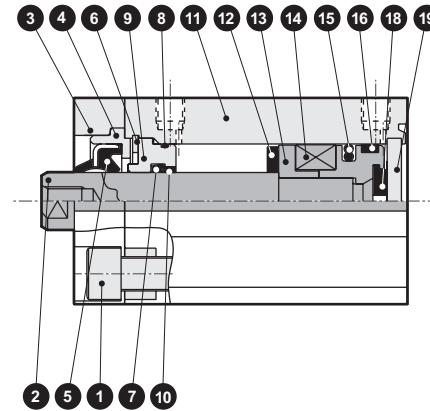
## Internal structure and parts list

- Protective structure: Packing seal NBR SSD2-KG2/KG2L
- Protective structure: Packing seal FKM SSD2-KG3/KG3L

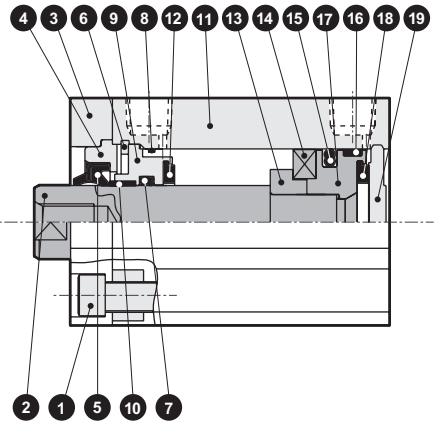
● SSD2-KG $\frac{2}{3}$ L-16 (with switch)



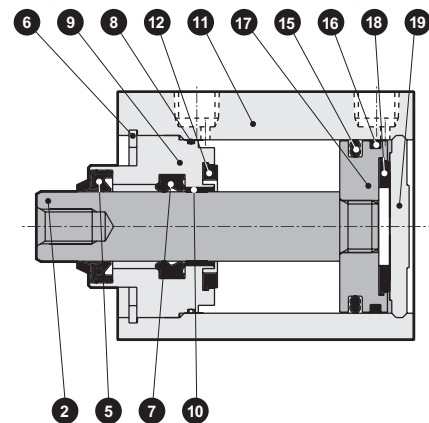
● SSD2-KG $\frac{2}{3}$ L-20, 25 (with switch)



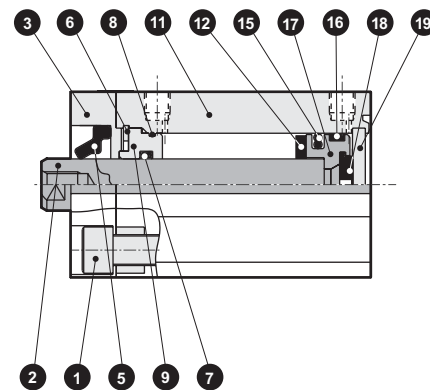
● SSD2-KG $\frac{2}{3}$ L-32 to 50 (with switch)



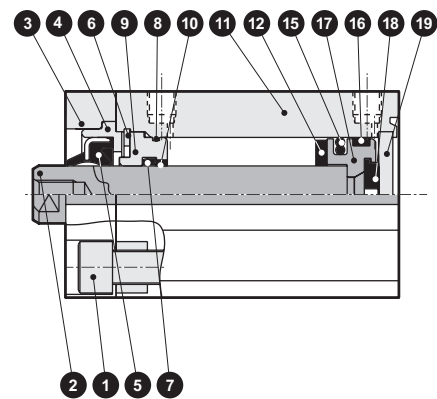
● SSD2-KG $\frac{2}{3}$ L-63 to 100 (with switch)



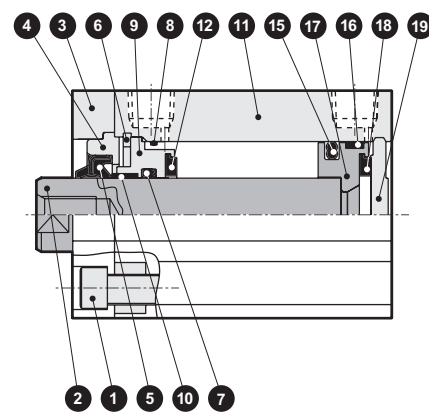
● SSD2-KG $\frac{2}{3}$ -16 (without switch)



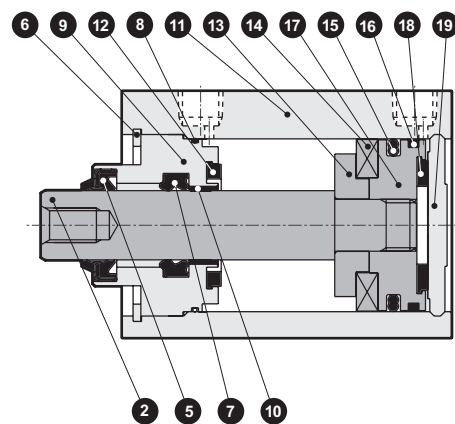
● SSD2-KG $\frac{2}{3}$ -20, 25 (without switch)



● SSD2-KG $\frac{2}{3}$ -32 to 50 (without switch)



● SSD2-KG $\frac{2}{3}$ -63 to 100 (without switch)



### Main parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Hexagon socket head cap bolt	Stainless steel	For $\phi 16$ to $\phi 25$	10	Bush	Oilless dry met	For $\phi 20$ to $\phi 100$
2	Piston rod	Stainless steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
3	Adaptor (A)	Aluminum alloy	For alumite $\phi 16$ to $\phi 25$	12	Cushion rubber (R)	Urethane rubber	
4	Adaptor (B)	Aluminum alloy	Only alumite $\phi 20$ , $\phi 25$	13	Spacer	Aluminum alloy	$\phi 16$ to $\phi 32$ : chromate
5	Scraper	G2	Nitrile rubber	14	Magnet	Plastic	
		G3	Fluoro rubber				
6	C type snap ring (hole)	Stainless steel		15	Piston packing seal	G2	Nitrile rubber
						G3	Fluoro rubber
7	Rod packing seal	G2	Nitrile rubber	16	Wear ring	Polyacetal	
		G3	Fluoro rubber	17	Piston	Aluminum alloy	Chromate
8	Rod metal gasket	G2	Nitrile rubber	18	Cushion rubber (H)	Urethane rubber	
		G3	Fluoro rubber	19	Guard	$\phi 16$ to $\phi 25$ : Stainless steel	Alumite
9	Rod bushing	Aluminum alloy	$\phi 32$ to $\phi 100$ : Alminum alloy				

### Repair parts list

Parts name	Kit No.	Repair parts number
$\phi 16$	SSD2-KG2-16K	
	SSD2-KG3-16K	
$\phi 20$	SSD2-KG2-20K	
	SSD2-KG3-20K	
$\phi 25$	SSD2-KG2-25K	
	SSD2-KG3-25K	
$\phi 32$	SSD2-KG2-32K	
	SSD2-KG3-32K	
$\phi 40$	SSD2-KG2-40K	
	SSD2-KG3-40K	
$\phi 50$	SSD2-KG2-50K	
	SSD2-KG3-50K	
$\phi 63$	SSD2-KG2-63K	
	SSD2-KG3-63K	
$\phi 80$	SSD2-KG2-80K	
	SSD2-KG3-80K	
$\phi 100$	SSD2-KG2-100K	
	SSD2-KG3-100K	

Note: Specify the kit No.

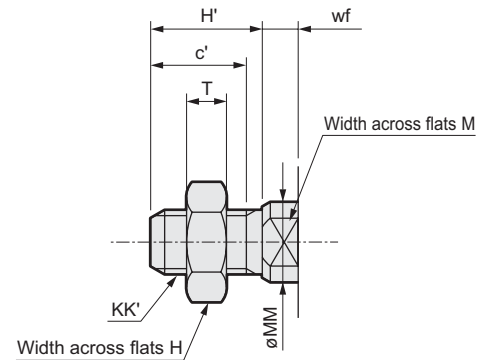
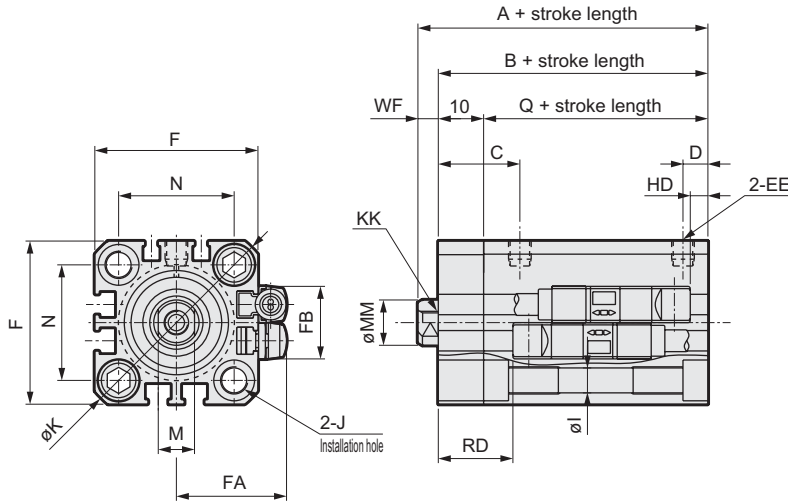


# SSD2-KG2/KG3 Series

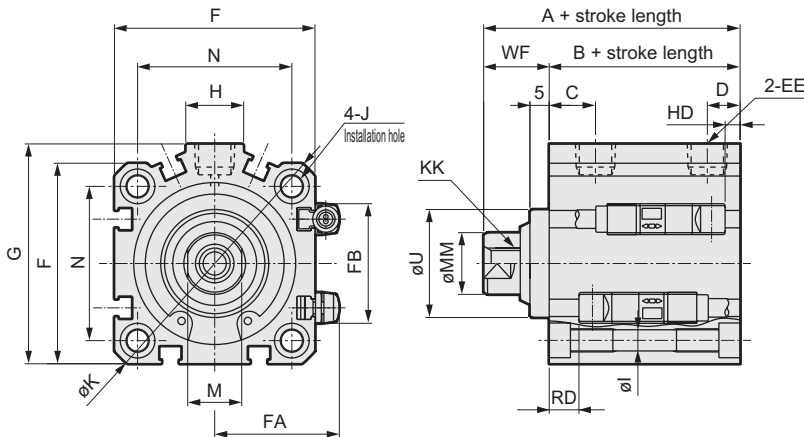
## Dimensions

● SSD2-KG2/KG3  
 ø20·ø25

● Rod end male thread



ø32 to ø100



Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.  
 For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

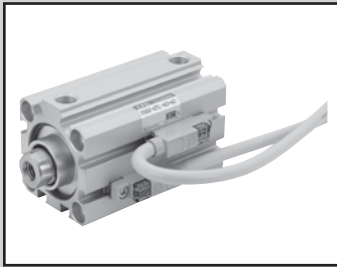
Symbol	Without switch dimension			Common dimension with switch																
	A Note 1	B Note 1	Q Note 1	A Note 1	B Note 1	Q Note 1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
ø16	40.5	32	22	45.5	37	27	15.5	5.5	3.4	M5	29	21	8	-	-	3.5	ø6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
ø20	44	34.5	24.5	54	44.5	34.5	18	5.5	5.5	M5	36	24.5	16	-	-	5.5	ø9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
ø25	47.5	37.5	27.5	57.5	47.5	37.5	21	6	5.5	M5	40	26.5	17	-	-	5.5	ø9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
ø32	55	43	-	65	53	-	8	8	5.5	Rc1/8	45	29	24	49.5	12.5	5.5	ø9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
ø40	56.5 (66.5)	39.5 (49.5)	-	66.5	49.5	-	12	8.5	5.5	Rc1/8	52	32.5	31	57	15	5.5	ø9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ø50	58.5 (68.5)	40.5 (50.5)	-	68.5	50.5	-	10.5	10.5	5.5	Rc1/4	64	38.5	32	71	18	6.9	ø11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ø63	64 (74)	46 (56)	-	74	56	-	13	11	5.5	Rc1/4	77	45	32	84	23	8.7	ø14 spot face depth 9	103	M10 depth 25	M10 depth 15
ø80	73.5 (83.5)	53.5 (63.5)	-	83.5	63.5	-	16	13	5.5	Rc3/8	98	55.5	32	104	31	10.5	ø17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ø100	85 (95)	63 (73)	-	95	73	-	23	15	5.5	Rc3/8	117	65	32	123.5	38	10.5	ø17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Symbol	Common dimension with switch						Proximity T2YLH and T2YLV, T3YLH or T3YLV		Rod end male thread section dimensions							
	M	MM	N	O	U	WF	HD	RD	a'	c'	H	KK'	M	MM	T	wf
ø16	6	8	20	-	-	8.5	2.5	14.5	12	10	8	M6	6	8	3.6	8.5
ø20	8	10	25.5	-	-	9.5	4.5	20.0	14	12	13	M8	8	10	5	9.5
ø25	10	12	28	-	-	10	4.5	22.5	17.5	15	17	M10 x 1.25	10	12	6	10
ø32	14	16	34	4.5	-	12	9.5	25.5	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø40	14	16	40	5	28	17	10.5	31.0	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø50	17	20	50	7	35	18	11.5	31.0	28.5	26	27	M18 x 1.5	17	20	11	10
ø63	17	20	60	7	35	18	18.0	29.0	28.5	26	27	M18 x 1.5	17	20	1	10
ø80	22	25	77	6	43	20	24.0	31.5	35.5	32.5	32	M22 x 1.5	22	25	13	13
ø100	27	30	94	6.5	59	22	29.5	35.5	35.5	32.5	41	M26 x 1.5	27	30	16	13

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MEMO

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Compact cylinder  
Double acting single rod, coil scraper type

## SSD2-G1 Series

● Bore size:  $\phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$

JIS symbol



Compact cylinder  
Double acting single rod, anti-spatter type

## SSD2-G4 Series



### Specifications

Descriptions	SSD2-G1/G4 SSD2-G1L/G4L (with switch)						
	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0						
Min. working pressure MPa	0.15			0.1			
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	50 to 500				50 to 300		
Cushion	None						
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)						
Allowable energy absorption J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

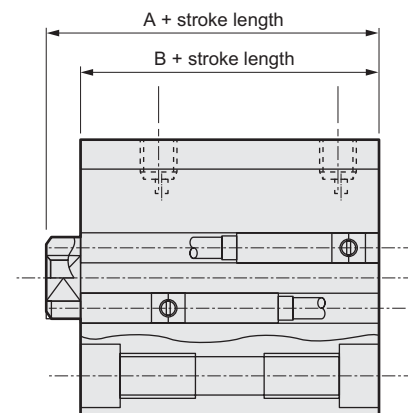
### Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 25$	5•10•15•20•25• 30•35•40•45•50	50	1 (10) Value in ( ) is the value with one or two switches.
$\phi 32$	5•10•15•20•25•30•	100	
$\phi 40$	35•40•45•50•75•100		
$\phi 50$	10•15•20•25		
$\phi 63$	30•35•40•45•50		
$\phi 80$	75•100		
$\phi 100$			

### Custom stroke length

#### ● SSD2-G1/G4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-G1-32-38 +2mm spacer is provided on the standard cylinder SSD2-G1-32-40 to attain a 38mm stroke. B + stroke dimension 63mm	



## Switch specifications

Descriptions	Proximity 2 wire
	T2YD
Applications	Programmable controller
Light	Red/green LED (ON lighting)
Load voltage	24 VDC ±10%
Load current	5 to 20mA DC
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay hour Note 1 (ON and OFF delay)	30 to 60ms
Lead wire length	1m (oil resistant vinyl cabtire cable ø6, 0.5mm <sup>2</sup> x 2 conductor) Note 2, Note 3
Insulation resistance	100MΩ and over with 500 VDC megger
Withstand voltage	No failure when 1000 VAC is applied for one minute
Maximum shock resistance	980m/s <sup>2</sup>
Ambient temperature	-10 to + 60°C
Protective structure	JIS C0920 (water tight type), IEC stanIP67, oil resistance

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.

Note 2: For lead wire length, 3m and 5m are available as an option.

Note 3: For lead wire material, flame resistant type is available as an option.

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø25	131	222	146	237	162	253	178	269	194	285	209	300	225	600	241	332	257	166	272	363	-	-	-	-
ø32	184	298	206	320	228	342	250	364	271	385	293	407	315	429	337	451	359	473	380	494	553	602	661	709
ø40	265	408	292	435	318	461	345	488	372	515	398	541	425	568	451	594	478	621	504	647	722	780	854	912
ø50	-	-	460	654	502	696	544	738	586	780	629	823	671	865	713	907	755	949	797	991	1144	1201	1354	1411
ø63	-	-	658	937	713	992	768	1047	823	1102	878	1157	934	1213	989	1268	1044	1323	1099	1378	1589	1653	1864	1928
ø80	-	-	1180	1593	1267	1680	1353	1765	1440	1853	1526	1939	1613	2026	1700	2113	1787	2200	1873	2286	2650	2719	3082	3151
ø100	-	-	1768	2335	1882	2449	1995	2562	2109	2676	2223	2790	2337	2904	2450	3017	2564	3131	2678	3245	3743	3815	4313	4385

# SSD2-G1/G4 Series

## How to order

Without switch

SSD2-G4 - 32 - 10 - N - LB - I

With switch

SSD2-G4L - 32 - 10 - T2YD - R - N - LB - I

A Model no.

B Bore size

C Stroke length  
Note 1

D Switch model no.

E Switch quantity

F Option

G Mounting bracket  
Note 1  
Note 2

H Accessory  
Note 3

Symbol	Descriptions			
<b>A Model no.</b>				
SSD2-G1	Double acting single rod, coil scraper type			
SSD2-G1L	Double acting single rod, coil scraper type/with switch			
SSD2-G4	Double acting single rod, anti-spatter type type			
SSD2-G4L	Double acting single rod, anti-spatter type type/with switch			
<b>B Bore size (mm)</b>				
25	ø25			
32	ø32			
40	ø40			
50	ø50			
63	ø63			
80	ø80			
100	ø100			
<b>C Stroke length (mm)</b>				
Refer to the stroke length table on following page.				
<b>D Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead wire
T2YD*	-	Proximity	Strong magnetic field proof switch	2-wire
T2YDT*	-			
<b>* Lead wire length</b>				
Blank	1m (standard)			
3	3m (option)			
5	5m (option)			
<b>E Switch quantity</b>				
R	1 on rod end			
H	1 on head end			
D	2			
<b>F Option</b>				
Blank	Rod end female thread			
N	Rod end male thread			
<b>G Mounting bracket</b>				
Blank	Without mounting bracket			
LB	Axial foot (custom order)			
CB	Clevis (pin and snap ring attached)			
FA	Rod end flange type (custom order)			
FB	Head end flange type			
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			

## ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: If piston rod dimensions of projecting section WF are standard, differs when a FA selection. Refer to Page dimensions 249. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

**SSD2-G4L-32-10-T2YD-R-N**

Model: Compact cylinder

Double acting anti-spatter type

B Bore size : ø32mm

C Stroke length : 10mm

D Switch model no.: Strong magnetic field proof proximity switch T2YD/Lead wire length 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

### (Stroke length table)

Stroke length (mm)		Applicable bore size						
		25	32	40	50	63	80	100
Standard stroke length	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●
100	●	●	●	●	●	●	●	
Min. stroke length (mm) Note 1		1						
Max. stroke length (mm)		50	100					
Custom stroke length Note 2		By 1 mm increment						

Note 1: Less than 10mm of the type with strong magnetic field or a switch is not available.  
Refer to page 173 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

### How to order switch

**SW - T2YD\***

↓  
Switch model no.  
(item previous page ②)

### How to order mounting bracket

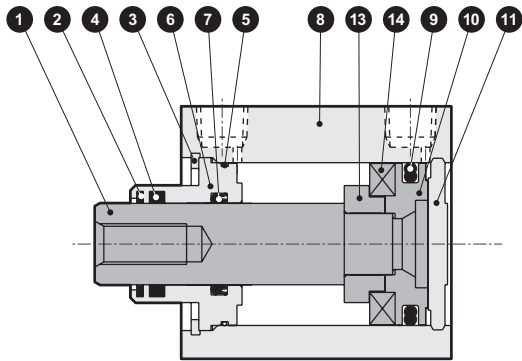
Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80
<b>Mounting bracket</b>						
Foot (LB)	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
<b>Bore size (mm)</b>	<b>ø100</b>					
<b>Mounting bracket</b>						
Foot (LB)	SSD2-LB-100					
Flange (FA/FB)	SSD2-FA-100					
Clevis (CB)	SSD2-CB-100					

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

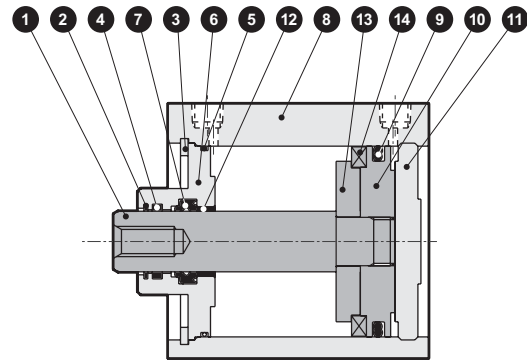
# SSD2-G1/G4 Series

## Internal structure and parts list

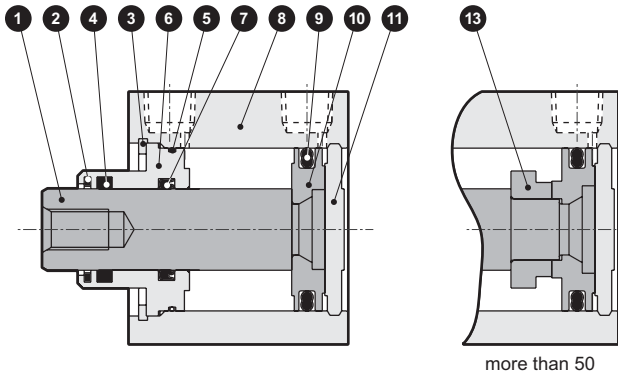
● SSD2-G1L and G4L-25 to 50 (Double acting anti-spatter type/with switch)



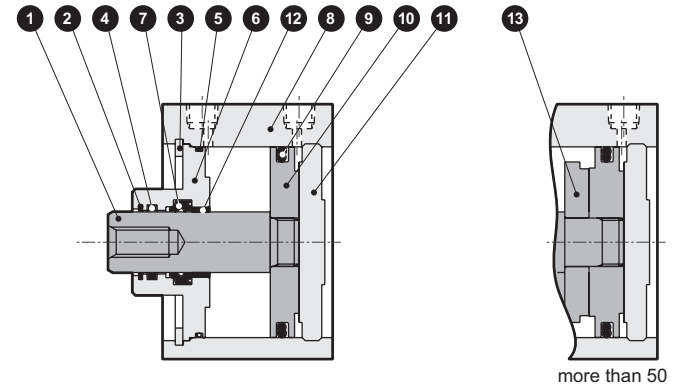
● SSD2-G1L and G4L-63 to 100 (Double acting Anti-spatter type/with switch)



● SSD2-G1, G4-25 to 50 (double acting/anti-spatter type)



● SSD2-G1, G4-63 to 100 (double acting/anti-spatter type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø25: Stainless steel ø32 to ø100: Steel	Industrial chrome plating	8	Body	Aluminum alloy	Hard alumite
2	Coil scraper	Bronze phosphate		9	Piston packing seal	Nitrile rubber	
3	C type snap ring	Steel	Phosphoric acid zinc	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	Only G4	11	Guard	ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
5	Rod metal gasket	Nitrile rubber		12	Bush	Oilless dry met	
6	Rod bushing	ø25 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø25 to ø50: Alumite ø63 to ø100: Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing seal	Nitrile rubber		14	Magnet	Plastic	

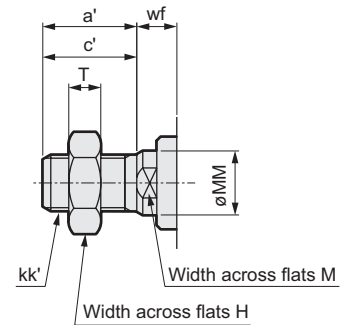
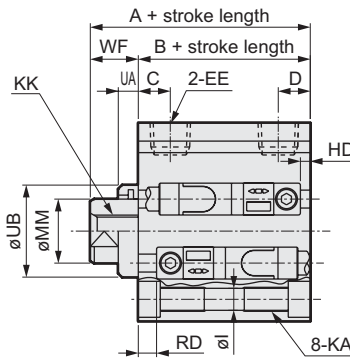
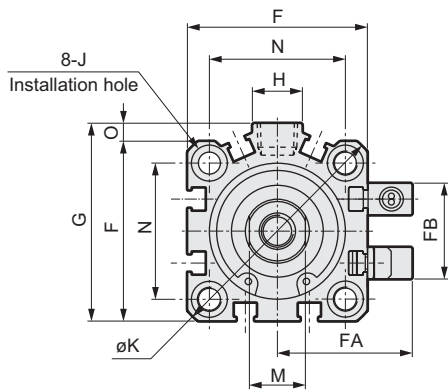
### Repair parts list

Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø25	SSD2-G1-25K	2 5 7 9
ø32	SSD2-G1-32K	
ø40	SSD2-G1-40K	
ø50	SSD2-G1-50K	
ø63	SSD2-G1-63K	
ø80	SSD2-G1-80K	
ø100	SSD2-G1-100K	

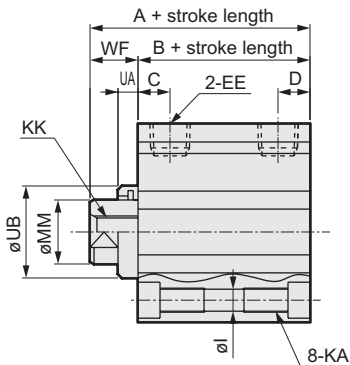
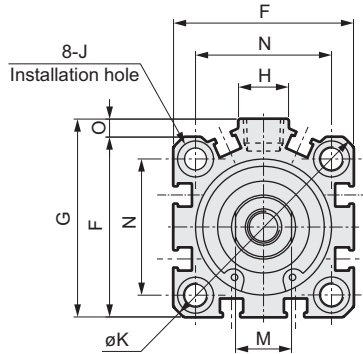
## Dimensions

● SSD2-G1L/G4L-25 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread



● SSD2-G1/G4-25 to 100 (without switch)



Symbol Bore size (mm)	Without switch			Common dimension with switch														
	A Note 1		B Note 6	A Note 1		B Note 1	C Note 6	D Note 6	EE	F	FA	FB	G	H	I	J	K	KA
	G1	G4		G1	G4													
ø25	37.5	37.5	32.5	47.5	47.5	42.5	11	6	M5	40	31.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11
ø32	35 (45)	40 (50)	23 (33)	45	50	33	8 (10)	8 (5.5)	Rc1/8 Note 7	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
ø40	41.5 (51.5)	46.5 (56.5)	29.5 (39.5)	51.5	56.5	39.5	12 (11.5)	8.5 (8)	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
ø50	43.5 (53.5)	48.5 (58.5)	30.5 (40.5)	53.5	58.5	40.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
ø63	49 (59)	54 (64)	36 (46)	59	64	46	13	11	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25
ø80	58.5 (68.5)	63.5 (73.5)	43.5 (53.5)	68.5	73.5	53.5	16	13	Rc3/8	98	60	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28
ø100	70 (80)	75 (85)	53 (63)	80	85	63	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28

Symbol Bore size (mm)	Common dimension with switch								Proximity T2YD			
	KK	M	MM	N	O	UA		UB	WF		HD	RD Note 2
						G1	G4		G1	G4		
ø25	M8 depth 11	10	12	28	-	-	-	-	5	5	2	20
ø32	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17	4.5	20.5
ø40	M8 depth 13	14	16	40	5	5	10	28 h9	12	17	8	23.5
ø50	M10 depth 15	17	20	50	7	5	10	35 h9	13	18	9	23.5
ø63	M10 depth 15	17	20	60	7	5	10	35 h9	13	18	13	24
ø80	M16 depth 21	22	25	77	6	5	10	43 h9	15	20	19	26.5
ø100	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22	24.5	30.5

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 4: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

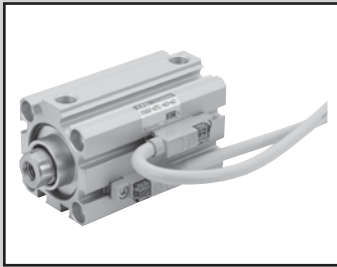
Note 5: The port size is M5 for the 5 stroke ø32 without switch.

Note 6: Dimensions in ( ) C, D column are values when 5 strokes without switch.

● Rod end male thread

Symbol Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ø25	17.5	15	17	M10 x 1.25	10	12	6	5
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø50	28.5	26	27	M18 x 1.5	17	20	11	10
ø63	28.5	26	27	M18 x 1.5	17	20	11	10
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	13
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	13





Compact cylinder  
Double acting single rod, high load, coil scraper type

## SSD2-KG1 Series

● Bore size:  $\varnothing 25 \cdot \varnothing 32 \cdot \varnothing 40 \cdot \varnothing 50 \cdot \varnothing 63 \cdot \varnothing 80 \cdot \varnothing 100$

JIS symbol 

Compact cylinder  
Double acting single rod, high load, anti-spatter type

## SSD2-KG4 Series



### Specifications

Descriptions	SSD2-KG1/KG4 SSD2-KG1L/KG4L (with switch)							
	mm	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Bore size	mm	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$	$\varnothing 63$	$\varnothing 80$	$\varnothing 100$
Actuation		Double acting						
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	$^{\circ}\text{C}$	-10 to 60 (no freezing)						
Port size		M5	Rc1/8	Rc1/4		Rc3/8		
Stroke tolerance	mm	$+2.0$ 0						
Working piston speed	mm/s	50 to 500			50 to 300			
Cushion		Rubber cushion						
Lubrication		Not required (when lubricating, use turbine oil ISO VG32.)						
Allowable energy absorption	J	0.16	0.40	0.63	0.98	1.56	2.51	3.92

### Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\varnothing 25$	5·10·15·20·25· 30·35·40·45·50	50	1 (10) Value in ( ) is the type with a rod end.
$\varnothing 32$	5·10·15·20·25·30· 35·40·45·50·75·100	100	
$\varnothing 40$	10·15·20·25 30·35·40·45·50		
$\varnothing 50$	75·100		
$\varnothing 63$			
$\varnothing 80$			
$\varnothing 100$			

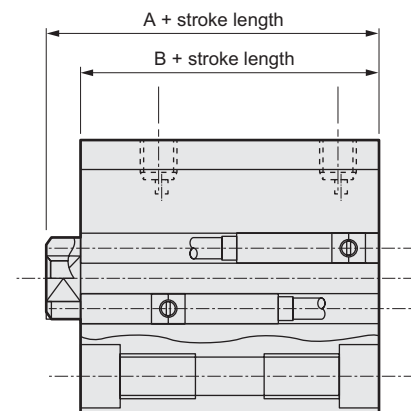
Note 1: The custom stroke can be manufactured by 1mm.

Note 2: The custom stroke (i. e 64 stroke) is the same dimension as longer stroke (i. e 70mm stroke).

### Custom stroke length

#### ● SSD2-KG1/KG4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-KG1-32-38 +2mm spacer is provided on the standard cylinder SSD2-B-32-40 to attain a 38mm stroke. B + stroke dimension is 83mm.	



## Switch specifications

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	24 VDC ±10%	
Load current	5 to 20mA DC	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	
Output delay hour Note 1 (ON and OFF delay)	30 to 60ms	
Lead wire length	1m (oil resistant vinyl cabtire cable ø6, 0.5mm <sup>2</sup> x 2 conductor) Note 2, Note 3	
Insulation resistance	100MΩ and over with 500 VDC megger	
Withstand voltage	No failure when 1000 VAC is applied for one minute	
Maximum shock resistance	980m/s <sup>2</sup>	
Ambient temperature	-10 to + 60°C	
Protective structure	JIS C0920 (water tight type), IEC standard IP67, oil resistance	

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.

Note 2: For lead wire length, 3m and 5m are available as an option.

Note 3: For lead wire material, flame resistant type is available as an option.

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pcs.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
ø32	228	342	249	363	270	384	292	406	314	428	336	450	358	472	379	493	401	515	422	536	530	644	637	751
ø40	318	461	345	488	372	515	398	541	424	567	451	594	478	621	504	647	531	674	557	700	690	833	822	965
ø50	-	-	549	743	591	785	634	828	677	871	718	912	760	954	802	996	844	1038	886	1080	1096	1290	1306	1500
ø63	-	-	782	1061	837	1116	892	1171	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1223	1502	1498	1777	1773	2052
ø80	-	-	1382	1795	1469	1882	1555	1968	1642	2055	1729	2142	1816	2229	1902	2315	1989	2402	2075	2488	2508	2921	2940	3353
ø100	-	-	2029	2596	2143	2710	2257	2824	2371	2938	2484	3051	2598	3165	2712	3279	2826	3393	2940	3507	3510	4077	4080	4647

# SSD2-KG1/KG4 Series

## How to order

Without switch

SSD2-KG4 - 32 - 10 - N - LB - I

With switch

SSD2-KG4L - 32 - 10 - T2YD - R - N - LB - I

A Model no.

B Bore size

C Stroke length

D Switch model no.

E Switch quantity

F Option

G Mounting bracket  
Note 1  
Note 2

H Accessory  
Note 3

Symbol	Descriptions			
<b>A Model no.</b>				
SSD2-KG1	Double acting single rod, high load, coil scraper type			
SSD2-KG1L	Double acting single rod, high load, coil scraper type/with switch			
SSD2-KG4	Double acting single rod, high load, anti-spatter type			
SSD2-KG4L	Double acting single rod, high load, anti-spatter type/with switch			
<b>B Bore size (mm)</b>				
25	ø25			
32	ø32			
40	ø40			
50	ø50			
63	ø63			
80	ø80			
100	ø100			
<b>C Stroke length (mm)</b>				
Refer to the stroke length table on following page.				
<b>D Switch model no.</b>				
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead wire
T2YD*	-	Proximity	Strong magnetic field proof switch	2-wire
T2YDT*	-			
<b>* Lead wire length</b>				
Blank	1m (standard)			
3	3m (option)			
5	5m (option)			
<b>E Switch quantity</b>				
R	1 on rod end			
H	1 on head end			
D	2			
<b>F Option</b>				
Blank	Rod end female thread			
N	Rod end male thread			
<b>G Mounting bracket</b>				
Blank	Without mounting bracket			
LB	Axial foot (custom order)			
CB	Clevis (pin and snap ring attached)			
FA	Rod end flange type (custom order)			
FB	Head end flange type			
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			

## ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: If piston dimensions of projecting section WF are standard, differs when LB and FA a selection. Refer to Page dimensions 245, 249. The specified model number with extended rod length is printed on the product label.

Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

**SSD2-KG4L-32-10-T2YD-R-N**

Model: Compact cylinder

Double acting high load type/ anti-spatter type

B Bore size : ø32mm

C Stroke length : 10mm

D Switch model no.: Strong magnetic field proof proximity switch T2YD/Lead wire length 1m

E Switch quantity : 1 on rod end

F Option : Rod end male thread

### How to order switch

**SW - T2YD**

Switch model no.  
(item previous page ①)

### (Stroke length table)

Stroke length (mm)	Applicable bore size							
	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●				
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75		●	●	●	●	●	●
	100		●	●	●	●	●	●
	Min. stroke length (mm) Note 1	1						
Max. stroke length (mm)	50	100						
Custom stroke length Note 2	By 1 mm increment							

Note 1: Less than 10 mm of the type with strong magnetic field proof switch is not available.

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

### How to order mounting bracket

Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

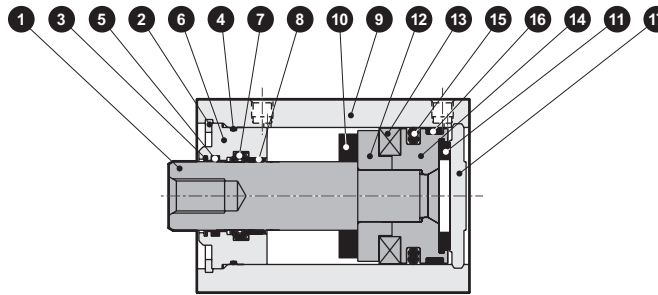
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

# SSD2-KG1/KG4 Series

## Internal structure and parts list

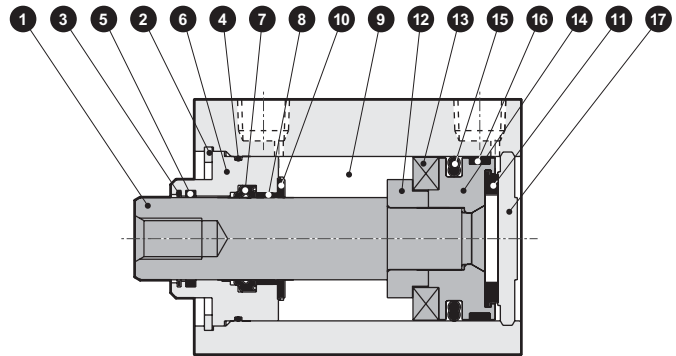
### ● SSD2-KG1L/KG4L-25

(Double acting single rod high load/spatter adherence prevention types/with switch)



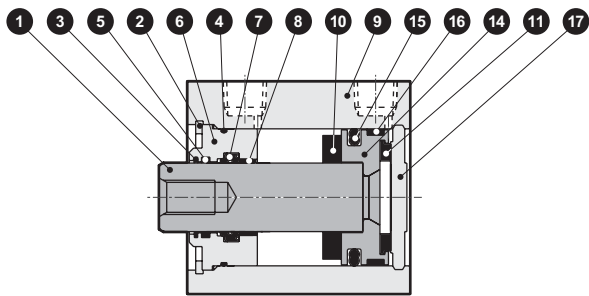
### ● SSD2-KG1L/KG4L-32 to 50

(Double acting single rod high load/spatter adherence prevention types/with switch)



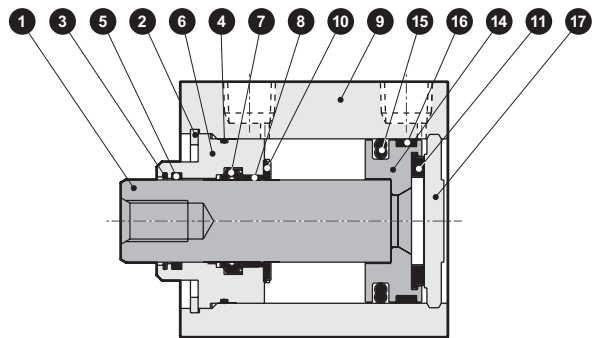
### ● SSD2-KG1/KG4-25

(Double acting single rod high load/spatter adherence prevention types)



### ● SSD2-KG1/KG4-32 to 50

(Double acting single rod high load/spatter adherence prevention types)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø25: Stainless steel ø32 to 50: Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer	Aluminum alloy	ø25, ø32: Chromate
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber	Only G4	14	Piston	Aluminum alloy	Chromate
6	Rod bushing	Special aluminum	Alumite	15	Piston packing seal	Nitrile rubber	
7	Rod packing seal	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oilless dry met		17	Cover	ø25: Stainless steel ø32 to 50: Aluminum alloy	ø32 to ø50: Alumite
9	Body	Aluminum alloy	Hard alumite				

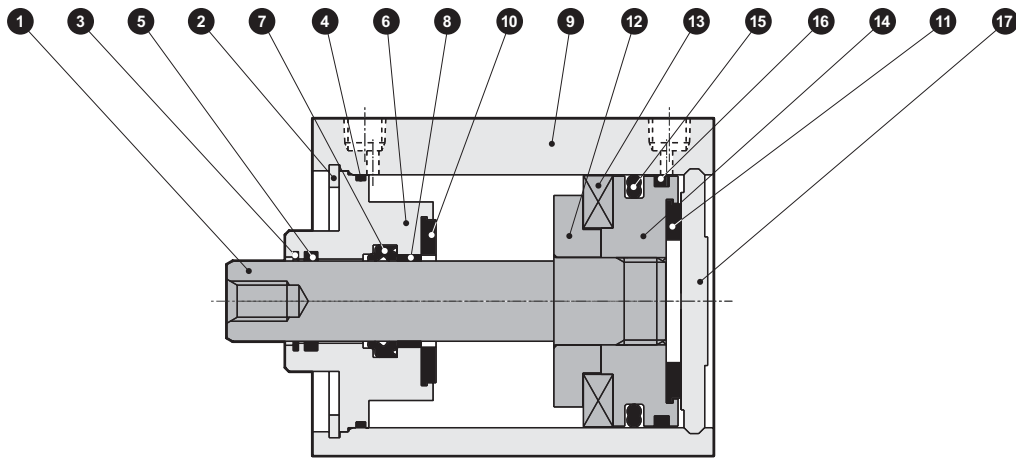
Note 1: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

## Repair parts list

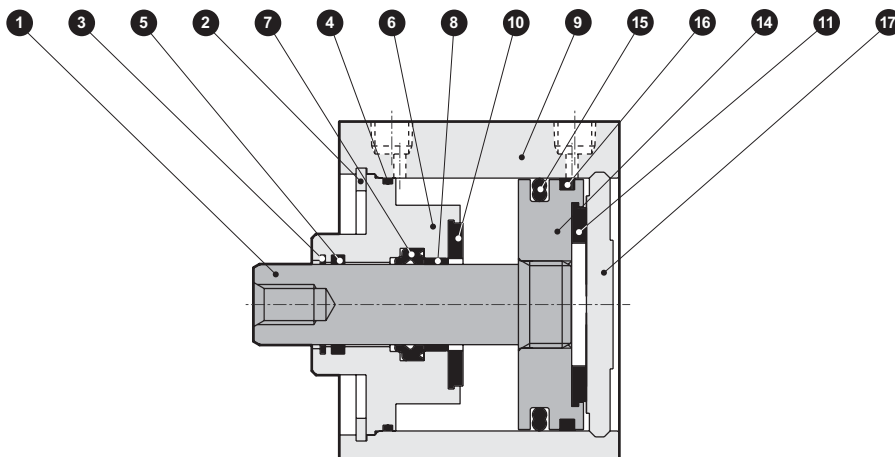
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø25	SSD2-KG1-25K	
ø32	SSD2-KG1-32K	3 4 7
ø40	SSD2-KG1-40K	10 11 16
ø50	SSD2-KG1-50K	

## Internal structure and parts list

- SSD2-KG1L/KG4L-63 to 100 (double acting/single rod high load/spatter adherence prevention types/with switch)



- SSD2-KG1/KG4-63 to 100 (double acting/single rod high load/spatter adherence prevention types)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber	Only G4	14	Piston	Aluminum alloy	Chromate
6	Rod bushing	Aluminum alloy	Chromate	15	Piston packing seal	Nitrile rubber	
7	Rod packing seal	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oilless dry met		17	Cover	Aluminum alloy	Alumite
9	Body	Aluminum alloy	Hard alumite				

## Repair parts list

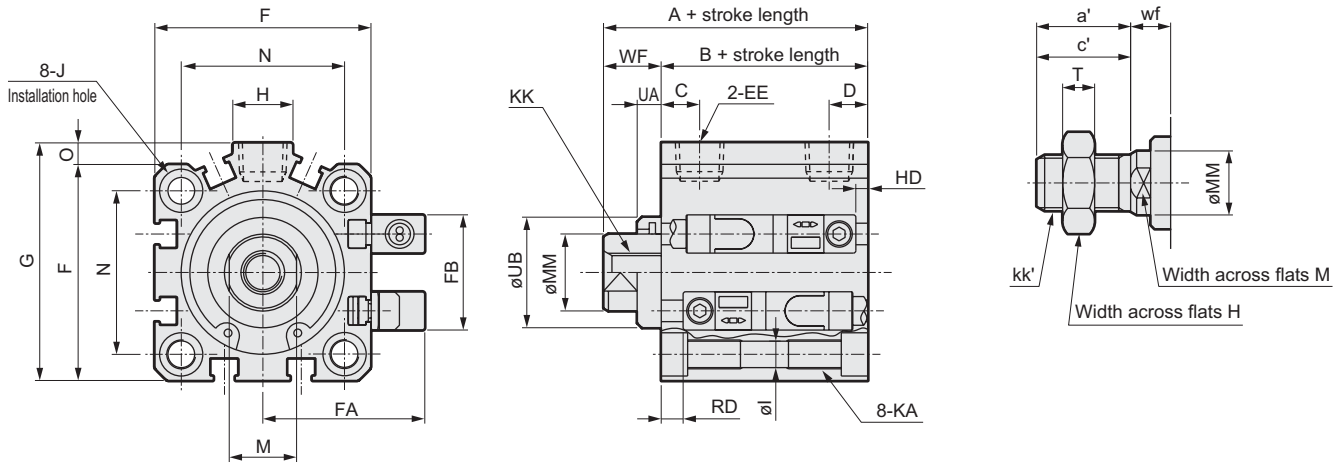
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø63	SSD2-KG1-63K	3 4 7 10
ø80	SSD2-KG1-80K	11 15 16
ø100	SSD2-KG1-100K	

# SSD2-KG1/KG4 Series

## Dimensions

● SSD2-KG1L/KG4L-25 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread



Symbol Bore size (mm)	Dimension with switch														
	A <sup>Note 1</sup>		B <sup>Note 1</sup>	C	D	EE	F	FA	FB	G	H	I	J	K	KA
G1	G4														
ø25	52.5	52.5	47.5	11	6	M5	40	31.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11
ø32	55	60	43	8	8	Rc1/8 <sup>Note 7</sup>	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
ø40	61.5	66.5	49.5	12	8.5	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
ø50	63.5	68.5	50.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
ø63	69	74	56	13	11	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25
ø80	78.5	83.5	63.5	16	13	Rc3/8	98	60	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28
ø100	90	95	73	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28

Symbol Bore size (mm)	Dimension with switch										Proximity T2YD	
	KK	M	MM	N	O	UA		UB	WF		HD	RD <sup>Note 2</sup>
						G1	G4		G1	G4		
ø25	M8 depth 11	10	12	28	-	-	-	-	5	5	2	20
ø32	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17	4.5	20.5
ø40	M8 depth 13	14	16	40	5	5	10	28 h9	12	17	8	23.5
ø50	M10 depth 15	17	20	50	7	5	10	35 h9	13	18	9	23.5
ø63	M10 depth 15	17	20	60	7	5	10	35 h9	13	18	13	24
ø80	M16 depth 21	22	25	77	6	5	10	43 h9	15	20	19	26.5
ø100	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22	24.5	30.5

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

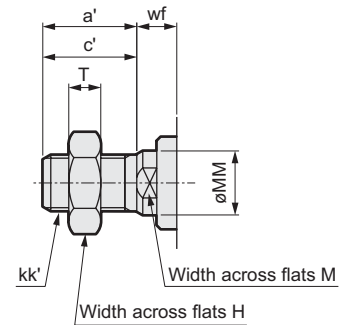
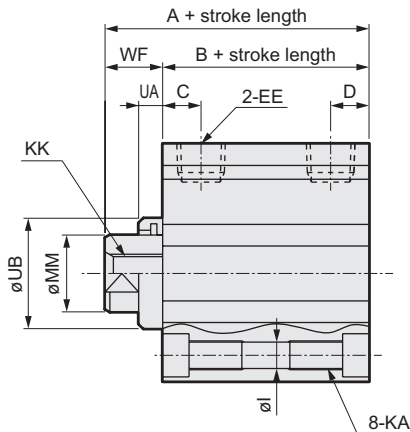
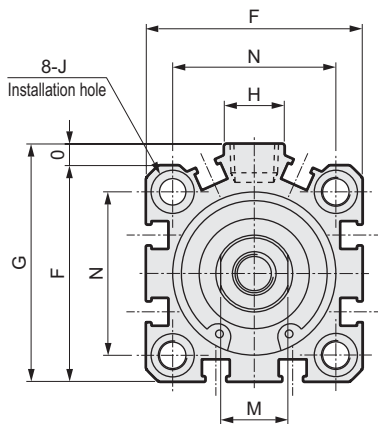
● Rod end male thread

Symbol Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ø25	17.5	15	17	M10 x 1.25	10	12	6	5
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

### Dimensions

● SSD2-KG1/KG4-25 to 100 (without switch)

● Rod end male thread



Symbol Bore size (mm)	Without switch dimension														
	A <sup>Note 1</sup>		B <sup>Note 6</sup>	C <sup>Note 6</sup>	D <sup>Note 6</sup>	EE	F	FA	FB	G	H	I	J	K	KA
	G1	G4													
ø25	42.5	42.5	37.5	11	6	M5	40	31.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11
ø32	45 (55)	50 (60)	33 (43)	10	5.5	Rc1/8	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
ø40	51.5 (61.5)	56.5 (66.5)	39.5 (49.5)	11.5	8	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
ø50	53.5 (63.5)	58.5 (68.5)	40.5 (50.5)	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
ø63	59 (69)	64 (74)	46 (56)	13	11	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25
ø80	68.5 (78.5)	73.5 (83.5)	53.5 (63.5)	16	13	Rc3/8	98	60	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28
ø100	80 (90)	85 (95)	63 (73)	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28

Symbol Bore size (mm)	Without switch dimension									
	KK	M	MM	N	O	UA		UB	WF	
						G1	G4		G1	G4
ø25	M8 depth 11	10	12	28	-	-	-	-	5	5
ø32	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17
ø40	M8 depth 13	14	16	40	5	5	10	28 h9	12	17
ø50	M10 depth 15	17	20	50	7	5	10	35 h9	13	18
ø63	M10 depth 15	17	20	60	7	5	10	35 h9	13	18
ø80	M16 depth 21	22	25	77	6	5	10	43 h9	15	20
ø100	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 4: Values in ( ) for symbols A and B are for when 50 strokes is exceeded.

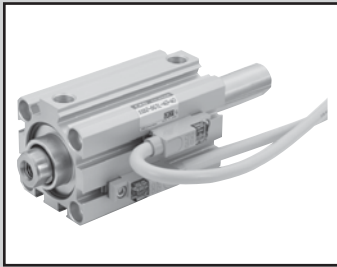
Note 5: The port size is M5 for the 5 stroke ø32 without switch.

Note 6: This is a value. when a ( ) dimension of a symbol C and D a column are 5 stroke length.

● Rod end male thread

Symbol Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ø25	17.5	15	17	M10 x 1.25	10	12	6	5
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø50	28.5	26	27	M18 x 1.5	17	20	11	10
ø63	28.5	26	27	M18 x 1.5	17	20	11	10
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	13
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	13





Compact cylinder  
Double acting double rod, coil scraper type

## SSD2-DG1 Series

● Bore size:  $\phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



Compact cylinder  
Double acting double rod, spatter adherence prevention type

## SSD2-DG4 Series



### Specifications

Descriptions	SSD2-DG1/DG4 SSD2-DG1L/DG4L (with switch)							
	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.2				0.15			
Withstanding pressure MPa	1.6							
Ambient temperature °C	-10 to 60 (no freezing)							
Port size	Rc1/8			Rc1/4			Rc3/8	
Stroke tolerance mm	$+1.0$ 0							
Working piston speed mm/s	50 to 500					50 to 300		
Cushion	None							
Lubrication	Not required (when lubricating, use turbine oil ISOVG32.)							
Allowable energy absorption J	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

### Stroke length

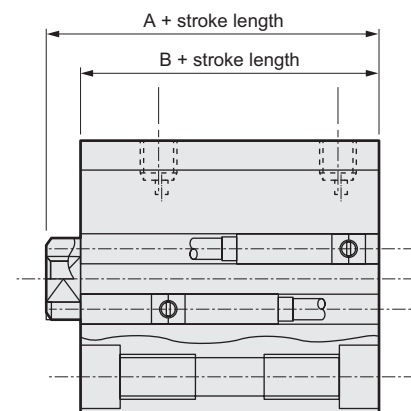
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 25$	5·10·15·20·25· 30·35·40·45·50	50	1 (10) Values in ( ) apply to the type with one or two switches.
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			

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

### Custom stroke length

#### ● SSD2-DG1/DG4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-DG1-32-38 +2 mm spacer is provided on the standard cylinder SSD2-DG1-32-40 to attain 38 mm stroke. Dimension B + stroke is 90.5 mm.	



## Switch specifications

- Strong magnetic field proof proximity

Descriptions	Proximity 2 wire	
	T2YD	
Applications	Programmable controller	
Light	Red/green LED (ON lighting)	
Load voltage	24 VDC ±10%	
Load current	5 to 20mA DC	
Internal voltage drop	6V or less	
Leakage current	1.0mA or less	
Output delay hour Note 1 (ON and OFF delay)	30 to 60ms	
Lead wire length	1m (oil resistant vinyl cabtire cable ø6, 0.5mm <sup>2</sup> x 2 conductor) Note 2, Note 3	
Insulation resistance	100MΩ and over with 500 VDC megger	
Withstand voltage	No failure when 1000 VAC is applied for one minute	
Maximum shock resistance	980m/s <sup>2</sup>	
Ambient temperature	-10 to + 60°C	
Protective structure	JIS C0920 (water tight type), IEC standards IP67, oil resistance	

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.

Note 2: For lead wire length, 3m and 5m are available as an option.

Note 3: For lead wire material, flame resistant type is available as an option.

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø25	234	325	249	340	265	356	281	372	297	388	313	403	329	419	344	435	360	461	375	486	-	-	-	-
ø32	308	423	354	468	399	514	446	560	490	605	537	651	584	696	631	741	678	786	725	831	960	1056	1195	1281
ø40	446	589	473	616	499	642	526	669	553	696	579	732	606	754	632	775	659	802	685	828	818	961	950	1093
ø50	-	-	746	940	796	989	846	1041	896	1089	946	1139	996	1189	1046	1239	1098	1291	1149	1343	1407	1603	1664	1863
ø63	-	-	1203	1567	1278	1642	1353	1717	1428	1792	1503	1867	1579	1943	1654	2018	1729	2093	1804	2168	2179	2543	2554	2918
ø80	-	-	2112	2042	2229	2420	2345	2798	2462	2915	2578	3031	2695	3153	2812	3275	2929	3392	3045	3508	3628	4091	4210	4673
ø100	-	-	3153	3775	3322	3924	3490	4072	3659	4256	3828	4440	3997	4604	4165	4767	4334	4931	4503	5095	5348	5915	6193	6735

# SSD2-DG1/DG4 Series

## How to order

Without switch

**SSD2-DG4** - **32** - **10** - \_\_\_\_\_ - **N** - **LB** - **I**

With switch

**SSD2-DG4L** - **32** - **10** - **T2YD** - **R** - **N** - **LB** - **I**

**A** Model no.

**B** Bore size

**C** Stroke length

**D** Switch model no.

**E** Switch quantity

**F** Option

**G** Mounting bracket

Note 1  
Note 2

**H** Accessory  
Note 3

Symbol	Descriptions
<b>A Model no.</b>	
<b>SSD2-DG1</b>	Double acting double rod, coil scraper type
<b>SSD2-DG1L</b>	Double acting double rod, coil scraper type/with switch
<b>SSD2-DG4</b>	Double acting double rod, spatter adherence prevention type
<b>SSD2-DG4L</b>	Double acting double rod, spatter adherence prevention type/with switch
<b>B Bore size (mm)</b>	
<b>25</b>	ø25
<b>32</b>	ø32
<b>40</b>	ø40
<b>50</b>	ø50
<b>63</b>	ø63
<b>80</b>	ø80
<b>100</b>	ø100
<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	
<b>D Switch model no.</b>	
<b>Lead wire</b>	<b>Lead wire</b>
<b>Axial</b>	<b>Radial</b>
<b>T2YD*</b>	-
<b>T2YDT*</b>	-
<b>T2YDU (custom order)</b>	-
<b>* Lead wire length</b>	
<b>Blank</b>	1m (standard)
<b>3</b>	3m (option)
<b>5</b>	5m (option)
<b>E Switch quantity</b>	
<b>R</b>	1 on rod end
<b>H</b>	1 on head end
<b>D</b>	2
<b>F Option</b>	
<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread
<b>G Mounting bracket</b>	
<b>Blank</b>	Without mounting bracket
<b>LB</b>	Axial foot (custom order)
<b>FA</b>	Rod end flange type (custom order)
<b>H Accessory (permissible if rod end male thread "N" was selected.)</b>	
<b>I</b>	Rod eye
<b>Y</b>	Rod clevis (pin and snap ring attached)

## ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to Page dimensions 247, 250. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

**SSD2-DG4L-32-10-T2YD-R-N**

Model: Compact cylinder

Double acting double rod spatter adherence prevention types

**B** Bore size : ø32mm

**C** Stroke length : 10mm

**D** Switch model no.: Strong magnetic field proof proximity switch T2YD/Lead wire length 1m

**E** Switch quantity : 1 on rod end

**F** Option : Rod end male thread

## How to order switch

**SW** - **T2YD**

Switch model no.  
(item previous page ④)

## (Stroke length table)

Stroke length (mm)		Applicable bore size						
		25	32	40	50	63	80	100
Standard stroke length	5	●	●	●				
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75		●	●	●	●	●	●
100		●	●	●	●	●	●	
Min. stroke length (mm) Note 1		1						
Max. stroke length (mm)		50	100					
Custom stroke length Note 2		By 1 mm increment						

Note 1: Less than 10 mm of the type with strong magnetic field proof switch is not available.

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

## How to order mounting bracket

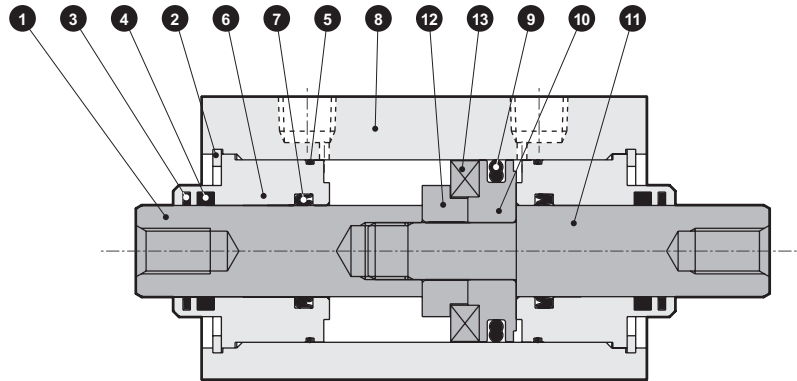
Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket							
Foot (LB)	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Foot (LB2)	SSD2-LB2-25	SSD2-LB2-32	SSD2-LB2-40	SSD2-LB2-50	SSD2-LB2-63	SSD2-LB2-80	SSD2-LB2-100
Flange (FA)	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100
Clevis (CB2)	SSD2-CB2-25	SSD2-CB2-32	SSD2-CB2-40	SSD2-CB2-50	SSD2-CB2-63	SSD2-CB2-80	SSD2-CB2-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

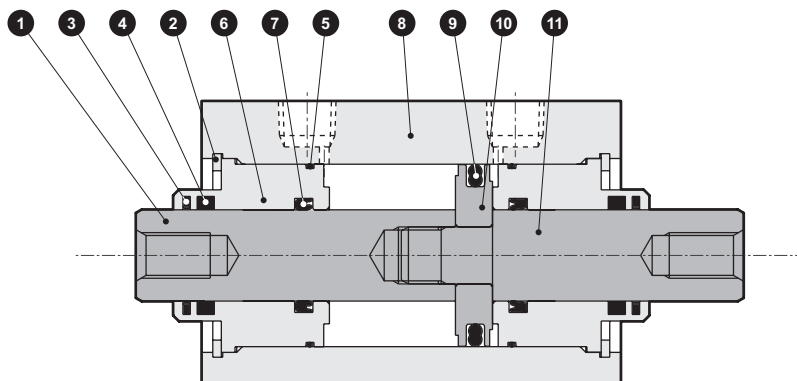
# SSD2-DG1/DG4 Series

## Internal structure and parts list

- SSD2-DG1L/DG4L-25 to 50 (double acting/double rod/spatter adherence prevention types/with switch)



- SSD2-DG1/DG4-25 to 50 (double acting/double rod/spatter adherence prevention types)



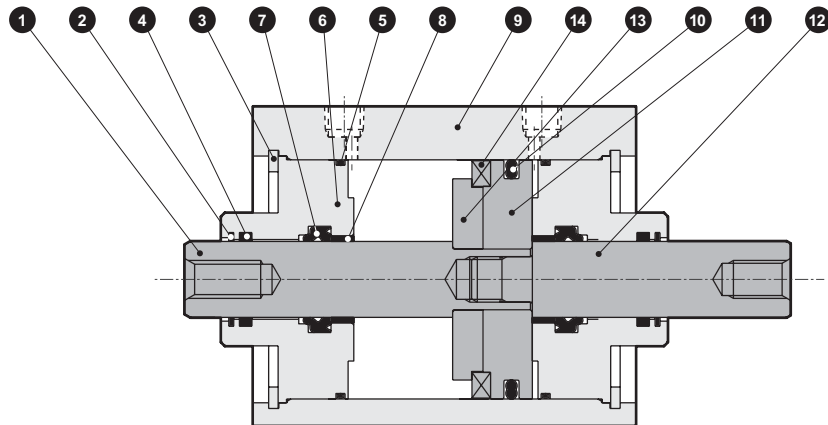
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	ø25: Stainless steel ø32 to 50: Steel	Industrial chrome plating	8	Body	Aluminum alloy	Hard alumite
2	C type snap ring for hole	Steel	Phosphoric acid zinc	9	Piston packing seal	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	Only G4	11	Piston rod B	ø25: Stainless steel ø32 to 50: Steel	Industrial chrome plating
5	Rod metal gasket	Nitrile rubber		12	Spacer	Aluminum alloy	ø25, ø32: Chromate
6	Rod bushing	Aluminum alloy	Alumite	13	Magnet	Plastic	
7	Rod packing seal	Nitrile rubber					

## Repair parts list

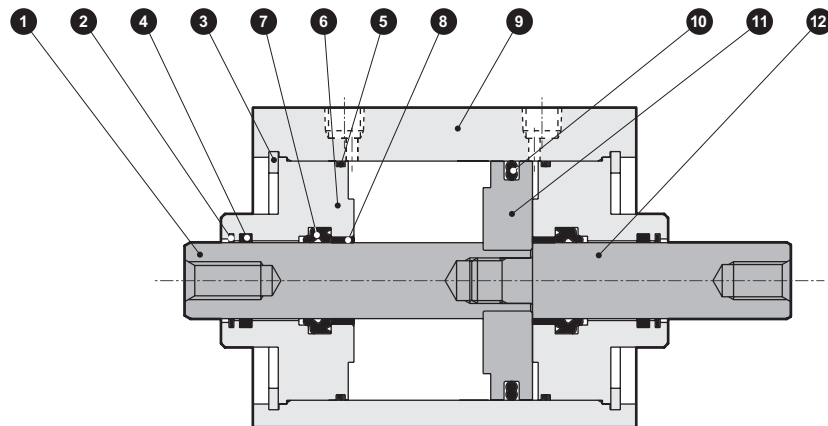
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø25	SSD2-DG1-25K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">3</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">5</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">7</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">9</span>
ø32	SSD2-DG1-32K	
ø40	SSD2-DG1-40K	
ø50	SSD2-DG1-50K	

## Internal structure and parts list

- SSD2-DG1L/DG4L-63 to 100 (double acting/double rod/spatter adherence prevention types/with switch)



- SSD2-DG1/DG4-63 to 100 (double acting/double rod/spatter adherence prevention types)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Bush	Oilless dry met	
2	Coil scraper	Phosphor bronze		9	Body	Aluminum alloy	Hard alumite
3	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	Chromate
4	Lube keeping structure	Special rubber	Only G4	11	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		12	Piston rod B	Steel	Industrial chrome plating
6	Rod bushing	Aluminum alloy	Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing seal	Nitrile rubber		14	Magnet	Plastic	

## Repair parts list

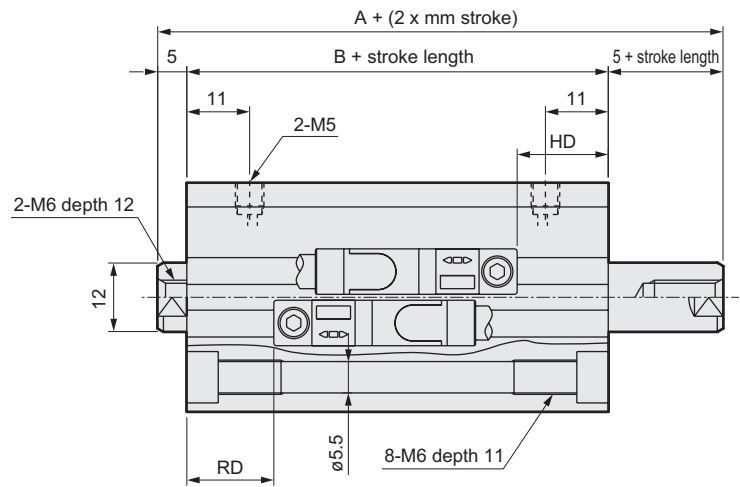
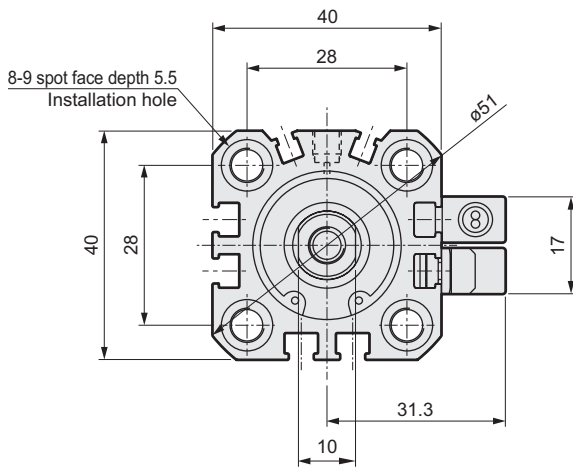
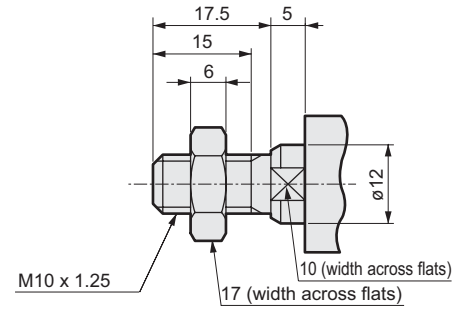
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø63	SSD2-DG1-63K	
ø80	SSD2-DG1-80K	2 5 7 10
ø100	SSD2-DG1-100K	

# SSD2-DG1/DG4 Series

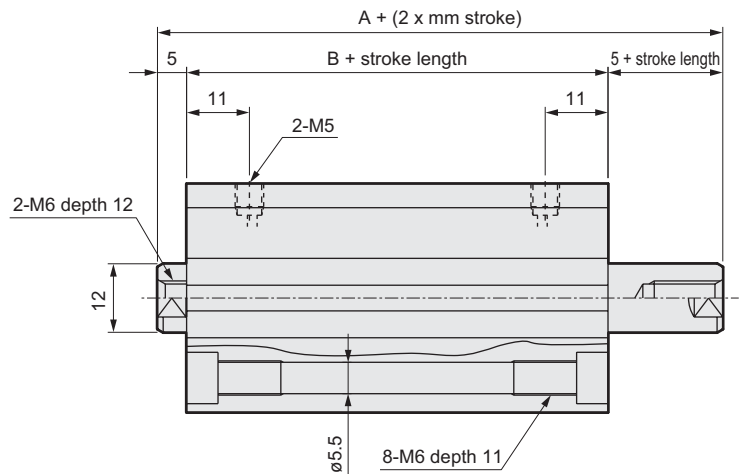
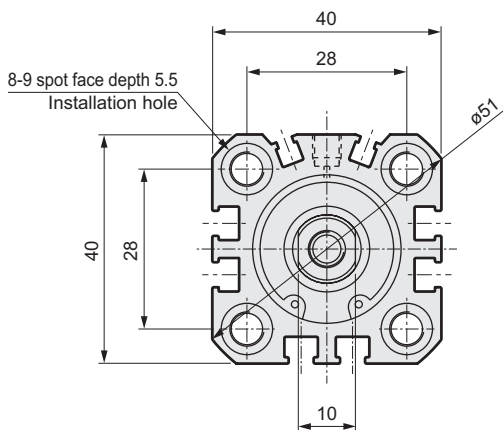
## Dimensions

● SSD2-DG1L/DG4L-25 (with switch)

● Rod end male thread



● SSD2-DG1/DG4-25 (without switch)



Symbol	Without switch		Dimension with switch					
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	A <sup>Note 1</sup>	B <sup>Note 1</sup>	FA	FB	RD <sup>Note 2</sup>	HD
ø25	59	49	69	59	31.5	17	20	21.5

Note 1: Calculate using the next standard stroke length instead of the real stroke, when calculate intermediate stroke of  $A + (2 \times \text{stroke})$ ,  $B + \text{stroke}$ ,  $5 + \text{stroke}$ . Rod dimensions of projecting section differ by left right.

<Example> Calculate by applying 20 mm standard stroke at intermediate stroke 17 mm.

Note 2: Dimension "RD" of intermediate stroke is different with this dimension due to in each case setup.

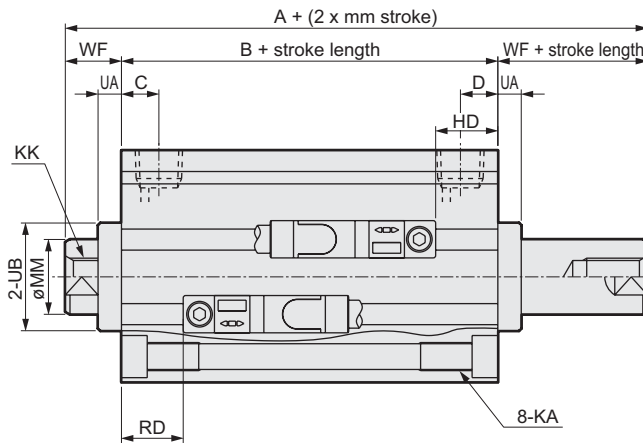
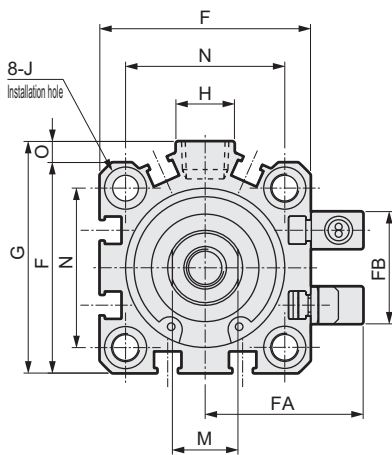
Note 3: Refer to pages, 245 to 256 for accessory dimensions.

# SSD2-DG1/DG4 Series

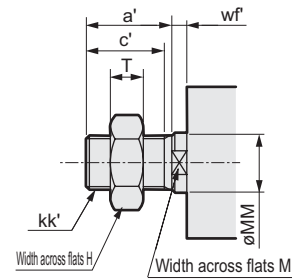
Double acting double rod type

## Dimensions

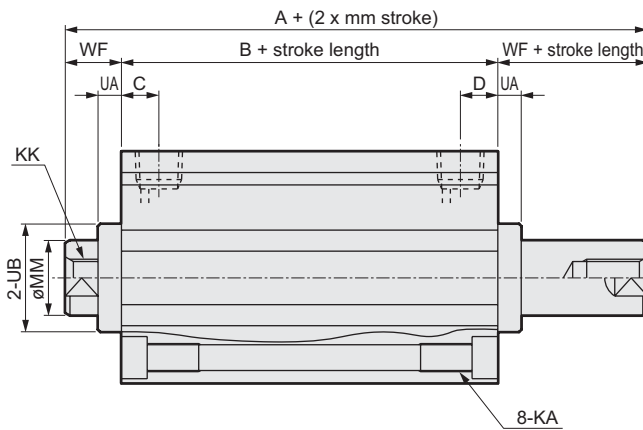
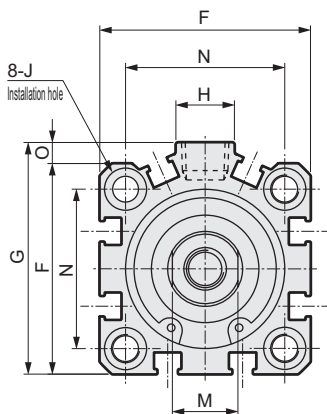
● SSD2-DG1L/DG4L-32 to 100 (with switch)



● Rod end male thread



● SSD2-DG1/DG4-32 to 100 (without switch)



Symbol Bore size (mm)	Without switch			Common dimension with switch														
	A <sup>Note 1</sup>		B <sup>Note 1</sup>	A <sup>Note 1</sup>		B <sup>Note 1</sup>	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
	G1	G4		G1	G4													
ø32	54.5 (64.5)	64.5 (74.5)	30.5	64.5	74.5	40.5	8	8	Rc1/8	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ø40	64 (74)	74 (84)	40	74	84	50	12	12	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ø50	66.5 (76.5)	76.5 (86.5)	40.5	76.5	86.5	50.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
ø63	68 (78)	78 (88)	42	78	88	52	13	13	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
ø80	81 (91)	91 (101)	51	91	101	61	16	16	Rc3/8	98	60	32	104	31	10.5	17 spot face depth 11	M12 depth 28	M16 depth 21
ø100	94.5 (104.5)	104.5 (114.5)	60.5	104.5	114.5	71.5	23	23	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Symbol Bore size (mm)	Common dimension with switch									T2YD type with switch	
	M	MM	N	O	UA		UB	WF		RD <sup>Note 2</sup>	HD
					G1	G4		G1	G4		
ø32	14	16	34	4.5	5	10	23 h9	12	17	20.5	22
ø40	14	16	40	5	5	10	28 h9	12	17	23.5	27.5
ø50	17	20	50	7	5	10	35 h9	13	18	23.5	27.5
ø63	17	20	60	7	5	10	35 h9	13	18	24	28.5
ø80	22	25	77	6	5	10	43 h9	15	20	26.5	35
ø100	27	30	94	6.5	5	10	59 h9	17	22	30.5	40.5

Note 1: Calculate using the next standard stroke length instead of the real stroke, when calculate intermediate stroke of A + (2 X stroke), B + stroke, 5 + stroke. Rod dimensions of projecting section differ by left right.  
<Example> Calculate by applying 20 mm standard stroke at intermediate stroke 17 mm.

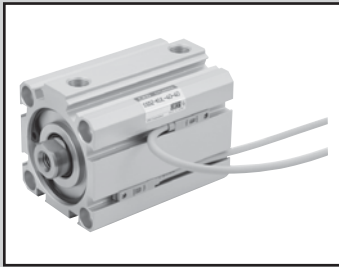
Note 2: Dimension "RD" of intermediate stroke is different with this dimension due to in each case setup.

Note 3: Refer to pages, 245 to 256 for accessory dimensions.

● Rod end male thread section dimensions table

Symbol Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf'
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	10
ø50	28.5	26	27	M18 x 1.5	17	20	11	10
ø63	28.5	26	27	M18 x 1.5	17	20	11	10
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	13
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	13

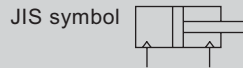




Compact cylinder double acting single rod, environment resistant scraper type

# SSD2-G5 Series

● Bore size:  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-G5 SSD2-G5L (with switch)							
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.2				0.15			
Withstanding pressure MPa	1.6							
Ambient temperature $^{\circ}\text{C}$	-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	50 to 500				50 to 300			
Cushion	No							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG32.)							
Allowable energy absorption J	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)
$\phi 20$	5·10·15·20·25·	50	1
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25·30·35·40·		
$\phi 63$			
$\phi 80$			
$\phi 100$			
	45·50·75·100		

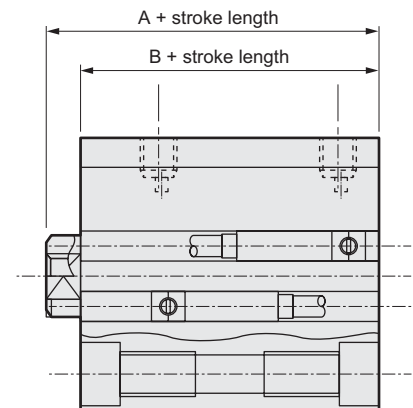
Note 1: When using the type with switch, refer to the switch installation number and minimum stroke length below.

Note 2: Custom stroke length is available per 1mm increment. The same dimension as next longer standard stroke length applies to the total length of the custom stroke length.

## Custom stroke length

### ● SSD2-G5 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-G5-32-38 +2 mm spacer is provided on the standard cylinder SSD2-G5-32-40 to attain 38 mm stroke. Dimensions B + stroke is 73 mm.	



### Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø20	5	5
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.  
 Note 2: Each ( ) inside is of the type with a rod end.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD				
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-			
Power voltage	-	-				10 to 28 VDC				-				-			
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	AC100/110V	5/12/24 VDC	AC100/110V	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less				10µA or less				0mA				1mA or less			

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø20	95	150	107	182	120	195	133	208	145	220	158	233	171	246	184	259	197	272	210	285	-	-	-	-
ø25	131	222	146	237	162	253	178	269	194	285	209	300	225	316	241	332	257	348	272	363	-	-	-	-
ø32	185	299	207	321	229	343	251	365	272	386	294	408	316	430	338	452	360	474	381	495	552	600	662	710
ø40	269	412	296	439	322	465	349	492	376	519	402	545	429	572	455	598	482	625	508	651	726	784	858	916
ø50	-	-	476	670	518	712	560	754	602	796	645	839	687	881	729	923	771	965	813	1007	1160	1217	1370	1427
ø63	-	-	703	982	758	1037	813	1092	868	1147	923	1202	999	1258	1074	1313	1150	1369	1144	1423	1332	1696	1709	1973
ø80	-	-	1240	1653	1327	1740	1413	1826	1500	1908	1586	1990	1673	2082	1760	2173	1847	2265	1933	2346	2701	2754	3136	3211
ø100	-	-	1879	2446	1993	2560	2106	2673	2220	2787	2334	2901	2448	3015	2561	3128	2675	3242	2789	3356	3857	3929	4424	4496

## How to order

Without switch

SSD2-G5 - 20 - 5 - N - LB - I

With switch

SSD2-G5L - 20 - 5 - T0H - R - N - LB - I

**A** Model no.

**B** bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.

Note 1  
Note 4

**F** Switch quantity

**G** Option

**H** Mounting bracket  
Note 2

**I** Accessory  
Note 3

### ! Note on model no. selection

Note 1: T8\* switch can not be installed for ø20 to ø32.

Note 2: The mounting bracket is enclosed when shipped. "WG" "wr" of mounting "LB" and "FA" type are 10 mm longer than standard model. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

Note 4: Switches are shipped with the product. Please consult with CKD Sales office when need the mounting bracket is shipped with the products.

<Example of model number>

**SSD2-G5L-32-5-T0H-R-N-LB-I**

Model: Compact cylinder

Double acting single rod, environment resistant scraper type

**B** Bore size : ø32mm

**C** Port thread type : Rc thread type

**D** Stroke length : 5mm

**E** Switch model no. : Reed switch T0H  
Lead wire length 1m

**F** Switch quantity : 1 on rod end

**G** Option : Rod end male thread

**H** Mounting bracket : Axial foot

**I** Accessory : Rod eye

Symbol	Descriptions											
<b>A model no.</b>												
SSD-G5	Double acting single rod, environment resistant scraper type (custom order)											
SSD-G5L	Double acting single rod, environment resistant scraper type/with switch (custom order)											
<b>B bore size (mm)</b>												
20	ø20											
25	ø25											
32	ø32											
40	ø40											
50	ø50											
63	ø63											
80	ø80											
100	ø100											
<b>C port thread type</b>												
Blank	Rc/M5 thread											
NN	NPT thread (ø32 and over) (custom order)											
GN	G thread (ø32 and over) (custom order)											
<b>D mm stroke (mm)</b>												
Refer to the stroke length table on following page.												
<b>E switch model no.</b>												
Lead wire Axial	Lead wire Radial	Contact	Indicator	Lead Line	Bore size							
F2H*	F2V*	Proximity	1 color indicator type	2-wire	20	25	32	40	50	63	80	100
F3H*	F3V*				3-wire	●	●					
F2YH*	F2YV*	Proximity	2 color indicator type	2-wire	20	25	32	40	50	63	80	100
F3YH*	F3YV*				3-wire	●	●					
T0H*	T0V*	Reed	1 color indicator type	2-wire	20	25	32	40	50	63	80	100
T5H*	T5V*				Without light	●	●	●	●	●	●	●
T8H*	T8V*	Reed	1 color indicator type	2-wire	20	25	32	40	50	63	80	100
T1H*	T1V*				●	●	●	●	●	●	●	●
T2H*	T2V*	Proximity	1 color indicator type	2-wire	20	25	32	40	50	63	80	100
T3H*	T3V*				●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	1 color indicator type (PNP output) (custom order)	3-wire	20	25	32	40	50	63	80	100
T2WH*	T2WV*				●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	2 color indicator type	2-wire	20	25	32	40	50	63	80	100
T3WH*	T3WV*				●	●	●	●	●	●	●	●
T3YH*	T3YV*	Proximity	2 color indicator type	3-wire	20	25	32	40	50	63	80	100
T2YD*	-				●	●	●	●	●	●	●	●
T2YDT*	-	Reed	Strong magnetic field proof switch	2-wire	20	25	32	40	50	63	80	100
T2JH*	T2JV*				●	●	●	●	●	●	●	●
<b>* Lead wire length</b>												
Blank	1m (standard)											
3	3m (option)											
5	5m (option)											
<b>F switch quantity</b>												
R	1 on rod end											
H	1 on head end											
D	2											
<b>G option</b>												
Blank	Rod end female thread											
N	Rod end male thread											
<b>H mounting bracket</b>												
Blank	Without mounting bracket											
LB	Axial foot											
CB	Clevis (pin and snap ring attached)											
FA	Rod end flange type											
FB	Head end flange type											
<b>I accessory (permissible if rod end male thread "N" was selected.)</b>												
I	Rod eye											
Y	Rod clevis (pin and snap ring attached)											

### (Stroke length table)

Stroke length (mm)	Applicable bore size								
	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1								
Max. stroke length (mm)	50		100						
Custom stroke length Note 2	By 1 mm increment								

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Refer to page 196 for min. stroke length with switch.

Note 2: Total length of the custom stroke is the same as the next longer standard stroke.

### How to order switch



Switch model no.  
(item previous page ㊞)

### How to order mounting bracket

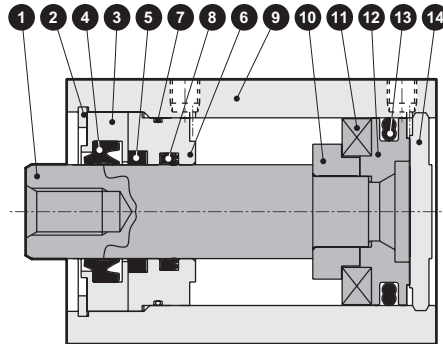
Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
<b>Bore size (mm)</b>	<b>ø100</b>						
<b>Mounting bracket</b>							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis (CB)	SSD2-CB-100						

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

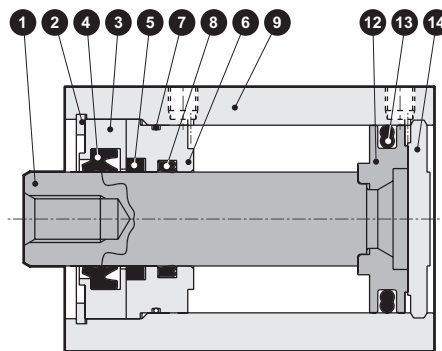
# SSD2-G5 Series

## Internal structure drawing and parts list (ø20 to ø50)

- SSD2-G5L-20, 25  
(Double acting environment resistant scraper type/with switch)



- SSD2-G5-20, 25  
(Double acting environment resistant scraper type)



### Main parts list

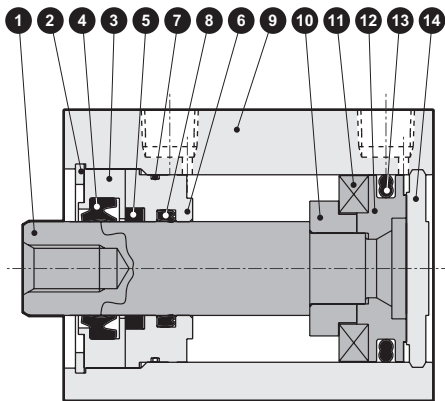
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Stainless steel	Industrial chrome plating	9	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Phosphoric acid zinc	10	Spacer	Aluminum alloy	Chromate
3	Rod bushing 1	Special aluminum	Alumite	11	Magnet	Plastic	
4	Scraper	Nitrile rubber		12	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber	Only G4	13	Piston packing seal	Nitrile rubber	
6	Rod bushing	Special aluminum	Alumite	14	Guard	Stainless steel	
7	Rod metal gasket	Nitrile rubber					
8	Rod packing seal	Nitrile rubber					

### Repair parts list

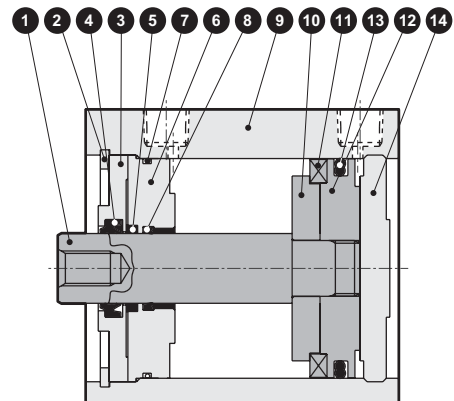
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø20	SSD2-G5-20K	4 5 7 8 13
ø25	SSD2-G5-25K	

## Internal structure drawing and parts list (ø63 to ø100)

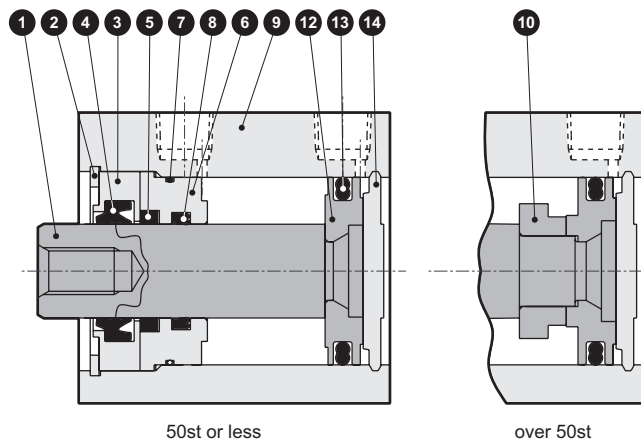
- SSD2-G5L-32 to 50  
(Double acting environment resistant scraper type/with switch)



- SSD2-G5L-63 to 100  
(Double acting environment resistant scraper type/with switch)



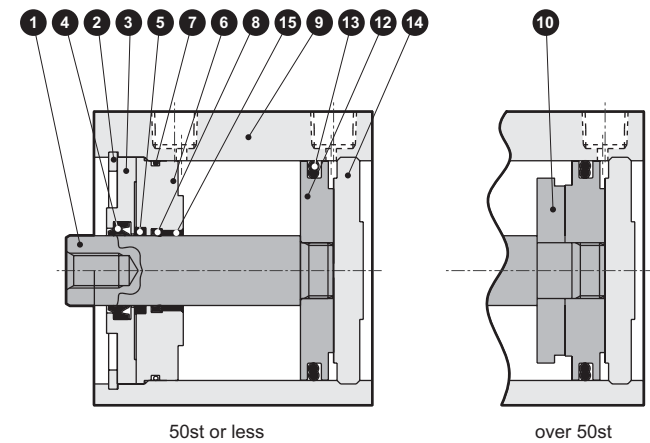
- SSD2-G5L-32 to 50  
(Double acting environment resistant scraper type)



50st or less

over 50st

- SSD2-G5L-63 to 100  
(Double acting environment resistant scraper type)



50st or less

over 50st

### Main parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Rod packing seal	Nitrile rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Body	Aluminum alloy	Hard alumite
3	Rod bushing 1	ø32 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø32 to ø50: Alumite ø63 to ø100: Chromate	10	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		11	Magnet	Plastic	
5	Lube keeping structure	Special rubber	Only G4	12	Piston	Aluminum alloy	Chromate
6	Rod bushing	ø32 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø32 to ø50: Alumite ø63 to ø100: Chromate	13	Piston packing seal	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		14	Guard	Aluminum alloy	Alumite
				15	Bush	Oilless dry met	

### Repair parts list

Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø32	SSD2-G5-32K	4 5 7 8 13
ø40	SSD2-G5-40K	
ø50	SSD2-G5-50K	
ø63	SSD2-G5-63K	
ø80	SSD2-G5-80K	
ø100	SSD2-G5-100K	

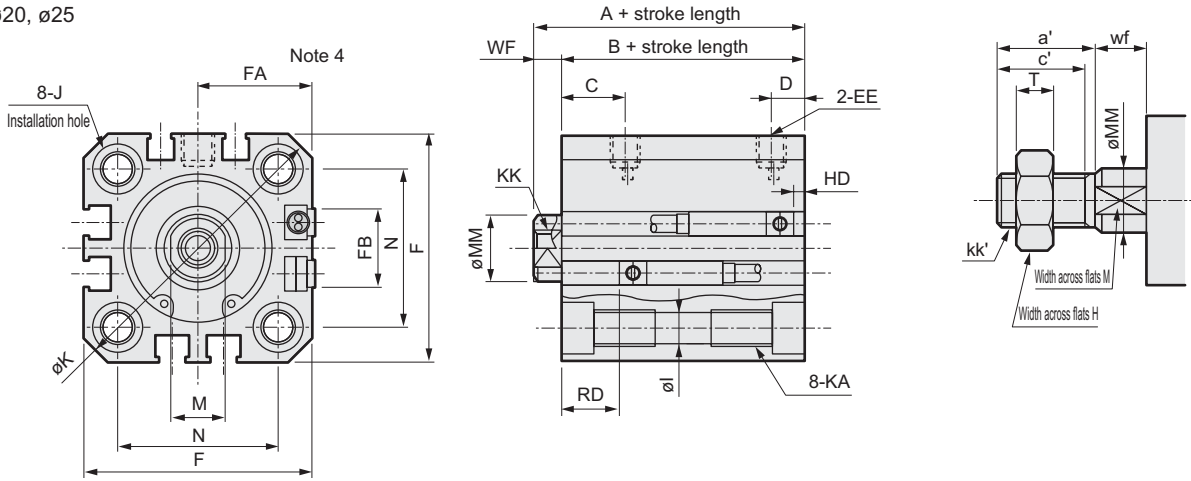
# SSD2-G5 Series

## Dimensions (ø20, ø25)

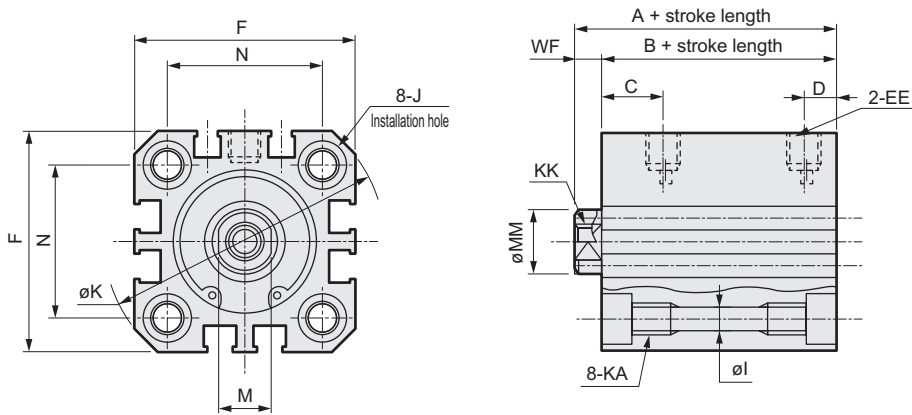
● SSD2-G5L-20, 25 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread

ø20, ø25



● SSD2-G5-20, 25 (without switch)



Symbol	Without switch		Common dimension with switch							
	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	FA Note 4	FB
ø20	34	29.5	44	39.5	18	5.5	M5	36	18.5 (22)	12.5
ø25	37.5	32.5	47.5	42.5	21	6	M5	40	20.5 (24)	13.5

Symbol	Common dimension with switch								
	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimension	Reed T0H/T0V and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV	
	HD	RD	HD	RD	HD	RD	HD	RD
ø20	3	17.5	3	17.5	5	19.5	7.5	22
ø25	4	19.5	4	19.5	6	21.5	8.5	24

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. <Example> Calculate using standard stroke 10 mm at intermediate stroke 7 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2 color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radical lead wire.

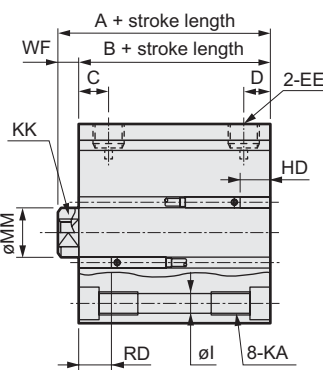
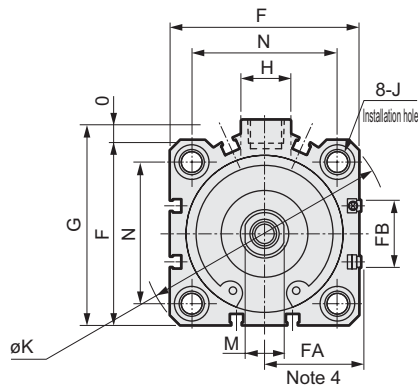
Note 5: Refer to page 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

### Rod end male thread

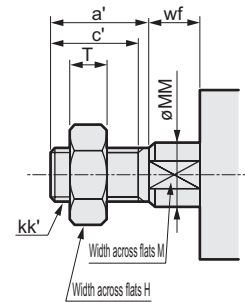
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

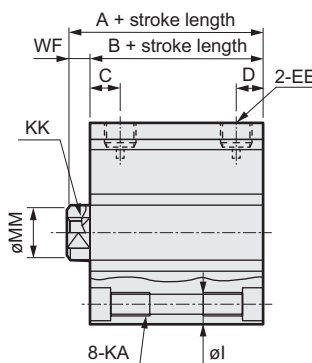
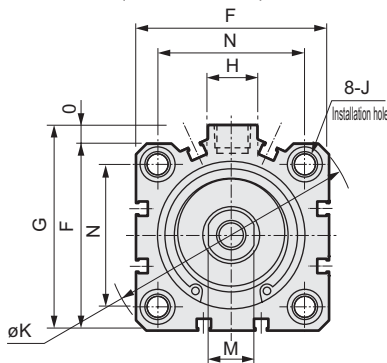
● SSD2-L-32 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)



● Rod end male thread



● SSD2-32 to 100 (without switch)



Symbol	Without switch		Common dimension with switch									
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 4</sup>	FB	G	H
ø32	40 (50)	33 (43)	50	43	18	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5
ø40	46.5 (56.5)	39.5 (49.5)	56.5	49.5	22	8.5	Rc1/8	52	26.5 (30)	27.5	57	15
ø50	48.5 (58.5)	40.5 (50.5)	58.5	50.5	20.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18
ø63	54 (64)	46 (56)	64	56	23	11	Rc1/4	77	39 (42.5)	28.5	84	23
ø80	63.5 (73.5)	53.5 (63.5)	73.5	63.5	26	13	Rc3/8	98	49.5 (53)	28.5	104	31
ø100	75 (85)	63 (76)	85	73	33	15	Rc3/8	117	59 (62.5)	28.5	123.5	38

Symbol	Common dimension with switch									
	I	J	K	KA	KK	M	MM	N	O	WF
ø32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	27	30	94	6.5	12

Switch dimension	Reed T0H/T0V and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV	
	HD	RD	HD	RD	HD	RD
ø32	4	19.5	4	19.5	6	21.5
ø40	7	22	7	22	8.5	23.5
ø50	7.5	22.5	7.5	22.5	9	24
ø63	12.5	23	12.5	23	14	24.5
ø80	17.5	25.5	17.5	25.5	19	27
ø100	23	29.5	23	29.5	24.5	31

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. <Example> Calculate using standard stroke 10 mm at intermediate stroke 7 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2 color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

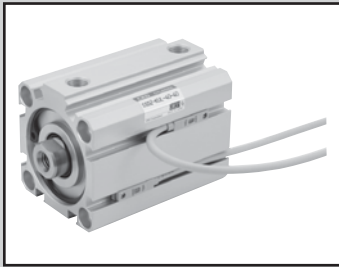
Note 5: Refer to page 245 to 256 for dimensions drawings with accessories and dimension drawings for discrete accessories.

Note 6: Dimensions in ( ) of the mark A and B is at stroke 75-100 mm.

### Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8





Compact cylinder double acting single rod, high load, environment resistant scraper type

# SSD2-KG5 Series

● Bore size:  $\phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-KG5 SSD2-KG5L (with switch)							
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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	$+2.0$ 0							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	Rubber cushion							
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISOVG 32.)							
Allowable energy absorption J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

## Stroke length

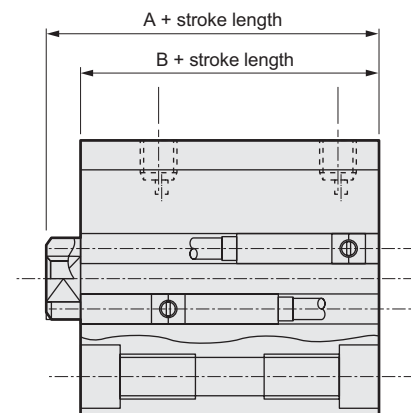
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 20$	5·10·15·20·25·	50	1
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25·30·		
$\phi 63$			
$\phi 80$			
$\phi 100$			
	35·40·45·50·75·100		

Note 4: Refer to the minimum stroke table on the following page for the type with a switch when using a cylinder with a switch.

## Custom stroke length

### ● SSD2-KG5 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-KG5-32-38 +2 mm spacer is provided on the standard cylinder SSD2-G5-32-40 to attain 38 mm stroke. Dimensions B + stroke is 83 mm.	



Min. stroke length with switch (with switch 2 pcs.)

Bore size (mm)	T0H/V/T5H/V	T2H/V/T3H/V
ø20	5	5
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

Note 1: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches.

Note 2: Each. if ( ) inside is of the type with a rod end.

### Switch specifications (F type switch)

● 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire	Proximity 2 wire				Proximity 3 wire				Reed 2 wire				Proximity 2 wire			
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD					
Applications	Programmable controller Relay and small solenoid valve	Programmable controller				Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay	Programmable Controller dedicated				
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-							
Power voltage	-																
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	AC100/110V	5/12/24 VDC	AC100/110V	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100mA	5 to 20mA (Note 1)				100mA or less		50mA or less		5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less			

# SSD2-KG5 Series

## How to order

Without switch

**SSD2-KG5** - **20** - **5** - **N** - **LB** - **I**

With switch

**SSD2-KG5L** - **20** - **5** - **T0H** - **R** - **N** - **LB** - **I**

**A** Model no.

**B** Bore size

**C** Port thread type

**D** Stroke length

**E** Switch model no.  
Note 3

**F** Switch quantity

**G** Option

**H** Mounting bracket  
Note 1

**I** Accessory  
Note 2

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.  
Note 2: "I" and "Y" can not be selected at the same time.  
Dimensions "WF/wf" of mounting "LB" and "FA" are longer than standard model. And the length of ledge indicate on the tail of part number in the label.

Note 3: Switches are shipped with the product.  
Please consult with CKD Sales office when need the mounting bracket is shipped with the products.

<Example of model number>

**SSD2-KG5L-32-5-T0H-R-N**

Model: Compact cylinder

Double acting single rod, high load, environment resistant scraper type

- B** Bore size :  $\phi 32\text{mm}$
- C** Port thread type : Rc thread
- D** Stroke length : 5mm
- E** Switch model no.: Reed switch T0H  
Lead wire 1m
- F** Switch quantity : 1 on rod end
- G** Option : Rod end male thread

Symbol	Descriptions													
<b>A Model no.</b>														
<b>SSD2-KG5</b>	Double acting single rod, high load, environment resistant scraper type (custom order)													
<b>SSD2-KG5L</b>	Double acting single rod, high load, environment resistant scraper type/with switch (custom order)													
<b>B Bore size (mm)</b>														
<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>	$\phi 100$													
<b>C Port thread type</b>														
<b>Blank</b>	Rc/M5 thread													
<b>N</b>	NPT thread ( $\phi 32$ and over)													
<b>G</b>	G thread ( $\phi 32$ and over)													
<b>D Stroke length (mm)</b>														
Refer to the stroke length table on following page.														
<b>E Switch model no.</b>														
Lead wire	Lead wire	Contact	Indicator	Lead wire	Bore size									
					20	25	32	40	50	63	80	100		
<b>F2H*</b>	<b>F2V*</b>	Proximity	1 color indicator type	2-wire	●	●								
<b>F3H*</b>	<b>F3V*</b>			3-wire	●	●								
<b>F2YH*</b>	<b>F2YV*</b>	Proximity	2 color indicator type	2-wire	●	●								
<b>F3YH*</b>	<b>F3YV*</b>			3-wire	●	●								
<b>T0H*</b>	<b>T0V*</b>	Reed	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
<b>T5H*</b>	<b>T5V*</b>		Without light	2-wire	●	●	●	●	●	●	●	●	●	
<b>T8H*</b>	<b>T8V*</b>		1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
<b>T1H*</b>	<b>T1V*</b>	Proximity	1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
<b>T2H*</b>	<b>T2V*</b>			3-wire	●	●	●	●	●	●	●	●	●	
<b>T3H*</b>	<b>T3V*</b>			1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	●	●	
<b>T3PH*</b>	<b>T3PV*</b>	Proximity	2 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	
<b>T2YH*</b>	<b>T2YV*</b>			3-wire	●	●	●	●	●	●	●	●	●	
<b>T3WH*</b>	<b>T3WV*</b>			2-wire	●	●	●	●	●	●	●	●	●	
<b>T3YH*</b>	<b>T3YV*</b>	3-wire	●	●	●	●	●	●	●	●	●	●		
<b>T2YD*</b>	-	Proximity	Strong magnetic field proof switch	2-wire	●	●	●	●	●	●	●	●	●	
<b>T2YDT*</b>	-			2-wire	●	●	●	●	●	●	●	●	●	
<b>T2JH*</b>	<b>T2JV*</b>	Proximity	Off-delay type	2-wire	●	●	●	●	●	●	●	●		

### \* Lead wire length

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

### F Switch quantity

<b>R</b>	1 on rod end
<b>H</b>	1 on head end
<b>D</b>	2

### G Option

<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread

### H Mounting bracket

<b>Blank</b>	Without mounting bracket
<b>LB</b>	Axial foot
<b>CB</b>	Clevis (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>Y</b>	Rod clevis (pin and snap ring attached)

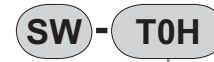
## (Stroke length table)

Stroke length (mm)	Applicable bore size								
	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm) Note 1	1								
Max. stroke length (mm)	50				100				
Custom stroke length Note 2	By 1 mm increment								

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1\* or T8\* switches. Refer to page 204 for min. stroke length with switch.

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

## How to order switch



Switch model no.  
(item previous page ㊦)

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	Bore size (mm) \ SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW
ø20	107	182	120	195	133	208	145	220	158	233	170	245	182	257	195	270	206	281	220	295	-	-	-	-
ø25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
ø32	230	344	251	365	272	386	294	408	316	430	338	452	360	474	381	495	403	517	424	538	597	646	705	753
ø40	323	466	349	492	376	519	402	545	428	571	455	598	482	625	508	651	678	704	729	754	779	837	911	969
ø50	-	-	560	754	602	796	645	839	688	882	729	923	771	965	813	1007	855	1049	897	1091	1244	1301	1454	1511
ø63	-	-	813	1092	868	1147	923	1202	979	1258	1034	1313	1089	1368	1144	1423	1199	1478	1254	1533	1744	1808	2019	2083
ø80	-	-	1413	1826	1500	1913	1586	1999	1673	2086	1760	2173	1847	2260	1933	2346	2020	2433	2106	2519	2886	2952	3318	3384
ø100	-	-	2106	2673	2220	2787	2334	2901	2448	3015	2561	3128	2675	3242	2789	3356	2903	3470	3017	3584	4082	4154	4652	4724

## How to order mounting bracket

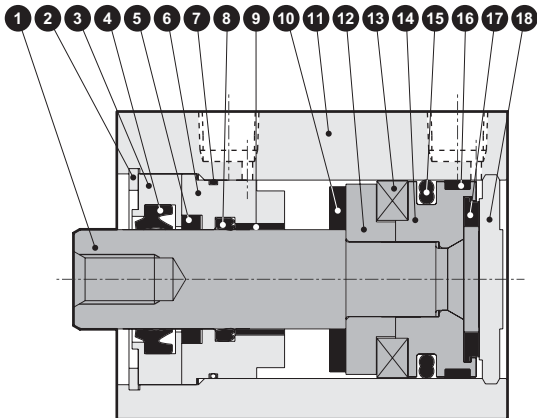
Bore size (mm)	ø20		ø25		ø32		ø40		ø50		ø63		ø80		ø100	
Mounting bracket	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW	SW	With SW
Foot (LB)	SSD2-LB-20	SSD2-LB-20	SSD2-LB-25	SSD2-LB-25	SSD2-LB-32	SSD2-LB-32	SSD2-LB-40	SSD2-LB-40	SSD2-LB-50	SSD2-LB-50	SSD2-LB-63	SSD2-LB-63	SSD2-LB-80	SSD2-LB-80	SSD2-LB-100	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-20	SSD2-FA-25	SSD2-FA-25	SSD2-FA-32	SSD2-FA-32	SSD2-FA-40	SSD2-FA-40	SSD2-FA-50	SSD2-FA-50	SSD2-FA-63	SSD2-FA-63	SSD2-FA-80	SSD2-FA-80	SSD2-FA-100	SSD2-FA-100
Clevis (CB)	SSD2-CB-20	SSD2-CB-20	SSD2-CB-25	SSD2-CB-25	SSD2-CB-32	SSD2-CB-32	SSD2-CB-40	SSD2-CB-40	SSD2-CB-50	SSD2-CB-50	SSD2-CB-63	SSD2-CB-63	SSD2-CB-80	SSD2-CB-80	SSD2-CB-100	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

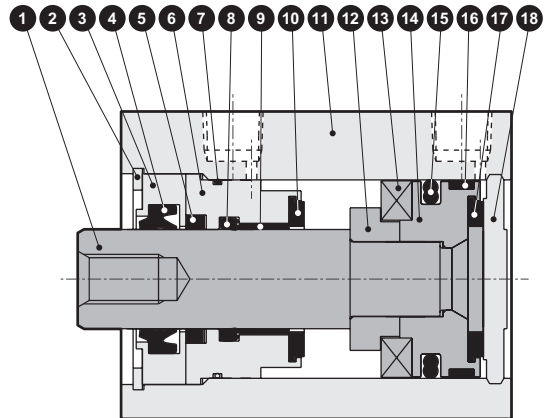
# SSD2-KG5 Series

## Internal structure drawing and parts list (ø20 to 50)

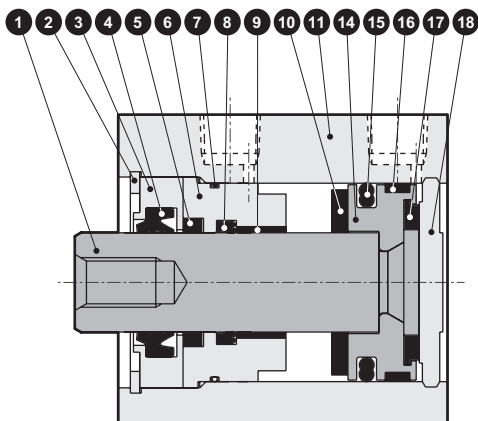
- SSD2-KG5L-20/25  
(Double acting high load, environment resistant scraper type/with switch)



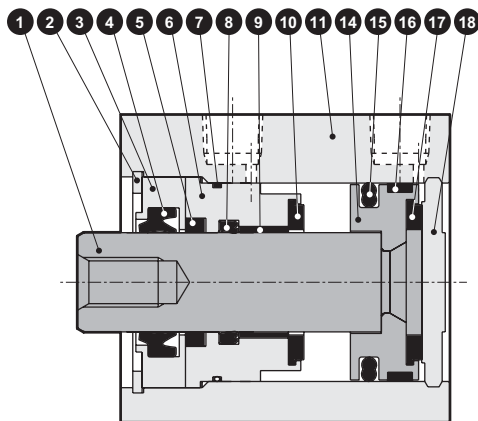
- SSD2-KG5L-32 to 50  
(Double acting high load, environment resistant scraper type/with switch)



- SSD2-KG5-20/25  
(Double acting high load, environment resistant scraper type)



- SSD2-KG5-32 to 50  
(Double acting high load, environment resistant scraper type)



### Main parts list

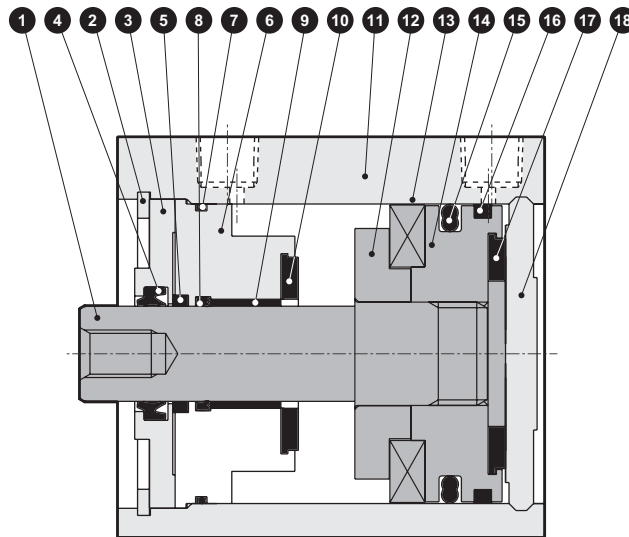
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ø20, ø25: Stainless steel ø32 to ø50: Steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Phosphoric acid zinc	12	Spacer	Special plastic	
3	Rod bushing 1	Special aluminum	Chromate	13	Magnet	Plastic	
4	Scraper	Nitrile rubber		14	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		15	Piston packing seal	Nitrile rubber	
6	Rod bushing 2	Special aluminum	Alumite	16	Wear ring	Polyacetal resin	
7	Rod metal gasket	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
8	Rod packing seal	Nitrile rubber		18	Guard	ø20, ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
9	Bush	Oilless dry met					
10	Cushion rubber R	Urethane rubber					

### Repair parts list

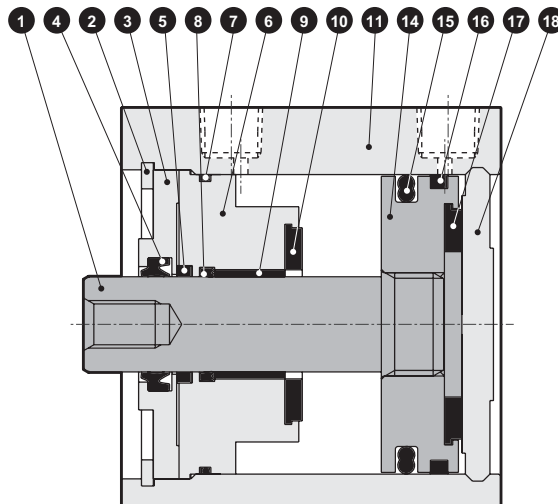
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø20	SSD2-KG5-20K	
ø25	SSD2-KG5-25K	4 5 7 8
ø32	SSD2-KG5-32K	10 15 16 17
ø40	SSD2-KG5-40K	
ø50	SSD2-KG5-50K	

## Internal structure and parts list

- SSD2-KG5L-63 to 100 (double acting/high load/environment resistant scraper type/with switch)



- SSD2-KG5-63 to 100 (double acting/high load/environment resistant scraper type)



## Main parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	11	Body	Aluminum alloy	Hard alumite
3	Rod bushing 1	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber		14	Piston	Aluminum alloy	Chromate
6	Rod bushing 2	Aluminum alloy	Chromate	15	Piston packing seal	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Rod packing seal	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
9	Bush	Oilless dry met		18	Guard	Aluminum alloy	Alumite

## Repair parts list

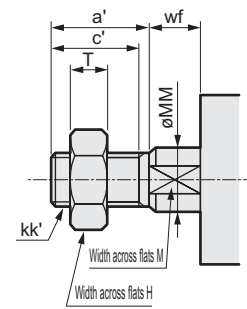
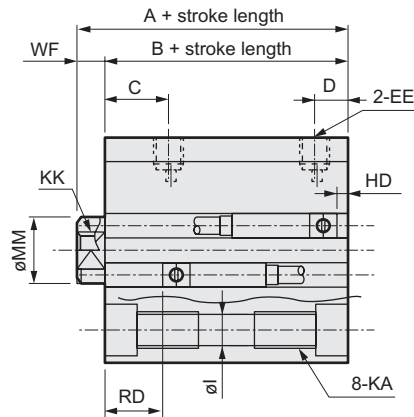
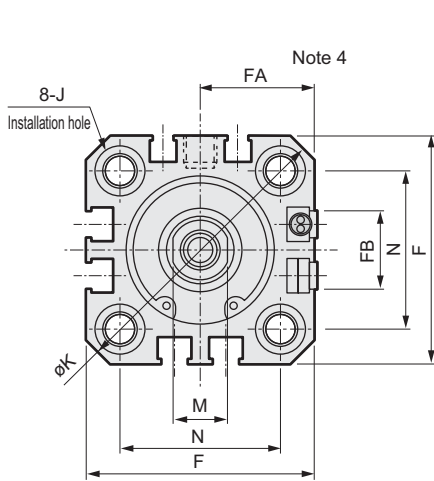
Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø63	SSD2-KG5-63K	4 5 7 8
ø80	SSD2-KG5-80K	10 15 16 17
ø100	SSD2-KG5-100K	

# SSD2-KG5 Series

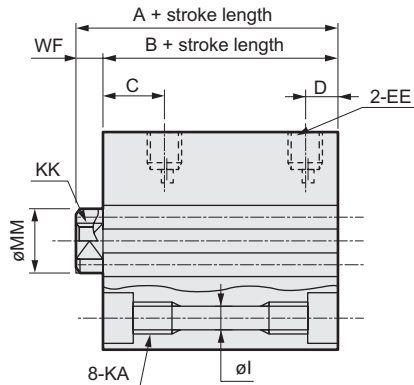
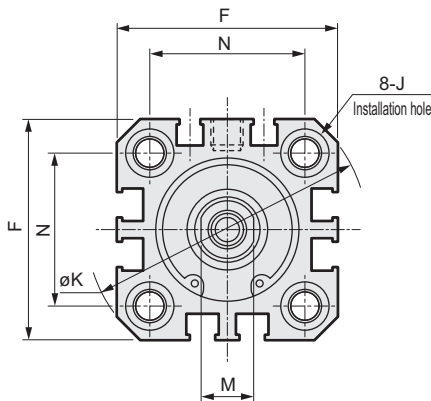
## Dimensions (ø20, ø25)

● SSD2-KG5L-20, 25 (TOH/V with switch, T5H/V, T2H/V or T3H/V)

● Rod end male thread



● SSD2-KG5-20, 25 (without switch)



Symbol	Without switch		Common dimension with switch							
	A <sup>Note 1</sup>	B <sup>Note 1</sup>	A <sup>Note 1</sup>	B <sup>Note 1</sup>	C	D	EE	F	FA <sup>Note 4</sup>	FB
ø20	39	34.5	49	44.5	18	5.5	M5	36	18.5 (22)	12.5
ø25	42.5	37.5	52.5	47.5	21	6	M5	40	20.5 (24)	13.5

Symbol	Common dimension with switch								
	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimension	Reed and proximity 1 color		Proximity 2 color		T8H/V switch	
	HD <sup>Note 6</sup>	RD <sup>Note 6</sup>	HD <sup>Note 6</sup>	RD <sup>Note 6</sup>	HD <sup>Note 6</sup>	RD <sup>Note 6</sup>
ø20	6 (12.5)	18.5 (23.5)	4.5 (11)	18.5 (23.5)	0 (6.5)	12.5 (17.5)
ø25	5.5 (14)	22 (27)	4 (12.5)	22 (27)	0 (8)	16 (21)

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. <Example> Calculate using 10 mm standard stroke in case of 7mm custom stroke.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 244 for HD/RD dimensions and projection dimensions of the 2 color indicator type, off-delay type, strong magnetic field proof type, and T1\* or T8\* switch.

Note 4: Dimensions in ( ) of HD/RD columns are values for radiallead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawing for discrete accessories.

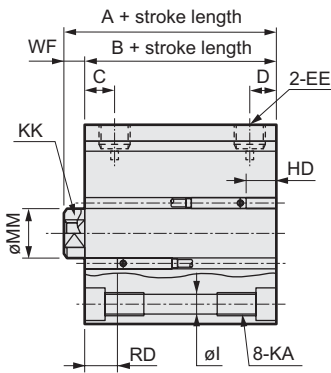
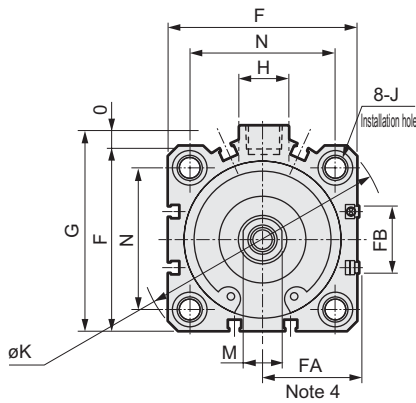
Note 6: Over 100 mm stroke of ø20 had 150mm stroke of ø25 are dimensions in ( ) of HD/RD.

### Rod end male thread

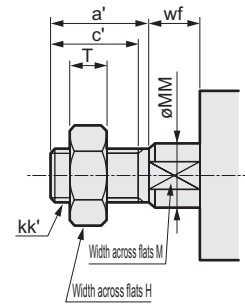
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

## Dimensions

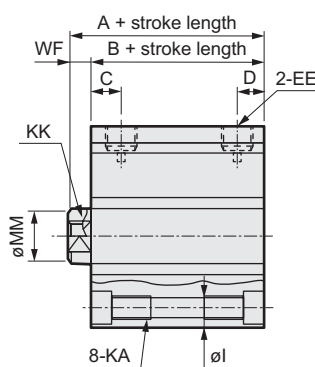
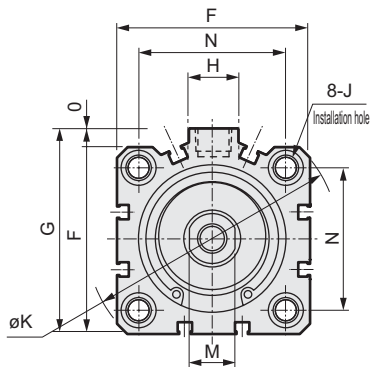
● SSD2-KG5L-32 to 100 (TOH/V with switch, T5H/V, T2H/V or T3H/V)



● Rod end male thread



● SSD2-32 to 100 (without switch)



Symbol	Without switch		Common dimension with switch									
	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	FA Note 3	FB	G	H
ø32	50 (60)	43 (53)	60	53	18	8	Rc1/8	45	23 (26.5)	20.5	49.5	12.5
ø40	56.5 (66.5)	49.5 (59.5)	66.5	59.5	22	8.5	Rc1/8	52	26.5 (30)	27.5	57	15
ø50	58.5 (68.5)	50.5 (60.5)	68.5	60.5	20.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	18
ø63	64 (74)	56 (66)	74	66	23	11	Rc1/4	77	39 (42.5)	28.5	84	23
ø80	73.5 (83.5)	63.5 (73.5)	83.5	73.5	26	13	Rc3/8	98	49.5 (53)	28.5	104	31
ø100	85 (95)	73 (83)	95	83	33	15	Rc3/8	117	59 (62.5)	28.5	123.5	38

Symbol	Common dimension with switch										
	I	J	K	KA	KK	M	MM	N	O	WF	
ø32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	
ø40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7	
ø50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8	
ø63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8	
ø80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10	
ø100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	27	30	94	6.5	12	

Switch dimension	Reed and proximity 1 color		Proximity 2 color		T8H/V switch	
	HD Note 4	RD Note 4	HD Note 4	RD Note 4	HD Note 4	RD Note 4
ø32	8.5 (16)	24 (24)	7 (14.5)	22.5 (22.5)	2.5 (10)	18 (18)
ø40	9.5 (19)	29.5 (29.5)	8 (17.5)	28 (28)	3.5 (13)	23.5 (23.5)
ø50	10 (19)	30 (35)	8.5 (17.5)	28.5 (33.5)	4 (13)	24 (29)
ø63	17.5 (23)	28 (33)	16 (21.5)	26.5 (31.5)	11.5 (17)	22 (27)
ø80	22 (28)	30.5 (35.5)	20.5 (26.5)	29 (34)	16 (22)	24.5 (29.5)
ø100	28 (33.5)	34.5 (39.5)	26.5 (32)	33 (38)	22 (27.5)	28.5 (33.5)

Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. <Example> 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Dimensions in ( ) of FA are the values for radial lead wire.

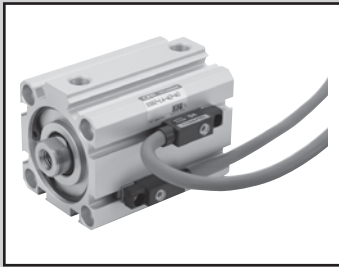
Note 4: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawing for discrete accessories.

Note 5: Values in ( ) for symbols A and B are for when 75 and 100 stroke.

Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8





Compact cylinder double acting single rod type/strong magnetic field proof switch

# SSD2-L4 Series

● Bore size:  $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-L4				
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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 $^{\circ}\text{C}$	-10 to 60 (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	$+1.0$ 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)				
Allowable energy absorption J	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)
$\phi 40$	20·25·30·35 40·45·50·75·100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

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

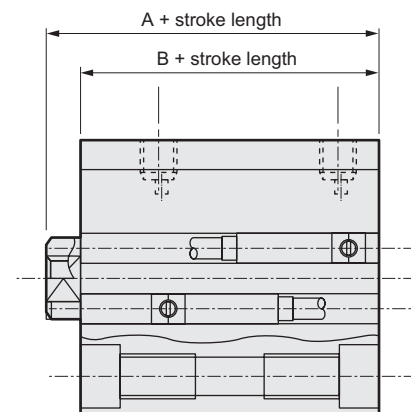
## Switch quantity and min. stroke length (mm)

Switch quantity	1		2	
Switch model no.	V0	V7	V0	V7
Bore size (mm)	V0	V7	V0	V7
$\phi 40$	20	20	20	20
$\phi 50$	20	20	20	20
$\phi 63$	20	20	20	20
$\phi 80$	20	20	20	20
$\phi 100$	20	20	20	20

## Custom stroke length

### ● SSD2-L4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model number	Model no.: SSD2-L4-40-38	
	+2 mm spacer is provided on the standard cylinder SSD2-L4-40-40 to attain 38 mm stroke. Dimension B + stroke length is 89.5 mm.	



## Switch specifications

Descriptions	Reed 2 wire		
	V0		V7
Applications	Relay, programmable controller		
Load voltage	AC12/24V	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

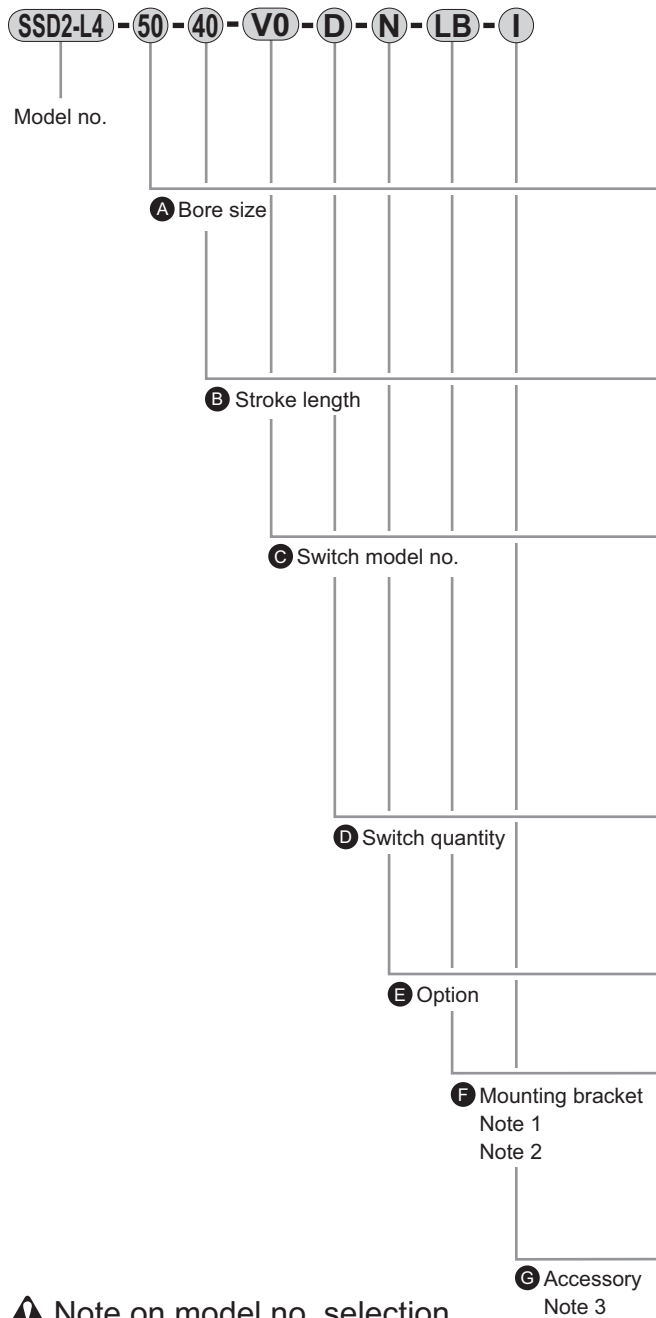
## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
Bore size (mm)									
ø40	493	520	546	573	599	626	652	785	917
ø50	757	799	841	883	925	967	1009	1219	1429
ø63	1089	1145	1200	1256	1311	1367	1422	1700	1977
ø80	1822	1909	1996	2083	2170	2257	2344	2779	3214
ø100	2665	2779	2892	3006	3119	3233	3346	3914	4481

# SSD2-L4 Series

## How to order



Symbol	Descriptions		
<b>A Bore size (mm)</b>			
40	ø40		
50	ø50		
63	ø63		
80	ø80		
100	ø100		
<b>B Stroke length (mm)</b>			
<b>Bore size</b>	<b>Stroke length Note 1</b>	<b>Custom stroke length Note 2</b>	
ø40 to ø100	20 to 100	By 1 mm increment	
Note 1: Refer to page 199 for min. stroke length with switch.			
Note 2: The total length becomes the next longer standard stroke length and the same when custom stroke length.			
<b>C Switch model no.</b>			
<b>Lead wire Axial</b>	<b>Contact</b>	<b>Indicator</b>	<b>Lead wire</b>
V0*	Reed	1 color indicator type	2-wire
V7*			
<b>* Lead wire length</b>			
<b>Blank</b>	1m (standard)		
3	3m (option)		
5	5m (option)		
<b>D Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	2		
T	3		
<b>E Option</b>			
<b>Blank</b>	Rod end female thread		
N	Rod end male thread		
<b>F Mounting bracket</b>			
<b>Blank</b>	Without mounting bracket		
LB	Axial foot		
CB	Clevis (pin and snap ring attached)		
FA	Rod end flange type		
FB	Head end flange type		
<b>G Accessory (permissible if rod end male thread "N" was selected.)</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: If piston rod dimensions of projecting section WF are standard, differs when LB and FA a selection. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

### <Example of model number>

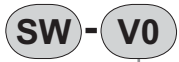
#### SSD2-L4-50-40-V0-D-N-LB-I

Model: Compact cylinder

Double acting single rod type/strong magnetic field proof switch

- A** Bore size : ø50mm
- B** Stroke length : 40mm
- C** Switch model no.: Reed switch V0/  
Lead wire length 1m
- D** Switch quantity : 2
- E** Option : Rod end male thread
- F** Mounting bracket: Axial foot
- G** Accessory : Rod eye

## How to order switch



Switch model no.  
(item previous page ©)

## How to order mounting bracket

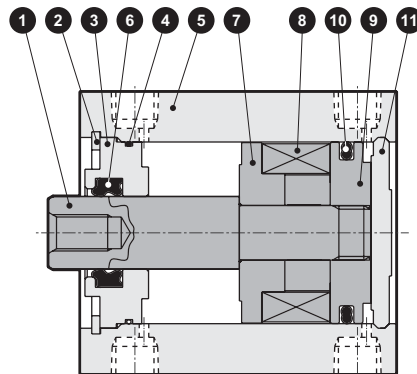
Bore size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

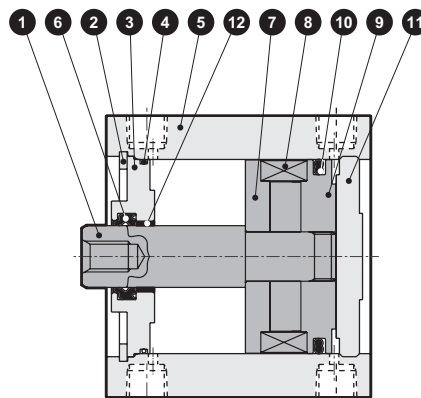
# SSD2-L4 Series

## Internal structure and parts list

● SSD2-L4-40, 50



● SSD2-L4-63 to 100



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Stainless steel		8	Magnet	Plastic	
3	Rod bushing	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Guard	Aluminum alloy	Alumite
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	For ø63 to ø100

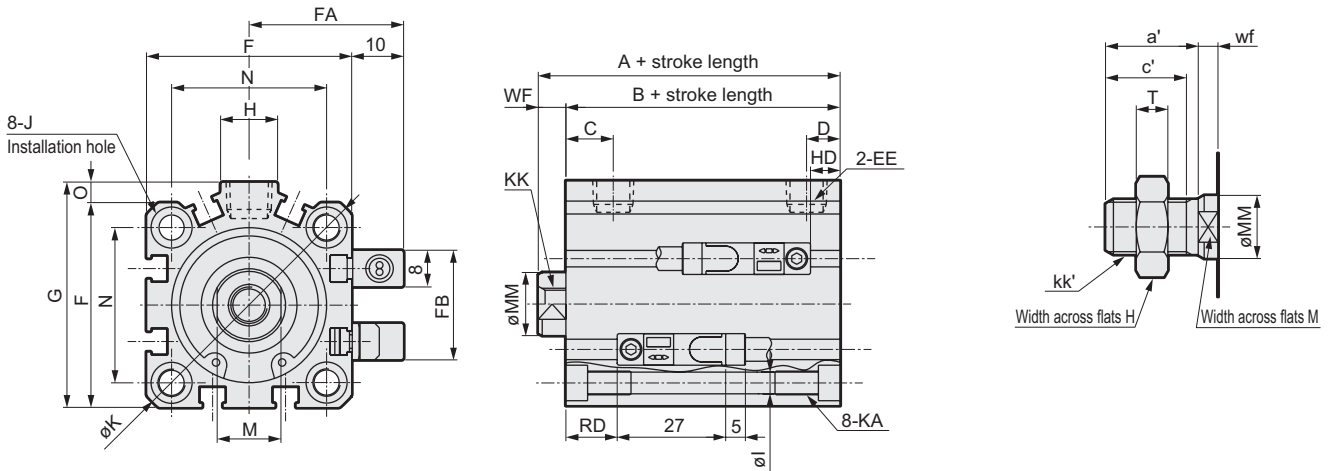
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø40	SSD2-40K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">10</span>
ø50	SSD2-50K	
ø63	SSD2-63K	
ø80	SSD2-80K	
ø100	SSD2-100K	

### Dimensions

● SSD2-L4-40 to 100

● Rod end male thread



Symbol	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bores size (mm)												
$\phi 40$	56.5	49.5	12	8.5	Rc1/8	52	36.5	31	57	15	5.5	Spot face $\phi 9$ depth 5.5 $\phi 5.5$ hole penetrating
$\phi 50$	58.5	50.5	10.5	10.5	Rc1/4	64	42.5	32	71	18	6.9	Spot face $\phi 11$ depth 6.5 $\phi 6.9$ hole penetrating
$\phi 63$	64	56	13	11	Rc1/4	77	49	32	86	23	8.7	Spot face $\phi 14$ depth 9 $\phi 8.7$ hole penetrating
$\phi 80$	73.5	63.5	16	13	Rc3/8	98	59.5	32	104	31	10.5	Spot face $\phi 17.5$ depth 11 $\phi 10.5$ hole penetrating
$\phi 100$	85	73	23	15	Rc3/8	117	69	32	123.5	38	10.5	Spot face $\phi 17.5$ depth 11 $\phi 10.5$ hole penetrating

Symbol	K	KA	KK	M	MM	N	O	WF	HD	RD
Bores size (mm)										
$\phi 40$	69	M6 depth 11	M8 depth 13	14	16	40	5	7	7.5	13
$\phi 50$	86	M8 depth 13	M10 depth 15	17	20	50	7	8	8.5	13
$\phi 63$	103	M10 depth 25	M10 depth 15	17	20	60	7	8	13.5	13.5
$\phi 80$	132	M12 depth 28	M16 depth 21	22	25	77	6	10	18.5	16
$\phi 100$	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	24	20

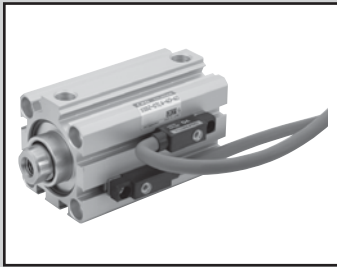
Note 1: When calculating A + and B + stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

For 23mm custom stroke, the length is calculated by inputting standard stroke length 25mm.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawing for discrete accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bores size (mm)								
$\phi 40$	23.5	20.5	22	M14x1.5	14	16	8	5
$\phi 50$	28.5	26	27	M18x1.5	17	20	11	5
$\phi 63$	28.5	26	27	M18x1.5	17	20	11	5
$\phi 80$	35.5	32.5	32	M22x1.5	22	25	13	8
$\phi 100$	35.5	32.5	41	M26x1.5	27	30	16	8



With compact cylinder double acting single rod strong magnetic field proof switch, coil scraper type

# SSD2-G1L4 Series

● Bore size:  $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-G1L4				
	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0				
Min. working pressure MPa	0.15		0.1		
Withstanding pressure MPa	1.6				
Ambient temperature °C	-10 to 60 (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	$+1.0$ 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)				
Allowable energy absorption J	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)
$\phi 40$	20·25·30·35 40·45·50·75·100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

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

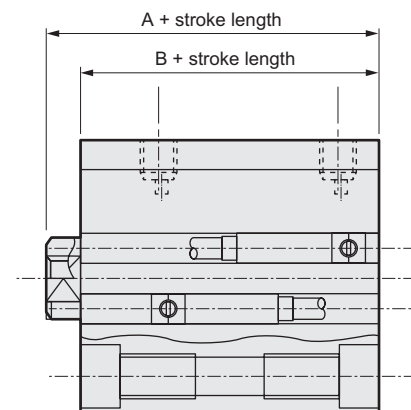
## Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no.	V0	V7	V0	V7	V0	V7
Bore size (mm)	V0	V7	V0	V7	V0	V7
$\phi 40$	20	20	20	20	35	35
$\phi 50$	20	20	20	20	35	35
$\phi 63$	20	20	20	20	35	35
$\phi 80$	20	20	20	20	35	35
$\phi 100$	20	20	20	20	35	35

## Custom stroke length

● SSD2-G1L4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model number	Model no.: SSD2-G1L4-40-38 +2 mm spacer is provided on the standard cylinder SSD2-G1L4-40-40 to attain 38 mm stroke. B + stroke length is 89.5mm.	



## Switch specifications

Descriptions	Reed 2 wire		
	V0		V7
Applications	Relay, programmable controller		
Load voltage	AC12/24V	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

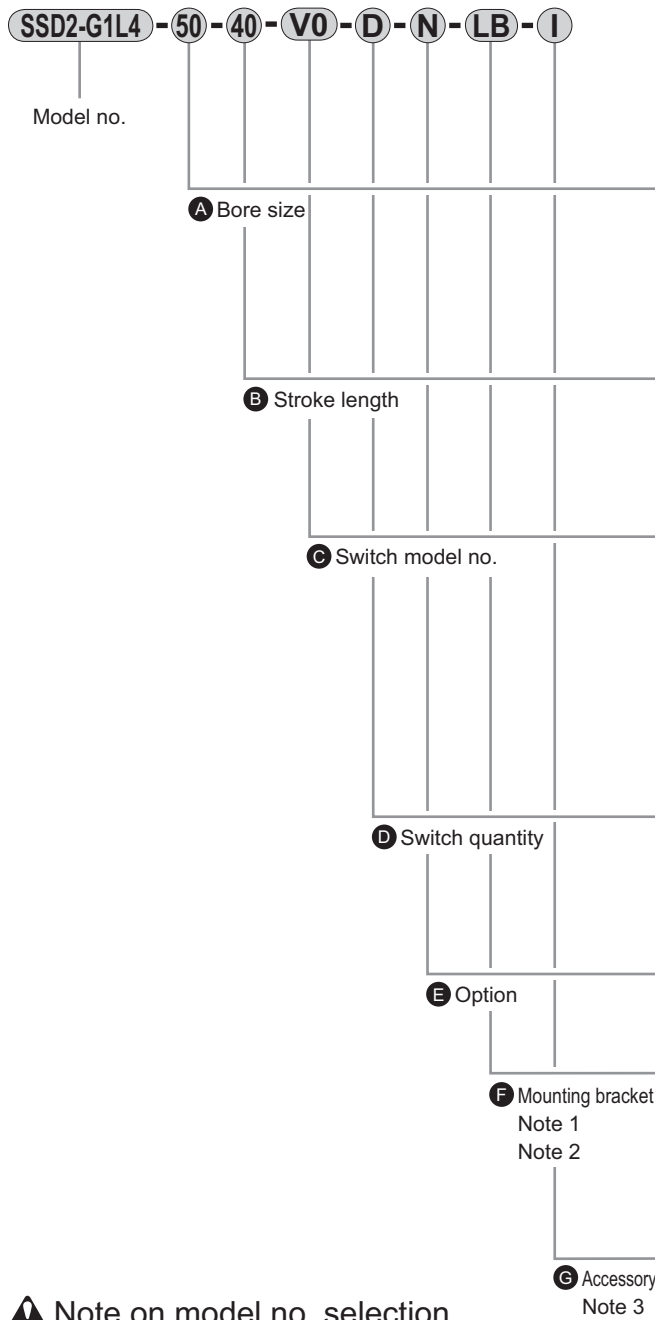
(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
Bore size (mm)									
ø40	575	602	628	655	681	708	734	867	999
ø50	876	918	960	1002	1044	1086	1128	1338	1548
ø63	1240	1296	1351	1407	1462	1518	1573	1851	2128
ø80	2074	2161	2248	2335	2422	2509	2596	3031	3466
ø100	3000	3114	3227	3341	3454	3568	3681	4249	4816



# SSD2-G1L4 Series

## How to order



Symbol	Descriptions		
<b>A Bore size (mm)</b>			
40	ø40		
50	ø50		
63	ø63		
80	ø80		
100	ø100		
<b>B Stroke length (mm)</b>			
<b>Bore size</b>	<b>Stroke length Note 1</b>	<b>Custom stroke length Note 2</b>	
ø40 to ø100	20 to 100	By 1 mm increment	
Note 1: Refer to page 217 for min. stroke length with switch.			
Note 2: The total length is the same dimension as the next longer standard stroke length.			
<b>C Switch model no.</b>			
<b>Lead wire Axial</b>	<b>Contact</b>	<b>Indicator</b>	<b>Lead wire</b>
V0*	Reed	1 color indicator type	2-wire
V7*			
<b>* Lead wire length</b>			
<b>Blank</b>	1m (standard)		
3	3m (option)		
5	5m (option)		
<b>D Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	2		
T	3		
<b>E Option</b>			
<b>Blank</b>	Rod end female thread		
N	Rod end male thread		
<b>F Mounting bracket</b>			
<b>Blank</b>	Without mounting bracket		
LB	Axial foot (custom order)		
CB	Clevis (pin and snap ring attached)		
FA	Rod end flange type (custom order)		
FB	Head end flange type		
<b>G Accessory (permissible if rod end male thread "N" was selected.)</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

### <Example of model number>

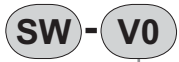
#### SSD2-G1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder

With double acting with coil scraper strong magnetic field proof switch

- A** Bore size : ø50mm
- B** Stroke length : 40mm
- C** Switch model no.: Reed switch V0,  
Lead wire length 1m
- D** Switch quantity : 2
- E** Option : Rod end male thread
- F** Mounting bracket: Axial foot
- G** Accessory : Rod eye

## How to order switch



Switch model no.  
(item previous page ©)

## How to order mounting bracket

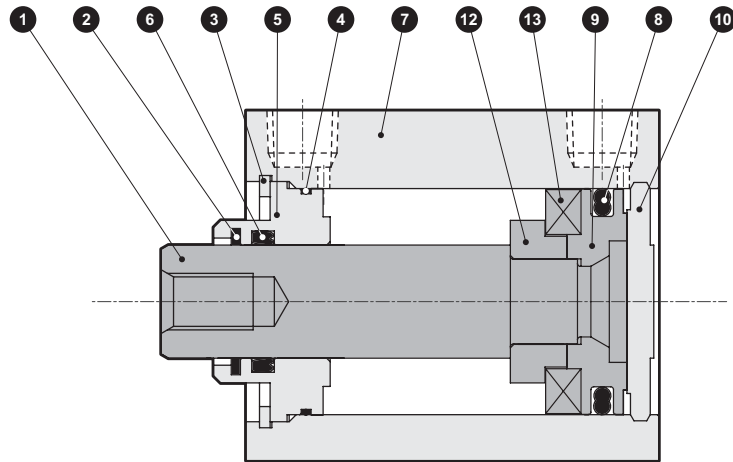
Bore size (mm)	ø40	ø50	ø63	ø80	ø100
<b>Mounting bracket</b>					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

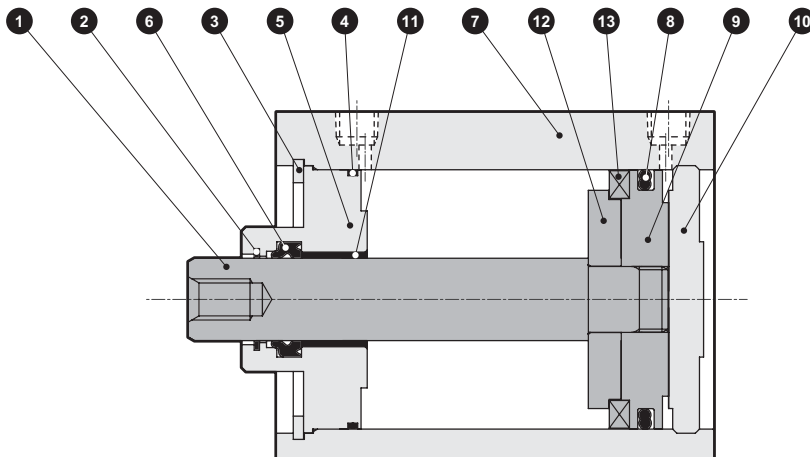
# SSD2-G1L4 Series

## Internal structure and parts list

### ● SSD2-G1L4-40, 50



### ● SSD2-G1L4-63 to 100



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Piston packing seal	Nitrile rubber	
2	Coil scraper	Phosphor bronze		9	Piston	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Guard	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		11	Bush	DU dry bearing	ø63 to ø100
5	Rod bushing	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	
6	Rod packing seal	Nitrile rubber		13	Magnet	Plastic	
7	Body	Aluminum alloy	Hard alumite				

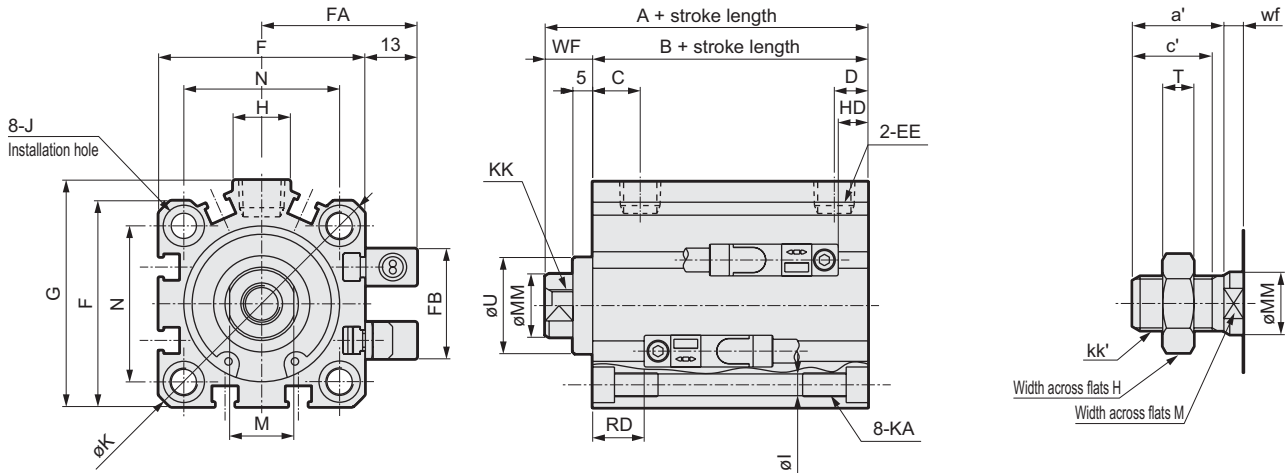
## Repair parts list

Parts name	Kit No.	Repair parts number
Bore size (mm)		
ø40	SSD2-G1-40K	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">2</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">4</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">6</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">8</span>
ø50	SSD2-G1-50K	
ø63	SSD2-G1-63K	
ø80	SSD2-G1-80K	
ø100	SSD2-G1-100K	

## Dimensions

● SSD2-G1L4-40 to 100

● Rod end male thread



Symbol	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size (mm)												
ø40	61.5	49.5	12	8.5	Rc1/8	52	37	31	57	15	5.5	Spot face ø9 depth 5.5ø5.5 hole penetrating
ø50	63.5	50.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	Spot face ø11 depth 6.5ø6.9 hole penetrating
ø63	69	56	13	11	Rc1/4	77	49.5	32	86	23	8.7	Spot face ø14 depth 9ø8.7 hole penetrating
ø80	78.5	63.5	16	13	Rc3/8	98	60	32	104	31	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating
ø100	90	73	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating

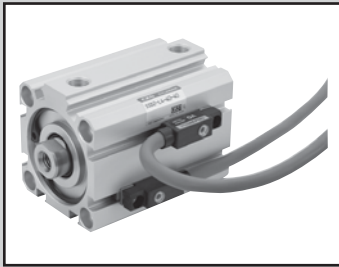
Symbol	K	KA	KK	M	MM	N	O	U	WF	X	HD	RD
Bore size (mm)												
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	28 h9	12	7	7.5	23
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	35 h9	13	8	8.5	23
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	35 h9	13	8	13.5	23.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	43 h9	15	10	18.5	26
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59 h9	17	12	24	30

Note 1: A and dimension B is the same dimension as the next longer standard stroke length when custom stroke length.

Note 2: Refer to page 245 to 256 dimensions drawings for discrete accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø40	23.5	20.5	22	M14x1.5	14	16	8	10
ø50	28.5	26	27	M18x1.5	17	20	11	10
ø63	28.5	26	27	M18x1.5	17	20	11	10
ø80	35.5	32.5	32	M22x1.5	22	25	13	13
ø100	35.5	32.5	41	M26x1.5	27	30	16	13



Compact cylinder double acting high load type/strong magnetic field proof switch

# SSD2-KL4 Series

● Bore size:  $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-KL4				
	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
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	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	$+2.0$ 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	Rubber cushion				
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)				
Allowable energy absorption J	0.63	0.98	1.56	2.51	3.92

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20·25·30·35·40 45·50·75·100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

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

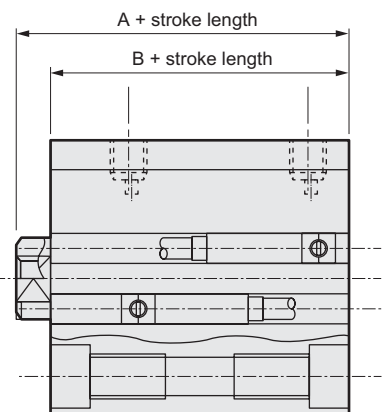
## Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no.	V0	V7	V0	V7	V0	V7
Bore size (mm)	V0	V7	V0	V7	V0	V7
$\phi 40$	20	20	20	20	35	35
$\phi 50$	20	20	20	20	35	35
$\phi 63$	20	20	20	20	35	35
$\phi 80$	20	20	20	20	35	35
$\phi 100$	20	20	20	20	35	35

## Custom stroke length

● SSD2-KL4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model number	Model no.: SSD2-KL4-40-38	
	+2 mm spacer is provided on the standard cylinder SSD2-KL4-40-40 to attain 38 mm stroke. B dimension + stroke length is 99.5mm.	



## Switch specifications

Descriptions	Reed 2 wire		
	V0		V7
Applications	Relay, programmable controller		
Load voltage	AC12/24V	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

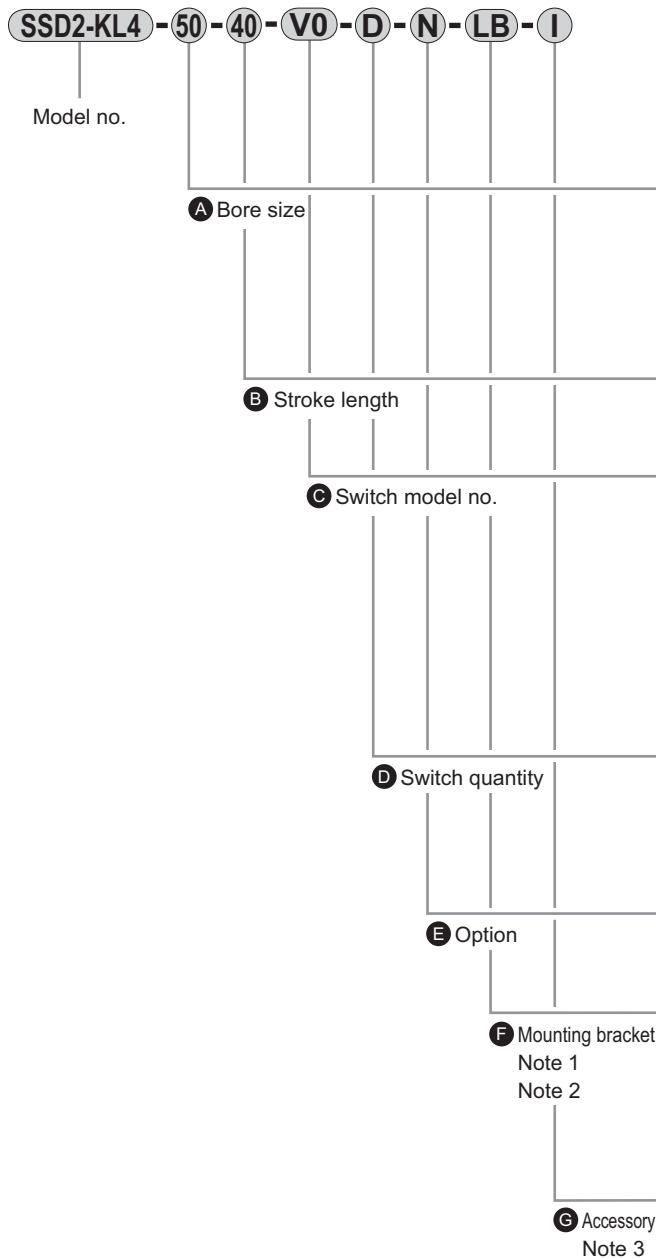
## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
<b>Bore size (mm)</b>									
ø40	546	573	599	626	652	679	705	838	970
ø50	841	883	925	967	1009	1051	1093	1303	1513
ø63	1199	1254	1309	1364	1419	1474	1529	1804	2079
ø80	1995	2082	2169	2256	2343	2430	2517	2952	3387
ø100	2893	3007	3120	3234	3347	3461	3574	4142	4709

# SSD2-KL4 Series

## How to order



Symbol	Descriptions		
<b>A Bore size (mm)</b>			
40	ø40		
50	ø50		
63	ø63		
80	ø80		
100	ø100		
<b>B Stroke length (mm)</b>			
Refer to the following stroke length table.			
<b>C Switch model no.</b>			
<b>Lead wire</b>	<b>Contact</b>	<b>Indicator</b>	<b>Lead wire</b>
<b>Axial</b>			
V0*	Reed	1 color indicator type	2-wire
V7*			
<b>* Lead wire length</b>			
<b>Blank</b>	1m (standard)		
3	3m (option)		
5	5m (option)		
<b>D Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	2		
T	3		
<b>E Option</b>			
<b>Blank</b>	Rod end female thread		
N	Rod end male thread		
<b>F Mounting bracket</b>			
<b>Blank</b>	Without mounting bracket		
LB	Axial foot		
CB	Clevis (pin and snap ring attached)		
FA	Rod end flange type		
FB	Head end flange type		
<b>G Accessory (permissible if rod end male thread "N" was selected.)</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: If piston rod dimensions of projecting section WF are standard, differs when LB and FA a selection. Refer pages dimensions 245 to 256 to. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

### <Example of model number>

#### SSD2-KL4-50-40-V0-D-N-LB-I

Model: Compact cylinder

Double acting single high load type/strong magnetic field proof switch

- A** Bore size : ø50mm
- B** Stroke length : 40mm
- C** Switch model no.: Reed switch V0,  
Lead wire length 1m
- D** Switch quantity : 2
- E** Option : Rod end male thread
- F** Mounting bracket: Axial foot
- G** Accessory : Rod eye

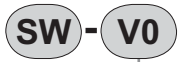
### (Stroke length table)

Stroke length (mm)	Applicable bore size					
	ø40	ø50	ø63	ø80	ø100	
Standard stroke length	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
100	●	●	●	●	●	
Min. stroke length (mm) Note 1	20					
Max. stroke length (mm)	100					
Custom stroke length Note 2	By 1 mm increment					

Note 1: Refer to page 211 for switch installation quantity and min. stroke length.

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

## How to order switch



Switch model no.  
(item previous page ©)

## How to order mounting bracket

Bore size (mm)	ø40	ø50	ø63	ø80	ø100
<b>Mounting bracket</b>					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

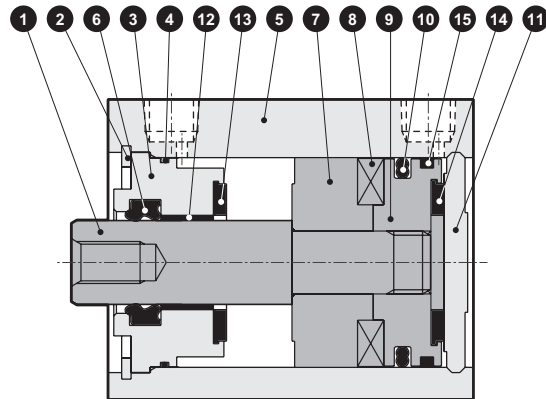
Note 1: The foot type mounting bracket is provided as 2 pcs./set.



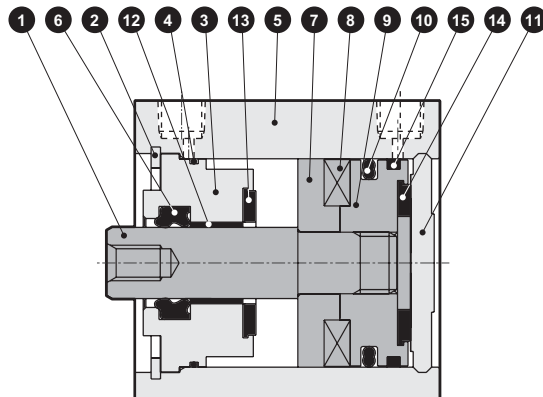
# SSD2-KL4 Series

## Internal structure and parts list

● SSD2-KL4-40, 50



● SSD2-KL4-63 to 100



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	
3	Rod bushing	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Guard	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oilless dry met	
6	Rod packing seal	Nitrile rubber		13	Cushion rubber (R)	Urethane rubber	
7	Spacer	ø40, ø50: Special plastic ø63 to ø100: Aluminum alloy	ø63 to ø100: Chromate	14	Cushion rubber (H)	Urethane rubber	
				15	Wear ring	Polyacetal resin	

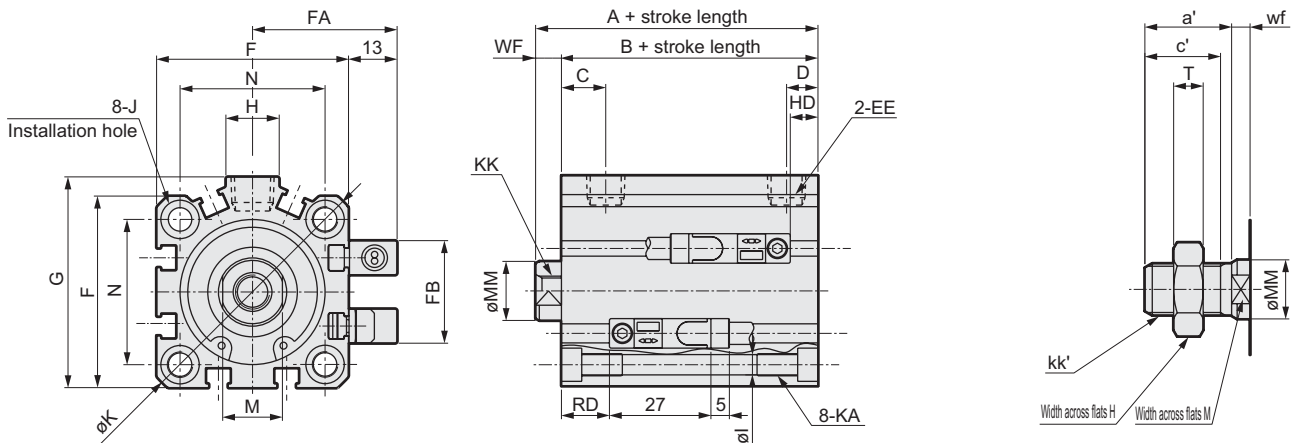
### Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ø40	SSD2-K-40K	<div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; gap: 5px;"> <span>4</span> <span>6</span> <span>10</span> </div> <div style="display: flex; gap: 5px;"> <span>13</span> <span>14</span> <span>15</span> </div> </div>
ø50	SSD2-K-50K	
ø63	SSD2-K-63K	
ø80	SSD2-K-80K	
ø100	SSD2-K-100K	

### Dimensions

● SSD2-KL4-40 to 100

● Rod end male thread



Symbol	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size (mm)												
ø40	66.5	59.5	12	8.5	Rc1/8	52	36.5	31	57	15	5.5	Spot face ø9 depth 5.5ø5.5 hole penetrating
ø50	68.5	60.5	10.5	10.5	Rc1/4	64	42.5	32	71	18	6.9	Spot face ø11 depth 6.5ø6.9 hole penetrating
ø63	74	66	13	11	Rc1/4	77	49	32	86	23	8.7	Spot face ø14 depth 9ø8.7 hole penetrating
ø80	83.5	73.5	16	13	Rc3/8	98	59.5	32	104	31	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating
ø100	95	83	23	15	Rc3/8	117	69	32	123.5	38	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating

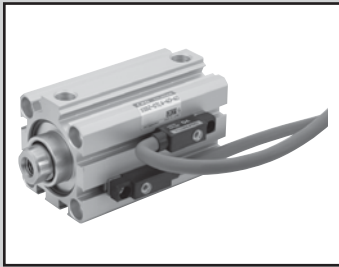
Symbol	K	KA	KK	M	MM	N	O	X	HD	RD
Bore size (mm)										
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	10	20.5
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	11	20.5
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	18.5	18.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	23.5	21
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	29	25

Note 1: A and dimension B is the same dimension as the next longer standard stroke length when custom stroke length.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8



With compact cylinder double acting high load, strong magnetic field proof switch, coil scraper type

# SSD2-KG1L4 Series

● Bore size:  $\phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100$



## Specifications

Descriptions	SSD2-KG1L4				
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0				
Min. working pressure MPa	0.15		0.1		
Withstanding pressure MPa	1.6				
Ambient temperature °C	-10 to 60 (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	$+2.0$ 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	Rubber cushion				
Lubrication	Not required (when lubricating, use turbine oil Class 1 ISO VG32.)				
Allowable energy absorption J	0.63	0.98	1.56	2.51	3.92

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20·25·30·35·40 45·50·75·100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

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

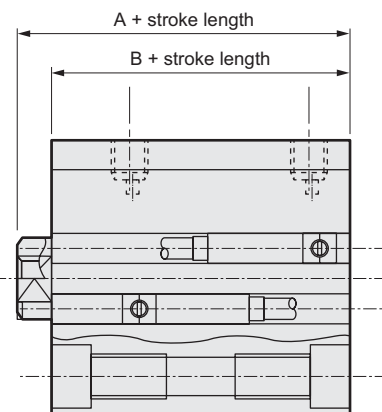
## Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no.	V0	V7	V0	V7	V0	V7
Bore size (mm)	V0	V7	V0	V7	V0	V7
$\phi 40$	20	20	20	20	35	35
$\phi 50$	20	20	20	20	35	35
$\phi 63$	20	20	20	20	35	35
$\phi 80$	20	20	20	20	35	35
$\phi 100$	20	20	20	20	35	35

## Custom stroke length

● SSD2-KG1L4 Series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model number	Model no.: SSD2-KG1L4-40-38	
	+2 mm spacer is provided on the standard cylinder SSD2-KG1L4-40-40 to attain 38 mm stroke. Dimension B + stroke length is 99.5mm.	



## Switch specifications

Descriptions	Reed 2 wire	
	V0	V7
Applications	Relay, programmable controller	
Load voltage	AC12/24V	110 VAC
Load current	5 to 50mA	7 to 20mA
Internal voltage drop	2.4V or less (load current 40mA)	
Light	LED (ON lighting)	
Leakage current	0mA	
		24 VDC
		50mA or less
		0V
		LED (OFF lighting)
		1mA or less

## Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
∅40	628	655	681	708	734	761	787	920	1052
∅50	960	1002	1044	1086	1128	1170	1212	1422	1632
∅63	1350	1406	1461	1517	1572	1628	1683	1961	2238
∅80	2247	2334	2421	2508	2595	2682	2769	3204	3639
∅100	3228	3342	3455	3569	3682	3796	3909	4477	5044

# SSD2-KG1L4 Series

## How to order

SSD2-KG1L4-50-40-V0-D-N-LB-I

Model no.

A Bore size

B Stroke length

C Switch model no.

D Switch quantity

E Option

F Mounting bracket

Note 1

Note 2

G Accessory

Note 3

Symbol	Descriptions		
<b>A Bore size (mm)</b>			
40	ø40		
50	ø50		
63	ø63		
80	ø80		
100	ø100		
<b>B Stroke length (mm)</b>			
Refer to the following stroke length table.			
<b>C Switch model no.</b>			
Lead wire	Contact	Indicator	Lead wire
Axial	Reed	1 color indicator type	2-wire
V0*			
V7*			
<b>* Lead wire length</b>			
Blank	1m (standard)		
3	3m (option)		
5	5m (option)		
<b>D Switch quantity</b>			
R	1 on rod end		
H	1 on head end		
D	2		
T	3		
<b>E Option</b>			
Blank	Rod end female thread		
N	Rod end male thread		
<b>F Mounting bracket</b>			
Blank	Without mounting bracket		
LB	Axial foot (custom order)		
CB	Clevis (pin and snap ring attached)		
FA	Rod end flange type (custom order)		
FB	Head end flange type		
<b>G Accessory (permissible if rod end male thread "N" was selected.)</b>			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		

### ⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: If piston rod dimensions of projecting section WF are standard, differs when LB and FA a selection. Refer to Page dimensions 245, 249. And the length of ledge indicate on the tail of part number in the label.

Note 3: "I" and "Y" can not be selected at the same time.

### <Example of model number>

**SSD2-KG1L4-50-40-V0-D-N-LB-I**

Model: Compact cylinder

Double acting high load type/with coil scraper, strong magnetic field proof switch

A Bore size : ø50mm

B Stroke length : 40mm

C Switch model no.: Reed switch V0,  
Lead wire length 1m

D Switch quantity : 2

E Option : Rod end male thread

F Mounting bracket: Axial foot

G Accessory : Rod eye

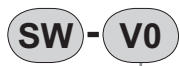
### (Stroke length table)

Stroke length (mm)	Applicable bore size					
	ø40	ø50	ø63	ø80	ø100	
Standard stroke length	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
100	●	●	●	●	●	
Min. stroke length (mm) Note 1	20					
Max. stroke length (mm)	100					
Custom stroke length Note 2	By 1 mm increment					

Note 1: Refer to page 229 for switch installation quantity and min. stroke length.

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

## How to order switch



Switch model no.  
(item previous page ©)

## How to order mounting bracket

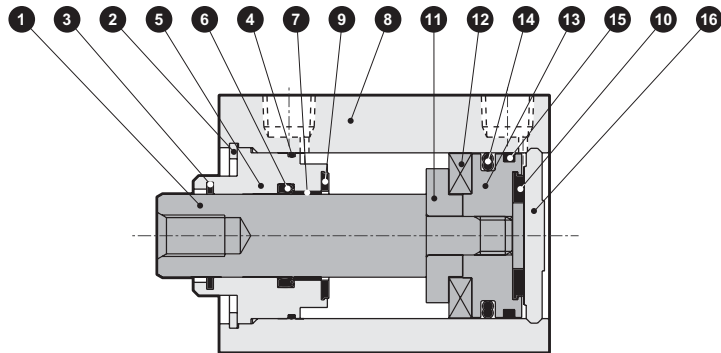
Bore size (mm)	ø40	ø50	ø63	ø80	ø100
<b>Mounting bracket</b>					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note 1: The foot type mounting bracket is provided as 2 pcs./set.

# SSD2-KG1L4 Series

## Internal structure and parts list

● SSD2-KG1L4-40 to 100



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		11	Spacer	Aluminum alloy	
4	Rod metal gasket	Nitrile rubber		12	Magnet	Plastic	
5	Rod bushing	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	13	Piston	Aluminum alloy	Chromate
6	Rod packing seal	Nitrile rubber		14	Piston packing seal	Nitrile rubber	
7	Bush	Oilless dry met		15	Wear ring	Polyacetal resin	
8	Body	Aluminum alloy	Hard alumite	16	Guard	Aluminum alloy	Alumite

### Repair parts list

Parts name	Kit No.	Repair parts number
<b>Bore size (mm)</b>		
ø40	SSD2-KG1-40K	
ø50	SSD2-KG1-50K	
ø63	SSD2-KG1-63K	
ø80	SSD2-KG1-80K	
ø100	SSD2-KG1-100K	

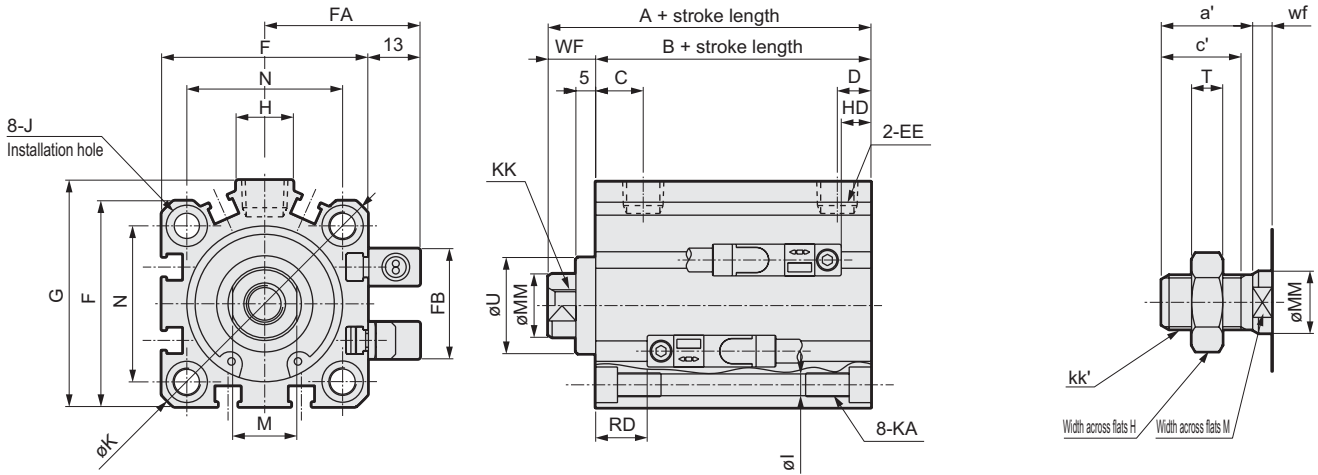
# SSD2-KG1L4 Series

With double acting high load, strong magnetic field proof switch, coil scraper type

## Dimensions

● SSD2-KG1L4-40 to 100

● Rod end male thread



Symbol	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size (mm)												
ø40	71.5	59.5	12	8.5	Rc1/8	52	37	31	57	15	5.5	Spot face ø9 depth 5.5ø5.5 hole penetrating
ø50	73.5	60.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	Spot face ø11 depth 6.5ø6.9 hole penetrating
ø63	79	66	13	11	Rc1/4	77	49.5	32	86	23	8.7	Spot face ø14 depth 9ø8.7 hole penetrating
ø80	88.5	73.5	16	13	Rc3/8	98	60	32	104	31	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating
ø100	100	83	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	Spot face ø17.5 depth 11ø10.5 hole penetrating

Symbol	K	KA	KK	M	MM	N	O	X	U	WF	HD	RD
Bore size (mm)												
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	28 h9	12	7.5	23
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	35 h9	13	8.5	23
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	35 h9	13	13.5	23.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	43 h9	15	18.5	26
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	59 h9	17	24	30

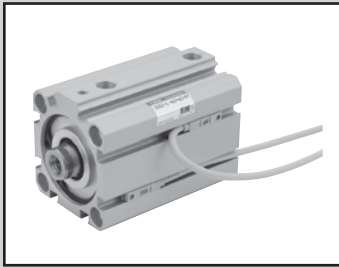
Note 1: A and dimension B is the same dimension as the next longer standard stroke length when custom stroke length.

Note 2: Refer to pages 245 to 256 for dimension drawings with accessories.

● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø40	23.5	20.5	22	M14x1.5	14	16	8	10
ø50	28.5	26	27	M18x1.5	17	20	11	10
ø63	28.5	26	27	M18x1.5	17	20	11	10
ø80	35.5	32.5	32	M22x1.5	22	25	13	13
ø100	35.5	32.5	41	M26x1.5	27	30	16	13





Compact cylinder double acting single rod type

# SSD2-P7\*/P5\* Series

● Bore size:  $\phi 12 \cdot \phi 16 \cdot \phi 20 \cdot \phi 25 \cdot \phi 32 \cdot \phi 40 \cdot \phi 50 \cdot \phi 63 \cdot \phi 80 \cdot \phi 100 \cdot \phi 125 \cdot \phi 140 \cdot \phi 160$



## Specifications

Descriptions	SSD2-P7*/P5*												
	SSD2-L-P7*/P5* (with switch)												
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 125$	$\phi 140$	$\phi 160$
Actuation	Double acting												
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				Rc1/8 Note 1			Rc1/4		Rc3/8			
Relief port size	M5								Rc3/8				
Stroke tolerance mm	$+1.0$ $0$						$+2.0$ $0$						
Working piston speed mm/s	50 to 500						50 to 300						
Cushion	None									Rubber cushion			
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	6.52	6.52	7.78

Note 1: The port size is M5 for 5 stroke  $\phi 32$  without switch.

## Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5·10·15·20	30	1 (5) Value ( ) is 1pc. switch or 2 pcs. switches are equipped.
$\phi 16$	25·30		
$\phi 20$	5·10·15·20·25	50	
$\phi 25$	30·35·40·45·50		
$\phi 32$	5·10·15·20·25·30·	100	
$\phi 40$	35·40·45·50·75·100		
$\phi 50$	10·15·20·25		
$\phi 63$	30·35·40·45·50		
$\phi 80$	75·100		
$\phi 100$			
$\phi 125$	10·20·30·40·50	300	
$\phi 140$	75·100·125·150·		
$\phi 160$	175·200·250·300		

Note 1: Of custom stroke length

Custom stroke length is available per 1mm increment. The way of responding for custom stroke are different with  $\phi 12$  to  $\phi 100$  and  $\phi 125$  to  $\phi 160$ . Caution: Make.

( $\phi 12$  to  $\phi 100$ ) Total length of the custom stroke is the same as the next longer standard stroke.

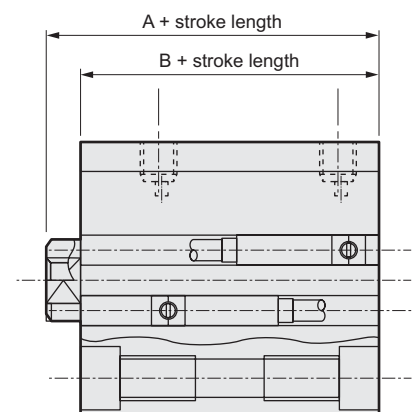
( $\phi 125$  to  $\phi 160$ ) The total length makes by length of custom stroke length dedicated when custom stroke length.

Note 2: Not available less than 5mm stroke length of single color switches and less than 10mm stroke length of bi-color, off-delay type, T1※ and T8※.

## Custom stroke length

● SSD2-P7\* or P5\* series

Descriptions	Standard products	
	Standard stroke length spacer type	
Model no. display	Refer to How to order.	
Manufacturing descriptions	A spacer is provided on the body with a standard stroke to manufacture in 1 mm unit strokes.	
Stroke range	Bore size	Stroke range
	12·16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model number	Model no.: SSD2-32-38-P7 +2 mm spacer is provided on the standard cylinder SSD2-32-40-P7 to attain 38 mm stroke. Dimension B + stroke length is 73mm.	



### Switch specifications (F type switch)

- 1 color/2 color indicator

Descriptions	Proximity 2 wire		Proximity 3 wire	
	F2H/F2V	F2YH/F2YV	F3H/F3V	F3YH/F3YV
Applications	Programmable controller		Programmable controller, relay	
Output method	-		NPN output	
Power voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 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 or less		10µA or less	

### Switch specifications (T type switch)

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

Descriptions	Proximity 2 wire		Proximity 3 wire				Reed 2 wire				Proximity 2 wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom order)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	Programmable controller Relay and small solenoid valve	Programmable controller		Programmable Controller and relay				Programmable Controller and relay	Programmable controller, relay / IC circuit (w/o light), serial connection	Programmable controller, relay		Programmable Controller dedicated			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Power voltage	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	AC100/110V	5/12/24 VDC	AC100/110V	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less	50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA		
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/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 at 100 VAC, 2 mA or less at 200 VAC	1mA or less		10µA or less				0mA					1mA or less		

### Cylinder weight table (Weight with switch is with a cylinder switch 2 pieces.)

- ø12 to ø100

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	66	107	74	116	83	125	91	133	100	142	108	150	-	-	-	-	-	-	-	-	-	-	-	-
ø16	92	138	103	148	113	158	124	169	135	180	146	191	-	-	-	-	-	-	-	-	-	-	-	-
ø20	130	185	142	217	155	230	168	243	180	255	193	268	206	281	219	294	232	307	245	320	-	-	-	-
ø25	181	272	196	287	212	303	228	319	244	335	259	350	275	366	291	382	307	398	322	413	-	-	-	-
ø32	254	368	276	390	298	412	320	434	341	455	363	477	385	499	407	521	429	543	450	564	558	672	665	779
ø40	373	516	400	543	426	569	453	596	480	623	506	649	533	676	559	702	586	729	612	755	745	888	877	1020
ø50	-	-	691	885	733	927	775	969	817	1011	860	1054	902	1096	944	1138	986	1180	1028	1222	1238	1432	1448	1642
ø63	-	-	939	1218	994	1273	1049	1328	1104	1383	1159	1438	1215	1494	1270	1549	1325	1604	1380	1659	1655	1934	1930	2209
ø80	-	-	1911	2324	1998	2411	2084	2497	2171	2584	2257	2670	2344	2757	2431	2844	2518	2931	2604	3017	3037	3450	3469	3882
ø100	-	-	2625	3192	2739	3306	2852	3419	2966	3533	3080	3647	3194	3761	3307	3874	3421	3988	3535	4102	4105	4672	4675	5242

- ø125 to ø160

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100		125		150		175		200		250		300	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø125	6.12	6.22	6.39	6.49	6.65	6.75	6.92	7.02	7.18	7.28	7.90	8.25	8.51	8.61	9.18	9.28	9.84	9.94	10.51	10.61	11.17	11.27	12.50	12.60	13.83	13.93
ø140	8.50	8.61	8.80	8.91	9.11	9.22	9.41	9.52	9.72	9.83	10.54	10.94	11.24	11.35	12.00	12.11	12.76	12.87	13.52	13.63	14.28	14.39	15.80	15.91	17.32	17.43
ø160	11.86	11.98	12.24	12.36	12.62	12.74	13.00	13.12	13.38	13.50	14.39	14.90	15.28	15.40	16.23	16.35	17.18	17.30	18.13	18.25	19.08	19.20	20.98	21.10	22.88	23.00

# SSD2-P7\*/P5\* Series

## How to order

Without switch

**SSD2** - **12** - **5** - **N** - **P7**

With switch

**SSD2-L** - **12** - **5** - **T0H** - **R** - **N** - **P7**

**A** Model no.

**B** Bore size

**C** Stroke length  
Note 1

**D** Switch  
\* indicates lead wire lengt.  
Note 2  
Note 3  
Note 4  
Note 5

**E** Switch quantity

**F** Option

**G** Clean room specifications  
Note 6

## ⚠ Note on model no. selection

Note 1: Of custom stroke length

Custom stroke length is available per 1mm increment.  
(not available 5mm stroke length which c/w switches)  
The way of responding for custom stroke are different with  $\phi 12$  to  $\phi 100$  and  $\phi 125$  to  $\phi 160$ . Caution: Make. ( $\phi 12$  to  $\phi 100$ )

Total length of the custom stroke is the same as the next longer standard stroke.  
( $\phi 125$  to  $\phi 160$ )

An all long dimension is the same dimension as the next longer standard stroke length when custom stroke length.

Note 2: T2YD\* switch can not be installed for  $\phi 12$ ,  $\phi 16$ .

Note 3: T8\* switch can not be installed for  $\phi 12$  to  $\phi 32$ .

Note 4: F type switch is installable only on the piping port of tube bore size  $\phi 20$ ,  $\phi 25$ .

Note 5:  $\phi 20$  F-type switch radial lead wire is not available for the 15mm or shorter stroke.

Note 6: "P5" "P51" is custom order.

Note 7: Refer to intro 3 and 4 for variation and option combination.

<Example of model number>

**SSD2-L-12-5-T0H-R-NP7**

**A** Model: Compact cylinder standard type

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

**C** Stroke length : 5mm

**D** Switch model no. : Reed switch T0H/lead wire length 1m

**E** Switch quantity : 1 on rod end

**F** Option : Rod end male thread

**G** Clean room specifications: Exhaust treatment

Symbol	Descriptions
<b>A Model no.</b>	
<b>SSD2</b>	Double acting single rod type
<b>SSD2-L</b>	Double acting single rod type/with switch

<b>B Bore size (mm)</b>	
<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>	$\phi 100$
<b>125</b>	$\phi 125$
<b>140</b>	$\phi 140$
<b>160</b>	$\phi 160$

<b>C Stroke length (mm)</b>	
Refer to the stroke length table on following page.	

<b>D Switch model no.</b>		Lead wire	Contact	Indicator	Lead wire	<b>Bore size</b>															
Axial	Radial					12	16	20	25	32	40	50	63	80	100	125	140	160			
<b>F2H*</b>	<b>F2V*</b>	Proximity		1 color indicator type	2-wire			●	●												
<b>F3H*</b>	<b>F3V*</b>				3-wire			●	●												
<b>F2YH*</b>	<b>F2YV*</b>	Proximity		2 color indicator type	2-wire			●	●												
<b>F3YH*</b>	<b>F3YV*</b>				3-wire			●	●												
<b>T0H*</b>	<b>T0V*</b>	Reed		1 color indicator type	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
<b>T5H*</b>	<b>T5V*</b>					Without light	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T8H*</b>	<b>T8V*</b>				1 color indicator type								●	●	●	●	●	●	●	●	●
<b>T1H*</b>	<b>T1V*</b>	Proximity		1 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●	●		
<b>T2H*</b>	<b>T2V*</b>				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T3PH*</b>	<b>T3PV*</b>				1 color indicator type (PNP output) (custom order)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T2WH*</b>	<b>T2WV*</b>				2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T2YH*</b>	<b>T2YV*</b>	Proximity		2 color indicator type	2-wire			●	●	●	●	●	●	●	●	●	●	●	●		
<b>T3WH*</b>	<b>T3WV*</b>				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T3YH*</b>	<b>T3YV*</b>	Proximity		Strong magnetic field proof switch	2-wire			●	●	●	●	●	●	●	●	●	●	●	●		
<b>T2YD*</b>	-				2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>T2YDT*</b>	-	Proximity		Off-delay type	2-wire			●	●	●	●	●	●	●	●	●	●	●	●		
<b>T2JH*</b>	<b>T2JV*</b>				2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

<b>* Lead wire length</b>	
<b>Blank</b>	1m (standard)
<b>3</b>	3m (option)
<b>5</b>	5m (option)

<b>E Switch quantity</b>	
<b>R</b>	1 on rod end
<b>H</b>	1 on head end
<b>D</b>	2

<b>F Option</b>	
<b>Blank</b>	Rod end female thread
<b>N</b>	Rod end male thread

<b>G Clean room specifications</b>		
	Structure	Material restriction
<b>P7</b>	Exhaust treatment	-
<b>P71</b>	Vacuum treatment	-
<b>P5</b>	Exhaust treatment	Copper/silicone system/halogen system (fluorine, chlorine and bromine) not available
<b>P51</b>	Vacuum treatment	Copper/silicone system/halogen system (fluorine, chlorine and bromine) not available

(Stroke length table)

Stroke length (mm)	Applicable bore size													
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	
Standard stroke length	5	●	●	●	●	●	●							
	10	●	●	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●			
	40			●	●	●	●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●			
	50			●	●	●	●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●	●	●	●
	100					●	●	●	●	●	●	●	●	●
	125											●	●	●
	150											●	●	●
	175											●	●	●
	200											●	●	●
	250											●	●	●
300											●	●	●	
Min. stroke length (mm)	1													
Max. stroke length (mm)	30		50		100						300			
Custom stroke length Note 1	By 1 mm increment													

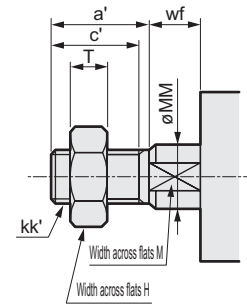
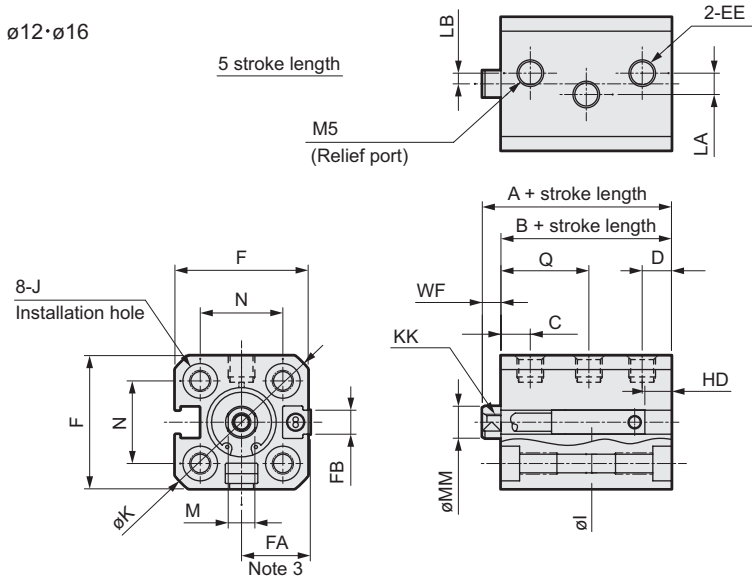
# SSD2-P7\*/P5\* Series

## Dimensions

### ● SSD2-L-12 to 25-P7\*/P5\* (TOH/V with switch, T5H/V, T2H/V or T3H/V)

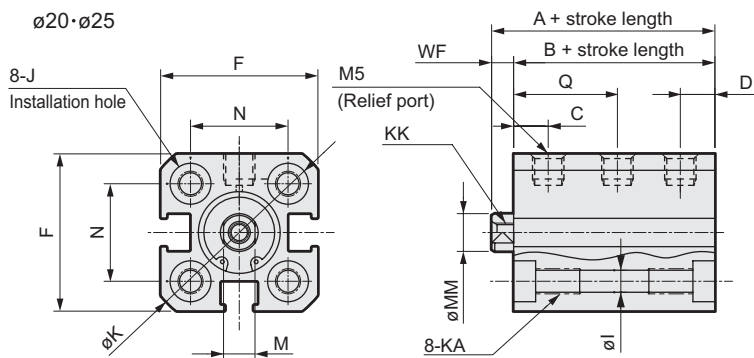
### ● Rod end male thread

ø12·ø16



### ● SSD2-12 to 25-P7\*/P5\* (without switch)

ø20·ø25



### ● Cautions on switch installation groove

Note 1: A piping port plane of bore size ø20, 25 becomes only F type switch.

Symbol	Without switch		Common dimension with switch																	
	A Note 1	B Note 1	A	B	C	D	LA		LB		Q	EE	F	FA Note 3	FB	I	J	K	KA	KK
Bore size (mm)							5st or less	over 5st	5st or less	over 5st										
ø12	30.5	27	35.5	32	5.5	5.5	4	0	2	0	16.5	M5	25	13 (16.5)	4.5	3.5	8.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6
ø16	30.5	27	35.5	32	5.5	5.5	4	0	2	0	16.5	M5	29	15 (18.5)	4.5	3.5	8.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
ø20	34	29.5	44	39.5	5.5	7	-	-	-	-	16.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
ø25	37.5	32.5	47.5	42.5	7	8.5	-	-	-	-	18	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11
Symbol	Common dimension with switch				Reed T0H/T0V and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV									
Bore size (mm)	M	MM	N	WF	HD	RD	HD	RD	HD	RD	HD	RD								
ø12	5	6	15.5	3.5	4	9	4	9	6	11	-	-								
ø16	6	8	20	3.5	2	11.5	2	11.5	3	13.5	-	-								
ø20	8	10	25.5	4.5	6	14.5	6	14.5	8	16.5	10.5	19								
ø25	10	12	28	5	8	16	8	16	10	18	12.5	20								

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.

<Example> custom stroke 7mm, calculate including standard 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, ans T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

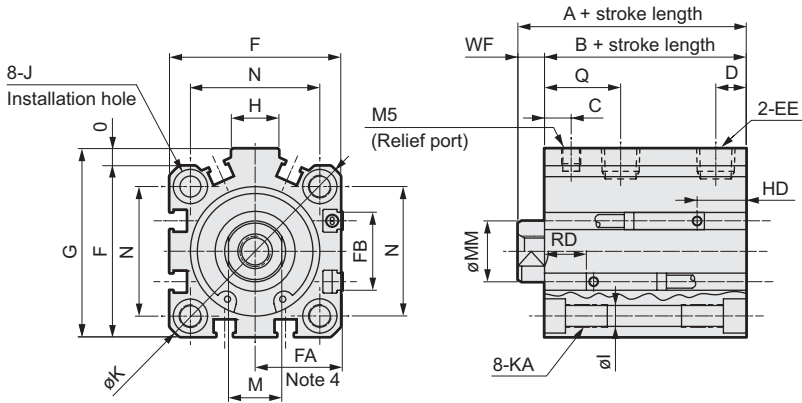
Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

### ● Rod end male thread

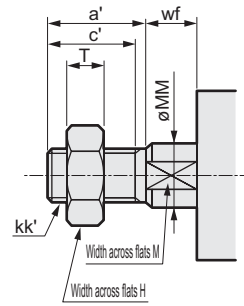
Symbol	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	8	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 x 1.25	10	12	6	5

### Dimensions

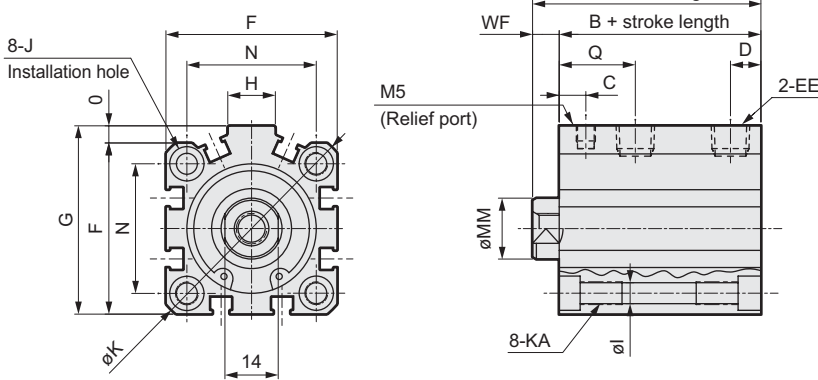
● SSD2-L-32 to 100-P7\*/P5\* (TOH/V with switch, T5H/V, T2H/V or T3H/V)



● Rod end male thread



● SSD2-32 to 100-P7\*/P5\* (without switch)



Symbol	Without switch		Common dimension with switch													
	A Note 1, Note 6	B Note 1, Note 6	A Note 1	B Note 1	C Note 8	D Note 8	Q	EE Note 7	F	FA Note 4	FB	G	H	I	J	K
ø32	40 (50)	33 (43)	50	43	7	8	20	Rc1/8	45	23 (26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60
ø40	46.5 (56.5)	39.5 (49.5)	56.5	49.5	8.5	8	21.5	Rc1/8	52	26.5 (30)	27.5	57	15	5.5	9 spot face depth 5.5	69
ø50	48.5 (58.5)	40.5 (50.5)	58.5	50.5	9.5	10.5	25	Rc1/4	64	32.5 (36)	28.5	71	18	6.9	11 spot face depth 6.5	86
ø63	54 (64)	46 (56)	64	56	10	11	25.5	Rc1/4	77	39 (42.5)	28.5	84	23	8.7	14 spot face depth 9	103
ø80	68.5 (78.5)	58.5 (68.5)	78.5	68.5	11.5	13	30	Rc3/8	98	49.5 (53)	28.5	104	31	10.5	17.5 spot face depth 11	132
ø100	80 (90)	68 (78)	90	78	15.5	15	35	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156

Symbol	Common dimension with switch							Reed T0H/T0V and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2WH/T2WV and T3WH/T3WV	
	KA	KK	M	MM	N	O	WF	HD	RD	HD	RD	HD	RD
ø32	M6 depth 11	M8 depth 13	14	16	34	4.5	7	4	19.5	4	19.5	6	21.5
ø40	M6 depth 11	M8 depth 13	14	16	40	5	7	7	22	7	22	8.5	23.5
ø50	M8 depth 13	M10 depth 15	17	20	50	7	8	7.5	22.5	7.5	22.5	9	24
ø63	M10 depth 25	M10 depth 15	17	20	60	7	8	12.5	23	12.5	23	14	24.5
ø80	M12 depth 28	M16 depth 21	22	25	77	6	10	17.5	25.5	17.5	25.5	19	27
ø100	M12 depth 28	M20 depth 27	27	30	94	6.5	12	23	29.5	23	29.5	24.5	31

Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. <Example> custom stroke 7mm, calculate including standard 10mm.

Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 3: Refer to page 243 for HD/RD dimensions and projection dimensions of the 2color indicator type, off-delay type, strong magnetic field proof type, ans T1\* or T8\* switch.

Note 4: Dimensions in ( ) of FA are the values for radial lead wire.

Note 5: Refer to pages 245 to 256 for dimension drawings with accessories and dimension drawings for discrete accessories.

Note 6: Values in ( ) for symbols A and B are for 50mm stroke is exceeded.

Note 7: The port size is M5 for the 5 stroke ø32 without switch.

Note 8: Values in ( ) for symbols C and D are for 5mm and w/o switches.

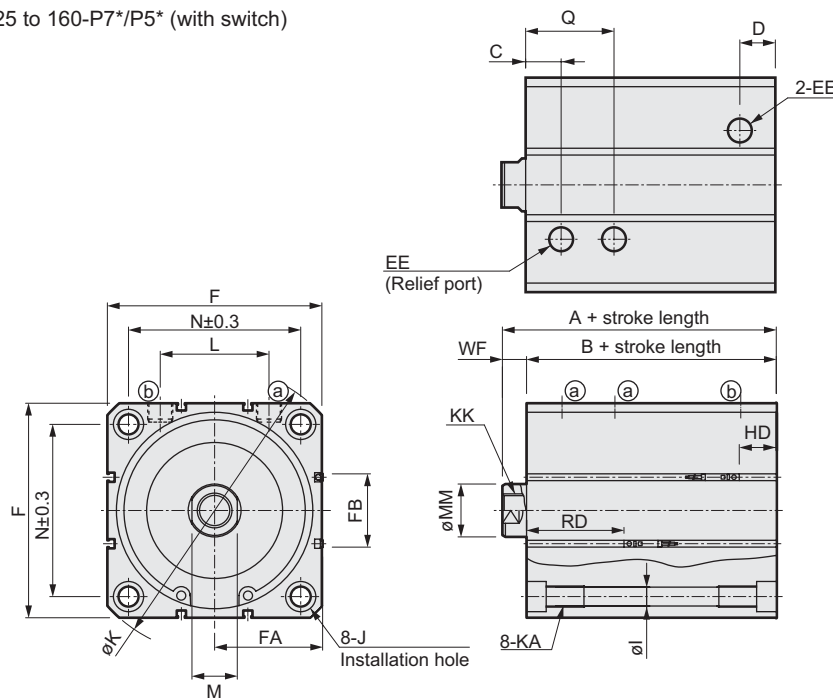
● Rod end male thread

Symbol	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ø50	28.5	26	27	M18 x 1.5	17	20	11	5
ø63	28.5	26	27	M18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 x 1.5	27	30	16	8

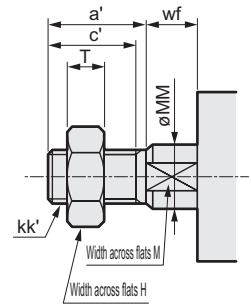
# SSD2-P7\*/P5\* Series

## Dimensions (ø125 to ø160)

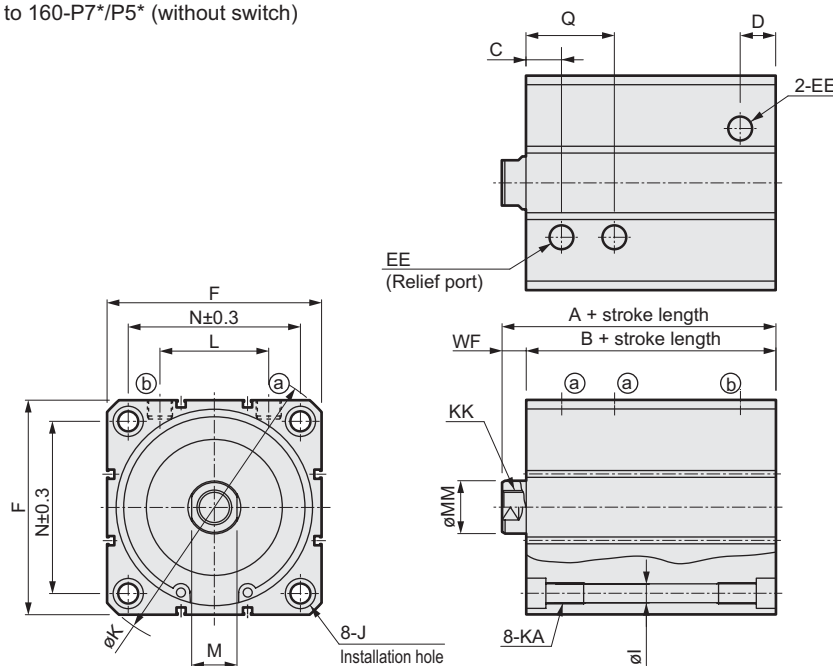
● SSD2-L-125 to 160-P7\*/P5\* (with switch)



● Rod end male thread



● SSD2-125 to 160-P7\*/P5\* (without switch)



Symbol	Without switch common dimension with switch																		
Bore size (mm)	A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK	L	M	MM	N	Q	WF
ø125	118	102	23.5	23.5	Rc3/8	142	71.5 (75)	44.5	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30	72	30	35	114	53.5	16
ø140	128	112	27	27	Rc3/8	158	79.5 (83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30	80	30	35	128	57	16
ø160	143	126	30	30	Rc3/8	178	89.5 (93)	48.5	14.5	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33	90	36	40	144	65	17

Symbol	Reed T0H/T0V and T5H/T5V		Proximity T2H/T2V and T3H/T3V		Proximity T2YH/T2YV and T3YH/T3YV	
Bore size (mm)	HD	RD	HD	RD	HD	RD
ø125	24.5	59.5	24.5	59.5	23	58
ø140	31	63	31	63	29.5	61.5
ø160	34	74	34	74	32.5	72.5

● Note 1: Refer to page 245 to 256 for HD/RD dimensions and projection dimensions of the 2color indicator type switch.

● Note 2: Dimensions shown in parentheses of FA are for a dimension of radial lead wire.

### Rod end male thread section dimensions table

Symbol	a'	c'	H	kk'	M	MM	T	wf'
ø125	45	42	46	M30 x 1.5	30	35	18	13
ø140	45	42	46	M30 x 1.5	30	35	18	13
ø160	50	47	55	M36 x 1.5	36	40	21	14

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MEMO

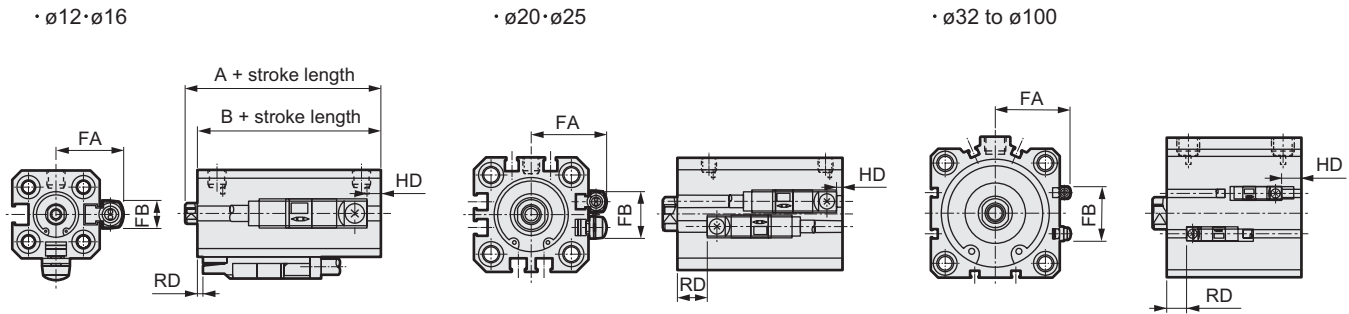
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# SSD2 Series

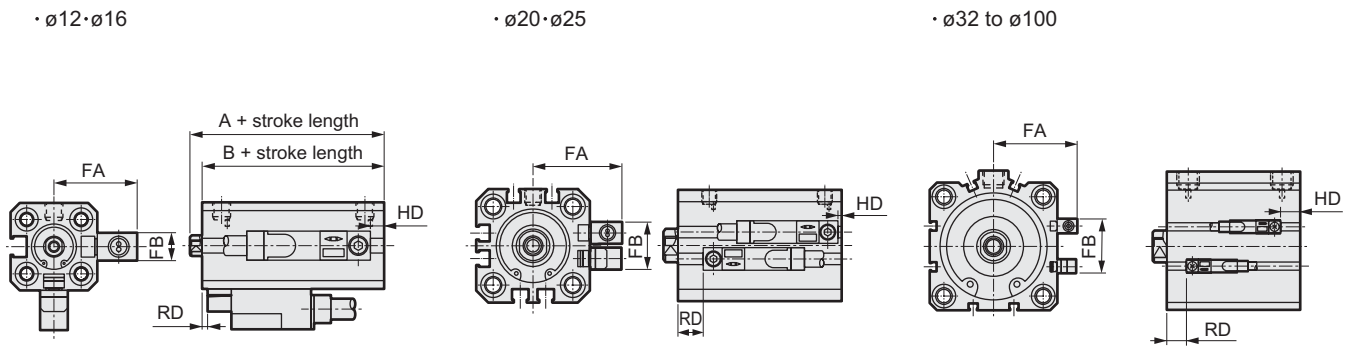
SSD2 series common (2 color indicator type, off-delay type, strong magnetic field, T1\*, T8\*with switch) dimensions

● SSD2-L-12 to 100 (2 color indicator type, off-delay type, T8\*with switch, T2YH/V, T3YH/V, T2JH/V, T8H/V)



Symbol	FA	FB	T2YH/V, T3YH/V or T2JH/V												T8H/V									
			SSD2-L, XL or YL		SSD2-DL <sup>Note 1</sup>		SSD2 (long)-L <sup>Note 2</sup>		SSD2-ML		SSD2-GL		SSD2-G5L		SSD2-L, XL, YL or GL		SSD2-DL <sup>Note 1</sup>		SSD2-ML		SSD2 (long)-L <sup>Note 2</sup>		SSD2-G5L	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
ø12	18.8	8	-	-	1	3.5	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø16	20.8	8	-	-	0.5	3.5	2.5	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø20	24.3	16	6.5	2	5	8	14 (8.5)	5.5 (11)	10	1.5	16.5	2	-	-	-	-	0.5	3.5	-	-	9.5 (4)	0 (6.5)	-	-
ø25	26.3	17	8.5	3	8	10	17.5 (10.5)	5 (12.5)	13	1.5	18.5	3	-	-	-	-	1.5	5.5	-	-	13 (6)	0 (8)	-	-
ø32	28.8	24	8.5	3.5	7.5	9.5	16 (8)	8 (14.5)	17.5	2	18.5	3.5	19.5	3.5	-	-	3	5	-	-	11.5 (4)	2.5 (10)	-	-
ø40	32.3	31	10.5	5.5	10.5	15	24.5 (15)	8 (17.5)	10.5	5.5	10.5	5.5	20.5	5.5	6	1	6	10.5	6	1	20 (10.5)	3.5 (13)	16	1
ø50	38.3	32	11	6	11	15	24.5 (16)	8.5 (17.5)	11	6	11	6	21	6	6.5	1.5	6.5	10.5	6.5	1.5	19.5 (11)	4 (13)	16.5	1.5
ø63	44.8	32	11.5	11	11.5	16.5	18.5 (13.5)	16 (21.5)	11.5	11	11.5	11	21.5	11	7	6.5	7	12	7	6.5	13.5 (8.5)	11.5 (17)	17	6.5
ø80	55.3	32	14	16	14	21.5	22.5 (17.5)	20.5 (26.5)	-	-	14	16	28	16	9.5	11.5	9.5	17	-	-	17.5 (12.5)	16 (22)	23.5	11.5
ø100	64.8	32	18	21.5	18	27	26.5 (21.5)	26.5 (32)	-	-	18	21.5	33.5	21.5	13.5	17	13.5	22.5	-	-	21.5 (16.5)	22 (27.5)	29	17

● SSD2-L-12 to 100 (strong magnetic field, T1\*with switch, T2YD, T2YDT or T1H/V)



Symbol	FA	FB	SSD2-L, XL or YL		SSD2-DL <sup>Note 1</sup>		SSD2 (long stroke)-L <sup>Note 2</sup>		SSD2-ML		SSD2-GL		SSD2-G5L	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
ø12	23.8	8	-	-	1	3.5	3	1	-	-	-	-	-	-
ø16	25.8	8	-	-	0.5	3.5	2.5	1.5	-	-	-	-	-	-
ø20	29.3	16	6.5	2	5	8	14 (8.5)	5.5 (11)	10	1.5	16.5	2	-	-
ø25	31.3	17	8.5	3	8	10	17.5 (10.5)	5 (12.5)	13	1.5	18.5	3	-	-
ø32	33.8	24	8.5	3.5	7.5	9.5	16 (8)	8 (14.5)	17.5	2	18.5	3.5	19.5	3.5
ø40	37.3	31	10.5	5.5	10.5	15	24.5 (15)	8 (17.5)	10.5	5.5	10.5	5.5	20.5	5.5
ø50	43.3	32	11	6	11	15	24.5 (16)	8.5 (17.5)	11	6	11	6	21	6
ø63	49.8	32	11.5	11	11.5	16.5	18.5 (13.5)	16 (21.5)	11.5	11	11.5	11	21.5	11
ø80	60.3	32	14	16	14	21.5	22.5 (17.5)	20.5 (26.5)	-	-	14	16	28	16
ø100	60.8	32	18	21.5	18	27	26.5 (21.5)	26.5 (32)	-	-	18	21.5	33.5	21.5

Note 1: The way which has a mark a port plane becomes a "RD side".

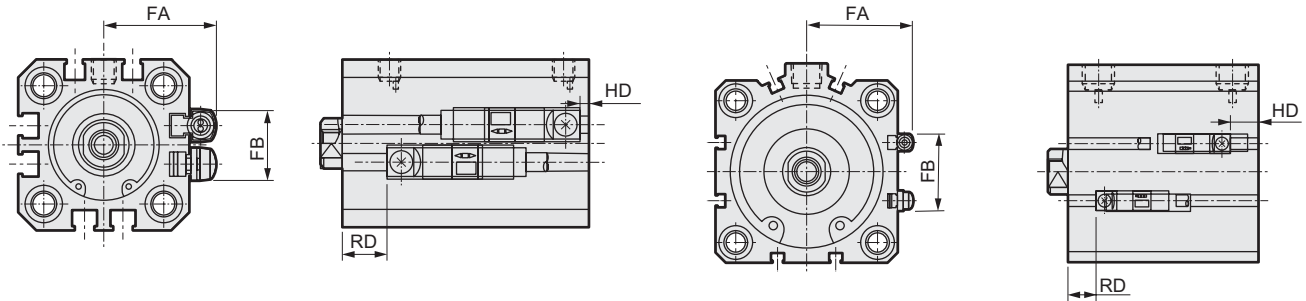
Note 2: Dimensions in ( ) are over 100mm stroke for ø20, over 150mm stroke, over 200mm stroke.

SSD2-K series common (2 color indicator type, off-delay type, strong magnetic field, T1\*, T8\*with switch) dimensions

- SSD2-KL-20 to 100 (2 color indicator type, off-delay type, T8\*with switch, T2YH/V, T3YH/V, T2JH/V, T8H/V)

•  $\phi 20 \cdot \phi 25$

•  $\phi 32$  to  $\phi 100$

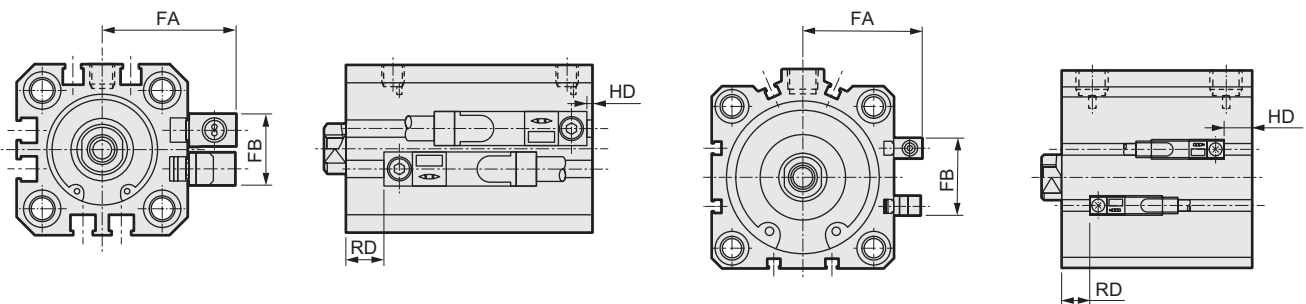


Symbol Bore size (mm)	FA	FB	T2YH/V, T3YH/V or T2JH/V		T8H/V	
			RD	HD	RD	HD
$\phi 20$	24.3	16	8	5.5	-	-
$\phi 25$	26.3	17	11.5	5	-	-
$\phi 32$	28.8	24	14	8	-	-
$\phi 40$	32.3	31	18	8	13.5	3.5
$\phi 50$	38.3	32	18.5	8.5	14	4
$\phi 63$	44.8	32	16.5	16	12	11.5
$\phi 80$	55.3	32	19	20.5	14.5	16
$\phi 100$	64.8	32	23	26.5	18.5	22

- SSD2-KL-20 to 100 (strong magnetic field, T1\*T2YD with switch, T2YDT or T1H/V)

•  $\phi 20 \cdot \phi 25$

•  $\phi 32$  to  $\phi 100$

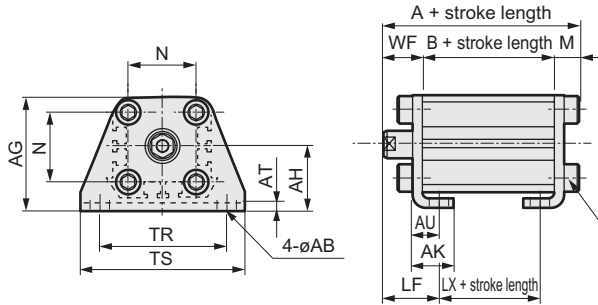


Symbol Bore size (mm)	FA	FB	RD	HD
$\phi 20$	29.3	16	8	5.5
$\phi 25$	31.3	17	11.5	5
$\phi 32$	33.8	24	14	8
$\phi 40$	37.3	31	18	8
$\phi 50$	43.3	32	18.5	8.5
$\phi 63$	49.8	32	16.5	16
$\phi 80$	60.3	32	19	20.5
$\phi 100$	60.8	32	23	26.5

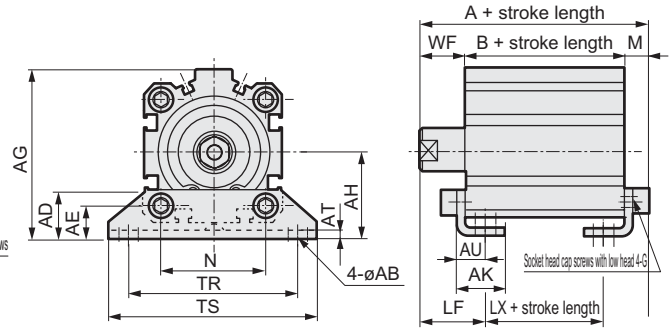
## Dimensions with accessory (mounting bracket: LB)

● SSD2, SSD2-K, SSD2 (long stroke model), SSD2-X, Y, SSD2-Q and SSD2-M

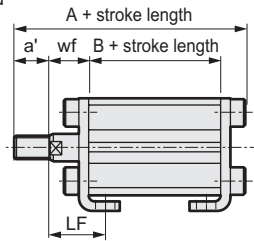
·  $\phi 12$  to  $\phi 25$



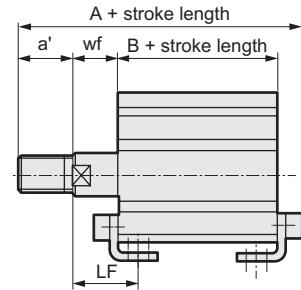
·  $\phi 32$  to  $\phi 100$



For rod end male thread



For rod end male thread



SSD2 (Double acting single rod type), SSD2-X (Single acting extend type), SSD2-Y (Single acting retract type), SSD2-T (Double acting heat resistance type), SSD2-F (double acting fine speed type), SSD2-O (double acting Low speed type)

Symbol	Common dimension													SSD2, SSD2-X, SSD2-Y, SSD2-T, SSD2-F or SSD2-O (for female thread)							
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			With switch		
Bore size (mm)																A	B	LX	A	B	LX
$\phi 12$	5	-	-	29.5	17	12.5	2	8	M4 x 10	15.5	34	44	4.8	13.5	19.5	35.3	17	5	40.3	22	10
$\phi 16$	5	-	-	33.5	19	13	2	8	M4 x 10	20	38	48	4.8	13.5	19.5	35.3	17	5	40.3	22	10
$\phi 20$	7	-	-	42	24	15	3.2	9.2	M6 x 16	25.5	48	62	7.2	14.5	20.5	41.2	19.5	7.5	51.2	29.5	17.5
$\phi 25$	7	-	-	46	26	16.5	3.2	10.7	M6 x 16	28	52	66	7.2	15	22.5	44.7	22.5	7.5	54.7	32.5	17.5
$\phi 32$	7	18.5	13	57	30	17	3.2	11.2	M6 x 16	34	57	71	7.2	17	25	47.2 (57.2)	23 (33)	7 (17)	57.2	33	17
$\phi 40$	7	18	13	64	33	18.2	3.2	11.2	M6 x 16	40	64	78	7.2	17	25	53.7 (63.7)	29.5 (39.5)	13.5 (23.5)	63.7	39.5	23.5
$\phi 50$	9	22	14	78	39	22.7	3.2	14.7	M8 x 20	50	79	95	8.2	18	29.5	56.7 (66.7)	30.5 (40.5)	7.5 (17.5)	66.7	40.5	17.5
$\phi 63$	11	26	16	91.5	46	25.2	3.2	16.2	M10 x 25	60	95	113	9.2	18	31	63.2 (73.2)	36 (46)	10 (20)	73.2	46	20
$\phi 80$	13	31.5	20.5	114	59	30.5	4.5	19.5	M12 x 40	77	118	140	11.5	20	35	75 (85)	43.5 (53.5)	13.5 (23.5)	85	53.5	23.5
$\phi 100$	13	35	24	136	71	35.5	6	23	M12 x 40	94	137	162	13	22	39	88 (98)	53 (63)	19 (29)	98	63	29

Symbol SSD2, SSD2-X, SSD2-Y, SSD2-T, SSD2-F or SSD2-O (for male thread)

Symbol	SSD2, SSD2-X, SSD2-Y, SSD2-T, SSD2-F or SSD2-O (for male thread)								
	Bore size (mm)	a'	wf	LF	Without switch			With switch	
				A	B	LX	A	B	LX
$\phi 12$	10.5	13.5	19.5	45.8	17	5	50.8	22	10
$\phi 16$	12	13.5	19.5	47.3	17	5	52.3	22	10
$\phi 20$	14	14.5	20.5	55.2	19.5	7.5	65.2	29.5	17.5
$\phi 25$	17.5	15	22.5	62.2	22.5	7.5	72.2	32.5	17.5
$\phi 32$	23.5	15	23	68.7 (78.7)	23 (33)	7 (17)	78.7	33	17
$\phi 40$	23.5	15	23	75.2 (85.2)	29.5 (39.5)	13.5 (23.5)	85.2	39.5	23.5
$\phi 50$	28.5	15	26.5	82.2 (92.2)	30.5 (40.5)	7.5 (17.5)	92.2	40.5	17.5
$\phi 63$	28.5	15	28	88.7 (98.7)	36 (46)	10 (20)	98.7	46	20
$\phi 80$	35.5	18	33	108.5 (118.5)	43.5 (53.5)	13.5 (23.5)	118.5	53.5	23.5
$\phi 100$	35.5	18	35	119.5 (129.5)	53 (63)	19 (29)	129.5	63	29

※Values in ( ) is for when 50mm stroke is exceeded.

SSD2 (Long stroke), SSD2-K (Double acting high load type), SSD2-K-※C (Double acting rubber-air cushioned), SSD2-KU (Double acting high load low friction type)

Symbol	SSD2 (long stroke) (for female thread)					SSD2 (long stroke) (for male thread)					SSD2-K, SSD2-K-※C or SSD2-KU (for female thread)								
	WF	LF	With without switch			a'	wf	LF	With without switch			WF	LF	Without switch			With switch		
			A	B	LX				A	B	LX			A	B	LX	A	B	LX
ø12	13.5	19.5	50.3	32	20	10.5	13.5	19.5	60.8	32	20	13.5	19.5	40.3	22	10	45.3	27	15
ø16	13.5	19.5	50.3	32	20	12	13.5	19.5	62.3	32	20	13.5	19.5	40.3	22	10	45.3	27	15
ø20	14.5	20.5	62.7	41	29	14	14.5	20.5	76.7	41	29	14.5	20.5	46.2	24.5	12.5	56.2	34.5	22.5
ø25	15	22.5	66.2	44	29	17.5	15	22.5	83.7	44	29	15	22.5	49.7	27.5	12.5	59.7	37.5	22.5
ø32	17	25	69.7	45.5	29.5	23.5	15	23	91.2	45.5	29.5	17	25	57.2 (67.2)	33 (43)	17 (27)	67.2	43	27
ø40	17	25	79.2	55	39	23.5	15	23	100.7	55	39	17	25	63.7 (73.7)	39.5 (49.5)	23.5 (33.5)	73.5	49.5	33.5
ø50	18	29.5	81.7	55.5	32.5	28.5	15	26.5	107.2	55.5	32.5	18	29.5	66.7 (76.7)	40.5 (50.5)	17.5 (27.5)	76.7	50.5	27.5
ø63	18	31	84.2	57	31	28.5	15	28	109.7	57	31	18	31	73.2 (83.2)	46 (56)	20 (30)	83.2	56	30
ø80	20	35	97.5	66	36	35.5	18	33	131	66	36	20	35	85 (95)	53.5 (63.5)	23.5 (33.5)	95	63.5	33.5
ø100	22	39	110.5	75.5	41.5	35.5	18	35	142	75.5	41.5	22	39	98 (108)	63 (73)	29 (39)	108	73	39

Symbol	SSD2-K, SSD2-K-※C or SSD2-KU (for male thread)									
	Bore size (mm)	a'	wf	LF	Without switch			With switch		
					A	B	LX	A	B	LX
ø12	10.5	13.5	19.5		50.8	22	10	55.8	27	15
ø16	12	13.5	19.5		52.3	22	10	57.3	27	15
ø20	14	14.5	20.5		60.2	24.5	12.5	70.2	34.5	22.5
ø25	17.5	15	22.5		67.2	27.5	12.5	77.2	37.5	22.5
ø32	23.5	15	23		78.7 (88.7)	33 (43)	17 (27)	88.7	43	27
ø40	23.5	15	23		85.2 (95.2)	39.5 (49.5)	23.5 (33.5)	95.2	49.5	33.5
ø50	28.5	15	26.5		92.2 (102.2)	40.5 (50.5)	17.5 (27.5)	102.2	50.5	27.5
ø63	28.5	15	28		98.7 (108.7)	46 (56)	20 (30)	108.7	56	30
ø80	35.5	18	33		118.5 (128.5)	53.5 (63.5)	23.5 (33.5)	128.5	63.5	33.5
ø100	35.5	18	35		129.5 (139.5)	63 (73)	29 (39)	139.5	73	39

※Values in ( ) is for when 50mm stroke is exceeded.

### SSD2-M (double acting/non-rotating type)

Symbol	SSD2-M (for female thread)								
	Bore size (mm)	WF	LF	Without switch			With switch		
				A	B	LX	A	B	LX
ø12	13.5	19.5		40.3	22	10	45.3	27	15
ø16	13.5	19.5		40.3	22	10	45.3	27	15
ø20	14.5	20.5		46.2	24.5	12.5	56.2	34.5	22.5
ø25	15	22.5		49.7	27.5	12.5	59.7	37.5	22.5
ø32	17	25		56.2 (66.2)	32 (42)	16 (26)	66.2	42	26
ø40	17	25		53.7 (63.7)	29.5 (39.5)	13.5 (23.5)	63.7	39.5	23.5
ø50	18	29.5		56.7 (66.7)	30.5 (40.5)	7.5 (17.5)	66.7	40.5	17.5
ø63	18	31		63.2 (73.2)	36 (46)	10 (20)	73.2	46	20

Symbol	SSD2-M (for male thread)									
	Bore size (mm)	a'	WF	LF	Without switch			With switch		
					A	B	LX	A	B	LX
ø12	10.5	13.5	19.5		50.8	22	10	55.8	27	15
ø16	12	13.5	19.5		52.3	22	10	57.3	27	15
ø20	14	14.5	20.5		60.2	24.5	12.5	70.2	34.5	22.5
ø25	17.5	15	22.5		67.2	27.5	12.5	77.2	37.5	22.5
ø32	23.5	15	23		77.7 (87.7)	32 (42)	16 (26)	87.7	42	26
ø40	23.5	15	23		75.2 (85.2)	29.5 (39.5)	13.5 (23.5)	85.2	39.5	23.5
ø50	28.5	15	26.5		82.2 (92.2)	30.5 (40.5)	7.5 (17.5)	92.2	40.5	17.5
ø63	28.5	15	28		88.7 (98.7)	36 (46)	10 (20)	98.7	46	20

※Values in ( ) is for when 50mm stroke is exceeded.

### SSD2-Q (double acting/position locking type)

Symbol	SSD2-Q-R (for female thread)						SSD2-Q-R (for male thread)						
	Bore size (mm)	WF	LF	With without switch			a'	wf	LF	With without switch			
				A	B	LX				A	B	LX	
ø20	14.5	20.5		76.2 (87.7)	54.5 (66)	42.5 (54)	14	14.5	20.5		90.2 (101.7)	54.5 (66)	42.5 (54)
ø25	15	22.5		79.7 (91.2)	57.5 (69)	42.5 (54)	17.5	15	22.5		97.2 (108.7)	57.5 (69)	42.5 (54)
ø32	17	25		82.2	58	42	23.5	15	23		103.7	58	42
ø40	17	25		88.7	64.5	48.5	23.5	15	23		110.2	64.5	48.5
ø50	18	29.5		91.7	65.5	42.5	28.5	15	26.5		117.2	65.5	42.5
ø63	18	31		98.2	71	45	28.5	15	28		123.7	71	45
ø80	20	35		135 (147.5)	103.5 (116)	73.5 (86)	35.5	18	33		168.5 (181)	103.5 (116)	73.5 (86)
ø100	22	39		148 (160.5)	113 (125.5)	79 (91.5)	35.5	18	35		179.5 (192)	113 (125.5)	79 (91.5)

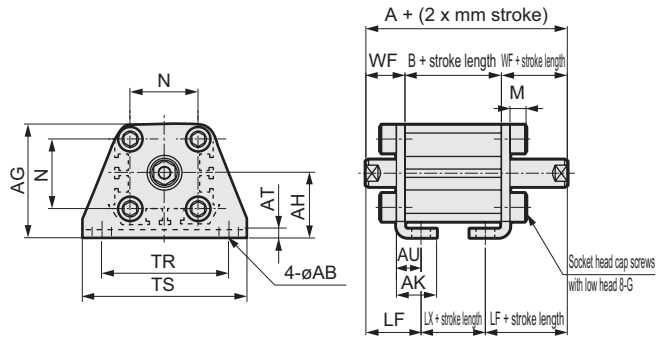
Symbol	SSD2-Q-H (for female thread)						SSD2-Q-H (for male thread)						
	Bore size (mm)	WF	LF	With without switch			a'	wf	LF	With without switch			
				A	B	LX				A	B	LX	
ø20	14.5	20.5		82.7 (87.7)	61 (66)	49 (54)	14	14.5	20.5		96.7 (101.7)	61 (66)	49 (54)
ø25	15	22.5		86.2 (91.2)	64 (69)	49 (54)	17.5	15	22.5		103.7 (108.7)	64 (69)	49 (54)
ø32	17	25		89.7	65.5	49.5	23.5	15	23		111.2	65.5	49.5
ø40	17	25		99.2	75	59	23.5	15	23		120.7	75	59
ø50	18	29.5		101.7	75.5	52.5	28.5	15	26.5		127.2	75.5	52.5
ø63	18	31		104.2	77	51	28.5	15	28		129.7	77	51
ø80	20	35		142.5 (147.5)	111 (116)	81 (86)	35.5	18	33		176 (181)	111 (116)	81 (86)
ø100	22	39		155.5 (160.5)	120.5 (125.5)	86.5 (91.5)	35.5	18	35		187 (192)	120.5 (125.5)	86.5 (91.5)

※Dimensions in ( ) are over 25mm stroke for ø20 and ø25 and, over 50mm stroke for ø80 and 100.

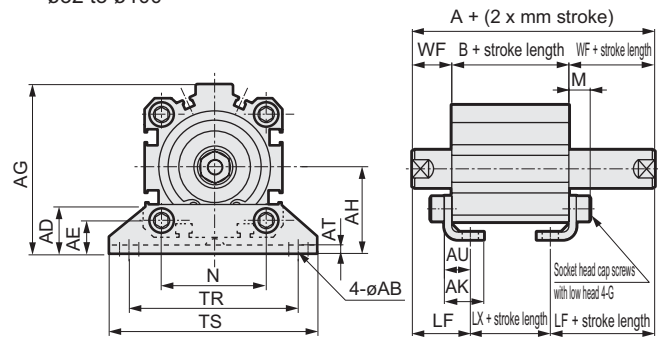
## Dimensions with accessory (mounting bracket: LB)

● SSD2-D, SSD2-DM

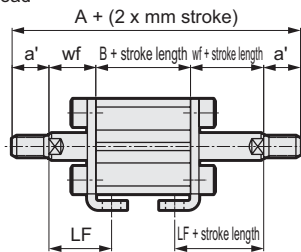
•  $\phi 12$  to  $\phi 25$



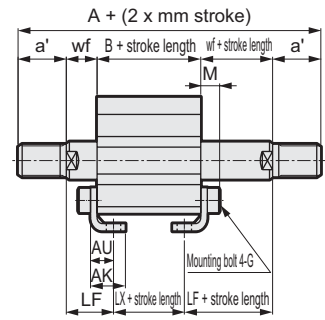
•  $\phi 32$  to  $\phi 100$



For rod end male thread



For rod end male thread



SSD2-D (double acting/double rod type) dimensions table

Symbol	Common dimension												
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M
ø12	5	-	-	29.5	17	12.5	2	8	M4 x 10	15.5	34	44	4.8
ø16	5	-	-	33.5	19	13	2	8	M4 x 10	20	38	48	4.8
ø20	7	-	-	42	24	15	3.2	9.2	M6 x 16	25.5	48	62	7.2
ø25	7	-	-	46	26	16.5	3.2	10.7	M6 x 16	28	52	66	7.2
ø32	7	18.5	13	57	30	17	3.2	11.2	M6 x 16	34	57	71	7.2
ø40	7	18	13	64	33	18.2	3.2	11.2	M6 x 16	40	64	78	7.2
ø50	9	22	14	78	39	22.7	3.2	14.7	M8 x 20	50	79	95	8.2
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10 x 25	60	95	113	9.2
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12 x 40	77	118	140	11.5
ø100	13	35	24	136	71	35.5	6	23	M12 x 40	94	137	162	13

Symbol	SSD2-D (for female thread)									SSD2-D (for male thread)								
Bore size (mm)	WF	LF	Without switch			With switch			a'	wf	LF	Without switch			With switch			
			A	B	LX	A	B	LX				A	B	LX	A	B	LX	
ø12	13.5	19.5	49	22	10	54	27	15	10.5	13.5	19.5	70	22	10	75	27	15	
ø16	13.5	19.5	49	22	10	54	27	15	12	13.5	19.5	73	22	10	78	27	15	
ø20	14.5	20.5	55	26	14	65	36	24	14	14.5	20.5	83	26	14	93	36	24	
ø25	15	22.5	59	29	14	69	39	24	17.5	15	22.5	94	29	14	104	39	24	
ø32	17	25	64.5 (74.5)	30.5 (40.5)	14.5 (24.5)	74.5	40.5	24.5	23.5	15	23	107.5 (117.5)	30.5 (40.5)	14.5 (24.5)	117.5	40.5	24.5	
ø40	17	25	74 (84)	40 (50)	24 (34)	84	50	34	23.5	15	23	117 (127)	40 (50)	24 (34)	127	50	34	
ø50	18	29.5	76.5 (86.5)	40.5 (50.5)	17.5 (27.5)	86.5	50.5	27.5	28.5	15	26.5	127.5 (137.5)	40.5 (50.5)	17.5 (27.5)	137.5	50.5	27.5	
ø63	18	31	78 (88)	42 (52)	16 (26)	88	52	26	28.5	15	28	129 (139)	42 (52)	16 (26)	139	52	26	
ø80	20	35	91 (101)	51 (61)	21 (31)	101	61	31	35.5	18	33	158 (168)	51 (61)	21 (31)	168	61	31	
ø100	22	39	104.5 (114.5)	60.5 (70.5)	26.5 (36.5)	115	70.5	36.5	35.5	18	35	167.5 (177.5)	60.5 (70.5)	26.5 (36.5)	177.5	70.5	36.5	

※Values in ( ) is for when 50mm stroke is exceeded.

SSD2-DM (double acting/double rod type/non-rotating type) dimensions table

Symbol	SSD2-DM (for female thread)									SSD2-DM (for male thread)								
Bore size (mm)	WF	LF	Without switch			With switch			a'	wf	LF	Without switch			With switch			
			A	B	LX	A	B	LX				A	B	LX	A	B	LX	
ø12	13.5	19.5	54	27	15	59	32	15	10.5	13.5	19.5	75	27	15	80	32	15	
ø16	13.5	19.5	54	27	15	59	32	15	12	13.5	19.5	78	27	15	83	32	15	
ø20	14.5	20.5	60	31	19	70	41	19	14	14.5	20.5	88	31	19	98	41	19	
ø25	15	22.5	64	34	19	74	44	19	17.5	15	22.5	99	34	19	109	44	19	
ø32	17	25	64.5 (74.5)	30.5 (40.5)	14.5 (24.5)	74.5	40.5	24.5	23.5	15	23	107.5 (117.5)	30.5 (40.5)	14.5 (24.5)	117.5	40.5	24.5	
ø40	17	25	74 (84)	40 (50)	24 (34)	84	50	34	23.5	15	23	117 (127)	40 (50)	24 (34)	127	50	34	
ø50	18	29.5	76.5 (86.5)	40.5 (50.5)	17.5 (27.5)	86.5	50.5	27.5	28.5	15	26.5	127.5 (137.5)	40.5 (50.5)	17.5 (27.5)	137.5	50.5	27.5	
ø63	18	31	78 (88)	42 (52)	16 (26)	88	52	26	28.5	15	28	129 (139)	42 (52)	16 (26)	139	52	26	
ø80	20	35	91 (101)	51 (61)	21 (31)	101	61	31	35.5	18	33	158 (168)	51 (61)	21 (31)	168	61	31	
ø100	22	39	104.5 (114.5)	60.5 (70.5)	26.5 (36.5)	115	70.5	36.5	35.5	18	35	167.5 (177.5)	60.5 (70.5)	26.5 (36.5)	177.5	70.5	36.5	

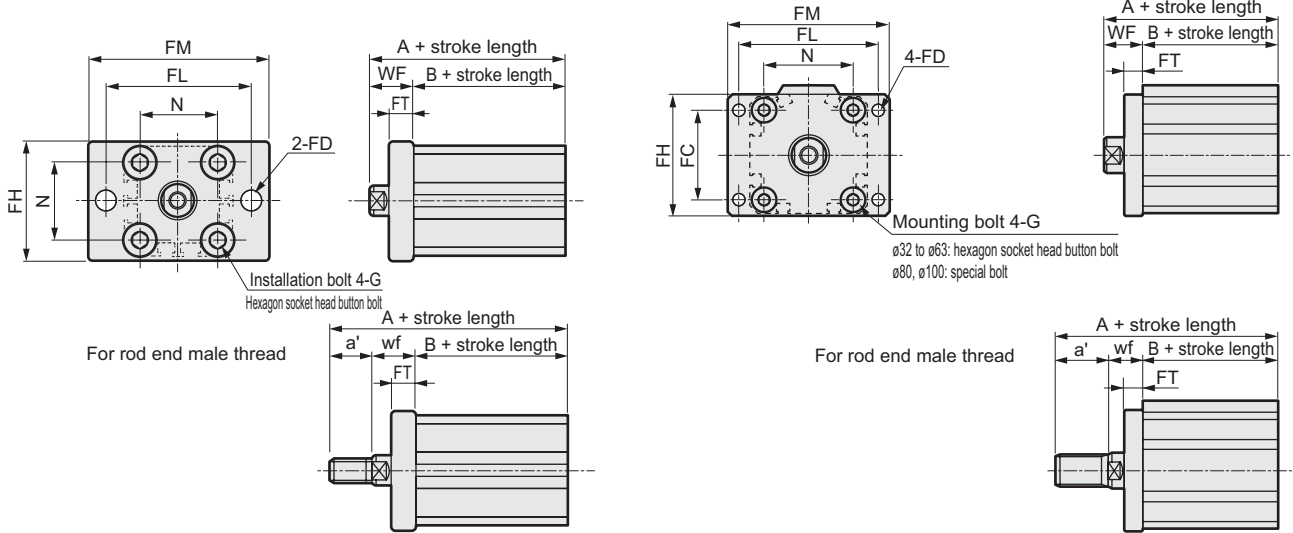
※Values in ( ) is for when 50mm stroke is exceeded.

## Dimensions with accessory (mounting bracket: FA)

● SSD2, SSD2-K, SSD2 (Long stroke), SSD2-X·Y, SSD2-Q, SSD2-M

·  $\phi 12$  to  $\phi 25$

·  $\phi 32$  to  $\phi 100$



SSD2 (Double acting single rod type), SSD2-X (Single acting extended type), SSD2-Y (Single acting retract type), SSD2-T (Double acting heat resistance type), SSD2-F (Double acting fine speed type), SSD2-O (Double acting low speed type)

Symbol	Common dimension								SSD2, SSD2-X, SSD2-Y, SSD2-T, SSD2-F or SSD2-O (for female thread)				SSD2, SSD2-X, SSD2-Y, SSD2-T, SSD2-F or SSD2-O (for male thread)						
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
$\phi 12$	-	4.5	25	45	55	5.5	15.5	M4 x 12	13.5	A	B	A	B	10.5	13.5	A	B	A	B
$\phi 16$	-	4.5	30	45	55	5.5	20	M4 x 12	13.5	30.5	17	35.5	22	12	13.5	42.5	17	47.5	22
$\phi 20$	-	6.6	39	48	60	8	25.5	M6 x 16	14.5	34	19.5	44	29.5	14	14.5	48	19.5	58	29.5
$\phi 25$	-	6.6	42	52	64	8	28	M6 x 16	15	37.5	22.5	47.5	32.5	17.5	15	55	22.5	65	32.5
$\phi 32$	34	5.5	48	56	65	8	34	M6 x 16	17	40 (50)	23 (33)	50	33	23.5	15	61.5 (71.5)	23 (33)	71.5	33
$\phi 40$	40	5.5	54	62	72	8	40	M6 x 16	17	46.5 (56.5)	29.5 (39.5)	56.5	39.5	23.5	15	68 (78)	29.5 (39.5)	78	39.5
$\phi 50$	50	6.6	67	76	89	9	50	M8 x 20	18	48.5 (58.5)	30.5 (40.5)	58.5	40.5	28.5	15	74 (84)	30.5 (40.5)	84	40.5
$\phi 63$	60	9	80	92	108	9	60	M10 x 25	18	54 (64)	36 (46)	64	46	28.5	15	79.5 (89.5)	36 (46)	89.5	46
$\phi 80$	77	11	99	116	134	11	77	M12 x 40	20	63.5 (73.5)	43.5 (53.5)	73.5	53.5	35.5	18	97 (107)	43.5 (53.5)	107	53.5
$\phi 100$	94	11	117	136	154	11	94	M12 x 40	22	75 (85)	53 (63)	85	63	35.5	18	106.5 (116.5)	53 (63)	116.5	63

※Values in ( ) is for when 50mm stroke is exceeded.

SSD2 (Long stroke), SSD2-K (Double acting high load type), SSD2-K-※C (Double acting rubber-air cushioned), SSD2-KU (Double acting high load low friction type)

Symbol	SSD2 (long stroke) (for female thread)			SSD2 (long stroke) (for male thread)			SSD2-K, SSD2-K-※C or SSD2-KU (for female thread)				SSD2-K, SSD2-K-※C or SSD2-KU (for male thread)							
	WF	Without switch		a'	wf	Without switch		WF	Without switch		With switch		a'	wf	Without switch		With switch	
$\phi 12$	13.5	45.5	32	10.5	13.5	56	32	13.5	35.5	22	40.5	27	10.5	13.5	46	22	51	27
$\phi 16$	13.5	45.5	32	12	13.5	57.5	32	13.5	35.5	22	40.5	27	12	13.5	47.5	22	52.5	27
$\phi 20$	14.5	55.5	41	14	14.5	69.5	41	14.5	39	24.5	49	34.5	14	14.5	53	24.5	63	34.5
$\phi 25$	15	59	44	17.5	15	76.5	44	15	42.5	27.5	52.5	37.5	17.5	15	60	27.5	70	37.5
$\phi 32$	17	62.5	45.5	23.5	15	84	45.5	17	50 (60)	33 (43)	60	43	23.5	15	71.5 (81.5)	33 (43)	81.5	43
$\phi 40$	17	72	55	23.5	15	93.5	55	17	56.5 (66.5)	39.5 (49.5)	66.5	49.5	23.5	15	78 (88)	39.5 (49.5)	88	49.5
$\phi 50$	18	73.5	55.5	28.5	15	99	55.5	18	58.5 (68.5)	40.5 (50.5)	68.5	50.5	28.5	15	84 (94)	40.5 (50.5)	94	50.5
$\phi 63$	18	75	57	28.5	15	100.5	57	18	64 (74)	46 (56)	74	56	28.5	15	89.5 (99.5)	46 (56)	99.5	56
$\phi 80$	20	86	66	35.5	18	119.5	66	20	73.5 (83.5)	53.5 (63.5)	83.5	63.5	35.5	18	107 (117)	53.5 (63.5)	117	63.5
$\phi 100$	22	97.5	75.5	35.5	18	129	75.5	22	85 (95)	63 (73)	95	73	35.5	18	116.5 (126.5)	63 (73)	126.5	73

※Values in ( ) is for when 50mm stroke is exceeded.

SSD2-M (double acting/non-rotating type)

Symbol	SSD2-M (for female thread)						SSD2-M (for male thread)										
	WF	Without switch		With switch		a'	wf	Without switch		With switch		a'	wf	Without switch		With switch	
$\phi 12$	13.5	35.5	22	40.5	27	10.5	13.5	46	22	51	27	10.5	13.5	46	22	51	27
$\phi 16$	13.5	35.5	22	40.5	27	12	13.5	47.5	22	52.5	27	12	13.5	47.5	22	52.5	27
$\phi 20$	14.5	39	24.5	49	34.5	14	14.5	53	24.5	63	34.5	14	14.5	53	24.5	63	34.5
$\phi 25$	15	42.5	27.5	52.5	37.5	15	15	60	27.5	70	37.5	15	15	60	27.5	70	37.5
$\phi 32$	17	49 (59)	32 (42)	59	42	23.5	15	70.5 (80.5)	32 (42)	80.5	42	23.5	15	70.5 (80.5)	32 (42)	80.5	42
$\phi 40$	17	46.5 (56.5)	29.5 (39.5)	56.5	39.5	23.5	15	68 (78)	29.5 (39.5)	78	39.5	15	15	68 (78)	29.5 (39.5)	78	39.5
$\phi 50$	18	48.5 (58.5)	30.5 (40.5)	58.5	40.5	28.5	15	74 (84)	30.5 (40.5)	84	40.5	15	15	74 (84)	30.5 (40.5)	84	40.5
$\phi 63$	18	54 (64)	36 (46)	64	46	28.5	15	79.5 (89.5)	36 (46)	89.5	46	15	15	79.5 (89.5)	36 (46)	89.5	46

※Values in ( ) is for when 50mm stroke is exceeded.

SSD2-Q (double acting/position locking type)

Symbol	SSD2-Q-R (for female thread)				SSD2-Q-R (for male thread)				SSD2-Q-H (for female thread)				SSD2-Q-H (for male thread)			
	WF	Without switch		With switch		a'	wf	Without switch		With switch		a'	wf	Without switch		With switch
$\phi 20$	14.5	69 (80.5)	54.5 (66)	14	14.5	83 (94.5)	54.5 (66)	14.5	75.5 (80.5)	61 (66)	14	14.5	89.5 (94.5)	61 (66)	14	14.5
$\phi 25$	15	72.5 (84)	57.5 (69)	17.5	15	90 (101.5)	57.5 (69)	15	79 (84)	64 (69)	17.5	15	96.5 (101.5)	64 (69)	17.5	15
$\phi 32$	17	75	58	23.5	15	96.5	58	17	82.5	65.5	23.5	15	104	65.5	23.5	15
$\phi 40$	17	81.5	64.5	23.5	15	103	64.5	17	92	75	23.5	15	113.5	75	23.5	15
$\phi 50$	18	83.5	65.5	28.5	15	109	65.5	18	93.5	75.5	28.5	15	119	75.5	28.5	15
$\phi 63$	18	89	71	28.5	15	114.5	71	18	95	77	28.5	15	120.5	77	28.5	15
$\phi 80$	20	123.5 (136)	103.5 (116)	35.5	18	157 (169.5)	103.5 (116)	20	131 (136)	111 (116)	35.5	18	164.5 (169.5)	111 (116)	35.5	18
$\phi 100$	22	135 (147.5)	113 (125.5)	35.5	18	166.5 (179)	113 (125.5)	22	142.5 (147.5)	120.5 (125.5)	35.5	18	174 (179)	120.5 (125.5)	35.5	18

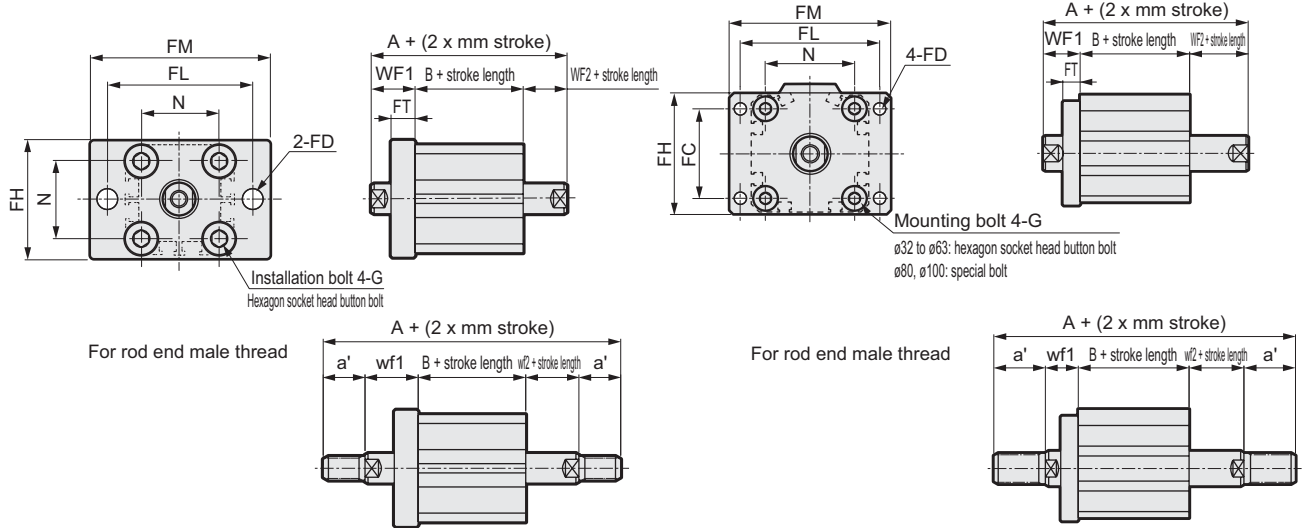
※Dimensions in ( ) are over 25mm stroke for  $\phi 20$  and  $\phi 25$  and, over 50mm stroke for  $\phi 80$  and 100.

## Dimensions with accessory (mounting bracket: FA)

● SSD2-D, SSD2-DM

•  $\phi 12$  to  $\phi 25$

•  $\phi 32$  to  $\phi 100$



## SSD2-D (double acting/double rod type) dimensions table

Symbol	Common dimension								SSD2-D (for female thread)				SSD2-D (for male thread)								
	FC	FD	FH	FL	FM	FT	N	G	WF1	WF2	Without switch		With switch		a'	wf1	wf2	Without switch		With switch	
											A	B	A	B				A	B	A	B
$\phi 12$	-	4.5	25	45	55	5.5	15.5	M4 x 12	13.5	3.5	39	22	44	27	11	13.5	3.5	60	22	65	27
$\phi 16$	-	4.5	30	45	55	5.5	20	M4 x 12	13.5	3.5	39	22	44	27	12	13.5	3.5	63	22	68	27
$\phi 20$	-	6.6	39	48	60	8	25.5	M6 x 16	14.5	4.5	45	26	55	36	14	14.5	4.5	73	26	83	36
$\phi 25$	-	6.6	42	52	64	8	28	M6 x 16	15	5	49	29	59	39	18	15	5	84	29	94	39
$\phi 32$	34	5.5	48	56	65	8	34	M6 x 16	17	7	54.5 (64.5)	30.5 (40.5)	64.5	40.5	24	15	5	97.5 (107.5)	30.5 (40.5)	107.5	40.5
$\phi 40$	40	5.5	54	62	72	8	40	M6 x 16	17	7	64 (74)	40 (50)	74	50	24	15	5	107 (117)	40 (50)	117	50
$\phi 50$	50	6.6	67	76	89	9	50	M8 x 20	18	8	66.5 (76.5)	40.5 (50.5)	76.5	50.5	29	15	5	117.5 (127.5)	40.5 (50.5)	127.5	50.5
$\phi 63$	60	9	80	92	108	9	60	M10 x 25	18	8	68 (78)	42 (52)	78	52	29	15	5	119 (129)	42 (52)	129	52
$\phi 80$	77	11	99	116	134	11	77	M12 x 40	20	10	81 (91)	51 (61)	91	61	36	18	8	148 (158)	51 (61)	158	61
$\phi 100$	94	11	117	136	154	11	94	M12 x 40	22	12	94.5 (104.5)	60.5 (70.5)	104.5	70.5	36	18	8	157.5 (167.5)	60.5 (70.5)	167.5	70.5

※ Values in ( ) is for when 50mm stroke is exceeded.

## SSD2-DM (double acting/double rod type/non-rotating type) dimensions table

Symbol	SSD2-DM (for female thread)						SSD2-DM (for male thread)						
	WF1	WF2	Without switch		With switch		a'	wf1	wf2	Without switch		With switch	
			A	B	A	B				A	B	A	B
$\phi 12$	13.5	3.5	44	27	49	32	10.5	13.5	3.5	65	27	70	32
$\phi 16$	13.5	3.5	44	27	49	32	12	13.5	3.5	68	27	73	32
$\phi 20$	14.5	4.5	50	31	60	41	14	14.5	4.5	78	31	88	41
$\phi 25$	15	5	54	34	64	44	17.5	15	5	89	34	99	44
$\phi 32$	17	7	54.5 (64.5)	30.5 (40.5)	64.5	40.5	24	15	5	97.5 (107.5)	30.5 (40.5)	107.5	40.5
$\phi 40$	17	7	64 (74)	40 (50)	74	50	24	15	5	107 (117)	40 (50)	117	50
$\phi 50$	18	8	66.5 (76.5)	40.5 (50.5)	76.5	50.5	29	15	5	117.5 (127.5)	40.5 (50.5)	127.5	50.5
$\phi 63$	18	8	68 (78)	42 (52)	78	52	29	15	5	119 (129)	42 (52)	129	52
$\phi 80$	20	10	81 (91)	51 (61)	91	61	36	18	8	148 (158)	51 (61)	158	61
$\phi 100$	22	12	94.5 (104.5)	60.5 (70.5)	104.5	70.5	36	18	8	157.5 (167.5)	60.5 (70.5)	167.5	70.5

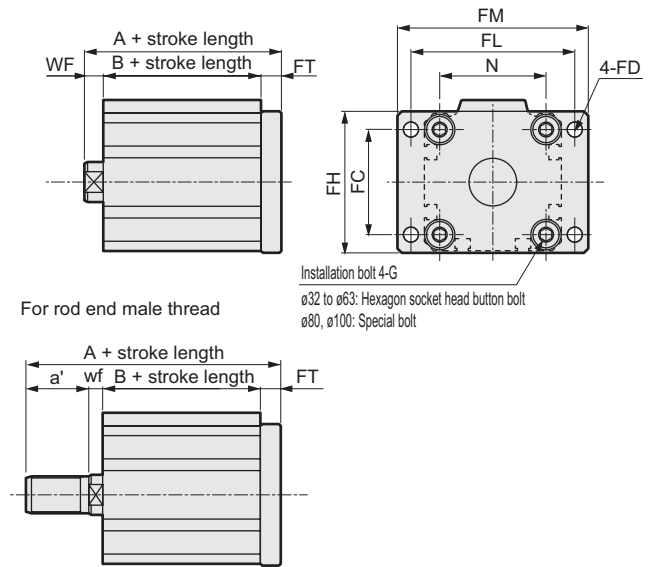
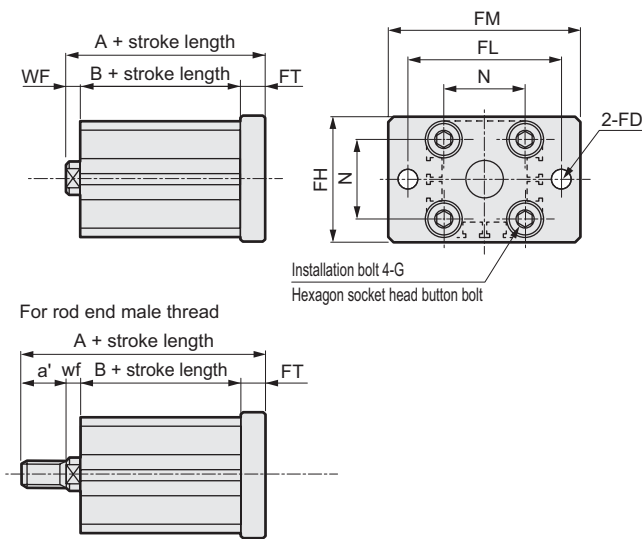
※ Values in ( ) is for when 50mm stroke is exceeded.



## Dimensions with accessory (mounting bracket: FB)

●  $\phi 12$  to  $\phi 25$

●  $\phi 32$  to  $\phi 100$



## SSD2 (double acting/single rod type) dimensions table

Symbol	Common dimension								For female thread				For male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
$\phi 12$	-	4.5	25	45	55	5.5	15.5	M4 x 12	3.5	26	17	31	22	10.5	3.5	36.5	17	41.5	22	
$\phi 16$	-	4.5	30	45	55	5.5	20	M4 x 12	3.5	26	17	31	22	12	3.5	38	17	43	22	
$\phi 20$	-	6.6	39	48	60	8	25.5	M6 x 16	4.5	32	19.5	42	29.5	14	4.5	46	19.5	56	29.5	
$\phi 25$	-	6.6	42	52	64	8	28	M6 x 16	5	35.5	22.5	45.5	32.5	17.5	5	53	22.5	63	32.5	
$\phi 32$	34	5.5	48	56	65	8	34	M6 x 16	7	38	23	48	33	23.5	5	59.5	23	69.5	33	
$\phi 40$	40	5.5	54	62	72	8	40	M6 x 16	7	44.5	29.5	54.5	39.5	23.5	5	66	29.5	76	39.5	
$\phi 50$	50	6.6	67	76	89	9	50	M8 x 20	8	47.5	30.5	57.5	40.5	28.5	5	73	30.5	83	40.5	
$\phi 63$	60	9	80	92	108	9	60	M10 x 25	8	53	36	63	46	28.5	5	78.5	36	88.5	46	
$\phi 80$	77	11	99	116	134	11	77	M12 x 40	10	64.5	43.5	74.5	53.5	35.5	8	98	43.5	108	53.5	
$\phi 100$	94	11	117	136	154	11	94	M12 x 40	12	76	53	86	63	35.5	8	107.5	53	117.5	63	

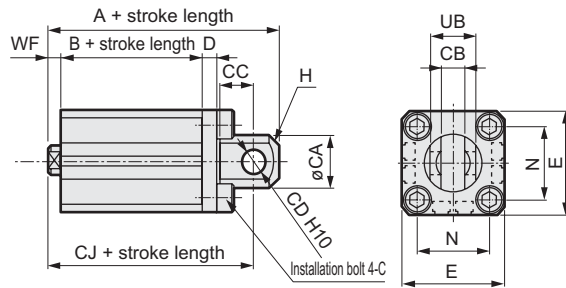
## SSD2-K (double acting/high load type) dimensions table

Symbol	Common dimension								For female thread				For male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
$\phi 12$	-	4.5	25	45	55	5.5	15.5	M4 x 12	3.5	31	22	36	27	10.5	3.5	41.5	22	46.5	27	
$\phi 16$	-	4.5	30	45	55	5.5	20	M4 x 12	3.5	31	22	36	27	12	3.5	43	22	48	27	
$\phi 20$	-	6.6	39	48	60	8	25.5	M6 x 16	4.5	37	24.5	47	34.5	14	4.5	51	24.5	61	34.5	
$\phi 25$	-	6.6	42	52	64	8	28	M6 x 16	5	40.5	27.5	50.5	37.5	17.5	5	58	27.5	68	37.5	
$\phi 32$	34	5.5	48	56	65	8	34	M6 x 16	7	48	33	58	43	23.5	5	69.5	33	79.5	43	
$\phi 40$	40	5.5	54	62	72	8	40	M6 x 16	7	54.5	39.5	64.5	49.5	23.5	5	76	39.5	86	49.5	
$\phi 50$	50	6.6	67	76	89	9	50	M8 x 20	8	57.5	40.5	67.5	50.5	28.5	5	83	40.5	93	50.5	
$\phi 63$	60	9	80	92	108	9	60	M10 x 25	8	63	46	73	56	28.5	5	88.5	46	98.5	56	
$\phi 80$	77	11	99	116	134	11	77	M12 x 40	10	74.5	53.5	84.5	63.5	35.5	8	108	53.5	118	63.5	
$\phi 100$	94	11	117	136	154	11	94	M12 x 40	12	86	63	96	73	35.5	8	117.5	63	127.5	73	

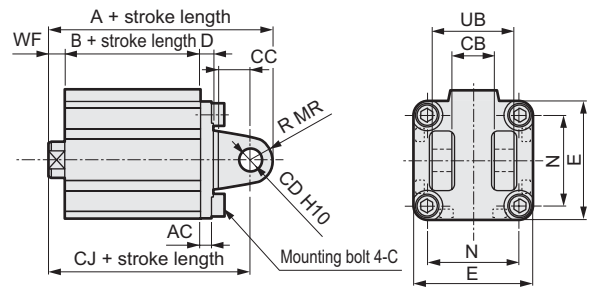
### Dimensions with accessory (mounting bracket: CB)

●  $\varnothing 12$  to  $\varnothing 25$

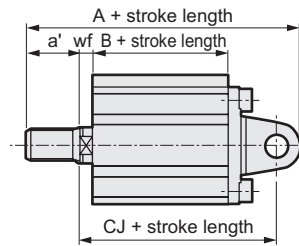
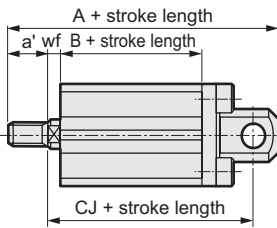
●  $\varnothing 32$  to  $\varnothing 100$



For rod end male thread



For rod end male thread



### SSD2 (double acting/single rod type) dimensions table

Symbol	Common dimension											For female thread						For male thread									
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch			a'	wf	Without switch			With switch		
Bore size (mm)													A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ	
$\varnothing 12$	-	12	5 <sup>+0.4</sup> / <sub>+0.2</sub>	7	5	4	25	M4 x 12	C1.5	-	15.5	10 <sup>-0.1</sup> / <sub>-0.3</sub>	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
$\varnothing 16$	-	15	6.5 <sup>+0.4</sup> / <sub>+0.1</sub>	8	5	5	29	M4 x 12	C2	-	20	12 <sup>-0.1</sup> / <sub>-0.4</sub>	3.5	41.5	17	35.5	46.5	22	40.5	12	3.5	53.5	17	35.5	58.5	22	40.5
$\varnothing 20$	-	20	8 <sup>+0.4</sup> / <sub>+0.2</sub>	12	8	5	36	M6 x 16	C4	-	25.5	16 <sup>-0.1</sup> / <sub>-0.3</sub>	4.5	51	19.5	42	61	29.5	52	14	4.5	65	19.5	42	75	29.5	52
$\varnothing 25$	-	24	10 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	5	40	M6 x 16	C5	-	28	20 <sup>-0.1</sup> / <sub>-0.3</sub>	5	57.5	22.5	47.5	67.5	32.5	57.5	17.5	5	75	22.5	47.5	85	32.5	57.5
$\varnothing 32$	4.5	-	18 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	5	45	M6 x 16	-	10	34	36 <sup>-0.1</sup> / <sub>-0.3</sub>	7	60	23	50	70	33	60	23.5	5	81.5	23	48	91.5	33	58
$\varnothing 40$	5	-	18 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	6	52	M6 x 16	-	10	40	36 <sup>-0.1</sup> / <sub>-0.3</sub>	7	68.5	29.5	58.5	78.5	39.5	68.5	23.5	5	90	29.5	56.5	100	39.5	66.5
$\varnothing 50$	6	-	22 <sup>+0.4</sup> / <sub>+0.2</sub>	20	14	7	64	M8 x 20	-	14	50	44 <sup>-0.1</sup> / <sub>-0.3</sub>	8	80.5	30.5	66.5	90.5	40.5	76.5	28.5	5	106	30.5	63.5	116	40.5	73.5
$\varnothing 63$	7	-	22 <sup>+0.4</sup> / <sub>+0.2</sub>	20	14	8	77	M10 x 25	-	14	60	44 <sup>-0.1</sup> / <sub>-0.3</sub>	8	88	36	74	98	46	84	28.5	5	113.5	36	71	123.5	46	81
$\varnothing 80$	9	-	28 <sup>+0.4</sup> / <sub>+0.2</sub>	27	18	10	98	M12 x 40	-	18	77	56 <sup>-0.1</sup> / <sub>-0.3</sub>	10	109.5	43.5	91.5	119.5	53.5	101.5	35.5	8	143	43.5	89.5	153	53.5	99.5
$\varnothing 100$	12	-	32 <sup>+0.4</sup> / <sub>+0.2</sub>	31	22	13	117	M12 x 40	-	22	94	64 <sup>-0.1</sup> / <sub>-0.3</sub>	12	132	53	110	142	63	120	35.5	8	163.5	53	106	173.5	63	116

### SSD2-K (double acting/high load type) dimensions table

Symbol	Common dimension											For female thread						For male thread									
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch			a'	wf	Without switch			With switch		
Bore size (mm)													A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ	
$\varnothing 12$	-	12	5 <sup>+0.4</sup> / <sub>+0.2</sub>	7	5	4	25	M4 x 12	C1.5	-	15.5	10 <sup>-0.1</sup> / <sub>-0.3</sub>	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
$\varnothing 16$	-	15	6.5 <sup>+0.4</sup> / <sub>+0.1</sub>	8	5	5	29	M4 x 12	C2	-	20	12 <sup>-0.1</sup> / <sub>-0.4</sub>	3.5	46.5	22	40.5	51.5	27	45.5	12	3.5	58.5	22	40.5	63.5	27	45.5
$\varnothing 20$	-	20	8 <sup>+0.4</sup> / <sub>+0.2</sub>	12	8	5	36	M6 x 16	C4	-	25.5	16 <sup>-0.1</sup> / <sub>-0.3</sub>	4.5	56	24.5	47	66	34.5	57	14	4.5	70	24.5	47	80	34.5	57
$\varnothing 25$	-	24	10 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	5	40	M6 x 16	C5	-	28	20 <sup>-0.1</sup> / <sub>-0.3</sub>	5	62.5	27.5	52.5	72.5	37.5	62.5	17.5	5	80	27.5	52.5	90	37.5	62.5
$\varnothing 32$	4.5	-	18 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	5	45	M6 x 16	-	10	34	36 <sup>-0.1</sup> / <sub>-0.3</sub>	7	70	33	60	80	43	70	23.5	5	91.5	33	58	101.5	43	68
$\varnothing 40$	5	-	18 <sup>+0.4</sup> / <sub>+0.2</sub>	14	10	6	52	M6 x 16	-	10	40	36 <sup>-0.1</sup> / <sub>-0.3</sub>	7	78.5	39.5	68.5	88.5	49.5	78.5	23.5	5	100	39.5	66.5	110	49.5	76.5
$\varnothing 50$	6	-	22 <sup>+0.4</sup> / <sub>+0.2</sub>	20	14	7	64	M8 x 20	-	14	50	44 <sup>-0.1</sup> / <sub>-0.3</sub>	8	90.5	40.5	76.5	100.5	50.5	86.5	28.5	5	116	40.5	73.5	126	50.5	83.5
$\varnothing 63$	7	-	22 <sup>+0.4</sup> / <sub>+0.2</sub>	20	14	8	77	M10 x 25	-	14	60	44 <sup>-0.1</sup> / <sub>-0.3</sub>	8	98	46	84	108	56	94	28.5	5	123.5	46	81	133.5	56	91
$\varnothing 80$	9	-	28 <sup>+0.4</sup> / <sub>+0.2</sub>	27	18	10	98	M12 x 40	-	18	77	56 <sup>-0.1</sup> / <sub>-0.3</sub>	10	119.5	53.5	101.5	129.5	63.5	111.5	35.5	8	153	53.5	99.5	163	63.5	109.5
$\varnothing 100$	12	-	32 <sup>+0.4</sup> / <sub>+0.2</sub>	31	22	13	117	M12 x 40	-	22	94	64 <sup>-0.1</sup> / <sub>-0.3</sub>	12	142	63	120	152	73	130	35.5	8	173.5	63	116	183.5	73	126

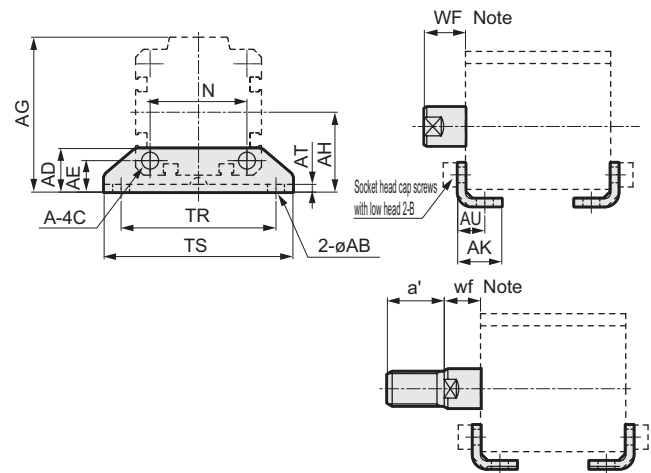
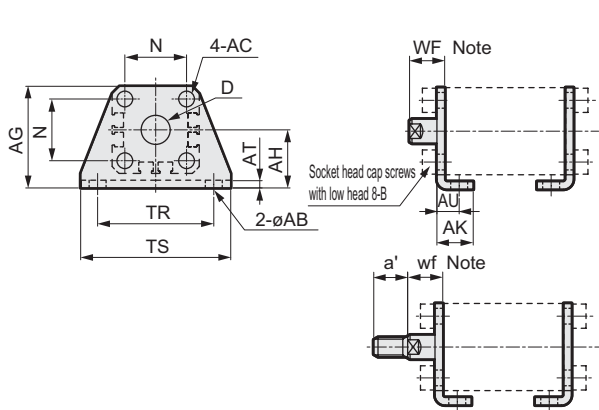
\* pin and snap ring are attached.

## Dimensions (mounting bracket: LB)



- Axial foot type (LB)
  - $\phi 12$  to  $\phi 25$

·  $\phi 32$  to  $\phi 100$



\*1: Hexagon socket head cap bolt for installation is attached.

Model no.	Applicable bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	D	N	TR	TS	WF	wf	a'	Weight (g)
SSD2-LB-12	$\phi 12$	5	4.5	-	-	29.5	17	12.5	2	8	M4 x 10	8	15.5	34	44	13.5	13.5	10.5	51
SSD2-LB-16	$\phi 16$	5	4.5	-	-	33.5	19	13	2	8	M4 x 10	10	20	38	48	13.5	13.5	12	61
SSD2-LB-20	$\phi 20$	7	6.5	-	-	42	24	15	3.2	9.2	M6 x 16	12	25.5	48	62	14.5	14.5	14	161
SSD2-LB-25	$\phi 25$	7	6.5	-	-	46	26	16.5	3.2	10.7	M6 x 16	14	28	52	66	15	15	17.5	176
SSD2-LB-32	$\phi 32$	7	7	18.5	13	57	30	17	3.2	11.2	M6 x 16	-	34	57	71	17	15	23.5	107
SSD2-LB-40	$\phi 40$	7	7	18	13	64	33	18.2	3.2	11.2	M6 x 16	-	40	64	78	17	15	23.5	121
SSD2-LB-50	$\phi 50$	9	9	22	14	78	39	22.7	3.2	14.7	M8 x 20	-	50	79	95	18	15	28.5	201
SSD2-LB-63	$\phi 63$	11	11	26	16	91.5	46	25.2	3.2	16.2	M10 x 25	-	60	95	113	18	15	28.5	314
SSD2-LB-80	$\phi 80$	13	13	31.5	20.5	114	59	30.5	4.5	19.5	M12 x 40	-	77	118	140	20	18	35.5	678
SSD2-LB-100	$\phi 100$	13	13	35	24	136	71	35.5	6	23	M12 x 40	-	94	137	162	22	18	35.5	1198

Note 1: WF and wf dimensions for LB cylinder are 10 mm longer than the standard part. Contact CKD for information on the cylinder model when preparing the cylinder and LB fitting individually.

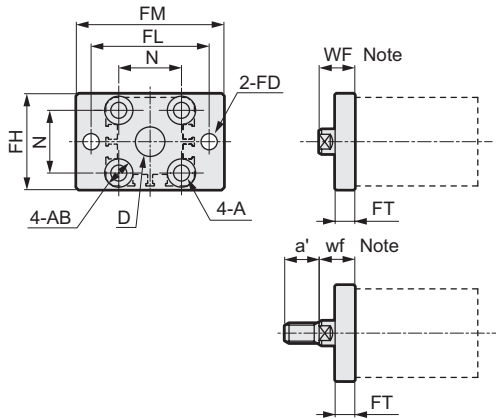
Note 2: Dimensions of SSD2 mounting bracket are the same as the SSD compact mounting bracket.

Refer to Pneumatic Cylinders (CB-029SA) for details.

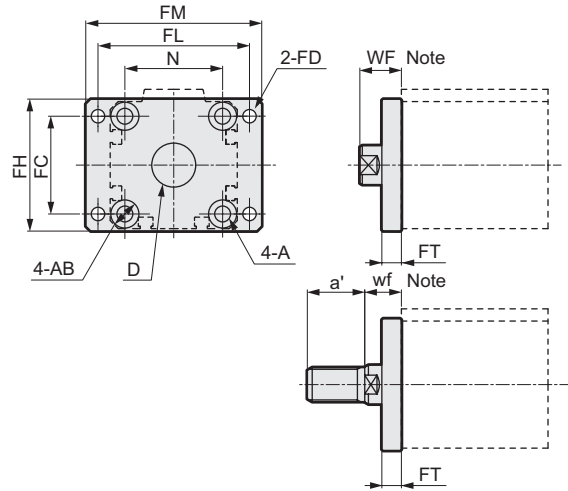
An example of ( : SSD2-LB-32 is SSD-LB2-32 and a same dimension.)

## Dimensions (mounting bracket: FA, FB)

- Rod end flange type (FA)
  - $\phi 12$  to  $\phi 25$



- $\phi 32$  to  $\phi 100$

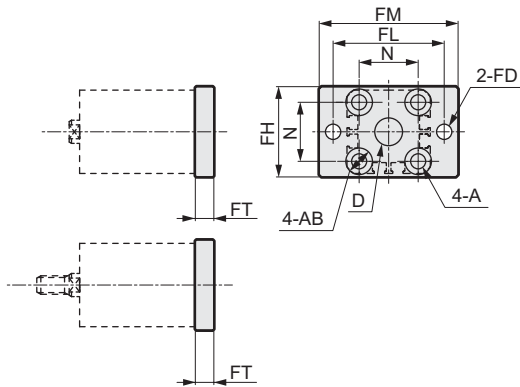


\*1: A for mounting bolt is attached.

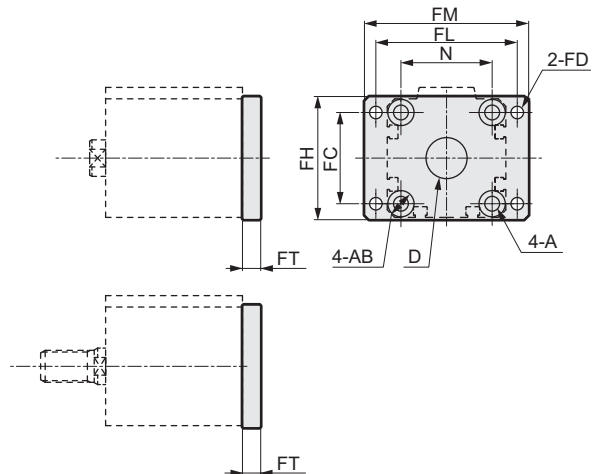
Model no.	Applicable bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	WF	wf	a'	Weight (g)
SSD2-FA-12	$\phi 12$	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	13.5	13.5	10.5	54
SSD2-FA-16	$\phi 16$	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	13.5	13.5	12	64
SSD2-FA-20	$\phi 20$	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	14.5	14.5	14	129
SSD2-FA-25	$\phi 25$	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	15	15	17.5	148
SSD2-FA-32	$\phi 32$	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	17	15	23.5	167
SSD2-FA-40	$\phi 40$	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	17	15	23.5	215
SSD2-FA-50	$\phi 50$	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	18	15	28.5	387
SSD2-FA-63	$\phi 63$	60	9	80	92	108	9	11	18 spot face depth 6	35	60	18	15	28.5	573
SSD2-FA-80	$\phi 80$	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	20	18	35.5	1132
SSD2-FA-100	$\phi 100$	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	22	18	35.5	1522

Note: WF and wf dimensions for FA cylinder are 10 mm longer than the standard part. Contact CKD for information on the cylinder model when preparing the cylinder and FA fitting individually.

- Head end flange type (FB)
  - $\phi 12$  to  $\phi 25$



- $\phi 32$  to  $\phi 100$



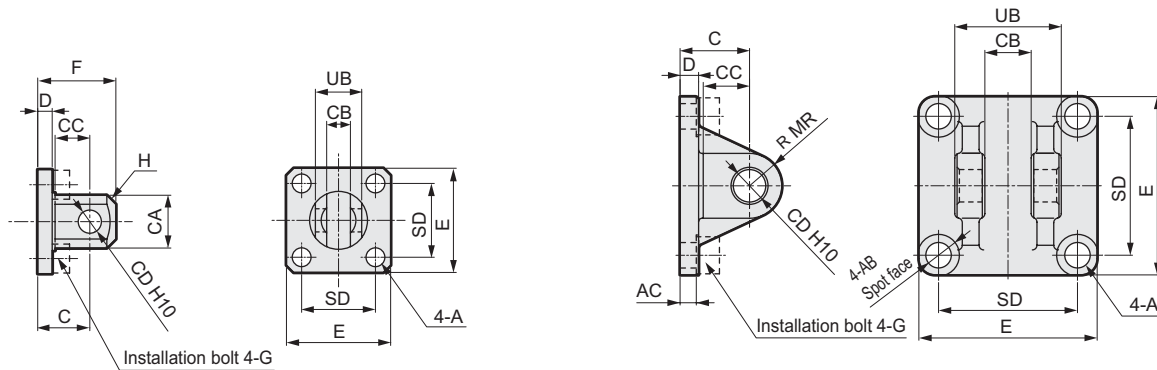
\*1: A for mounting bolt is attached.

Model no.	Applicable bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	WF	wf	a'	Weight (g)
SSD2-FB-12	$\phi 12$	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	13.5	13.5	10.5	54
SSD2-FB-16	$\phi 16$	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	13.5	13.5	12	64
SSD2-FB-20	$\phi 20$	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	14.5	14.5	14	129
SSD2-FB-25	$\phi 25$	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	15	15	17.5	148
SSD2-FB-32	$\phi 32$	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	17	15	23.5	167
SSD2-FB-40	$\phi 40$	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	17	15	23.5	215
SSD2-FB-50	$\phi 50$	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	18	15	28.5	387
SSD2-FB-63	$\phi 63$	60	9	80	92	108	9	11	18 spot face depth 6	35	60	18	15	28.5	573
SSD2-FB-80	$\phi 80$	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	20	18	35.5	1132
SSD2-FB-100	$\phi 100$	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	22	18	35.5	1522

## Dimensions (mounting bracket: CB)

- Clevis bracket type (CB)
  - $\phi 12$  to  $\phi 25$

·  $\phi 32$  to  $\phi 100$



\*1: Hexagon socket head cap bolt for installation, pin (including C ring), snap ring is attached.

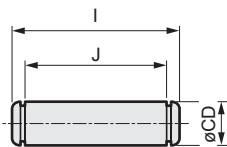
Model no.	Applicable bore size	A	AB	AC	C	CA	CB	CC	CD	D	E	F	G	H	MR	SD	UB	Weight (g)
SSD2-CB-12	$\phi 12$	4.5	-	-	14	12	$5.2^{+0.2}_0$	7	$5^{+0.048}_0$	4	25	20	M4 x 12	C1.5	-	15.5	$10^{+0.1}_{-0.3}$	28
SSD2-CB-16	$\phi 16$	4.5	-	-	15	15	$6.6^{+0.3}_0$	8	$5^{+0.048}_0$	5	29	21	M4 x 12	C2	-	20	$12^{+0.1}_{-0.4}$	43
SSD2-CB-20	$\phi 20$	6.5	-	-	18	20	$8.2^{+0.2}_0$	12	$8^{+0.058}_0$	5	36	27	M6 x 16	C4	-	25.5	$16^{+0.1}_{-0.3}$	84
SSD2-CB-25	$\phi 25$	6.5	-	-	20	24	$10.2^{+0.2}_0$	14	$10^{+0.058}_0$	5	40	30	M6 x 16	C5	-	28	$20^{+0.1}_{-0.3}$	110
SSD2-CB-32	$\phi 32$	6.6	13	4.5	20	-	$18.2^{+0.2}_0$	14	$10^{+0.058}_0$	5	45	30	M6 x 16	-	10	34	$36^{+0.1}_{-0.3}$	159
SSD2-CB-40	$\phi 40$	6.6	14	5	22	-	$18.2^{+0.2}_0$	14	$10^{+0.058}_0$	6	52	32	M6 x 16	-	10	40	$36^{+0.1}_{-0.3}$	207
SSD2-CB-50	$\phi 50$	9	16	6	28	-	$22.2^{+0.2}_0$	20	$14^{+0.070}_0$	7	64	42	M8 x 20	-	14	50	$44^{+0.1}_{-0.3}$	420
SSD2-CB-63	$\phi 63$	11	18	7	30	-	$22.2^{+0.2}_0$	20	$14^{+0.070}_0$	8	77	44	M10 x 25	-	14	60	$44^{+0.1}_{-0.3}$	605
SSD2-CB-80	$\phi 80$	13.5	23	9	38	-	$28.2^{+0.2}_0$	27	$18^{+0.070}_0$	10	98	56	M12 x 40	-	18	77	$56^{+0.1}_{-0.3}$	1222
SSD2-CB-100	$\phi 100$	13.5	20	12	45	-	$32.2^{+0.2}_0$	31	$22^{+0.084}_0$	13	117	67	M12 x 40	-	22	94	$64^{+0.1}_{-0.3}$	2031

Note 1: Dimensions of SSD2 mounting bracket are the same as the SSD compact mounting bracket.

Refer to Pneumatic Cylinders (CB-029SA) for details.

An example of ( : SSD2-CB-32 is SSD-CB2-32 and a same dimension.)

- Clevis bracket (CB), attached pin dimensions table (P)



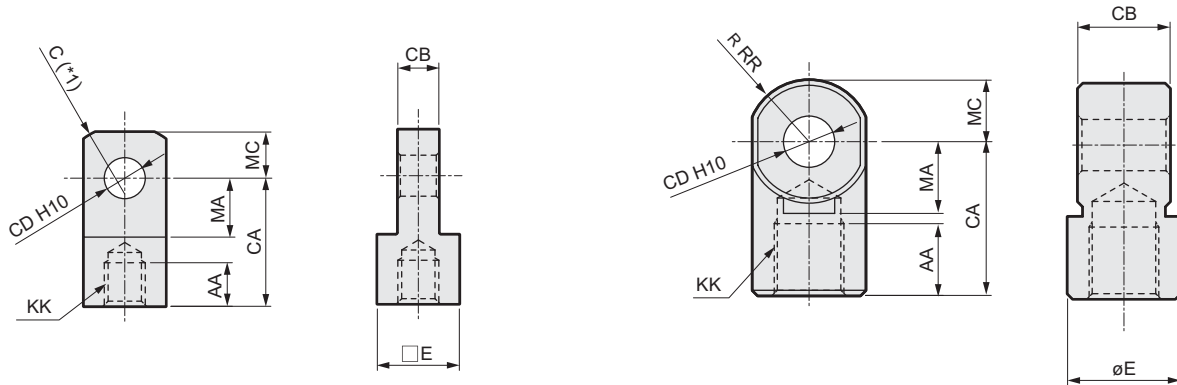
Model no.	Applicable bore size	I	J	CD	Applicable snap rings	Weight (g)
SSD2-P-12	$\phi 12$	15.2	10.2	$5^{+0.01}_{-0.028}$	E type 4	2.4
SSD2-P-16	$\phi 16$	18	13	$5^{+0.01}_{-0.028}$	E type 4	2.8
SSD2-P-20	$\phi 20$	21	16.2	$8^{+0.025}_{-0.047}$	Axis C type 8	8.2
SSD2-P-25	$\phi 25$	25.6	20.2	$10^{+0.025}_{-0.059}$	Axis C type 10	16
SSD2-P-32	$\phi 32 \sim \phi 40$	41.6	36.2	$10^{+0.025}_{-0.047}$	Axis C type 10	25
SSD2-P-50	$\phi 50 \sim \phi 63$	50.6	44.2	$14^{+0.032}_{-0.059}$	Axis C type 14	60
SSD2-P-80	$\phi 80$	64	56.2	$18^{+0.032}_{-0.059}$	Axis C type 18	124
SSD2-P-100	$\phi 100$	72	64.2	$22^{+0.040}_{-0.083}$	Axis C type 22	213

## Dimensions (accessory: I, Y)



- Rod eye (I)
  - $\phi 12$  to  $\phi 25$

•  $\phi 32$  to  $\phi 100$



\*1:  $\phi 20/25$  is SR RR.

Model no.	Applicable bore size	AA	CA	CB	CD	E	KK	MA	C	RR	MC	Weight (g)
SSD2-I-12	$\phi 12$	6	16	5 <sup>-0.2</sup> <sub>-0.4</sub>	5 <sup>+0.048</sup> <sub>0</sub>	$\square 10$	M5 x 0.8	7	2	-	5.5	9
SSD2-I-16	$\phi 16$	8	25	6.5 <sup>-0.2</sup> <sub>-0.4</sub>	5 <sup>+0.048</sup> <sub>0</sub>	$\square 12$	M6 x 1	14	2	-	7	21
SSD2-I-20	$\phi 20$	8.5	25	8 <sup>-0.2</sup> <sub>-0.4</sub>	8 <sup>+0.058</sup> <sub>0</sub>	$\square 16$	M8 x 1.25	11.5	-	13.4	9	38
SSD2-I-25	$\phi 25$	10.5	30	10 <sup>-0.2</sup> <sub>-0.4</sub>	10 <sup>+0.058</sup> <sub>0</sub>	$\square 20$	M10 x 1.25	14	-	17.1	11	71
SSD2-I-32	$\phi 32 \cdot \phi 40$	14	30	18 <sup>-0.3</sup> <sub>-0.5</sub>	10 <sup>+0.058</sup> <sub>0</sub>	$\phi 22$	M14 x 1.5	14	-	12	12	74
SSD2-I-50	$\phi 50 \cdot \phi 63$	18	40	22 <sup>-0.3</sup> <sub>-0.5</sub>	14 <sup>+0.070</sup> <sub>0</sub>	$\phi 28$	M18 x 1.5	20	-	16	16	155
SSD2-I-80	$\phi 80$	21	50	28 <sup>-0.3</sup> <sub>-0.5</sub>	18 <sup>+0.070</sup> <sub>0</sub>	$\phi 38$	M22 x 1.5	27	-	21	21	380
SSD2-I-100	$\phi 100$	21	55	32 <sup>-0.3</sup> <sub>-0.5</sub>	22 <sup>+0.084</sup> <sub>0</sub>	$\phi 44$	M26 x 1.5	31	-	24	24	550

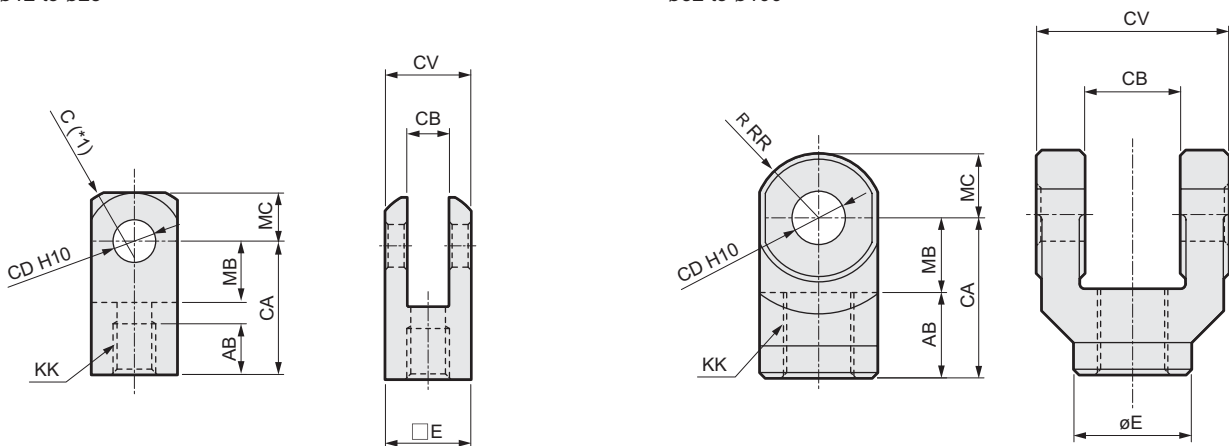
Note 1: Dimensions of SSD2 accessory are the same as the SSD compact accessory.

Refer to Pneumatic Cylinders (CB-029SA) for details.

An example of (: SSD2-I-32 is SSD-I2-32 and a same dimension.)

- Rod clevis (Y)
  - $\phi 12$  to  $\phi 25$

•  $\phi 32$  to  $\phi 100$



\*1:  $\phi 20/25$  is SR RR.

\*2: Pin (including C ring) is attached.

\*3: Pin for the rod clevis is common with the pin for the clevis.

Model no.	Applicable bore size	AB	CA	CB	CD	CV	E	KK	MB	C	RR	MC	Weight (g)
SSD2-Y-12	$\phi 12$	6	16	5 <sup>+0.4</sup> <sub>+0.2</sub>	5 <sup>+0.048</sup> <sub>0</sub>	10	$\square 10$	M5 x 0.8	7	2	-	5.5	12
SSD2-Y-16	$\phi 16$	11	21	6.5 <sup>+0.4</sup> <sub>+0.2</sub>	5 <sup>+0.048</sup> <sub>0</sub>	12	$\square 12$	M6 x 1	10	2	-	7	20
SSD2-Y-20	$\phi 20$	13.5	25	8 <sup>+0.4</sup> <sub>+0.2</sub>	8 <sup>+0.058</sup> <sub>0</sub>	16	$\square 16$	M8 x 1.25	11.5	-	13.4	9	45
SSD2-Y-25	$\phi 25$	16	30	10 <sup>+0.4</sup> <sub>+0.2</sub>	10 <sup>+0.058</sup> <sub>0</sub>	20	$\square 20$	M10 x 1.25	14	-	17.1	11	84
SSD2-Y-32	$\phi 32 \cdot \phi 40$	16	30	18 <sup>+0.5</sup> <sub>+0.3</sub>	10 <sup>+0.058</sup> <sub>0</sub>	36	$\phi 22$	M14 x 1.5	14	-	12	12	120
SSD2-Y-50	$\phi 50 \cdot \phi 63$	20	40	22 <sup>+0.5</sup> <sub>+0.3</sub>	14 <sup>+0.070</sup> <sub>0</sub>	44	$\phi 28$	M18 x 1.5	20	-	16	16	257
SSD2-Y-80	$\phi 80$	23	50	28 <sup>+0.5</sup> <sub>+0.3</sub>	18 <sup>+0.070</sup> <sub>0</sub>	56	$\phi 38$	M22 x 1.5	27	-	21	21	589
SSD2-Y-100	$\phi 100$	24	55	32 <sup>+0.5</sup> <sub>+0.3</sub>	22 <sup>+0.084</sup> <sub>0</sub>	64	$\phi 44$	M26 x 1.5	31	-	24	24	933

Note 1: Dimensions of SSD2 accessory are the same as the SSD compact accessory.

Refer to Pneumatic Cylinders (CB-029SA) for details.

An example of (: SSD2-Y-32 is SSD-Y2-32 and a same dimension.)

## How to order mounting bolt

**SSD2 - BOLT - d x L**

A mounting bolt (4 bolts per set)

### Reading list



Material: Steel  
Treatment: blackening

d: mounting bolt screw diameter  
L: mounting bolt length  
ℓ: counterpart screw-in length possible  
A (note) mounting bolt is shown with the d the x L.

### ● SSD2, SSD2-K (ø12 to ø100)

Bore size	Stroke length	ℓ	d x L				Bore size	Stroke length	ℓ	d x L			
			SSD2	SSD2-L	SSD2-K	SSD2-KL				SSD2	SSD2-L	SSD2-K	SSD2-KL
ø12	5	6.5	M3 x 25	M3 x 30	M3 x 30	M3 x 35	ø50	10	11	M6 x 45	M6 x 55	M6 x 55	M6 x 65
	10		x 30	x 35	x 35	x 40		x 50		x 60	x 60	x 70	
	15		x 35	x 40	x 40	x 45		x 55		x 65	x 65	x 75	
	20		x 40	x 45	x 45	x 50		x 60		x 70	x 70	x 80	
	25		x 45	x 50	x 50	x 55		x 65		x 75	x 75	x 85	
	30		x 50	x 55	x 55	x 60		x 70		x 80	x 80	x 90	
ø20	5	6	M5 x 25	M5 x 35	M5 x 30	M5 x 40		35		x 75	x 85	x 85	x 95
	10		x 30	x 40	x 35	x 45		40		x 80	x 90	x 90	x 100
	15		x 35	x 45	x 40	x 50		45		x 85	x 95	x 95	x 105
	20		x 40	x 50	x 45	x 55		50		x 85	x 95	x 95	x 105
	25		x 45	x 55	x 50	x 60		75		x 120	x 120	x 130	x 130
	30		x 50	x 60	x 55	x 65		100		x 145	x 145	x 155	x 155
	35		x 55	x 65	x 60	x 70	ø63	10	13	M8 x 50	M8 x 60	M8 x 60	M8 x 70
	40		x 60	x 70	x 65	x 75		15		x 55	x 65	x 65	x 75
45	x 65	x 75	x 70	x 80	20	x 60		x 70		x 70	x 80		
50	x 70	x 80	x 75	x 85	25	x 65		x 75		x 75	x 85		
5	8	M5 x 30	M5 x 40	M5 x 35	M5 x 45	30		x 70		x 80	x 80	x 90	
10		x 35	x 45	x 40	x 50	35		x 75		x 85	x 85	x 95	
15		x 40	x 50	x 45	x 55	40		x 80		x 90	x 90	x 100	
20		x 45	x 55	x 50	x 60	45		x 85		x 95	x 95	x 105	
25		x 50	x 60	x 55	x 65	50	x 90	x 100	x 100	x 110			
30		x 55	x 65	x 60	x 70	75	x 125	x 125	x 135	x 135			
35		x 60	x 70	x 65	x 75	100	x 150	x 150	x 160	x 160			
40		x 65	x 75	x 70	x 80	ø80	10	17.5	M10 x 60	M10 x 70	M10 x 70	M10 x 80	
45	x 70	x 80	x 75	x 85	15		x 65		x 75	x 75	x 85		
50	x 75	x 85	x 80	x 90	20		x 70		x 80	x 80	x 90		
5	7.5 (12.5)	M5 x 30	M5 x 40	M5 x 45	M5 x 55		25		x 75	x 85	x 85	x 95	
10		x 35	x 45	x 50	x 60		30		x 80	x 90	x 90	x 100	
15		x 40	x 50	x 55	x 65		35		x 85	x 95	x 95	x 105	
20		x 45	x 55	x 60	x 70		40		x 90	x 100	x 100	x 110	
25		x 50	x 60	x 65	x 75		45		x 95	x 105	x 105	x 115	
30		x 55	x 65	x 70	x 80		50		x 100	x 110	x 110	x 120	
35		x 60	x 70	x 75	x 85		75		x 135	x 135	x 145	x 145	
40		x 65	x 75	x 80	x 90		100		x 160	x 160	x 170	x 170	
45		x 70	x 80	x 85	x 95		ø100		10	18	M10 x 70	M10 x 80	M10 x 80
50		x 75	x 85	x 90	x 100	15		x 75	x 85		x 85	x 95	
5		6	M5 x 35	M5 x 45	M5 x 45	M5 x 55		20	x 80		x 90	x 90	x 100
10			x 40	x 50	x 50	x 60		25	x 85		x 95	x 95	x 105
15	x 45		x 55	x 55	x 65	30		x 90	x 100		x 100	x 110	
20	x 50		x 60	x 60	x 70	35		x 95	x 105		x 105	x 115	
25	x 55		x 65	x 65	x 75	40		x 100	x 110		x 110	x 120	
30	x 60		x 70	x 70	x 80	45		x 105	x 115		x 115	x 125	
35	x 65		x 75	x 75	x 85	50		x 110	x 120		x 120	x 130	
40	x 70		x 80	x 80	x 90	75		x 145	x 145		x 155	x 155	
45	x 75		x 85	x 85	x 95	100		x 170	x 170		x 180	x 180	
50	x 80		x 90	x 90	x 100	ø100		10	18		M10 x 70	M10 x 80	M10 x 80
5	6		M5 x 35	M5 x 45	M5 x 45		M5 x 55	15		x 75	x 85	x 85	x 95
10			x 40	x 50	x 50		x 60	20		x 80	x 90	x 90	x 100
15		x 45	x 55	x 55	x 65		25	x 85		x 95	x 95	x 105	
20		x 50	x 60	x 60	x 70		30	x 90		x 100	x 100	x 110	
25		x 55	x 65	x 65	x 75		35	x 95		x 105	x 105	x 115	
30		x 60	x 70	x 70	x 80	40	x 100	x 110	x 110	x 120			
35	x 65	x 75	x 75	x 85	45	x 105	x 115	x 115	x 125				
40	x 70	x 80	x 80	x 90	50	x 110	x 120	x 120	x 130				
45	x 75	x 85	x 85	x 95	75	x 145	x 145	x 155	x 155				
50	x 80	x 90	x 90	x 100	100	x 170	x 170	x 180	x 180				
75	x 115	x 115	x 125	x 125									
100	x 140	x 140	x 150	x 150									

\* Values in ( ) are for the high load type (SSD2-K/KL).

● SSD2 (ø125 to ø200)

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2	SSD2-L
ø125 ø140	10	20	M12 x 100	M12 x 100
	20		x 110	x 110
	30		x 120	x 120
	40		x 130	x 130
	50		x 140	x 140
	75		x 165	x 165
	100		x 190	x 190
ø160	10	24.2	M14 x 110	M14 x 110
	20		x 120	x 120
	30		x 130	x 130
	40		x 140	x 140
	50		x 150	x 150
	75		x 175	x 175
	100		x 200	x 200
ø180	10	36	M18 x 125	M18 x 125
	20		x 135	x 135
	30		x 145	x 145
	40		x 155	x 155
	50		x 165	x 165
	75		x 190	x 190
	100		x 215	x 215
ø200	10	39	M18 x 135	M18 x 135
	20		x 145	x 145
	30		x 155	x 155
	40		x 165	x 165
	50		x 175	x 175
	75		x 200	x 200
	100		x 225	x 225

● SSD2-X, SSD2-Y or SSD2-M

Tube Bore size	Stroke length	ℓ	d x L			
			SSD2-X and Y	SSD2-XL and YL	SSD2-M	SSD2-ML
ø12 ø16	5	6.5	M3 x 25	M3 x 30	M3 x 30	M3 x 35
	10		x 30	x 35	x 35	x 40
	15				x 40	x 45
	20				x 45	x 50
	25				x 50	x 55
	30				x 55	x 60
	5		6	M5 x 25	M5 x 35	M5 x 30
10	x 30	x 40		x 35	x 45	
15				x 40	x 50	
20				x 45	x 55	
25				x 50	x 60	
30				x 55	x 65	
35				x 60	x 70	
40			x 65	x 75		
45			x 70	x 80		
50			x 75	x 85		
5	8	M5 x 30	M5 x 40	M5 x 35	M5 x 45	
10		x 35	x 45	x 40	x 50	
15				x 45	x 55	
20				x 50	x 60	
25				x 55	x 65	
30				x 60	x 70	
35				x 65	x 75	
40			x 70	x 80		
45			x 75	x 85		
50			x 80	x 90		
5	8.5	M5 x 30	M5 x 40	M5 x 40	M5 x 50	
10		x 35	x 45	x 45	x 55	
15				x 50	x 60	
20				x 55	x 65	
25				x 60	x 70	
30				x 65	x 75	
35				x 70	x 80	
40			x 75	x 85		
45			x 80	x 90		
50			x 85	x 95		
75			x 120	x 120		
100			x 145	x 145		
5	6	M5 x 35	M5 x 45	M5 x 35	M5 x 45	
10		x 40	x 50	x 40	x 50	
15				x 45	x 55	
20				x 50	x 60	
25				x 55	x 65	
30				x 60	x 70	
35				x 65	x 75	
40			x 70	x 80		
45			x 75	x 85		
50			x 80	x 90		
75			x 115	x 115		
100			x 140	x 140		
10	11	M6 x 45	M6 x 55	M6 x 45	M6 x 55	
15				x 50	x 60	
20		x 55	x 65	x 55	x 65	
25				x 60	x 70	
30				x 65	x 75	
35				x 70	x 80	
40				x 75	x 85	
45			x 80	x 90		
50			x 85	x 95		
75			x 120	x 120		
100			x 145	x 145		
10	13	M8 x 50		M8 x 50	M8 x 60	
15				x 55	x 65	
20				x 60	x 70	
25				x 65	x 75	
30				x 70	x 80	
35				x 75	x 85	
40				x 80	x 90	
45			x 85	x 95		
50			x 90	x 100		
75			x 125	x 125		
100			x 150	x 150		



## ● SSD2-D and SSD2-Q

Tube Bore size	Stroke length	ℓ	d x L			
			SSD2-D	SSD2-DL	SSD2-Q (L)-R	SSD2-Q (L)-H
ø12 ø16	5	6.5	M3 x 30	M3 x 35	/	
	10		x 35	x 40		
	15		x 40	x 45		
	20		x 45	x 50		
	25		x 50	x 55		
	30		x 55	x 60		
ø20	5	9.5 (11.5) <12>	M5 x 35	M5 x 45	/	
	10		x 40	x 50		
	15		x 45	x 55	x 75	x 85
	20		x 50	x 60	x 80	x 90
	25		x 55	x 65	x 85	x 100
	30		x 60	x 70	/	
	35		x 65	x 75		
	40		x 70	x 80		
	45		x 75	x 85		
	50		x 80	x 90	x 130	x 130
75			x 155	x 155		
100			x 180	x 180		
ø25	5	11.5 (10.5) <9>	M5 x 40	M5 x 50	/	
	10		x 45	x 55		
	15		x 50	x 60	x 75	x 80
	20		x 55	x 65	x 80	x 85
	25		x 60	x 70	x 85	x 90
	30		x 65	x 75	/	
	35		x 70	x 80		
	40		x 75	x 85		
	45		x 80	x 90		
	50		x 85	x 95	x 120	x 120
75			x 145	x 145		
100			x 170	x 170		
ø32	5	10 (12.5) <15>	M5 x 40	M5 x 50	/	
	10		x 45	x 55		
	15		x 50	x 60	x 80	x 90
	20		x 55	x 65	x 85	x 95
	25		x 60	x 70	x 90	x 100
	30		x 65	x 75	/	
	35		x 70	x 80		
	40		x 75	x 85		
	45		x 80	x 90		
	50		x 85	x 95	x 115	x 125
75	x 120	x 120	x 140	x 150		
100	x 145	x 145	x 165	x 175		
ø40	5	10.5 (11.5) <11>	M5 x 50	M5 x 60	/	
	10		x 55	x 65		
	15		x 60	x 70	x 85	x 95
	20		x 65	x 75	x 90	x 100
	25		x 70	x 80	x 95	x 105
	30		x 75	x 85	/	
	35		x 80	x 90		
	40		x 85	x 95		
	45		x 90	x 100		
	50		x 95	x 105	x 120	x 130
75	x 130	x 130	x 145	x 155		
100	x 155	x 155	x 170	x 175		
ø50	10	11	M6 x 55	M6 x 65	M6 x 80	M6 x 90
	15		x 60	x 70	x 85	x 95
	20		x 65	x 75	x 90	x 100
	25		x 70	x 80	x 95	x 105
	30		x 75	x 85	/	
	35		x 80	x 90		
	40		x 85	x 95		
	45		x 90	x 100		
	50		x 95	x 105	x 120	x 130
	75		x 130	x 130	x 145	x 155
100	x 155	x 155	x 170	x 175		

Tube Bore size	Stroke length	ℓ	d x L					
			SSD2-D	SSD2-DL	SSD2-Q (L)-R	SSD2-Q (L)-H		
ø63	10	12 (18) <17>	M8 x 50	M8 x 60	M8 x 90	M8 x 95		
	15		x 55	x 65	x 95	x 100		
	20		x 60	x 70	x 100	x 105		
	25		x 65	x 75	x 105	x 110		
	30		x 70	x 80	/			
	35		x 75	x 85				
	40		x 80	x 90				
	45		x 85	x 95				
	50		x 90	x 100	x 130	x 135		
	75		x 125	x 125	x 155	x 160		
100	x 150	x 150	x 180	x 185				
ø80	10	16 (12.5) <15>	M10 x 65	M10 x 75	/			
	15		x 70	x 80				
	20		x 75	x 85	/			
	25		x 80	x 90				
	30		x 85	x 95				
	35		x 90	x 100				
	40		x 95	x 105	M10 x 130	M10 x 125		
	45		x 100	x 110	/			
	50		x 105	x 115				
	75		x 140	x 140			x 155	x 180
100	x 165	x 165	x 205	x 205				
ø100	10	16.5 (13) <15.5>	M10 x 75	M10 x 85	/			
	15		x 80	x 90				
	20		x 85	x 95	/			
	25		x 90	x 100				
	30		x 95	x 105				
	35		x 100	x 110				
	40		x 105	x 115	M10 x 140	M10 x 135		
	45		x 110	x 120	/			
	50		x 115	x 125				
	75		x 150	x 150			x 165	x 190
100	x 175	x 175	x 215	x 215				
ø125 ø140	10	20	M12 x 100	M12 x 100	/			
	20		x 110	x 110				
	30		x 120	x 120				
	40		x 130	x 130				
	50		x 140	x 140				
	75		x 165	x 165				
100	x 190	x 190	/					
ø160	10	24.2			M14 x 110	M14 x 110	/	
	20				x 120	x 120		
	30				x 130	x 130		
	40		x 140	x 140				
	50		x 150	x 150				
	75		x 175	x 175				
100	x 200	x 200	/					
ø180	10	36			M18 x 125	M18 x 125	/	
	20				x 135	x 135		
	30				x 145	x 145		
	40		x 155	x 155				
	50		x 165	x 165				
	75		x 190	x 190				
100	x 215	x 215	/					
ø200	10	39			M18 x 135	M18 x 135	/	
	20				x 145	x 145		
	30				x 155	x 155		
	40		x 165	x 165				
	50		x 175	x 175				
	75		x 200	x 200				
100	x 225	x 225	/					

\* Values in ( ) apply to SSD2-Q(L)-R.

\* Values in < > apply to SSD2-Q(L)-H.

## ● SSD2-G1, 4

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-G1, 4	SSD2-G1, 4L
ø32	5	7.5	M5 x 30	M5 x 40
	10		x 35	x 45
	15		x 40	x 50
	20		x 45	x 55
	25		x 50	x 60
	30		x 55	x 65
	35		x 60	x 70
	40		x 65	x 75
	45		x 70	x 80
	50		x 75	x 85
	75		x 110	x 120
100	x 135	x 145		
ø40	5	6	M5 x 35	M5 x 45
	10		x 40	x 50
	15		x 45	x 55
	20		x 50	x 60
	25		x 55	x 65
	30		x 60	x 70
	35		x 65	x 75
	40		x 70	x 80
	45		x 75	x 85
	50		x 80	x 90
	75		x 115	x 125
100	x 140	x 150		
ø50	10	11	M6 x 45	M6 x 55
	15		x 50	x 60
	20		x 55	x 65
	25		x 60	x 70
	30		x 65	x 75
	35		x 70	x 80
	40		x 75	x 85
	45		x 80	x 90
	50		x 85	x 95
	75		x 120	x 130
	100		x 145	x 155
ø63	10	13	M8 x 50	M8 x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
	100		x 150	x 160
ø80	10	17.5	M10 x 60	M10 x 70
	15		x 65	x 75
	20		x 70	x 80
	25		x 75	x 85
	30		x 80	x 90
	35		x 85	x 95
	40		x 90	x 100
	45		x 95	x 105
	50		x 100	x 110
	75		x 135	x 145
	100		x 160	x 170
ø100	10	18	M10 x 70	M10 x 80
	15		x 75	x 85
	20		x 80	x 90
	25		x 85	x 95
	30		x 90	x 100
	35		x 95	x 105
	40		x 100	x 110
	45		x 105	x 115
	50		x 110	x 120
	75		x 145	x 155
	100		x 170	x 180

## ● SSD2-G5

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-G5	SSD2-G5L
ø32	5	7.5	M5 x 40	M5 x 50
	10		x 45	x 55
	15		x 50	x 60
	20		x 55	x 65
	25		x 60	x 70
	30		x 65	x 75
	35		x 70	x 80
	40		x 75	x 85
	45		x 80	x 90
	50		x 85	x 95
	75		x 115	x 130
100	x 140	x 155		
ø40	5	6	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
100	x 150	x 160		
ø50	10	11	M6 x 55	M6 x 65
	15		x 60	x 70
	20		x 65	x 75
	25		x 70	x 80
	30		x 75	x 85
	35		x 80	x 90
	40		x 85	x 95
	45		x 90	x 100
	50		x 95	x 105
	75		x 130	x 140
	100		x 155	x 165
ø63	10	13	M8 x 60	M8 x 70
	15		x 65	x 75
	20		x 70	x 80
	25		x 75	x 85
	30		x 80	x 90
	35		x 85	x 95
	40		x 90	x 100
	45		x 95	x 105
	50		x 100	x 110
	75		x 135	x 145
	100		x 160	x 170
ø80	10	17.5	M10 x 70	M10 x 80
	15		x 75	x 85
	20		x 80	x 90
	25		x 85	x 95
	30		x 90	x 100
	35		x 95	x 105
	40		x 100	x 110
	45		x 105	x 115
	50		x 110	x 120
	75		x 145	x 155
	100		x 170	x 180
ø100	10	18	M10 x 80	M10 x 90
	15		x 85	x 95
	20		x 90	x 100
	25		x 95	x 105
	30		x 100	x 110
	35		x 105	x 115
	40		x 110	x 120
	45		x 115	x 125
	50		x 120	x 130
	75		x 155	x 165
	100		x 180	x 190

## ● SSD2-G and G2, 3

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-G and G2, 3	SSD2-G and G2, 3L
ø20	5	6	M5 x 25	M5 x 35
	10		x 35	x 45
	15		x 40	x 50
	20		x 45	x 55
	25		x 50	x 60
	30		x 55	x 65
	35		x 60	x 70
	40		x 65	x 75
	45		x 70	x 80
	50		x 75	x 85
ø25	5	8	M5 x 30	M5 x 40
	10		x 35	x 45
	15		x 40	x 50
	20		x 45	x 55
	25		x 50	x 60
	30		x 55	x 65
	35		x 60	x 70
	40		x 65	x 75
	45		x 70	x 80
	50		x 75	x 85
ø32	5	7.5	M5 x 30	M5 x 40
	10		x 35	x 45
	15		x 40	x 50
	20		x 45	x 55
	25		x 50	x 60
	30		x 55	x 65
	35		x 60	x 70
	40		x 65	x 75
	45		x 70	x 80
	50		x 75	x 85
ø40	5	6	M5 x 35	M5 x 45
	10		x 40	x 50
	15		x 45	x 55
	20		x 50	x 60
	25		x 55	x 65
	30		x 60	x 70
	35		x 65	x 75
	40		x 70	x 80
	45		x 75	x 85
	50		x 80	x 90
ø50	10	11	M6 x 45	M6 x 55
	15		x 50	x 60
	20		x 55	x 65
	25		x 60	x 70
	30		x 65	x 75
	35		x 70	x 80
	40		x 75	x 85
	45		x 80	x 90
	50		x 85	x 95
	75		x 120	x 130
ø63	10	13	M8 x 50	M8 x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
ø80	10	17.5	M10 x 60	M10 x 70
	15		x 65	x 75
	20		x 70	x 80
	25		x 75	x 85

ø80	30	17.5	x 80	x 90
	35		x 85	x 95
	40		x 90	x 100
	45		x 95	x 105
	50		x 100	x 110
	75		x 135	x 145
ø100	100	18	x 160	x 170
	10		M10 x 70	M10 x 80
	15		x 75	x 85
	20		x 80	x 90
	25		x 85	x 95
	30		x 90	x 100
	35		x 95	x 105
	40		x 100	x 110
	45		x 105	x 115
	50		x 110	x 120
	75		x 145	x 155
	100		x 170	x 180

## ● SSD2-T1L

Tube Bore size	Stroke length	ℓ	d x L			
			SSD2-T1L			
ø32	5	7.5	M5 x 40			
	10		x 45			
	15		x 50			
	20		x 55			
	25		x 60			
	30		x 65			
	35		x 70			
	40		x 75			
	45		x 80			
	50		x 85			
	75		x 120			
	100		x 145			
	ø40		5	6	M5 x 45	
			10		x 50	
15		x 55				
20		x 60				
25		x 65				
30		x 70				
35		x 75				
40		x 80				
45		x 85				
50		x 90				
75		x 125				
100		x 150				
ø50		10	11		M6 x 55	
		15			x 60	
	20	x 65				
	25	x 70				
	30	x 75				
	35	x 80				
	40	x 85				
	45	x 90				
	50	x 95				
	75	x 130				
	100	x 155				
	ø63	10		13	M8 x 60	
		15			x 65	
		20			x 70	
25		x 75				
30		x 80				
35		x 85				
40		x 90				
45		x 95				
50		x 100				
75		x 135				
100		x 160				
ø80		10	17.5		M10 x 60	M10 x 70
		15			x 65	x 75
		20			x 70	x 80
	25	x 75		x 85		

## ● SSD2-K-\*C

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-K-*C	SSD2-KL-*C
ø20	5	6	M5 x 30	M5 x 40
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	50		x 90	x 100
ø25	5	8	M5 x 35	M5 x 45
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	50		x 90	x 100
ø32	5	7.5	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
100	x 150	x 160		
ø40	5	6	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
100	x 150	x 160		
ø50	10	11	M6 x 55	M6 x 65
	15		x 60	x 70
	20		x 65	x 75
	25		x 70	x 80
	30		x 75	x 85
	35		x 80	x 90
	40		x 85	x 95
	45		x 90	x 100
	50		x 95	x 105
	75		x 130	x 140
	100		x 155	x 165
ø63	10	13	M8 x 60	M8 x 70
	15		x 65	x 75
	20		x 70	x 80
	25		x 75	x 85
	30		x 80	x 90
	35		x 85	x 95
	40		x 90	x 100
	45		x 95	x 105
	50		x 100	x 110
	75		x 135	x 145
	100		x 160	x 170
ø80	10	17.5	M10 x 70	M10 x 80
	15		x 75	x 85
	20		x 80	x 90
	25		x 85	x 95
	30		x 90	x 100
	35		x 95	x 105
	40		x 100	x 110
	45		x 105	x 115
	50		x 110	x 120
	75		x 145	x 155
	100		x 170	x 180
ø100	10	18	M10 x 80	M10 x 90
	15		x 85	x 95
	20		x 90	x 100
	25		x 95	x 105
	30		x 100	x 110
	35		x 105	x 115
	40		x 110	x 120
	45		x 115	x 125
	50		x 120	x 130
	75		x 155	x 165
	100		x 180	x 190

## ● SSD2-KU

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-KU	SSD2-KUL
ø20	5	6	M5 x 30	M5 x 40
	10		x 35	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	50		x 90	x 100
ø25	5	8	M5 x 35	M5 x 45
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	50		x 90	x 100
ø32	5	7.5	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
100	x 150	x 160		
ø40	5	6	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
100	x 150	x 160		
ø50	10	11	M6 x 55	M6 x 65
	15		x 60	x 70
	20		x 65	x 75
	25		x 70	x 80
	30		x 75	x 85
	35		x 80	x 90
	40		x 85	x 95
	45		x 90	x 100
	50		x 95	x 105
	75		x 130	x 140
	100		x 155	x 165
ø63	10	13	M8 x 60	M8 x 70
	15		x 65	x 75
	20		x 70	x 80
	25		x 75	x 85
	30		x 80	x 90
	35		x 85	x 95
	40		x 90	x 100
	45		x 95	x 105
	50		x 100	x 110
	75		x 135	x 145
	100		x 160	x 170
ø80	10	17.5	M10 x 70	M10 x 80
	15		x 75	x 85
	20		x 80	x 90
	25		x 85	x 95
	30		x 90	x 100
	35		x 95	x 105
	40		x 100	x 110
	45		x 105	x 115
	50		x 110	x 120
	75		x 145	x 155
	100		x 170	x 180
ø100	10	18	M10 x 80	M10 x 90
	15		x 85	x 95
	20		x 90	x 100
	25		x 95	x 105
	30		x 100	x 110
	35		x 105	x 115
	40		x 110	x 120
	45		x 115	x 125
	50		x 120	x 130
	75		x 155	x 165
	100		x 180	x 190

# SSD2 Series

## ● SSD2-L4

Tube Bore size	Stroke length	ℓ	d×L	
			SSD2-KU	SSD2-KUL
ø40	5	6	M5 x 45	M5 x 55
	10		x 50	x 60
	15		x 55	x 65
	20		x 60	x 70
	25		x 65	x 75
	30		x 70	x 80
	35		x 75	x 85
	40		x 80	x 90
	45		x 85	x 95
	50		x 90	x 100
	75		x 125	x 135
	100		x 150	x 160
ø50	10	11	M6 x 55	M6 x 65
	15		x 60	x 70
	20		x 65	x 75
	25		x 70	x 80
	30		x 75	x 85
	35		x 80	x 90
	40		x 85	x 95
	45		x 90	x 100
	50		x 95	x 105
	75		x 130	x 140
	100		x 155	x 165
	ø63		10	13
15		x 65	x 75	
20		x 70	x 80	
25		x 75	x 85	
30		x 80	x 90	
35		x 85	x 95	
40		x 90	x 100	
45		x 95	x 105	
50		x 100	x 110	
75		x 135	x 145	
100		x 160	x 170	
ø80		10	17.5	
	15	x 75		x 85
	20	x 80		x 90
	25	x 85		x 95
	30	x 90		x 100
	35	x 95		x 105
	40	x 100		x 110
	45	x 105		x 115
	50	x 110		x 120
	75	x 145		x 155
	100	x 170		x 180
	ø100	10		18
15		x 85	x 95	
20		x 90	x 100	
25		x 95	x 105	
30		x 100	x 110	
35		x 105	x 115	
40		x 110	x 120	
45		x 115	x 125	
50		x 120	x 130	
75		x 155	x 165	
100		x 180	x 190	

## ● SSD2-P7\*/P5\*

Tube Bore size	Stroke length	ℓ	d x L	
			SSD2-K-*C	SSD2-KL-*C
ø12	5	6.5	M5 x 35	M5 x 45
	10		x 45	x 60
	15		x 50	x 65
	20		x 55	x 70
	25		x 60	x 75
	30		x 65	x 80
ø16	5	6.5	M5 x 40	M5 x 50
	10		x 45	x 60
	15		x 50	x 65
	20		x 55	x 70
	25		x 60	x 75
	30		x 65	x 80
ø20	5	6	M5 x 35	M5 x 45
	10		x 45	x 60
	15		x 50	x 65
	20		x 55	x 70
	25		x 60	x 75

ø20	30	6	M5 x 65	M5 x 80		
	35		x 70	x 85		
	40		x 75	x 90		
	45		x 80	x 95		
	50		x 85	x 100		
ø25	5	8	M5 x 40	M5 x 50		
	10		x 45	x 60		
	15		x 50	x 65		
	20		x 55	x 70		
	25		x 60	x 75		
	30		x 65	x 80		
	35		x 70	x 85		
	40		x 75	x 90		
	45		x 80	x 95		
	50		x 85	x 100		
ø32	5	7.5	M5 x 40	M5 x 55		
	10		x 45	x 60		
	15		x 50	x 65		
	20		x 55	x 70		
	25		x 60	x 75		
	30		x 65	x 80		
	35		x 70	x 85		
	40		x 75	x 90		
	45		x 80	x 95		
	50		x 85	x 100		
	75		x 120	x 135		
	100		x 145	x 160		
	ø40		5	6	M5 x 45	M5 x 55
			10		x 50	x 60
			15		x 55	x 65
20		x 60	x 70			
25		x 65	x 75			
30		x 70	x 80			
35		x 75	x 85			
40		x 80	x 90			
45		x 85	x 95			
50		x 90	x 100			
75		x 125	x 135			
100		x 150	x 160			
ø50		10	11		M6 x 55	M6 x 65
		15			x 60	x 70
		20			x 65	x 75
	25	x 70		x 80		
	30	x 75		x 85		
	35	x 80		x 90		
	40	x 85		x 95		
	45	x 90		x 100		
	50	x 95		x 105		
	75	x 130		x 140		
	100	x 155		x 165		
	ø63	10		13	M8 x 60	M8 x 70
		15			x 65	x 75
		20			x 70	x 80
		25			x 75	x 85
30		x 80	x 90			
35		x 85	x 95			
40		x 90	x 100			
45		x 95	x 105			
50		x 100	x 110			
75		x 135	x 145			
100		x 160	x 170			
ø80		10	17.5		M10 x 75	M10 x 85
		15			x 80	x 90
		20			x 85	x 95
		25			x 90	x 100
	30	x 95		x 105		
	35	x 100		x 110		
	40	x 105		x 115		
	45	x 110		x 120		
	50	x 115		x 125		
	75	x 145		x 155		
	100	x 175		x 185		
	ø100	10		18	M10 x 85	M10 x 95
		15			x 90	x 100
		20			x 95	x 105
		25			x 100	x 110
30		x 105	x 115			
35		x 110	x 120			
40		x 115	x 125			
45		x 120	x 130			
50		x 125	x 135			
75		x 160	x 170			
100		x 185	x 195			



# 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 electric 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

- 1** 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 outdoor or under 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 safety measures to avoid risks in the event of problems.)
  - 1** Use 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 machine, brake circuits, or safety devices or applications.
  - 2** Use 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, etc.  
ISO4414, JIS B8370 (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.
- 4** Do not handle, pipe, or remove devices before confirming safety.
  - 1** Inspect and service the machine and devices after confirming safety of the entire system related to this product.
  - 2** Note that there may be hot or charged sections even after operation is stopped.
  - 3** 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 attention to possible water leakage and leakage of electricity.
  - 4** 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.

## When a purchase order, does, and precautions for.

### 1 Term of warranty

Warranty period is (1) year from the first delivery to the customer.

### 2 Scope of warranty

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.

Note that the following faults are excluded from the warranty term:

- (1) Product abuse/misuse contrary to conditions/environment recommended in its catalogs/specifications.
- (2) Failure due to other causes.
- (3) If caused by use other than usage of in product itself
- (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 CKD shall never be liable for the costs in relation to and the damages resulting from the (de) installation of the product.

### 3 Compatibility confirmation

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.



# Safety precautions

Always read this section before starting use.

Refer to "Pneumatic Cylinders I (No. CB-029SA)" for the general cylinder or cylinder switch.

## Compact cylinder SSD2 Series

### Design & Selection

#### 1. SSD2-T1L with heat resistance cylinder switch

##### ⚠ WARNING

###### ■ Cylinder

External leakage occurs gradually 500 thousand cycles at ambient temperature 150°C.

###### ■ Heat resistance cylinder switch

LED is used for a light.

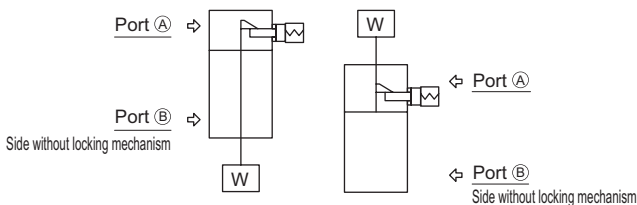
The visibility will be slowly reduced if becomes continuous usage by down high temperature. Even LED does not light, the switch output circuit works correctly because the switch output line is separated.

#### 2. Position locking type SSD2-Q

##### ⚠ WARNING

■ The lock functions at the stroke end. If supply air to port (A) at no poessure for rod end and cap end, the lock may not function and result in dropping.

When release the locking mechanism, supply air to port (B) at the condition without any load to the locking mechanism.



■ If lowering speed is to be increased with the quick exhaust valve, the cylinder may move out faster than the lock pin and prevent the locking pin from being released correctly. Do not use a quick exhaust valve with the cylinder with position locking.

###### ■ Do not use a 3-position valve.

Do not use 3-position (especially closed-center metal seal type) valve. This kind of use closes the pressure at the locking mechanism side, and is unable to lock the position. Even if locked once, air leakage from the valve may enter the cylinder then the lock may be released over time.

##### ⚠ CAUTION

###### ■ Cylinder load factor must be 50% or less.

If the load factor is high, the lock may not be released or the lock section could be damaged.

■ If back pressure is applied to the locking mechanism, the lock may be released. Use the solenoid valve as a discrete unit, or use an independently exhausted manifold.

###### ■ Do not use multiple cylinders synchronized.

Do not move more than one workpiece using more than two cylinders with position locking mechanism simultaneously. One of the cylinder's locks may not be released.

#### 3. Fine speed type SSD2-F. SSD2-KF

##### ⚠ CAUTION

###### ■ Use by oil-free.

Lubrication may change characteristics.

###### ■ Assemble the speed control valve near the cylinder.

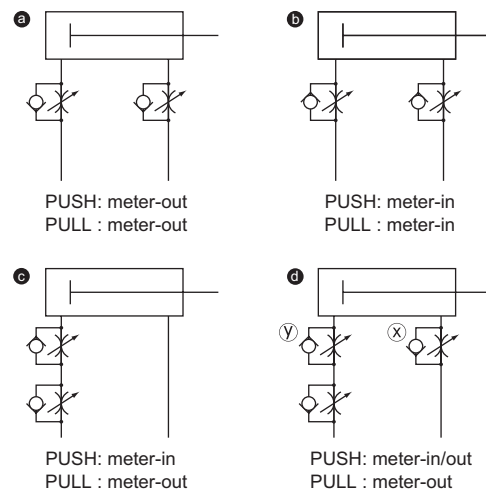
Adjustments become unstable if installed away from the cylinder. Use the SC-M3/M5, SCD-M3/M5, or SC3WU series speed controller.

###### ■ Generally, the higher air pressure, and the smaller load result in the more stable operation.

Keep the load factor at 50% or less.

###### ■ Stable speed control is achieved with a meter-out 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. Make (b), (c) or (d) a circuit. A (d) circuit is the most stable.

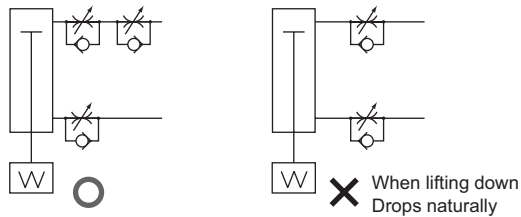


Speed adjustment method of PUSH operation of (d) circuit:

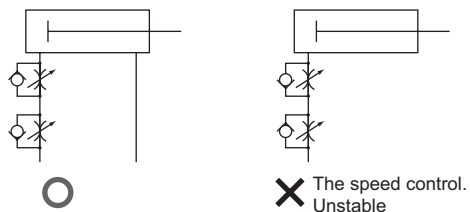
1. Set the speed with the x speed control valve.
2. Lower the flow rate with the y speed control valve until popping out no longer occurs.
3. Reconfirmed of velocity

(Note 1) When (b), and (d) are compared, (d) circuit operation is most stable.

(Note 2) When installed vertically, the unit will drop naturally if the meter-out circuit is used. Use the meter-out circuit in this case.



(Note 3) Connect the flow control valve in parallel with the following circuit.



(Popping out phenomenon causes)

Reduce the flow rate to reach a fine speed at the exhaust side in a meter-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. When the piston moves, the exhaust pressure rises, causing the piston to decelerate, after which it reaches the set pressure.

(Guide to popping out occurrence)

Occurs for a piston rod area  $a \times \text{air pressure} > \text{load resistance}$ .

- Do not apply lateral load a cylinder. Install the cylinder to avoid the sliding guide to be twisted.

The presence of load or resistance variation may result in unstable operations. Operation of a guide having a large difference in stationary and moving friction may become resistance.

- Avoid use in some location of vibration.

The product will be adversely affected by vibration and operation will be unstable.

## 4. Low friction type SSD2-KU

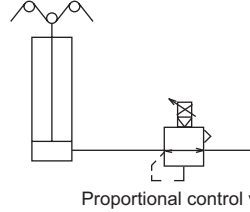
### ⚠ WARNING

- Durability differs based on working conditions and model features. Or this cylinder has internal leakage. Refer to specifications (page 87) for the leakage amount.

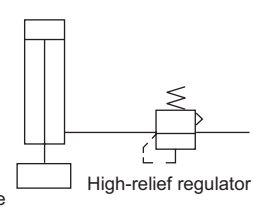
### ⚠ CAUTION

- Install a speed control valve on the cylinder. Install a speed control valve on the cylinder. Use each cylinder within the applicable piston speed range. When a balancer, etc., is used, a speed control valve should not be installed if supply and exhaust efficiency are impaired. A below to ③ circuit is recommended depending on the applications.

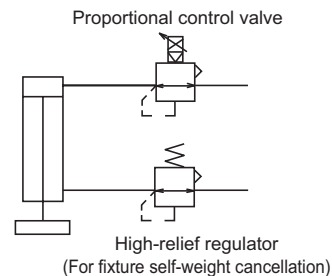
- ① tension control (winding machine, etc...)



- ② balancer (finishing machine Z axis, etc...)

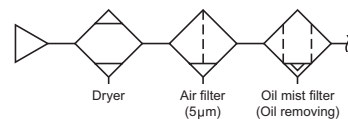


- ③ load control (grinding, etc...)



\* Be the piping volume as large as possible for make the supply and exhaust characteristics very well.

- Do not lubricate this product. Or features will be adversely affected.
- Poor air quality worsens features and adversely affects durability. Always Use clean air with the following piping.



- Install a speed control valve close to a cylinder. Adjustments become unstable if installed away from the cylinder.
- Generally, the speed is stable when the load factor is lower when air pressure is higher. Do use by 50% or less.
- A compact cylinder has rubber cushion. The table below shows kinetic energy can be absorbed by the cushion. When kinetic energy exceeds this value, consider installing an external shock absorber.



Bore size (mm)	Allowable energy absorption (J)	
	SSD2-K	SSD2-KU
ø12	0.04	-
ø16	0.09	-
ø20		0.16
ø25		0.16
ø32		0.40
ø40		0.63
ø50		0.98
ø63		1.56
ø80		2.51
ø100		3.92

$$\text{Kinetic energy (J)} = \frac{1}{2} \times \text{weight (kg)} \times \{\text{speed (m/s)}\}^2$$

Calculating (note) kinetic energy

Cylinder average speed is obtained with  $V_a = \frac{L}{T}$ .

Va: Average speed (m/s)  
L: Cylinder stroke (m)  
T: Operation time (s)

Cylinder speed just before the stroke end.  
Obtains with the following simple expression.

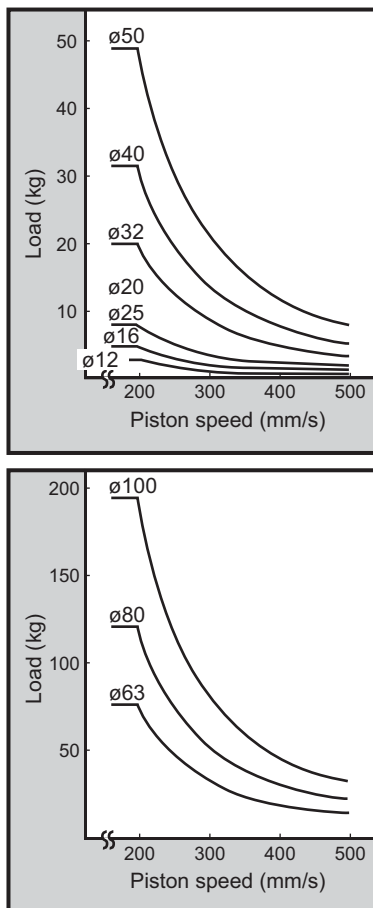
$$V_m = \frac{L}{T} \times (1 + 1.5 \times \frac{\omega}{100})$$

Vm: Speed just before stroke end (m/s)  
ω: Cylinder load (%)

Use this Vm value as speed to calculate kinetic energy.

The graph below shows the tolerable energy value of the super compact cylinder as the relationship between piston speed and load.

High load type allowable energy graph



● Note: The cylinder can be used in the range of the lower left part of the curve. The upper right range. An external cushion becomes necessary.

## 5. Coolant proof type SSD2-G2/G3/SSD2-KG2/KG3

### ⚠ CAUTION

- Do not apply the deviated load onto the piston rod. It could shorten scraper and bearing life.
- If coolant or water do not get on the piston rod, select the G or G1 Series. When using the G2 or G3 series and the coolant or water does not splatter, the piston rod's lubrication could be spent and cause the life to shorten.
- Install a speed control valve on the cylinder.
  - Install a speed control valve on the cylinder. Use each cylinder within the applicable piston speed range.

## 6. Spatter adherence prevention type SSD2-G4/SSD2-KG4/SSD2-DG4

### ⚠ WARNING

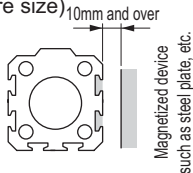
- This cylinder series has improved durability over the general-purpose cylinder in atmospheres where spatter could occur. but durability may be shorter than the general cylinder when used in other environments.

## Installation & Adjustment

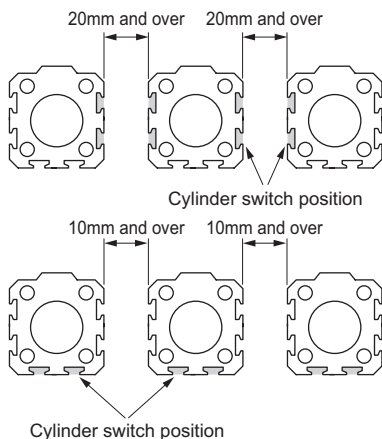
### 1. Common

#### ⚠ CAUTION

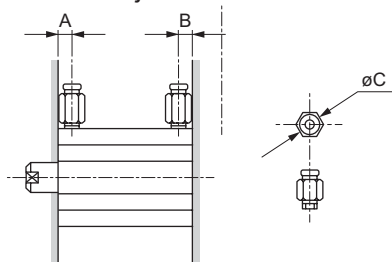
- The cylinder switch may malfunction if a magnetized device, such as a steel plate, is near the cylinder switch. Separate from the magnetized device by at least 10 mm from the cylinder surface. (Same for all bore size)



- The cylinder switch could malfunction if cylinders are installed next to each other. Check that the following distances are provided between cylinder surfaces. (Same for all bore size)



- Usable pipe joints are limited, so see the following table to select the joint.



Descriptions Bore size (mm)	Port size	Port dimension		Applicable joints	Joint O.D.	Inapplicable joints
		A	B		øC	
ø12	M5	5.5	5.5	SC3W-M5-4	ø11 or less	GWS6-M5
ø16				SC3W-M5-6		
ø20		8	5.5	GWS4-M5-S		
ø25		11	6	GWS4-M5 GWL4-M5 GWL6-M5		
ø32	Rc1/8	8	8	SC3W-6-4, 6, 8	ø15 or less	GWS10-6 GWL8-6 GWL10-6
ø40				12		
ø50	Rc1/4	10.5	10.5	SC3W-8-6, 8, 10	ø21 or less	GWS12-8
ø63				13		
ø80	Rc3/8	16	13	SC3W-10-6, 8, 10	ø21 or less	-
ø100				23		

### 2. Single acting SSD2-X/SSD2-Y

#### ⚠ CAUTION

- 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. Use the double-acting type when the cylinder must be left pressurized.

### 3. Position locking type SSD2-Q

#### ⚠ CAUTION

- The lock functions at the stroke end. If the stopper is applied with an external stopper in the middle of the stroke, the lock may not function and result in dropping. Check that the locking mechanism works when a load is set.
- Supply a pressure higher than the minimum working pressure to the port having the locking mechanism.
- If piping on the side with the lock is thin and long, or if the speed controller is separated from the cylinder port, exhaust may slow, taking time for the lock to function. This may also occur if the silencer on the valve's EXH port is clogged.

### 4. Fine speed type SSD2-F/SSD2-KF

#### ⚠ CAUTION

- Adjust alignment, etc., as lateral load is not a cylinder splashed. 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.
  - Operation of a guide having a large difference in stationary and moving friction may become resistance.

### 5. Low friction type SSD2-KU

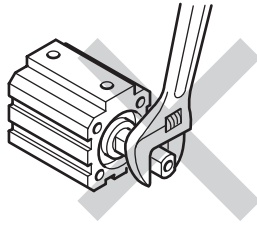
#### ⚠ CAUTION

- Do not apply lateral load a cylinder. adjust and install the sliding guide is not twisted.
  - The presence of load or resistance variation may result in unstable operations.
  - Speed becomes unstable depending on the self-weight of the piston rod for long stroke. The guide (guide) is done installation, and use.
  - Operation of a guide having a large difference in stationary and moving friction may become resistance.

## 6. Non-rotating type SSD2-M, DM

### ⚠ CAUTION

- Do not use in applications where rotational torque is applied to the piston rod.  
Non-rotating bushing may be deformed and the service life remarkably shortened.
- Use this cylinder always in the state that the load is applied to an axial direction of piston rod.
- When fixing a work piece on the end of piston rod, retract the piston rod until the stroke end, use a spanner putting on the section across flat of piston rod which projects from the cylinder tube. When tightening, do not apply a tightening torque to the cylinder body.



## 7. Double rod non-rotating type SSD2-DM

- Make sure that reverse torque is not applied to the piston rods on both sides of the cylinder. If torque is applied, the coupling of internal parts could loosen and explode into something unexpected.  
When removing or installing the load, always fix the width across flat section of the piston rod on the load side to avoid applying torque to the non-rotating section.

## 8. Two stage type SSD2-W

- Install cylinder, taking out nut which is equipped to trough bolt of cylinder body.  
This is a nut of to fix a cylinder 1, cylinder 2. This is not for mounting.

## During Use & Maintenance

### 1. Common

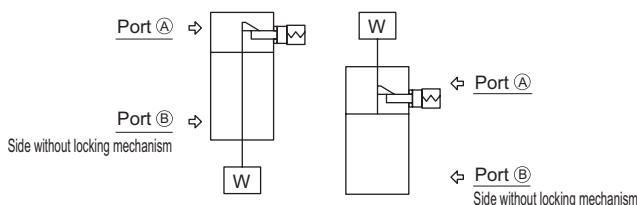
### ⚠ WARNING

- Use appropriate pliers (snap ring installation too) to install and remove rod bushing.
- Even if appropriate pliers (snap ring installation pliers) are used, the snap ring could be dislocated and cause injury to personnel or damage peripheral devices.  
When installing the snap ring, make sure that it fits securely into the snap ring groove before supplying air.

### 2. Position locking type SSD2-Q

### ⚠ WARNING

- For safety purposes, prevent the load from dropping under its own weight during maintenance.
- If pressure is supplied to port (A) in the locked state with neither port pressurized, locks may not be releasable or may be released suddenly, causing the piston rod to pop out, which is extremely dangerous.  
When releasing locking mechanism, always supply pressure to port (B) and confirm the state if no load applied to the locking mechanism before releasing the lock.



- If lowering speed is to be increased with the quick exhaust valve, the cylinder may move out faster than the lock pin and prevent the locking pin from being released correctly. Do not use a quick exhaust valve with the cylinder with position locking.
- Adjust shock absorber without bound when stopping. Bouncing could cause the sleeve and stopper to contact on impact, damaging the lock mechanism.  
Regularly (once/twice a year) check that the holding section is not damaged by this symptom.

### ⚠ CAUTION

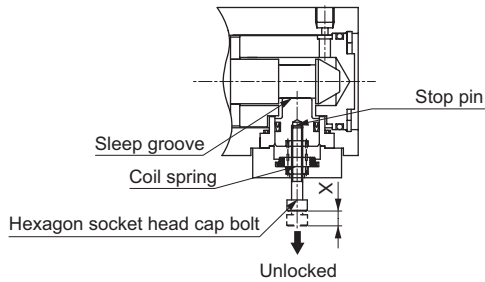
- After manually operating the locking mechanism, return the locking mechanism to the original position. Do not use a manual override except during adjustment. It's dangerous.
- Release the lock when installing or adjusting the cylinder.  
The lock could be damaged if the cylinder is installed while the lock is applied.
- Do not use multiple cylinders synchronized.  
Do not move more than one workpiece using more than two cylinders with position locking mechanism simultaneously. One of the cylinder's locks may not be released.
- Use the speed control valve with meter-out control.  
Locks may not be released during meter-in control.

- Use in at the attached side cylinder stroke limit of the lock.

If the cylinder's piston does not reach the stroke end, the lock may not be applied or may not be released.

- Manual override non-locking how to release

The stopper pin moves and the lock is released when the hexagon socket head bolt is Xmm with a force of 20N or more. (During no-load horizontal installation or when counter side port is pressurized). When the hand is released, if the stopper piston returns by the internal spring and enters the piston rod groove, the piston is locked.



Hexagon socket head cap bolt dimension and movement Unit: mm

Bore size	Dimension	Movement X
ø20	M3 x 20	3
ø25	M3 x 20	3
ø32	M3 x 20	3
ø40	M3 x 20	3
ø50	M4 x 30	3
ø63	M4 x 30	3
ø80	M4 x 30	3.5
ø100	M4 x 30	3.5

### 3. Low friction type SSD2-U

#### ⚠ CAUTION

- Do not disassemble this product. The performance may be compromised. This product cannot be purchased as a repair part.
- The U series uses fluorine-based grease. If an operator smokes while his or her hands smeared with fluorine-based grease, toxic gases could be generated and adversely affect the human body.

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MEMO

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MEMO

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