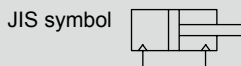


Compact cylinder double acting/single rod

SSD2 Series

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



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 (≈ 150 psi, 10 bar)										
Min. working pressure	MPa	0.1 (≈ 15 psi, 1 bar)						0.05 (≈ 7.3 psi, 0.5 bar)				
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature	$^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size		M5				Rc1/8 *1		Rc1/4		Rc3/8		
Stroke tolerance	mm	With rubber cushion					+2.0 0					
		Without cushion					+1.0 0					
Working piston speed	mm/s	50 to 500						50 to 300				
Cushion		With or without cushion can be selected										
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)										
Allowable absorbed energy	J	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92	
		0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

*1: The $\phi 32$ bore size with a 5 mm stroke and without a switch has a port size of M5.

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		
$\phi 100$			

*1 : When using the type with switch, refer to the table of the min. stroke length with switch.

*2: If the stroke exceeds the max. stroke length, refer to the long stroke length on page 776.

Min. stroke length with switch (2 switches)

Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
$\phi 12$	10(5)	5
$\phi 16$		
$\phi 20$		
$\phi 25$		
$\phi 32$		
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

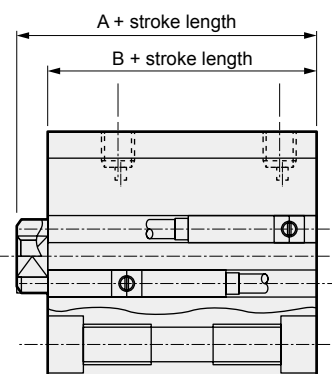
1 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

*2 : Values in () are for the type with 1 on rod side.

Custom stroke length

● SSD2 Series

Descriptions	Standard products		Optional products	
	Standard stroke length body with spacer		Dedicated unit (-S)	
Model No.	Refer to How to order.		Add "-S" option code to the model No.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.		Dedicated units of the required stroke length are available.	
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 No.	Model No.: SSD2-32-38 A +2 mm spacer is added to the SSD2-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63 mm.		Model No.: SSD2-32-41 Dedicated units for 41 mm stroke length are available. B + stroke length is 64 mm.	



Switch specifications (F switch)

● 1-color/2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire		Proximity 2-wire		Proximity 3-wire		
	F2S		F3S		F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (Custom order)	F3YH/F3YV
Applications	Dedicated for programmable controller		For programmable controller, relay		Dedicated for programmable controller		For programmable controller, relay		
Output method	-		NPN output		-		NPN output	PNP output	NPN output
Power supply voltage	-		10 to 28 VDC		-		10 to 28 VDC	4.5 to 28 VDC	10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 20 mA		50 mA or less		5 to 20 mA		100 mA or less	50 mA or less	
Indicator lamp	LED (Lit when ON)				Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Yellow LED (Lit when ON)		Red/green LED (Lit when ON)
Leakage current	1mA or less		10 µA or less		1 mA or less		10 µA or less		
Weight	g				1 m:10 3 m:29				

Switch specifications (T switch)

● 1-color/2-color display/for AC 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)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection			For programmable controller			
Output method	-	-			NPN output	PNP output	NPN output	NPN output	-			-				
Pwr. supp. V.	-	-			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 100 mA	5 to 20 mA (*1)			100mA or less		50mA 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
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA			1 mA or less				
Weight	g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272					

*1 : The above max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*2 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

*3 : Refer to Ending Page 1 for other switch specifications.

*4 : Dimensions depend on switch model No. Refer to Ending Pages 18 and 23 for details.

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
φ16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
φ20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
φ25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
φ32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
φ40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
φ50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
φ63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
φ80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
φ100	-	-	1433	2000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ²	1.13 × 10 ²
	Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2 Series

How to order

Without switch (without magnet for switch)

SSD2 - 12 - 5 - N - LB - I

With switch (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Cushion

E Stroke length

F Switch model No.

*1

*2

*3

*8

*9

G Switch quantity

H Option

*4

⚠ Precautions for model No. selection

1 : The T2YD switch cannot be mounted on the φ12 and φ16 bore sizes.

2 : The T8 switch cannot be mounted on the φ12 to φ32 bore sizes.

*3 : The F type switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.

*4 : Piston rod of φ12 to φ25 is stainless steel as standard. C type snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.

*5 : The mounting bracket is attached at shipment.

*6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 745, 747, 749 and 750. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

*7 : "I" and "Y" cannot be selected together.

*8 : The F type switch with L type lead wire on φ20 models cannot be selected on stroke lengths of 15 mm or under.

*9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

*10 : Refer to pages 734 and 735 for combinations of variations/options.

*11 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder, standard

B Bore size : φ12 mm

C Port thread : Rc thread

D Cushion : No cushion

E Stroke length : 10mm

F Switch model No. : Reed switch T0H, lead wire length 1 m

G Switch quantity : 1 on rod side

H Option : Rod end male thread

I Mounting bracket : Axial foot

J Accessory : Rod eye

I Mounting bracket

*5

*6

J Accessory

*7

Code	Content																			
A Model No.																				
SSD2	Double acting/single rod																			
SSD2-L	Double acting/single rod/with switch																			
B Bore size (mm)																				
12	φ12																			
16	φ16																			
20	φ20																			
25	φ25																			
32	φ32																			
40	φ40																			
50	φ50																			
63	φ63																			
80	φ80																			
100	φ100																			
C Port thread																				
Blank	Rc thread																			
NN	NPT thread (φ32 and over) (custom order product)																			
GN	G thread (φ32 and over) (custom order product)																			
D Cushion																				
Blank	Without cushion																			
D	With rubber cushion																			
E Stroke length (mm)																				
Refer to the stroke length table on the following page.																				
F Switch model No.																				
Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire	Bore size														
						AC	DC	12	16	20	25	32	40	50	63	80	100			
F2S*		Proximity	●	1-color display	2-wire			●	●											
F3S*			●		3-wire				●	●										
F2H*	F2V*		●		2-wire				●	●										
F3H*	F3V*	Proximity	●	1-color display (PNP output) (custom)	3-wire				●	●										
F3PH*	F3PV*		●		3-wire				●	●										
F2YH*	F2YV*		●		2-wire				●	●										
F3YH*	F3YV*	Reed	●	2-color display	3-wire				●	●										
T0H*	T0V*		●		2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
T5H*	T5V*		●		2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	●	1-color display	2-wire				●	●										
T1H*	T1V*		●		2-wire				●	●										
T2H*	T2V*		●		2-wire				●	●										
T3H*	T3V*	Proximity	●	1-color display (PNP output) (custom)	3-wire				●	●										
T3PH*	T3PV*		●		3-wire				●	●										
T2WH*	T2WV*		●		2-wire				●	●										
T2YH*	T2YV*	Proximity	●	2-color display	2-wire				●	●										
T3WH*	T3WV*		●		2-wire				●	●										
T3YH*	T3YV*		●		3-wire				●	●										
T2YD*	-	Reed	●	2-color display for AC magnetic field	2-wire				●	●										
T2YDT*	-		●		2-wire				●	●										
T2JH*	T2JV*		●		2-wire				●	●										
* Lead wire length		Blank		1 m (standard)																
		3		3 m (option)																
		5		5 m (option)		*11														
G Switch quantity		R		1 on rod side																
		H		1 on head side																
		D		2																
H Option		Bore size (mm)																		
Blank		Rod end female thread		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
N		Rod end male thread		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
P6		Copper and PTFE free specifications		Supported as standard												●	●	●		
M *4		Piston rod material (stainless steel)		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S		Dedicated unit for custom stroke length		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
P4		Specifications for		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
P40		rechargeable battery		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
I Mounting bracket		Blank		Without mounting bracket																
		LB		Axial foot																
		CB		Clevis bracket (pin and snap ring attached)																
		FA		Rod side flange																
		FB		Head side flange																
J Accessory (available when rod end male thread "N" is selected)		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) *1	1										
Max. stroke length (mm)	30		50			100					
Custom stroke length *2	In 1 mm increments										

1: Less than 5 mm for 1-color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 736 for the min. stroke length with switch.

*2: The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

How to order switch

SW - T0H

Switch model No.

(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
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 bracket (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)	φ63	φ80	φ100				
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 bracket (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

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

Specifications for rechargeable battery (catalog No. CC-1226A)

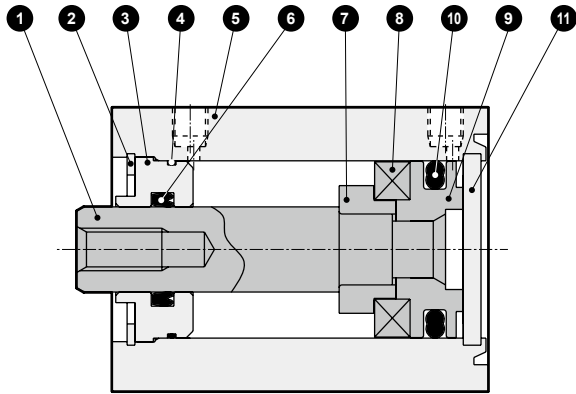
- Design compatible with rechargeable battery manufacturing process

SSD2..... **P4***

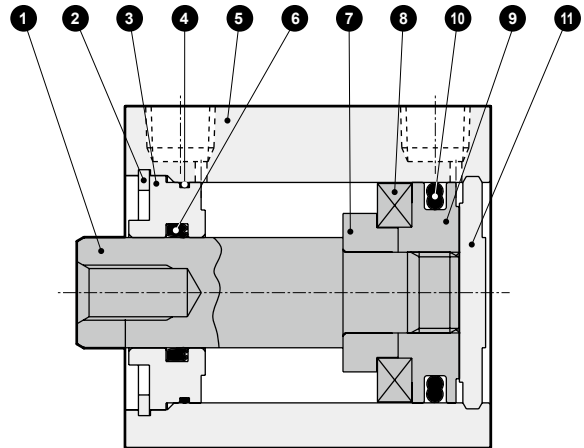
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list (φ12 to 50) (no cushion)

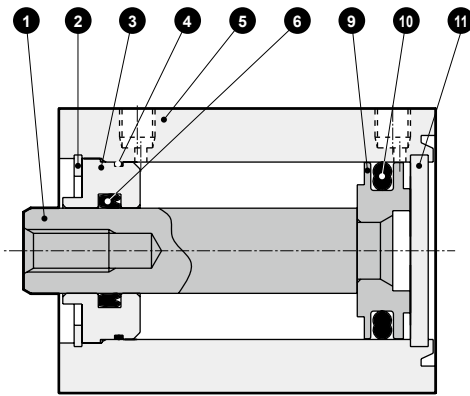
● SSD2-L-12 to 25 (double acting/with switch)



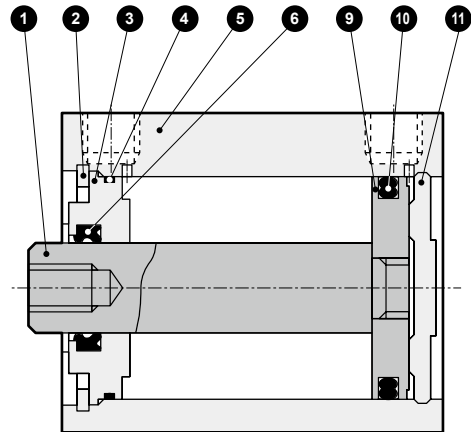
● SSD2-L-32 to 50 (double acting/with switch)



● SSD2-12 to 25 (double acting)



● SSD2-32 to 50 (double acting)



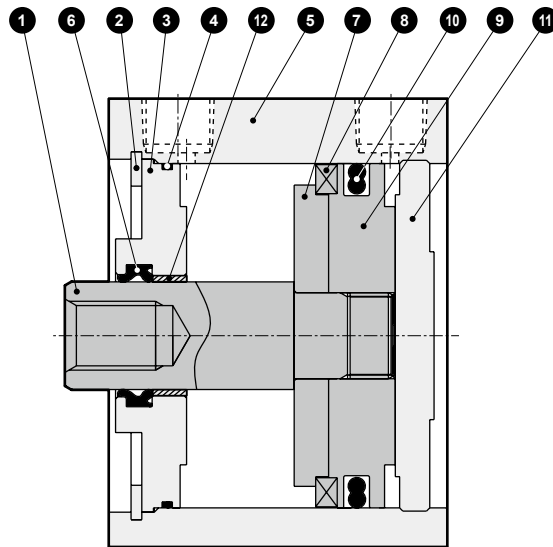
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	Aluminum alloy	φ12 to φ32: Chromate
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
6	Rod packing	Nitrile rubber					

Repair parts list

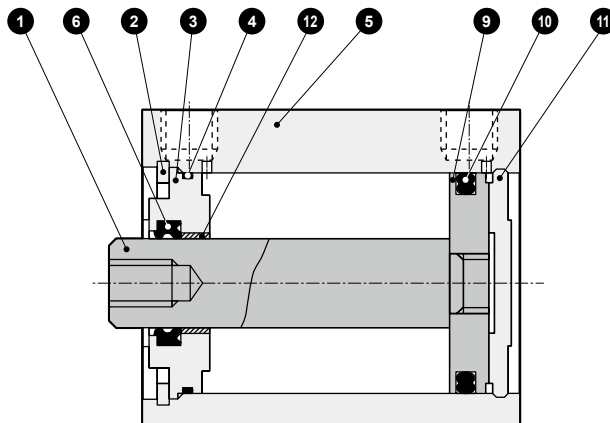
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-12K	4 6 10
φ16	SSD2-16K	
φ20	SSD2-20K	
φ25	SSD2-25K	
φ32	SSD2-32K	
φ40	SSD2-40K	
φ50	SSD2-50K	

Internal structure and parts list (φ63 to 100) (no cushion)

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



- SSD2-63 to 100 (double acting)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Aluminum alloy	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	Aluminum alloy	Alumite
6	Rod packing	Nitrile rubber		12	Bush	Oiles drymet	*1

*1: Material is steel for copper and PTFE free specifications.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD2-63K	4 6 10
φ80	SSD2-80K	
φ100	SSD2-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

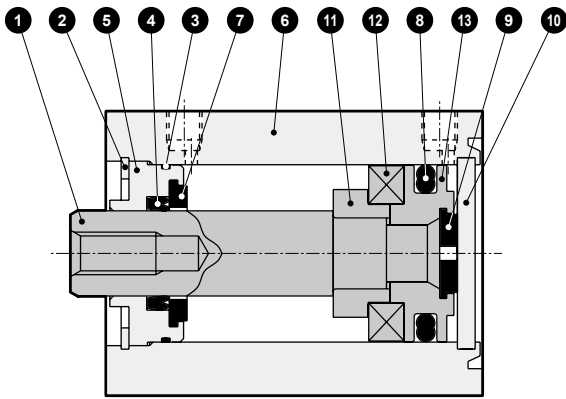
FK

Spd
Contr

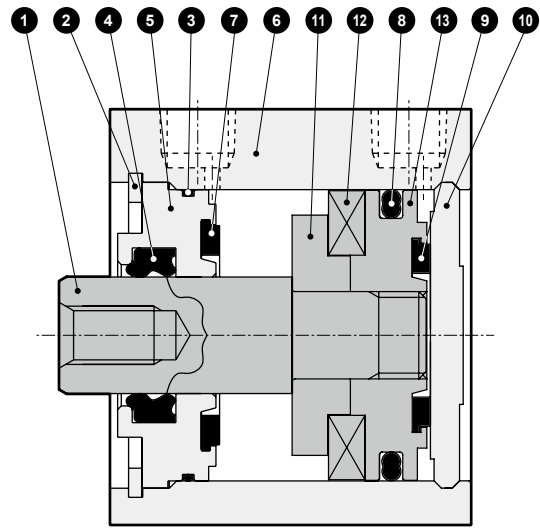
Ending

Internal structure and parts list (φ12 to 50) (with rubber cushion)

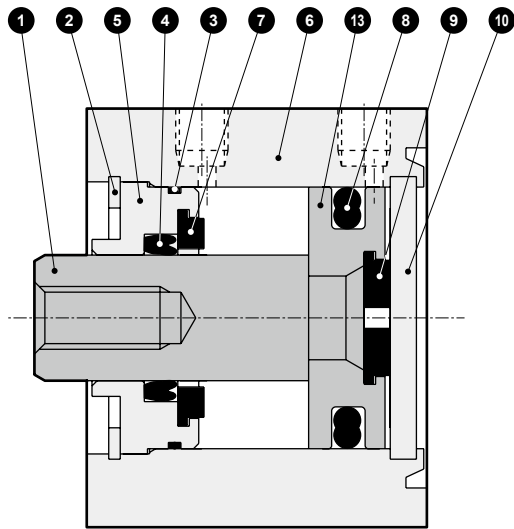
● SSD2-L-12D to 32D (double acting/with switch)



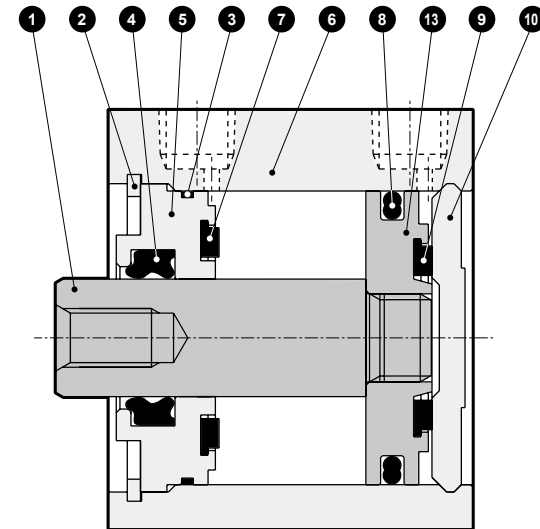
● SSD2-L-40D to 50D (double acting/with switch)



● SSD2-12D to 32D (double acting)



● SSD2-40D, 50D (double acting)



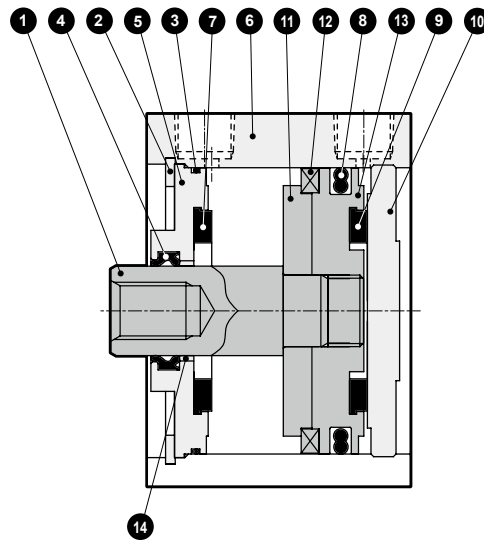
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	8	Piston packing	Nitrile rubber	
2	C type snap ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
4	Rod packing	Nitrile rubber		11	Spacer	Aluminum alloy	φ12 to φ32: Chromate
5	Rod metal	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

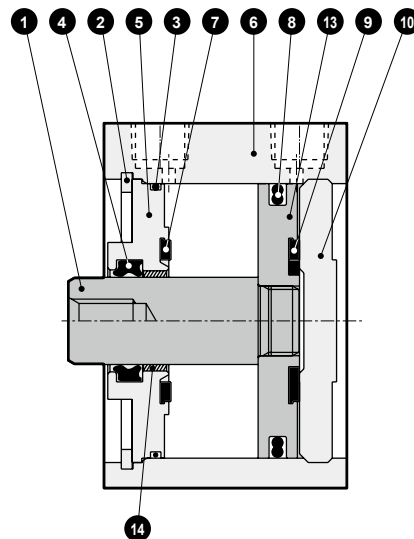
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-12DK	3 4 7 8 9
φ16	SSD2-16DK	
φ20	SSD2-20DK	
φ25	SSD2-25DK	
φ32	SSD2-32DK	
φ40	SSD2-40DK	
φ50	SSD2-50DK	

Internal structure and parts list (φ63 to 100) (with rubber cushion)

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



● SSD2-63D to 100D (double acting)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Piston packing	Nitrile rubber	
2	C type snap ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Cover	Aluminum alloy	Alumite
4	Rod packing	Nitrile rubber		11	Spacer	Aluminum alloy	
5	Rod metal	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	Oiles drymet	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD2-63DK	
φ80	SSD2-80DK	3 4 7 8 9
φ100	SSD2-100DK	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd

Contr

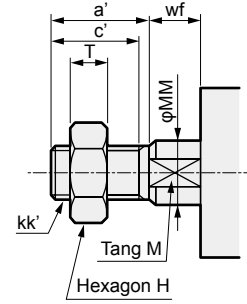
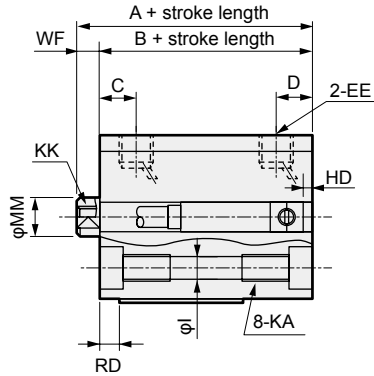
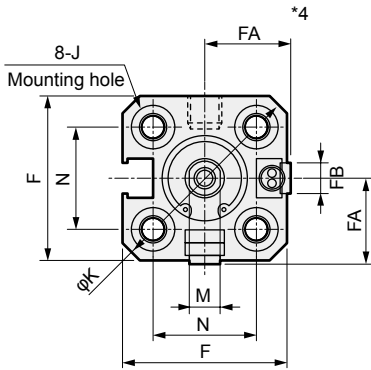
Ending

Dimensions

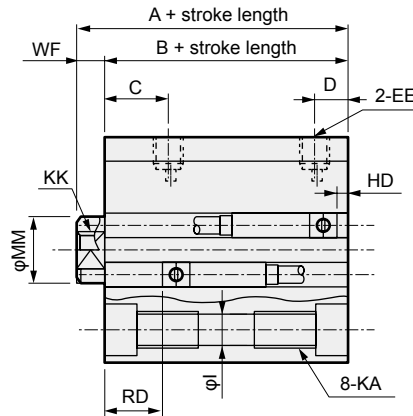
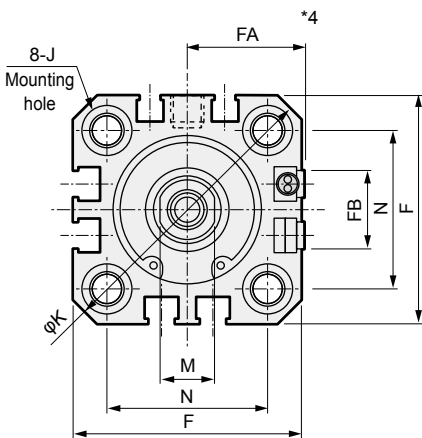


● SSD2-L-12 to 25 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)
 $\phi 12/\phi 16$

● Rod end male thread



$\phi 20/\phi 25$



Code		Common dimensions with switch															
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	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
$\phi 16$	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
$\phi 20$	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
$\phi 25$	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 12	10	12	28	5
Switch dimensions	Reed TOH/TOV, T5H/T5V *6				Proximity T2H/T2V, T3H/T3V *6		Proximity T2WH/T2WV, T3WH/T3WV *6		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			Proximity F2S/F3S					
	HD	RD	HD	RD	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	6.5	11							
$\phi 25$	4	9.5	4	9.5	6	11.5	8.5	14	7.5	13							

*1 : To calculate A + stroke length or B + stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.

(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

· For $\phi 16$: A + stroke length = 35.5 B + stroke length = 32

When you have selected "S" (dedicated unit for custom stroke length), apply the custom stroke length of 7 mm.

· For $\phi 16$: A + stroke length = 32.5 B + stroke length = 29

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

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

*5 : For dimensions of individual accessories, refer to pages 1030 to 1033.

*6 : Dimensions in () of codes HD and RD are for the type with rubber cushion.

*7 : Only F switch is available for the $\phi 20$ or $\phi 25$ piping port surface.

● Rod end male thread

Code	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	10	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 × 1.25	10	12	6	5

SSD2 Series

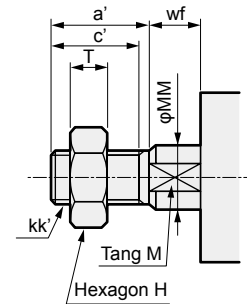
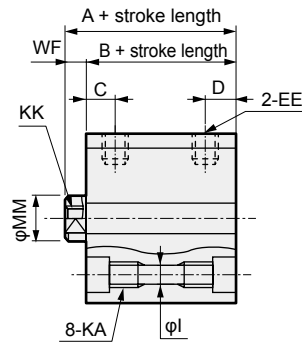
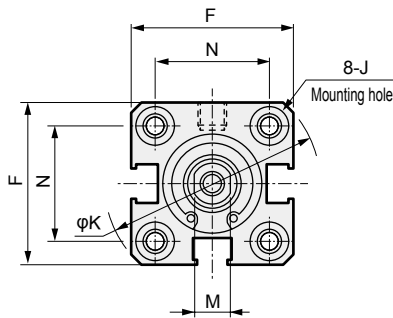
Dimensions



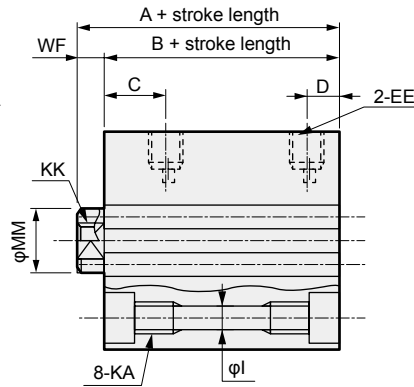
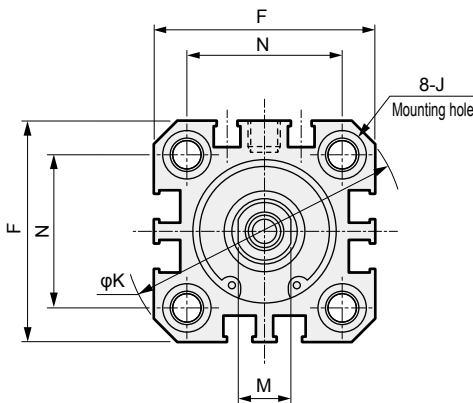
● SSD2-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Dimensions without switch and common dimensions															
	Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
SRG3	φ12	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
SRM3	φ16	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
SRT3	φ20	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
SRL3	φ25	27.5	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf	
MRG2	φ12	10.5	9	8	M5	5	6	3.2	3.5
SM-25	φ16	12	10	10	M6	6	8	3.6	3.5
ShkAbs	φ20	14	12	13	M8	8	10	5	4.5
	φ25	17.5	15	17	M10×1.25	10	12	6	5

*1 : To calculate A + stroke length or B + stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.

(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

· For φ16: A + stroke length = 30.5 / B + stroke length = 27

When you have selected "S" (dedicated unit for custom stroke length), apply the custom stroke length of 7 mm.

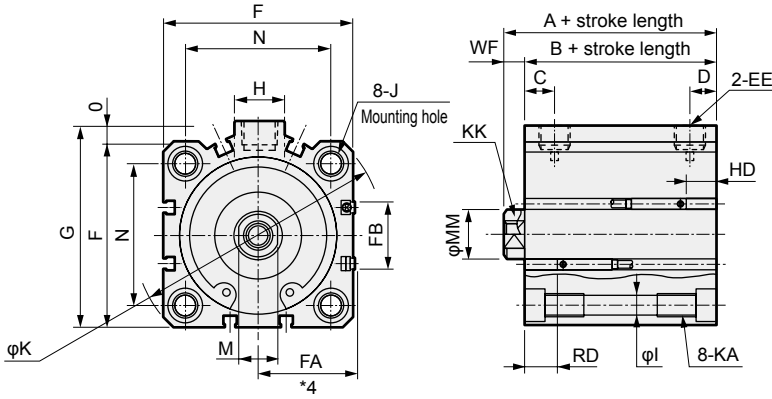
· For φ16: A + stroke length = 27.5 / B + stroke length = 24

*2: For dimensions of individual accessories, refer to pages 1030 to 1033.

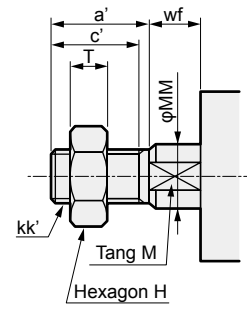
Dimensions



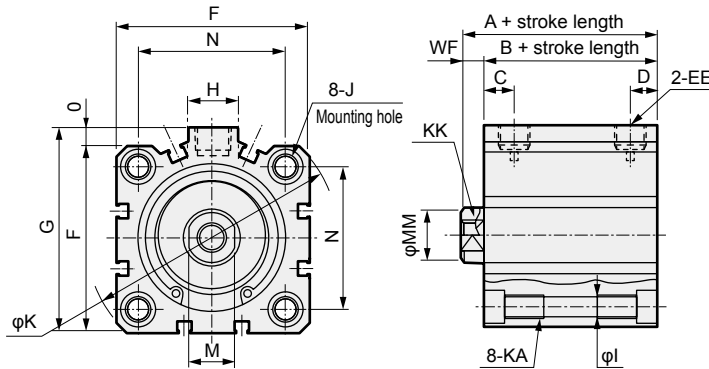
● SSD2-L-32 to 100 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)



● Rod end male thread



● SSD2-32 to 100 (without switch)



Code	Without switch		Common dimensions with switch																			
	A ^{*1, *6}	B ^{*1, *6}	A ^{*1}	B ^{*1}	C ^{*8}	D ^{*8}	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
φ32	30(40)	23(33)	40	33	8(10)	8(5.5)	Rc1/8 ^{*7}	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
φ40	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
φ50	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
φ63	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
φ80	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
φ100	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 dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V						Proximity T2WH/T2WV, T3WH/T3WV									
	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}		HD		RD											
φ32	4		9.5		4		9.5		6		11.5											
φ40	7		12		7		12		8.5		13.5											
φ50	7.5		12.5		7.5		12.5		9		14											
φ63	12.5		13		12.5		13		14		14.5											
φ80	17.5		15.5		17.5		15.5		19		17											
φ100	23		19.5		23		19.5		24.5		21											

*1 : To calculate A + stroke length or B + stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.

(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

· For φ32: A + stroke length = 40 B + stroke length = 33

When you have selected "S" (dedicated unit for custom stroke length), apply the custom stroke length of 7 mm.

· For φ32: A + stroke length = 37 B + stroke length = 30

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

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

*5 : For dimensions of individual accessories, refer to pages 1030 to 1033.

*6 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

*7 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.

*8 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8