

Compact cylinder double acting/single rod

SSD2 Series

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

JIS symbol



Specifications

Item	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						
Proof pressure MPa	1.6											
Ambient temperature °C	-10 to 60 (no freezing)											
Port size	M5				Rc1/8 *1		Rc1/4		Rc3/8			
Stroke tolerance mm	With rubber cushion											
	Without cushion											
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 lubrication is necessary)											
Allowable absorbed Energy J	With rubber cushion		0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92
	Without cushion		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

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (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	
$\phi 63$	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 with switch.

*2: If the stroke exceeds the max. stroke, refer to the long stroke on page 792.

*3: Refer to pages 763 and 765 for the min. stroke with mounting bracket LB.

Min. stroke with switch (With 2 switches)

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

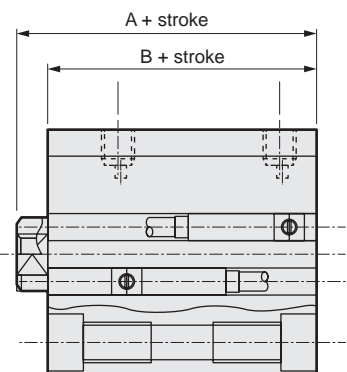
1: Less than 10mm stroke of 2-color LED, off-delay, AC magnetic field proof with T1, T8* switches are not available.

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

Custom stroke

● SSD2 Series

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



Switch specifications (F-switch)

● 1-color/2-color LED

Item	2-wire proximity		3-wire proximity		2-wire proximity		3-wire proximity		
	F2S		F3S		F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (made to 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		50 mA or less		
Indicator	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	1 mA 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 LED/for AC magnetic field proof

Item	2-wire proximity		2-wire proximity				3-wire proximity				2-wire reed				2-wire proximity		
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD(*4) T2YDT			
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, relay		For programmable controller		
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-		-		For programmable controller				
Pwr. supp. V.	-		-		10 to 28 VDC				-		-		For programmable controller				
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 (*3)				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
Indicator	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)		No 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	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: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: Refer to Ending Page 1 for detailed switch specifications and dimensions.

*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.

*3: The 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)

*4: Switch for AC magnetic field (T2YD/T2YDT) cannot be used in DC magnetic field.

*5: The F-switch uses a bend-resistant lead wire.

Cylinder weight table

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

(Unit: g)

Stroke (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
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

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02x10 ²	1.13x10 ²
	Pull	-	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	20.1	30.2	40.2	60.3	80.4	1.01x10 ²	1.21x10 ²	1.41x10 ²	1.61x10 ²	1.81x10 ²	2.01x10 ²
	Pull	-	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06x10 ²	1.21x10 ²	1.36x10 ²	1.51x10 ²
ø20	Push	-	31.4	47.1	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	23.6	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	49.1	73.6	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	37.8	56.7	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	80.4	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	60.3	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.06x10 ²	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	1.56x10 ²	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	1.40x10 ²	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	2.51x10 ²	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	2.27x10 ²	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	3.93x10 ²	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	3.57x10 ²	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD2 Series

How to order

No 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

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 ø12 and ø16 bore sizes.

2 : The T8 switch cannot be mounted on the ø12 to ø32 bore sizes.

*3 : The F-switch can only be mounted on the piping port surface of bore sizes ø20 and ø25.

*4 : Piston rod of ø12 to ø25 is stainless steel as standard. C-snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.

*5 : The mounting bracket is included 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 761, 763, 765 and 766. 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-switch with L type lead wire on ø20 models cannot be selected on strokes of 15 mm or under.

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

*10 : Refer to pages 750 and 751 for combinations of variations/options.

*11 : F-switch cannot be selected.

[Example of model No.]

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

Model: Compact cylinder, standard

B Bore size : ø12 mm

C Port thread : Rc thread

D Cushion : No cushion

E Stroke : 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	Description
A Model No.	
SSD2	Double acting/single rod
SSD2-L	Double acting/single rod/with switch

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

C Port thread	
Blank	Rc thread
NN	NPT thread (ø32 and over) (made-to-order product)
GN	G thread (ø32 and over) (made-to-order product)

D Cushion	
Blank	Without cushion
D	With rubber cushion

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

F Switch model No.		Bore size															
Axial lead wire	Radial lead wire	Contact	Voltage AC	DC	Indicator	Lead wire	12	16	20	25	32	40	50	63	80	100	
-	F2S*	Proximity	●	●	1-color LED	2-wire			●	●							
-	F3S*		●	●		3-wire				●	●						
F2H*	F2V*		●	●		2-wire					●	●					
F3H*	F3V*	Proximity	●	●	1-color LED (PNP output) (custom)	3-wire				●	●						
F3PH*	F3PV*		●	●		3-wire					●	●					
F2YH*	F2YV*		●	●		2-wire						●	●				
F3YH*	F3YV*	Reed	●	●	2-color LED	3-wire					●	●					
T0H*	T0V*		●	●		2-wire	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*		●	●		2-wire	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Proximity	●	●	1-color LED	2-wire							●	●	●	●	
T1H*	T1V*		●	●		2-wire	●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*		●	●		3-wire	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	●	●	1-color LED (PNP output)	3-wire	●	●	●	●	●	●	●	●	●	●	
T3PH*	T3PV*		●	●		2-wire	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*		●	●		3-wire	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	●	●	2-color LED	2-wire	●	●	●	●	●	●	●	●	●	●	
T3WH*	T3WV*		●	●		3-wire	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*		●	●		2-wire	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	●	●	2-color LED for AC magnetic field	2-wire					●	●	●	●	●	●	
T2YDT*	-		●	●		2-wire							●	●	●	●	●
T2JH*	T2JV*	Proximity	●	●	1-color LED off-delay	2-wire					●	●	●	●	●	●	
			●	●		2-wire							●	●	●	●	●

* Lead wire length

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

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	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
P4	Specifications for	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
P40	rechargeable battery	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

I Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring included)
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 included)

[Stroke table]

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

1: Less than 5 mm for 1-color LED switch and less than 10 mm for the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.

Refer to page 752 for the min. stroke with switch.

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

*3: Refer to pages 763 and 765 for the min. stroke with mounting bracket LB.

How to order switch

SW - T0H

Switch model No.
(Item ㉔ on page 754)

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 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)	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 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)

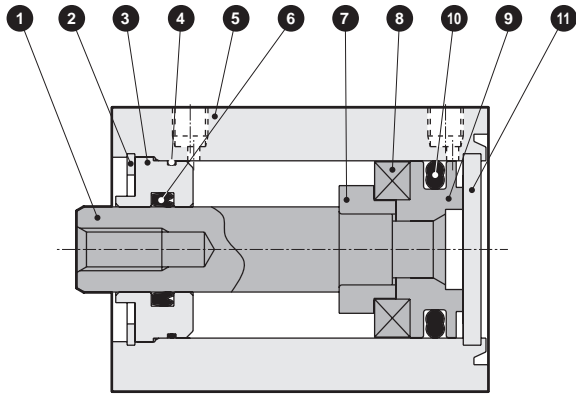
- Design compatible with rechargeable battery manufacturing process

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

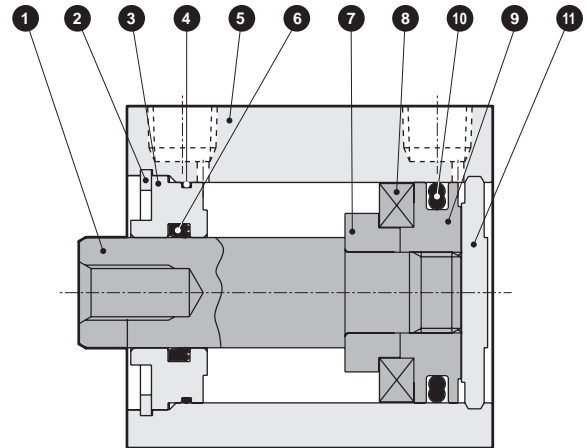
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list (ø12 to 50) (no cushion)

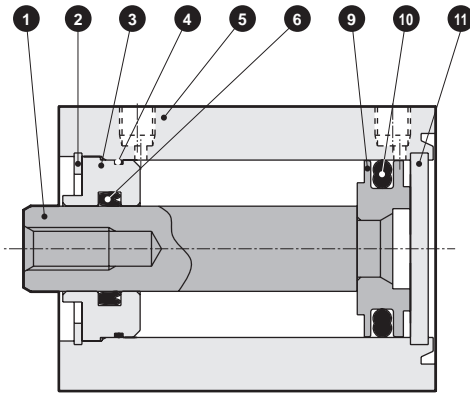
● SSD2-L-12 to 25 (double acting/with switch)



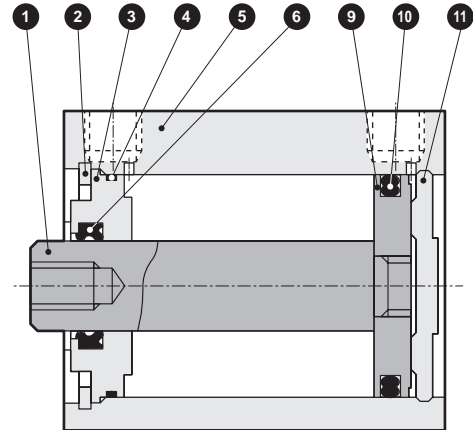
● SSD2-L-32 to 50 (double acting/with switch)



● SSD2-12 to 25 (double acting)



● SSD2-32 to 50 (double acting)



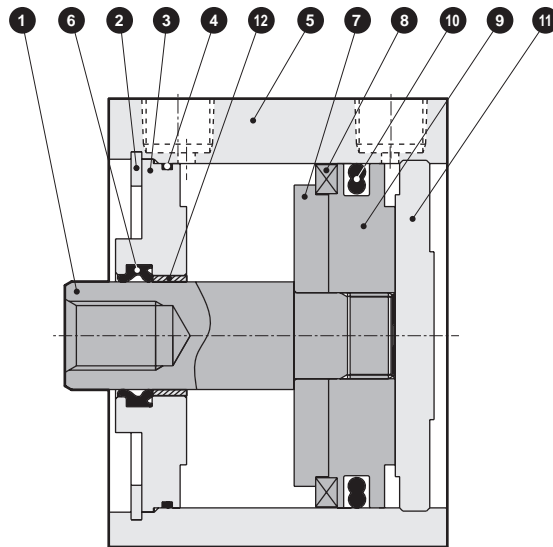
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	7	Spacer	Aluminum alloy	ø12 to ø32: Chromate
2	C-snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
6	Rod packing	Nitrile rubber					

Repair parts list

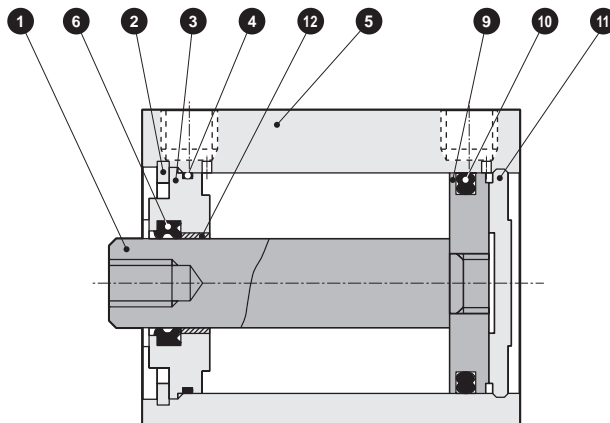
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD2-12K	4 6 10
ø16	SSD2-16K	
ø20	SSD2-20K	
ø25	SSD2-25K	
ø32	SSD2-32K	
ø40	SSD2-40K	
ø50	SSD2-50K	

Internal structure and parts list (ø63 to 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-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.
ø63	SSD2-63K	4 6 10
ø80	SSD2-80K	
ø100	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

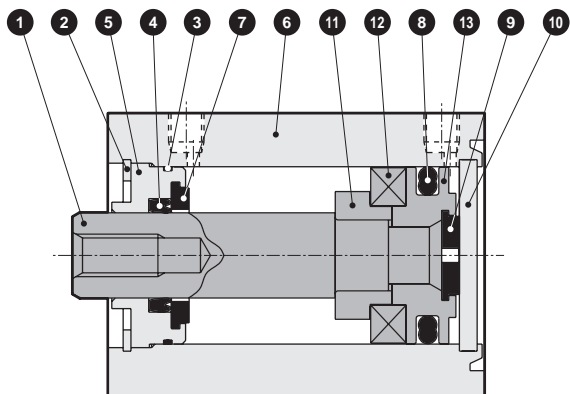
FK

Spd
Contr

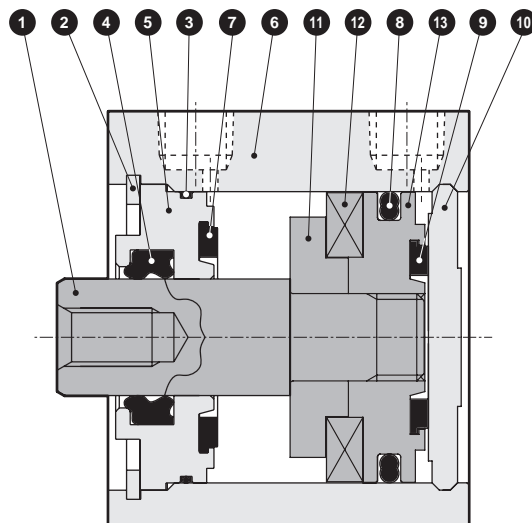
Ending

Internal structure and parts list (ø12 to 50) (with rubber cushion)

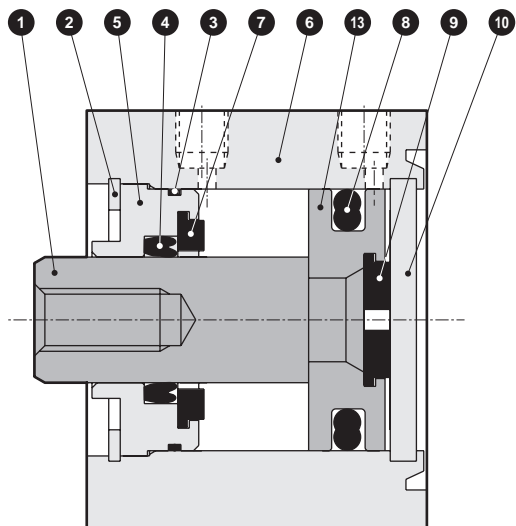
● SSD2-L-12D to 32D (double acting/with switch)



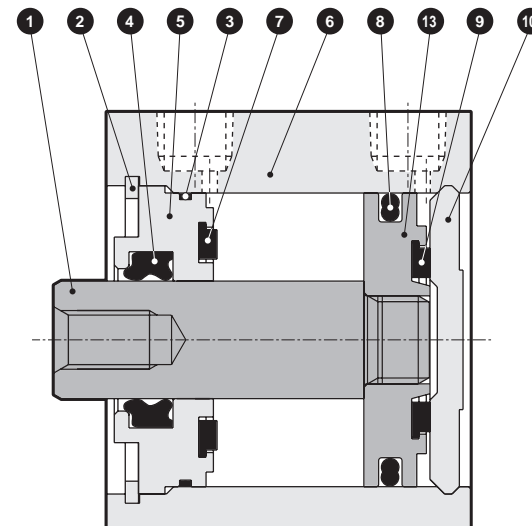
● SSD2-L-40D to 50D (double acting/with switch)



● SSD2-12D to 32D (double acting)



● SSD2-40D, 50D (double acting)



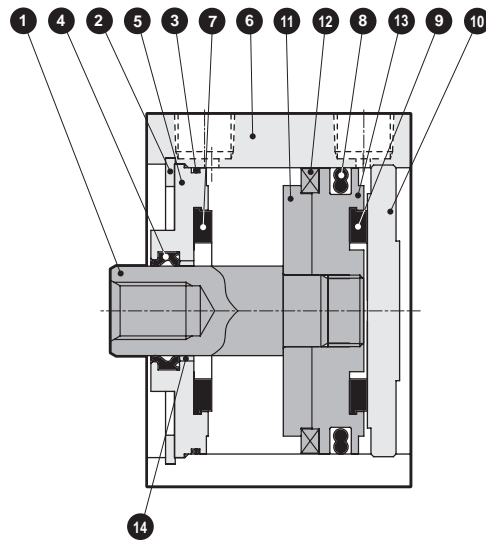
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	8	Piston packing	Nitrile rubber	
2	C-snap ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
4	Rod packing	Nitrile rubber		11	Spacer	Aluminum alloy	ø12 to ø32: 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

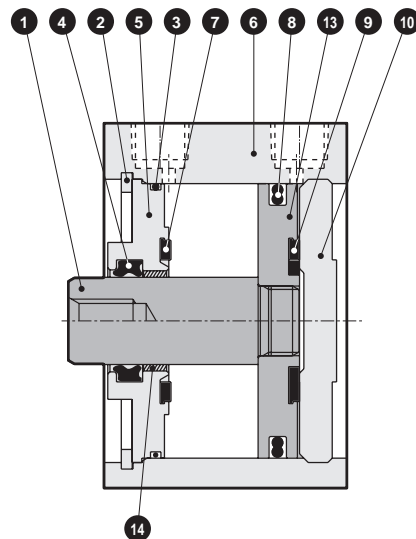
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD2-12DK	3 4 7 8 9
ø16	SSD2-16DK	
ø20	SSD2-20DK	
ø25	SSD2-25DK	
ø32	SSD2-32DK	
ø40	SSD2-40DK	
ø50	SSD2-50DK	

Internal structure and parts list (ø63 to 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-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.
ø63	SSD2-63DK	
ø80	SSD2-80DK	3 4 7 8 9
ø100	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

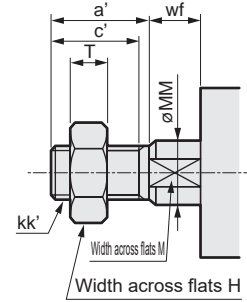
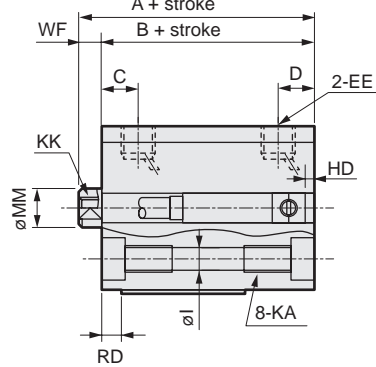
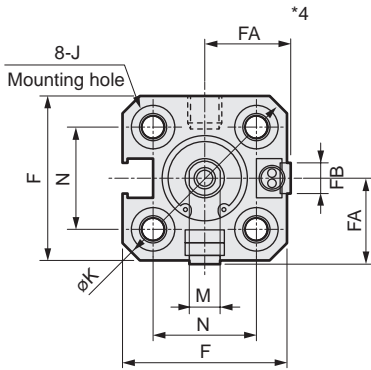
SSD2 Series

Dimensions

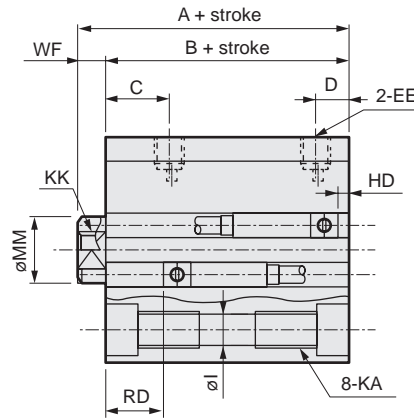
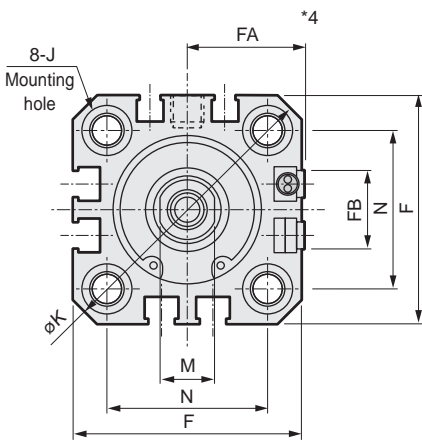


● SSD2-L-12 to 25 (with switch, TOH/V, T5H/V, T2H/V, T3H/V)
 $\phi 12/\phi 16$

● 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 or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.

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

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

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

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

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

3 : Refer to page 1044 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the L-shaped lead wire.

*5 : For dimensions of individual accessories, refer to pages 1046 to 1049.

*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.

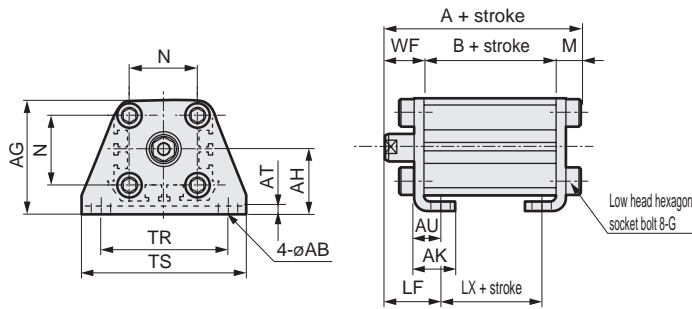
● Rod end male thread

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	M10x1.25	10	12	6	5

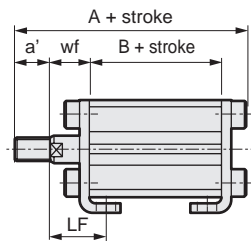
Dimensions with mounting bracket



- Axial foot (LB) with switch
SSD2-L-12 to 25 -LB



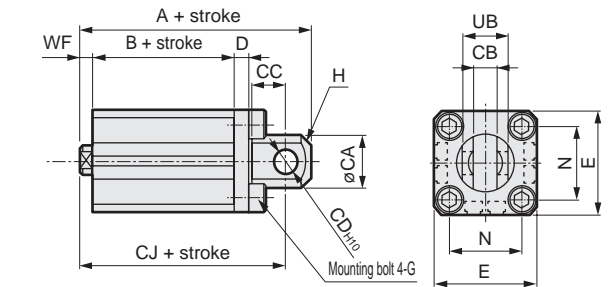
Rod end male thread



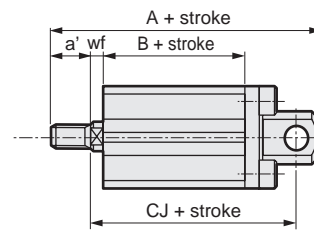
Code	Common dimensions						Female thread					
	Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
ø12	5	29.5	17	12.5	2	8	M4x10	15.5	34	44	4.8	
ø16	5	33.5	19	13	2	8	M4x10	20	38	48	4.8	
ø20	7	42	24	15	3.2	9.2	M6x16	25.5	48	62	7.2	
ø25	7	46	26	16.5	3.2	10.7	M6x16	28	52	66	7.2	

Code	Male thread											
	Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
ø12	13.5	19.5	40.3	22	10	10.5	13.5	19.5	50.8	22	10	
ø16	13.5	19.5	40.3	22	10	12	13.5	19.5	52.3	22	10	
ø20	14.5	20.5	51.2	29.5	17.5	14	14.5	20.5	65.2	29.5	17.5	
ø25	15	22.5	54.7	32.5	17.5	17.5	15	22.5	72.2	32.5	17.5	

- Clevis bracket (CB) with switch
SSD2-L-12 to 25 -CB



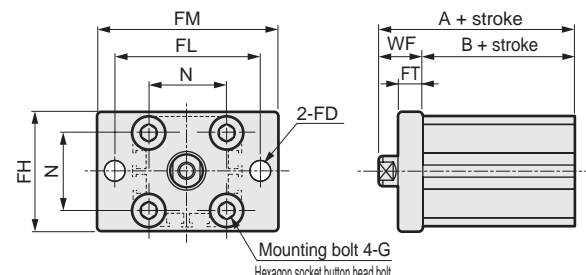
Rod end male thread



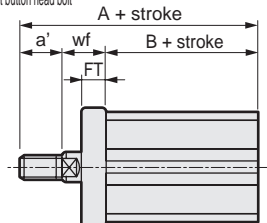
Code	Common dimensions										
	Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
ø12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4x12	C1.5	15.5	10 ^{-0.1} _{-0.3}	
ø16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4x12	C2	20	12 ^{-0.1} _{-0.4}	
ø20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6x16	C4	25.5	16 ^{-0.1} _{-0.3}	
ø25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6x16	C5	28	20 ^{-0.1} _{-0.3}	

Code	Female thread			Male thread						
	Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
ø12	3.5	45.5	22	39.5	10.5	3.5	56	22	39.5	
ø16	3.5	46.5	22	40.5	12	3.5	58.5	22	40.5	
ø20	4.5	61	29.5	52	14	4.5	75	29.5	52	
ø25	5	67.5	32.5	57.5	17.5	5	85	32.5	57.5	

- Rod side flange (FA) with switch
SSD2-L-12 to 25 -FA



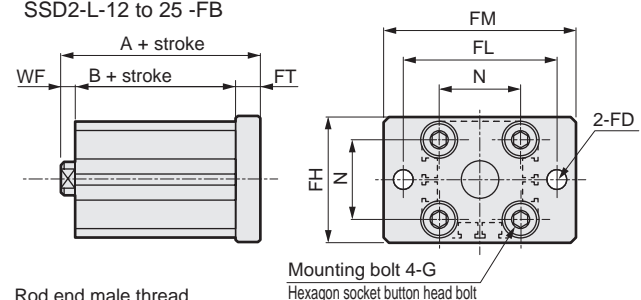
Rod end male thread



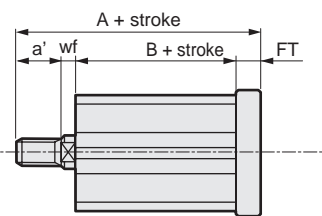
Code	Common dimensions							
	Bore size (mm)	FD	FH	FL	FM	FT	N	G
ø12	4.5	25	45	55	5.5	15.5	M4x12	
ø16	4.5	30	45	55	5.5	20	M4x12	
ø20	6.6	39	48	60	8	25.5	M6x16	
ø25	6.6	42	52	64	8	28	M6x16	

Code	Female thread			Male thread				
	Bore size (mm)	WF	A	B	a'	wf	A	B
ø12	13.5	35.5	22	10.5	13.5	46	22	
ø16	13.5	35.5	22	12	13.5	47.5	22	
ø20	14.5	44	29.5	14	14.5	58	29.5	
ø25	15	47.5	32.5	17.5	15	65	32.5	

- Head side flange (FB) with switch
SSD2-L-12 to 25 -FB



Rod end male thread



Code	Common dimensions							
	Bore size (mm)	FD	FH	FL	FM	FT	N	G
ø12	4.5	25	45	55	5.5	15.5	M4x12	
ø16	4.5	30	45	55	5.5	20	M4x12	
ø20	6.6	39	48	60	8	25.5	M6x16	
ø25	6.6	42	52	64	8	28	M6x16	

Code	Female thread			Male thread				
	Bore size (mm)	WF	A	B	a'	wf	A	B
ø12	3.5	31	22	10.5	3.5	41.5	22	
ø16	3.5	31	22	12	3.5	43	22	
ø20	4.5	42	29.5	14	4.5	56	29.5	
ø25	5	45.5	32.5	17.5	5	63	32.5	

- 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

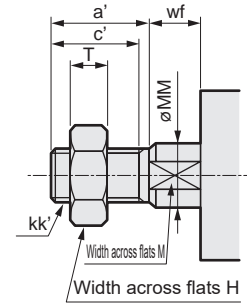
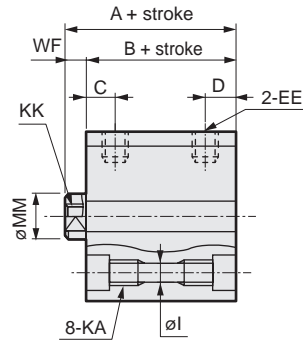
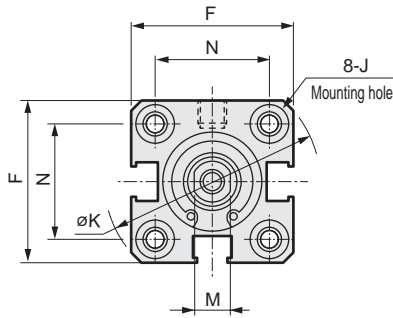
Dimensions



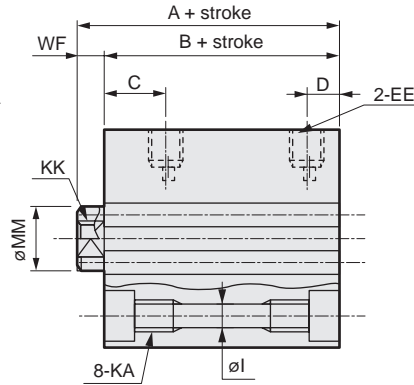
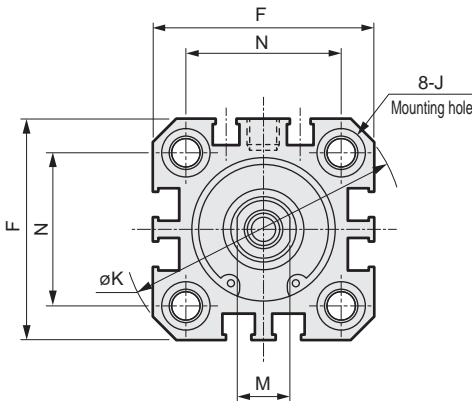
● SSD2-12 to 25 (without switch)

● Rod end male thread

ø12/ø16



ø20/ø25



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
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 12	10	12	28	5

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
ø12	10.5	9	8	M5	5	6	3.2	3.5
ø16	12	10	10	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10x1.25	10	12	6	5

*1 : To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

· For ø16: A + stroke = 30.5 / B + stroke = 27

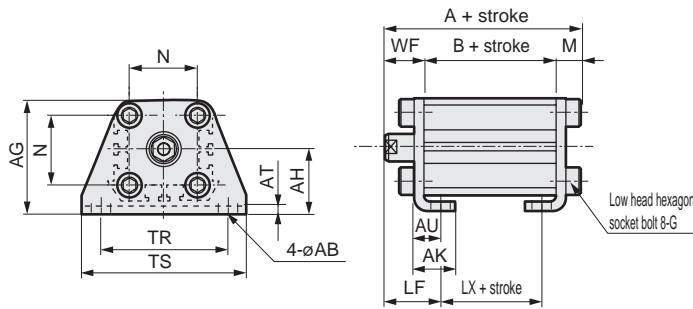
When you have selected "S" (dedicated unit for custom stroke), apply the custom stroke of 7 mm.

· For ø16: A + stroke = 27.5 / B + stroke = 24

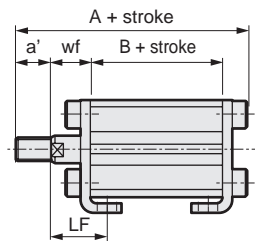
*2: For dimensions of individual accessories, refer to pages 1046 to 1049.

Dimensions with mounting bracket

- Axial foot (LB) without switch
SSD2-12 to 25 -LB



Rod end male thread

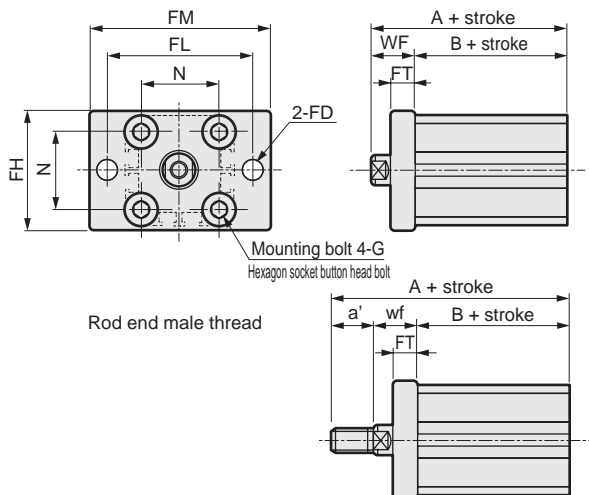


Code	Common dimensions										Female thread			
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M			
ø12	5	29.5	17	12.5	2	8	M4x10	15.5	34	44	4.8			
ø16	5	33.5	19	13	2	8	M4x10	20	38	48	4.8			
ø20	7	42	24	15	3.2	9.2	M6x16	25.5	48	62	7.2			
ø25	7	46	26	16.5	3.2	10.7	M6x16	28	52	66	7.2			

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
ø12	13.5	19.5	35.3	17	5	10.5	13.5	19.5	45.8	17	5
ø16	13.5	19.5	35.3	17	5	12	13.5	19.5	47.3	17	5
ø20	14.5	20.5	41.2	19.5	7.5	14	14.5	20.5	55.2	19.5	7.5
ø25	15	22.5	44.7	22.5	7.5	17.5	15	22.5	62.2	22.5	7.5

Note: ø20: LB cannot be selected for 5 mm stroke.

- Rod side flange (FA) without switch
SSD2-12 to 25 -FA

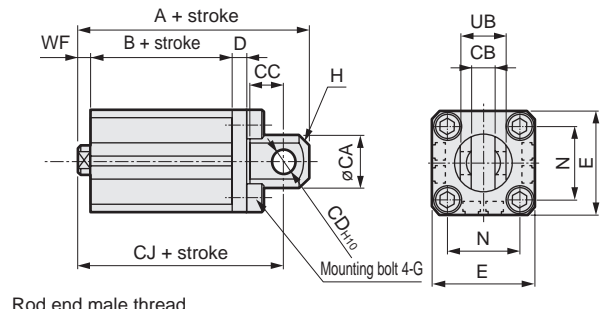


Rod end male thread

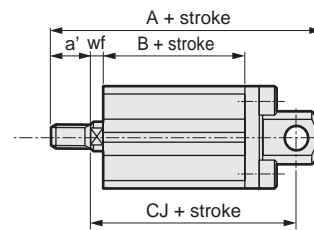
Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
ø12	4.5	25	45	55	5.5	15.5	M4x12
ø16	4.5	30	45	55	5.5	20	M4x12
ø20	6.6	39	48	60	8	25.5	M6x16
ø25	6.6	42	52	64	8	28	M6x16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
ø12	13.5	30.5	17	10.5	13.5	41	17
ø16	13.5	30.5	17	12	13.5	42.5	17
ø20	14.5	34	19.5	14	14.5	48	19.5
ø25	15	37.5	22.5	17.5	15	55	22.5

- Clevis bracket (CB) without switch
SSD2-12 to 25 -CB



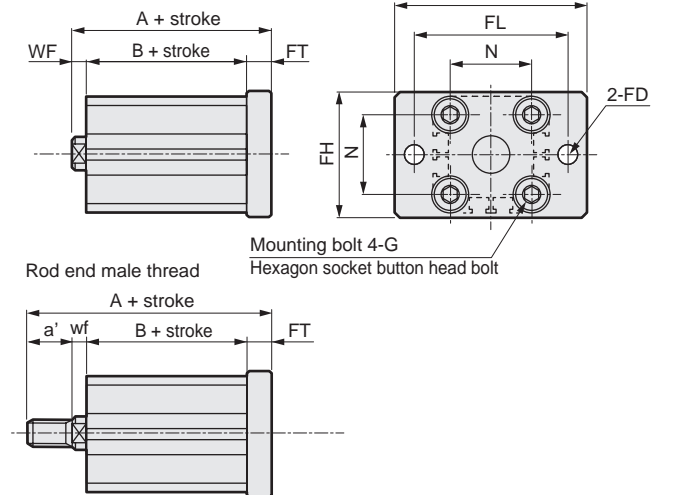
Rod end male thread



Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
ø12	12	5.2 ^{+0.2}	7	5	4	25	M4x12	C1.5	15.5	10 ^{+0.1} _{-0.3}
ø16	15	6.6 ^{+0.3}	8	5	5	29	M4x12	C2	20	12 ^{+0.1} _{-0.4}
ø20	20	8.2 ^{+0.2}	12	8	5	36	M6x16	C4	25.5	16 ^{+0.1} _{-0.3}
ø25	24	10.2 ^{+0.2}	14	10	5	40	M6x16	C5	28	20 ^{+0.1} _{-0.3}

Code	Female thread			Male thread					
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
ø12	3.5	40.5	17	34.5	10.5	3.5	51	17	34.5
ø16	3.5	41.5	17	35.5	12	3.5	53.5	17	35.5
ø20	4.5	51	19.5	42	14	4.5	65	19.5	42
ø25	5	57.5	22.5	47.5	17.5	5	75	22.5	47.5

- Head side flange (FB) without switch
SSD2-12 to 25 -FB



Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
ø12	4.5	25	45	55	5.5	15.5	M4x12
ø16	4.5	30	45	55	5.5	20	M4x12
ø20	6.6	39	48	60	8	25.5	M6x16
ø25	6.6	42	52	64	8	28	M6x16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
ø12	3.5	26	17	10.5	3.5	36.5	17
ø16	3.5	26	17	12	3.5	38	17
ø20	4.5	32	19.5	14	4.5	46	19.5
ø25	5	35.5	22.5	17.5	5	53	22.5

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