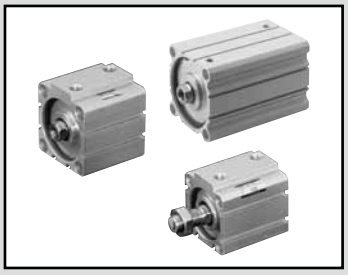
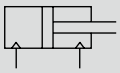


Compact cylinder double acting/single rod

SSD Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100/φ125/ φ140/φ160

JIS symbol



RoHS CAD

Specifications

Descriptions		SSD SSD-L (with switch)												
Bore size mm		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160
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 °C		-10 (14°F) to 60 (140°F) (no freezing)												
Port size		M5				Rc 1/8		Rc 1/4		Rc 3/8				
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										With rubber cushion (standard)		
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)												
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	6.52	6.52	7.78
	Without cushion	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	-		

Clean-room specifications

(Catalog No. CB-033SA)

● Anti-dust generation structure for use in cleanrooms

SSD····· P7*
SSD····· P5*

Specifications for rechargeable battery

(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

SSD····· P4*

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	*1) 30	1
φ16			
φ20	5, 10, 15, 20, 25, 30, 40, 50	*1) 50	
φ25			
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	*1) 50	
φ80			
φ100			
φ125	10, 20, 30, 40 50, 60, 70, 80 90, 100	300	
φ140			
φ160			

*1) For φ12 to φ100, if the standard stroke is exceeded, the high load is used. Refer to page 1100 for specifications.
*2) For the type with switch, refer to the table on the following page of installed switch numbers and minimum stroke length.

Number of installed switches and min. stroke length (mm)

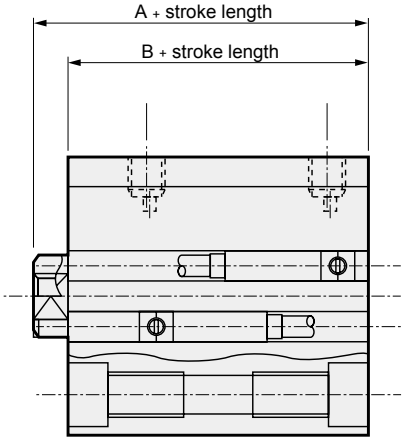
Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	50	-
φ80	5	5	35	50	-
φ100	5	5	35	50	-
φ125	5	5	40	55	70
φ140	5	5	40	55	70
φ160	5	5	40	55	70

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

Custom stroke length

● SSD 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 (11) to 29 (*1)
	20 to 50	1 to 49	20 to 50	6 to 49
	63 to 100	1 to 49	63 to 100	6 to 49
	125 to 160	1 to 299 (*2)	125 to 160	1 to 299 (*2)
Example of model No.	Model No.: SSD-32-38 A +2 mm spacer is added to the SSD-32-40 standard cylinder to create 38 mm stroke length. B dimension is 63 mm.		Model No.: SSD-32-38-S Dedicated units for 38 mm stroke length are available. B dimension is 61mm.	



*1) The value in ( ) is for type with switch.
*2) Dedicated body is available as standard for φ125 to φ160.

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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

● φ12 to φ100 (Unit: g)

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

● φ125 to φ160 (Unit: kg)

Stroke length (mm) / Bore size (mm)	10		20		30		40		50		60		70		80		90		100	
	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
φ125	4.35	4.45	4.62	4.72	4.88	4.98	5.15	5.25	5.41	5.51	5.68	5.78	5.94	6.04	6.21	6.31	6.47	6.57	6.74	6.84
φ140	6.33	6.44	6.63	6.74	6.94	7.05	7.24	7.35	7.55	7.66	7.85	7.96	8.16	8.27	8.46	8.57	8.77	8.88	9.07	9.18
φ160	8.64	8.76	9.02	9.14	9.4	9.52	9.78	9.9	10.16	10.28	10.54	10.66	10.92	11.04	11.3	11.42	11.68	11.8	12.06	12.18

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}
φ125	Push	1.23×10^{3}	1.84×10^{3}	2.45×10^{3}	3.68×10^{3}	4.91×10^{3}	6.14×10^{3}	7.36×10^{3}	8.59×10^{3}	9.82×10^{3}	1.10×10^{4}	1.23×10^{4}
	Pull	1.13×10^{3}	1.70×10^{3}	2.26×10^{3}	3.39×10^{3}	4.52×10^{3}	5.65×10^{3}	6.79×10^{3}	7.92×10^{3}	9.05×10^{3}	1.02×10^{4}	1.13×10^{4}
φ140	Push	1.54×10^{3}	2.31×10^{3}	3.08×10^{3}	4.62×10^{3}	6.16×10^{3}	7.70×10^{3}	9.24×10^{3}	1.08×10^{4}	1.23×10^{4}	1.39×10^{4}	1.54×10^{4}
	Pull	1.44×10^{3}	2.16×10^{3}	2.89×10^{3}	4.33×10^{3}	5.77×10^{3}	7.22×10^{3}	8.66×10^{3}	1.01×10^{4}	1.15×10^{4}	1.30×10^{4}	1.44×10^{4}
φ160	Push	2.01×10^{3}	3.02×10^{3}	4.02×10^{3}	6.03×10^{3}	8.04×10^{3}	1.01×10^{4}	1.21×10^{4}	1.41×10^{4}	1.61×10^{4}	1.81×10^{4}	2.01×10^{4}
	Pull	1.88×10^{3}	2.83×10^{3}	3.77×10^{3}	5.65×10^{3}	7.54×10^{3}	9.42×10^{3}	1.13×10^{4}	1.32×10^{4}	1.51×10^{4}	1.70×10^{4}	1.88×10^{4}

How to order

Without switch (without magnet for switch)

SSD – 12 ○○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-L - 12 ○○ - 5 - T0H - R - N - LB - I

2-color display/off-delay, with T1* switch (φ12/φ16 only) (built-in magnet for switch)

SSD-L1 - 12 ○○ - 10 - T2YH - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Cushion
Ⓔ Stroke length
Ⓕ Switch model No. *1 *2 *3 *10
Ⓖ Switch quantity
Ⓗ Option *4
Ⓘ Mounting bracket *5 *6 *11
Ⓙ Accessory *7

Precautions for model No. selection

*1 : Switches other than Ⓕ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
*2 : Strong magnetic field proof switch cannot be installed on φ12 and φ16.
3 : T8 switch cannot be installed on φ12 to φ32.
*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 LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 to 1094. 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 : Refer to Ending Page 85 for custom specifications of rod end form.
*9 : Refer to pages 1070 to 1075 for combinations of variations/options.
*10 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
*11 : Only LB and CB are available for φ125 to φ160.

[Example of model No.]

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

Model: Compact cylinder, standard

Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Cushion : Without cushion
Ⓔ Stroke length : 5 mm
Ⓕ Switch model No. : Reed switch T0H
·Lead wire length 1 m
Ⓖ Switch quantity : 1 on rod side
Ⓗ Option : Rod end male thread
Ⓘ Mounting bracket : Axial foot
Ⓙ Accessory : Rod eye

Code	Content
Ⓐ Model No.	
SSD	Double acting/single rod
SSD-L	Double acting/single rod/with switch
SSD-L1	φ12, φ16 2-color display, off-delay, with T1* switch

Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
125	φ125
140	φ140
160	φ160

Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)

Ⓓ Cushion	
Blank	Without cushion (with rubber cushion for φ125 and over)
D	With rubber cushion (φ12 to φ100)

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

Ⓕ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display	2-wire
T2YDT*	**-**	Proximity		●	AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓖ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓗ Option

	Bore size (mm)	12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●	●
P6	Cu/PTFE free specs	Supported as standard							●	●	●			
S	Unit for custom stroke	●	●	●	●	●	●	●	●	●	●	Supported as standard		
M	Piston rod material (S.S.)	●	●	●	●	●	●	●	●	●	●			

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

Ⓙ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size												
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160
Standard stroke length	5	●	●	●	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●						
	20	●	●	●	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●						
	30	●	●	●	●	●	●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●	●	●	●
	60											●	●	●
	70											●	●	●
	80											●	●	●
	90											●	●	●
	100											●	●	●
Min. stroke length (mm) *1		1												
Max. stroke length (mm)		30		50								300		
Custom stroke length *2		In 1 mm increments												

If the standard stroke is exceeded, the high load (K) is used. Refer to page 1100 for specifications, and pages 1106 to 1109 for dimensions.

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 1078 for the number of installed switches and the min. stroke length.

*2 : Total length when using a custom stroke length is different between φ12 to φ100 and φ125 to φ160 as below. Please be careful.
[φ12 to φ100]
The dimensions of the total length with the custom stroke length are the handled same as the next longer standard stroke length.
[φ125 to φ160]
Total length dimension with custom stroke length is handled as the custom stroke dedicated length.

How to order switch

SW - T0H

Switch model No.
(Item Ⓕ on previous page)

Clean-room specifications

(Catalog No. CB-033SA)

● Anti-dust generation structure for use in cleanrooms

SSD ····· **P7***

SSD ····· **P5***

Specifications for rechargeable battery

(catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

SSD ····· **P4***

How to order mounting bracket

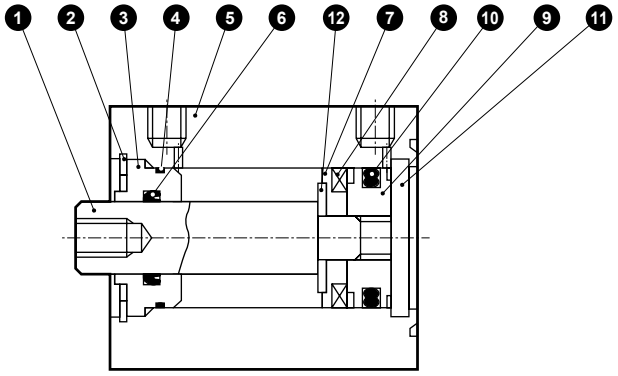
Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50

Bore size (mm) / Mounting bracket	φ63	φ80	φ100	φ125	φ140	φ160	
Foot (LB)	SSD-LB-63	SSD-LB-80	SSD-LB-100	SSD-LB-125	SSD-LB-140	SSD-LB-160	
Foot (LB2)	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100	-	-	-	
Flange (FA/FB)	SSD-FA-63	SSD-FA-80	SSD-FA-100	-	-	-	
Clevis bracket (CB)	SSD-CB-63	SSD-CB-80	SSD-CB-100	SSD-CB-125	SSD-CB-140	SSD-CB-160	
Clevis bracket (CB2)	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100	-	-	-	

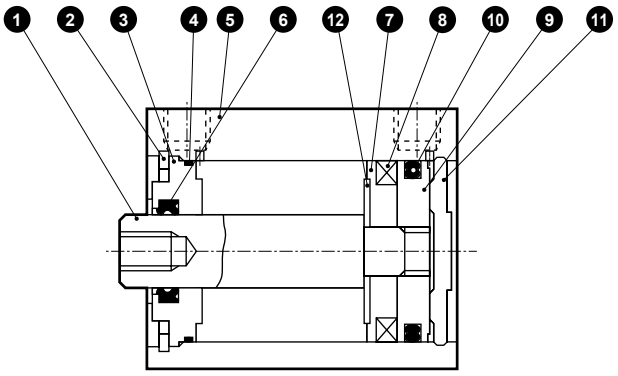
*1: The foot mounting bracket is provided as 2 pcs./set.

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

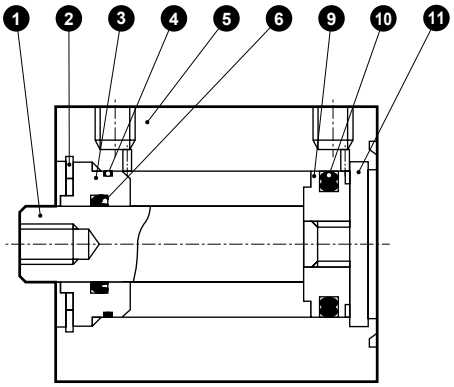
● SSD-L-12 to 25 (double acting/with switch)



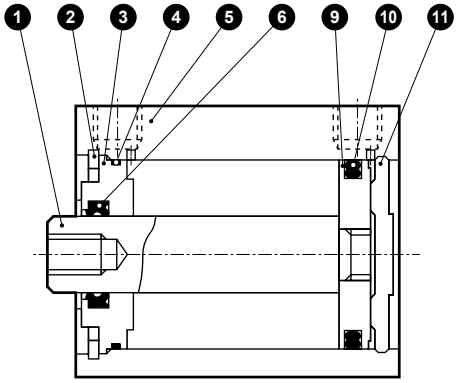
● SSD-L-32 to 50 (double acting/with switch)



● SSD-12 to 25 (double acting)



● SSD-32 to 50 (double acting)



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

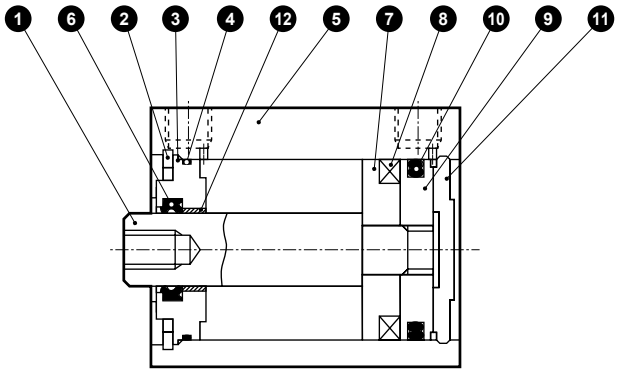
No.	Part name	Material	Remarks
7	Spacer	φ12: Aluminum alloy φ16 to φ50: Special resin	Chromate (φ12)
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
12	Spacer washer	Stainless steel	φ20 to φ50

Repair parts list

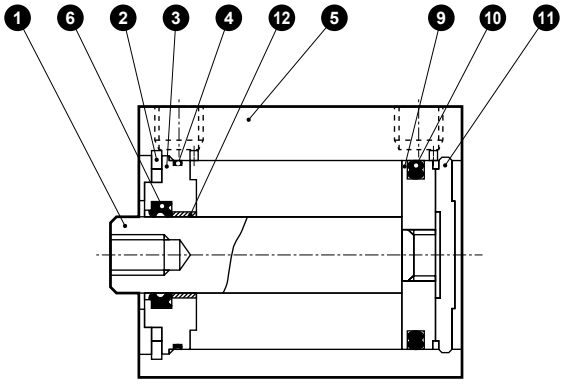
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-12K	❹ ❻ ❿
φ16	SSD-16K	
φ20	SSD-20K	
φ25	SSD-25K	
φ32	SSD-32K	
φ40	SSD-40K	
φ50	SSD-50K	

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

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



● SSD-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	Chromate
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

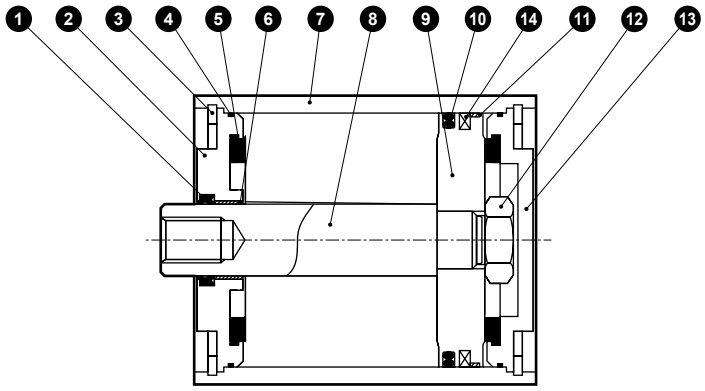
*1: Material is steel for copper and PTFE free specifications.

Repair parts list

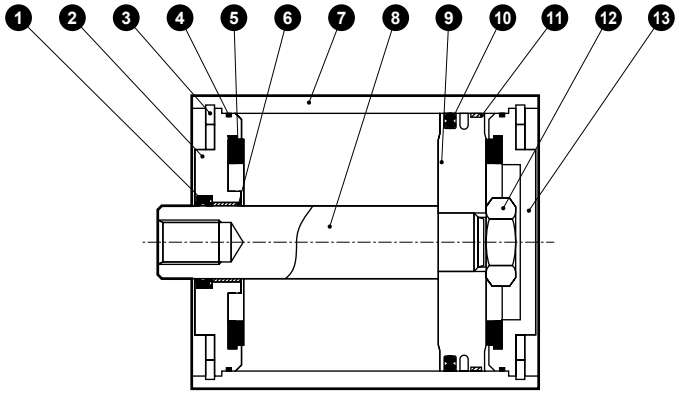
Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-63K	❹ ❻ ❿
φ80	SSD-80K	
φ100	SSD-100K	

Internal structure and parts list (φ125 to φ160) (with cushion)

● SSD-L-φ125 to φ160 (double acting/single rod/with switch)



● SSD-L-φ125 to φ160 (double acting/single rod)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod packing	Nitrile rubber		9	Piston	Aluminum die-casting	
2	Rod metal	Aluminum die-casting	Chromate	10	Piston packing	Nitrile rubber	
3	C type snap ring	Steel	Zinc phosphate	11	Wear ring	Polyacetal resin	
4	Metal gasket	Nitrile rubber		12	Hexagon nut	Steel	Zinc chromate
5	Cushion rubber	Urethane rubber		13	Base plate	Aluminum die-casting	Chromate
6	Bush	Oiles drymet		14	Magnet	Rubber	SSD-L only
7	Body	Aluminum alloy	Hard alumite				
8	Piston rod	Steel	Industrial chrome plating				

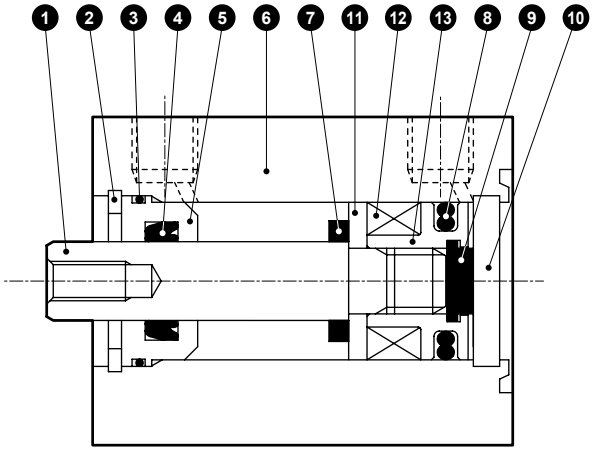
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ125	SSD-125K	❶ ❹ ❺ ❿ ⓫
φ140	SSD-140K	
φ160	SSD-160K	

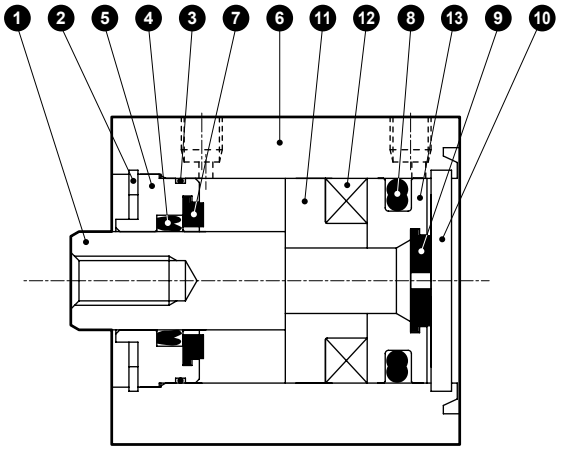
*1: Specify the kit No. when placing an order.

Internal structure and parts list (φ12 to φ32) (with rubber cushion)

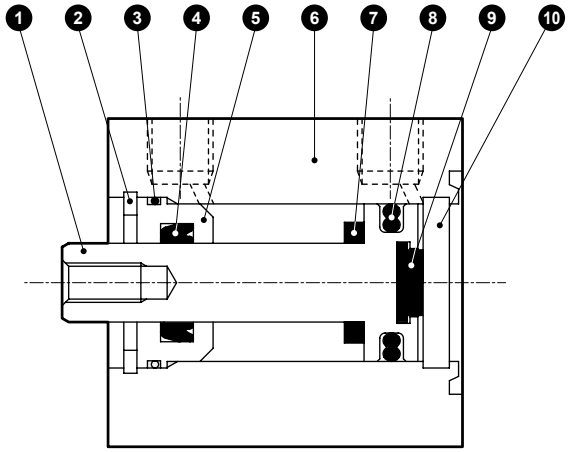
● SSD-L-12D (double acting/with switch)



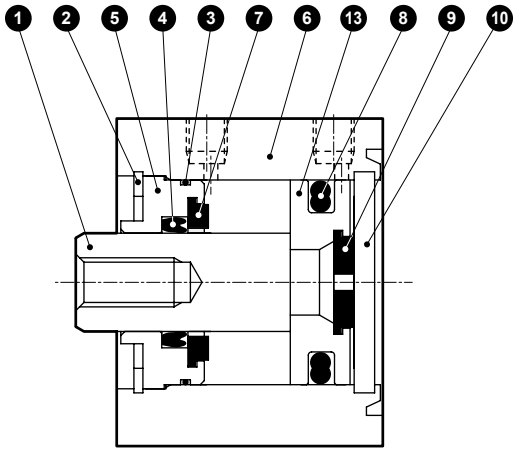
● SSD-L-16D to 32D (double acting/with switch)



● SSD-12D (double acting)



● SSD-16D to 32D (double acting)



No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32: Steel	φ16 to φ32 Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal gasket	Nitrile rubber	
4	Rod packing	Nitrile rubber	
5	Rod metal	Aluminum alloy	Alumite
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber R	Urethane rubber	

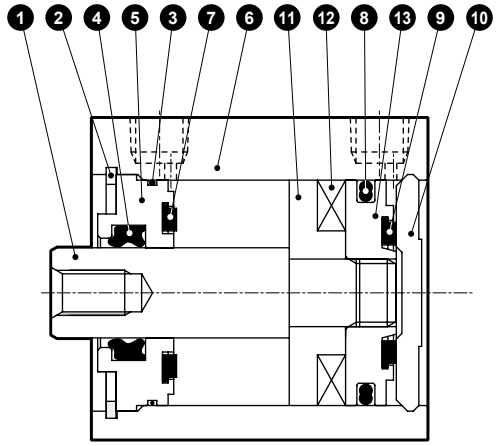
No.	Part name	Material	Remarks
8	Piston packing	Nitrile rubber	
9	Cushion rubber H	Urethane rubber	
10	Cover	φ12 to φ25: Stainless steel φ32: Aluminum alloy	φ32: Alumite
11	Spacer	Aluminum alloy	Chromate
12	Magnet	Plastic	
13	Piston	Aluminum alloy	Chromate

Repair parts list

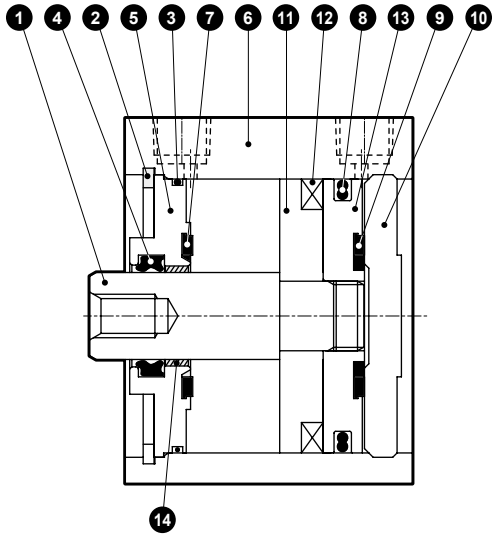
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-12DK	❸ ❹ ❼ ❽ ❾
φ16	SSD-16DK	
φ20	SSD-20DK	
φ25	SSD-25DK	
φ32	SSD-32DK	

Internal structure and parts list (φ40 to φ100) (with rubber cushion)

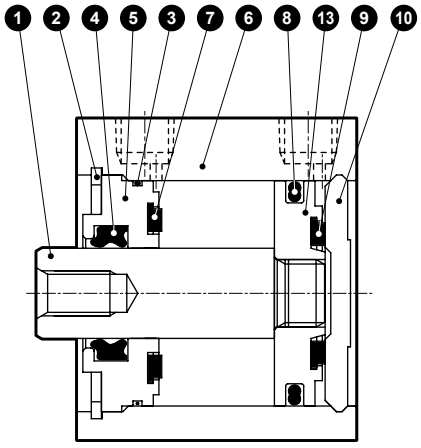
● SSD-L-40D to 50D (double acting/with switch)



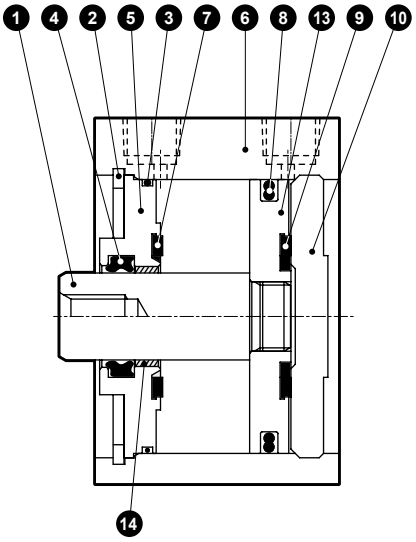
● SSD-L-63D to 100D (double acting/with switch)



● SSD-40, 50D (double acting)



● SSD-63D to 100D (double acting)



No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal gasket	Nitrile rubber	
4	Rod packing	Nitrile rubber	
5	Rod metal	Aluminum alloy	φ40 to φ50: Alumite φ63 to φ100: Chromate
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber R	Urethane rubber	

No.	Part name	Material	Remarks
8	Piston packing	Nitrile rubber	
9	Cushion rubber H	Urethane rubber	
10	Cover	Aluminum alloy	Alumite
11	Spacer	Aluminum alloy	Chromate
12	Magnet	Plastic	
13	Piston	Aluminum alloy	Chromate
14	Bush	Oiles drymet	φ63 to φ100

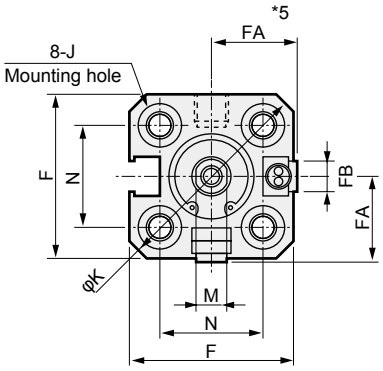
Repair parts list

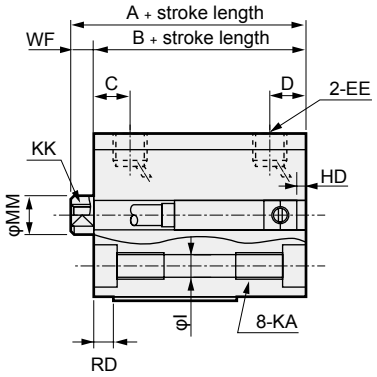
Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-40DK	❸ ❹ ❼ ❽ ❾
φ50	SSD-50DK	
φ63	SSD-63DK	
φ80	SSD-80DK	
φ100	SSD-100DK	

Dimensions

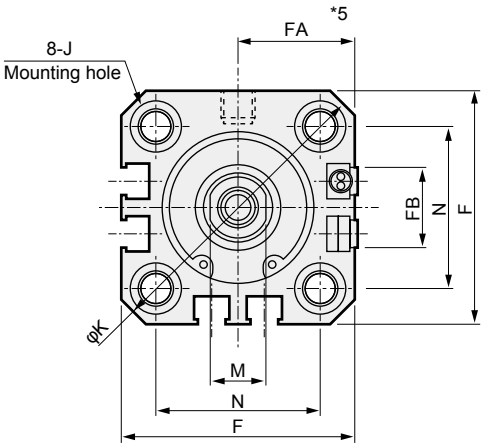
● SSD-L-12 to 25 (with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$, T2W$^{H}_{V}$, T3W$^{H}_{V}$)

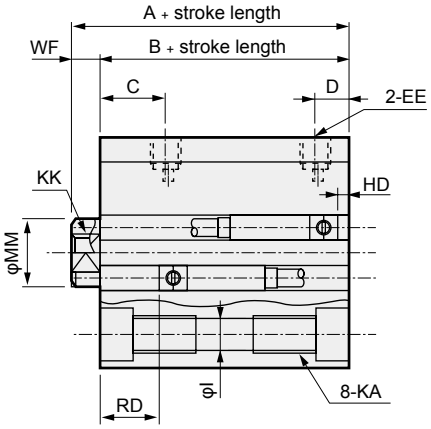
φ12/φ16



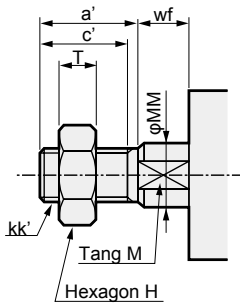


φ20/φ25





● Rod end male thread



Code / Bore size (mm)	Common dimensions with switch																	
	A *1	B *1	C	D	EE	F	FA *5	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	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
φ16	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
φ20	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
φ25	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 T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ12	0	2.5	0	2.5
φ16	0	2	0	2
φ20	3	6.5	3	6.5
φ25	3	9.5	3	9.5

*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.
*2 : When the stroke length is 5 mm for φ12 or φ16 with switch, (A + stroke) length and (B + stroke) length are as shown in the table.
*3 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
4 : Refer to page 1296 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.
*5 : Dimensions in ( ) of FA are for the radial lead wire.
*6 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

● When the stroke length is 5 mm, dimensions are as below.

Bore size	A + stroke length	B + stroke length
φ12	35.5	32
φ16	35.5	32

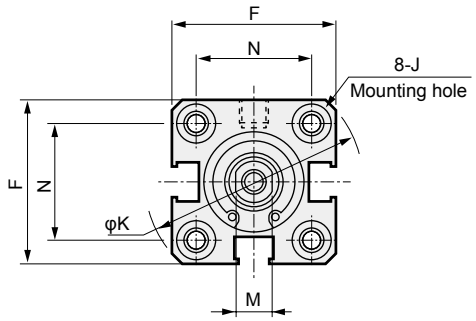
● Rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

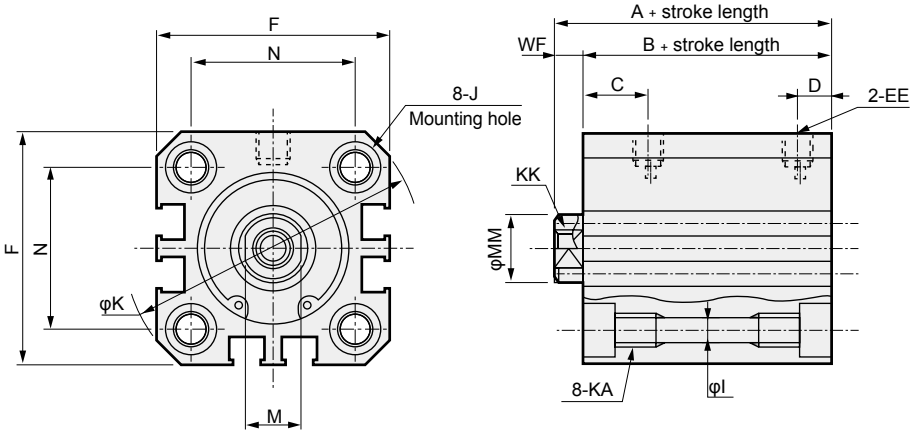
Dimensions CAD

● SSD-12 to 25 (without switch)

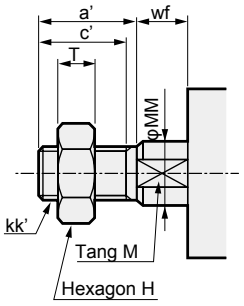
φ12/φ16



φ20/φ25



● Rod end male thread



Code / Bore size (mm)	A *1	B *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
	Dimensions without switch and common dimensions														
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
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
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
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

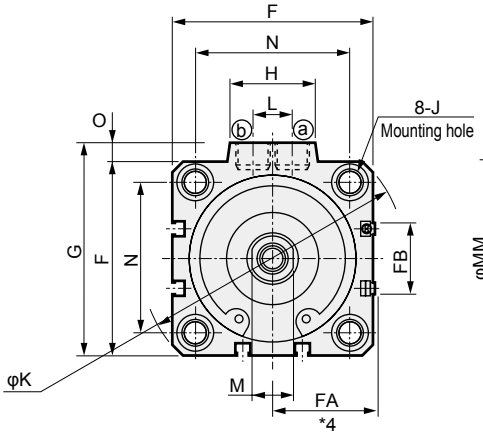
● Rod end male thread

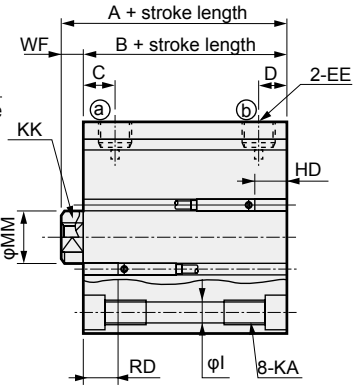
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

*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.
*2 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

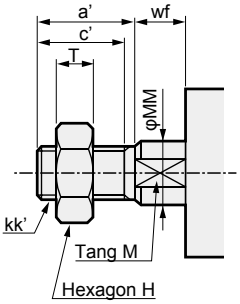
Dimensions CAD

● SSD-L-32 to 100 (with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$, T2W$^{H}_{V}$, T3W$^{H}_{V}$)

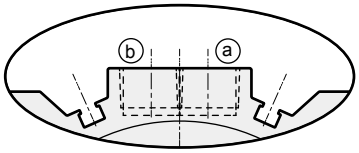




● Rod end male thread

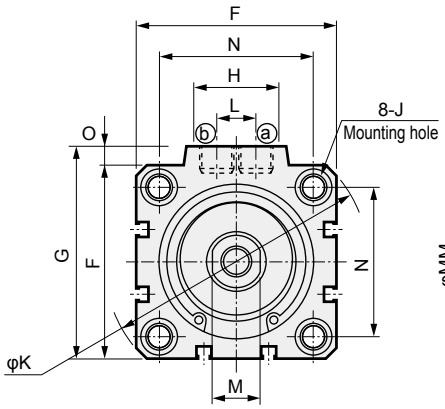


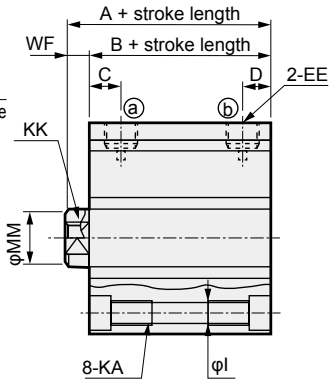
[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

● SSD-32 to 100 (without switch)





Code	Without switch		Common dimensions with switch																			
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	30	23	40	33	8	8	Rc 1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	36.5	29.5	46.5	39.5	12	8.5	Rc 1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	38.5	30.5	48.5	40.5	10.5	10.5	Rc 1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	44	36	54	46	13	11	Rc 1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	53.5	43.5	63.5	53.5	16	13	Rc 3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	65	53	75	63	23	15	Rc 3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ32	3.5	9	3.5	9
φ40	7	12	7	12
φ50	7.5	12.5	7.5	12.5
φ63	12.5	13	12.5	13
φ80	17.5	15.5	17.5	15.5
φ100	23	19.5	23	19.5

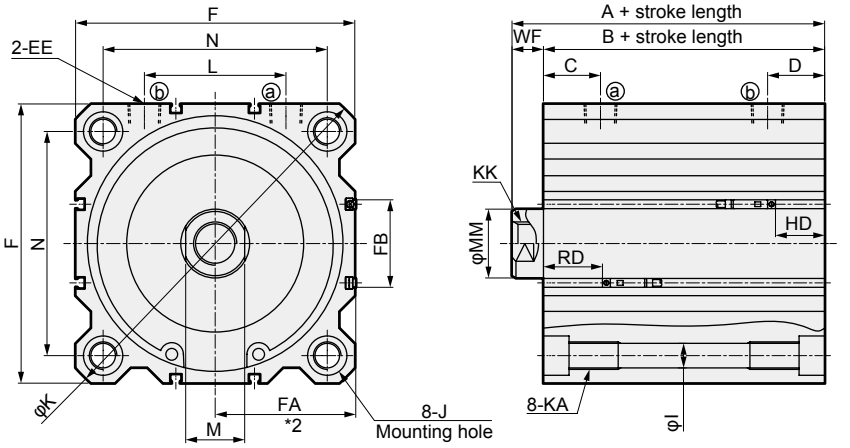
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
3 : Refer to page 1297 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 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

● Rod end male thread

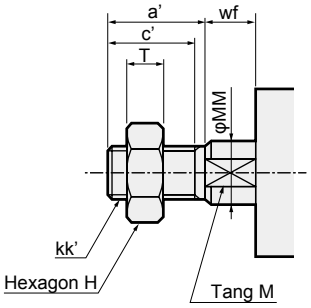
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8

Dimensions CAD

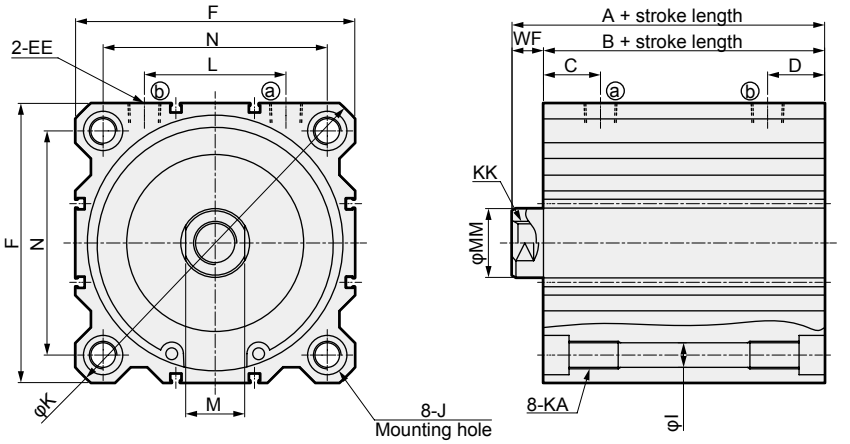
● SSD-L-125 to 160 (double acting/with switch)



● Rod end male thread



● SSD-125 to 160 (double acting)



Code	Common dimensions with switch												
Bore size (mm)	A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK
φ125	88	72	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
φ140	98	82	27	27	Rc3/8	158	79.5(83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30
φ160	108	91	30	30	Rc3/8	178	89.5(93)	48.5	14.7	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33

Switch dimensions						Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	L	M	MM	N	WF	HD	RD	HD	RD
φ125	72	30	35	114	16	24.5	29.5	24.5	29.5
φ140	80	30	35	128	16	31	33	31	33
φ160	90	36	40	144	17	34	39	34	39

● *1 : Refer to page 1297 for HD and RD dimensions of 2-color display switches.
● *2 : Dimensions in ( ) of FA are for the radial lead wire.
● *3 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

Dimensions of rod end male thread

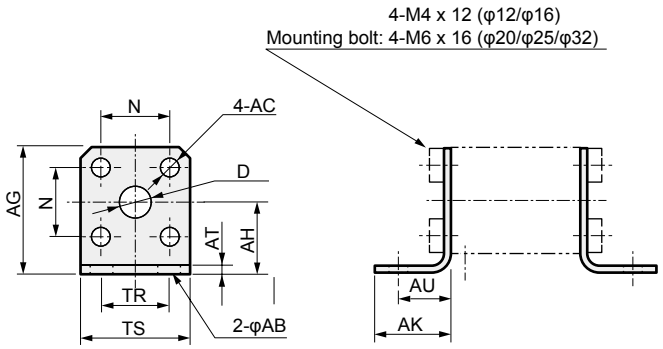
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ125	45	42	46	M30×1.5	30	35	18	13
φ140	45	42	46	M30×1.5	30	35	18	13
φ160	50	47	55	M36×1.5	36	40	21	14

MEMO

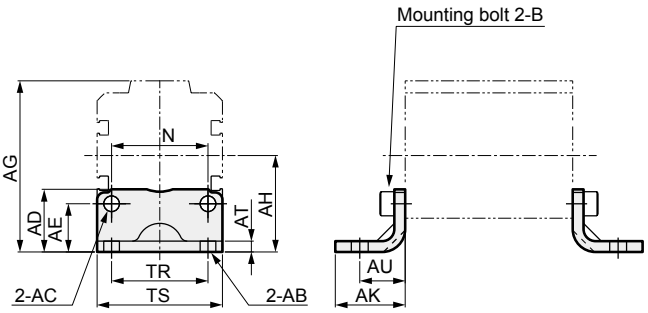
Dimensions (Mounting bracket: LB) CAD

● Mounting bracket Axial foot (LB)

·φ12 to φ32 Material: Steel
Zinc chromate treatment



·φ40 to φ100 Material: Steel
Zinc chromate treatment



* 8 hexagon socket head cap screws are attached for installation. 2 pieces are included in a set.

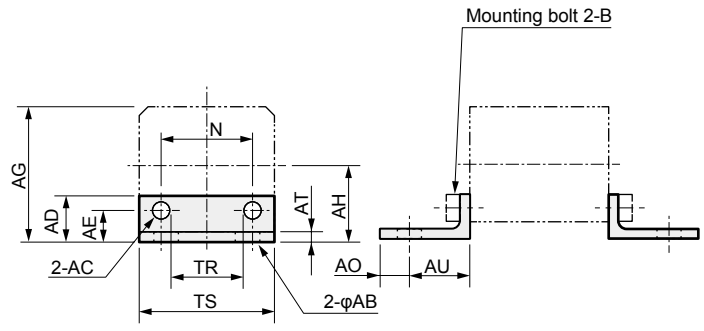
Model No.	Applicable bore size	AB	AC	AG	AH	AK	AT	AU	D	N	TR	TS	Wt (g)
SSD-LB-12	φ12	6	4.5	29.5	17	18	2.3	12	8	15.5	16	25	40
SSD-LB-16	φ16	6	4.5	33.5	19	18	2.3	12	10	20	16	29	50
SSD-LB-20	φ20	7	6.5	42	24	24	3.2	16	12	25.5	24	36	140
SSD-LB-25	φ25	7	6.5	46	26	24	3.2	16	14	28	28	40	150
SSD-LB-32	φ32	7	6.5	53.5	31	24	3.2	16	18	34	34	45	180

Note) Axial foot (LB) cannot be mounted on SSD-W or SSD-B.

* 4 hexagon socket head cap screws are attached for installation. 2 pieces are included in a set.

Model No.	Bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	N	TR	TS	Wt (g)
SSD-LB- 40	φ40	7	6.5	26	20	71	40	29	4.5	19	M6×16	40	40	52	170
SSD-LB- 50	φ50	9	9	23	15	79	40	34	4.5	22	M8×20	50	46	64	270
SSD-LB- 63	φ63	11	11	33	21	96.5	51	40	4.5	25	M10×25	60	60	77	420
SSD-LB- 80	φ80	13	13	42	23	116.5	61.5	50	6	35	M12×40	77	77	98	890
SSD-LB-100	φ100	13	13	48	22	134	69	50	6	35	M12×40	94	94	117	1050

· φ125 to φ160 Material: Steel
Zinc chromate treatment



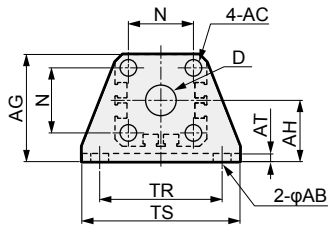
* 4 hexagon socket head cap screws are attached for installation. 2 pieces are included in a set.

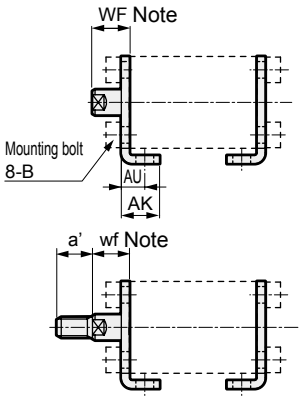
Model No.	Bore size	AB	AC	AD	AE	AG	AH	AO	AT	AU	B	N	TR	TS	Wt (g)
SSD-LB-125	φ125	19	14.5	43	28	156	85	20	7	45	M14×40	114	100	142	1750
SSD-LB-140	φ140	19	14.5	51	36	179	100	20	8	50	M14×40	128	112	158	2400
SSD-LB-160	φ160	19	16.5	52	34	195	106	20	10	53	M16×50	144	118	178	3500

Dimensions (Mounting bracket: LB2)

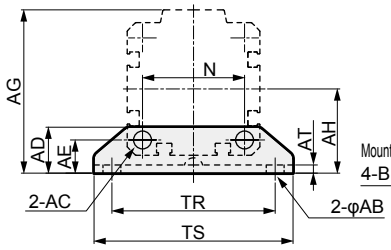
● Axial foot (LB2)

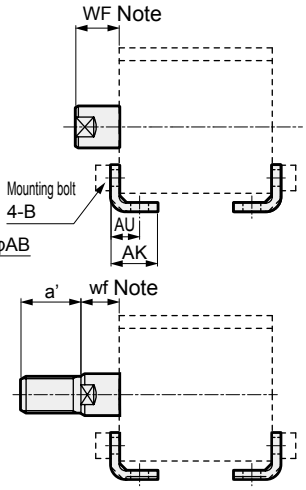
· φ12 to φ25 Material: Steel Zinc chromate treatment





· φ32 to φ100 Material: Steel Zinc chromate treatment





*1: Hex socket mounting bolts are attached.

Model No.	Bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	D	N	TR	TS	WF	wf	a'	Wt (g)
SSD-LB2-12	φ12	5	4.5	-	-	29.5	17	12.5	2	8	M4×10	8	15.5	34	44	13.5	13.5	10.5	51
SSD-LB2-16	φ16	5	4.5	-	-	33.5	19	13	2	8	M4×10	10	20	38	48	13.5(18.5)	13.5(18.5)	12	61
SSD-LB2-20	φ20	7	6.5	-	-	42	24	15	3.2	9.2	M6×16	12	25.5	48	62	14.5(19.5)	14.5(19.5)	14	161
SSD-LB2-25	φ25	7	6.5	-	-	46	26	16.5	3.2	10.7	M6×16	14	28	52	66	15(20)	15(20)	17.5	176
SSD-LB2-32	φ32	7	7	18.5	13	57	30	17	3.2	11.2	M6×16	-	34	57	71	17(22)	15(20)	23.5	107
SSD-LB2-40	φ40	7	7	18	13	64	33	18.2	3.2	11.2	M6×16	-	40	64	78	17(22)	15(20)	23.5	121
SSD-LB2-50	φ50	9	9	22	14	78	39	22.7	3.2	14.7	M8×20	-	50	79	95	18(23)	15(20)	28.5	201
SSD-LB2-63	φ63	11	11	28	16	91.5	46	25.2	3.2	16.2	M10×25	-	60	95	113	18(23)	15(20)	28.5	314
SSD-LB2-80	φ80	13	13	39.5	20.5	114	59	30.5	4.5	19.5	M12×40	-	77	118	140	20(25)	18(23)	35.5	678
SSD-LB2-100	φ100	13	13	50	24	136	71	35.5	6	23	M12×40	-	94	137	162	22(27)	18(23)	35.5	1198

*1 : The WF/wf dimension of the cylinder for LB2 is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and LB2 brackets.

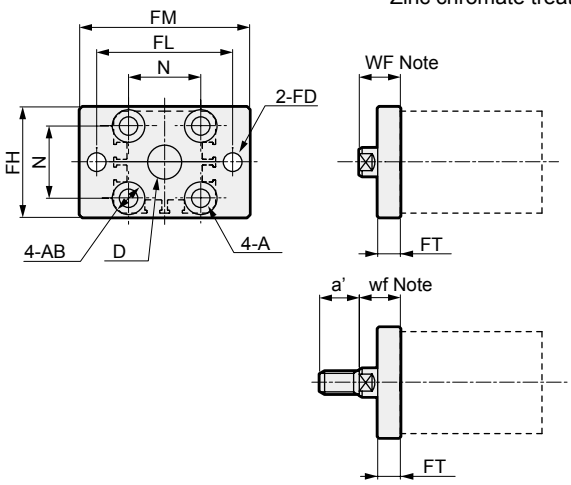
*2 : Dimensions in ( ) of WF/wf are dimensions for SSD-G2/G3.

Dimensions (Mounting bracket: FA, FB) CAD

● Rod side flange (FA)

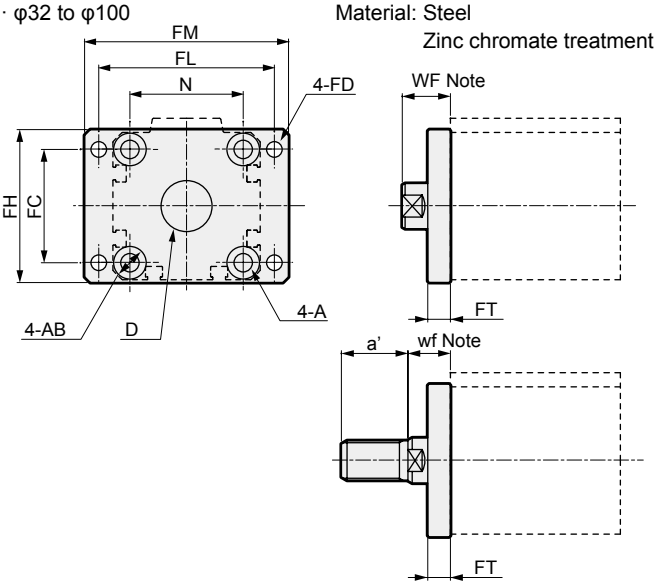
· φ12 to φ25

Material: Steel
Zinc chromate treatment



· φ32 to φ100

Material: Steel
Zinc chromate treatment



*1: Mounting bolts are attached.

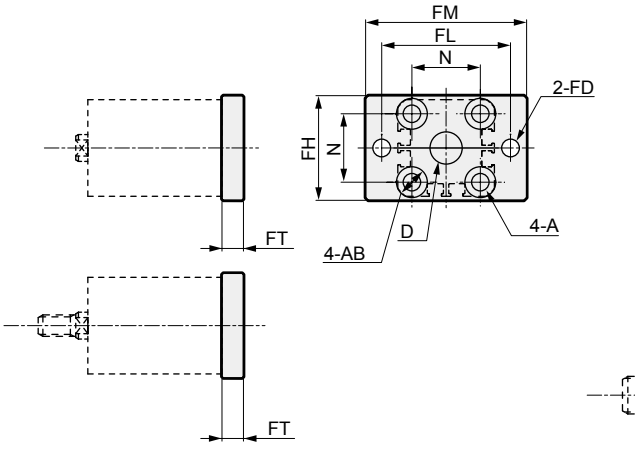
Model No.	Bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	WF	wf	a'	Wt (g)
SSD-FA-12	φ12	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	13.5	13.5	10.5	54
SSD-FA-16	φ16	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	13.5(18.5)	13.5(18.5)	12	64
SSD-FA-20	φ20	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	14.5(19.5)	14.5(19.5)	14	129
SSD-FA-25	φ25	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	15(20)	15(20)	17.5	148
SSD-FA-32	φ32	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	17(22)	15(20)	23.5	167
SSD-FA-40	φ40	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	17(22)	15(20)	23.5	215
SSD-FA-50	φ50	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	18(23)	15(20)	28.5	387
SSD-FA-63	φ63	60	9	80	92	108	9	11	18 spot face depth 6	35	60	18(23)	15(20)	28.5	573
SSD-FA-80	φ80	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	20(25)	18(23)	35.5	1132
SSD-FA-100	φ100	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	22(27)	18(23)	35.5	1522

*1: The WF/wf dimension of the cylinder for FA is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and FA brackets.
*2: Dimensions in ( ) of WF/wf are dimensions for SSD-G2/G3.

● Head side flange (FB)

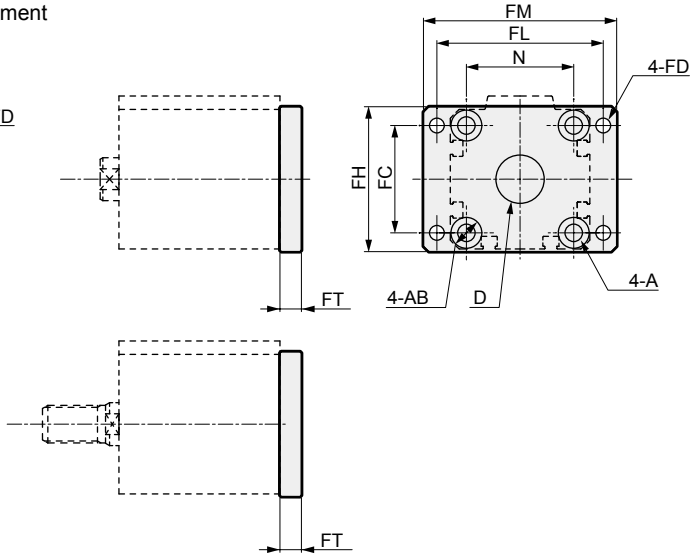
· φ12 to φ25

Material: Steel
Zinc chromate treatment



· φ32 to φ100

Material: Steel, zinc chromate treatment



*1: Mounting bolts are attached.

Model No.	Bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	Wt (g)
SSD-FB-12	φ12	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	54
SSD-FB-16	φ16	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	64
SSD-FB-20	φ20	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	129
SSD-FB-25	φ25	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	148
SSD-FB-32	φ32	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	167
SSD-FB-40	φ40	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	215
SSD-FB-50	φ50	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	387
SSD-FB-63	φ63	60	9	80	92	108	9	11	18 spot face depth 6	35	60	573
SSD-FB-80	φ80	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	1132
SSD-FB-100	φ100	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	1522

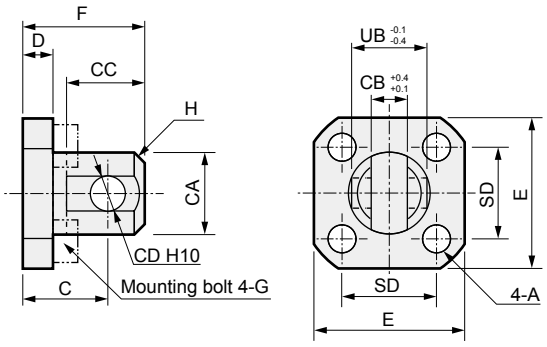
Dimensions (Mounting bracket: CB)

● Mounting bracket Clevis bracket (CB)

* Pin (including C ring) and snap ring are attached.
* When used for oscillation, a high load cylinder is recommended.

Note) Clevis bracket (CB) cannot be mounted on SSD-B, SSD-D or SSD-W.

Material: Cast iron
Painting

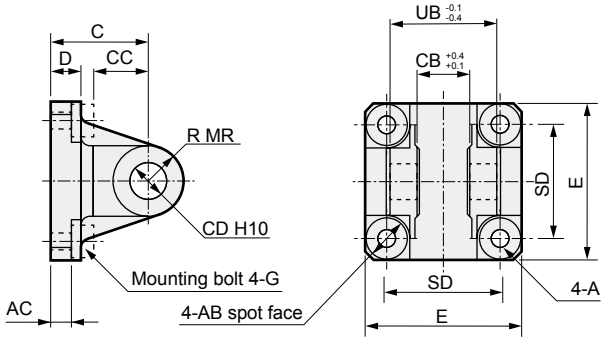


* 4 hexagon socket head cap screws are attached for installation.

Model No.	Bore size	A	C	CA	CB	CC	CD	D	E	F	G	H	SD	UB	Wt (g)
SSD-CB-12	φ12	4.5	14	13.5	6.5	13	5	5	25	20	M4×12	C1.5	15.5	12	35
SSD-CB-16	φ16	4.5	15	15	6.5	14	5	5	29	21	M4×12	C2	20	12	45
SSD-CB-20	φ20	6.5	23	24	8	22	10	8	36	33	M6×20	C4	25.5	19	140
SSD-CB-25	φ25	6.5	27	27.5	10	28	12	8	40	39	M6×20	C5	28	21	180

· φ32 to φ100

Material: Cast iron
Painting



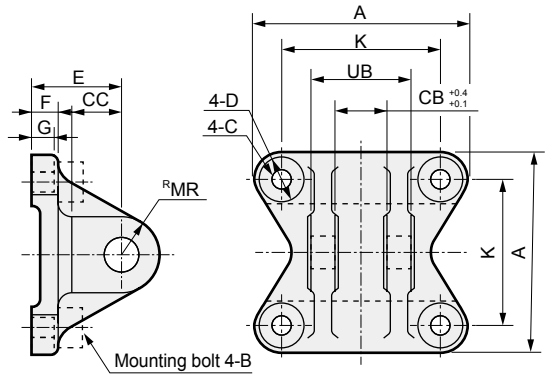
* 4 hexagon socket head cap screws are attached for installation.

Model No.	Bore size	A	AB	AC	C	CB	CC	CD	D	E	G	MR	SD	UB	Wt (g)
SSD-CB- 32	φ32	6.5	13	9.5	30	10	16	12	10	45	M6×20	R12	34	21	230
SSD-CB- 40	φ40	6.5	14	6.5	32	18	18	12	10	52	M6×20	R12	40	36	290
SSD-CB- 50	φ50	9	16	6.5	32	18	18	12	10	64	M8×20	R12	50	36	390
SSD-CB- 63	φ63	11	20	7.5	37	20	24	14	10	77	M10×25	R16	60	40	630
SSD-CB- 80	φ80	14	20	10.5	52	28	30	20	14	98	M12×40	R20	77	56	1530
SSD-CB-100	φ100	14	20	10.5	52	28	30	20	16	118	M12×40	R20	94	56	1900

● Clevis bracket (CB)

· φ125 to φ160

Material: Cast iron
Painting



* A pin and a snap ring are attached.
* 4 hexagon socket head cap screws are attached for installation.

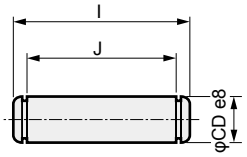
Model No.	Bore size	A	B	C	CB	CC	CD
SSD-CB-125	φ125	140	M14×50	16	32	35	25
SSD-CB-140	φ140	154	M14×50	16	36	40	28
SSD-CB-160	φ160	174	M16×60	18	40	40	32

Model No.	Bore size	D	E	F	G	K	MR	UB	Weight (g)
SSD-CB-125	φ125	23	63	20	18	114	25	64	3000
SSD-CB-140	φ140	23	75	22	20	128	28	72	4200
SSD-CB-160	φ160	26	75	24	22	144	32	80	6000

● Clevis bracket (CB) attached pin dimensions table

· φ12 to φ100

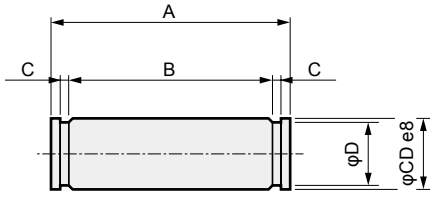
Material: Steel
Zinc chromate treatment



Model No.	Applicable bore size	I	J	CD	Applicable snap ring	Weight (g)
SSD-P-12	φ12	18	13	5	E type 4	2.8
SSD-P-16	φ16	18	13	5	E type 4	2.8
SSD-P-20	φ20	25	20	10	E type 9	17
SSD-P-25	φ25	27	22	12	E type 9	25
SSD-P-32	φ32	27	22	12	E type 9	25
SSD-P-40	φ40	43.5	36.2	12	C type for shaft 12	39
SSD-P-50	φ50	43.5	36.2	12	C type for shaft 12	39
SSD-P-63	φ63	47.5	40.2	14	C type for shaft 14	58
SSD-P-80	φ80	64	56.2	20	C type for shaft 20	156
SSD-P-100	φ100	64	56.2	20	C type for shaft 20	156

· φ125 to φ160

Material: Steel
Zinc chromate treatment



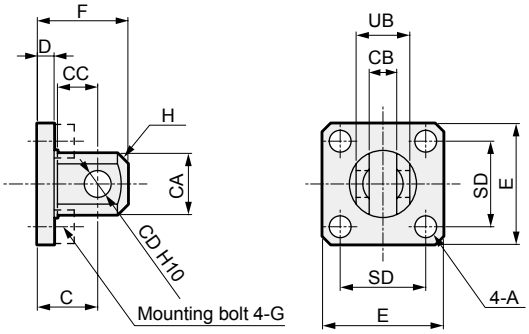
Model No.	Bore size	A	B	C	CD	D	Shaft snap ring	Weight (g)
SSD-P-125	φ125	75	66.3	1.35	25	23.9	C type for shaft 25	250
SSD-P-140	φ140	84	74.7	1.65	28	26.6	C type for shaft 28	400
SSD-P-160	φ160	92	82.7	1.65	32	30.3	C type for shaft 32	500

Dimensions (Mounting bracket: CB2)

● Clevis bracket (CB2)

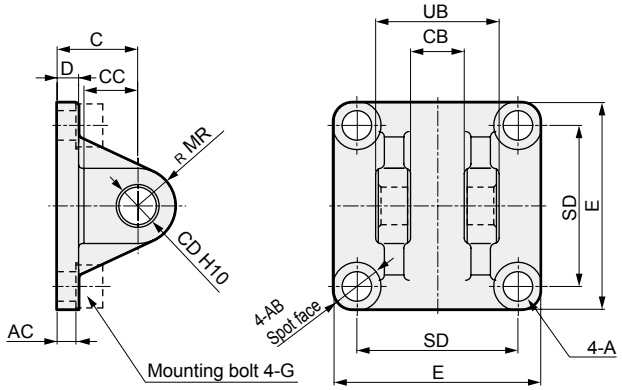
· φ12 to φ25

Material: Cast iron
Painting



· φ32 to φ100

Material: Cast iron
Painting

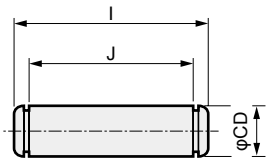


*1: Hex socket mounting bolts, pins (including C rings), and snap rings are attached.

Model No.	Bore size	A	AB	AC	C	CA	CB	CC	CD	D	E	F	G	H	MR	SD	UB	Wt (g)
SSD-CB2-12	φ12	4.5	-	-	14	12	$5.2^{+0.2}_{0}$	7	$5^{+0.048}_{0}$	4	25	20	M4×12	C1.5	-	15.5	$10^{-0.1}_{-0.3}$	28
SSD-CB2-16	φ16	4.5	-	-	15	15	$6.6^{+0.3}_{0}$	8	$5^{+0.048}_{0}$	5	29	21	M4×12	C2	-	20	$12^{-0.1}_{-0.4}$	43
SSD-CB2-20	φ20	6.5	-	-	18	20	$8.2^{+0.2}_{0}$	12	$8^{+0.058}_{0}$	5	36	27	M6×16	C4	-	25.5	$16^{-0.1}_{-0.3}$	84
SSD-CB2-25	φ25	6.5	-	-	20	24	$10.2^{+0.2}_{0}$	14	$10^{+0.058}_{0}$	5	40	30	M6×16	C5	-	28	$20^{-0.1}_{-0.3}$	110
SSD-CB2-32	φ32	6.6	13	4.5	20	-	$18.2^{+0.2}_{0}$	14	$10^{+0.058}_{0}$	5	45	30	M6×16	-	10	34	$36^{-0.1}_{-0.3}$	159
SSD-CB2-40	φ40	6.6	14	5	22	-	$18.2^{+0.2}_{0}$	14	$10^{+0.058}_{0}$	6	52	32	M6×16	-	10	40	$36^{-0.1}_{-0.3}$	207
SSD-CB2-50	φ50	9	16	6	28	-	$22.2^{+0.2}_{0}$	20	$14^{+0.070}_{0}$	7	64	42	M8×20	-	14	50	$44^{-0.1}_{-0.3}$	420
SSD-CB2-63	φ63	11	18	7	30	-	$22.2^{+0.2}_{0}$	20	$14^{+0.070}_{0}$	8	77	44	M10×25	-	14	60	$44^{-0.1}_{-0.3}$	605
SSD-CB2-80	φ80	13.5	23	9	38	-	$28.2^{+0.2}_{0}$	27	$18^{+0.070}_{0}$	10	98	56	M12×40	-	18	77	$56^{-0.1}_{-0.3}$	1222
SSD-CB2-100	φ100	13.5	20	12	45	-	$32.2^{+0.2}_{0}$	31	$22^{+0.084}_{0}$	13	117	67	M12×40	-	22	94	$64^{-0.1}_{-0.3}$	203

● Clevis bracket (CB2) attached pin dimensions table (P2)

Material: Steel
Zinc chromate treatment



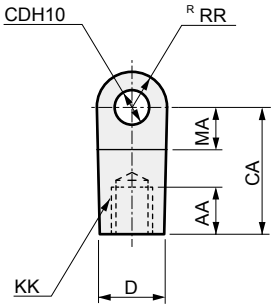
Model No.	Applicable bore size	I	J	CD	Applicable snap ring	Weight (g)
SSD-P2-12	φ12	15.2	10.2	$5^{-0.01}_{-0.028}$	E type 4	2.4
SSD-P2-16	φ16	18	13	$5^{-0.01}_{-0.028}$	E type 4	2.8
SSD-P2-20	φ20	21	16.2	$8^{-0.025}_{-0.047}$	C type for shaft 8	8.2
SSD-P2-25	φ25	25.6	20.2	$10^{-0.025}_{-0.047}$	C type for shaft 10	16
SSD-P2-32	φ32/φ40	41.6	36.2	$10^{-0.025}_{-0.047}$	C type for shaft 10	25
SSD-P2-50	φ50/φ63	50.6	44.2	$14^{-0.032}_{-0.059}$	C type for shaft 14	60
SSD-P2-80	φ80	64	56.2	$18^{-0.032}_{-0.059}$	C type for shaft 18	124
SSD-P2-100	φ100	72	64.2	$22^{-0.040}_{-0.083}$	C type for shaft 22	213

Dimensions (Accessory: I, I2)

● Rod eye (I)

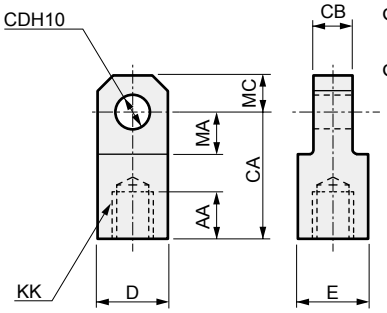
· φ12, φ16, φ40, φ50, φ63, φ80, φ100

Material: φ12 to φ25 Steel
φ32 to φ160 Cast iron
φ12 to φ32
Zinc chromate treatment
φ40 to φ100 Coating



· φ20, φ25, φ32, φ125, φ140, φ160

Material: φ12 to φ25 Steel
φ32 to φ160 Cast iron
φ12 to φ32
Zinc chromate treatment
φ40 to φ100 Coating

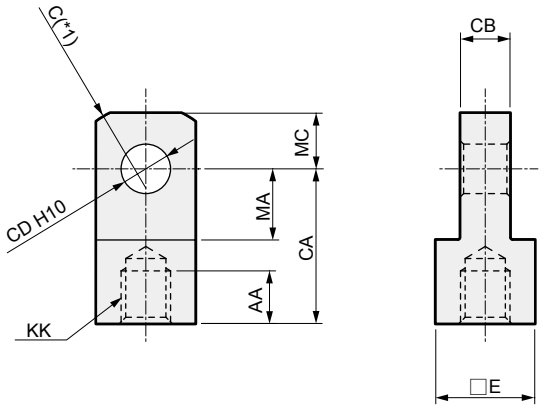


Model No.	Applicable bore size (mm)	AA	CA	CB	CD	D	E	KK	MA	MC	RR	Weight (g)
P2-I-16	12	8	25	$6.4^{\ 0}_{-0.1}$	$5^{+0.048}_{\ 0}$	12	12	M5	14	-	10	21
SSD-I-16	16	8	25	$6.5^{-0.1}_{-0.2}$	$5^{+0.048}_{\ 0}$	12	12	M6	14	-	10	21
SSD-I-20	20	13.5	30	$8^{-0.1}_{-0.2}$	$10^{+0.058}_{\ 0}$	19	19	M8	13	10	-	65
M1-I-30	25	14	36	$10^{-0.1}_{-0.2}$	$12^{+0.070}_{\ 0}$	25	19	M10×1.25	16	12	-	106
SSD-I-32	32	15	36	$10^{-0.1}_{-0.2}$	$12^{+0.070}_{\ 0}$	25	19	M14×1.5	16	12	-	106
SSD-I-40	40	20	50	$18^{-0.1}_{-0.4}$	$12^{+0.070}_{\ 0}$	27	27	M14×1.5	21	-	16	260
SSD-I-50	50	21	50	$18^{-0.1}_{-0.4}$	$12^{+0.070}_{\ 0}$	27	27	M18×1.5	21	-	16	240
SSD-I-63	63	21	50	$20^{-0.1}_{-0.4}$	$14^{+0.070}_{\ 0}$	27	27	M18×1.5	21	-	16	250
SSD-I-80	80	30	70	$28^{-0.1}_{-0.4}$	$20^{+0.084}_{\ 0}$	46	41	M22×1.5	30	-	25	880
SSD-I-100	100	30	70	$28^{-0.1}_{-0.4}$	$20^{+0.084}_{\ 0}$	46	41	M26×1.5	30	-	25	840
SSD-I-125	125/140	50	85	$32^{-0.1}_{-0.4}$	$25^{+0.084}_{\ 0}$	55	55	M30×1.5	32	27.5	-	1250
SSD-I-160	160	60	105	$40^{-0.1}_{-0.4}$	$32^{+0.100}_{\ 0}$	70	70	M36×1.5	40	35	-	2550

● Rod eye (I2)

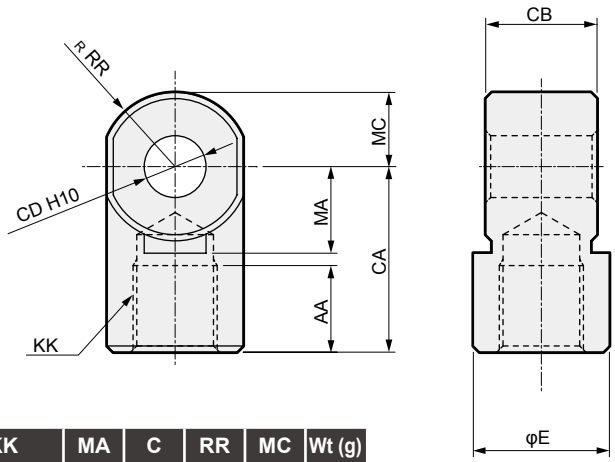
· φ12 to φ25

Material: Steel
Zinc chromate treatment



· φ32 to φ100

Material: Cast iron
φ32 Zinc chromate treatment
φ40 to φ100 Coating



*1: φ20/25 are SR RR

Model No.	Bore size	AA	CA	CB	CD	E	KK	MA	C	RR	MC	Wt (g)
SSD-I2-12	φ12	6	16	$5^{-0.2}_{-0.4}$	$5^{+0.048}_{\ 0}$	□10	M5×0.8	7	2	-	5.5	9
SSD-I2-16	φ16	8	25	$6.5^{-0.2}_{-0.4}$	$5^{+0.048}_{\ 0}$	□12	M6×1	14	2	-	7	21
SSD-I2-20	φ20	8.5	25	$8^{-0.2}_{-0.4}$	$8^{+0.058}_{\ 0}$	□16	M8×1.25	11.5	-	13.4	9	38
SSD-I2-25	φ25	10.5	30	$10^{-0.2}_{-0.4}$	$10^{+0.058}_{\ 0}$	□20	M10×1.25	14	-	17.1	11	71
SSD-I2-32	φ32/φ40	14	30	$18^{-0.3}_{-0.5}$	$10^{+0.058}_{\ 0}$	φ22	M14×1.5	14	-	12	12	74
SSD-I2-50	φ50/φ63	18	40	$22^{-0.3}_{-0.5}$	$14^{+0.070}_{\ 0}$	φ28	M18×1.5	20	-	16	16	155
SSD-I2-80	φ80	21	50	$28^{-0.3}_{-0.5}$	$18^{+0.070}_{\ 0}$	φ38	M22×1.5	27	-	21	21	380
SSD-I2-100	φ100	21	55	$32^{-0.3}_{-0.5}$	$22^{+0.084}_{\ 0}$	φ44	M26×1.5	31	-	24	24	550

Dimensions (Accessory: Y, Y2) CAD

● Rod clevis (Y)

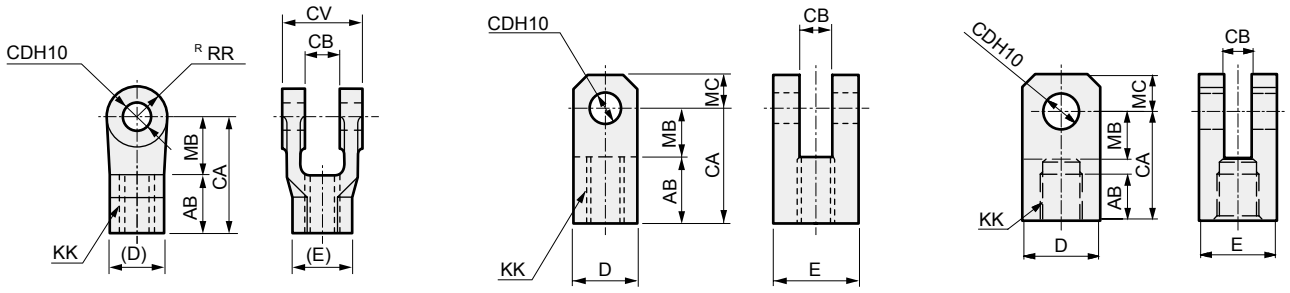
· φ12, φ16, φ40, φ50, φ63, φ80, φ100, φ125, φ140, φ160

· φ20, φ25

Material: φ12 to φ32 Steel
φ40 to φ100 Cast iron
φ12 to φ25 Zinc chromate treatment
φ32 to φ100 Coating

* A pin and a snap ring are attached.
* AB is thread depth

· φ32



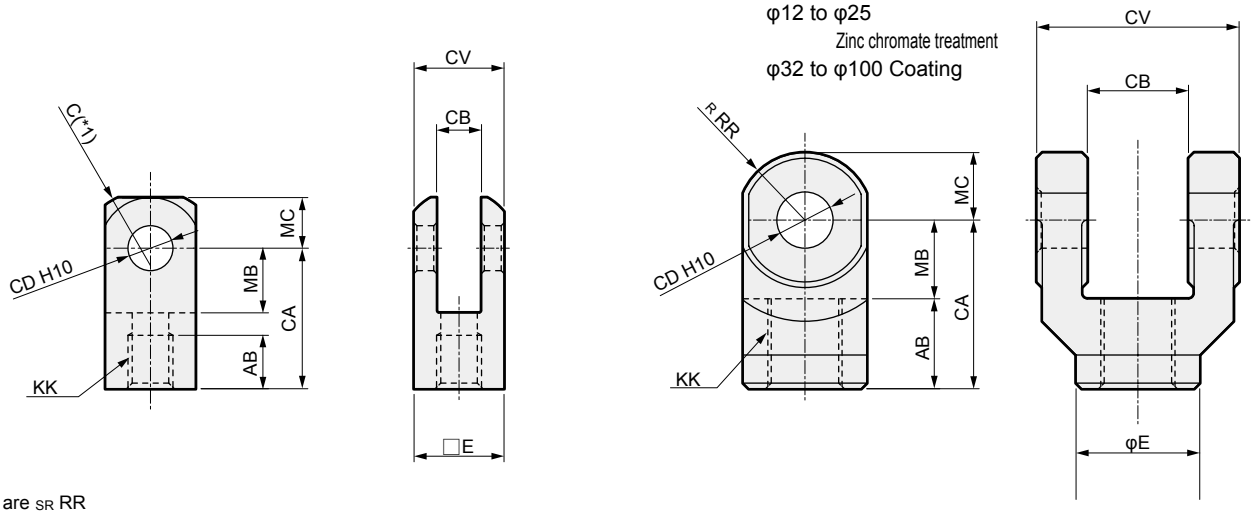
Model No.	Applicable bore size (mm)	AB	CA	CB	CD	CV	D	E	KK	MB	MC	RR	Weight (g)
P2-Y-16	12	11	21	6.5 $^{+0.2}_{+0.1}$	5 $^{+0.048}_{0}$	12	12	12	M5	10	-	10	20
SSD-Y-16	16	11	21	6.5 $^{+0.2}_{+0.1}$	5 $^{+0.048}_{0}$	12	12	12	M6	10	-	10	20
SSD-Y-20	20	17	30	8 $^{+0.3}_{+0.1}$	10 $^{+0.058}_{0}$	19	19	19	M8	13	10	-	100
M1-Y-30	25	20	36	10 $^{+0.3}_{+0.1}$	12 $^{+0.070}_{0}$	25	25	25	M10×1.25	16	12	-	197
SSD-Y-32	32	15	36	10 $^{+0.3}_{+0.1}$	12 $^{+0.070}_{0}$	25	25	25	M14×1.5	16	12	-	197
SSD-Y-40	40	24	50	18 $^{+0.4}_{+0.1}$	12 $^{+0.070}_{0}$	36	(27)	(31.2)	M14×1.5	26	-	16	250
SSD-Y-50	50	24	50	18 $^{+0.4}_{+0.1}$	12 $^{+0.070}_{0}$	36	(27)	(31.2)	M18×1.5	26	-	16	240
SSD-Y-63	63	24	50	20 $^{+0.4}_{+0.1}$	14 $^{+0.070}_{0}$	40	(27)	(31.2)	M18×1.5	26	-	16	260
SSD-Y-80	80	35	70	28 $^{+0.4}_{+0.1}$	20 $^{+0.084}_{0}$	56	(41)	(47.3)	M22×1.5	35	-	35	900
SSD-Y-100	100	35	70	28 $^{+0.4}_{+0.1}$	20 $^{+0.084}_{0}$	56	(41)	(47.3)	M26×1.5	35	-	35	850
SSD-Y-125	125/140	50	85	32 $^{+0.4}_{+0.1}$	25 $^{+0.084}_{0}$	64	(46)	(53.1)	M30×1.5	35	-	27.5	1300
SSD-Y-160	160	60	105	40 $^{+0.4}_{+0.1}$	32 $^{+0.100}_{0}$	80	(55)	(63.5)	M36×1.5	45	-	35	2550

● Rod clevis (Y2)

· φ12 to φ25

· φ32 to φ100

Material: φ12 to φ32 Steel
φ40 to φ100 Cast iron
φ12 to φ25 Zinc chromate treatment
φ32 to φ100 Coating



*1: φ20/25 are SR RR
*2: A pin and a snap ring are attached.

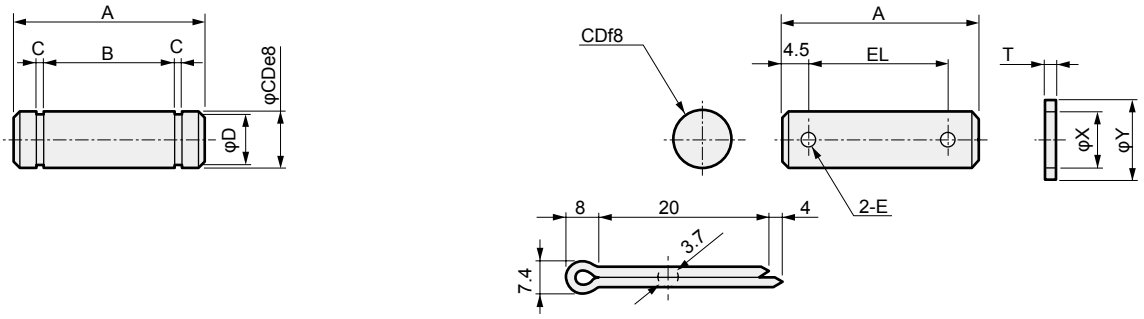
Model No.	Bore size	AB	CA	CB	CD	CV	E	KK	MB	C	RR	MC	Wt (g)
SSD-Y2-12	φ12	6	16	5 $^{+0.4}_{+0.2}$	5 $^{+0.048}_{0}$	10	□10	M5×0.8	7	2	-	5.5	12
SSD-Y2-16	φ16	11	21	6.5 $^{+0.4}_{+0.2}$	5 $^{+0.048}_{0}$	12	□12	M6×1	10	2	-	7	20
SSD-Y2-20	φ20	13.5	25	8 $^{+0.4}_{+0.2}$	8 $^{+0.058}_{0}$	16	□16	M8×1.25	11.5	-	13.4	9	45
SSD-Y2-25	φ25	16	30	10 $^{+0.4}_{+0.2}$	10 $^{+0.058}_{0}$	20	□20	M10×1.25	14	-	17.1	11	84
SSD-Y2-32	φ32/φ40	16	30	18 $^{+0.5}_{+0.3}$	10 $^{+0.058}_{0}$	36	φ22	M14×1.5	14	-	12	12	120
SSD-Y2-50	φ50/φ63	20	40	22 $^{+0.5}_{+0.3}$	14 $^{+0.070}_{0}$	44	φ28	M18×1.5	20	-	16	16	257
SSD-Y2-80	φ80	23	50	28 $^{+0.5}_{+0.3}$	18 $^{+0.070}_{0}$	56	φ38	M22×1.5	27	-	21	21	589
SSD-Y2-100	φ100	24	55	32 $^{+0.5}_{+0.3}$	22 $^{+0.084}_{0}$	64	φ44	M26×1.5	31	-	24	24	933

Dimensions (Accessory: P, P2)

● Rod clevis (Y) pin (P)

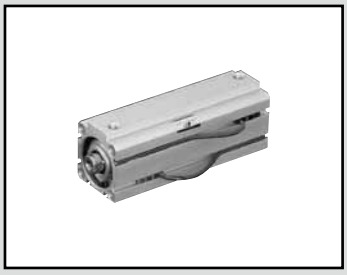
· φ12, φ16, φ40 to φ160 · φ20 to φ32

Material: Steel
Zinc chromate treatment



Model No.	Applicable bore size (mm)	A	B	C	D	CD	E	EL	T	X	Y	Applicable snap ring pin	Wt (g)
P2-P-16	12/16	18	13	0.7	4	$5^{-0.010}_{-0.028}$	-	-	-	-	-	E type snap ring 4	3.0
M1-P-20	20	37	-	-	-	$10^{-0.013}_{-0.035}$	4	28	2	10.5	18	Split pin	29
M1-P-30	25/32	46	-	-	-	$12^{-0.018}_{-0.043}$	4	37	2.5	13	21	Split pin	50
S1-P-40	40/50	43.5	36.2	1.15	11.5	$12^{-0.032}_{-0.059}$	-	-	-	-	-	C type for shaft 12	40
S1-P-63	63	47.5	40.2	1.15	13.4	$14^{-0.032}_{-0.059}$	-	-	-	-	-	C type for shaft 14	60
S1-P-80	80/100	64	56.2	1.35	19	$20^{-0.040}_{-0.073}$	-	-	-	-	-	C type for shaft 20	160
SCS-125P	125/140	75	66.3	1.35	23.9	$25^{-0.040}_{-0.073}$	-	-	-	-	-	C type for shaft 25	250
SCS-160P	160	92	82.7	1.65	30.3	$32^{-0.050}_{-0.089}$	-	-	-	-	-	C type for shaft 32	500

● The pins for the rod clevis (Y2) are common with the pins (P2) for the clevis brackets (CB2). Refer to page 1096 for dimensions.

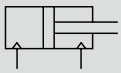


Compact cylinder double acting/single rod/high load

SSD-K Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-K SSD-KL (with switch)									
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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 °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc 1/8		Rc 1/4		Rc 3/8	
Stroke tolerance mm	+2.0 0									
Working piston speed mm/s	50 to 500							50 to 300		
Cushion	Rubber cushion									
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)									
Allowable absorbed energy 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)
φ12	5, 10, 15, 20, 25, 30, 40, 50	*2) 100	1
φ16			
φ20		*2) 200	
φ25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	*2) 300	
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
φ80			
φ100			

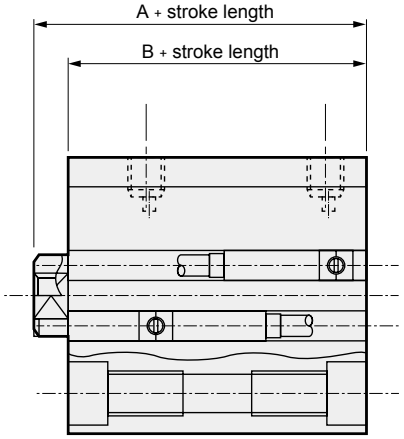
*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2) Stroke length over standard to maximum is available in increments of 10.
(Example) φ16: 60, 70, 80, 90, 100
*3) From 101 to 200 for φ20, 151 to 300 for φ25 to φ50, or 201 to 300 for φ63 to φ100, internal structure and total length are different in some products.
*4) For the type with switch, refer to the table on the following page of installed switch numbers and minimum stroke length.

Custom stroke length

● SSD-K 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 to 20	1 to 49	12/16	6 (11) to 100 (*1)
			20	6 to 200
	25 to 100	1 to 99	25 to 100	11 to 300
Example of model No.	Model No.: SSD-K-32-81 A +9 mm spacer is added to the SSD-K-32-90 standard cylinder to create 90 mm stroke length. B dimension is 123mm.		Model No.: SSD-K-32-81-S Dedicated units for 81 mm stroke length are available. B dimension is 114mm.	

*1) The value in ( ) is for type with switch.



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

● Anti-dust generation structure for use in cleanrooms

SSD-K..... P7*
SSD-K..... P5*

Oil-prohibited specifications (Ending Page 134)

● Grease splash prevented

SSD-K..... P12

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

● Design compatible with rechargeable battery manufacturing process

SSD-K..... P4*

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	35	50	65
φ25	5	5	35	50	65
φ32	5	5	35	50	65
φ40	5	5	35	50	65
φ50	5	5	35	50	65
φ63	5	5	35	50	65
φ80	5	5	35	50	65
φ100	5	5	35	50	65

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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

How to order

Without switch (without magnet for switch)

SSD-K - 12 ○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-KL - 12 ○ - 5 - T0H - R - N - LB - I

Ⓐ Bore size

Ⓑ Port thread

Ⓒ Stroke length

Ⓓ Switch model No. *1 *2 *9

Ⓔ Switch quantity

Ⓕ Option *3

Ⓖ Mounting bracket *4 *5

Ⓗ Accessory *6

Code	Content
Ⓐ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)

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

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
TOH*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Option	
Bore size (φ)	
Blank	Rod end female thread
N	Rod end male thread
S	Dedicated unit for custom stroke length
M	Piston rod material (stainless steel)
P6	Copper and PTFE free (for φ12, φ16, copper and PTFE free is provided as standard)

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

Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : Switches other than Ⓓ Switch model No. are also available. (Custom order)
Refer to Ending Page 1 for details.
2 : AC magnetic field proof switch and T8 switch cannot be installed on φ12 and φ16.
*3 : 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.
*4 : The mounting bracket is attached at shipment.
*5 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*6 : "I" and "Y" cannot be selected together.
*7 : Refer to Ending Page 85 for custom specifications of rod end form.
*8 : Refer to pages 1072 and 1073 for combinations of variations/options.
*9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KL-12-5-T0H-R-N

Model: Compact cylinder High load

Ⓐ Bore size : φ12 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Switch model No. : Reed T0H switch
· Lead wire 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

[Stroke length table]

Stroke length (mm)		Applicable bore size									
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●	●							
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●	●
	60				●	●	●	●	●	●	●
	70				●	●	●	●	●	●	●
	80				●	●	●	●	●	●	●
	90				●	●	●	●	●	●	●
	100				●	●	●	●	●	●	●
Min. stroke length (mm) *1		1									
Max. stroke length (mm)		100		200	300						
Custom stroke length *2		In 1 mm increments									

1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 1101 for the number of installed switches and the min. stroke length.

*2 : The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - T0H

Switch model No.
(Item Ⓓ on the previous page)

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		40		50		60		70		80		90		100	
Bore size (mm)	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	No switch	Switch
φ12	44	86	53	95	61	103	70	112	78	121	87	129	104	146	121	163	138	180	155	197	172	214	189	231	206	248
φ16	59	104	69	114	80	125	91	136	102	147	113	158	135	169	157	191	179	213	201	235	223	257	245	279	267	301
φ20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
φ25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
φ32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
φ40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
φ50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
φ63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
φ80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
φ100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	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
φ20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
φ25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
φ32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
φ40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
φ50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
φ63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
φ80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
φ100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6830	5991	6558

Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	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
φ25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
φ32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
φ40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
φ50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
φ63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
φ80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
φ100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839

How to order mounting bracket

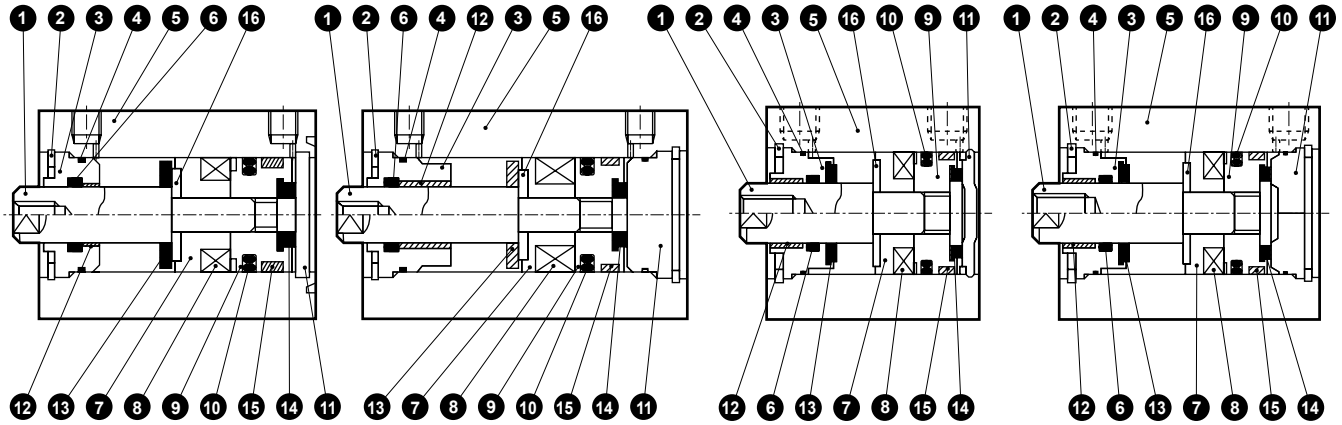
Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

Internal structure and parts list

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

φ20: Over 100 to 200 mm stroke length
φ25: Over 150 to 300 mm stroke length

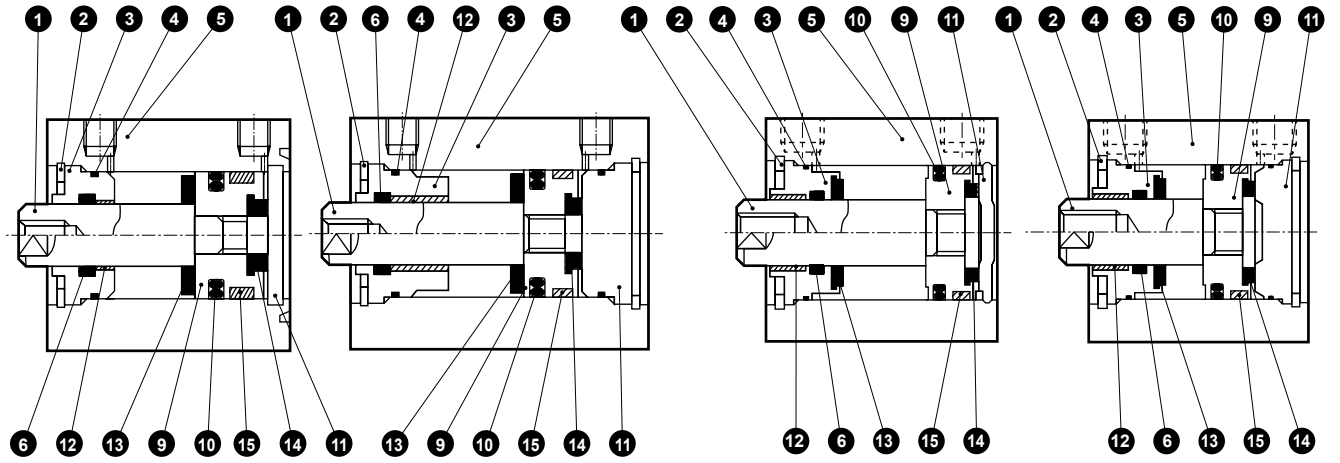


● SSD-KL-32 (double acting/single rod high load/with switch)

φ32: Over 150 to
300 mm stroke length

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

φ20: Over 100 to 200 mm stroke length
φ25: Over 150 to 300 mm stroke length



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

φ32: Over 150 to
300 mm stroke length

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32: Steel	φ16 to φ32 Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Special aluminum	Alumite (*3)	11	Cover	φ12 to φ25: Stainless steel φ32: Aluminum alloy	φ32: Alumite (*1)
4	Rod metal gasket	Nitrile rubber					
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oiles drymet	φ20 to φ32 (*2)
6	Rod packing	Nitrile rubber		13	Cushion rubber R	Urethane rubber	
7	Spacer	φ12: Aluminum alloy φ16 to φ32: Special resin	φ12: Chromate	14	Cushion rubber H	Urethane rubber	
				15	Wear ring	Polyacetal resin	
8	Magnet	Plastic		16	Spacer washer	Stainless steel	φ20 to φ32

(*1) For cover for long stroke type (100 mm stroke and over for φ20, 150 mm stroke and over for φ25 and φ32), Material: Aluminum alloy, Remarks: Alumite treatment.
(*2) Material is steel for copper and PTFE free specifications.
(*3) Chromate-treated for φ32 only.

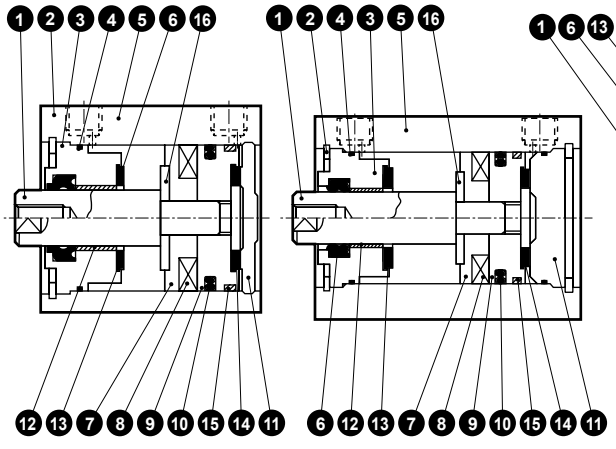
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-K-12K	❹ ❻ ❿ ⓭ ⓮ ⓯
φ16	SSD-K-16K	
φ20	SSD-K-20K	
φ25	SSD-K-25K	
φ32	SSD-K-32K	

Internal structure and parts list

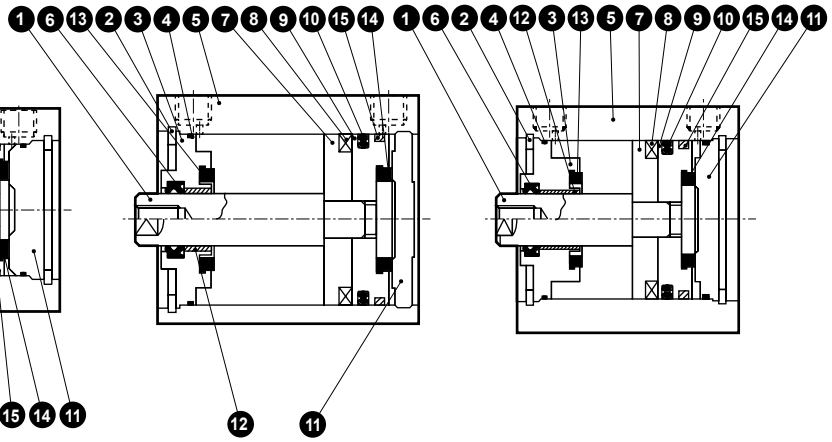
● SSD-KL-40, 50 (double acting/single rod high load/with switch)

φ40, φ50: Over 150 to 300 mm stroke length



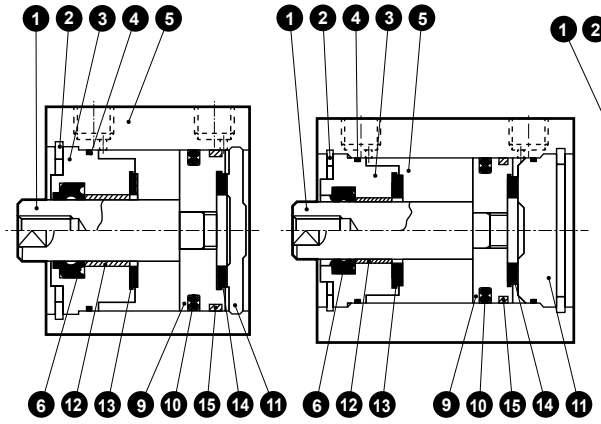
● SSD-KL-63 to 100 (double acting/single rod high load/with switch)

φ63 to φ100: Over 200 to 300 mm stroke length



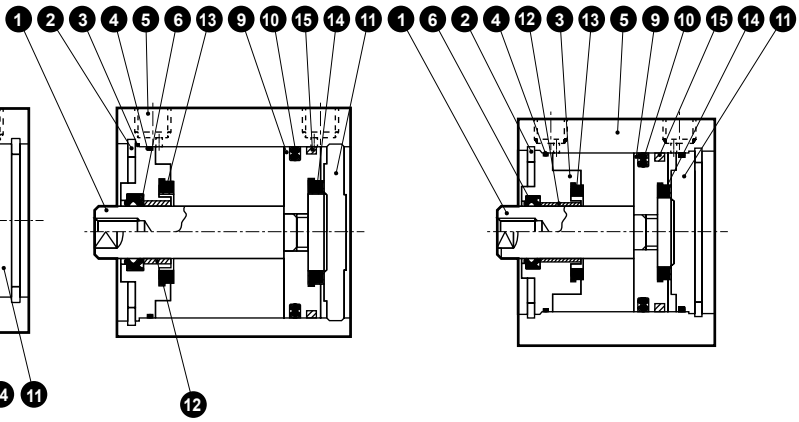
● SSD-K-40, 50 (double acting/single rod high load)

φ40, φ50: Over 150 to 300 mm stroke length



● SSD-K-63 to 100 (double acting/single rod high load)

φ63 to φ100: Over 200 to 300 mm stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Aluminum alloy	Alumite (*2)	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	*1
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber R	Urethane rubber	
6	Rod packing	Nitrile rubber		14	Cushion rubber H	Urethane rubber	
7	Spacer	φ40, φ50: Special resin φ63 to φ100: Aluminum alloy	φ63 to φ100: Chromate	15	Wear ring	Polyacetal resin	
				16	Spacer washer	Stainless steel	φ40 to φ50
8	Magnet	Plastic					

(*1) Material is steel for copper and PTFE free specifications.
(*2) Chromate-treated for φ40 and φ50 only.

Repair parts list

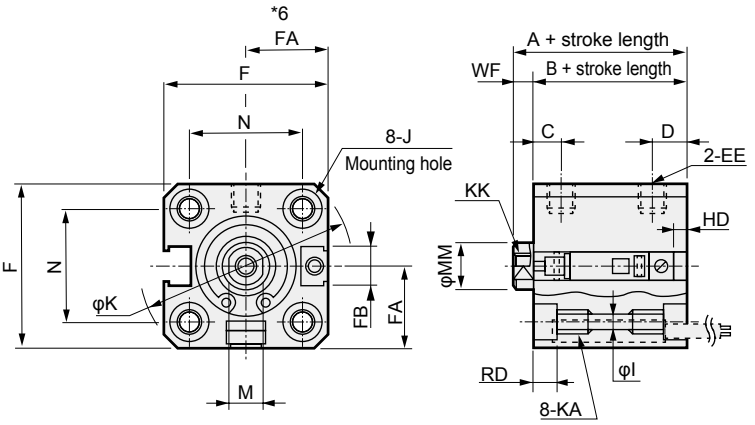
Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-K-40K	❹ ❻ ❿ ⓭ ⓮ ⓯
φ50	SSD-K-50K	
φ63	SSD-K-63K	
φ80	SSD-K-80K	
φ100	SSD-K-100K	

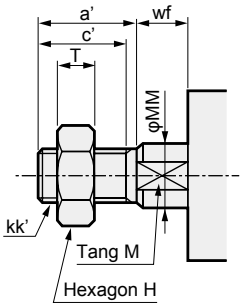
Dimensions CAD

● SSD-KL-12 to 25 (with switch)

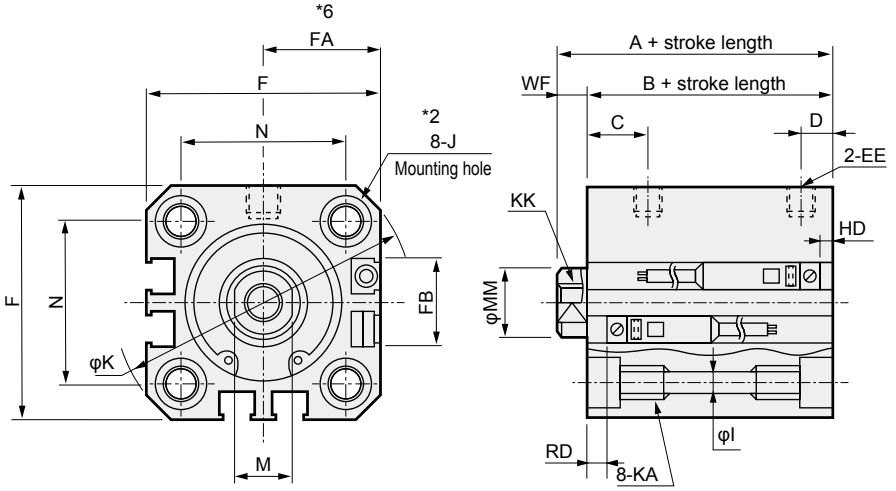
● Rod end male thread

φ12/φ16





φ20/φ25



Code	Common dimensions with switch																	
Bore size (mm)	A *1	B *1	C	D *2	EE	F	FA *6	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	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
φ16	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
φ20	39	34.5	8	5.5(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	4.5
φ25	42.5	37.5	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	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ12	2.5	4.5	2.5	4.5
φ16	3	4	3	4
φ20	6(125)	8.5(13.5)	6(12.5)	8.5(13.5)
φ25	5.5(14)	12(17)	5.5(14)	12(17)

Table 1

Bore size	With switch	
	A *2	B *2
φ20	50.5	46
φ25	56	51

Table 2

Bore size	A + stroke length	B + stroke length
φ12	40.5	37
φ16	40.5	37

- *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.
- *2 : When longer than 100 mm stroke for φ20 or longer than 150 mm stroke for φ25, A and B dimensions are indicated in Table 1 and there is no spot face J. HD, RD and D dimensions are indicated in ( ).
- *3 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *4 : When the stroke length is 5 mm for φ12 and φ16 with switch, (A + stroke) length and (B + stroke) length are as shown in Table 2.
- *5: Refer to page 1298 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in ( ) of FA are for the radial lead wire.
- *7: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

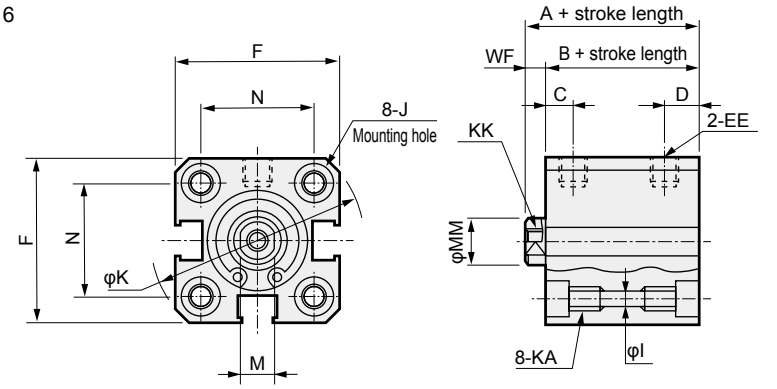
● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

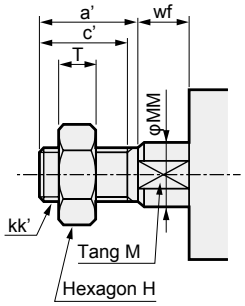
Dimensions CAD

● SSD-K-12 to 25 (without switch)

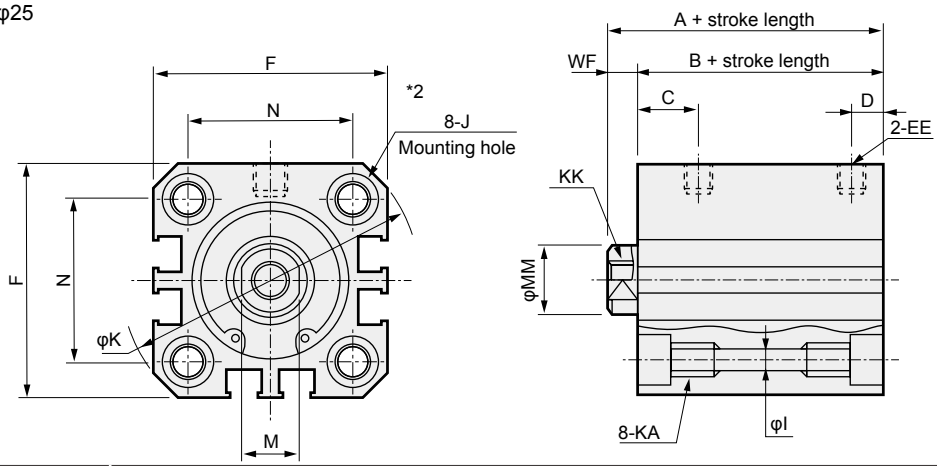
φ12/φ16



● Rod end male thread



φ20/φ25



Code / Bore size (mm)	Dimensions without switch and common dimensions														
	A *1	B *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
φ12	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
φ16	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
φ20	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
φ25	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

● *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.

● *2 : When longer than 100 mm stroke for φ20 or longer than 150 mm stroke for φ25, A and B dimensions are indicated in Table 1 and there is no spot face J.

● *3: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

Table 1

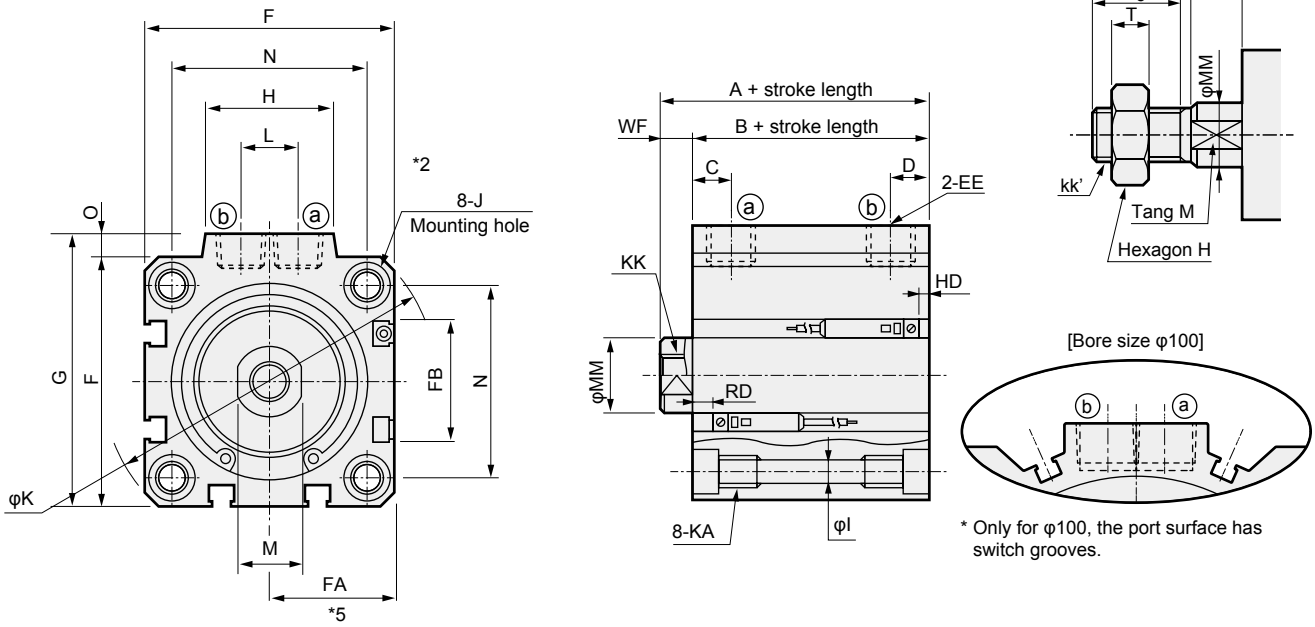
Bore size	A *2	B *2
φ20	40.5	36
φ25	46	41

● Dimensions of rod end male thread part

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions CAD

● SSD-KL-32 to 100 (with switch)



Code / Bore size (mm)	A *1	B *1	C	D *2	EE	F	FA *5	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
	Common dimensions with switch																				
φ32	50	43	8	8(8)	Rc 1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	56.5	49.5	12	8.5(12)	Rc 1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	58.5	50.5	10.5	10.5(10.5)	Rc 1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	64	56	13	11(13)	Rc 1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	73.5	63.5	16	13(16)	Rc 3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	85	73	23	15(23)	Rc 3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions / Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
	HD *2	RD *2	HD *2	RD *2
φ32	8.5(16)	14(14)	8.5(16)	14(14)
φ40	9.5(19)	19.5(19.5)	9.5(19)	19.5(19.5)
φ50	10(19)	20(25)	10(19)	20(25)
φ63	17.5(23)	18(23)	17.5(23)	18(23)
φ80	22(28)	20.5(25.5)	22.5(28)	20.5(25.5)
φ100	28(33.5)	24.5(29.5)	28(33.5)	24.5((29.5)

Table 2

Bore size	With switch	
	A *2	B *2
φ32	57.5	50.5
φ40	66	59
φ50	72	64
φ63	74	66
φ80	83.5	73.5
φ100	95	83

● *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.

● *2 : When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, A and B dimensions are indicated in Table 2 and there is no spot face J. HD, RD and D dimensions are indicated in ( ).

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

● *4 : Refer to page 1298 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

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

● *6 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

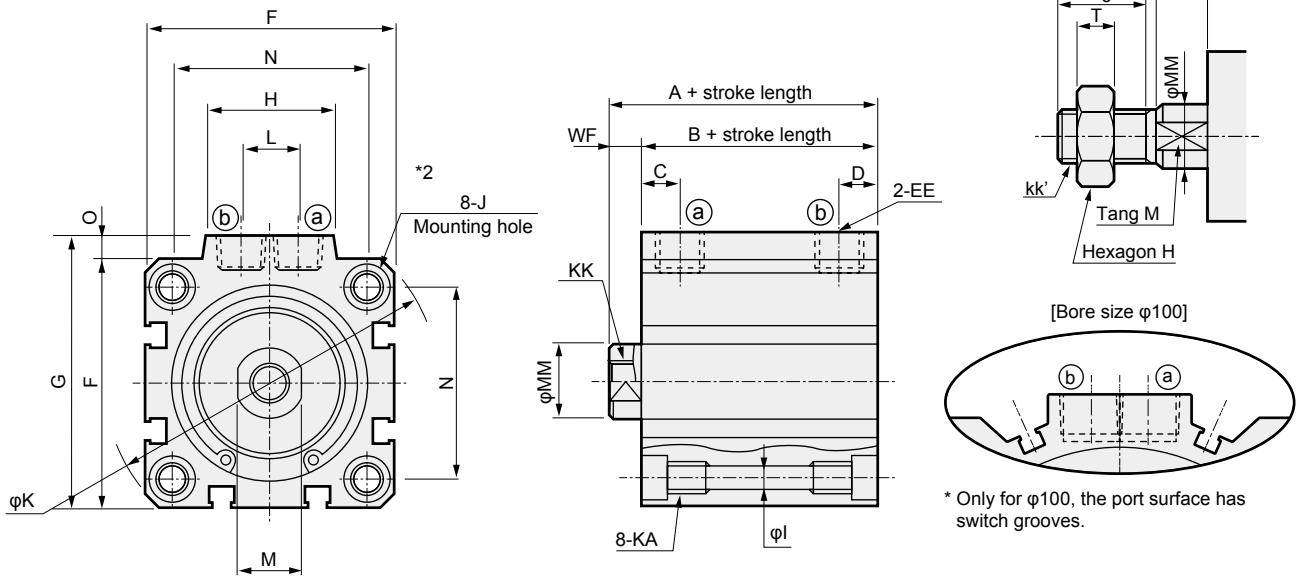
● Dimensions of rod end male thread part

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	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

Dimensions CAD

● SSD-K-32 to 100 (without switch)

● Rod end male thread



* Only for φ100, the port surface has switch grooves.

Code / Bore size (mm)	Dimensions without switch and common dimensions																		
	A *1	B *1	C	D *2	EE	F	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	40	33	8	8(8)	Rc 1/8	45	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	46.5	39.5	12	8.5(12)	Rc 1/8	52	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	48.5	40.5	10.5	10.5(10.5)	Rc 1/4	64	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	54	46	13	11(13)	Rc 1/4	77	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	63.5	53.5	16	13(16)	Rc 3/8	98	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	75	63	23	15(23)	Rc 3/8	117	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Table 2

Bore size	A *2	B *2
φ32	47.5	40.5
φ40	56	49
φ50	62	54
φ63	64	56
φ80	73.5	63.5
φ100	85	73

● *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.

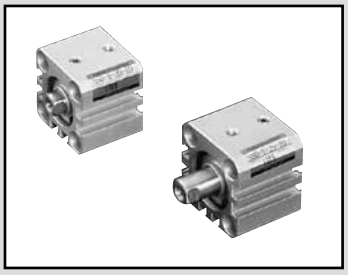
● *2 : When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, A and B dimensions are indicated in Table 2 and there is no spot face J. D dimensions are indicated in ( ).

● *3: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

● Dimensions of rod end male thread part

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	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

Note: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.



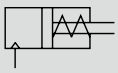
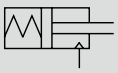
Compact cylinder
Single acting/push

SSD-X Series

Single acting/pull

SSD-Y Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50

JIS symbol SSD-X  SSD-Y 

RoHS CAD

Specifications

Descriptions	SSD-X SSD-XL (with switch) / SSD-Y SSD-YL (with switch)						
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Actuation	SSD-X, XL: single acting/push, SSD-Y, YL: single acting/pull						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.2 (≈29 psi, 2 bar)		0.17 (≈25 psi, 1.7 bar)		0.12 (≈17 psi, 1.2 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)						
Port size	M5				Rc 1/8		Rc 1/4
Stroke tolerance mm	+1.0 0						
Working piston speed mm/s	50 to 500						
Cushion	None						
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1

Note: Do not leave the single acting cylinder pressurized for a long time. If it is left pressurized for long periods, the piston rod may not return due to spring load when the pressure is released. Use the double acting if the cylinder needs to be left pressurized for long periods.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10	10	5
φ16			
φ20			
φ25			
φ32			
φ40	10, 20	20	10
φ50			

Note: When using the type with switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2
Switch model No. / Bore size (mm)	T*	T*
φ12	5	5
φ16	5	5
φ20	5	5
φ25	5	5
φ32	5	5
φ40	10	10
φ50	10	10

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25˚C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25˚C. (5 to 10 mA at 60˚C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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

(Unit: g)

Stroke length (mm)	5		10		20	
Bore size (mm)	Without switch	With switch	Without switch	With switch	Without switch	With switch
φ12	40	80	49	89	—	—
φ16	52	92	64	104	—	—
φ20	74	114	89	129	—	—
φ25	107	147	127	167	—	—
φ32	155	195	183	223	—	—
φ40	—	—	285	325	358	398
φ50	—	—	459	499	572	612

SSD-X/SSD-Y spring load

(Unit: N)

Bore size (mm)	Stroke length (mm)	SSD-X		SSD-Y	
		When stroke length = 0	At full stroke	When stroke length = 0	At full stroke
φ12	5	8.7	13.7	2.9	11
	10	2.9	13.7	2.9	11.3
φ16	5	10.2	15.1	3.5	13.2
	10	5.4	15.1	3.5	13.2
φ20	5	16.8	24	11.8	30.4
	10	9.7	24	12.7	30.3
φ25	5	17.1	23.5	10.8	26.5
	10	10.8	23.5	10.8	26.5
φ32	5	24.1	28.5	17	27
	10	19.6	28.5	17.9	27.4
φ40	10	28.9	38.2	19.3	33
	20	19.6	38.2	19.9	40.2
φ50	10	33.3	47.9	24.5	84.3
	20	18.8	47.9	23.1	82.3

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

How to order

Without switch (without magnet for switch)

SSD-X — **12** ○ - **5** ——— **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-XL - **12** ○ - **5** - **T0H** - **R** - **N** - **LB** - **I**

2-color display/off-delay/with T1* switch (φ12/φ16 only)
(built-in magnet for switch)

SSD-XL1 - **12** ○ - **10** - **T2YH** - **R** - **N** - **LB** - **I**

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *1 *2 *11
Ⓕ Switch quantity
Ⓖ Option *3 *4
Ⓗ Mounting bracket *5 *6
Ⓘ Accessory *7

Code	Content
Ⓐ Model No.	
SSD-X	Single acting/push
SSD-XL	Single acting/push/with switch
SSD-XL1	φ12, φ16 2-color display, with preventive maintenance switch
SSD-Y	Single acting/pull
SSD-YL	Single acting/pull/with switch
SSD-YL1	φ12, φ16 2-color display, off-delay, with T1* switch

Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50

Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)

Ⓓ Stroke length (mm)

	Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
5	5	●	●	●	●	●		
10	10	●	●	●	●	●	●	●
20	20						●	●

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

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

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

Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : Switches other than Ⓔ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
2 : An AC magnetic field proof switch cannot be installed on φ12 and φ16. In addition, T8 switch cannot be installed on φ12 to φ32.
*3 : 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.
*4 : **Copper and PTFE free as standard.**
*5 : The mounting bracket is attached at shipment.
*6 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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 : Refer to Ending Page 85 for custom specifications of rod end form.
*9 : Refer to pages 1070 and 1071 for combinations of variations/options.
10 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.
*11 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-XL-12-5-T0H-R-N

Model: Compact cylinder

Ⓐ Model No. : Single acting push
Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed switch T0H
· Lead wire length 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model No.
(Item Ⓔ on the previous page)

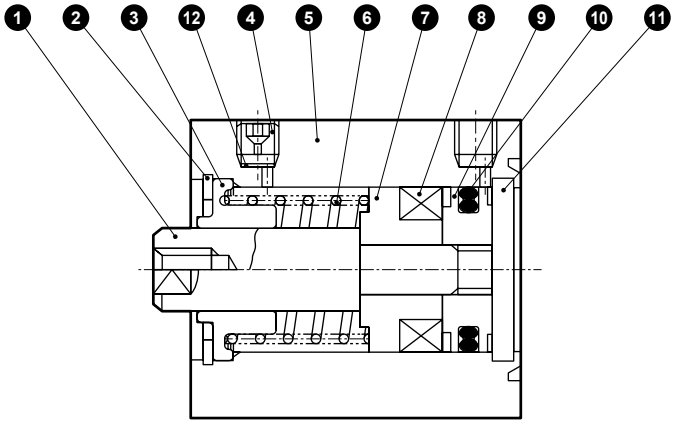
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50

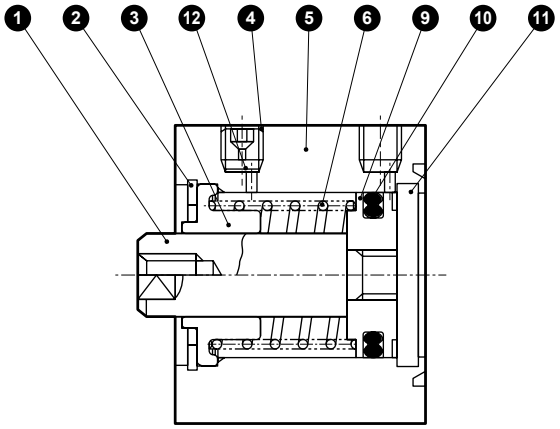
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

● SSD-XL (single acting/push/with switch)



● SSD-X (single acting/push)



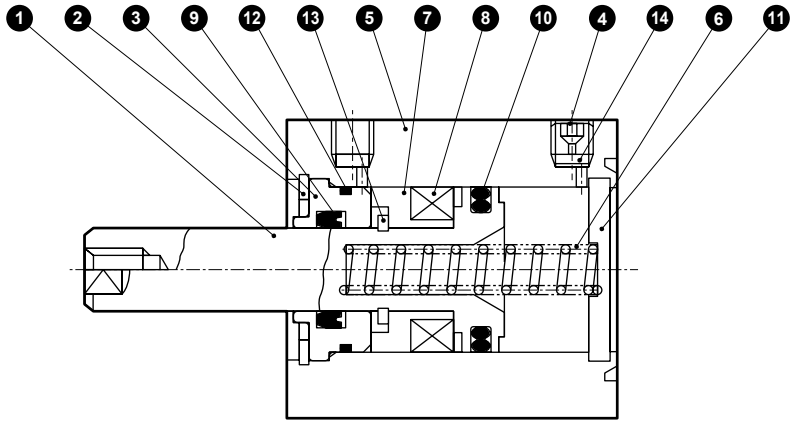
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
				8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Plug	Stainless steel		11	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
5	Body	Aluminum alloy	Hard alumite				
6	Spring	Piano wire	Electrodeposition	12	Stainless steel wire mesh	Stainless steel	

Repair parts list

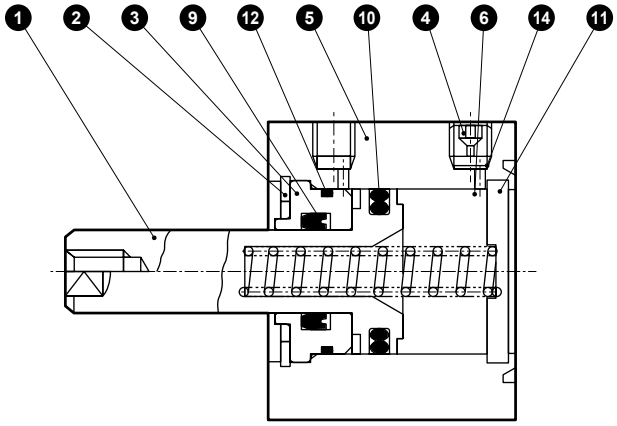
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-X-12K	⑩
φ16	SSD-X-16K	
φ20	SSD-X-20K	
φ25	SSD-X-25K	
φ32	SSD-X-32K	
φ40	SSD-X-40K	
φ50	SSD-X-50K	

Internal structure and parts list

● SSD-YL (single acting/pull/with switch)



● SSD-Y (single acting/pull)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston	Stainless steel		8	Magnet	Plastic	
				9	Rod packing	Nitrile rubber	
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Special aluminum alloy	Alumite	11	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
4	Plug	Stainless steel					
5	Body	Aluminum alloy	Hard alumite	12	Metal gasket	Nitrile rubber	
6	Spring	Piano wire	Electrodeposition	13	Round S type snap ring	Steel	Zinc phosphate
7	Spacer	Aluminum alloy	Chromate	14	Stainless steel wire mesh	Stainless steel	

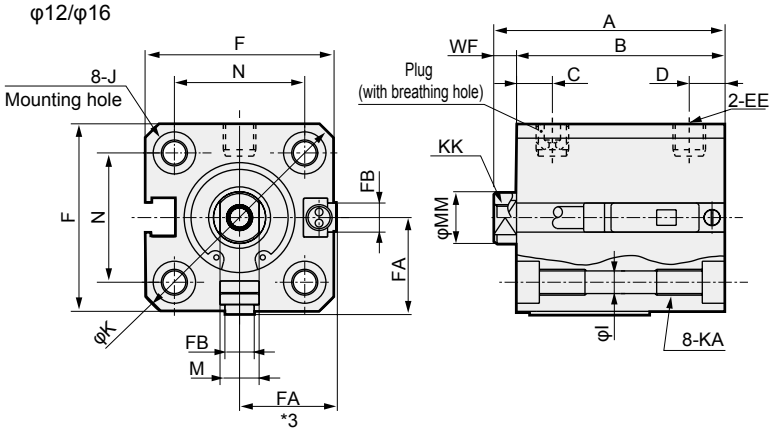
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-Y-12K	⑨ ⑩ ⑫
φ16	SSD-Y-16K	
φ20	SSD-Y-20K	
φ25	SSD-Y-25K	
φ32	SSD-Y-32K	
φ40	SSD-Y-40K	
φ50	SSD-Y-50K	

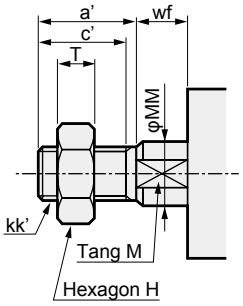
Dimensions CAD

● SSD-XL-12 to 25 (with switch)

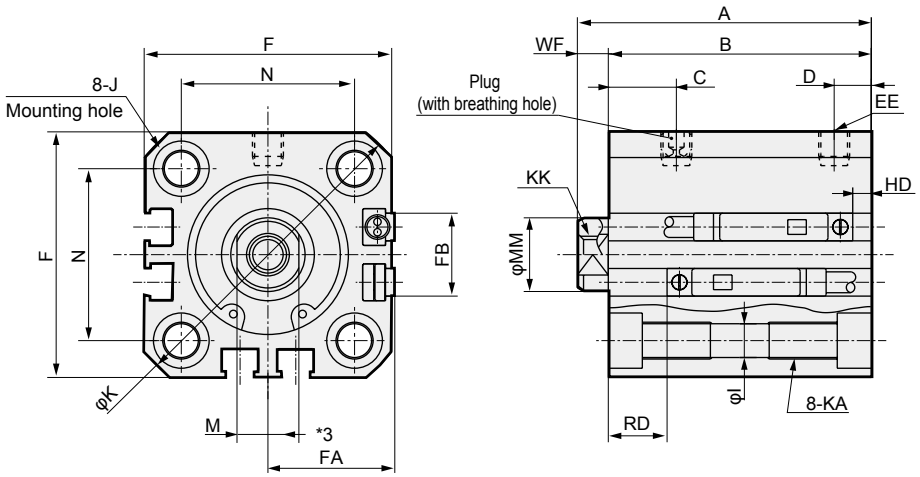
φ12/φ16



● Rod end male thread



φ20/φ25



Code / Bore size (mm)		Common dimensions with switch																
		A	B	C	D	EE	F	FA *3	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke mm 5	35.5	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	3.5
	Stroke mm 10																	
φ16	Stroke mm 5	35.5	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	3.5
	Stroke mm 10																	
φ20	Stroke mm 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 mm 10	44	39.5															
φ25	Stroke mm 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 mm 10	47.5	42.5															

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *1	RD *1	HD *1	RD *1
φ12	0	2.5	0	2.5
φ16	0	2	0	2
φ20	3	6.5	3	6.5
φ25	3	9.5	3	9.5

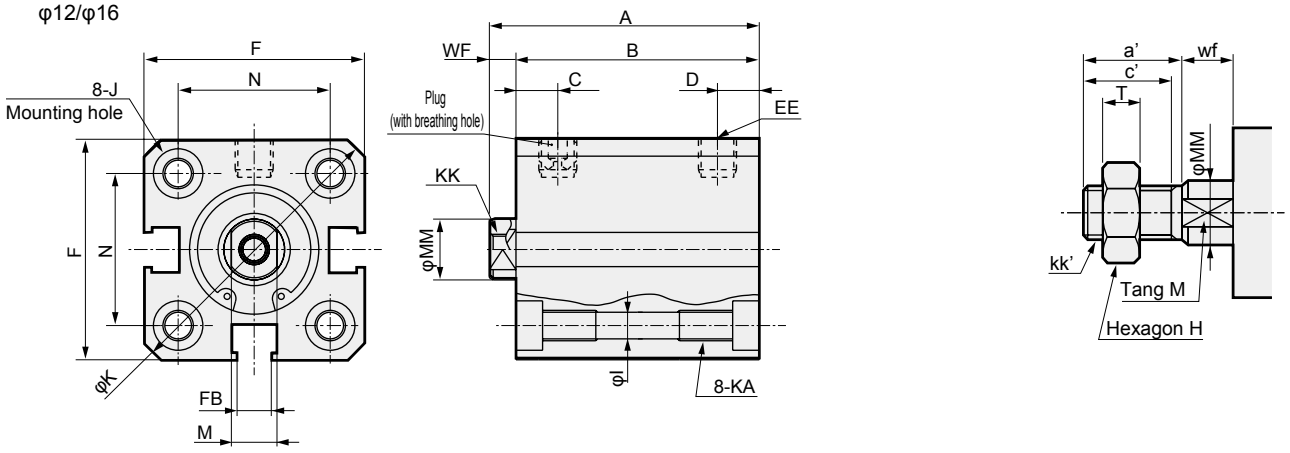
*1 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
2 : Refer to page 1296 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.
*3 : Dimensions in ( ) of FA are for the radial lead wire.
*4 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions CAD

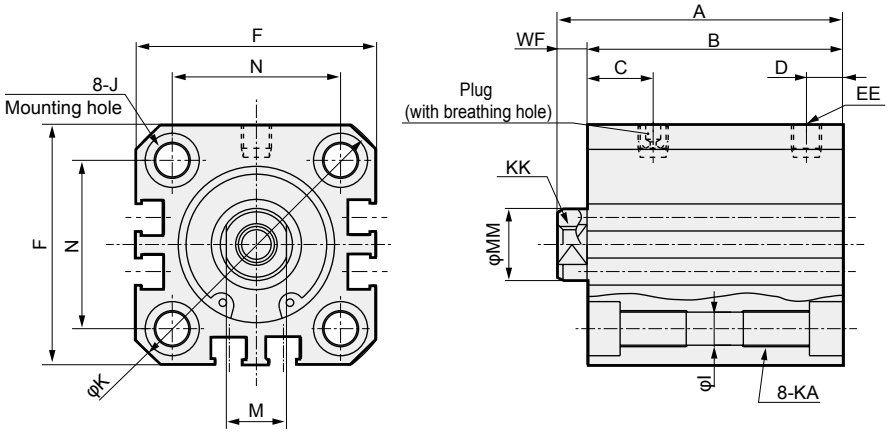
● SSD-X-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code / Bore size (mm)			A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke mm	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
		10	30.5	27															
φ16	Stroke mm	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
		10	30.5	27															
φ20	Stroke mm	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
		10	34	29.5															
φ25	Stroke mm	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
		10	37.5	32.5															

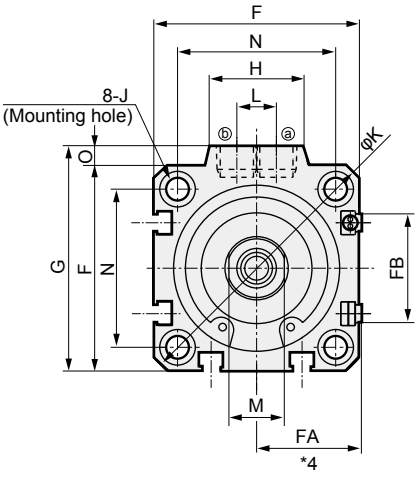
Dimensions of rod end male thread

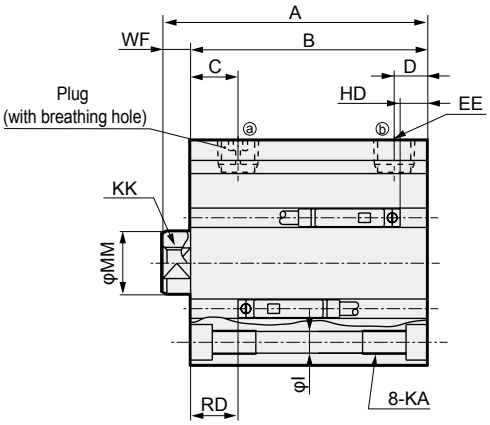
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

*1: For dimensions of individual accessories, refer to pages 1092 to 1099.

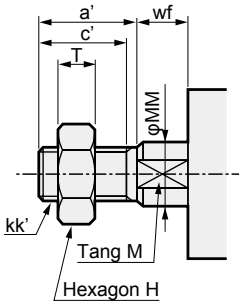
Dimensions CAD

● SSD-XL-32 to 50 (with switch)

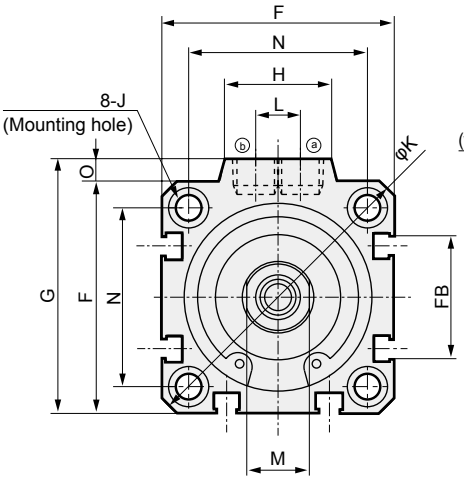


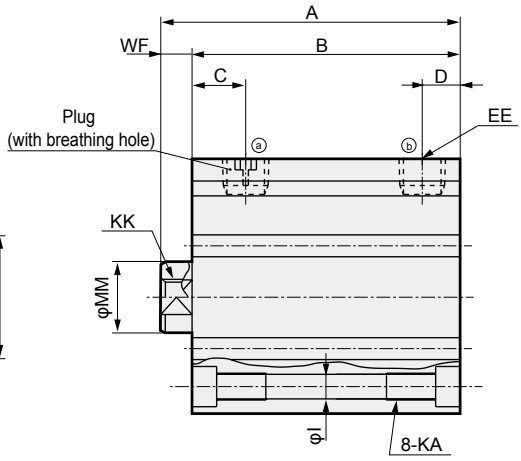


● Rod end male thread



● SSD-X-32 to 50 (without switch)





Code			Without switch		Common dimensions with switch																			
Bore size (mm)			A	B	A	B	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	Stroke mm	5	35	28	45	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 Depth 11	M8 Depth 13	10	14	16	34	4.5	7
		10	40	33	50	43																			
φ40	Stroke mm	10	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 Depth 11	M8 Depth 13	10	14	16	40	5	7
		20	56.5	49.5	66.5	59.5																			
φ50	Stroke mm	10	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 Depth 13	M10 Depth 15	15	17	20	50	7	8
		20	58.5	50.5	68.5	60.5																			

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *1	RD *1	HD *1	RD *1
φ32	3.5	9	3.5	9
φ40	7	12	7	12
φ50	7.5	12.5	7.5	12.5

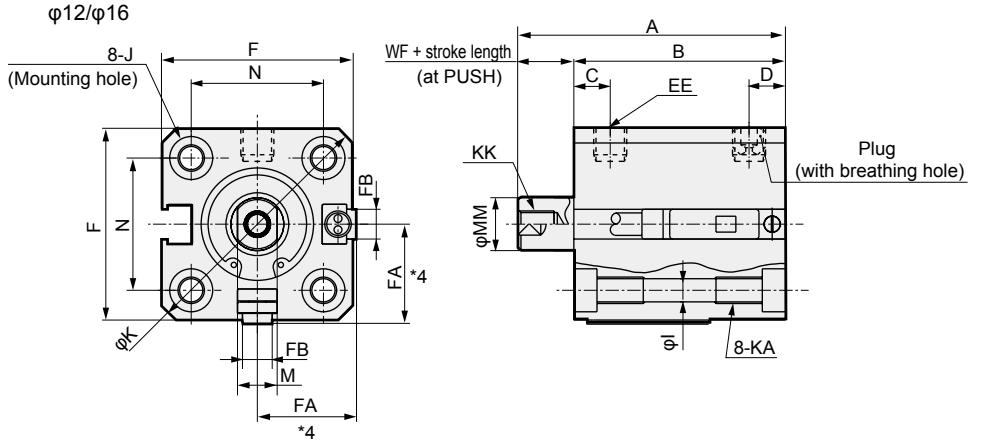
- *1 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *2: Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3: Refer to page 1297 for the protruding dimensions of the 2-color 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 1092 to 1099.

Note: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

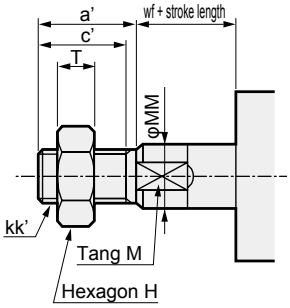
Dimensions

● SSD-YL-12 to 25 (with switch)

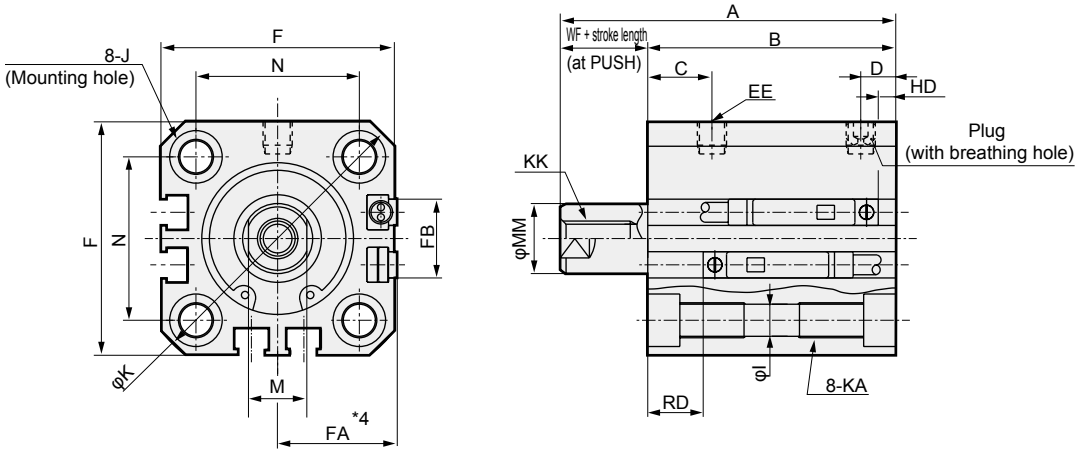
φ12/φ16



● Rod end male thread



φ20/φ25



Code / Bore size (mm)			Common dimensions with switch																
			A	B	C	D	EE	F	FA *4	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke mm	5	40.5	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	3.5
		10	45.5																
φ16	Stroke mm	5	40.5	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	3.5
		10	45.5																
φ20	Stroke mm	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
		10	54	39.5															
φ25	Stroke mm	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
		10	57.5	42.5															

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	8	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *1	RD *1	HD *1	RD *1
φ12	0	2.5	0	2.5
φ16	0	2	0	2
φ20	3	6.5	3	6.5
φ25	3	9.5	3	9.5

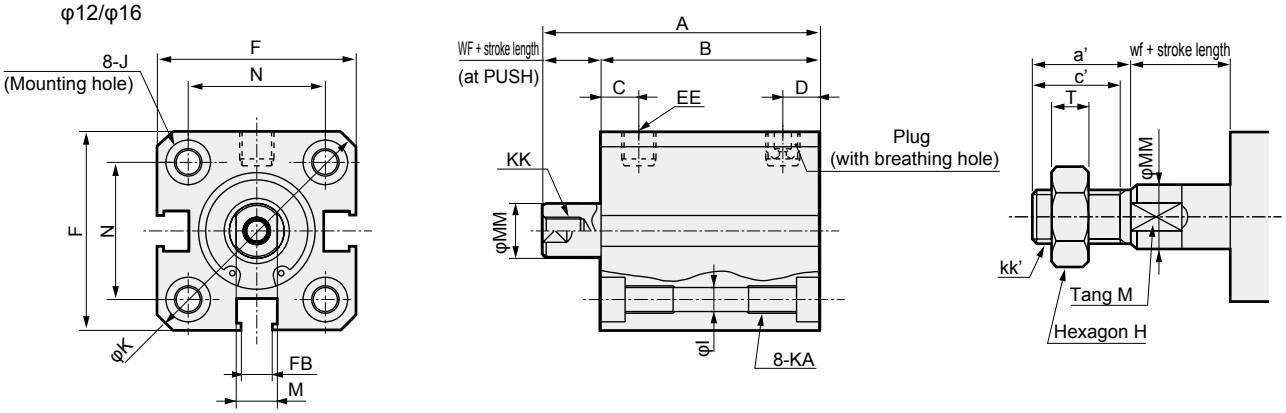
- *1 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *2: Refer to page 1296 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3: Refer to page 1296 for the protruding dimensions of the 2-color 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 1092 to 1099.

Dimensions CAD

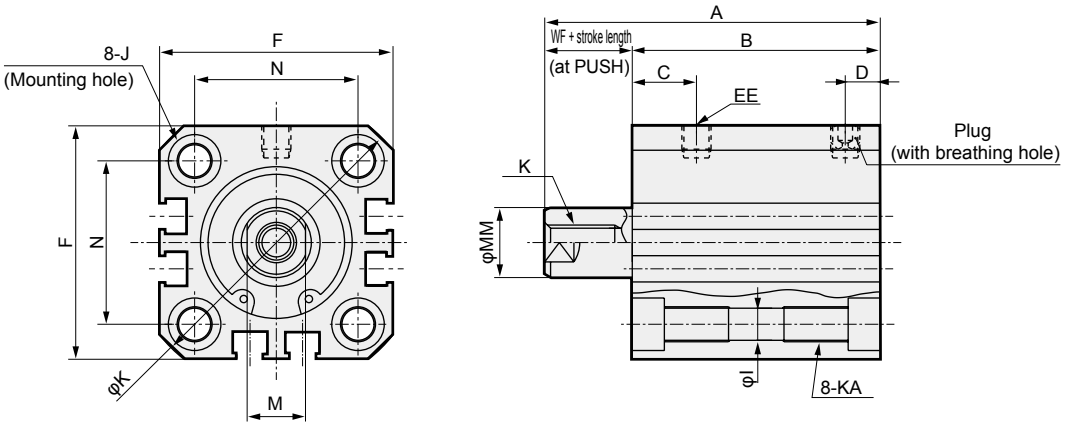
● SSD-Y-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code / Bore size (mm)			Without switch A	B	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke mm	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
		10	40.5	27														
φ16	Stroke mm	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
		10	40.5	27														
φ20	Stroke mm	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
		10	44	29.5														
φ25	Stroke mm	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
		10	47.5	32.5														

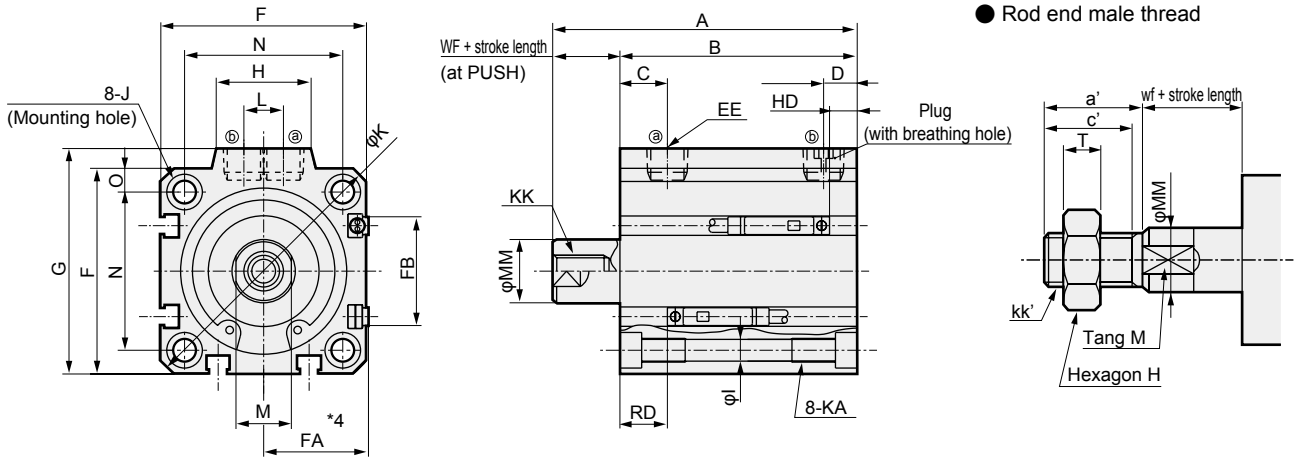
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

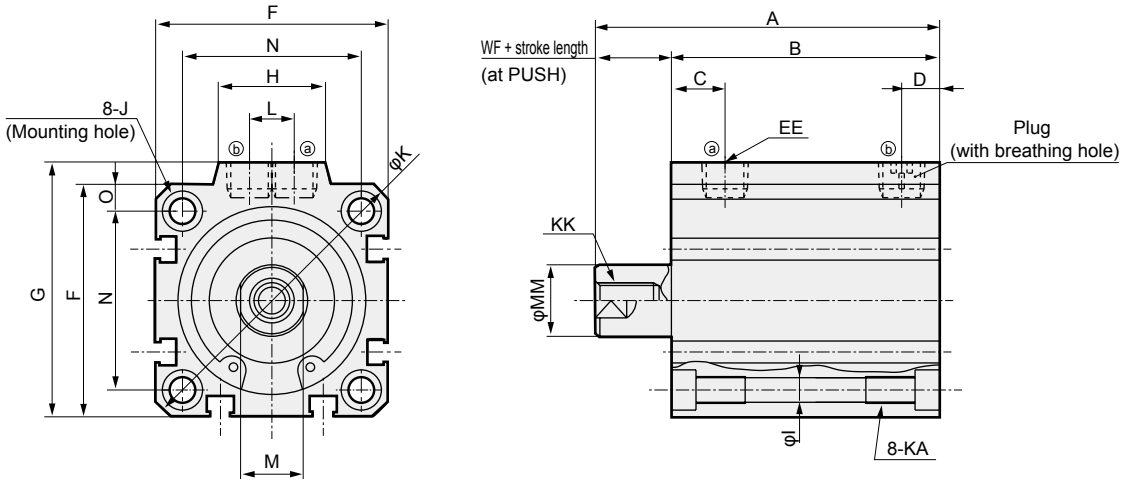
*1: For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions

● SSD-YL-32 to 50 (with switch)



● SSD-Y-32 to 50 (without switch)



Code			Without switch		Common dimensions with switch																			
Bore size (mm)			A	B	A	B	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	Stroke mm	5	40	28	50	38	8	8	Rc 1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 Depth 11	M8 Depth 13	10	14	16	34	4.5	7
		10	50	33	60	43																		
φ40	Stroke mm	10	56.5	39.5	66.5	49.5	12	8.5	Rc 1/8	52	26.5 (30)	27.5	57	24	5.5	11 spot face depth 6.5	69	M6 Depth 11	M8 Depth 13	10	14	16	40	5	7
		20	76.5	49.5	86.5	59.5																		
φ50	Stroke mm	10	58.5	40.5	68.5	50.5	10.5	10.5	Rc 1/4	64	32.5 (36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 Depth 13	M10 Depth 15	15	17	20	50	7	8
		20	78.5	50.5	88.5	60.5																		

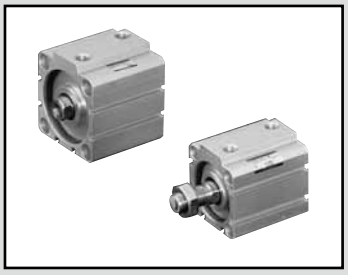
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *1	RD *1	HD *1	RD *1
φ32	3.5	9	3.5	9
φ40	7	12	7	12
φ50	7.5	12.5	7.5	12.5

- *1 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *2: Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3: Refer to page 1297 for the 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 1092 to 1099.

Note: Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

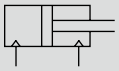


Compact cylinder double acting/heat resistant

SSD-T Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ83/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions		SSD-T									
Bore size	mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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	°C	5 (41°F) to 120 (248°F)									
Port size		M5				Rc 1/8		Rc 1/4		Rc 3/8	
Stroke tolerance	mm	+1.0 0									
Working piston speed	mm/s	50 to 500							50 to 300		
Cushion		None									
Lubrication	*1	Not available									
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: Periodically apply additional heat-resistant grease.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

Cylinder weight table

(Unit: g)

Stroke length (mm) / Bore size (mm)	5	10	15	20	25	30	40	50
φ12	36	44	53	61	70	72	—	—
φ16	48	59	69	80	91	102	—	—
φ20	63	75	88	101	113	126	—	—
φ25	87	102	118	134	150	165	197	228
φ32	122	144	166	188	209	231	275	318
φ40	183	210	236	263	290	316	369	422
φ50	299	341	383	425	467	510	594	678
φ63	452	507	—	617	—	727	838	948
φ80	841	928	—	1101	—	1274	1448	1621
φ100	1319	1433	—	1660	—	1888	2115	2343

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

How to order

SSD-T - 12 ( ) - 5 - N - LB - I

Ⓐ Bore size
Ⓑ Port thread
Ⓒ Stroke length
Ⓓ Option *1
Ⓔ Mounting bracket *2 *3
Ⓕ Accessory *4

Code	Content
Ⓐ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓒ Stroke length (mm)	
Refer to the stroke length table below.	
Ⓓ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
Ⓔ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓕ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

Precautions for model No. selection

*1 : 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.
*2 : The mounting bracket is attached at shipment.
*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*4 : "I" and "Y" cannot be selected together.
*5 : Refer to Ending Page 85 for custom specifications of rod end form.
*6 : Refer to pages 1070 and 1071 for combinations of variations/options.

[Example of model No.]

SSD-T-12-5-N

Model: Compact cylinder, heat resistance

Ⓐ Bore size : φ12 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Option : Rod end male thread

(Stroke length table)

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

*1: The total length is the same as that of the next longer standard stroke length.

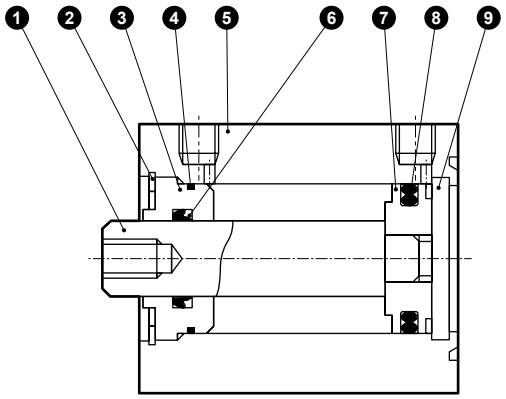
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

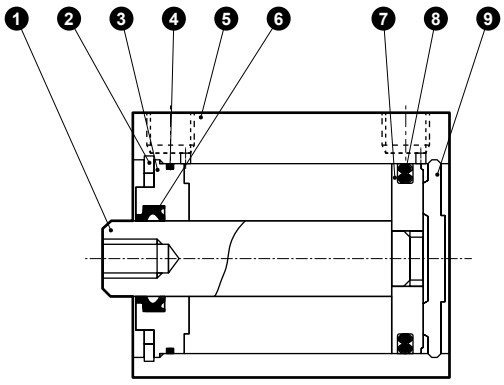
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

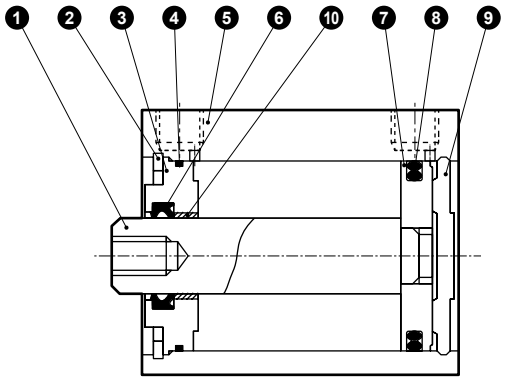
● SSD-T-12 to 25



● SSD-T-32 to 50



● SSD-T-63 to 100



No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ100: Steel	φ16 to φ100: Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	φ12 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	Alumite
4	Rod metal gasket	Fluoro rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Fluoro rubber	

No.	Part name	Material	Remarks
7	Piston	φ12 to φ25: Aluminum alloy φ32 to φ100: Stainless steel	φ12 to 25: Chromate
8	Piston packing	Fluoro rubber	
9	Cover	φ12 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100: Alumite
10	Bush	Oiles drymet	φ63 to φ100

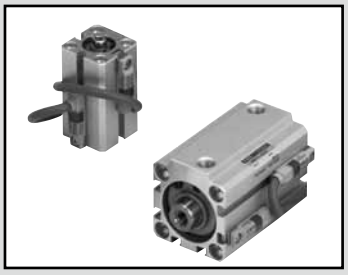
Fluorine grease is used.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-T-12K	❹ ❻ ❽
φ16	SSD-T-16K	
φ20	SSD-T-20K	
φ25	SSD-T-25K	
φ32	SSD-T-32K	
φ40	SSD-T-40K	
φ50	SSD-T-50K	
φ63	SSD-T-63K	
φ80	SSD-T-80K	
φ100	SSD-T-100K	

Dimensions

Same as double acting/single rod. Refer to pages 1087 to 1089.

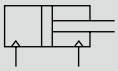


Compact cylinder double acting/with heat resistant cylinder switch

SSD-T1L Series

● Bore size: φ16/φ20/φ25/φ32/φ40/φ50/φ63

JIS symbol



RoHS CAD

Specifications

1 MPa = 10 bar

Descriptions	SSD-T1L						
Bore size mm	φ16	φ20	φ25	φ32	φ40	φ50	φ63
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)
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	5 (41°F) to 150 (302°F) (*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 (*2)	-						

*1: At an ambient temperature of 150°C, external leakage will occur gradually after approximately 500,000 uses.
*2: Periodically apply additional heat-resistant grease.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)		
			With 1 switch	With 2 switches	With 3 switches
φ16	10/15/20/25/30	30	10	20	-
φ20	15/20/25/30		15	25	-
φ25	15/20/25/30/40/50	50		20	40
φ32	10/15/20/25/30/40/50		10		
φ40					
φ50					
φ63	10/20/30/40/50				

Note: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

Cylinder switch specifications

Descriptions	Reed 2-wire ET0H, ET0V	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less	
Leakage current	0 mA	
Indicator lamp	LED lit when ON (Note)	
Lead wire	Heat-resist fluorine-insulated sheathed wire 1 m (0.5 SQ (100/0.08) annealed copper wire x 2C)	
Insulation resistance	100 MΩ and over with 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Shock resistance	294 m/s²	
Ambient temperature	-10 to 150°C	
Degree of protection	IEC standards IP67, JIS C0920 (water tight type)	
Weight g	44	

Note: Indicator uses LED.
Visibility will gradually decrease with continuous use under high temperatures. As the LED light circuit is separated from the switch output circuit, the switch output works normally even if the LED light goes out.

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

(Unit: g)

Stroke length (mm) / Bore size (mm)	10	15	20	25	30	40	50
φ16	124	134	145	156	167	—	—
φ20	170	183	196	208	221	—	—
φ25	213	229	245	261	276	308	339
φ32	278	300	322	343	365	409	452
φ40	373	399	426	453	479	532	585
φ50	555	597	639	681	724	808	892
φ63	806	—	916	—	1026	1137	1247

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
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

How to order

SSD-T1L - 16 ( ) - 10 - ET0H - D - N - LB - I

Double acting/heat resistant with compact heat resistant switch

Code	Content
Ⓐ Bore size (mm)	
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓒ Stroke length (mm)	
Refer to the stroke length table on the following page.	
Ⓓ Switch model No.	
ET0H	Reed, DC/AC, 2-wire, Axial lead wire
ET0V	Reed, DC/AC, 2-wire, Radial lead wire
Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : 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.
*2 : The mounting bracket is attached at shipment.
*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*4 : "I" and "Y" cannot be selected together.
*5 : Refer to Ending Page 85 for custom specifications of rod end form.
*6 : Refer to pages 1070 and 1071 for combinations of variations/options.
*7 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-T1L-16-10-ET0H-D-N

Model: Compact cylinder
With heat resistant cylinder switch
Ⓐ Bore size : φ16
Ⓑ Port thread : Rc thread
Ⓒ Stroke length :10 mm
Ⓓ Switch model No. : Reed switch ETOH, lead wire length 1 m
Ⓔ Switch quantity : 2
Ⓕ Option : Rod end male thread

[Stroke length table]

Stroke length (mm)		Applicable bore size						
		φ16	φ20	φ25	φ32	φ40	φ50	φ63
Standard stroke length	10	●			●	●	●	●
	15	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●
	40			●	●	●	●	●
	50			●	●	●	●	●
Min. stroke length (mm) *1		10(20)	15(25)	15(20)	10(20)			
Max. stroke length (mm)		30		50				
Custom stroke length (mm) *2		In 1 mm increments						

*1 : The value in ( ) is for types with two switches.
Refer to page 1126 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - ET0H

Switch model No.
(Item Ⓓ on the previous page)

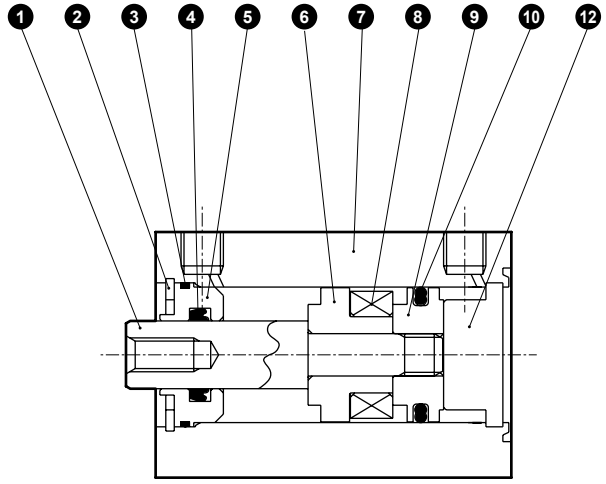
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ16	φ20	φ25	φ32	φ40	φ50	φ63
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63

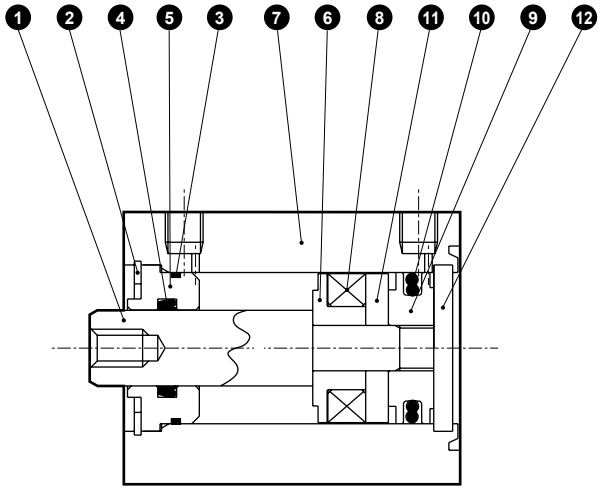
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list (φ16 to φ32)

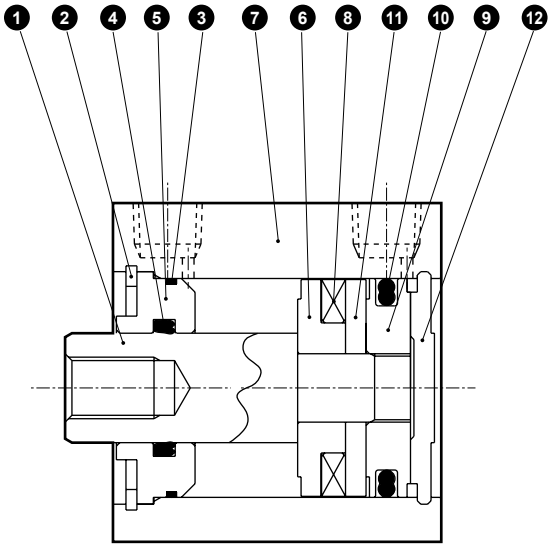
● SSD-T1L-16



● SSD-T1L-20/25



● SSD-T1L-32



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ16 to φ25: Stainless steel φ32: Steel	Industrial chrome plating	8	Magnet	Special alloy	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	φ16 to φ25: Aluminum alloy φ32: Stainless steel	φ16 to φ25: Chromate
3	Rod metal gasket	Fluoro rubber		10	Piston packing	Fluoro rubber	
4	Rod packing	Fluoro rubber		11	Spacer	Aluminum alloy	Chromate
5	Rod metal	Special aluminum	Alumite	12	Cover	φ16 to φ25: Stainless steel φ32: Aluminum alloy	φ32: Alumite
6	Spacer (for magnet)	Aluminum alloy	Chromate				
7	Cylinder body	Aluminum alloy	Hard alumite				

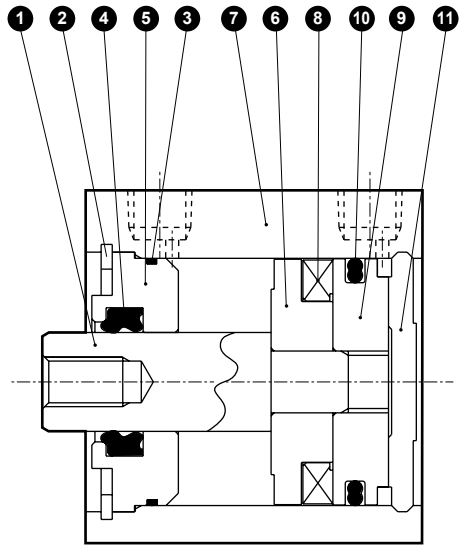
Fluorine grease is used.

Repair parts list (φ16 to φ32)

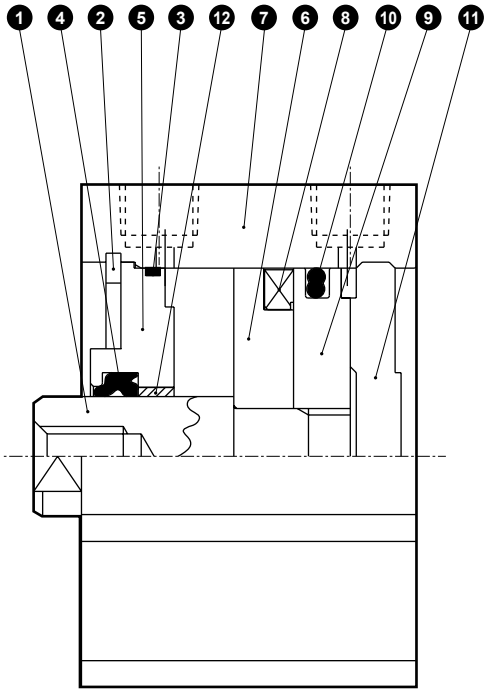
Bore size (mm)	Kit No.	Repair parts No.
φ16	SSD-T-16K	❸ ❹ ❿
φ20	SSD-T-20K	
φ25	SSD-T-25K	
φ32	SSD-T-32K	

Internal structure and parts list (φ40 to φ63)

● SSD-T1L-40/50



● SSD-T1L-63



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Cylinder body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal gasket	Fluoro rubber		9	Piston	Stainless steel	
4	Rod packing	Fluoro rubber		10	Piston packing	Fluoro rubber	
5	Rod metal	φ40, φ50: Special aluminum φ63: Aluminum alloy	Chromate	11	Cover	Aluminum alloy	Alumite
				12	Bush	Oiles drymet	
6	Spacer (for magnet)	Aluminum alloy	Chromate				

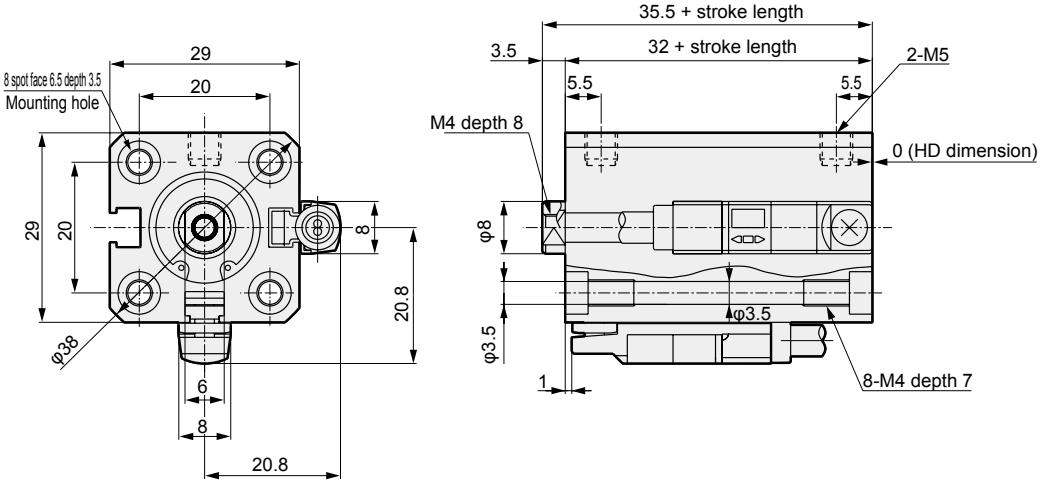
Fluorine grease is used.

Repair parts list (φ40 to φ63)

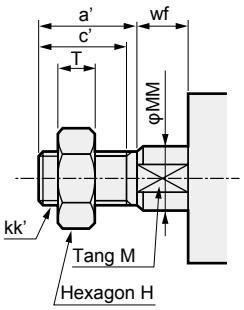
Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-T-40K	❸ ❹ ❿
φ50	SSD-T-50K	
φ63	SSD-T-63K	

Dimensions (φ16 to φ25) CAD

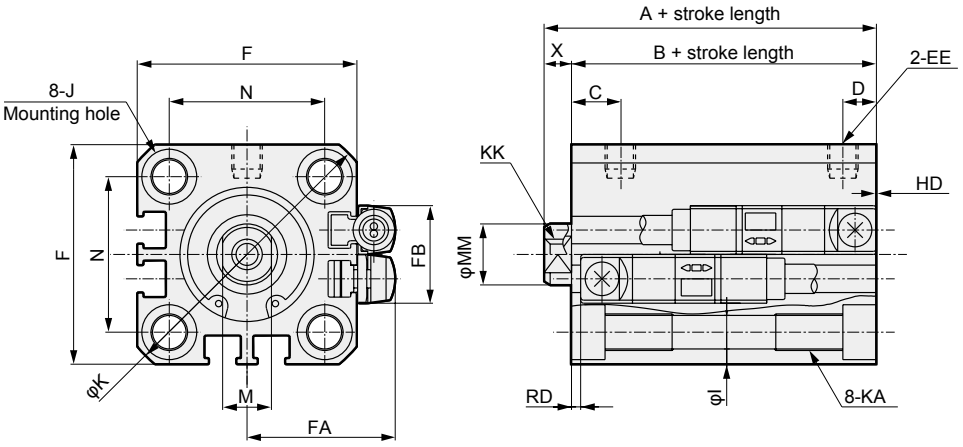
● SSD-T1L-16



● Rod end male thread



● SSD-T1L-20/25



Code	Basic dimensions														
Bore size	A (*1)	B (*1)	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ20	34	29.5	8	5.5	M5	36	24.3	16	-	-	5.5	Spot face 9 depth 5.5	47	M6 depth 11	M5 depth 7
φ25	37.5	32.5	11	6	M5	40	26.3	17	-	-	5.5	Spot face 9 depth 5.5	51	M6 depth 11	M6 depth 12

Code	Basic dimensions						Dimensions with switch reed ET0H/ET0V	
Bore size	L	M	MM	N	O	X	HD	RD
φ20	-	8	10	25.5	-	4.5	0	0
φ25	-	10	12	28	-	5	0.5	1.0

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next alonger 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.

*2 : Due to heat resistance magnet production circumstances, the total length of φ16 type will be longer than that of φ20 type. Please be careful.

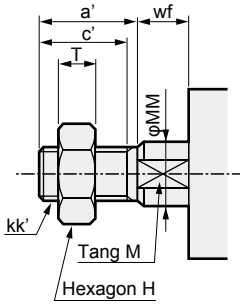
*3 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions of rod end male thread

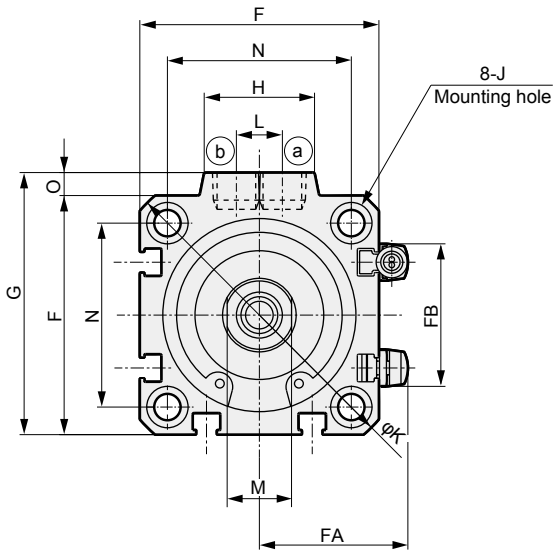
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10X1.25	10	12	6	5

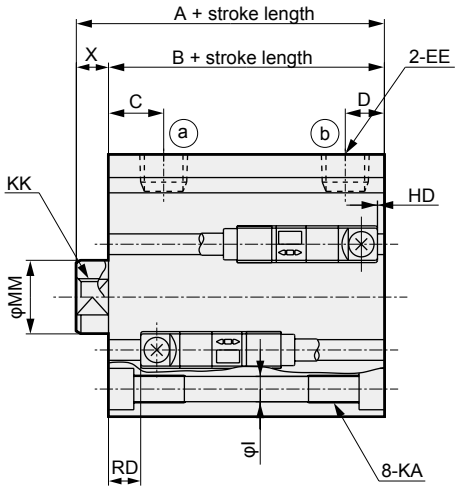
Dimensions (φ32 to φ63) CAD

● Rod end male thread



● SSD-T1L-32 to 63





Code	Basic dimensions														
Bore size	A (*1)	B (*1)	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ32	40	33	8	8	Rc1/8	45	28.8	24	49.5	24	5.5	Spot face 9 depth 5.5	60	M6 x depth 11	M8 x depth 13
φ40	46.5	39.5	12	8.5	Rc1/8	52	32.3	31	57	24	5.5	Spot face 9 depth 5.5	69	M6 x depth 11	M8 x depth 13
φ50	48.5	40.5	10.5	10.5	Rc1/4	64	38.3	32	71	33	6.9	Spot face 11 depth 6.5	86	M8 x depth 13	M10 x depth 15
φ63	54	46	13	11	Rc1/4	77	44.8	32	84	33	8.7	Spot face 14 depth 9	103	M10 x depth 25	M10 x depth 15

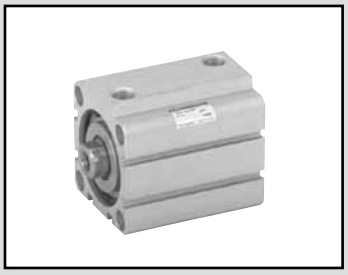
Code	Basic dimensions						Dimensions with switch reed ET0H/ET0V	
Bore size	L	M	MM	N	O	X	HD	RD
φ32	10	14	16	34	4.5	7	0.5	2.0
φ40	10	14	16	40	5	7	1.5	7.0
φ50	15	17	20	50	7	8	1.5	6.0
φ63	15	17	20	60	7	8	5.5	5.5

*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.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14X1.5	14	16	8	5
φ40	23.5	20.5	22	M14X1.5	14	16	8	5
φ50	28.5	26	27	M18X1.5	17	20	11	5
φ63	28.5	26	27	M18X1.5	17	20	11	5

For dimensions of individual accessories, refer to pages 1092 to 1099.

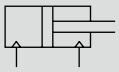


Compact cylinder high load/rubber-air cushioned

SSD-K-*C Series

● Bore size: φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-K-*C, SSD-KL-*C (with switch)							
Bore size mm	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure MPa	0.25 (≈36 psi, 2.5 bar)			0.2 (≈29 psi, 2 bar)				
Proof pressure MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	Rc 1/8				Rc 1/4		Rc 3/8	
Stroke tolerance mm	+2.0 0							
Working piston speed mm/s	50 to 500					50 to 300		
Cushion	Rubber-air cushion							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy 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)
φ20	5, 10, 15, 20, 25, 30, 40, 50	200	5 mm(φ20 to φ50) 10 mm(φ63 to φ100)
φ25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	300	
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50, 60, 70, 80, 90, 100		
φ80			
φ100			

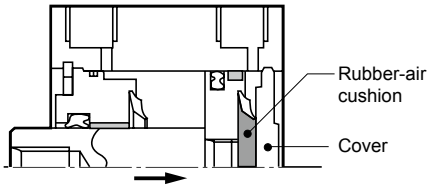
*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2: When using the type with switch, refer to the table below.

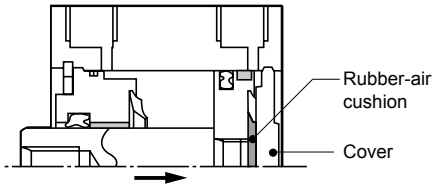
Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ20	5	5	35	50	65
φ25	5	5	35	50	65
φ32	5	5	35	50	65
φ40	5	5	35	50	65
φ50	5	5	35	50	65
φ63	10	10	35	50	65
φ80	10	10	35	50	65
φ100	10	10	35	50	65

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

Rubber-air cushion mechanism



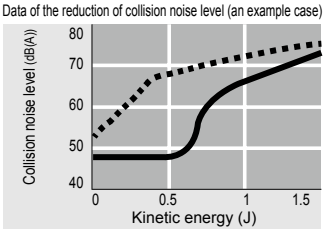


When pulled

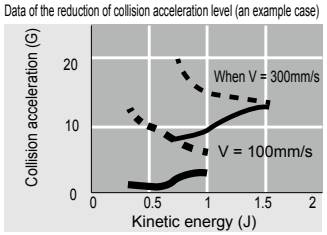
An airtight space is created in the ■ area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates. At the end of the stroke, energy generated by compression distortion of the rubber cushion is also added.

Cylinder with rubber cushion
Cylinder with rubber-air cushion

Data of the reduction of collision noise level (an example case)



Data of the reduction of collision acceleration level (an example case)



Switch specifications

● 1-color/2-color display/for AC 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)	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programming controller relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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
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

How to order

Without switch (without magnet for switch)

SSD-K — 40 ( ) C - 10 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-KL - 40 ( ) C - 10 - T0H - R - N - LB - I

Ⓐ Bore size; ( ) Rubber-air cushioned; Ⓑ Port thread; Ⓒ Stroke length; Ⓓ Switch model No. *1 *8; Ⓔ Switch quantity; Ⓕ Option *2; Ⓖ Mounting bracket *3 *4; Ⓗ Accessory *5

Code	Content
Ⓐ Bore size (mm)	
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓑ Port thread	
Blank	Rc thread
N	NPT thread (φ32 and over) (custom order product)
G	G thread (φ32 and over) (custom order product)

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

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead Line
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

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

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

Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

Precautions for model No. selection

*1 : Switches other than Ⓓ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
*2 : Piston rod of φ20 and 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.
*3 : The mounting bracket is attached at shipment.
*4 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*5 : "I" and "Y" cannot be selected together.
*6 : Refer to Ending Page 85 for custom specifications of rod end form.
*7 : Refer to pages 1072 and 1073 for combinations of variations/options.
*8 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KL-32C-10-T0H-R-N

Model: Compact cylinder, rubber-air cushioned
Ⓐ Bore size : φ32 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke length : 10 mm
Ⓓ Switch model No. : Reed switch T0H, lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

How to order mounting bracket

Bore size (mm) / Mounting bracket	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●
	70			●	●	●	●	●	●
	80			●	●	●	●	●	●
	90			●	●	●	●	●	●
	100			●	●	●	●	●	●
Min. stroke length (mm) *1		5					10		
Max. stroke length (mm)		200	300						
Custom stroke length *2		In 1 mm increments							

1 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.
Refer to page 1134 for the number of installed switches and the min. stroke length.

*2 : The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - T0H

(Item Ⓓ on the previous page)

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		40		50		60		70		80		90		100	
Bore size (mm)	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	No switch	Switch
φ20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
φ25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
φ32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
φ40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
φ50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
φ63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
φ80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
φ100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

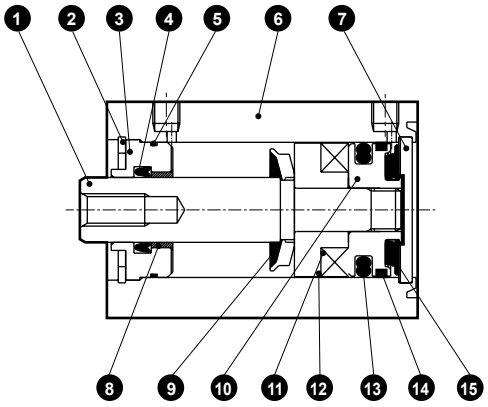
Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
φ25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
φ32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
φ40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
φ50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
φ63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
φ80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
φ100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6830	5991	6558

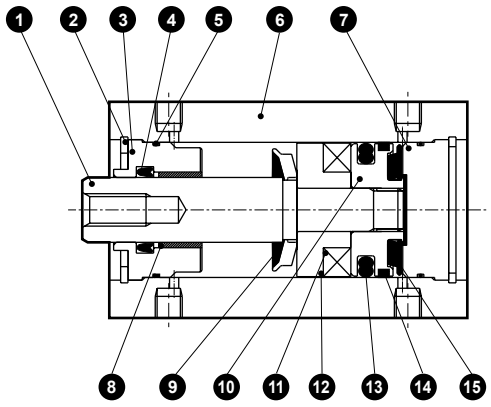
Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
φ32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
φ40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
φ50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
φ63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
φ80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
φ100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839

Internal structure and parts list

● SSD-KL-20C, 25C
(double acting/single rod high load/rubber-air cushioned/ with switch)

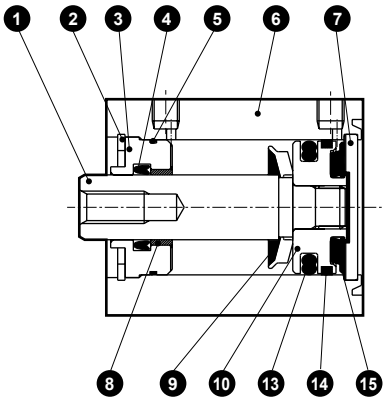
· φ20: Over 100 to 200 mm stroke length
· φ25: Over 150 to 300 mm stroke length

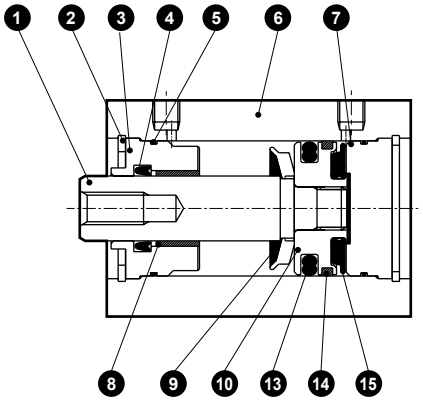




● SSD-K-20C, 25C
(double acting/single rod high load/rubber-air cushioned)

· φ20: Over 100 to 200 mm stroke length
· φ25: Over 150 to 300 mm stroke length





No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Rubber air cushion R	Special rubber	
2	C type snap ring	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Alumite
3	Rod metal	Aluminum alloy	Alumite	11	Magnet	Plastic	
4	Rod packing	Nitrile rubber		12	Spacer	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		13	Piston packing	Nitrile rubber	
6	Body	Aluminum alloy	Hard alumite	14	Wear ring	Polyacetal resin	
7	Cover	Aluminum alloy		15	Rubber air cushion H	Special rubber	
8	Bush	Oiles drymet					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ20	SSD-K-20CK	❹ ❺ ❾
φ25	SSD-K-25CK	⓭ ⓮ ⓯

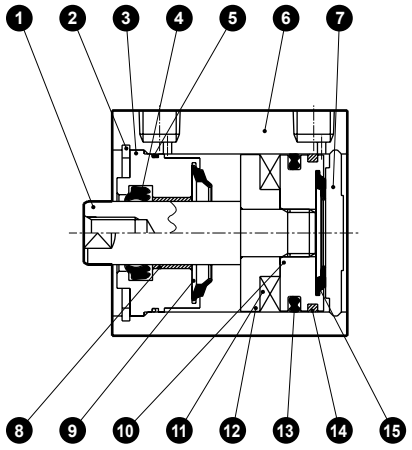
Dimensions

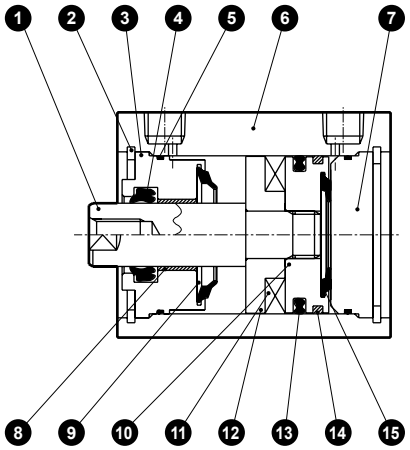
Same as SSD-K Series (double acting/high load).
Refer to pages 1106 to 1109.

Internal structure and parts list

● SSD-KL-32C to 100C
(double acting/single rod high load/rubber-air cushioned/ with switch)

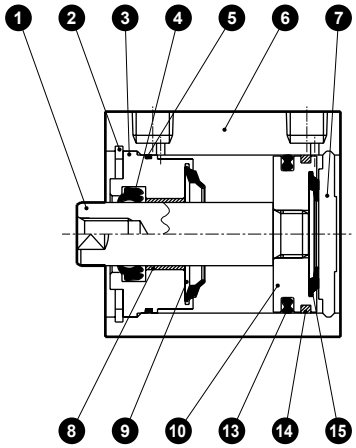
· φ32 to φ50: Over 150 to 300 mm stroke length
· φ63 to φ100: Over 200 to 300 mm stroke length

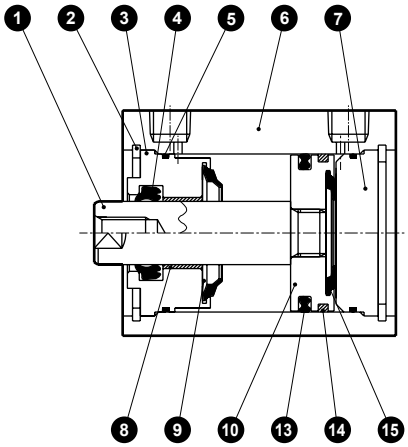




● SSD-K-32C to 100C
(double acting/single rod high load/rubber-air cushioned)

· φ32 to φ50: Over 150 to 300 mm stroke length
· φ63 to φ100: Over 200 to 300 mm stroke length





No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Rubber air cushion R	Special rubber	
2	C type snap ring	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Alumite
3	Rod metal	Aluminum alloy	Alumite	11	Magnet	Plastic	
4	Rod packing	Nitrile rubber		12	Spacer	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		13	Piston packing	Nitrile rubber	
6	Body	Aluminum alloy	Hard alumite	14	Wear ring	Polyacetal resin	
7	Cover	Aluminum alloy	Alumite	15	Rubber air cushion H	Special rubber	
8	Bush	Oiles drymet					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ32	SSD-K-32CK	❹ ❺ ❾ ⓭ ⓮ ⓯
φ40	SSD-K-40CK	
φ50	SSD-K-50CK	
φ63	SSD-K-63CK	
φ80	SSD-K-80CK	
φ100	SSD-K-100CK	

Technical data

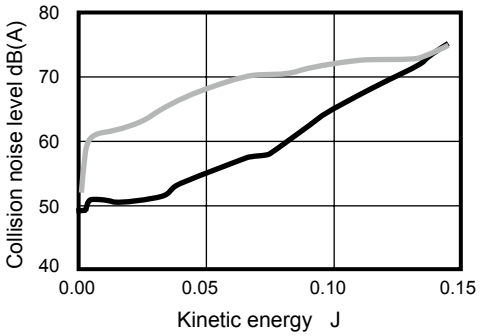
[Comparison of collision noise level]

Standard rubber cushion:
Rubber-air cushion:

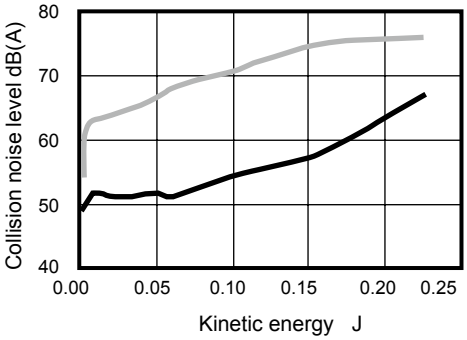
Values are comparison samples obtained under the conditions below.
As the values vary with base rigidity, etc., they are not guaranteed.

(Test conditions)
Cylinder : SSD
Mounting direction of cylinder : Vertical with rod upward
Cylinder supply pressure : 0.5 MPa
Measurement position of sound level meter : 1 m from sample

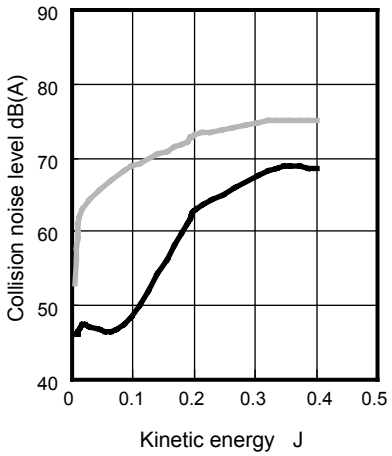
φ 20



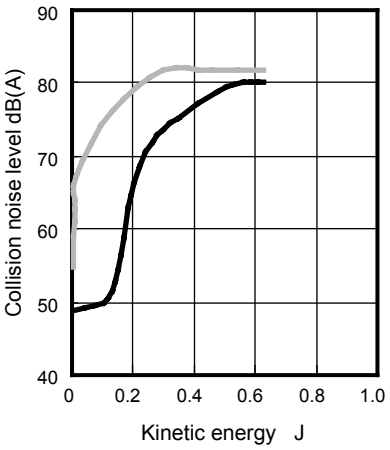
φ 25



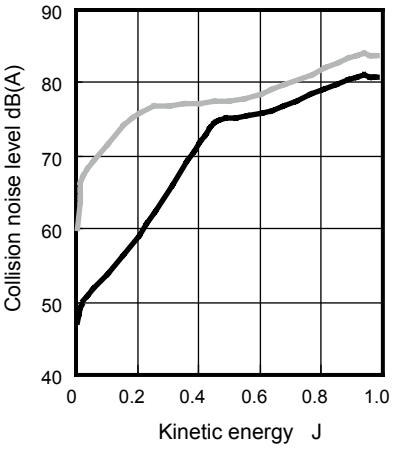
φ 32



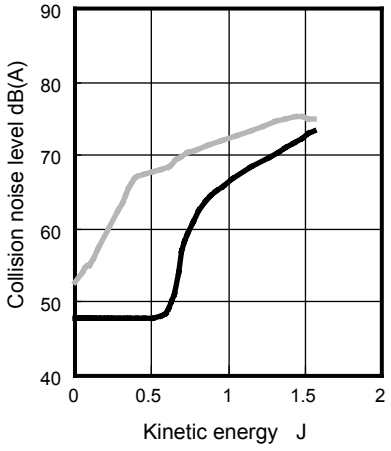
φ 40



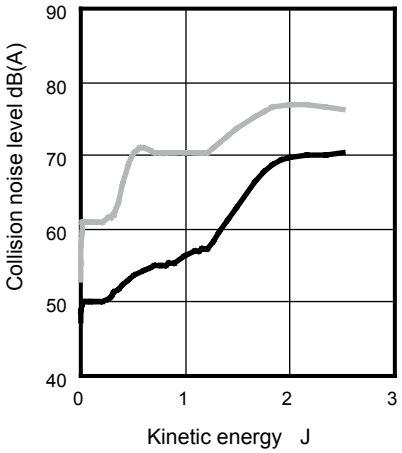
φ 50



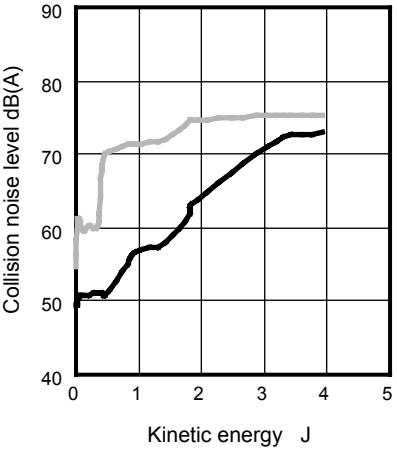
φ 63



φ 80



φ 100

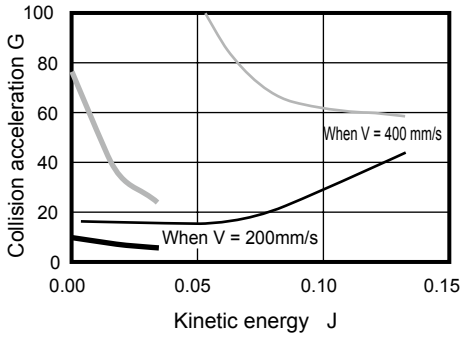


Technical data

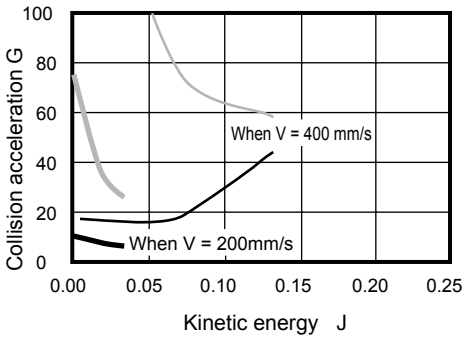
[Comparison of collision acceleration]

Standard rubber cushion:
Rubber-air cushion:

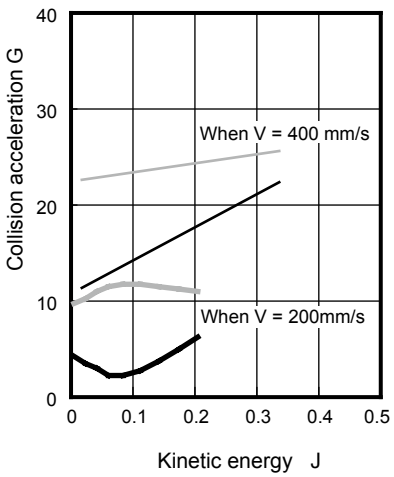
φ 20



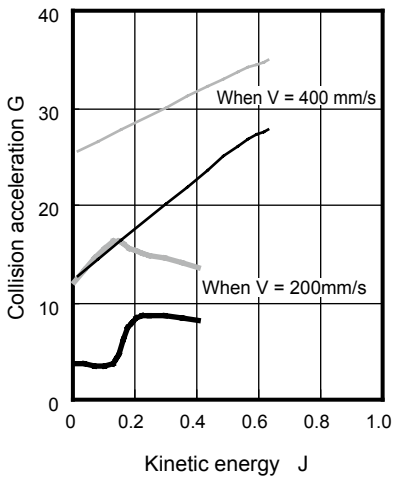
φ 25



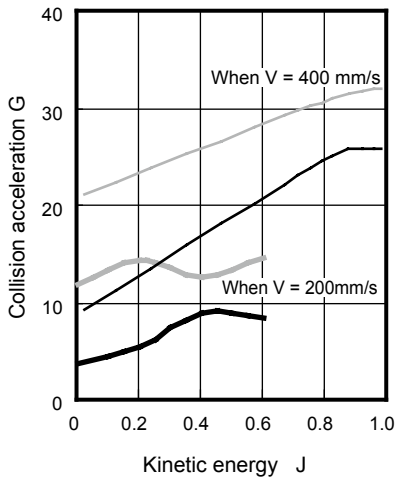
φ 32



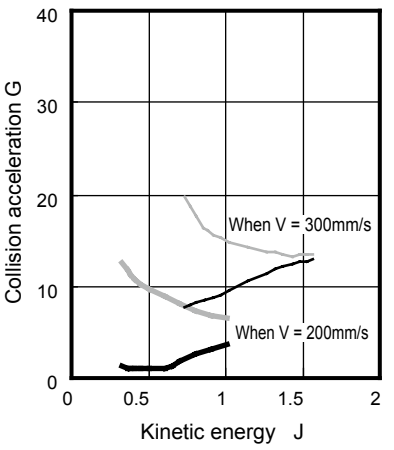
φ 40



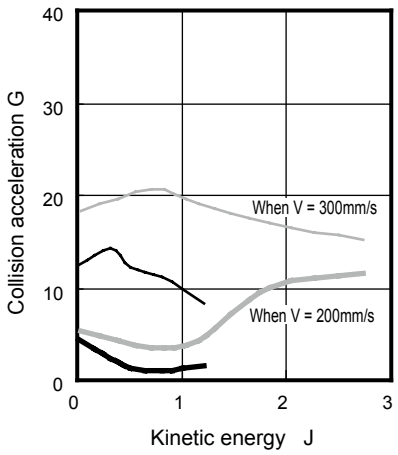
φ 50



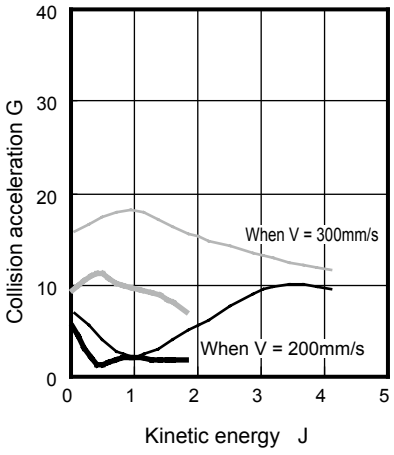
φ 63



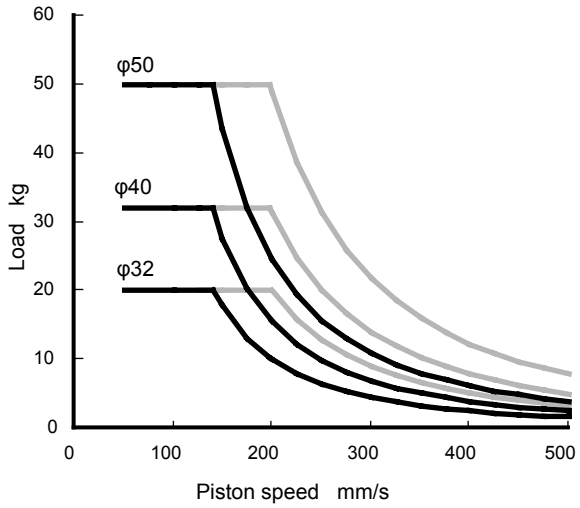
φ 80

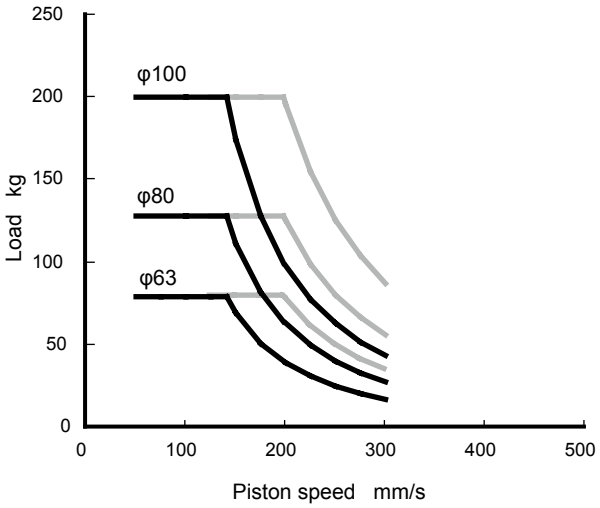


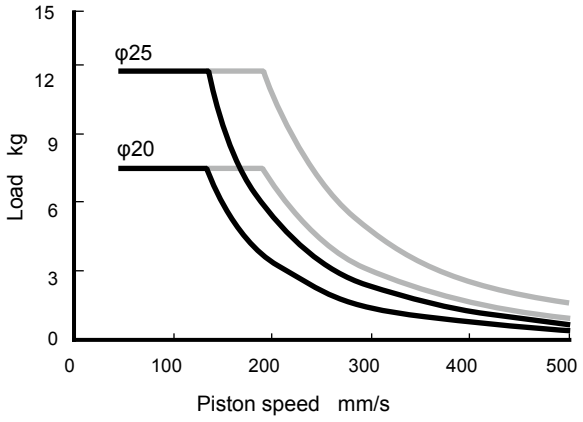
φ 100



[Allowable energy value]

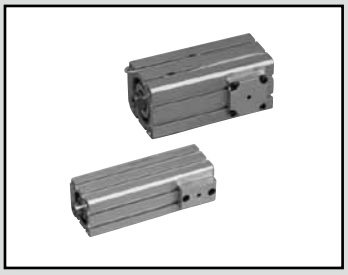






Usable in the range below and to the left of the curve.
Although it can also be used in the range marked with ——— in the figure, we recommend use within the range marked with a solid line to maximize the noise reduction effect.

MEMO

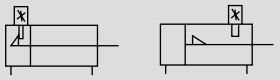


Compact cylinder double acting/with position locking

SSD-Q Series

● Bore size: φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-Q SSD-QL (with switch)								
Bore size mm	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting/position locking								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)								
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)								
Proof pressure MPa	1.6 (≈230 psi, 16 bar)								
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Position locking mechanism	Head side or rod side								
Holding force N	Max. thrust x 0.7								
Allowable absorbed energy J	0.09	0.157	0.157	0.402	0.628	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)
φ16	5, 10, 15, 20	100 (*1)	5
φ20	25, 30, 40, 50	200 (*1)	
φ25	10, 15, 20, 25, 30 45, 50, 60, 70, 80 90, 100	300 (*1)	
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
φ80			
φ100			

*1) Dimensions of custom stroke length (example: 64 mm stroke length) are obtained by directly entering the value of custom stroke length (64). Available in 1mm increments.
*2) When using the type with switch, refer to the table at right.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ16	5	5	25	-	-
φ20	5	5	35	50	65
φ25	5	5	35	50	65
φ32	5	5	35	50	65
φ40	5	5	35	50	65
φ50	5	5	35	50	65
φ63	5	5	35	50	65
φ80	5	5	35	50	65
φ100	5	5	35	50	65

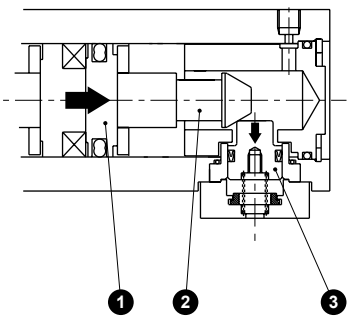
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

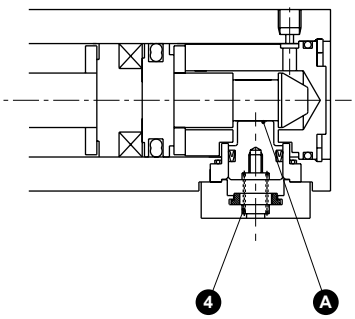
Operational explanation

● When locked

When the piston ① of the cylinder moves toward the stroke end, the stopper piston ③ is pushed up along the slope of the sleeve ②.

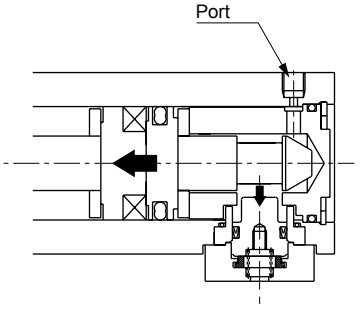
When the cylinder piston comes to the stroke end and the sleeve groove Ⓐ reaches the stopper piston position, the stopper piston is pushed down by the spring ④ and fits into the groove, completing the lock action.





● Unlocking

When pressure is supplied to the port, the stopper piston pushes up the spring and slips out of the sleeve groove, releasing the lock.



⚠ Be sure to read the Safety precautions for the Position locking on pages 1316 to 1320 before use.

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight table

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

Bore size (mm)	Product weight for 0 mm stroke length		St = Additional weight per 10 mm
	Without switch	With switch	
φ16	119	164	21
φ20	164	239	25
φ25	227	318	32
φ32	377	491	43
φ40	599	742	53
φ50	1197	1391	84
φ63	1703	1982	110
φ80	3651	4064	173
φ100	5291	5858	228

(Example) Product weight
SSD-QL-40-50-T0H-D-H
● Product weight for 0 mm stroke length... 742 g
● Additional weight for stroke length 50 mm ... 53 x 5 = 265 g
● Product weight.....742 + 265 = 1007 g

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
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

How to order

● Without switch (without magnet for switch)

SSD-Q - 16 ( ) - 5 - R ——— N - LB - I

● With switch (built-in magnet for switch)

SSD-QL - 16 ( ) - 5 - R - T0H - R - N - LB - I

Ⓐ Bore size

Ⓑ Port thread

Ⓒ Stroke length

Ⓓ Position locking mechanism

Ⓔ Switch model No. *1 *7

Ⓕ Switch quantity

Ⓖ Option

Ⓗ Mounting bracket *2 *3

Ⓘ Accessory *4

Code	Content
Ⓐ Bore size (mm)	
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓒ Stroke length (mm)	
Refer to the stroke length table on the following page.	
Ⓓ Position locking mechanism	
R	With rod side position locking
H	With head side position locking

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display	2-wire
T2YDT*	**-**	Proximity		●	AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓗ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

1 : AC magnetic field proof switch and T8 switch cannot be installed on φ16.
*2 : The mounting bracket is attached at shipment.
*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*4 : "I" and "Y" cannot be selected together.
*5 : Refer to Ending Page 85 for custom specifications of rod end form.
*6 : Refer to pages 1070 and 1071 for combinations of variations/options.
*7 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-QL-16-5-R-T0H-R-N

Model: Compact cylinder, position locking

Ⓐ Bore size	: φ16 mm
Ⓑ Port thread	: Rc thread
Ⓒ Stroke length	: 5 mm
Ⓓ Position locking mechanism	: With rod side position locking
Ⓔ Switch model No.	: Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity	: 1 on rod side
Ⓖ Option	: Rod end male thread

How to order switch

SW - T0H

Switch model No. (Item Ⓔ above)

[Stroke length table]

Stroke length (mm)		Applicable bore size								
		φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●							
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●	●
	70			●	●	●	●	●	●	●
	80			●	●	●	●	●	●	●
	90			●	●	●	●	●	●	●
	100			●	●	●	●	●	●	●
Min. stroke length (mm) *1		5								
Max. stroke length (mm)		100	200	300						
Custom stroke length *2		In 1 mm increments								

1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1144 for the number of installed switches and the min. stroke length.
*2 : Total length is obtained by directly entering the value of custom stroke length.

How to order mounting bracket

Bore size (mm) / Mounting bracket	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

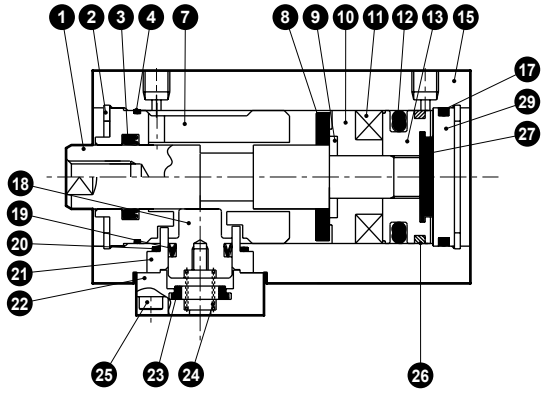
Specifications for rechargeable battery (catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process

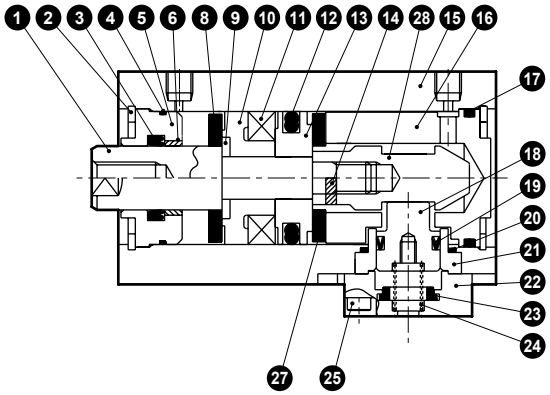
SSD-Q····· P4*

Internal structure and parts list (φ16 to φ25)

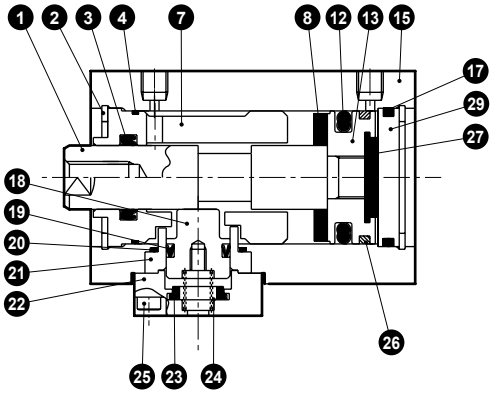
● SSD-QL-16 to 25-R
(double acting/single rod/with switch/rod side position locking)



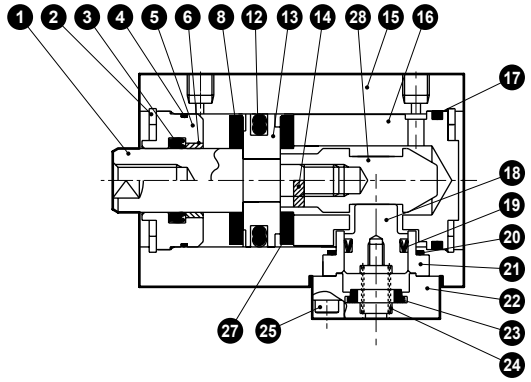
● SSD-QL-16 to 25-H
(double acting/single rod/with switch/head side position locking)



● SSD-Q-16 to 25-R
(double acting/single rod/rod side position locking)



● SSD-Q-16 to 25-H
(double acting/single rod/head side position locking)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel	Industrial chrome plating	15	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Zinc phosphate	16	Head cover	Aluminum alloy	Chromate
3	Rod packing	Nitrile rubber		17	O-ring	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		18	Stopper piston	Steel	Nitriding
5	Rod metal	Special aluminum	Alumite	19	Stopper packing	Nitrile rubber	
6	Bush	Oiles drymet	Only for φ20 and φ25 H sides	20	O-ring	Nitrile rubber	
7	Rod cover	Aluminum alloy	Alumite	21	Stopper housing	Aluminum alloy	Alumite
8	Cushion rubber R	Urethane rubber		22	Stopper cover	Aluminum alloy	Alumite
9	Spacer washer	Stainless steel		23	Cushion rubber	Urethane rubber	
10	Spacer	Special resin		24	Coil spring	Piano wire	Electrodeposition
11	Magnet	Plastic		25	Hexagon socket head cap screw	Steel	Black galvanizing
12	Piston packing	Nitrile rubber		26	Wear ring	Polyacetal resin	
13	Piston	Aluminum alloy	Chromate	27	Cushion rubber H	Urethane rubber	
				28	Sleeve	Steel	Nitriding
14	Spring pin	Steel	Black finish φ20, φ25	29	Cover	Aluminum alloy	Chromate

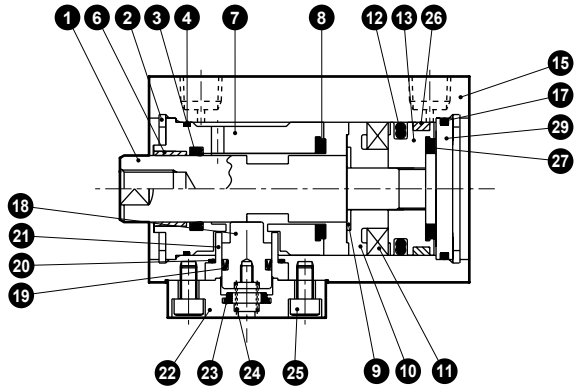
Repair parts list

Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
φ16	SSD-Q-R-16K	SSD-Q-H-16K	3 4 8 12 17 19 20 23 26 27
φ20	SSD-Q-R-20K	SSD-Q-H-20K	
φ25	SSD-Q-R-25K	SSD-Q-H-25K	

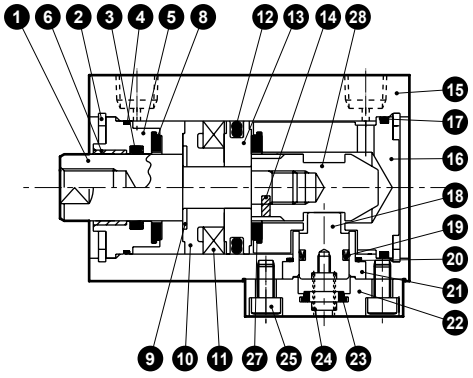
*1: 26 is not available with head side position locking.

Internal structure and parts list (φ32 to φ40)

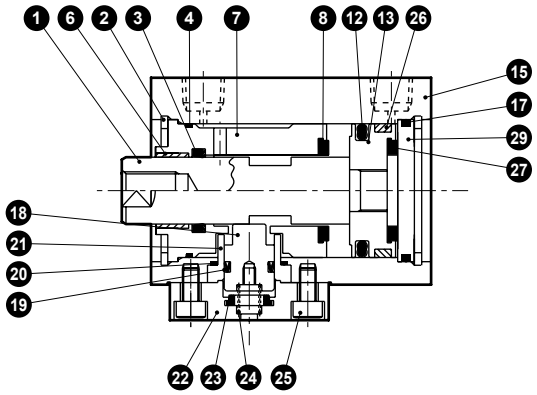
● SSD-QL-32 to 40-R
(double acting/single rod/with switch/rod side position locking)



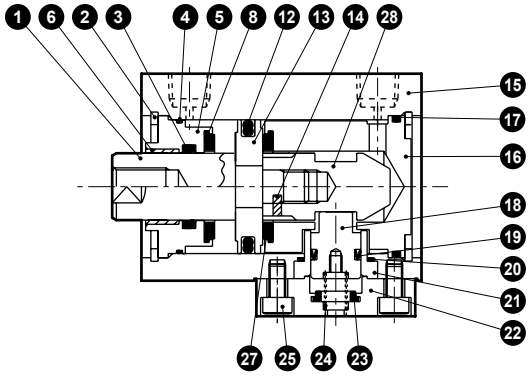
● SSD-QL-32 to 40-H
(double acting/single rod/with switch/head side position locking)



● SSD-Q-32 to 40-R
(double acting/single rod/rod side position locking)



● SSD-Q-32 to 40-H
(double acting/single rod/head side position locking)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	16	Head cover	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	17	O-ring	Nitrile rubber	
3	Rod packing	Nitrile rubber		18	Stopper piston	Steel	Nitriding
4	Rod metal gasket	Nitrile rubber		19	Stopper packing	Nitrile rubber	
5	Rod metal	Special aluminum	Alumite	20	O-ring	Nitrile rubber	
6	Bush	Oiles drymet		21	Stopper housing	Aluminum alloy	Alumite
7	Rod cover	Aluminum alloy	Alumite	22	Stopper cover	Aluminum alloy	Alumite
8	Cushion rubber R	Urethane rubber		23	Cushion rubber	Urethane rubber	
9	Spacer washer	Stainless steel		24	Coil spring	Piano wire	Electrodeposition
10	Spacer	Special resin		25	Hexagon socket head cap screw	Steel	Black galvanizing
11	Magnet	Plastic		26	Wear ring	Polyacetal resin	
12	Piston packing	Nitrile rubber		27	Cushion rubber H	Urethane rubber	
13	Piston	Aluminum alloy	Chromate	28	Sleeve	Steel	Nitriding
14	Spring pin	Steel	Black finish	29	Cover	Aluminum alloy	Chromate
15	Body	Aluminum alloy	Hard alumite				

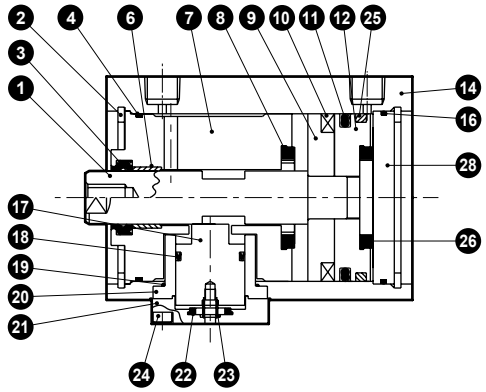
Repair parts list

Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
φ32	SSD-Q-R-32K	SSD-Q-H-32K	3 4 8 12 17
φ40	SSD-Q-R-40K	SSD-Q-H-40K	19 20 23 26 27

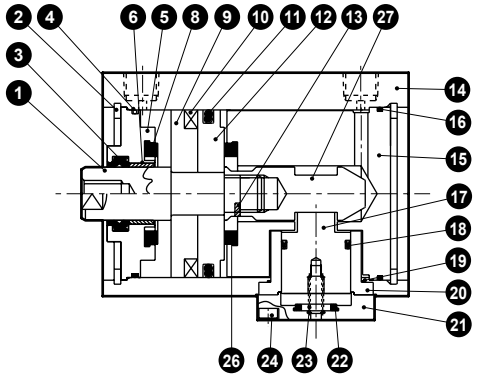
*1: 26 is not available with head side position locking.

Internal structure and parts list (φ50 to φ100)

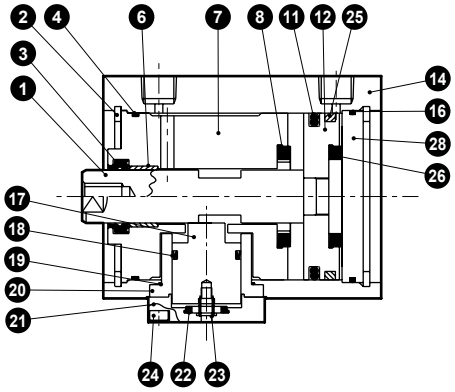
● SSD-QL-50 to 100-R
(double acting/single rod/with switch/rod side position locking)



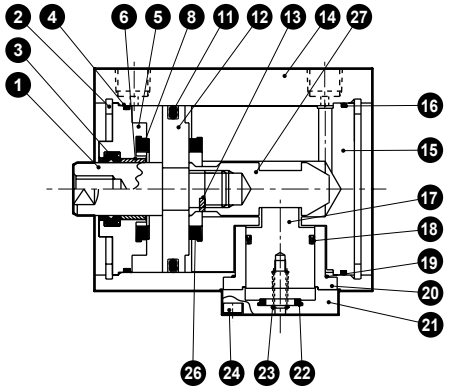
● SSD-QL-50 to 100-H
(double acting/single rod/with switch/head side position locking)



● SSD-Q-50 to 100-R
(double acting/single rod/rod side position locking)



● SSD-Q-50 to 100-H
(double acting/single rod/head side position locking)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	15	Head cover	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	16	O-ring	Nitrile rubber	
3	Rod packing	Nitrile rubber		17	Stopper piston	Steel	Nitriding
4	Rod metal gasket	Nitrile rubber		18	Stopper packing	Nitrile rubber	
5	Rod metal	Special aluminum	Chromate	19	O-ring	Nitrile rubber	
6	Bush	Oiles drymet		20	Stopper housing	Aluminum alloy	Alumite
7	Rod cover	Aluminum alloy	Chromate	21	Stopper cover	Aluminum alloy	Alumite
8	Cushion rubber R	Urethane rubber		22	Cushion rubber	Urethane rubber	
9	Spacer	φ50: Special resin φ63 to φ100: Aluminum alloy	φ63 to 100: Chromate	23	Coil spring	Piano wire	Electrodeposition
				24	Hexagon socket head cap screw	Steel	Black galvanizing
10	Magnet	Plastic		25	Wear ring	Polyacetal resin	
11	Piston packing	Nitrile rubber		26	Cushion rubber H	Urethane rubber	
12	Piston	Aluminum alloy	Chromate	27	Sleeve	Steel	Nitriding
13	Spring pin	Steel	Black finish	28	Cover	Aluminum alloy	Chromate
14	Body	Aluminum alloy	Hard alumite				

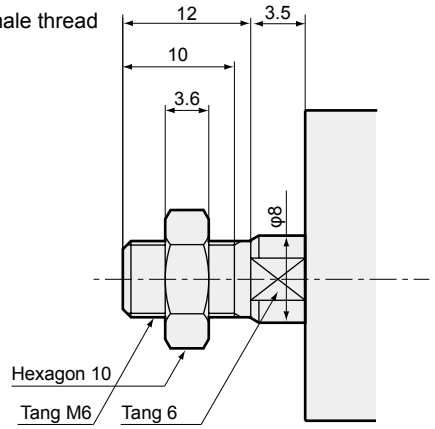
Repair parts list

Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
φ50	SSD-Q-R-50K	SSD-Q-H-50K	③ ④ ⑧ ⑪ ⑯ ⑱ ⑲ ㉒ ㉕ ㉖
φ63	SSD-Q-R-63K	SSD-Q-H-63K	
φ80	SSD-Q-R-80K	SSD-Q-H-80K	
φ100	SSD-Q-R-100K	SSD-Q-H-100K	

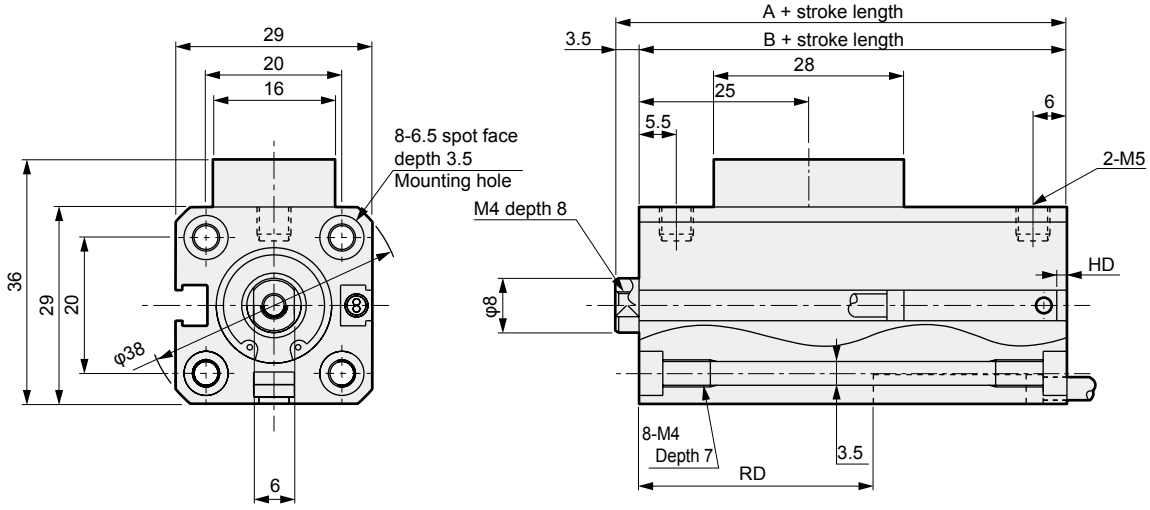
*1: ㉕ is not available with head side position locking.

Dimensions (φ16) CAD

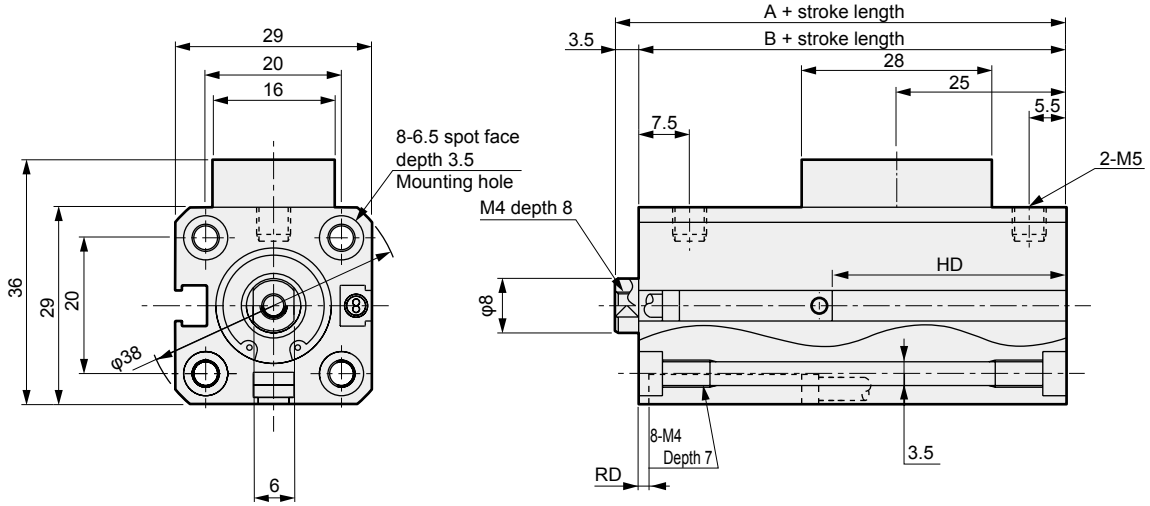
● Rod end male thread



● SSD-Q(L)-16-R
(with switch/TO$^{H}/_{V}$, T5$^{H}/_{V}$, T2$^{H}/_{V}$, T3$^{H}/_{V}$/with rod side position locking)



● SSD-Q(L)-16-H
(with switch/TO$^{H}/_{V}$, T5$^{H}/_{V}$, T2$^{H}/_{V}$, T3$^{H}/_{V}$/with head side position locking)

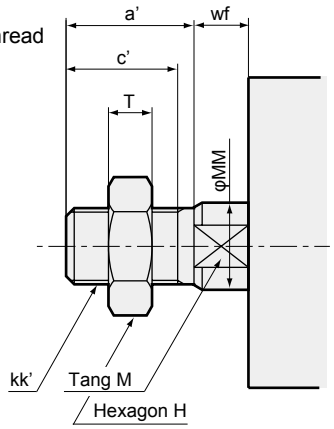


Code	Without switch		Common dimensions with switch		With rod side position locking mechanism				With head side position locking mechanism			
					T2/T3/T2W/T3W		T0/T5		T2/T3/T2W/T3W		T0/T5	
Bore size (mm)	A *1	B *1	A *1	B *1	RD *2	HD *2	RD *2	HD *2	RD *2	HD *2	RD *2	HD *2
φ16	56.5	53	61.5	58	33	6.5	33	6.5	5	34.5	5	34.5

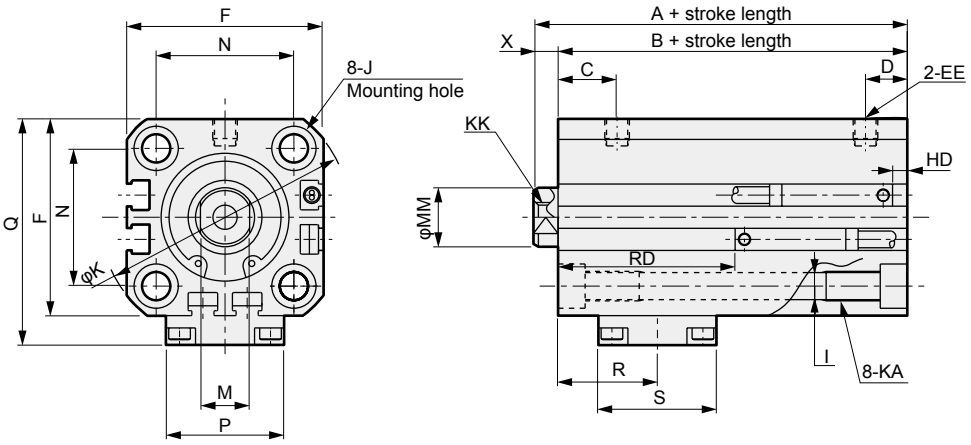
*1 : To calculate A+ stroke length or B+ stroke length when using a custom stroke length, apply the custom stroke length value as the stroke length. (Example) For the custom stroke length of 7 mm, calculate by directly including 7 mm.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions (φ20, φ25) CAD

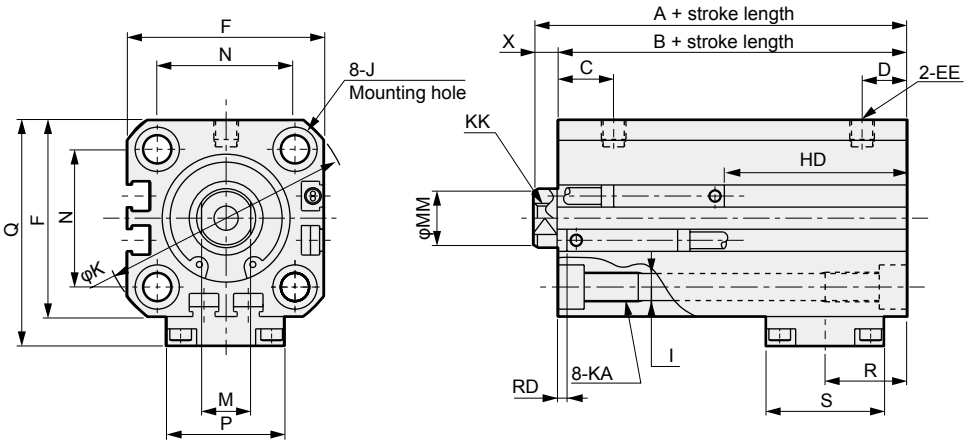
● Rod end male thread



● SSD-Q(L)-20 to 25-R
(with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$/with rod side position locking)



● SSD-Q(L)-20 to 25-H
(with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$/with head side position locking)



Code	Without switch		Common dimensions with switch								
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	I	J *3	K
φ20	58	53.5	68	63.5	9.5	8.5	M5	36	5.5	9 spot face depth 5.5	47
φ25	63.5	58.5	73.5	68.5	12	10.5	M5	40	5.5	9 spot face depth 5.5	51

Code	Common dimensions with switch								
Bore size (mm)	KA *3	KK	M	MM	N	P	Q	S	X
φ20	M6 depth 11	M5 depth 7	8	10	25.5	21	43	23.2	4.5
φ25	M6 depth 11	M6 depth 12	10	12	28	24	46	24	5

Dimension code with switch	With rod side position locking mechanism					With head side position locking mechanism				
	R	T2/T3		T0/T5		R	T2/T3/T2W/T3W		T0/T5	
Bore size (mm)		RD *2	HD *2	RD *2	HD *2		RD *2	HD *2	RD *2	HD *2
φ20	18.6	34.5	10	34.5	10	18	9.5	35	9.5	35
φ25	20.5	37.5	9.5	37.5	9.5	18.8	12.5	34.5	12.5	34.5

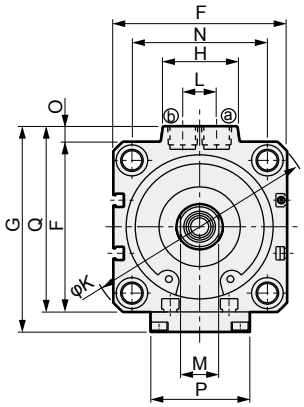
● Dimensions of rod end male thread part

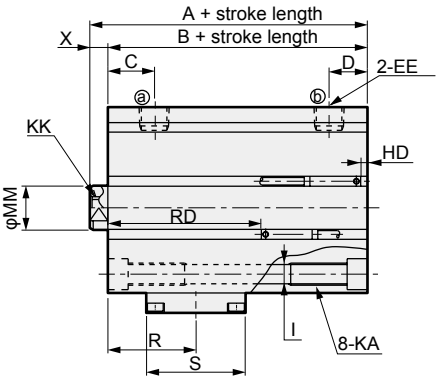
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

*1 : To calculate A+ stroke length or B+ stroke length when using a custom stroke length, apply the custom stroke length value as the stroke length. (Example) For the custom stroke length of 7 mm, calculate by directly including 7 mm.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : When longer than 150 mm stroke for φ25, there is no spot face J. KA dimension for this case is 17.
*4 : For dimensions of individual accessories, refer to pages 1092 to 1099.

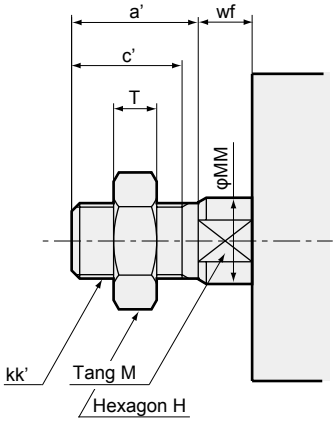
Dimensions (φ32 to φ100) CAD

● SSD-Q(L)-32 to 100R
(with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$/with rod side position locking)

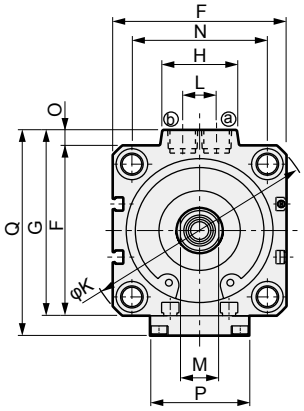


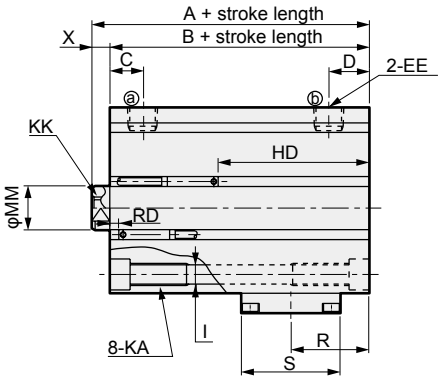


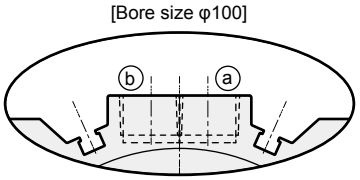
● Rod end male thread



● SSD-Q(L)-32 to 100-H
(with switch/TO$^{H}_{V}$, T5$^{H}_{V}$, T2$^{H}_{V}$, T3$^{H}_{V}$/with head side position locking)







* Only for φ100, the port surface has switch grooves.

Code	Without switch		Common dimensions with switch										
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	G	H	I	J *2	K
φ32	69	62	79	72	11	10	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	60
φ40	83	76	93	86	14	11	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	69
φ50	102.5	94.5	112.5	104.5	14.5	12.5	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	86
φ63	108	100	118	110	18.5	17	Rc1/4	77	84	33	8.7	14 spot face depth 9	103
φ80	139	129	149	139	18	17	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	132
φ100	141	129	151	139	23	21	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	156

Code	Common dimensions with switch									
Bore size (mm)	KA *2	KK	L	M	MM	N	O	P	Q	S	X
φ32	M6 depth 11	M8 depth 13	10	14	16	34	4.5	24	58	38	7
φ40	M6 depth 11	M8 depth 13	10	14	16	40	5	24	65.5	38	7
φ50	M8 depth 13	M10 depth 15	15	17	20	50	7	44	79.5	43	8
φ63	M10 depth 25	M10 depth 15	15	17	20	60	7	47	92.5	47	8
φ80	M12 depth 28	M16 depth 21	15	22	25	77	6	47	112.5	47	10
φ100	M12 depth 28	M20 depth 27	15	27	30	94	6.5	55	133.5	55	12

Dimension code with switch	With rod side position locking mechanism					With head side position locking mechanism				
	R	T2/T3/T2W/T3W		T0/T5		R	T2/T3/T2W/T3W		T0/T5	
Bore size (mm)		RD *2	HD *2	RD *2	HD *2		RD *2	HD *2	RD *2	HD *2
φ32	23.2	40.5	13	40.5	13	20.9	15.5	38	15.5	38
φ40	36.2	53	14	53	14	23.9	21	46	21	46
φ50	39.1	70.5	15	70.5	15	33.4	20.5	65	20.5	65
φ63	39	69	22.5	69	22.5	34.8	19	73	19	73
φ80	60	96	24	96	24	52	21.5	99	21.5	99
φ100	57	91	29.5	91	29.5	50	25.5	95	25.5	95

Table 1

Bore size	J	KA
φ32	-	17
φ40	-	17
φ50	-	20
φ63	-	34
φ80	-	35
φ100	-	35

● Dimensions of rod end male thread part

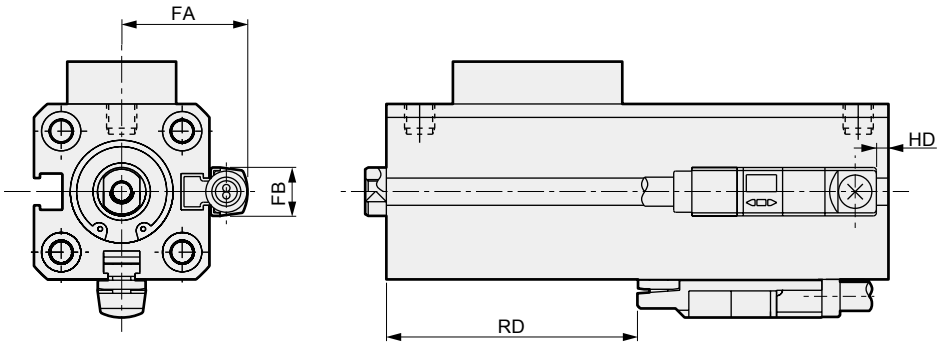
Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8

*1 : To calculate A+ stroke length or B+ stroke length when using a custom stroke length, apply the custom stroke length value as the stroke length.
(Example) For the custom stroke length of 7 mm, calculate by directly including 7 mm.
*2 : When longer than 150 mm stroke for φ32 to φ63 or longer than 130 mm stroke for φ80 and φ100, there is no spot face J.
KA dimensions for this case are indicated in Table 1.
3 : Refer to page 1297 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

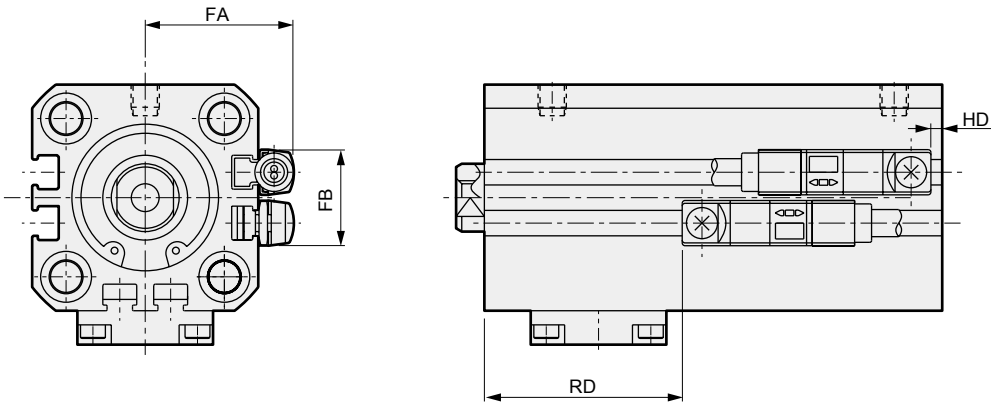
* For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions (with the 2-color display, off-delay, AC magnetic field proof, T1* or T8* switch)

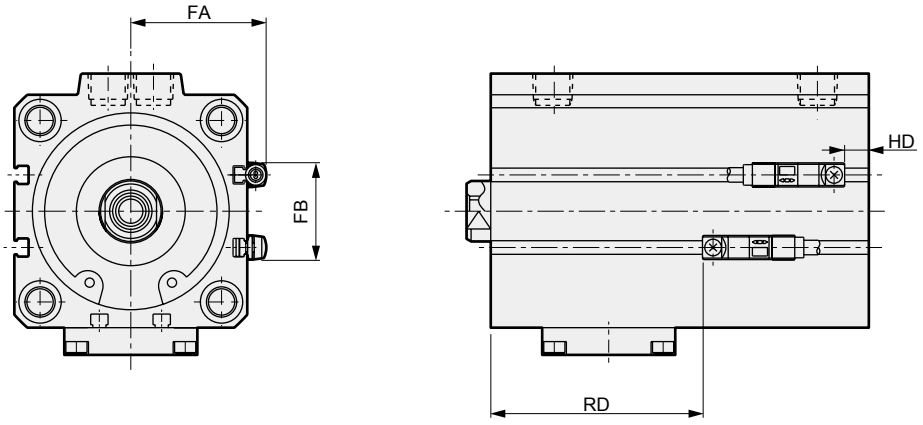
● SSD-QL-16-R (with switch/T$^{2}_{3}$Y$\overset{H}{V}$, T2J$\overset{H}{V}$, T8$\overset{H}{V}$, T2YD, T2YDT, T1$\overset{H}{V}$/with rod side position locking)



● SSD-QL-20 to 25-R (with switch/T$^{2}_{3}$Y$\overset{H}{V}$, T2J$\overset{H}{V}$, T8$\overset{H}{V}$, T2YD, T2YDT, T1$\overset{H}{V}$/with rod side position locking)



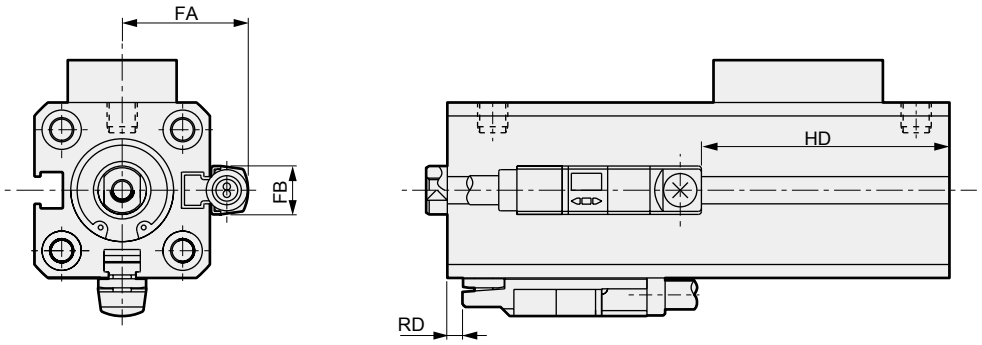
● SSD-QL-32 to 100-R (with switch/T$^{2}_{3}$Y$\overset{H}{V}$, T2J$\overset{H}{V}$, T8$\overset{H}{V}$, T2YD, T2YDT, T1$\overset{H}{V}$/with rod side position locking)



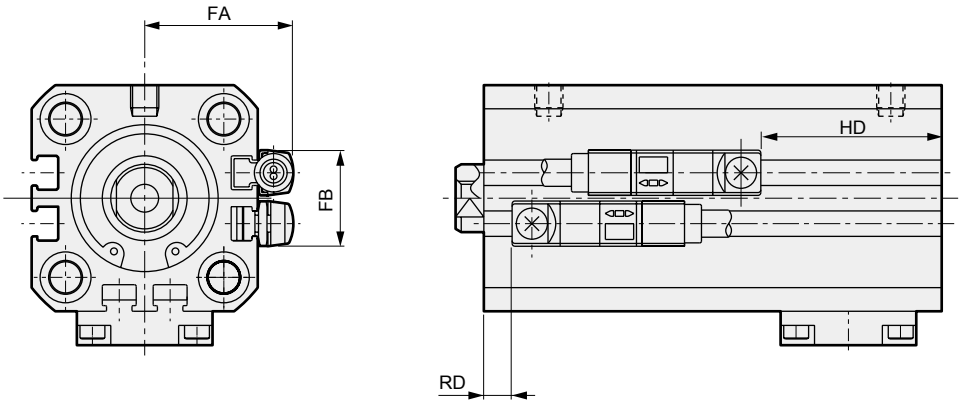
Code	T$^{2}_{3}$Y$\overset{H}{V}$, T2J$\overset{H}{V}$				T2YD, T2YDT, T1$\overset{H}{V}$				T8$\overset{H}{V}$			
Bore size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
φ16	20.8	8	31.5	5	25.8	8	31.5	5	-	-	-	-
φ20	24.3	16	33	8.5	29.3	16	33	8.5	24.3	16	28.5	4
φ25	26.3	17	36.5	8	31.3	17	36.5	8	26.3	17	31.5	3.5
φ32	28.8	24	39	11.5	33.8	24	39	11.5	28.8	24	34.5	7
φ40	32.3	31	51.5	12.5	37.3	31	51.5	12.5	32.3	31	47	8
φ50	38.3	32	69.5	13.5	43.3	32	69.5	13.5	38.3	32	64.5	9
φ63	44.8	32	67.5	21	49.8	32	67.5	21	44.8	32	63	16.5
φ80	55.3	32	94.5	22.5	60.3	32	94.5	22.5	55.3	32	90	18
φ100	64.8	32	89.5	28	69.8	32	89.5	28	64.8	32	85	23.5

Dimensions (with the 2-color display, off-delay, AC magnetic field proof, T1* or T8* switch)

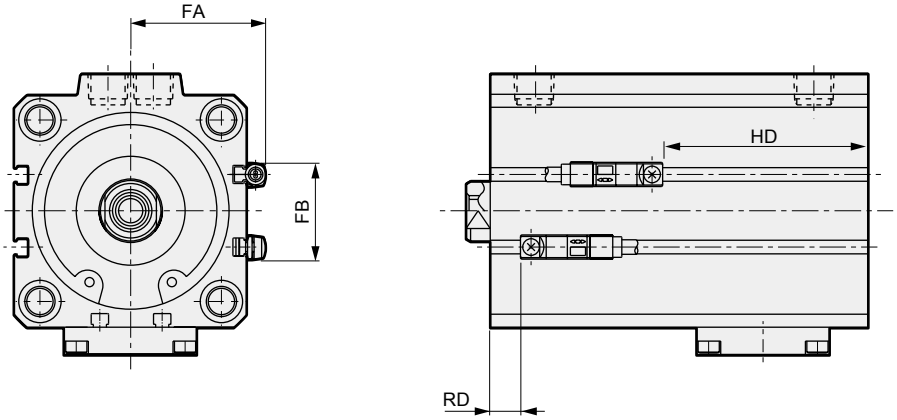
● SSD-QL-16-H (with switch/T$^{2}_{3}$Y, T2J, T8, T2YD, T2YDT, T1/with head side position locking)



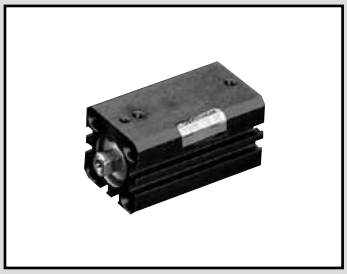
● SSD-QL-20～25-H (with switch/T$^{2}_{3}$Y, T2J, T8, T2YD, T2YDT, T1/with head side position locking)



● SSD-QL-32～100-H (with switch/T$^{2}_{3}$Y, T2J, T8, T2YD, T2YDT, T1/with head side position locking)



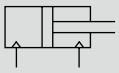
Code	T$^{2}_{3}$Y, T2J				T2YD, T2YDT, T1				T8			
Bore size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
φ16	20.8	8	3.5	33	25.8	8	3.5	33	20.8	8	-	-
φ20	24.3	16	8	33.5	29.3	16	8	33.5	24.3	16	3.5	29
φ25	26.3	17	11.5	33	31.3	17	11.5	33	26.3	17	6.5	28.5
φ32	28.8	24	14	36.5	33.8	24	14	36.5	28.8	24	9.5	32
φ40	32.3	31	20	44	37.3	31	20	44	32.3	31	15	40
φ50	38.3	32	19.5	63.5	43.3	32	19.5	63.5	38.3	32	14.5	59
φ63	44.8	32	17.5	71.5	49.8	32	17.5	71.5	44.8	32	13	67
φ80	55.3	32	20	97.5	60.3	32	20	97.5	55.3	32	15.5	93
φ100	64.8	32	24	93.5	69.8	32	24	93.5	64.8	32	19.5	89



Compact cylinder double acting/fine speed

SSD-F/SSD-KF Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol 

RoHS CAD

Specifications

1 MPa = 10 bar

Descriptions	SSD-F, SSD-LF (with switch)										SSD-KF, SSD-KLF (with switch)									
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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)			0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)																			
Ambient temperature °C	5 (41°F) to 60 (140°F)																			
Port size	M5				Rc1/8		Rc1/4		Rc3/8		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0										+2.0 0									
Working piston speed mm/s	1 to 200																			
Cushion	None										Rubber cushion									
Lubrication	Not available																			
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Model No.	Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
SSD-F SSD-LF	φ12,φ16,φ20	5, 10, 15, 20, 25, 30	30	1
	φ25,φ32,φ40,φ50	5, 10, 15, 20, 25, 30, 40, 50	50	
	φ63,φ80,φ100	5, 10, 20, 30, 40, 50		
SSD-KF SSD-KLF	φ12, φ16, φ20	5, 10, 15, 20, 25, 30, 40, 50	100	
	φ25,φ32,φ40,φ50	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150	
	φ63,φ80,φ100	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2: When using the type with a switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

● SSD-LF

Switch quantity	SSD-LF					SSD-KLF				
	1	2	3	4	5	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*	T*	T*	T*	T*	T*
φ12	5	5	25	-	-	5	5	25	-	-
φ16	5	5	25	-	-	5	5	25	-	-
φ20	5	5	-	-	-	5	5	35	50	65
φ25	5	5	35	50	-	5	5	35	50	65
φ32	5	5	35	50	-	5	5	35	50	65
φ40	5	5	35	50	-	5	5	35	50	65
φ50	5	5	35	50	-	5	5	35	50	65
φ63	5	5	35	50	-	5	5	35	50	65
φ80	5	5	35	50	-	5	5	35	50	65
φ100	5	5	35	50	-	5	5	35	50	65

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33			1 m:61
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49					3 m:87			3 m:166
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80					5 m:142			5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight

Same as SSD Series (double acting/single rod) on page 1079 and SSD-K Series (double acting/high load) on page 1103.

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

How to order

● Without switch (without magnet for switch)

SSD-F - 12 ○ - 5 ——— N - LB - I

● With switch (built-in magnet for switch)

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

● 2-color display/off-delay, with T1* switch (double acting/single rod φ12/φ16 only) (built-in magnet for switch)

SSD-L1F - 12 ○ - 10 - T2YH - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No.
Ⓕ Switch quantity
Ⓖ Option *4
Ⓗ Mounting bracket *5 *6
Ⓘ Accessory *7

Precautions for model No. selection

*1 : Switches other than Ⓔ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
*2 : An AC magnetic field proof switch cannot be installed on φ12 and φ16.
3 : T8 switch cannot be mounted in products with bore sizes as below.
·SSD-L1F: φ12 to φ32
·SSD-KLF: φ12, φ16
*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 LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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 : Refer to Ending Page 85 for custom specifications of rod end form.
*9 : Refer to pages 1070 and 1075 for combinations of variations/options.
*10 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

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

Model: Compact cylinder, fine speed

Ⓐ Model No. : Double acting/single rod
Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model No. (Item Ⓔ above)

Code	Content
Ⓐ Model No.	
SSD-F	Double acting/single rod
SSD-LF	Double acting/single rod/with switch
SSD-L1F	φ12, φ16 2-color display, off-delay, with T1* switch
SSD-KF	Double acting/high load
SSD-KLF	Double acting/high load/with switch
Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*	Reed	●	●	Without indicator lamp	2-wire
T8H*	T8V*	Reed	●	●	1-color display	2-wire
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*	Proximity		●	1-color display	3-wire
T3PH*	T3PV*	Proximity		●	1-color display (custom order)	3-wire
T2WH*	T2WV*	Proximity		●	2-color display	2-wire
T2YH*	T2YV*	Proximity		●	2-color display	2-wire
T3WH*	T3WV*	Proximity		●	2-color display	3-wire
T3YH*	T3YV*	Proximity		●	2-color display	3-wire
T2JH*	T2JV*	Proximity		●	1-color display off-delay	2-wire
T2YD*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	T2VR3	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
Ⓗ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

● SSD-F

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

1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC strong magnetic field proof, T1 or T8* switch are not available. Refer to page 1156 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

● SSD-KF

Stroke length (mm)		Applicable bore size									
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●	●
	60				●	●	●	●	●	●	●
	70				●	●	●	●	●	●	●
	80				●	●	●	●	●	●	●
	90				●	●	●	●	●	●	●
	100				●	●	●	●	●	●	●
Min. stroke length (mm) *1		1									
Max. stroke length (mm)		100			150				200		
Custom stroke length *2		In 1 mm increments									

*1 : Less than 5 mm for 1-color display and stroke length less than 10 mm for the 2-color display with AC magnetic field proof switch are not available. Refer to page 1156 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

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

● Anti-dust generation structure for use in cleanrooms

SSD-F P7*
SSD-KF P7*

How to order mounting bracket

Bore size (mm) / Mounting bracket	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

Dimensions

Same as SSD Series (double acting/single rod) and SSD-K Series (double acting/high load).
Refer to pages 1087 to 1089 and 1106 to 1109.

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

● SSD-F

(Unit: g)

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

● SSD-KF

(Unit: g)

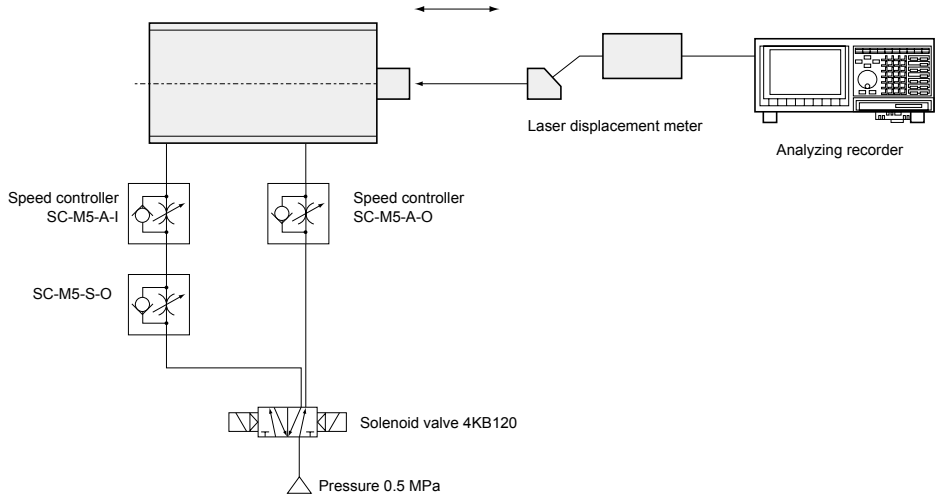
Stroke length (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	44	86	53	95	61	103	70	112	78	121	87	129	104	146	121	163	138	180	155	197	172	214	189	231	206	248
φ16	59	104	69	114	80	125	91	136	102	147	113	158	135	169	157	191	179	213	201	235	223	257	245	279	267	301
φ20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
φ25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
φ32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
φ40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
φ50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
φ63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
φ80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
φ100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

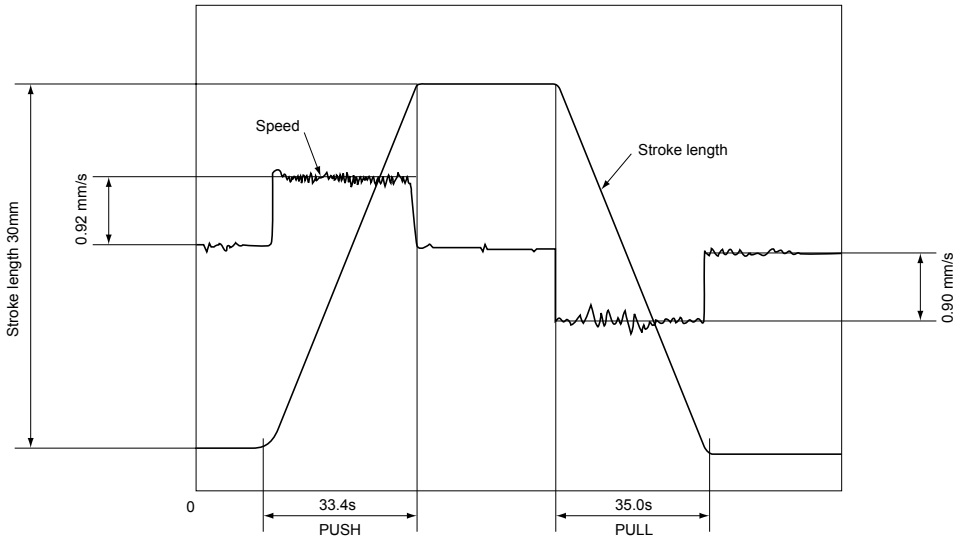
Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	438	529	470	561	502	593	534	625	566	657	—	—	—	—	—	—	—	—	—	—
φ32	619	733	662	776	705	819	748	862	791	905	—	—	—	—	—	—	—	—	—	—
φ40	793	936	846	989	899	1042	952	1095	1005	1148	—	—	—	—	—	—	—	—	—	—
φ50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	—	—	—	—	—	—	—	—	—	—
φ63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
φ80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
φ100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6830	5991	6558

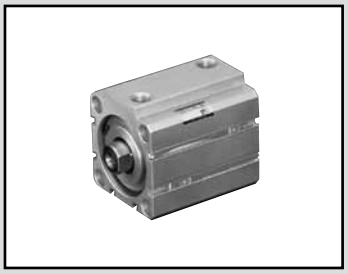
Measurement data

Measuring method

SSD-F-16-30



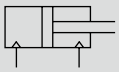




Compact cylinder double acting/low speed

SSD-O Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ83/φ100

JIS symbol 

RoHS CAD

Specifications

Descriptions	SSD-O SSD-OL (with switch)									
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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 °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0									
Working piston speed mm/s	10 to 200									
Cushion	None									
Lubrication	Not available									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2: When using the type with a switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	50	-
φ80	5	5	35	50	-
φ100	5	5	35	50	-

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 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		40		50	
Bore size (mm)	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	—	—	—	—
φ25	87	178	102	193	118	209	134	225	150	241	165	256	197	288	228	319
φ32	122	236	144	258	166	280	188	302	209	323	231	345	275	389	318	432
φ40	183	326	210	353	236	379	263	406	290	433	316	459	369	512	422	565
φ50	299	493	341	535	383	577	425	619	467	661	510	704	594	788	678	872
φ63	452	731	507	786	—	—	617	896	—	—	727	1006	838	1117	948	1227
φ80	841	1254	928	1341	—	—	1101	1514	—	—	1274	1687	1448	1861	1621	2034
φ100	1319	1886	1433	2000	—	—	1660	2227	—	—	1888	2455	2115	2682	2343	2910

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

Dimensions

Same as SSD Series (double acting/single rod). Refer to pages 1087 to 1089.

How to order

Without switch (without magnet for switch)

SSD-O — 12 ○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-OL — 12 ○ - 5 - T0H - R - N - LB - I

2-color display/off-delay, with T1* switch (φ12/φ16 only)

SSD-OL1 - 12 ○ - 10 - T2YH - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *1 *2 *9
Ⓕ Switch quantity
Ⓖ Option *3
Ⓗ Mounting bracket *4 *5
Ⓘ Accessory *6

Code	Content
Ⓐ Model No.	
SSD-O	Double acting/low speed
SSD-OL	Double acting/low speed/with switch
SSD-OL1	φ12, φ16 2-color display, off-delay, with T1* switch

Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)

Ⓓ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom order)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

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

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

Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : Switches other than Ⓔ Switch model No. are also available. (Custom order)
Refer to Ending Page 1 for details.
*2 : An AC magnetic field proof switch cannot be installed on φ12 and φ16.
In addition, T8* switch cannot be installed on φ12 to φ32.
*3 : 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.
*4 : The mounting bracket is attached at shipment.
*5 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*6 : "I" and "Y" cannot be selected together.
*7 : Refer to Ending Page 85 for custom specifications of rod end form.
*8 : Refer to pages 1070 and 1071 for combinations of variations/options.
*9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

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

Model: Compact cylinder
Double acting/low speed

Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed T0H switch
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model No.
(Item Ⓔ above)

[Stroke length table]

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

1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 1162 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

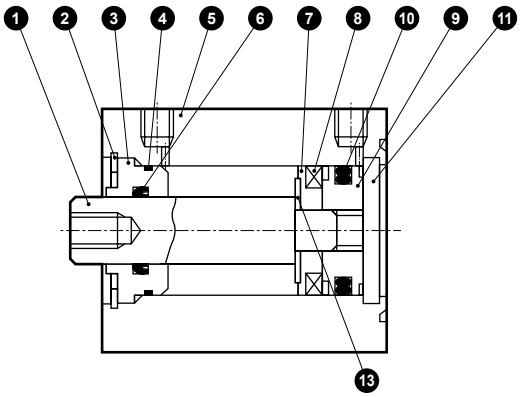
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

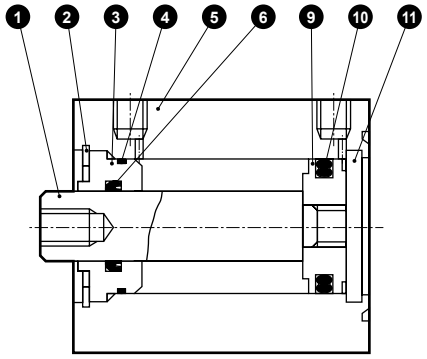
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

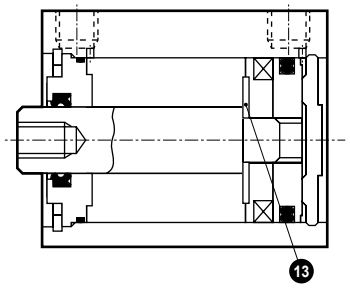
● SSD-OL-12 to 25 (double acting/low speed/with switch)



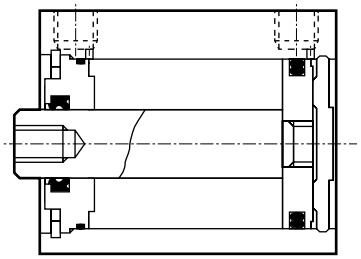
● SSD-O-12 to 25 (double acting/low speed)



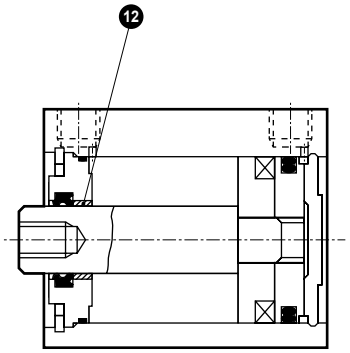
● SSD-OL-32 to 50 (double acting/low speed/with switch)



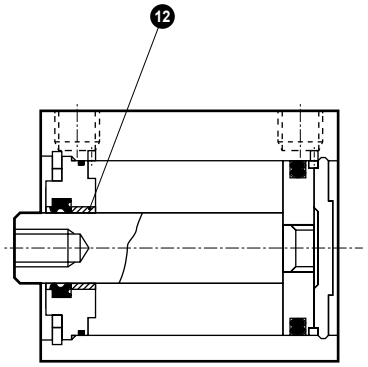
● SSD-O-32 to 50 (double acting/low speed)



● SSD-OL-63 to 100 (double acting/low speed/with switch)



● SSD-O-63 to 100 (double acting/low speed)



No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ100: Steel	φ16 to φ100: Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	φ12 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	

No.	Part name	Material	Remarks
7	Spacer	φ12, φ63 to φ100: Aluminum alloy φ16 to φ50: Special resin	φ12, φ63 to φ100: Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	φ12 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100: Alumite
12	Bush	Oiles drymet	φ63 to φ100
13	Spacer washer	Stainless steel	φ20 to φ50

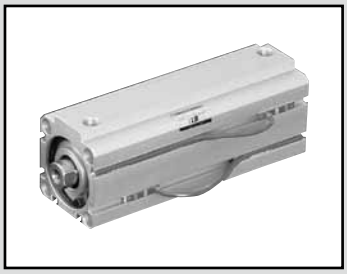
Fluorine grease is used.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-O-12K	❹ ❻ ❿
φ16	SSD-O-16K	
φ20	SSD-O-20K	
φ25	SSD-O-25K	
φ32	SSD-O-32K	

Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-O-40K	❹ ❻ ❿
φ50	SSD-O-50K	
φ63	SSD-O-63K	
φ80	SSD-O-80K	
φ100	SSD-O-100K	

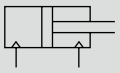
MEMO



Compact cylinder/double acting/high load/low friction

SSD-KU Series

● Bore size: φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol 

RoHS CAD

Specifications

Descriptions		SSD-KU SSD-KUL (with switch)							
Bore size		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)							
Min. working pressure	MPa	0.03 (≈4.4 psi, 0.3 bar)							
Proof pressure	MPa	1.0 (≈150 psi, 10 bar)							
Ambient temperature	°C	5 (41°F) to 60 (140°F)							
Port size		M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	+2.0 0							
Working piston speed	m/s	10 to 500					10 to 300		
Cushion		Rubber cushion							
Lubrication		Not available							
Allowable absorbed energy	J	0.16	0.16	0.40	0.62	0.98	1.56	2.51	3.92
Internal leakage	ℓ/min	5						8	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ20	5, 10, 15, 20, 25, 30, 40, 50	200 *1)	5
φ25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	300 *1)	
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2) Stroke length over standard to maximum is available in increments of 10.
(Example) φ20: 60, 70, 80, 90, 100
*3) Dimensions of custom stroke length (example: 64 mm stroke length) are the same as the next stroke length up (example: 70 mm stroke length).
*4) From 101 to 200 for φ20, 151 to 300 for φ25 to φ50, or 201 to 300 for φ63 to φ100, internal structure and total length are different in some products.
*5) When using the type with a switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ20	5	5	35	50	65
φ25	5	5	35	50	65
φ32	5	5	35	50	65
φ40	5	5	35	50	65
φ50	5	5	35	50	65
φ63	5	5	35	50	65
φ80	5	5	35	50	65
φ100	5	5	35	50	65

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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
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

Dimensions

Same as SSD-K Series (double acting/high load). Refer to pages 1106 to 1109.

Technical data

Refer to page 290 for technical data regarding sliding resistance values.
SSD-KU Series shows a similar trend to the data of “SCM-U Series” on page 290.

How to order

Without switch (without magnet for switch)

SSD-KU - 20 ( ) - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-KUL - 20 ( ) - 5 - T0H - R - N - LB - I

Ⓐ Bore size
Ⓑ Port thread
Ⓒ Stroke length
Ⓓ Switch model No. *7
Ⓔ Switch quantity
Ⓕ Option *2
Ⓖ Mounting bracket *3 *4
Ⓗ Accessory *5

Precautions for model No. selection

*1 : Switches other than Ⓓ Switch model No. are also available. (Custom order)
Refer to Ending Page 1 for details.
*2 : Piston rod of φ20 and 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.
*3 : The mounting bracket is attached at shipment.
*4 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*5 : "I" and "Y" cannot be selected together.
*6 : Refer to Ending Page 85 for custom specifications of rod end form.
*7 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KUL-20-5-T0H-R-N

Model: Compact cylinder
High load/low friction

Ⓐ Bore size : φ20
Ⓑ Port thread : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

How to order switch

SW - T0H*

Switch model No.
(Item Ⓓ above)

Code	Content
Ⓐ Bore size (mm)	
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓒ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom order)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display	2-wire
T2YDT*	**-**	Proximity		●	AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60		●	●	●	●	●	●	●
	70		●	●	●	●	●	●	●
	80		●	●	●	●	●	●	●
	90		●	●	●	●	●	●	●
	100		●	●	●	●	●	●	●
Min. stroke length (mm) *1		5							
Max. stroke length (mm)		200	300						
Custom stroke length *2		In 1 mm increments							

1 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.
Refer to page 1168 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order mounting bracket

Bore size (mm) / Mounting bracket	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

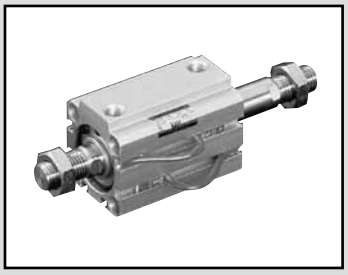
Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	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	No switch	Switch
φ20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
φ25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
φ32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
φ40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
φ50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
φ63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
φ80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
φ100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	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
φ20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
φ25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
φ32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
φ40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
φ50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
φ63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
φ80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
φ100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6830	5991	6558

Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	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
φ25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
φ32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
φ40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
φ50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
φ63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
φ80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
φ100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839

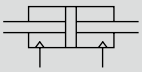


Compact cylinder double acting/double rod

SSD-D Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/ φ63/φ80/φ100/φ120/φ140/φ160

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-D SSD-DL (with switch)												
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160
Actuation	Double acting												
Working fluid	Compressed air												
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)												
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)							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 °C	-10 (14°F) to 60 (140°F) (no freezing)												
Port size	M5				Rc1/8		Rc1/4		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 required (use turbine oil ISO VG32 if necessary for lubrication)												
Allowable absorbed energy 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

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			
φ125	10, 20, 30, 40, 50 60, 70, 80, 90, 100	300	10
φ140			
φ160			

*1: Total length when using a custom stroke length is different between φ12 to φ100 and φ125 to φ160. Please be careful.
[φ12 to φ100]
The dimensions of the total length with the custom stroke length are the handled same as the next longer standard stroke length.
[φ125 to φ160]
Total length dimension with custom stroke length is handled as the custom stroke dedicated length.
*2: When using the type with switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	55	-
φ80	5	5	35	55	-
φ100	5	5	35	55	-
φ125	10	10	40	55	70
φ140	10	10	40	55	70
φ160	10	10	40	55	70

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay			Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5: Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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

● φ12 to φ100

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	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	52	105	60	105	69	115	77	124	86	134	95	147	—	—	—	—
φ16	74	133	85	133	95	144	106	156	117	168	128	177	—	—	—	—
φ20	131	187	143	222	161	238	179	254	196	269	214	285	—	—	—	—
φ25	147	238	162	253	178	269	194	285	210	301	226	316	257	348	288	379
φ32	184	299	230	344	275	390	322	436	366	481	413	527	507	617	601	707
φ40	283	426	310	453	336	479	363	506	390	533	416	569	469	612	522	665
φ50	458	652	508	702	558	751	608	803	658	851	708	901	808	1001	911	1105
φ63	827	953	902	1266	—	—	1052	1416	—	—	1202	1566	1353	1717	1503	1867
φ80	1491	1421	1608	1538	—	—	1841	2294	—	—	2074	2527	2308	2771	2541	3004
φ100	2314	2941	2483	3105	—	—	2820	3402	—	—	3158	3770	3495	4097	3833	4425

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

● φ125 to φ160

(Unit: kg)

Stroke length (mm) / Bore size (mm)	10		20		30		40		50		60		70		80		90		100	
	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch	Without switch	With switch
φ125	4.64	4.74	4.98	5.08	5.32	5.42	5.66	5.76	6	6.1	6.64	6.44	6.68	6.78	7.02	7.12	7.36	7.46	7.7	7.8
φ140	6.62	6.73	7	7.11	7.93	7.5	7.77	7.88	8.15	8.26	8.54	8.65	8.92	9.03	9.3	9.41	9.68	9.79	10.07	10.18
φ160	9.1	9.22	9.58	9.7	10.06	10.18	10.54	10.66	11.02	11.14	11.5	11.62	11.97	12.09	12.45	12.57	12.93	13.05	13.41	13.53

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	Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	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	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	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	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	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	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	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	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	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
φ125	Pull	1.13×10^3	1.70×10^3	2.26×10^3	3.39×10^3	4.52×10^3	5.65×10^3	6.79×10^3	7.92×10^3	9.05×10^3	1.02×10^4	1.13×10^4
φ140	Pull	1.44×10^3	2.16×10^3	2.89×10^3	4.33×10^3	5.77×10^3	7.22×10^3	8.66×10^3	1.01×10^4	1.15×10^4	1.30×10^4	1.44×10^4
φ160	Pull	1.88×10^3	2.83×10^3	3.77×10^3	5.65×10^3	7.54×10^3	9.42×10^3	1.13×10^4	1.32×10^4	1.51×10^4	1.70×10^4	1.88×10^4

How to order

Without switch (without magnet for switch)

SSD-D - 12 ( ) - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-DL - 12 ( ) - 5 - T0H - R - N - LB - I

Ⓐ Bore size

Ⓑ Port thread

Ⓒ Stroke length

Ⓓ Switch model No.
*1
*2
*9

Ⓔ Switch quantity

Ⓕ Option
*3

Ⓖ Mounting bracket
*4
*5
*10

Ⓗ Accessory
*6

Precautions for model No. selection

*1 : Switches other than Ⓓ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
2 : AC magnetic field proof switch and T8 switch cannot be installed on φ12 and φ16.
*3 : 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.
*4 : The mounting bracket is attached at shipment.
*5 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*6 : Two units are attached when "I" or "Y" is selected. One unit each is included when "IY" is selected.
*7 : Refer to Ending Page 85 for custom specifications of rod end form.
*8 : Refer to pages 1070 and 1075 for combinations of variations/options.
*9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
*10 : Only LB and CB are available for φ125 to φ160.

[Example of model No.]

SSD-DL-12-5-T0H-R-N

Model: Compact cylinder double acting/double rod
Ⓐ Bore size : φ12 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Switch model No. : Reed T0H switch
· Lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

How to order switch

SW - T0H

Switch model No.
(Item Ⓓ above)

Code	Content
Ⓐ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
125	φ125
140	φ140
160	φ160

Ⓑ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)

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

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***		●	●	Without indicator lamp	
T8H*	**T8V***		●	●	1-color display	
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***			●		
T3H*	**T3V***			●		3-wire
T3PH*	**T3PV***			●	1-color display (custom order)	
T2WH*	**T2WV***			●	2-color display	2-wire
T2YH*	**T2YV***			●		
T3WH*	**T3WV***			●		3-wire
T3YH*	**T3YV***			●		
T2JH*	**T2JV***			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display AC magnetic field	2-wire
T2YDT*	-			●		
T2HR3	**T2VR3**			●	1-color display (bend resist lead wire specs)	2-wire

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Option

Bore size (φ)		12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●	●
P6	Cu/PTFE free specs	Supported as standard							●	●	●			
M	Piston rod material (S.S.)	●	●	●	●	●	●	●	●	●	●			

Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
FA	Rod side flange

Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size												
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160
Standard stroke length	5	●	●	●	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●						
	20	●	●	●	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●						
	30	●	●	●	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●	●	●	●
	60											●	●	●
	70											●	●	●
	80											●	●	●
	90											●	●	●
	100											●	●	●
Min. stroke length (mm) *1		1										10		
Max. stroke length (mm)		30			50							300		
Custom stroke length *2		In 1 mm increments												

1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1172 for the number of installed switches and the min. stroke length.

*2 : Total length when using a custom stroke length is different between φ12 to φ100 and φ125 to φ160 as below. Please be careful.
[φ12 to φ100]
The dimensions of the total length with the custom stroke length are the handled same as the next longer standard stroke length.
[φ125 to φ160]
Total length dimension with custom stroke length is handled as the custom stroke dedicated length.

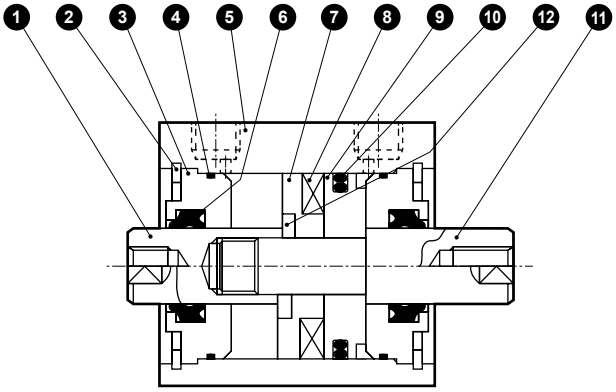
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Bore size (mm) / Mounting bracket	**φ63**	**φ80**	**φ100**	**φ125**	**φ140**	**φ160**	
Foot (LB)	SSD-LB-63	SSD-LB-80	SSD-LB-100	SSD-LB-125	SSD-LB-140	SSD-LB-160	
Foot (LB2)	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100	-	-	-	
Flange (FB)	SSD-FA-63	SSD-FA-80	SSD-FA-100	-	-	-	

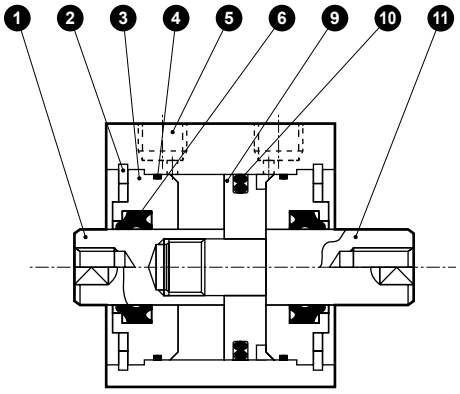
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

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



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



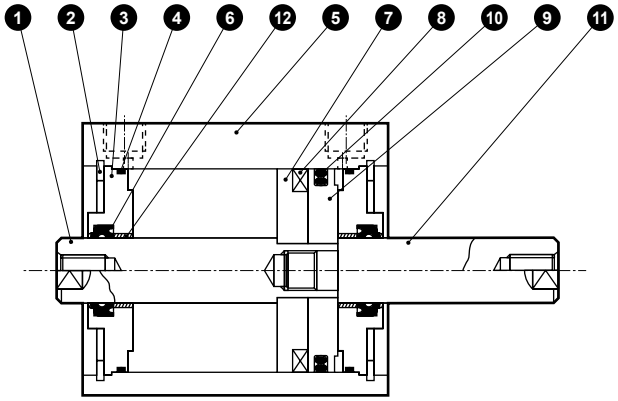
No.	Part name	Material	Remarks
1	Piston rod Ⓐ	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	
7	Spacer	φ12, φ20, φ32, φ40: Aluminum alloy φ16, φ25, φ50: Special resin	φ12, 20, 32, 40: Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Piston rod Ⓑ	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating
12	Spacer washer	Stainless steel	φ25, 50

Repair parts list

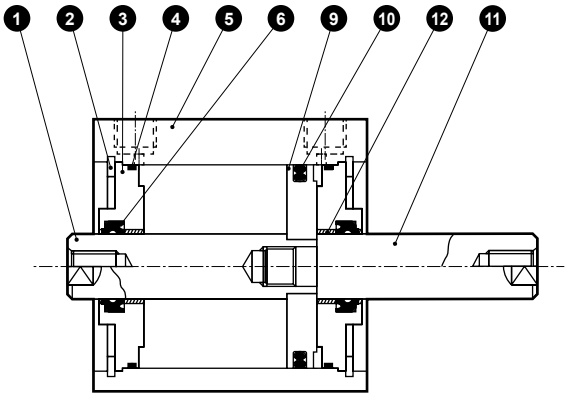
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-D-12K	❹ ❻ ❿
φ16	SSD-D-16K	
φ20	SSD-D-20K	
φ25	SSD-D-25K	
φ32	SSD-D-32K	
φ40	SSD-D-40K	
φ50	SSD-D-50K	

Internal structure and parts list

● SSD-DL-63 to 100 (double acting/double rod/with switch)



● SSD-D-63 to 100 (double acting/double rod)



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

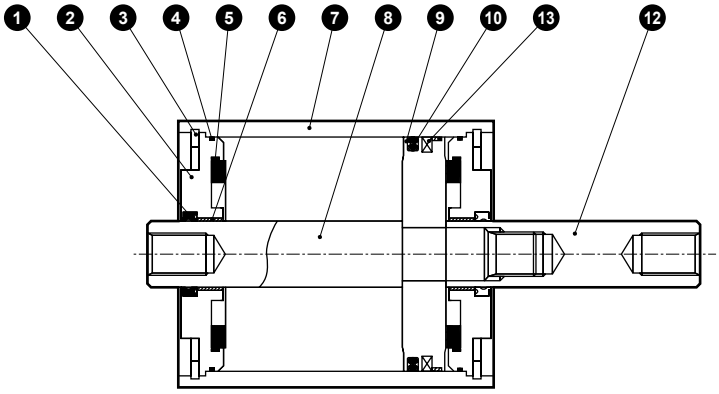
*1: Material is steel for copper and PTFE free specifications.

Repair parts list

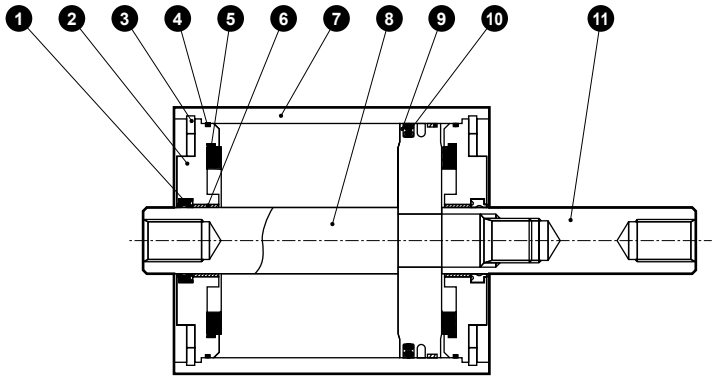
Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-D-63K	❹ ❻ ❿
φ80	SSD-D-80K	
φ100	SSD-D-100K	

Internal structure and parts list

● SSD-DL-125 to 160 (double acting/double rod/with switch)



● SSD-D-125 to 160 (double acting/double rod)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod packing	Nitrile rubber		8	Piston rod Ⓐ	Steel	Industrial chrome plating
2	Rod metal	Aluminum die-casting	Chromate	9	Piston	Aluminum die-casting	
3	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
4	Metal gasket	Nitrile rubber		11	Piston rod Ⓑ	Steel	Industrial chrome plating
5	Cushion rubber	Urethane rubber		12	Magnet	Rubber	SSD-DL only
6	Bush	Oiles drymet					
7	Body	Aluminum alloy	Hard alumite				

Repair parts kit

Bore size (mm)	Kit No.	Repair parts No.
φ125	SSD-D-125K	❶ ❹ ❺ ❿
φ140	SSD-D-140K	
φ160	SSD-D-160K	

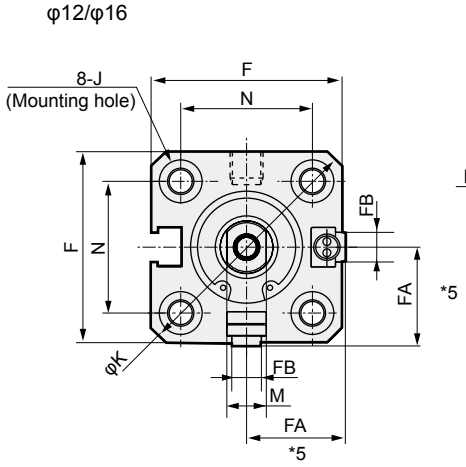
*1: Specify the kit No. when placing an order.

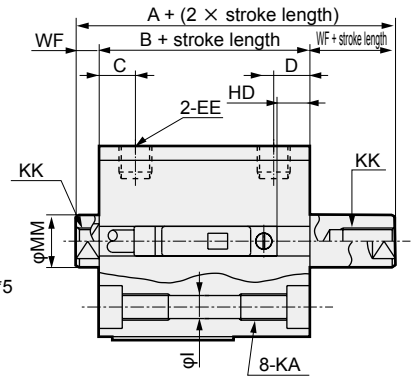
MEMO

Dimensions CAD

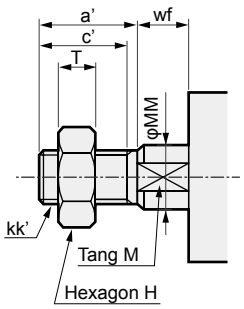
● SSD-DL-12 to 25 (with switch)

φ12/φ16

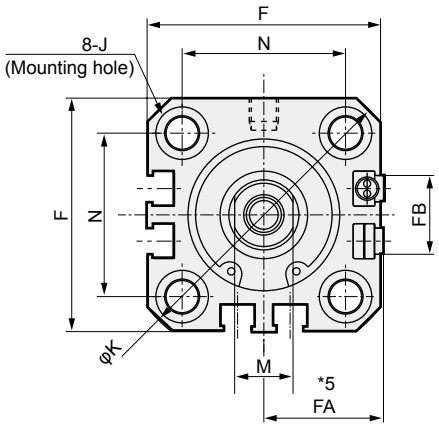


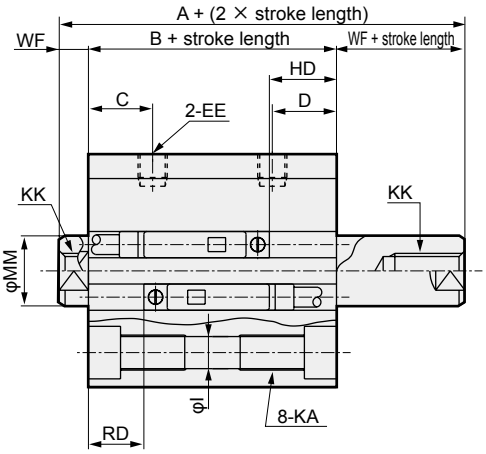


● Rod end male thread



φ20/φ25





Note: The positions for the left and right tangs are unspecified.

Code / Bore size (mm)	Common dimensions with switch																
	A *1	B *1	C	D	EE	F	FA *5	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	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
φ16	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
φ20	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
φ25	51	41	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 dimensions / Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
	HD *2	RD *2	HD *2	RD *2
φ12	5	2.5	5	2.5
φ16	5	2	5	2
φ20	9.5	6.5	9.5	6.5
φ25	11.5	9.5	11.5	9.5

● *1: To calculate A+ (2 x stroke length), B+ stroke length or WF+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

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

● *3: Refer to page 1296 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4: Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

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

● *6: For dimensions of individual accessories, refer to pages 1092 to 1099.

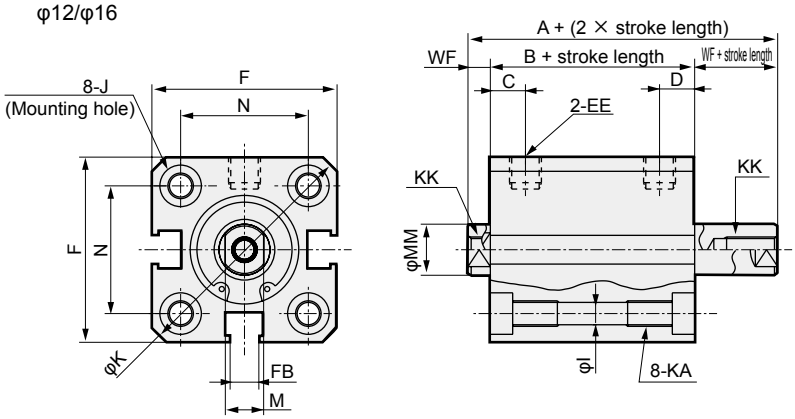
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

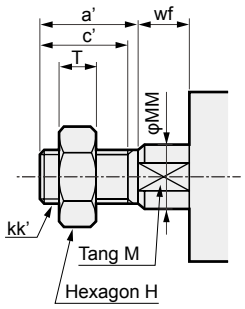
Dimensions

● SSD-D-12 to 25 (without switch)

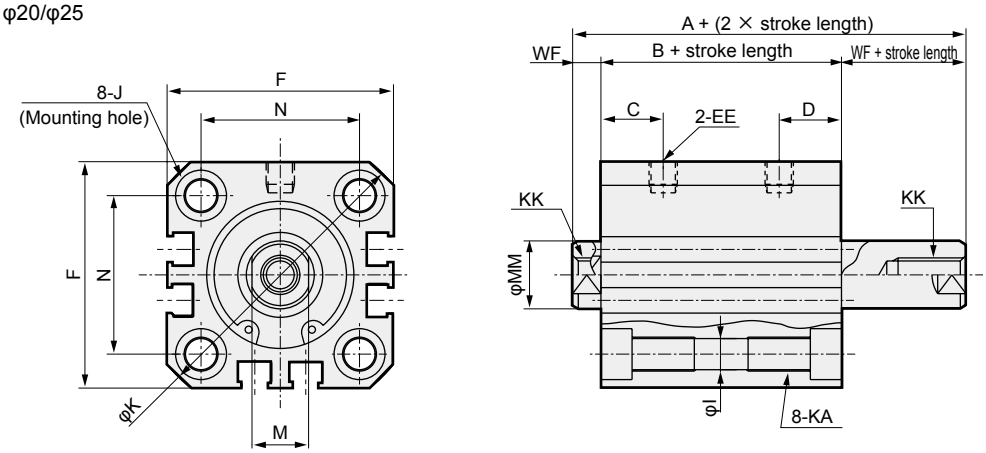
φ12/φ16



● Rod end male thread



φ20/φ25



Note: The positions for the left and right tangs are unspecified.

Code / Bore size (mm)	A *1	B *1	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
	Dimensions without switch and common dimensions															
φ12	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
φ16	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
φ20	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
φ25	41	31	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

Dimensions of rod end male thread

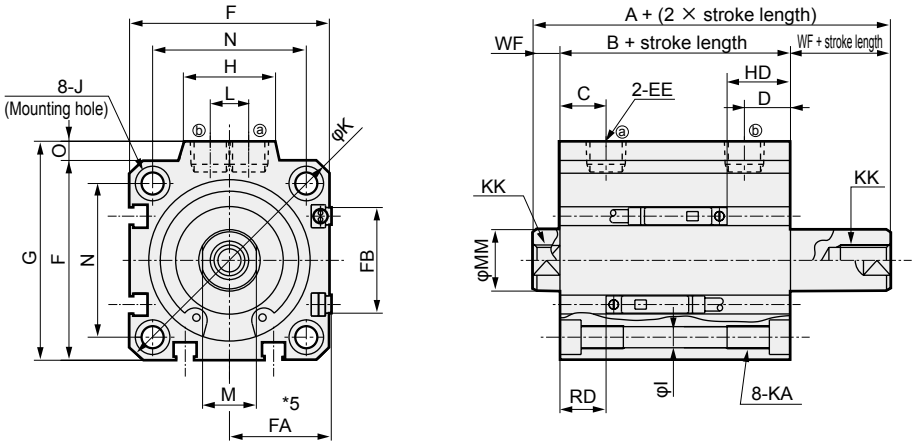
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

● *1 : To calculate A+ (2 x stroke length), B+ stroke length or WF+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

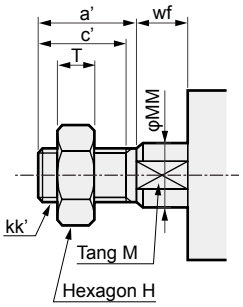
● *2 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions CAD

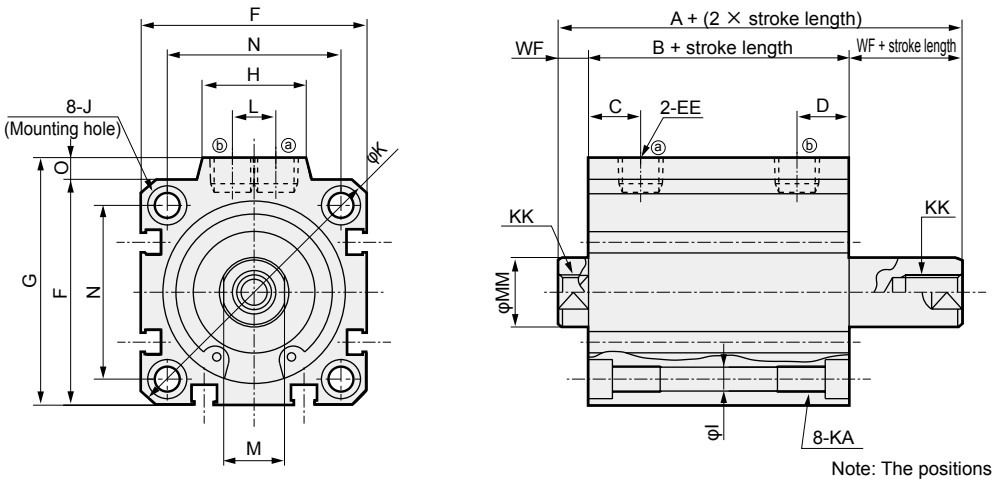
● SSD-DL-32 to 100 (with switch)



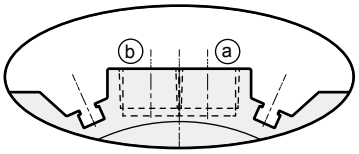
● Rod end male thread



● SSD-D-32 to 100 (without switch)



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Note: The positions for the left and right tangs are unspecified.

Code	Without switch		Common dimensions with switch																				
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *5	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	44.5	30.5	54.5	40.5	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	53	39	63	49	12	12	Rc1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	55	39	65	49	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	57	41	67	51	13	13	Rc1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	68.5	48.5	78.5	58.5	16	16	Rc3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	82	58	92	68	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	15	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ32	11	9	11	9
φ40	16.5	12	16.5	12
φ50	16.5	12.5	16.5	12.5
φ63	18	13	18	13
φ80	23	15.5	23	15.5
φ100	28.5	19.5	28.5	19.5

- *1: To calculate A + (2 x stroke length), B + stroke length or WF + stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3: Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4: Refer to page 1297 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in ( ) of FA are for the radial lead wire.
- *6: For dimensions of individual accessories, refer to pages 1092 to 1099.

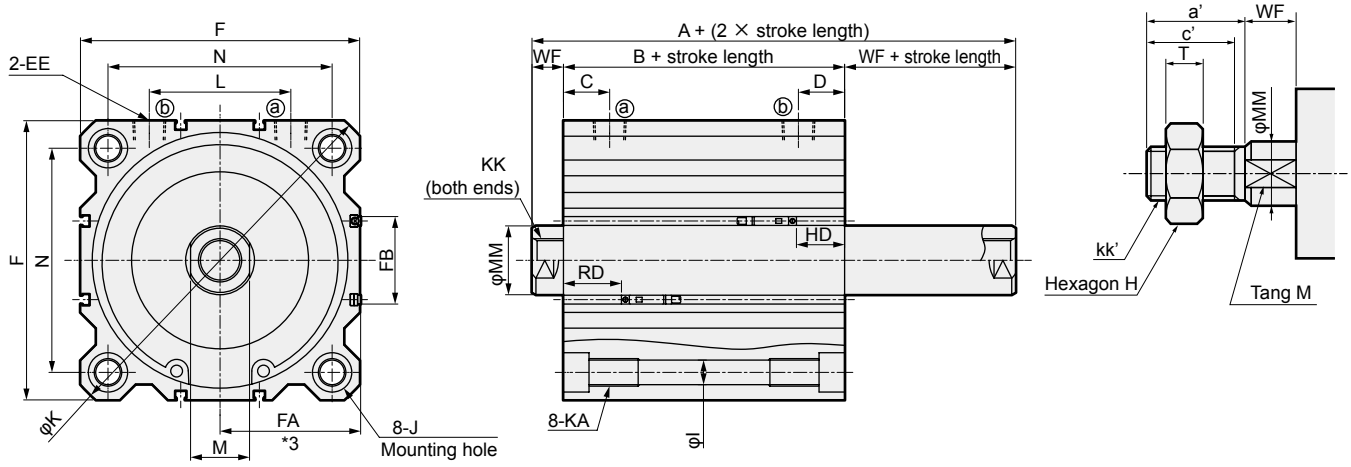
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	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

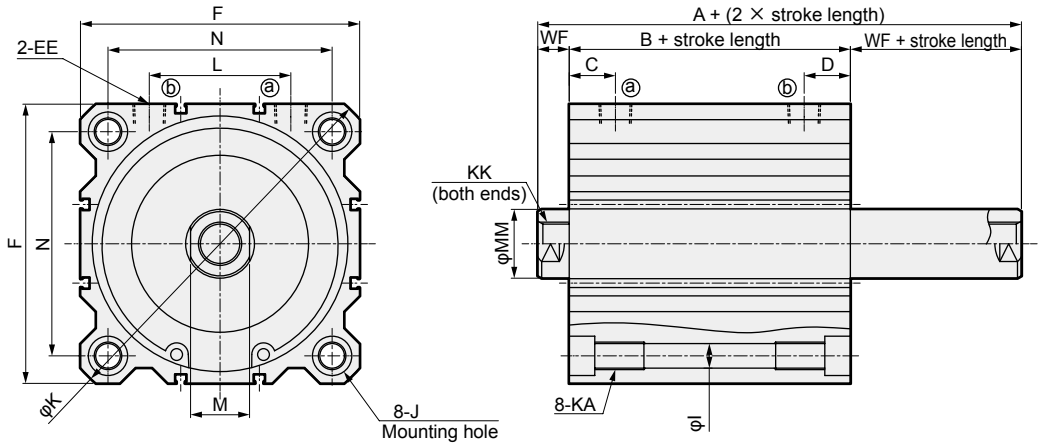
Dimensions

● SSD-DL-125 to 160 (double acting/double rod/with switch)

● Rod end male thread



● SSD-D-125 to 160 (double acting/double rod)



Code	Common dimensions with switch												
Bore size (mm)	A	B	C	D	EE	F	FA (*3)	FB	I	J	K	KA	KK (*2)
φ125	104	72	23.5	23.5	Rc3/8	142	71.5(75)	44.5	12.5	20 spot face depth 13	190	M14 Depth 25	M22×2.5 Depth 30 (22)
φ140	114	82	27	27	Rc3/8	158	79.5(83)	44.5	12.5	20 spot face depth 13	210	M14 Depth 25	M22×2.5 Depth 30 (22)
φ160	125	91	30	30	Rc3/8	178	89.5(93)	48.5	14.7	23 spot face depth 15.2	238	M16 Depth 28	M24×3 Depth 33 (24)

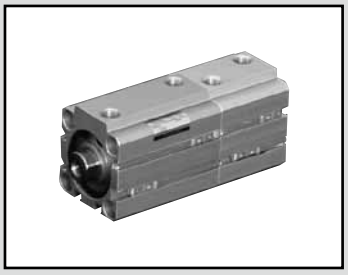
Code						Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	L	M	MM	N	WF	HD	RD	HD	RD
φ125	72	30	35	114	16	24.5	29.5	24.5	29.5
φ140	80	30	35	128	16	31	33	31	33
φ160	90	36	40	144	17	34	39	34	39

*1 : Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof switches.
*2 : Values in ( ) for KK dimensions indicate effective thread length on one side with 10 mm stroke length.
*3 : Dimensions in ( ) of FA are for the radial lead wire.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ125	45	42	46	M30×1.5	30	35	18	13
φ140	45	42	46	M30×1.5	30	35	18	13
φ160	50	47	55	M36×1.5	36	40	21	14

* For dimensions of individual accessories, refer to pages 1092 to 1099.

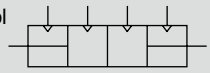


Compact cylinder double acting/back to back

SSD-B Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-B SSD-BL (with switch)									
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting/back to back									
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 °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = {}^{+1.0}_{0}$						$S_2 = {}^{+1.0}_{0}$			
Working piston speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2: When using the type with switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	50	-
φ80	5	5	35	50	-
φ100	5	5	35	50	-

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.
*5 : Dimensions depend on switch model No. Refer to Ending Page 18 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		40		50	
Bore size (mm)	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	84	188	102	188	122	208	140	226	160	246	178	264	—	—	—	—
φ16	108	224	132	224	154	246	178	270	202	294	226	318	—	—	—	—
φ20	160	278	188	346	218	376	248	406	276	434	306	464	—	—	—	—
φ25	212	402	246	436	282	472	318	508	354	544	388	578	460	650	530	720
φ32	282	518	330	566	378	614	426	662	472	708	520	756	616	852	710	946
φ40	404	698	462	756	518	812	578	870	634	928	690	984	804	1098	918	1212
φ50	682	1086	774	1178	866	1270	958	1362	1050	1454	1144	1548	1328	1732	1512	1916
φ63	1044	1626	1166	1748	—	—	1410	1992	—	—	1654	2236	1900	2482	2144	2726
φ80	1920	2778	2110	2968	—	—	2488	3348	—	—	2868	3730	3252	4114	3634	4500
φ100	2908	4074	3152	4320	—	—	3640	4810	—	—	4132	5302	4622	5796	5118	6292

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}

How to order

Without switch (without magnet for switch)

SSD-B — 12 - ○ 5 — (S1) — N - 10 — (S2) — N - I

With switch (built-in magnet for switch)

SSD-BL - 12 - ○ 5 - T0H - R - N - 10 - T0H - R - N - I

Cylinder 1 Stroke length (S1) / Cylinder 2 Stroke length (S2)

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *2/*3/*10
Ⓕ Switch quantity
Ⓖ Option
Ⓗ Accessory *9

Precautions for model No. selection

*1 : When two cylinders are connected, the connection is from Cylinder 2 side. (Refer to dimensions)
Determine cylinders 1 and 2 with the mounting method in mind.
*2 : Switches other than switch model No. are also available. (Custom order)
Refer to Ending Page 1 for details.
3 : An AC magnetic field proof switch cannot be installed on φ12 and φ16. In addition, T8 switch cannot be installed on φ12 to φ32.
*4 : Copper and PTFE free as standard for SSD-B-12 to 50.
*5 : The mounting bracket is attached at shipment.
*6 : Refer to Ending Page 85 for custom specifications of rod end form.
*7 : Refer to pages 1070 and 1075 for combinations of variations/options.
*8 : Option code "N" will be inscribed on both S1 and S2 sides, but for all other option codes, they will only be written on S2.
*9 : Two units are attached when an accessory is selected. One unit each is included when "IY" is selected.
*10 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
*11 : When S1 stroke length is at or below that in the table below, the length of the usable mounting bolts will differ from the standard and so contact CKD.

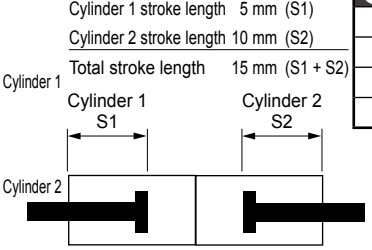
Bore size	Without switch	With switch
	S1 stroke length	
φ20	10 or less	-
φ25	5 or less	-
φ32	5 or less	-
φ50	5 or less	-
φ63	15 or less	5 or less
φ80	20 or less	10 or less
φ100	10 or less	-

[Example of model No.]

SSD-BL-12-5-T0H-R-N-10-T0H-R-N

Model: Compact cylinder, back to back

Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length S1 : 5 mm
Ⓔ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓒ Option : Rod end male thread
Ⓓ Stroke length S2 : 10 mm
Ⓔ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread



Code	Content
Ⓐ Model No.	
SSD-B	Double acting/back to back
SSD-BL	Double acting/back to back/with switch
SSD-BL1	φ12, φ16 2-color display, off-delay, with T1* switch
Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*	Reed	●	●	Without indicator lamp	2-wire
T8H*	T8V*	Reed	●	●	1-color display	2-wire
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*	Proximity		●	1-color display	3-wire
T3PH*	T3PV*	Proximity		●	1-color display (custom order)	3-wire
T2WH*	T2WV*	Proximity		●	2-color display	2-wire
T2YH*	T2YV*	Proximity		●	2-color display	2-wire
T3WH*	T3WV*	Proximity		●	2-color display	3-wire
T3YH*	T3YV*	Proximity		●	2-color display	3-wire
T2JH*	T2JV*	Proximity		●	1-color display off-delay	2-wire
T2YD*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	T2VR3	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
M *8	Piston rod material (stainless steel)
Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

How to order switch

SW - T0H

Switch model No.
(Item Ⓔ on the previous page)

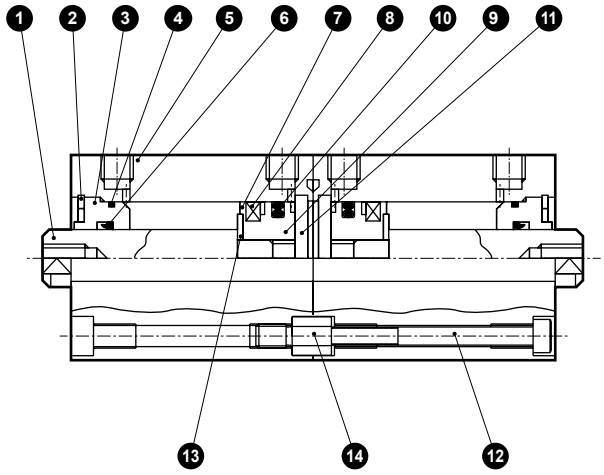
[Stroke length table]

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

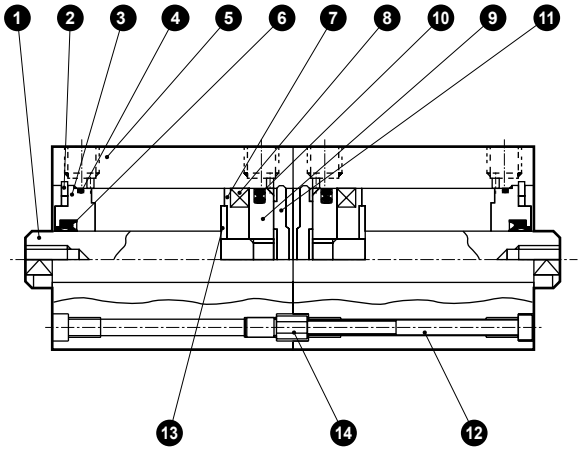
1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 1184 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

Internal structure and parts list

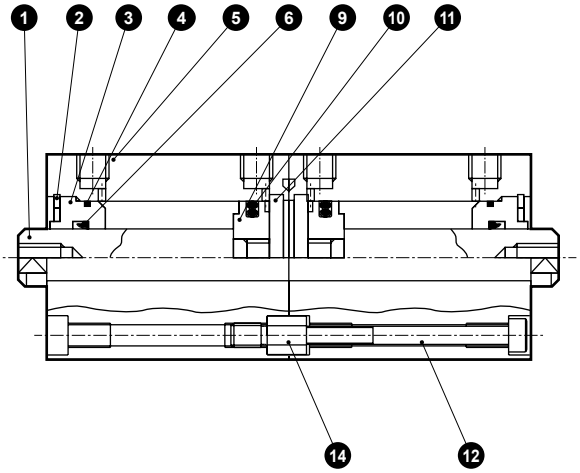
● SSD-BL-12 to 25 (double acting/back to back/with switch)



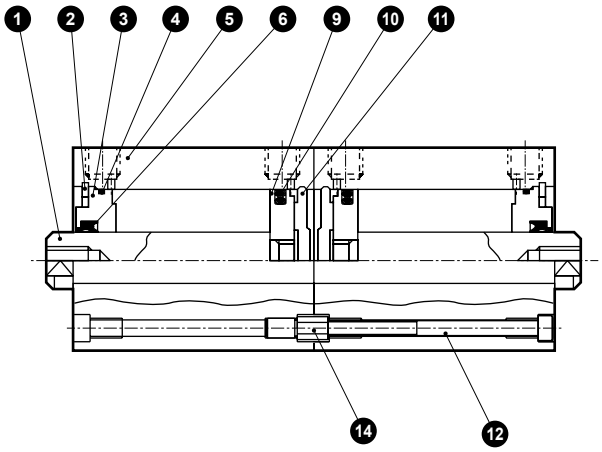
● SSD-BL-32 to 50 (double acting/back to back/with switch)



● SSD-B-12 to 25 (double acting/back to back)



● SSD-B-32 to 50 (double acting/back to back)



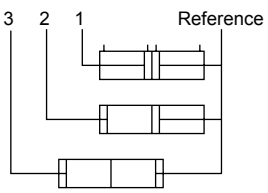
No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	
7	Spacer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

Repair parts list

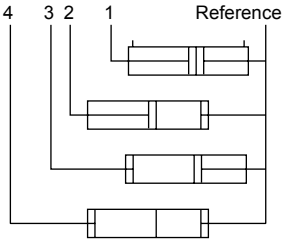
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-B-12K	❹ ❻ ❿
φ16	SSD-B-16K	
φ20	SSD-B-20K	
φ25	SSD-B-25K	
φ32	SSD-B-32K	
φ40	SSD-B-40K	
φ50	SSD-B-50K	

SSD-B application examples

When the same stroke lengths are combined, 3 positions are possible.

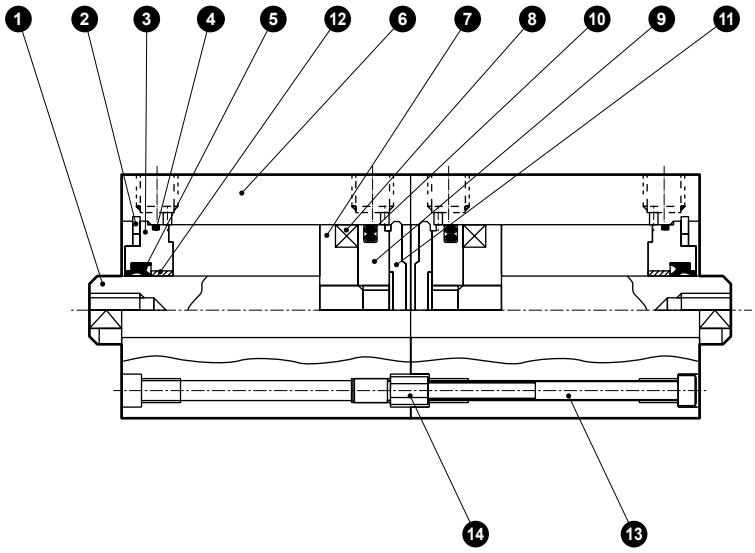


When different stroke lengths are combined, 4 positions are possible.

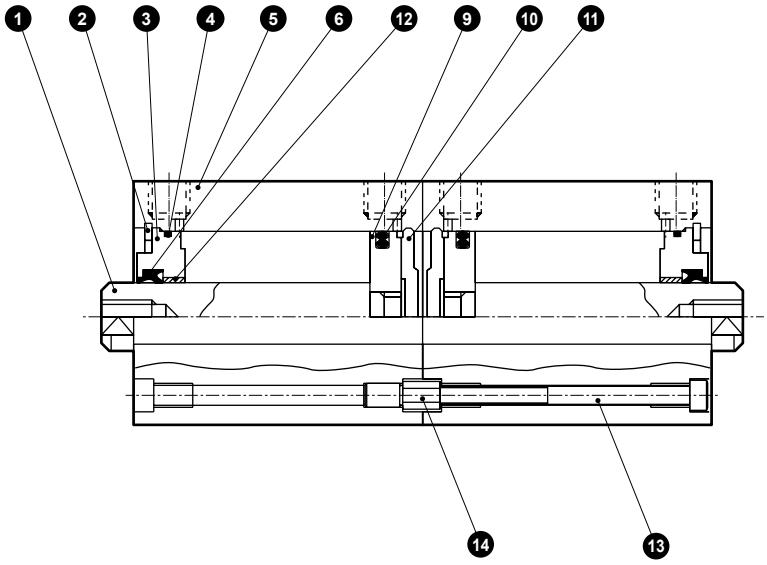


Internal structure and parts list

● SSD-BL-63 to 100 (double acting/back to back/with switch)



● SSD-B-63 to 100 (double acting/back to back)



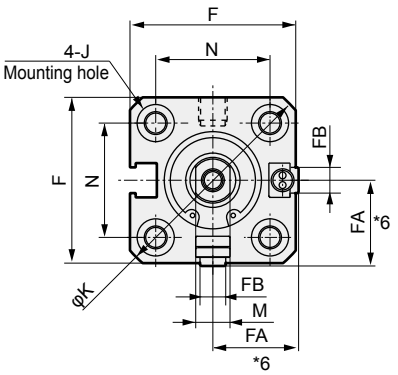
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating	8	Magnet	Plastic	
				9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Aluminum alloy	Alumite	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
5	Body	Aluminum alloy	Hard alumite	13	Hex socket screw	Alloy steel	Black finish
6	Rod packing	Nitrile rubber		14	Connector	Steel	Zinc chromate
7	Spacer	Aluminum alloy	Chromate				

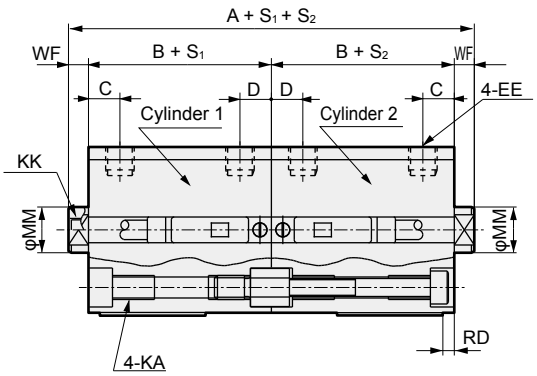
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-B-63K	❹ ❻ ❿
φ80	SSD-B-80K	
φ100	SSD-B-100K	

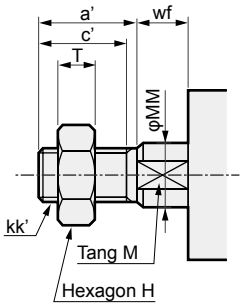
Dimensions CAD

● SSD-BL-12/16 (with switch)

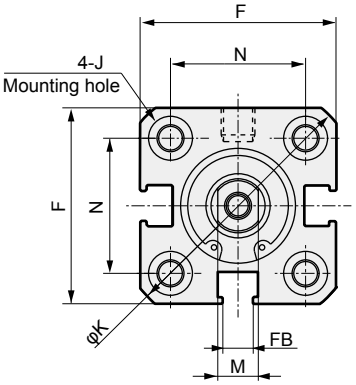


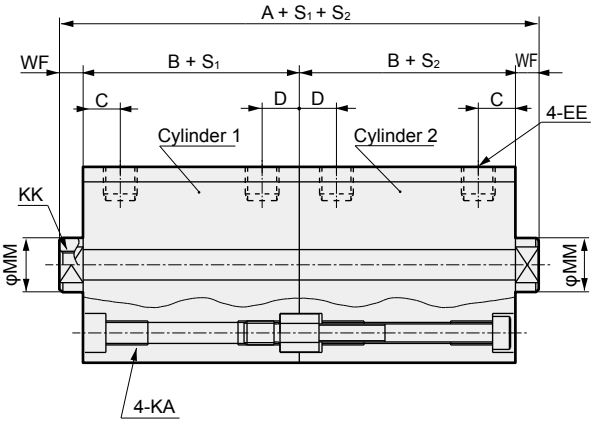


● Rod end male thread



● SSD-BL-12/16 (without switch)





Code	Without switch		Common dimensions with switch															
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *6	FB	J	K	KA	KK	M	MM	N	WF
φ12	41	17	51	22	5.5	5.5	M5	25	13(16.5)	4.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	41	17	51	22	5.5	5.5	M5	29	15(18.5)	4.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ12	0	2.5	0	2.5
φ16	0	2	0	2

● *1 : To calculate A + S_1 + S_2 or B + S_1 + S_2 when using custom stroke length, apply the next longer standard stroke lengths (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.

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

● *3 : When the stroke length S_1 or S_2 is 5 mm for φ12 or φ16 with switch in the dimensions table above, (B+S_1), (B+S_2), and (A+S_1+S_2) are as shown in the table below.

Code / Bore size	Conditions	B + S_1	B + S_2	A + S_1 + S_2
φ12 φ16	S_1 = 5	32	22 + S_2	61 + S_2
	S_2 = 5	22 + S_1	32	61 + S_1
	When S_1 = S_2 = 5	32	32	71

The dimensions of S_1/S_2 with the custom stroke length are the same as those of the next longer standard stroke length.

● *4 : Refer to page 1296 for HD and RD dimensions for the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

● *5 : Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

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

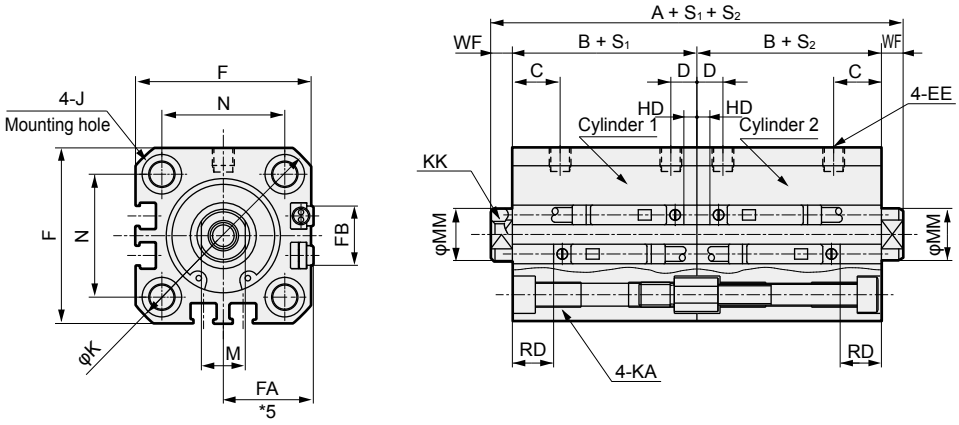
● *7 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions of rod end male thread

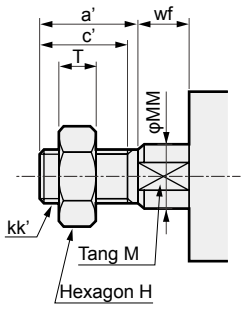
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5

Dimensions CAD

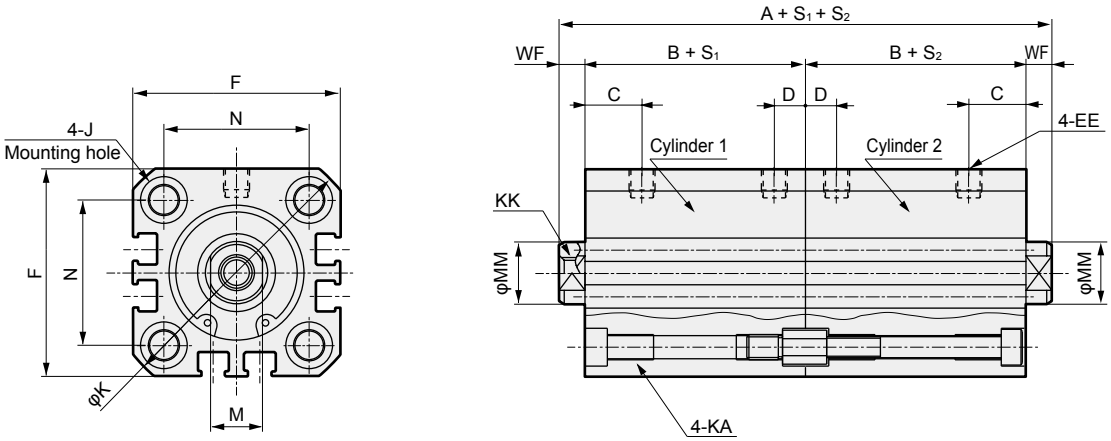
● SSD-BL-20/25 (with switch)



● Rod end male thread



● SSD-B-20/25 (without switch)



Code	Without switch		Common dimensions with switch															
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *5	FB	J	K	KA	KK	M	MM	N	WF
φ20	48	19.5	68	29.5	8	5.5	M5	36	18.5(22)	12.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	55	22.5	75	32.5	11	6	M5	40	20.5(24)	13.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ20	3	6.5	3	6.5
φ25	3	9.5	3	9.5

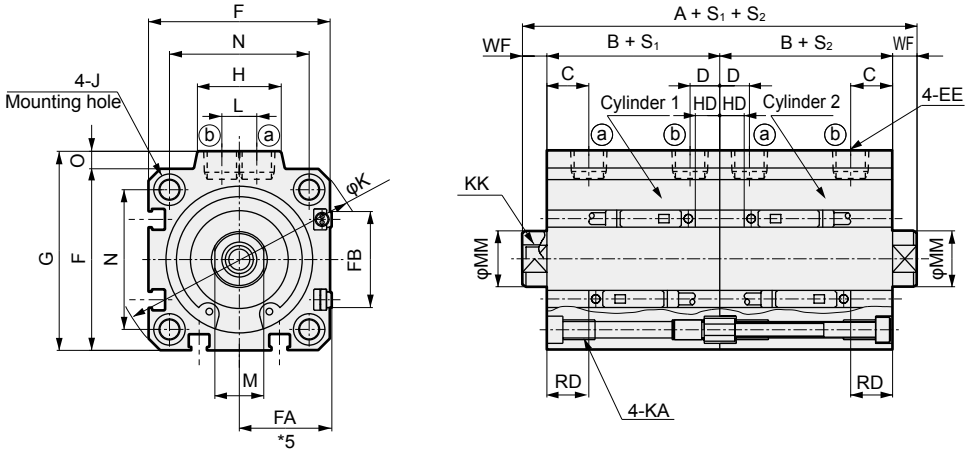
- *1 : To calculate A + S_1 + S_2 or B + S_1 + S_2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
  (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : Refer to page 1296 for HD and RD dimensions for the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in ( ) of FA are for the radial lead wire.
- *6 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions of rod end male thread

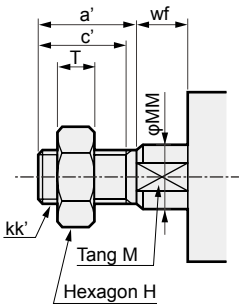
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions CAD

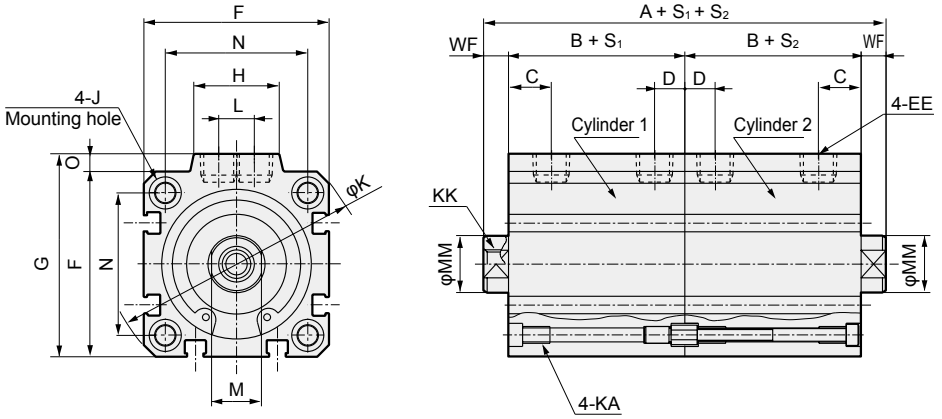
● SSD-BL-32 to 100 (with switch)

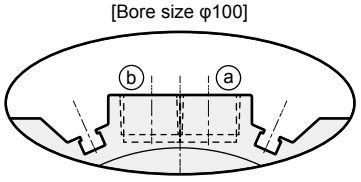


● Rod end male thread



● SSD-B-32 to 100 (without switch)





* Only for φ100, the port surface has switch grooves.

Code	Without switch		Common dimensions with switch																			
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *5	FB	G	H	J	K	KA	KK	L	M	MM	N	O	WF
φ32	60	23	80	33	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	73	29.5	93	39.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	24	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	77	30.5	97	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	88	36	108	46	13	11	Rc1/4	77	39(42.5)	28.5	84	33	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	107	43.5	127	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	38	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	130	53	150	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ32	3.5	9	3.5	9
φ40	7	12	7	12
φ50	7.5	12.5	7.5	12.5
φ63	12.5	13	12.5	13
φ80	17.5	15.5	17.5	15.5
φ100	23	19.5	23	19.5

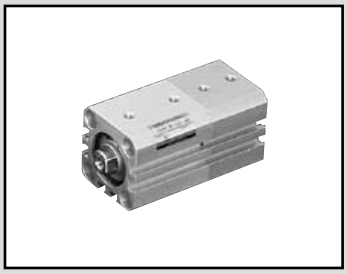
- *1 : To calculate A + S_1 + S_2 or B + S_1 + S_2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
  (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Refer to page 1297 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in ( ) of FA are for the radial lead wire.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	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

* For dimensions of individual accessories, refer to pages 1092 to 1099.

MEMO



Compact cylinder double acting/two-stage

SSD-W Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

RoHS CAD

Specifications

Descriptions	SSD-W SSD-WL (with switch)									
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting/two-stage									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (≈150 psi, 10 bar) (Note)									
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)							0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)									
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = {}^{+1.0}_{0}$							$S_2 = {}^{0}_{-1.5}$		
Working piston speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note: The max. working pressure is 0.5 MPa when S1 and S2 are the same.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2) When using the type with a switch, refer to the table below.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	55	-
φ80	5	5	35	55	-
φ100	5	5	35	55	-

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 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		40		50	
Bore size (mm)	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	88	191	104	191	122	210	138	227	156	246	163	267	—	—	—	—
φ16	122	237	144	237	164	258	186	281	208	304	230	324	—	—	—	—
φ20	194	305	218	372	249	401	280	430	309	457	340	486	—	—	—	—
φ25	234	416	264	446	296	478	328	510	360	542	391	572	454	636	516	698
φ32	306	535	374	602	441	670	510	738	575	804	644	872	782	1006	919	1139
φ40	466	752	520	806	572	858	626	912	680	966	732	1028	838	1124	944	1230
φ50	757	1145	849	1237	941	1328	1033	1422	1125	1512	1218	1605	1402	1789	1589	1977
φ63	1279	1684	1409	2052	—	—	1669	2312	—	—	1929	2572	2191	2834	2451	3094
φ80	2332	2675	2536	2879	—	—	2942	3808	—	—	3348	4214	3756	4632	4162	5038
φ100	3633	4827	3916	5105	—	—	4480	5629	—	—	5046	6225	5610	6779	6176	7335

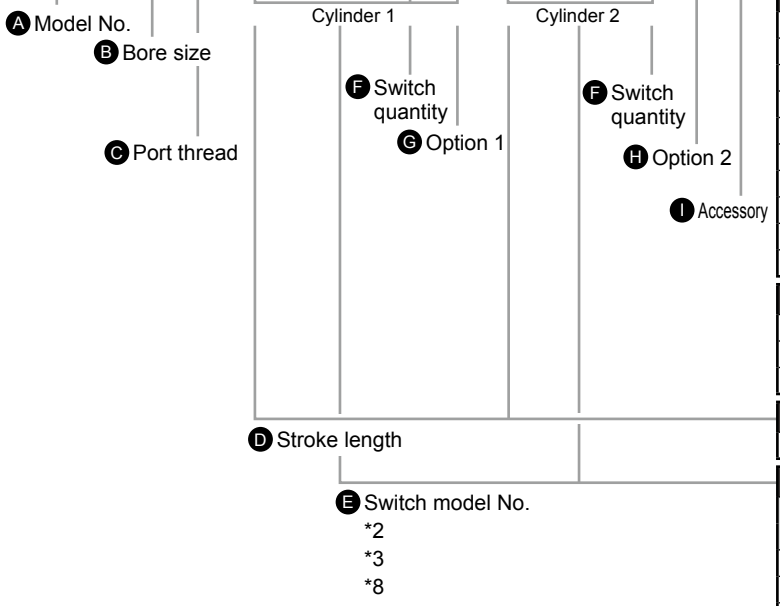
How to order

Without switch (without magnet for switch)

SSD-W - 12 ○ - 30 (Total stroke S1) — N - 5 (1st stage stroke length S2) — M - I

With switch (built-in magnet for switch)

SSD-WL - 12 ○ - 30 - T0H - R - N - 5 - T0H - R - M - I



Code	Content
A Model No.	
SSD-W	Double acting/two-stage
SSD-WL	Double acting/two-stage/with switch
SSD-WL1	φ12, φ16 2-color display, off-delay, with T1* 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 Stroke length (mm)

Refer to the stroke length table on the following page.

E Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*	Reed	●	●	Without indicator lamp	2-wire
T8H*	T8V*	Reed	●	●	1-color display	2-wire
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*	Proximity		●	1-color display	3-wire
T3PH*	T3PV*	Proximity		●	1-color display (custom order)	3-wire
T2WH*	T2WV*	Proximity		●	2-color display	2-wire
T2YH*	T2YV*	Proximity		●	2-color display	2-wire
T3WH*	T3WV*	Proximity		●	2-color display	3-wire
T3YH*	T3YV*	Proximity		●	2-color display	3-wire
T2JH*	T2JV*	Proximity		●	1-color display off-delay	2-wire
T2YD*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	-	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	T2VR3	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

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

F Switch quantity	
R	1 on rod side
H	1 on head side
D	2

G Option 1	
Blank	Rod end female thread
N	Rod end male thread

H Option 2 *4	
M	Piston rod material (stainless steel)

I Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

Precautions for model No. selection

*1 : As two cylinders are fastened at four positions from cylinder 2 (head side), they cannot be mounted at the head side. For mounting at the head side, custom order is available. Contact CKD separately.

*2 : Switches other than E Switch model No. are also available. (Custom order)
Refer to Ending Page 1 for details.

3 : An AC magnetic field proof switch cannot be installed on φ12 and φ16. In addition, T8 switch cannot be installed on φ12 to φ32.

*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 : Copper and PTFE free as standard for SSD-W12 to 50.

*6 : Refer to Ending Page 85 for custom specifications of rod end form.

*7 : Refer to pages 1070 and 1071 for combinations of variations/options.

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

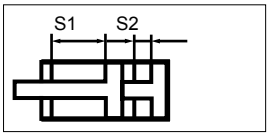
[Example of model No.]

SSD-WL-12-30-T0H-R-N-5-T0H-R-I

Model: Compact cylinder, two-stage

B Bore size	: φ12 mm	
C Port thread	: Rc thread	
D Total stroke length S1	: 30 mm	Cylinder 1
E Switch model No.	: Reed switch T0H, lead wire 1 m	Cylinder 1
F Switch quantity	: 1 included (on rod side)	Cylinder 1
G Option 1	: Rod end male thread	
D 1st stage stroke length S2	: 5 mm	Cylinder 2
2nd stage stroke length	: 25 mm	Cylinder 2
E Switch model No.	: Reed switch T0H, lead wire 1 m	Cylinder 2
F Switch quantity	: 1 on rod side	Cylinder 2
I Accessory	: Rod eye	

1st stage stroke length 5 mm (S2)
+ 2nd stage stroke length 25 mm
Total stroke 30 mm (S1)



How to order switch

SW - T0H

Switch model No.
(Item Ⓔ on the previous page)

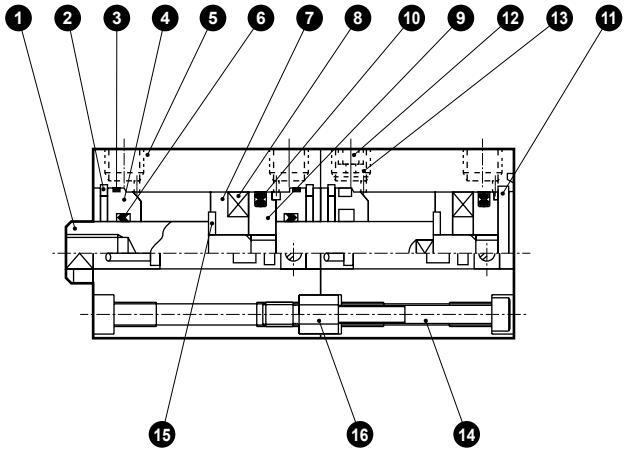
[Stroke length table]

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

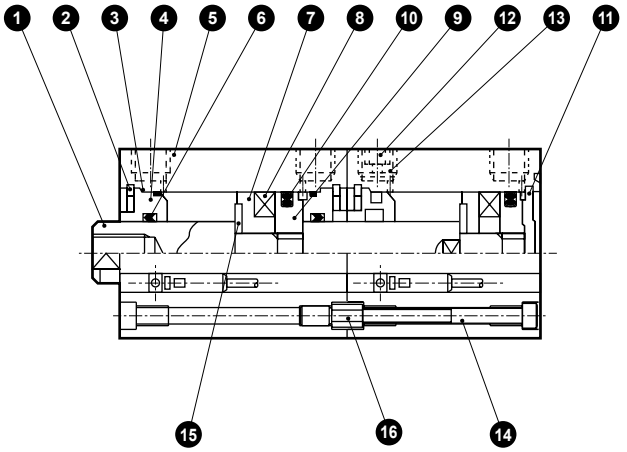
1 : Less than 5 mm with 1-color display switch and less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 1194 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

Internal structure and parts list

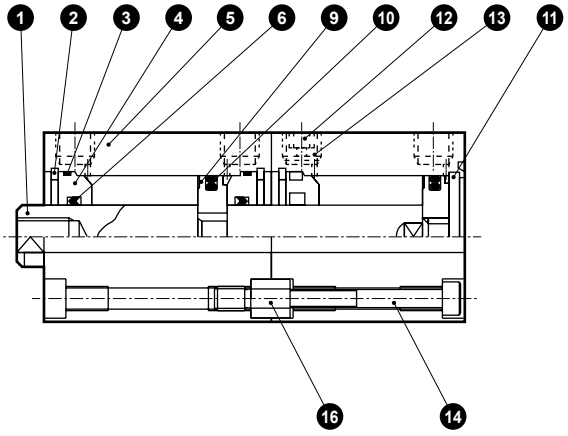
● SSD-WL-12 to 25 (double acting/two-stage/with switch)



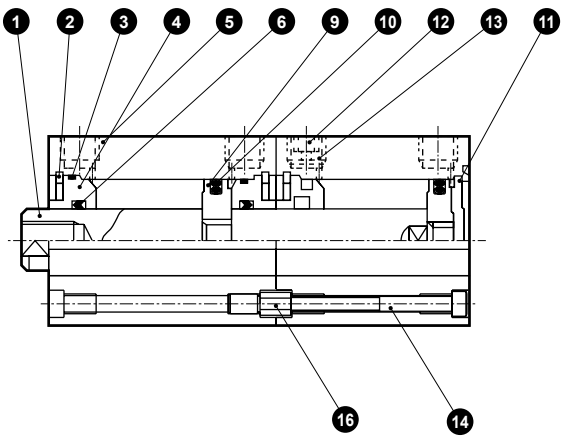
● SSD-WL-32 to 50 (double acting/two-stage/with switch)



● SSD-W-12 to 25 (double acting/two-stage)



● SSD-W-32 to 50 (double acting/two-stage)



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

No.	Part name	Material	Remarks
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
12	Plug	Stainless steel	
13	Stainless steel wire mesh	Stainless steel	
14	Hex socket screw	Steel	Black finish
15	Spacer washer	Stainless steel	φ12 to φ50
16	Connector	Steel	

Repair parts list

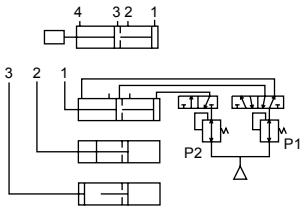
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-W-12K	4 6 10
φ16	SSD-W-16K	
φ20	SSD-W-20K	
φ25	SSD-W-25K	
φ32	SSD-W-32K	
φ40	SSD-W-40K	
φ50	SSD-W-50K	

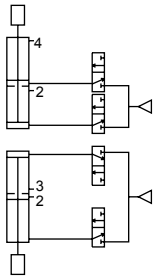
SSD-W application examples

Pressure setting: P2 > P1

- 1st stage push
  Keeping port 4 pressurized, pressurize port 1.
- 2nd stage push
  Keeping port 1 pressurized, pressurize port 3.

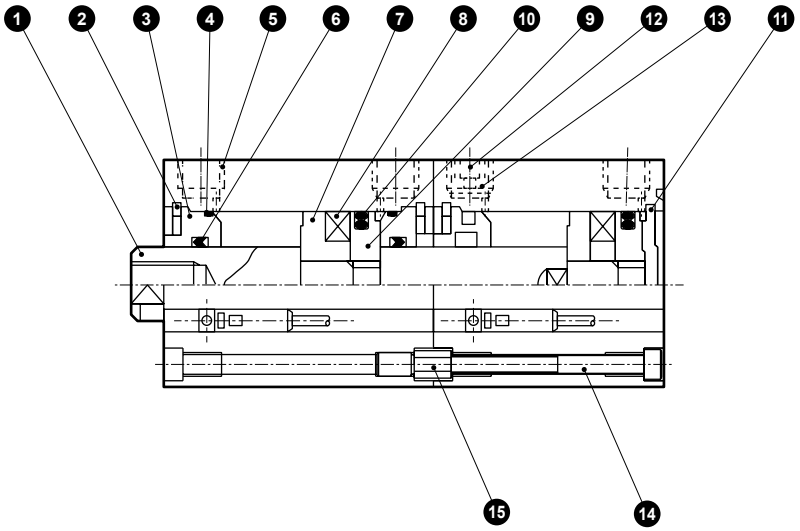
It may not be P2 = P1 depending on the load direction. When using a single acting cylinder with free fall load, ports 2 and 4 in the upper figure and ports 2 and 3 in the lower figure are breathing holes.
Port 2, which basically needs no piping as a rule, is plugged with a filter.



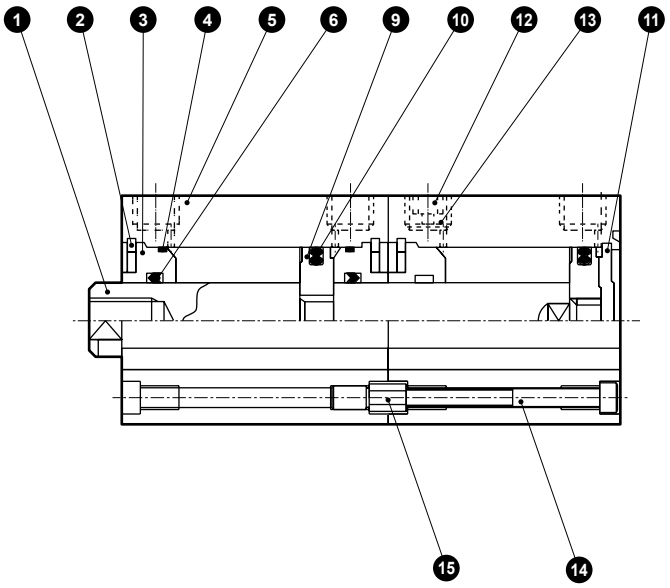


Internal structure and parts list

● SSD-WL-63 to 100 (double acting/two-stage/with switch)



● SSD-W-63 to 100 (double acting/two-stage)



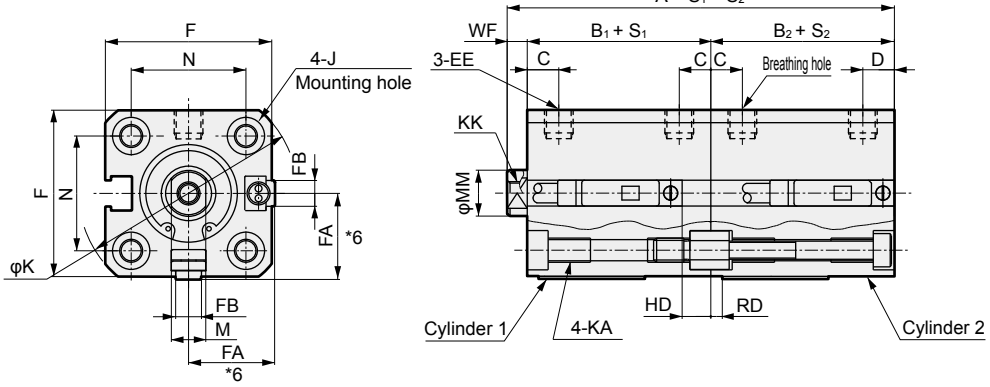
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Aluminum alloy	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal Gasket	Nitrile rubber		11	Cover	Aluminum alloy	Alumite
				12	Plug	Stainless steel	
5	Body	Aluminum alloy	Hard alumite	13	Stainless steel wire mesh	Stainless steel	
6	Rod packing	Nitrile rubber		14	Hex socket screw	Steel	Black finish
7	Spacer	Aluminum alloy	Chromate	15	Connector	Steel	

Repair parts list

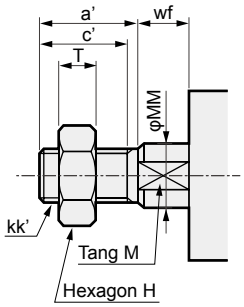
Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-W-63K	❹ ❻ ❿
φ80	SSD-W-80K	
φ100	SSD-W-100K	

Dimensions CAD

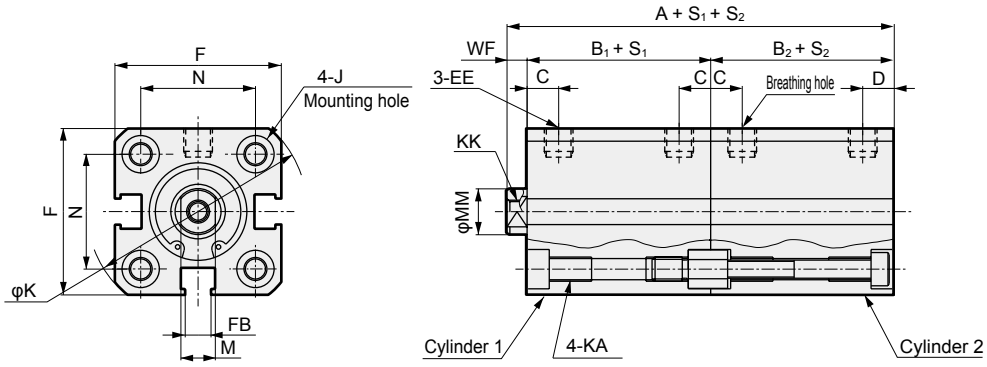
● SSD-WL-12/16 (with switch)



● Rod end male thread



● SSD-W-12/16 (without switch)



Code	Without switch			Common dimensions with switch																
Bore size (mm)	A *1	B1 *1	B2 *1	A *1	B1 *1	B2 *1	C	D	EE	F	FA *6	FB	J	K	KA	KK	M	MM	N	WF
φ12	42.5	22	17	52.5	27	22	5.5	5.5	M5	25	13(16.5)	4.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	42.5	22	17	52.5	27	22	5.5	5.5	M5	29	15(18.5)	4.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5

Switch dimensions	Reed T0H/T0V, T5H/T5V			Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV		
Bore size (mm)	HD1 *2	HD2 *2	RD *2	HD1 *2	HD2 *2	RD *2
φ12	5	0	2.5	5	0	2.5
φ16	5	0	2	5	0	2

● *1 : To calculate A + S1 + S2 or B1 + S1, B2 + S2 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.

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

● *3 : When the stroke length S2 is 5 mm for φ12 or φ16 with switch, (B2+S2) and (A+S1+S2) are as shown in the table below.

Bore size	A + S1 + S2	B1 + S1	B2 + S2
φ12	62.5 + S1	27 + S1	32
φ16	62.5 + S1	27 + S1	32

S1/S2 with the custom stroke length are the same as those of the next longer standard stroke length.

● *4 : Refer to page 1296 for HD and RD dimensions for the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

● *5 : Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

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

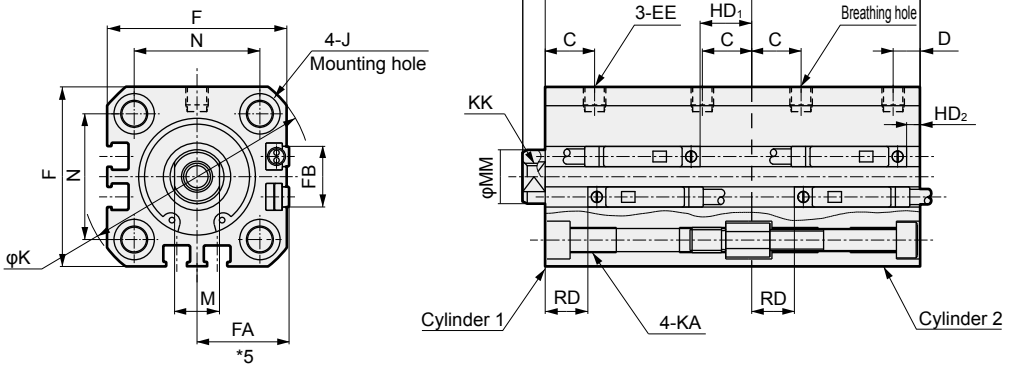
● *7 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions of rod end male thread

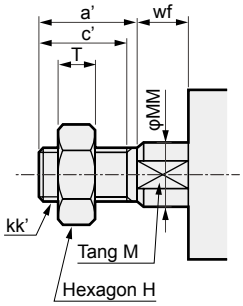
Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5

Dimensions CAD

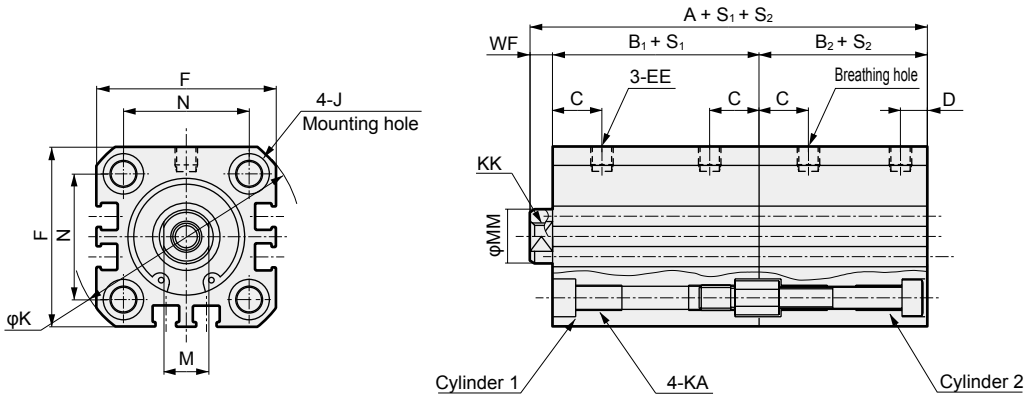
● SSD-WL-20/25 (with switch)



● Rod end male thread



● SSD-W-20/25 (without switch)



Code	Without switch			Common dimensions with switch															
Bore size (mm)	A *1	B_1 *1	B_2 *1	A *1	B_1 *1	B_2 *1	C	D	EE	F	FA *5	FB	J	K	KA	KK	M	MM	N	WF
φ20	50	26	19.5	70	36	29.5	8	5.5	M5	36	18.5(22)	12.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	58.5	31	22.5	78.5	41	32.5	11	6	M5	40	20.5(24)	13.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimensions	Reed T0H/T0V, T5H/T5V			Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV		
Bore size (mm)	HD_1 *2	HD_2 *2	RD *2	HD_1 *2	HD_2 *2	RD *2
φ20	9.5	3	6.5	9.5	3	6.5
φ25	11.5	3	9.5	11.5	3	9.5

● *1 : To calculate A + S_1 + S_2 or B_1 + S_1, B_2 + S_2 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.

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

● *3 : Refer to page 1296 for HD and RD dimensions for the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4 : Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.

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

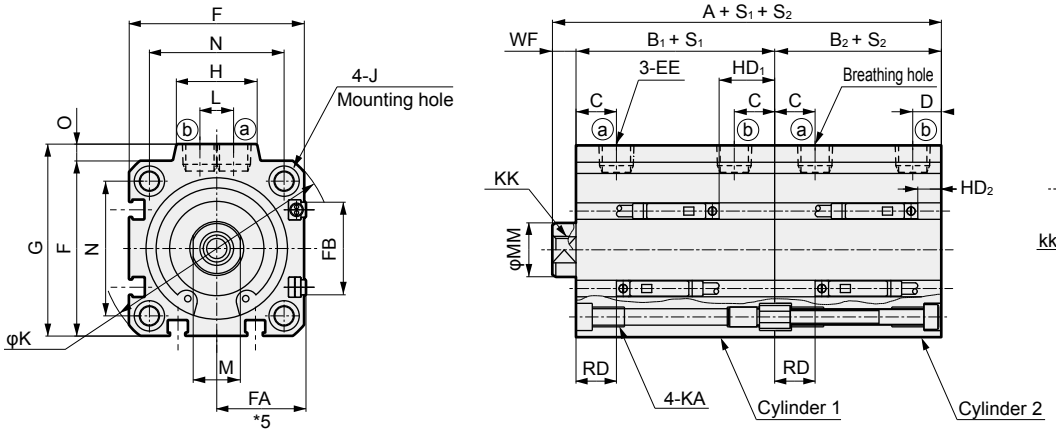
● *6 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

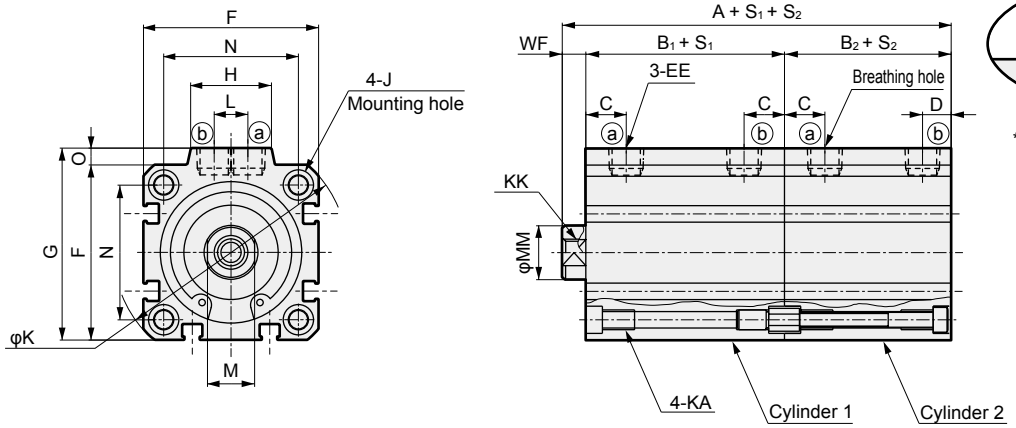
Dimensions CAD

● SSD-WL-32 to 100 (with switch)

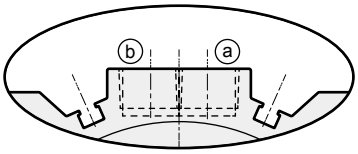


● Rod end male thread

● SSD-W-32 to 100 (without switch)



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size (mm)	Without switch A *1	B1 *1	B2 *1	Common dimensions with switch A *1	B1 *1	B2 *1	C	D	EE	F	FA *5	FB	G	H	J	K	KA	KK	L	M	MM	N	O	WF
φ32	60.5	30.5	23	80.5	40.5	33	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	75.5	39	29.5	95.5	49	39.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	24	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	77.5	39	30.5	97.5	49	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	85	41	36	105	51	46	13	11	Rc1/4	77	39(42.5)	28.5	84	33	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	102	48.5	43.5	122	58.5	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	38	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	123	58	53	143	68	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions / Bore size (mm)	Reed T0H/T0V, T5H/T5V HD1 *2	HD2 *2	RD *2	Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV HD1 *2	HD2 *2	RD *2
φ32	11	3.5	9	11	3.5	9
φ40	16.5	7	12	16.5	7	12
φ50	16.5	7.5	12.5	16.5	7.5	12.5
φ63	18	12.5	13	18	12.5	13
φ80	23	17.5	15.5	23	17.5	15.5
φ100	28.5	23	19.5	28.5	23	19.5

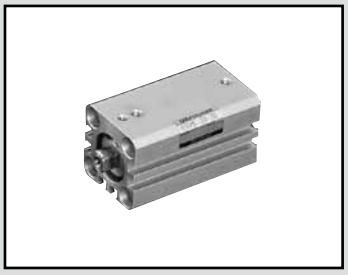
- *1 : To calculate A + S_1 + S_2 or B_1 + S_1 + B_2 + S_2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
  (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Refer to page 1297 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in ( ) of FA are for the radial lead wire.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	17	20	11	5
φ 63	28.5	26	27	M18×1.5	17	20	11	5
φ 80	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

* For dimensions of individual accessories, refer to pages 1092 to 1099.

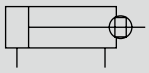
MEMO



Compact cylinder double acting/rotation-stop

SSD-M Series

● Bore size: φ12/φ16/φ20/φ25/φ32/φ40/φ50/φ63

JIS symbol 

RoHS CAD

Specifications

1 MPa ≈ 145.0 psi, 1 MPa = 10 bar

Descriptions	SSD-M SSD-ML (with switch)							
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63
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
Proof pressure MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)							
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	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Non-rotating accuracy	±2°	±1.5°			±1°			
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5, 10, 15, 20, 25, 30	30	1
φ16			
φ20			
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	

*1) The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.
2) When using the type with a switch, refer to the table below. Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ12	5	5	25	-	-
φ16	5	5	25	-	-
φ20	5	5	-	-	-
φ25	5	5	35	50	-
φ32	5	5	35	50	-
φ40	5	5	35	50	-
φ50	5	5	35	50	-
φ63	5	5	35	50	-

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

Switch specifications

● 1-color/2-color display/for AC 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)	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 (no lamp), serial		For programmable controller, relay				Dedicated 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 (*2)			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 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: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:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 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		40		50	
Bore size (mm)	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	44	94	52	94	61	103	69	111	78	120	80	122	-	-	-	-
φ16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-
φ20	76	131	88	163	101	176	114	189	126	201	139	214	-	-	-	-
φ25	102	193	117	208	133	224	149	240	165	256	180	271	212	303	243	334
φ32	166	280	188	302	210	324	232	346	253	367	275	389	319	433	362	476
φ40	210	353	237	380	263	406	290	433	317	460	343	486	396	539	449	592
φ50	341	535	383	577	425	619	467	661	509	703	552	746	636	830	720	914
φ63	507	786	562	841	-	-	672	951	-	-	782	1061	893	1172	1003	1282

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

How to order

Without switch (without magnet for switch)

SSD-M — 12 ○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-ML - 12 ○ - 5 - T0H - R - N - LB - I

2-color display/off-delay, with T1* switch (φ12/φ16 only)

SSD-ML1 - 12 ○ - 10 - T2YH - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *1 *2 *10
Ⓕ Switch quantity
Ⓖ Option *3
Ⓗ Mounting bracket *5 *6
Ⓘ Accessory *7

Code	Content
Ⓐ Model No.	
SSD-M	Double acting/rotation-stop
SSD-ML	Double acting/rotation-stop/with switch
SSD-ML1	φ12, φ16 2-color display, off-delay, with T1* switch
Ⓑ Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (custom order)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WY***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display AC magnetic field	2-wire
T2HR3	**T2VR3**	Proximity		●	1-color display (bend resist lead wire specs)	2-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel) (custom order (φ32 to φ63))
Ⓗ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : Switches other than Ⓔ Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
2 : An AC magnetic field proof switch cannot be installed on φ12 and φ16. In addition, T8 switch cannot be installed on φ12 to φ32.
*3 : 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.
*4 : Copper and PTFE free as standard for SSD-M-12 to 25.
*5 : The mounting bracket is attached at shipment.
*6 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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 : Refer to Ending Page 85 for custom specifications of rod end form.
*9 : Refer to pages 1070 and 1071 for combinations of variations/options.
*10 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-ML-12-5-T0H-R-N

Model: Compact cylinder rotation-stop

Ⓑ Bore size : φ12 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed T0H switch
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model No.
(Item Ⓔ on the previous page)

(Stroke length table)

Stroke length (mm)		Applicable bore size							
		φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63
Standard stroke length	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●	●
	40				●	●	●	●	●
	50				●	●	●	●	●
Min. stroke length (mm) *1		1							
Max. stroke length (mm)		30			50				
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 1204 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

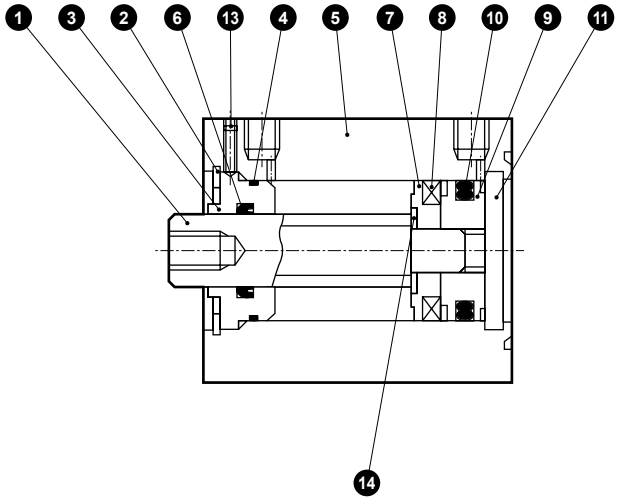
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63

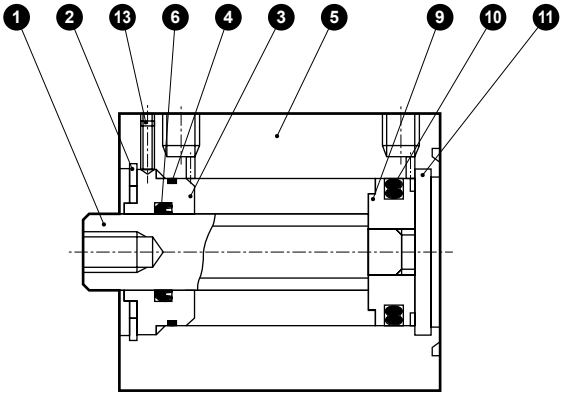
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

● SSD-ML-12 to 25 (double acting/rotation-stop/with switch)



● SSD-M-12 to 25 (double acting/rotation-stop)



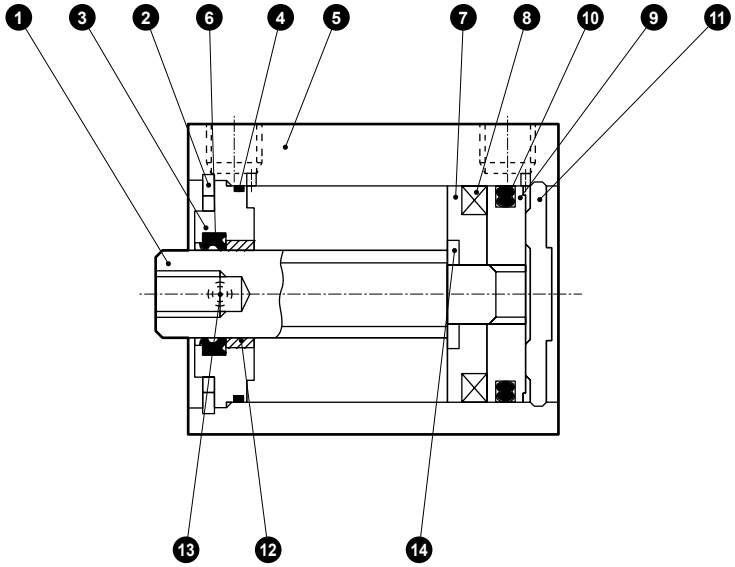
No.	Part name	Material	Remarks
1	Piston rod	Stainless steel	
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	
7	Spacer	φ12: Aluminum alloy φ16 to φ25: Special resin	φ12: Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	Stainless steel	
13	Hexagon socket set screw	Steel	
14	Spacer washer	Stainless steel	φ20 to φ25

Repair parts list

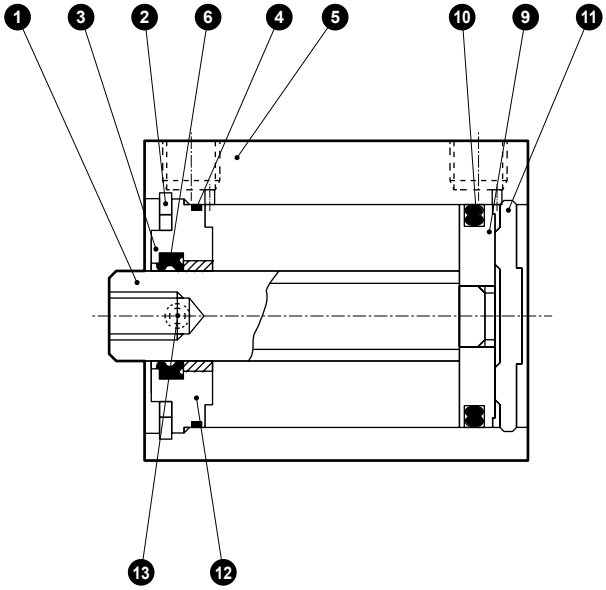
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD-M-12K	❹ ❻ ❿
φ16	SSD-M-16K	
φ20	SSD-M-20K	
φ25	SSD-M-25K	

Internal structure and parts list

● SSD-ML-32 to 63 (double acting/rotation-stop/with switch)



● SSD-M-32 to 63 (double acting/rotation-stop)



No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	φ32 to φ50: Special aluminum φ63: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	
7	Spacer	φ32 to φ50: Special resin φ63: Aluminum alloy	φ63: Chromate

No.	Part name	Material	Remarks
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	Oil impregnated bearing alloy	
13	Hexagon socket set screw	Steel	
14	Spacer washer	Stainless steel	φ32 to φ50

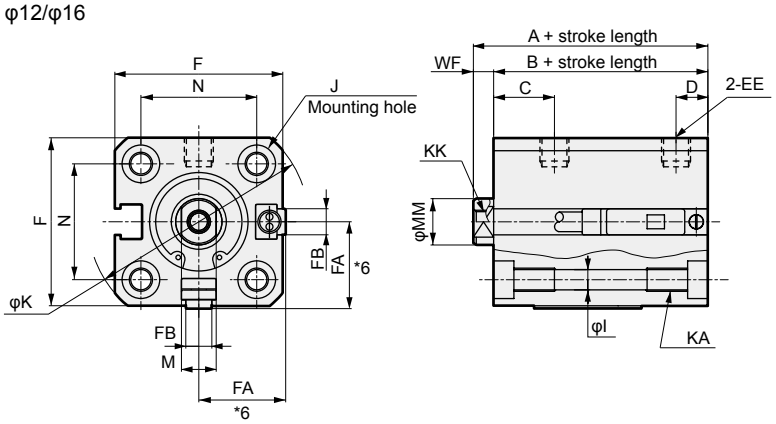
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ32	SSD-M-32K	❹ ❻ ❿
φ40	SSD-M-40K	
φ50	SSD-M-50K	
φ63	SSD-M-63K	

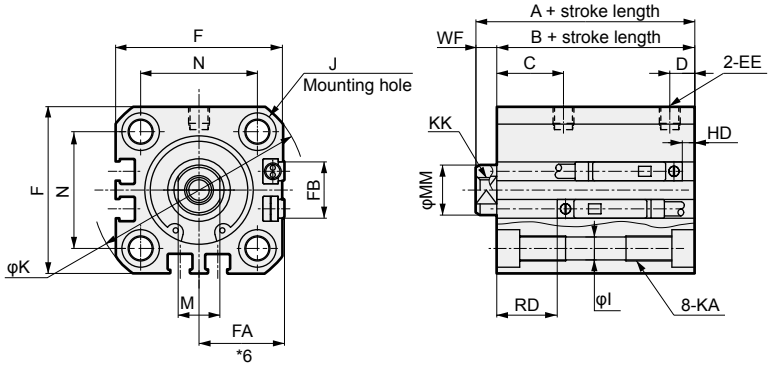
Dimensions CAD

● SSD-ML-12 to 25 (with switch)

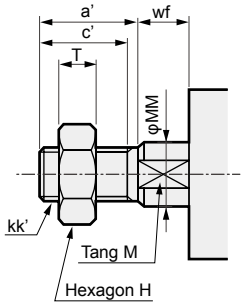
φ12/φ16



φ20/φ25



● Rod end male thread



Code / Bore size (mm)	A *1	B *1	C	D	EE	F	FA *6	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	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
φ16	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
φ20	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
φ25	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 dimensions / Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
	HD *2	RD *2	HD *2	RD *2
φ12	0	7.5	0	7.5
φ16	0	7	0	7
φ20	3	11.5	3	11.5
φ25	3	14.5	3	14.5

Table 1

Bore size	A + stroke length	B + stroke length
φ12	40.5	37
φ16	40.5	37

● *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.
● *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
● *3 : When the stroke length is 5 mm for φ12 and φ16 with switch, (A+ stroke) length and (B+ stroke) length are as shown in Table 1.
● *4: Refer to page 1296 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
● *5: Refer to page 1296 for the protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
● *6 : Dimensions in ( ) of FA are for the radial lead wire.
● *7: For dimensions of individual accessories, refer to pages 1092 to 1099.

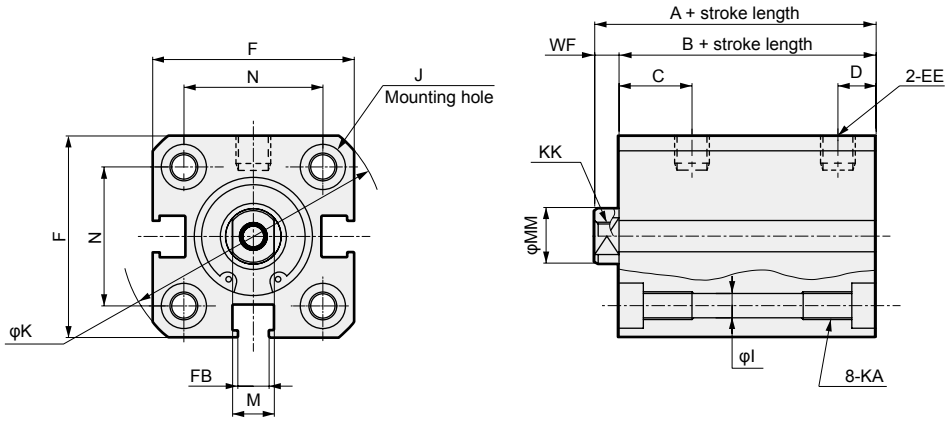
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

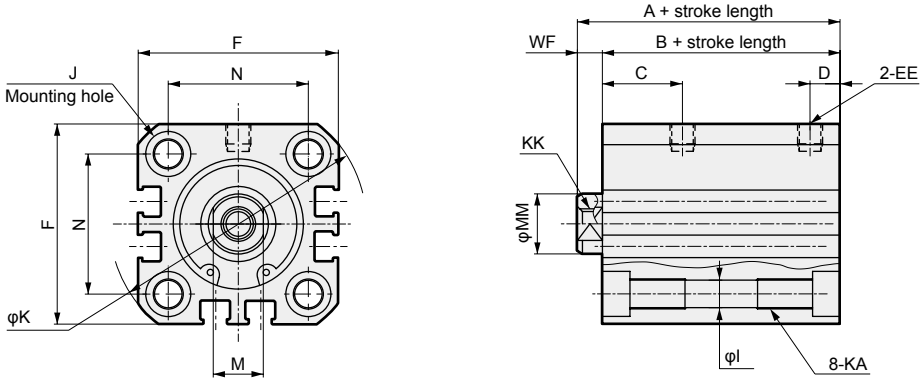
Dimensions CAD

● SSD-M-12 to 25 (without switch)

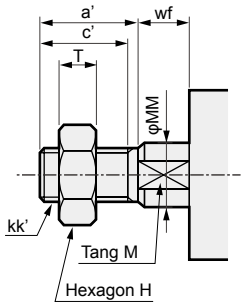
φ12/φ16



φ20/φ25



● Rod end male thread



Code	Without switch														
Bore size (mm)	A *1	B *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
φ12	25.5	22	10.5	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
φ16	25.5	22	10.5	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
φ20	29	24.5	13	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
φ25	32.5	27.5	16	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

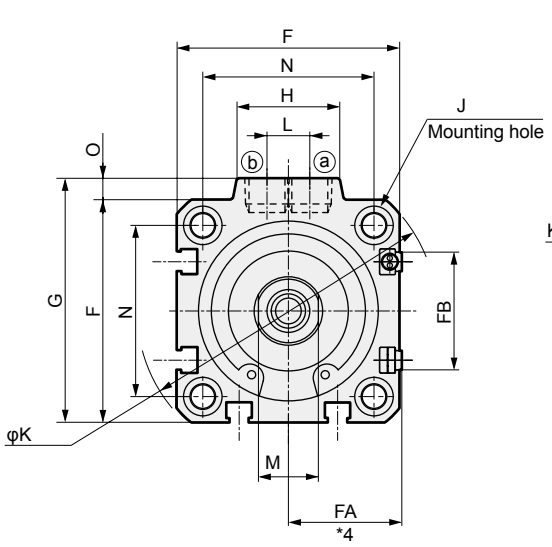
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
*2 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

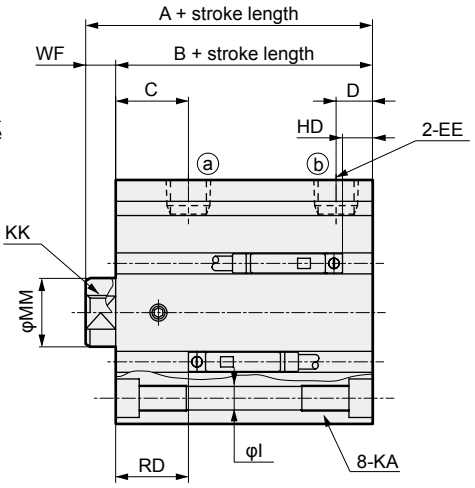
Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 12	10.5	9	8	M5	5	6	3.2	3.5
φ 16	12	10	10	M6	6	8	3.6	3.5
φ 20	14	12	13	M8	8	10	5	4.5
φ 25	17.5	15	17	M10×1.25	10	12	6	5

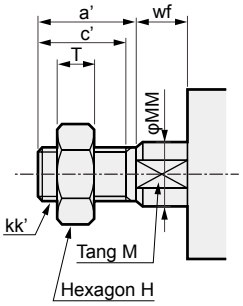
Dimensions CAD

● SSD-ML-32 to 63 (with switch)

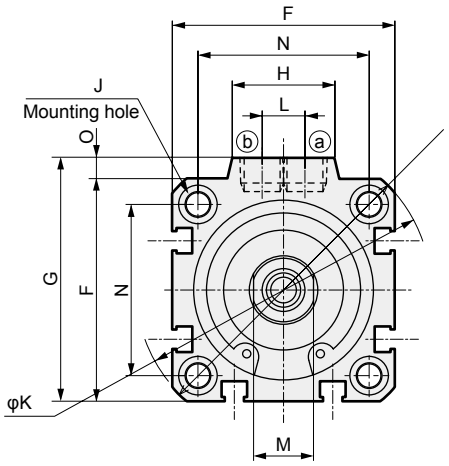


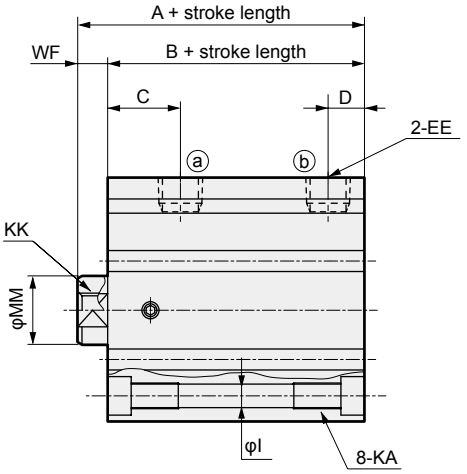


● Rod end male thread



● SSD-M-32 to 63 (without switch)





Code	Without switch		Common dimensions with switch																			
Bore size (mm)	A *1	B *1	A	B	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	40	33	50	43	18	8	Rc1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	41.5	34.5	51.5	44.5	17	8.5	Rc1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	43.5	35.5	53.5	45.5	15.5	10.5	RC1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	18	20	50	7	8
φ63	49	41	59	51	18	11	Rc1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	18	20	60	7	8

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	HD *2	RD *2	HD *2	RD *2
φ32	3.5	19	3.5	19
φ40	7	17	7	17
φ50	7.5	17.5	7.5	17.5
φ63	12.5	17.5	12.5	17.5

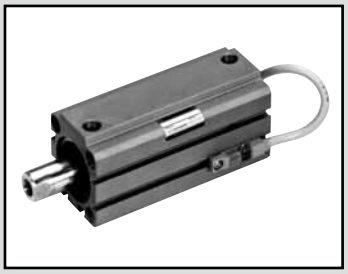
- *1: To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
  (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2: Refer to page 1297 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3: Refer to page 1297 for the 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.

Dimensions of rod end male thread

Code / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ 32	23.5	20.5	22	M14×1.5	14	16	8	5
φ 40	23.5	20.5	22	M14×1.5	14	16	8	5
φ 50	28.5	26	27	M18×1.5	18	20	11	5
φ 63	28.5	26	27	M18×1.5	18	20	11	5

* For dimensions of individual accessories, refer to pages 1092 to 1099.

MEMO

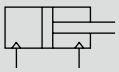


Compact cylinder double acting/coolant proof

SSD-G2/G3 Series

● Bore size: φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-G2/G3 SSD-G2L/G3L (with switch)								
Bore size mm	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)								
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)						0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)								
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)								

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	
			Without switch	With switch
φ16,φ20	5, 10, 15, 20, 25, 30	30	1	10
φ25,φ32 φ40,φ50	5, 10, 15, 20, 25 30, 40, 50	50		
φ63,φ80,φ100	5, 10, 20, 30, 40, 50	50		

*1: The custom stroke length is available in 1 mm increments. (Less than 10 mm with switch is not available.) However, the total length is the same as that of the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ16	10	10	25	-	-
φ20	10	10	-	-	-
φ25	10	10	35	50	-
φ32	10	10	35	50	-
φ40	10	10	35	50	-
φ50	10	10	35	50	-
φ63	10	10	35	50	-
φ80	10	10	35	50	-
φ100	10	10	35	50	-

Switch specifications

● Proximity switch

Type/model No.	Proximity/2-wire	Proximity/3-wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Dedicated for programmable controller	Programmable controller, relay
Power supply voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20 mA (*1)	30 VDC or less, 50 mA or less
Indicator lamp	Red/green LED (Lit when ON)	
Leakage current	1 mA or less	10 μA or less
Shock resistance	980 m/S^2	
Weight g	1 m:33 3 m:87 5 m:142	

*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)

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

(Unit: g)

Stroke length	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ16	62	118	73	118	83	158	94	139	105	150	116	161				
φ20	108	163	120	195	133	208	146	221	158	233	171	246				
φ25	151	242	166	257	182	273	198	289	214	305	229	320	261	352	292	383
φ32	230	344	252	366	274	388	296	410	317	431	339	453	383	497	426	540
φ40	301	444	328	471	354	497	381	524	408	551	434	577	487	630	540	683
φ50	471	665	513	707	555	749	597	791	639	833	682	876	766	960	850	1044
φ63	678	957	733	1012			843	1122			953	1232	1064	1343	1174	1453
φ80	1445	1858	1532	1945			1705	2118			1878	2288	2052	2465	2225	2638
φ100	2098	2665	2212	2779			2439	3006			2667	3234	2894	3461	3122	3689

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
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

How to order

Without switch (without magnet for switch)

SSD - G2 - 16 ( ) - 30 ——— N - LB - I

With switch (built-in magnet for switch)

SSD - G2L - 16 ( ) - 30 - T2YLH - R - N - LB - I

Ⓐ Degree of protection level
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *7
Ⓕ Switch quantity
Ⓖ Option
Ⓗ Mounting bracket *1 *2 *3
Ⓘ Accessory *4

Code	Content
Ⓐ Degree of protection level	
G2	Coolant proof scraper + packing NBR
G3	Coolant proof scraper + packing FKM
G2L	Coolant proof scraper + packing NBR, with switch
G3L	Coolant proof scraper + packing FKM, with switch
Ⓑ Bore size (mm)	
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
T2YLH*	**T2YLV***	Proximity	DC	2-color display	2-wire
T3YLH*	**T3YLV***				3-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓗ Mounting bracket	
LB	Axial foot (φ16 to φ25 custom order product)
LB2	Axial foot (compact) (φ16 to φ25 custom order product)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange (φ16 to φ25 custom order product)
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The structure of φ16 to φ25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as a custom order.
*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*4 : "I" and "Y" cannot be selected together.
*5 : Refer to Ending Page 85 for custom specifications of rod end form.
*6 : Refer to pages 1070 to 1071 for combinations of variations/options.
*7 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-G2L-32-30-T2YH-R-N

Model: Compact cylinder
Ⓐ Degree of protection level : Coolant proof scraper + NBR packing, with switch
Ⓑ Bore size : φ32mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 30mm
Ⓔ Switch model No. : Proximity switch T2YLH, lead wire 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread
Ⓗ Mounting bracket : Axial foot

How to order switch

SW - T2YLH

Switch model No.
(Item Ⓔ on the previous page)

[Stroke length table]

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

*1 : Less than 10 mm stroke length is not available.
Refer to page 1214 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order mounting bracket

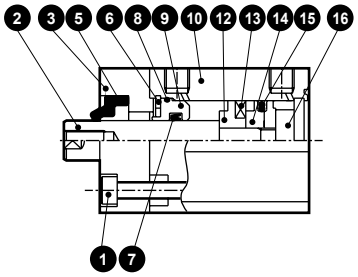
Bore size (mm) / Mounting bracket	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

*1: The foot mounting bracket is provided as 2 pcs./set.
*2: The structure of φ16 to φ25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Contact CKD for details.

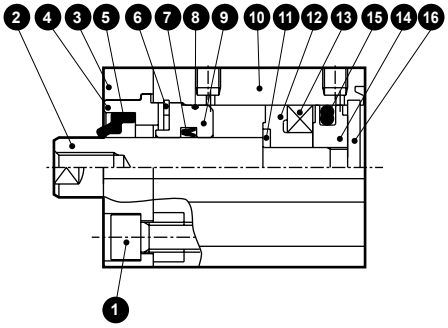
Internal structure and parts list

- Degree of protection: Packing NBR SSD-G2/G2L
- Degree of protection: Packing FKM SSD-G3/G3L

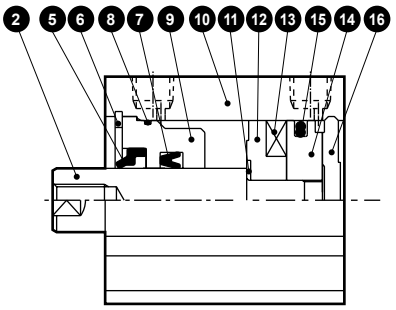
● SSD-G$^{2}_{3}$L-16
(with switch)



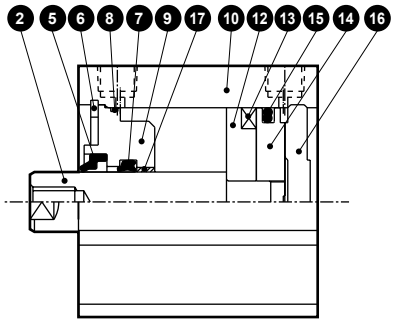
● SSD-G$^{2}_{3}$L-20, 25
(with switch)



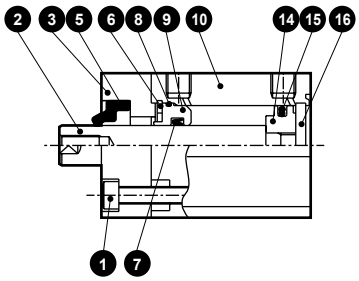
● SSD-G$^{2}_{3}$L-32 to 50
(with switch)



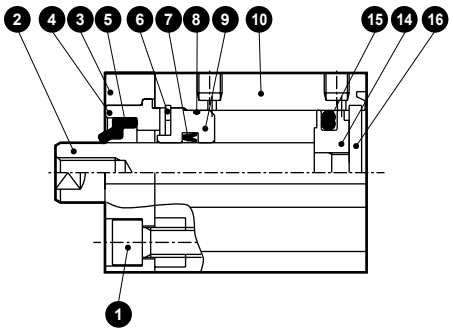
● SSD-G$^{2}_{3}$L-63 to 100
(with switch)



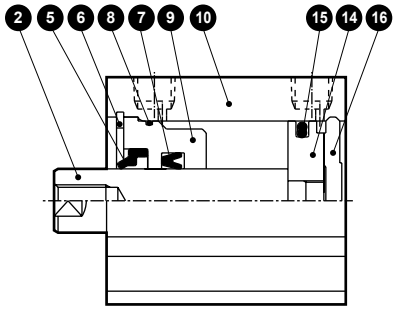
● SSD-G$^{2}_{3}$-16
(without switch)



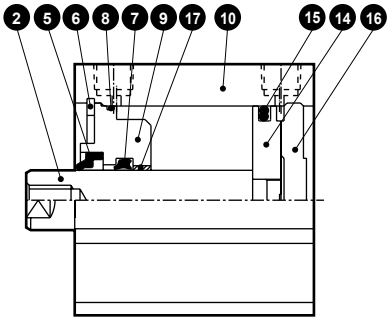
● SSD-G$^{2}_{3}$-20, 25
(without switch)



● SSD-G$^{2}_{3}$-32 to 50
(without switch)



● SSD-G$^{2}_{3}$-63 to 100
(without switch)



Main parts list

No.	Part name		Material	Remarks
1	Hexagon socket head cap screw		Stainless steel	φ16 to φ25
2	Piston rod		Stainless steel	Industrial chrome plating
3	Adaptor (A)		Aluminum alloy	Alumite: φ16 to φ25 only
4	Adaptor (B)		Aluminum alloy	Alumite: φ20/φ25 only
5	Scraper	G2	Nitrile rubber	
		G3	Fluoro rubber	
6	C type snap ring (for hole)		Stainless steel	
7	Rod packing	G2	Nitrile rubber	
		G3	Fluoro rubber	
8	Rod metal gasket	G2	Nitrile rubber	
		G3	Fluoro rubber	
9	Rod metal		Special aluminum	Alumite
10	Body		Aluminum alloy	Hard alumite
11	Spacer washer		Stainless steel	φ16 to φ50 only
12	Spacer		φ16 to φ50: Special resin φ63 to φ100: Aluminum alloy	
13	Magnet		Plastic	
14	Piston		Aluminum alloy	Chromate
15	Piston packing	G2	Nitrile rubber	
		G3	Fluoro rubber	
16	Cover		φ16 to φ25: Stainless steel	
			φ32 to φ100: Aluminum alloy	Alumite
17	Bush		Oiles drymet	φ63 to φ100 only

Repair parts list

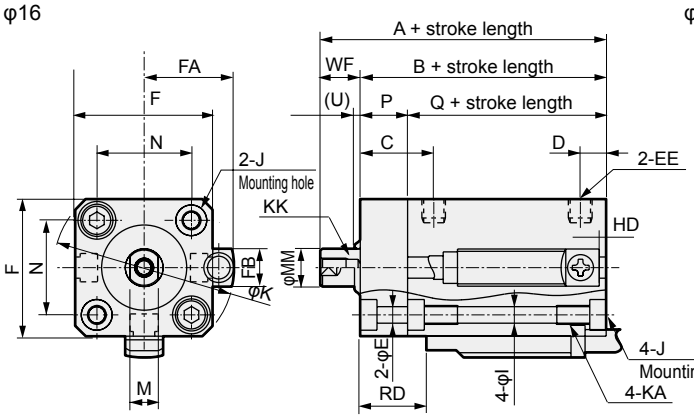
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ16	SSD-G2- 16K	❺ ❼ ❽ ⓯
	SSD-G3- 16K	
φ20	SSD-G2- 20K	
	SSD-G3- 20K	
φ25	SSD-G2- 25K	
	SSD-G3- 25K	
φ32	SSD-G2- 32K	
	SSD-G3- 32K	
φ40	SSD-G2- 40K	
	SSD-G3- 40K	
φ50	SSD-G2- 50K	
	SSD-G3- 50K	
φ63	SSD-G2- 63K	
	SSD-G3- 63K	
φ80	SSD-G2- 80K	
	SSD-G3- 80K	
φ100	SSD-G2-100K	
	SSD-G3-100K	

Note: Specify the kit No. when placing an order.

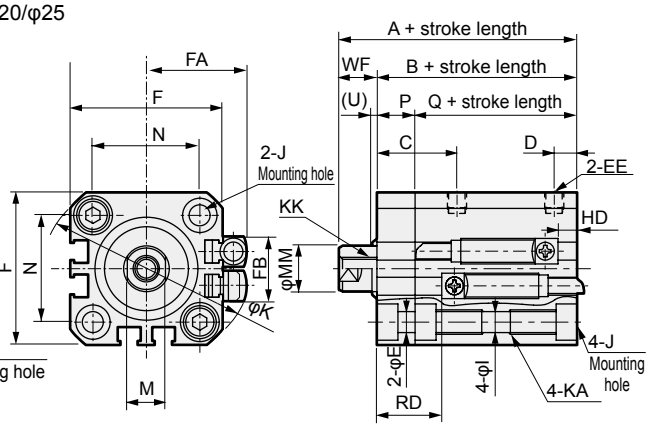
Dimensions CAD

- Degree of protection: Packing NBR
  SSD-G2/G2L
- Degree of protection: Packing FKM
  SSD-G3/G3L

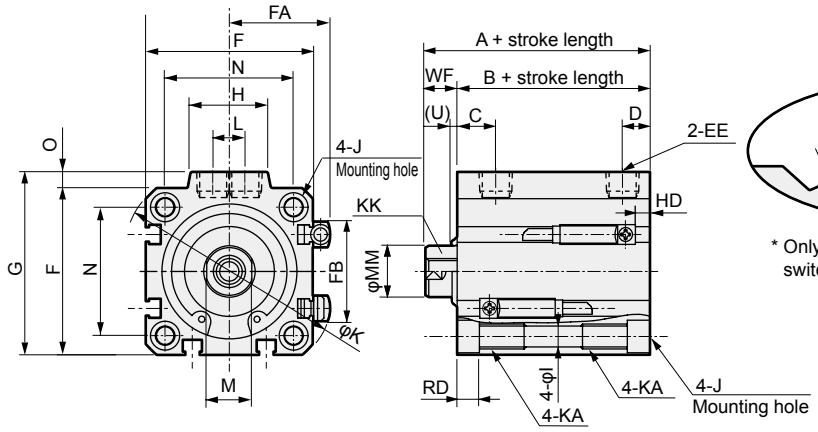
φ16



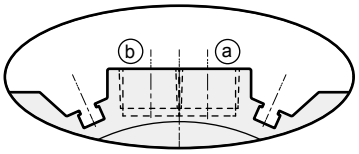
φ20/φ25



φ32 to φ100

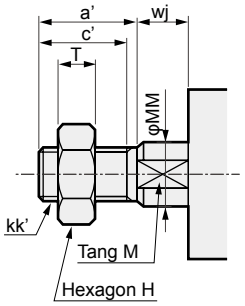


[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

● Rod end male thread



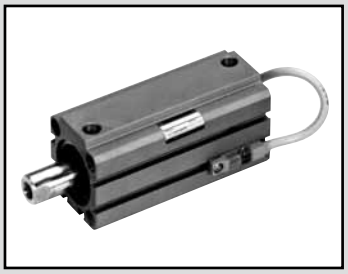
*1: To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

Code	Dimensions (no switch)			Common dimensions with switch																
Bore size (mm)	A *1	B *1	Q *1	A *1	B *1	Q *1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ16	35.5	27	17	40.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	φ6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
φ20	39	29.5	19.5	49	39.5	29.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	φ9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
φ25	42.5	32.5	22.5	52.5	42.5	32.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	φ9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
φ32	45	33	-	55	43	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	φ9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
φ40	51.5	39.5	-	61.5	49.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	φ9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	53.5	40.5	-	63.5	50.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	φ11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	59	46	-	69	56	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	φ14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	68.5	53.5	-	78.5	63.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	φ17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	80	63	-	90	73	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	φ17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code	Common dimensions with switch								Proximity T2YLH, T2YLV, T3YLH, T3YLV		Dimensions of rod end male thread part							
Bore size (mm)	L	M	MM	N	O	P	U	WF	HD	RD	a'	c'	H	kk'	M	MM	T	wj
φ16	-	6	8	20	-	10	3	8.5	4.5	12.5	12	10	10	M6	6	8	3.6	8.5
φ20	-	8	10	25.5	-	10	3	9.5	1.5	18.0	14	12	13	M8	8	10	5	9.5
φ25	-	10	12	28	-	10	3	10	2.0	20.0	17.5	15	17	M10×1.25	10	12	6	10
φ32	10	14	16	34	4.5	-	0	12	4.5	20.5	23.5	20.5	22	M14×1.5	14	16	8	10
φ40	10	14	16	40	5	-	2	12	8.0	23.5	23.5	20.5	22	M14×1.5	14	16	8	10
φ50	15	17	20	50	7	-	2	13	9.0	23.5	28.5	26	27	M18×1.5	17	20	11	10
φ63	15	17	20	60	7	-	2	13	13.0	24.0	28.5	26	27	M18×1.5	17	20	1	10
φ80	15	22	25	77	6	-	2	15	19.0	26.5	35.5	32.5	32	M22×1.5	22	25	13	13
φ100	15	27	30	94	6.5	-	2	17	24.5	30.5	35.5	32.5	41	M26×1.5	27	30	16	13

* For dimensions of individual accessories, refer to pages 1092 to 1099.

MEMO

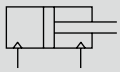


Compact cylinder double acting/high load/coolant proof

SSD-KG2/KG3 Series

● Bore size: φ16/φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-KG2/KG3 SSD-KG2L/KG3L (with switch)								
Bore size mm	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)								
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)						0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)								
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)								
Port size	M5×0.8			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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Allowable absorbed energy 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)	
			Without switch	With switch
φ16,φ20	5, 10, 15, 20, 25, 30, 40, 50	100 *2	1	10
φ25,φ32,φ40,φ50	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150 *2		
φ63,φ80,φ100	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200 *2		

*1 : The custom stroke length is available in 1 mm increments. (Less than 10 mm with switch is not available.) However, the total length is the same as that of the next longer standard stroke length.

*2 : Stroke length over standard to maximum is available in increments of 10. (Example) φ16: 60, 70, 80, 90, 100
Dimensions of custom stroke length (example: 64 mm stroke length) are the same as the next longer stroke length (example: 70 mm stroke length).

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ16	10	10	25	-	-
φ20	10	10	35	50	65
φ25	10	10	35	50	65
φ32	10	10	35	50	65
φ40	10	10	35	50	65
φ50	10	10	35	50	65
φ63	10	10	35	50	65
φ80	10	10	35	50	65
φ100	10	10	35	50	65

Switch specifications

● Proximity switch

Type/model No.	Proximity/2-wire	Proximity/3-wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Dedicated for programmable controller	Programmable controller, relay
Power supply voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20 mA *1	30 VDC or less, 50 mA or less
Indicator lamp	Red/green LED (Lit when ON)	
Leakage current	1 mA or less	10 μA or less
Shock resistance	980 m/S^2	
Weight g	1 m:33 3 m:87 5 m:142	

*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)

Cylinder weight

(Unit: g)

Stroke length	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	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	No switch	Switch
φ16	69	114	79	124	90	135	101	146	112	157	123	168	145	179	167	201	189	223	211	245	233	267	255	289	277	311
φ20	88	163	101	176	114	189	126	201	139	214	151	226	176	251	201	276	226	301	251	326	276	351	301	376	326	401
φ25			134	225	150	241	166	257	181	272	198	289	230	321	262	353	294	385	326	417	358	449	390	481	422	513
φ32			232	346	253	367	275	389	297	411	319	433	362	476	405	519	448	562	491	605	534	648	577	691	620	734
φ40			316	459	343	486	369	512	395	538	422	565	475	618	528	671	581	724	634	777	687	830	740	883	793	936
φ50			509	703	551	745	594	788	637	831	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376	1266	1460
φ63			727	1006			837	1116			948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887	1718	1997
φ80			1274	1687			1447	1860			1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072	2832	3245
φ100			1887	2454			2115	2682			2342	2909	2570	3137	2798	3365	3026	3593	3254	3821	3482	4049	3710	4277	3938	4505

Stroke length	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	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
φ20	351	426	376	451	401	476	426	501	451	526										
φ25	454	545	486	577	518	609	550	641	582	673										
φ32	663	777	706	820	749	863	792	906	835	949										
φ40	846	989	899	1042	952	1095	1005	1148	1058	1201										
φ50	1350	1544	1434	1628	1518	1712	1602	1796	1686	1880										
φ63	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987	2818	3097
φ80	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802	4562	4975
φ100	4166	4733	4394	4961	4622	5189	4850	5417	5078	5645	5306	5873	5534	6101	5762	6329	5990	6557	6218	6785

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
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

How to order

Without switch (without magnet for switch)

SSD - KG2 - 16 - 30 ——— N - LB - I

With switch (built-in magnet for switch)

SSD - KG2L - 16 - 30 - T2YLH - R - N - LB - I

Ⓐ Degree of protection level

Ⓑ Bore size

Ⓒ Stroke length

Ⓓ Switch model No. *7

Ⓔ Switch quantity

Ⓕ Option

Ⓖ Mounting bracket *1 *2 *3

Ⓗ Accessory *4

Code	Content
Ⓐ Degree of protection level	
KG2	High load + coolant proof scraper + packing NBR
KG3	High load + coolant proof scraper + packing FKM
KG2L	High load + coolant proof scraper + packing NBR, with switch
KG3L	High load + coolant proof scraper + packing FKM, with switch
Ⓑ Bore size (mm)	
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
T2YLH*	**T2YLV***	Proximity	DC	2-color display	2-wire
T3YLH*	**T3YLV***				3-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓖ Mounting bracket	
LB	Axial foot (φ16 to φ25 custom order product)
LB2	Axial foot (compact) (φ16 to φ25 custom order product)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange (φ16 to φ25 custom order product)
FB	Head side flange
Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The structure of φ16 to φ25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as a custom order.
*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*4 : "I" and "Y" cannot be selected together.
*5 : Refer to Ending Page 85 for custom specifications of rod end form.
*6 : Refer to pages 1072 and 1073 for combinations of variations/options.
*7 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KG2L-32-30-T2YLH-R-N

Model: Compact cylinder, high load
Ⓐ Degree of protection level : Coolant proof scraper + NBR packing, with switch
Ⓑ Bore size : φ32 mm
Ⓒ Stroke length : 30 mm
Ⓓ Switch model No. : Proximity switch T2YLH, lead wire 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread
Ⓖ Mounting bracket : Axial foot

How to order switch

SW - T2YLH

Switch model No.
(Item Ⓓ on the previous page)

[Stroke length table]

Stroke length (mm)		Applicable bore size								
		φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●							
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●	●
	70			●	●	●	●	●	●	●
	80			●	●	●	●	●	●	●
	90			●	●	●	●	●	●	●
	100			●	●	●	●	●	●	●
Min. stroke length (mm) *1		1								
Max. stroke length (mm)		100		150				200		
Custom stroke length *2		In 1 mm increments								

*1 : Less than 10 mm stroke length is not available.
Refer to page 1222 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order mounting bracket

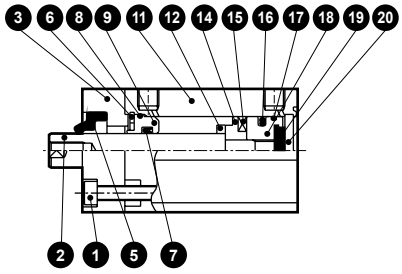
Bore size (mm) / Mounting bracket	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

*1: The foot mounting bracket is provided as 2 pcs./set.
*2: The structure of φ16 to φ25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Contact CKD for details.

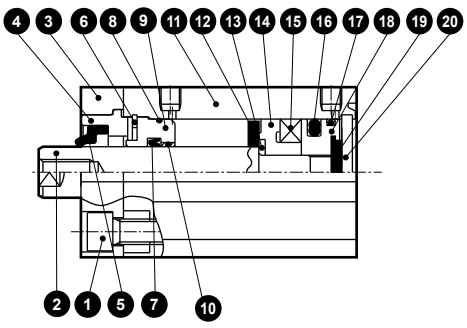
Internal structure and parts list

- Degree of protection: Packing NBR SSD-KG2/KG2L
- Degree of protection: Packing FKM SSD-KG3/KG3L

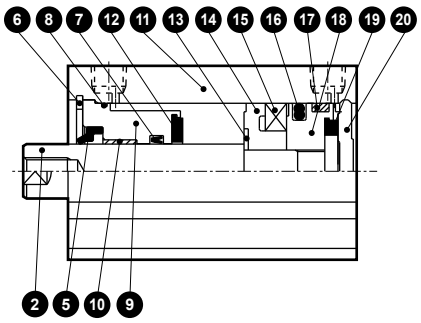
● SSD-KG$^{2}_{3}$L-16
(with switch)



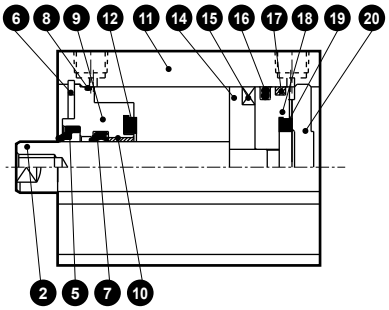
● SSD-KG$^{2}_{3}$L-20, 25
(with switch)



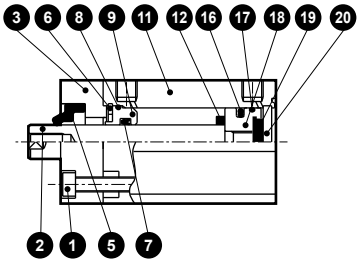
● SSD-KG$^{2}_{3}$L-32 to 50
(with switch)



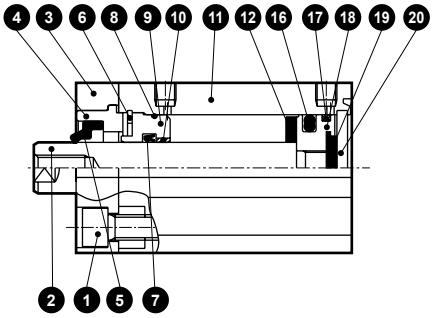
● SSD-KG$^{2}_{3}$L63 to 100
(with switch)



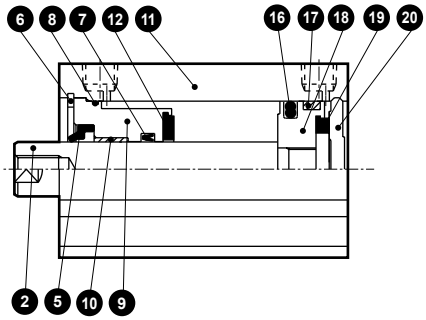
● SSD-KG$^{2}_{3}$-16
(without switch)



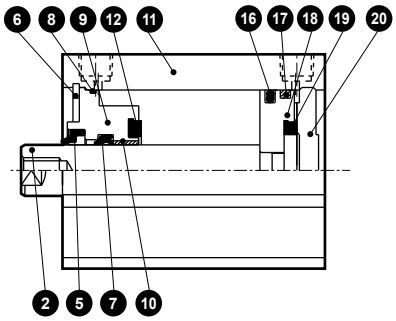
● SSD-KG$^{2}_{3}$-20, 25
(without switch)



● SSD-KG$^{2}_{3}$-32 to 50
(without switch)



● SSD-KG$^{2}_{3}$-63 to 100
(without switch)



Main parts list

No.	Part name		Material	Remarks
1	Hexagon socket head cap screw		Stainless steel	φ16 to φ25 only
2	Piston rod		Stainless steel	Industrial chrome plating
3	Adaptor (A)		Aluminum alloy	Alumite: φ16 to φ25 only
4	Adaptor (B)		Aluminum alloy	Alumite: φ20/φ25 only
5	Scraper	G2	Nitrile rubber	
		G3	Fluoro rubber	
6	C type snap ring (for hole)		Stainless steel	
7	Rod packing	G2	Nitrile rubber	
		G3	Fluoro rubber	
8	Rod metal gasket	G2	Nitrile rubber	
		G3	Fluoro rubber	
9	Rod metal		Special aluminum	Alumite
10	Bush		Oiles drymet	φ20 to φ100 only
11	Body		Aluminum alloy	Hard alumite
12	Cushion rubber R		Urethane rubber	
13	Spacer washer		Stainless steel	φ16 to φ25 only
14	Spacer		φ16 to φ50: Special resin φ63 to φ100: Aluminum alloy	
15	Magnet		Plastic	
16	Piston packing	G2	Nitrile rubber	
		G3	Fluoro rubber	
17	Wear ring		Polyacetal resin	
18	Piston		Aluminum alloy	Chromate
19	Cushion rubber H		Urethane rubber	
20	Cover		φ16 to φ25: Stainless steel	
			φ32 to φ100: Aluminum alloy	Alumite

Repair parts list

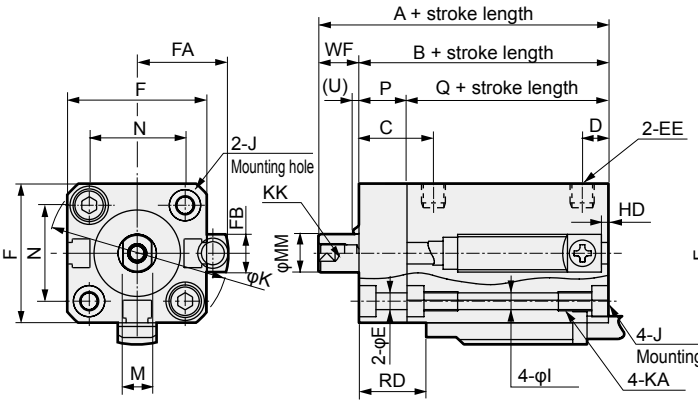
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ16	SSD-KG2-16K	❺ ❼ ❽ ⓬ ⓰ ⓱ ⓳
	SSD-KG3-16K	
φ20	SSD-KG2-20K	
	SSD-KG3-20K	
φ25	SSD-KG2-25K	
	SSD-KG3-25K	
φ32	SSD-KG2-32K	
	SSD-KG3-32K	
φ40	SSD-KG2-40K	
	SSD-KG3-40K	
φ50	SSD-KG2-50K	
	SSD-KG3-50K	
φ63	SSD-KG2-63K	
	SSD-KG3-63K	
φ80	SSD-KG2-80K	
	SSD-KG3-80K	
φ100	SSD-KG2-100K	
	SSD-KG3-100K	

Note: Specify the kit No. when placing an order.

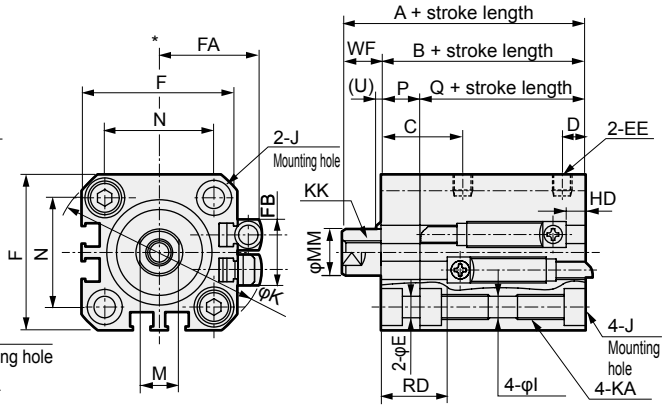
Dimensions CAD

SSD-KG2/KG3

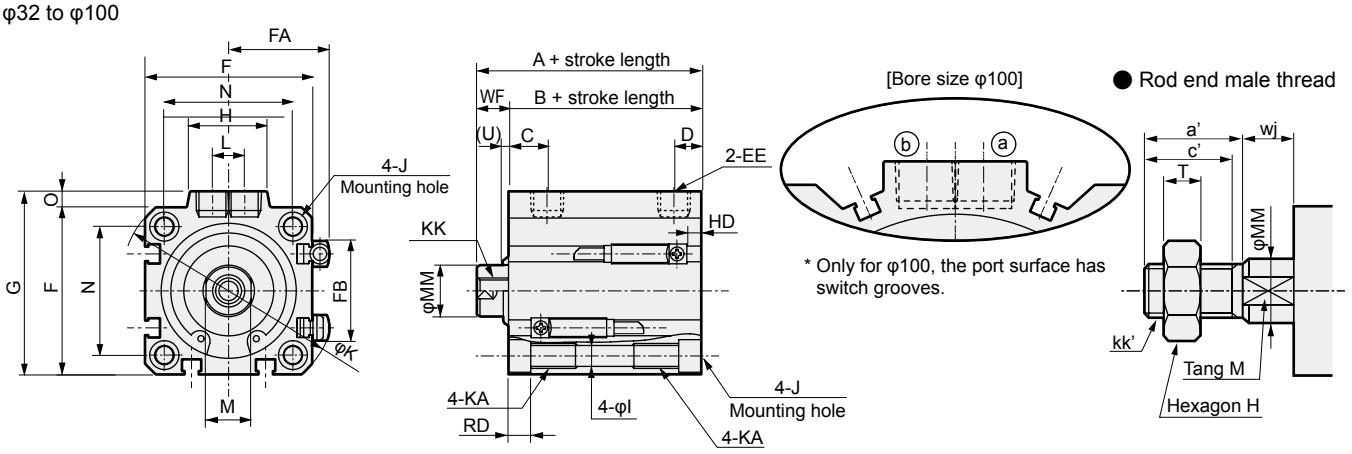
φ16



φ20/φ25



φ32 to φ100



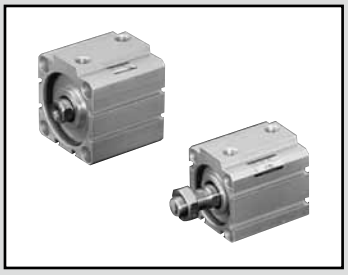
*1: To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

Code / Bore size (mm)	Dimensions (no switch) A *1	B *1	Q *1	Common dimensions with switch A *1	B *1	Q *1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ16	40.5	32	22	45.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	φ6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
φ20	44	34.5	24.5	54	44.5	34.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	φ9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
φ25	47.5	37.5	27.5	57.5	47.5	37.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	φ9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
φ32	55	43	-	65	53	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	φ9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
φ40	61.5	49.5	-	71.5	59.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	φ9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	63.5	50.5	-	73.5	60.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	φ11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	69	56	-	79	66	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	φ14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	78.5	63.5	-	88.5	73.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	φ17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	90	73	-	100	83	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	φ17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code / Bore size (mm)	Common dimensions with switch L	M	MM	N	O	P	U	WF	Proximity T2YLH, T2YLV, T3YLH, T3YLV HD	RD	Dimensions of rod end male thread part a'	c'	H	kk'	M	MM	T	wj
φ16	-	6	8	20	-	10	3	8.5	2.5	14.5	12	10	10	M6	6	8	3.6	8.5
φ20	-	8	10	25.5	-	10	3	9.5	4.5	20.0	14	12	13	M8	8	10	5	9.5
φ25	-	10	12	28	-	10	3	10	4.5	22.5	17.5	15	17	M10×1.25	10	12	6	10
φ32	10	14	16	34	4.5	-	0	12	9.5	25.5	23.5	20.5	22	M14×1.5	14	16	8	10
φ40	10	14	16	40	5	-	2	12	10.5	31.0	23.5	20.5	22	M14×1.5	14	16	8	10
φ50	15	17	20	50	7	-	2	13	11.5	31.0	28.5	26	27	M18×1.5	17	20	11	10
φ63	15	17	20	60	7	-	2	13	18.0	29.0	28.5	26	27	M18×1.5	17	20	1	10
φ80	15	22	25	77	6	-	2	15	24.0	31.5	35.5	32.5	32	M22×1.5	22	25	13	13
φ100	15	27	30	94	6.5	-	2	17	29.5	35.5	35.5	32.5	41	M26×1.5	27	30	16	13

* For dimensions of individual accessories, refer to pages 1092 to 1099.

MEMO



Compact cylinder
Double acting/single rod/coil scraper

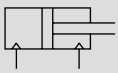
SSD-G1 Series

Compact cylinder
Double acting/single rod/anti-spatter adherence

SSD-G4 Series

● Bore size: φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-G1/G4 SSD-G1L/G4L (with switch)						
Bore size mm	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)						
Allowable absorbed energy 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 (mm)/strong magnetic field proof switch
φ25	5, 10, 15, 20, 25, 30, 40, 50	*2) 50	1 (10) The value in ( ) is for types with one or two switches.
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	*2) 50	
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments.
*2) If the standard stroke is exceeded, the high load is used. Refer to page 1100 for specifications.

Switch specifications

Descriptions	Proximity 2-wire
	T2YD
Applications	Dedicated for programmable controller
Lamp	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0 mA or less
Output delay time *1 (ON delay, OFF delay)	60 ms or less
Lead wire length	1 m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm^2 x 2-conductor) *2, *3
Insulation resistance	100 MΩ or more at 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s^2
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*1 : Indicates the time from magnetic sensor detection of the piston magnet until switch output.
*2 : 3 m and 5 m lead wires are available as options.
*3 : Flame-resistant lead wires are available as options.
*4 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

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		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	131	222	146	237	162	253	178	269	194	285	209	300	241	332	272	363
φ32	184	298	206	320	228	342	250	364	271	385	293	407	337	451	380	494
φ40	265	408	292	435	318	461	345	488	372	515	398	541	451	594	504	647
φ50	418	612	460	654	502	696	544	738	586	780	629	823	713	907	797	991
φ63	603	882	658	937	-	-	768	1047	-	-	878	1157	989	1268	1099	1378
φ80	1093	1506	1180	1593	-	-	1353	1766	-	-	1526	1939	1700	2113	1873	2286
φ100	1654	2221	1768	2335	-	-	1995	2562	-	-	2223	2790	2450	3017	2678	3245

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
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

How to order

Without switch (without magnet for switch)

SSD-G4 - 32 - 10 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-G4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Stroke length *1
Ⓓ Switch model No. *4
Ⓔ Switch quantity
Ⓕ Option
Ⓖ Mounting bracket *1 *2
Ⓗ Accessory *3

Code	Content
Ⓐ Model No.	
SSD-G1	Double acting/single rod/coil scraper
SSD-G1L	Double acting/single rod/coil scraper/with switch
SSD-G4	Double acting/single rod/anti-spatter adherence
SSD-G4L	Double acting/single rod/anti-spatter adherence/with switch
Ⓑ Bore size (mm)	
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
T2YD*	—	Proximity	DC	2-color display	2-wire
T2YDT*	—			AC magnetic field	

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-G4L-32-10-T2YD-R-N

Model: Compact cylinder double acting/anti-spatter adherence

Ⓑ Bore size : φ32 mm
Ⓒ Stroke length :10 mm
Ⓓ Switch model No. : Proximity switch for AC magnetic field T2YD
· Lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

How to order switch

SW - T2YD*

Switch model No.
(Item Ⓓ on the previous page)

[Stroke length table]

Stroke length (mm)		Applicable bore size						
		φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length *1	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke length (mm) *2		1						
Max. stroke length (mm)		50						
Custom stroke length *3		In 1 mm increments						

*1 : If the standard stroke is exceeded, the high load (K) is used. Refer to page 1100 for specifications, and pages 1106 to 1109 for dimensions.
*2 : Less than 10 mm stroke length with AC magnetic field proof switch is not available.
*3 : The total length is the same as that of the next longer standard stroke length.

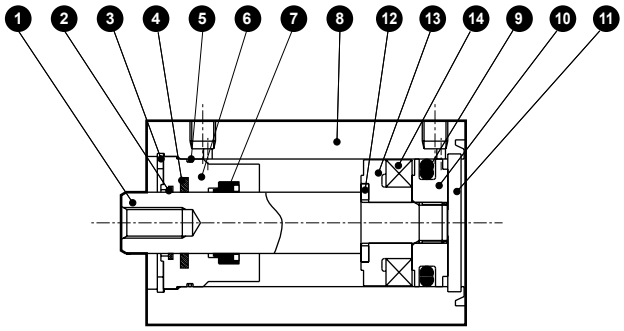
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

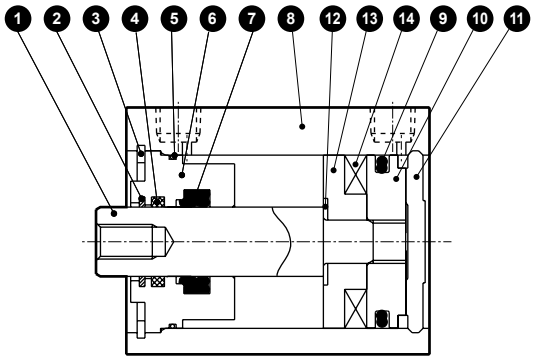
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

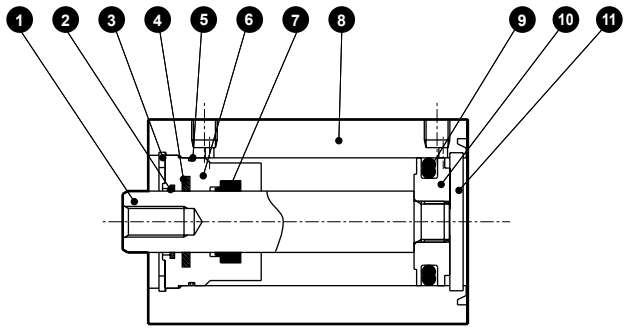
● SSD-G1L/G4L-25 (double acting/anti-spatter adherence/ with switch)



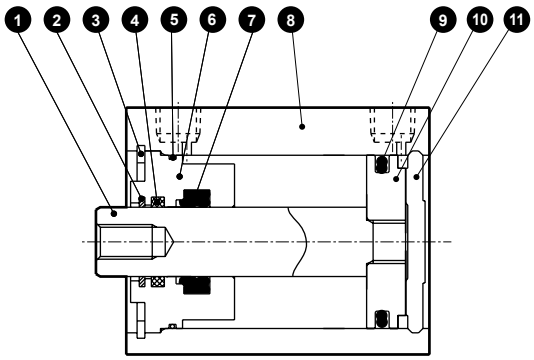
● SSD-G1L/G4L-32 to 50 (double acting/anti-spatter adherence/ with switch)



● SSD-G1/G4-25 (double acting/anti-spatter adherence)



● SSD-G1/G4-32 to 50 (double acting/anti-spatter adherence)



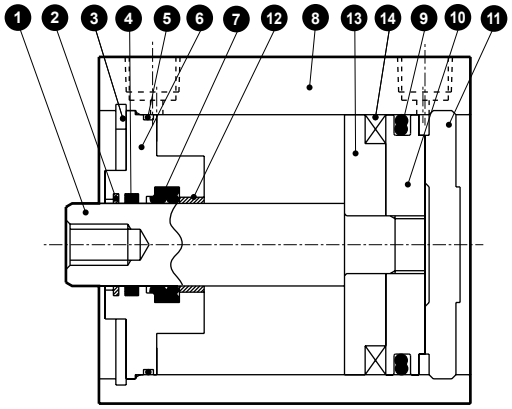
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ25: Stainless steel, φ32 to φ50: Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
				9	Piston packing	Nitrile rubber	
2	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Zinc phosphate	11	Cover	φ25: Stainless steel φ32 to φ50: Aluminum alloy	Alumite (φ32 to 50)
4	Lube keeping structure	Special rubber	G4 only				
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	
6	Rod metal	Special aluminum	Alumite	13	Spacer	Special resin	
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

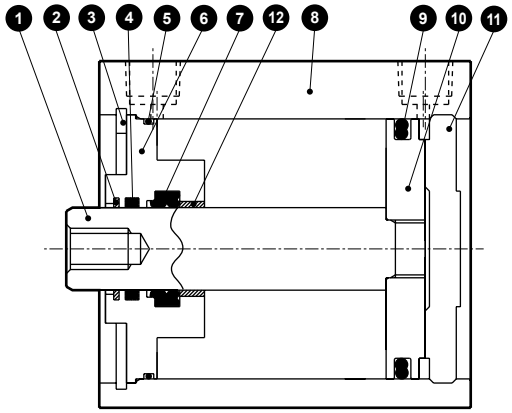
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ25	SSD-G1-25K	❷ ❺ ❼ ❾
φ32	SSD-G1-32K	
φ40	SSD-G1-40K	
φ50	SSD-G1-50K	

Internal structure and parts list

● SSD-G1L/G4L-63 to 100 (double acting/anti-spatter adherence/with switch)



● SSD-G1/G4-63 to 100 (double acting/anti-spatter adherence)



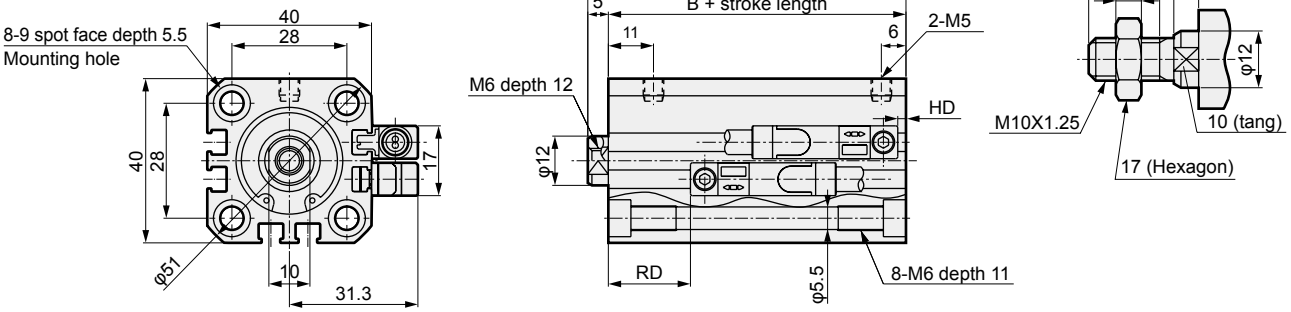
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	Coil scraper	Phosphor bronze		9	Piston packing	Nitrile rubber	
3	C type snap ring for hole	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Cover	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
6	Rod metal	Aluminum alloy		13	Spacer	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber	Chromate	14	Magnet	Plastic	

Repair parts list

Part name / Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-G1-63K	❷ ❺ ❼ ❾
φ80	SSD-G1-80K	
φ100	SSD-G1-100K	

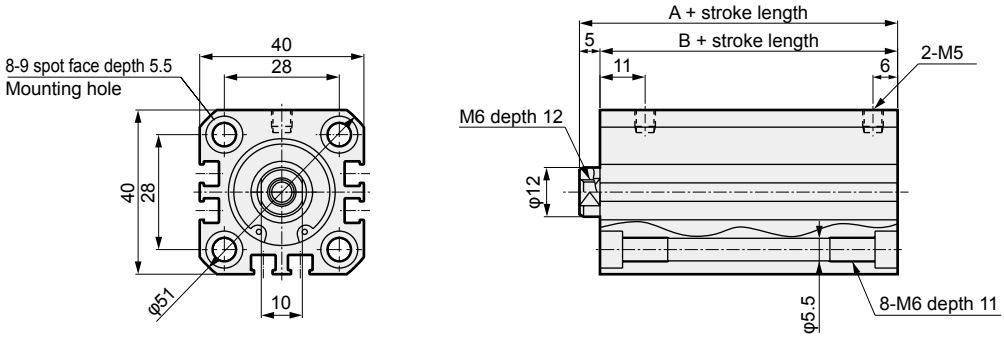
Dimensions

● SSD-G1L/G4L-25 (with switch)



● Rod end male thread

● SSD-G1/G4-25 (without switch)



Code	Without switch		Dimensions with switch			
Bore size (mm)	A *1	B *1	A *1	B *1	RD *2	HD
φ25	37.5	32.5	47.5	42.5	20	2

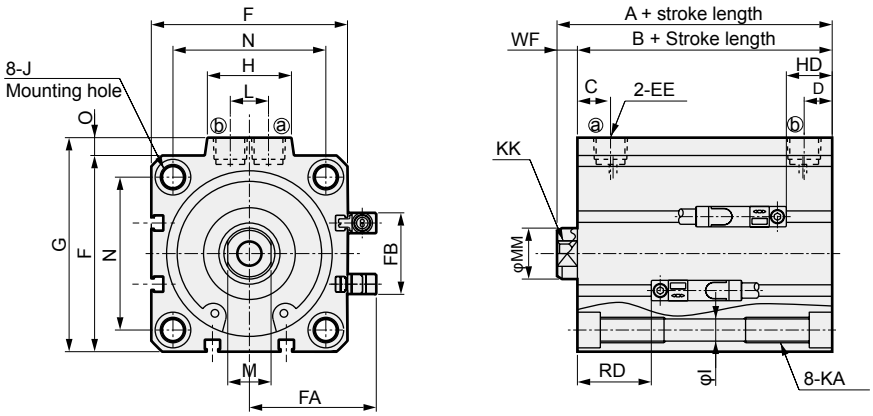
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

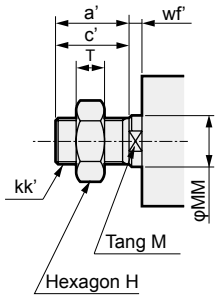
*3 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions

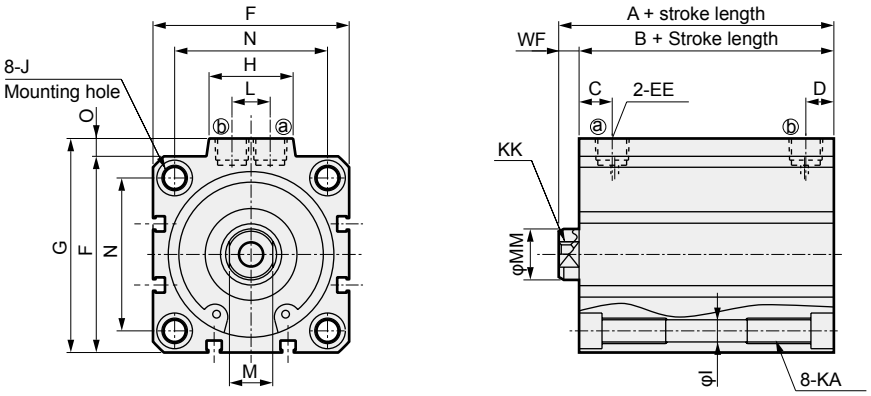
● SSD-G1L/G4L-32 to 100 (with switch)



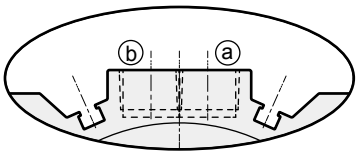
● Rod end male thread



● SSD-G1/G4-32 to 100 (without switch)



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code	Without switch		Common dimensions with switch													
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
φ32	40	33	50	43	8	8	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ40	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ50	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
φ63	54	46	64	56	13	11	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
φ80	63.5	53.5	73.5	63.5	16	13	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21
φ100	75	63	85	73	23	15	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M12 depth 27

Code	Common dimensions with switch					With T2YD type switch	
Bore size (mm)	M	MM	N	O	WF	RD *2	HD
φ32	14	16	34	4.5	7	17.5	2
φ40	14	16	40	5	7	20.5	5.5
φ50	17	20	50	7	8	21	6
φ63	17	20	60	7	8	21.5	11
φ80	22	25	77	6	10	24	16
φ100	27	30	94	6.5	12	28	21.5

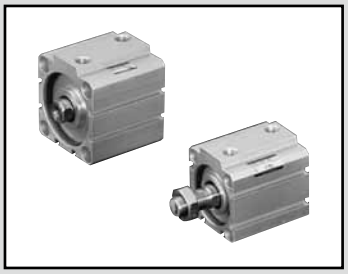
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

● Dimensions of rod end male thread part

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
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

For dimensions of individual accessories, refer to pages 1092 to 1099.



Compact cylinder
Double acting/single rod/high load/coil scraper

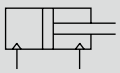
SSD-KG1 Series

Compact cylinder
Double acting/single rod/high load/anti-spatter adherence

SSD-KG4 Series

● Bore size: φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-KG1/KG4 SSD-KG1L/KG4L (with switch)						
Bore size mm	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy 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 (mm)	Min. stroke (mm)/strong magnetic field proof switch
φ25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	*2) 300	1(10)
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments.
*2) Stroke length over standard to maximum is available in increments of 10.
(Example) φ16: 60, 70, 80, 90, 100
*3) Dimensions of custom stroke length (Example: 64 mm stroke length) are the same as the next stroke length up (Example: 70 mm stroke length).
*4) From 151 to 300 for φ25 to φ50, or 201 to 300 for φ63 to φ100, internal structure and total length are different in some products.

Switch specifications

Descriptions	Proximity 2-wire
	T2YD
Applications	Dedicated for programmable controller
Lamp	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0 mA or less
Output delay time *1 (ON delay, OFF delay)	60 ms or less
Lead wire length	1 m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm^2 x 2-conductor) *2, *3
Insulation resistance	100 MΩ or more at 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s^2
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.
*2: 3 m and 5 m lead wires are available as options.
*3: Flame-resistant lead wires are available as options.
*4: Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

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

(Unit: g)

Stroke length (mm)	10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	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
φ25	162	253	178	269	194	285	209	300	226	317	258	349	290	381	322	413	354	445	386	477	418	509	450	541
φ32	249	363	270	384	292	406	314	428	336	450	379	493	422	536	465	579	508	622	551	665	594	708	637	751
φ40	345	488	372	515	398	541	424	567	451	594	504	647	557	700	610	753	663	806	716	859	769	912	822	965
φ50	549	743	591	785	634	828	677	871	718	912	802	996	886	1080	970	1164	1054	1248	1138	1332	1222	1416	1306	1500
φ63	782	1061	-	-	892	1171	-	-	1003	1282	1113	1392	1223	1502	1333	1612	1443	1722	1553	1832	1663	1942	1773	2052
φ80	1382	1795	-	-	1555	1968	-	-	1729	2142	1902	2315	2075	2488	2248	2661	2421	2834	2594	3007	2767	3180	2940	3353
φ100	2029	2596	-	-	2257	2824	-	-	2484	3051	2712	3279	2940	3507	3168	3735	3396	3963	3624	4191	3852	4419	4080	4647

(Unit: g)

Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	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
φ25	482	573	514	605	546	637	578	669	610	701	642	733	674	765	706	797	738	829	770	861
φ32	680	794	723	837	766	880	809	923	852	966	894	1008	937	1051	980	1094	1023	1137	1066	1180
φ40	875	1018	928	1071	981	1124	1034	1177	1087	1230	1140	1283	1193	1336	1246	1389	1299	1442	1352	1495
φ50	1390	1584	1474	1668	1558	1752	1642	1836	1726	1920	1824	2018	1909	2103	1994	2188	2079	2273	2164	2358
φ63	1883	2162	1993	2272	2103	2382	2213	2492	2323	2602	2433	2712	2543	2822	2653	2932	2763	3042	2873	3152
φ80	3113	3526	3286	3699	3459	3872	3632	4045	3805	4218	3978	4391	4151	4564	4324	4737	4497	4910	4670	5083
φ100	4308	4875	4536	5103	4764	5331	4992	5559	5220	5787	5448	6015	5676	6243	5904	6471	6132	6699	6360	6927

(Unit: g)

Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	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
φ25	813	893	845	925	877	957	909	989	941	1021	973	1053	1005	1085	1037	1117	1069	1149	1101	1181
φ32	1109	1223	1152	1266	1195	1309	1238	1352	1281	1395	1324	1438	1367	1481	1410	1524	1453	1567	1496	1610
φ40	1405	1548	1458	1601	1511	1654	1564	1707	1617	1760	1670	1813	1723	1866	1776	1919	1829	1972	1882	2025
φ50	2249	2443	2334	2528	2419	2613	2504	2698	2589	2783	2674	2868	2759	2953	2844	3038	2929	3123	3014	3208
φ63	2982	3261	3092	3371	3202	3481	3312	3591	3422	3701	3532	3811	3642	3921	3752	4031	3862	4141	3972	4251
φ80	4842	5255	5015	5428	5188	5601	5361	5774	5534	5947	5707	6120	5880	6293	6053	6466	6226	6639	6399	6812
φ100	6589	7156	6817	7384	7045	7612	7273	7840	7501	8068	7729	8296	7957	8524	8185	8752	8413	8980	8641	9208

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
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}

How to order

Without switch (without magnet for switch)

SSD-KG4 – 32 - 10 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-KG4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model No.

Ⓑ Bore size

Ⓒ Stroke length

Ⓓ Switch model No. *4

Ⓔ Switch quantity

Ⓕ Option

Ⓖ Mounting bracket *1 *2

Ⓗ Accessory *3

Code	Content
Ⓐ Model No.	
SSD-KG1	Double acting/single rod/high load/coil scraper
SSD-KG1L	Double acting/single rod/high load/coil scraper/with switch
SSD-KG4	Double acting/single rod/high load/anti-spatter adherence
SSD-KG4L	Double acting/single rod/high load/anti-spatter adherence/with switch

Code	Content
Ⓑ Bore size (mm)	
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓒ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
T2YD*	—	Proximity	DC	2-color display	2-wire
T2YDT*	—			AC magnetic field	

*** Lead wire length**

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

Ⓔ Switch quantity

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

Ⓕ Option

Blank	Rod end female thread
N	Rod end male thread

Ⓖ Mounting bracket

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

Ⓗ Accessory (available when rod end male thread "N" is selected)

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.

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

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

[Example of model No.]

SSD-KG4L-32-10-T2YD-R-N

Model: Compact cylinder
Double acting, high load, anti-spatter adherence

Ⓑ Bore size : φ32 mm
Ⓒ Stroke length : 10 mm
Ⓓ Switch model No. : Proximity switch for AC magnetic field T2YD
· Lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

How to order switch

SW - T2YD

Switch model No.
(Item Ⓓ on the previous page)

[Stroke length table]

Stroke length (mm)		Applicable bore size						
		φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	60	●	●	●	●	●	●	●
	70	●	●	●	●	●	●	●
	80	●	●	●	●	●	●	●
	90	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
Min. stroke length (mm) *1		1						
Max. stroke length (mm)		300						
Custom stroke length *2		In 1 mm increments						

*1 : Less than 10 mm stroke length with AC magnetic field proof switch is not available.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order mounting bracket

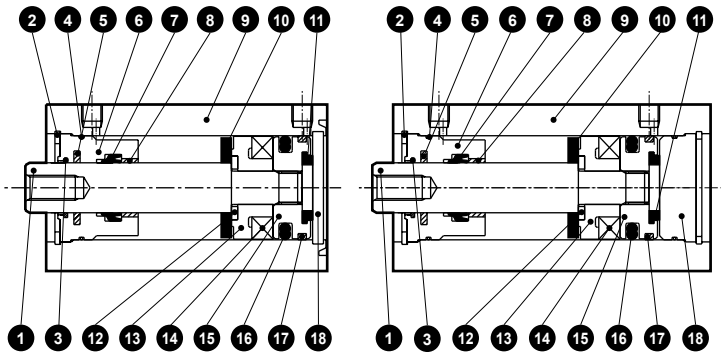
Bore size (mm) / Mounting bracket	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

Internal structure and parts list

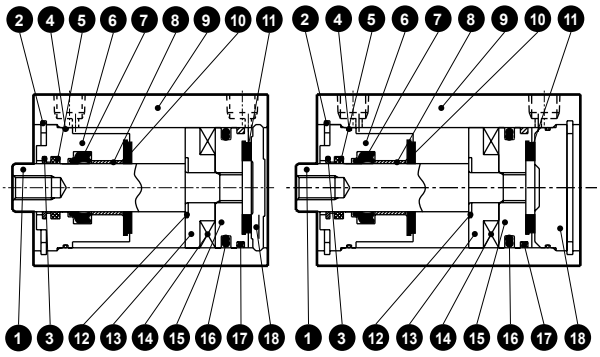
● SSD-KG1L/KG4L-25 (double acting/single rod high load/ anti-spatter adherence/with switch)

φ25: Over 150 to 300 mm stroke length



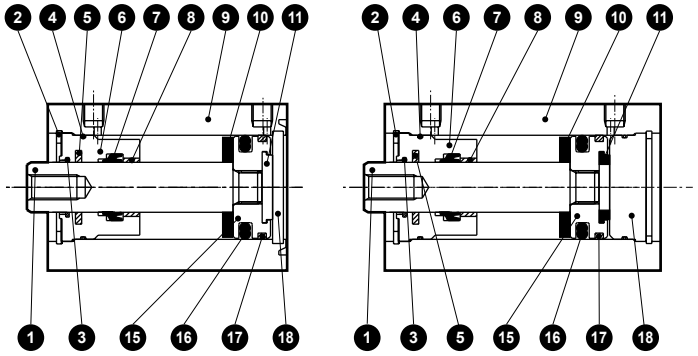
● SSD-KG1L/KG4L-32 to 50 (double acting/single rod high load/anti-spatter adherence/with switch)

φ32 to φ50: Over 150 to 300 mm stroke length



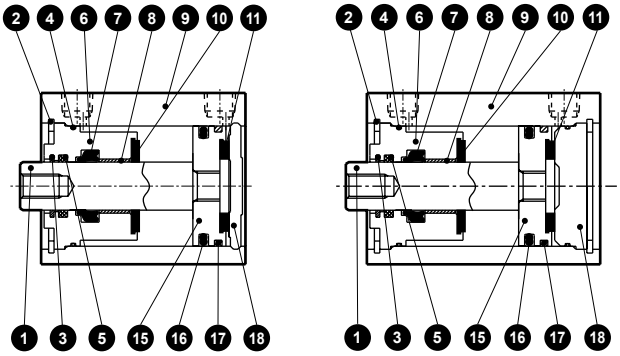
● SSD-KG1/KG4-25 (double acting/single rod high load/ anti-spatter adherence)

φ25: Over 150 to 300 mm stroke length



● SSD-KG1/KG4-32 to 50 (double acting/single rod high load/ anti-spatter adherence)

φ32 to φ50: Over 150 to 300 mm stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ25: Stainless steel, φ32 to φ50: Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
				11	Cushion rubber H	Urethane rubber	
2	C type snap ring for hole	Steel	Zinc phosphate	12	Spacer washer	Stainless steel	
3	Coil scraper	Phosphor bronze		13	Spacer	Special resin	
4	Rod metal gasket	Nitrile rubber		14	Magnet	Plastic	
5	Lube keeping structure	Special rubber	G4 only	15	Piston	Aluminum alloy	Chromate
6	Rod metal	Special aluminum	Alumite	16	Piston packing	Nitrile rubber	
7	Rod packing	Nitrile rubber		17	Wear ring	Polyacetal resin	
8	Bush	Oiles drymet		18	Cover	φ25: Stainless steel φ32 to φ50: Aluminum alloy	Chromate (φ32 to φ50) (*1)
9	Tube body	Aluminum alloy	Hard alumite				

*1 : For cover of long stroke type for φ25, Material: Aluminum alloy, Remarks: Chromate treatment.

*2 : For dimensions of individual accessories, refer to pages 1092 to 1099.

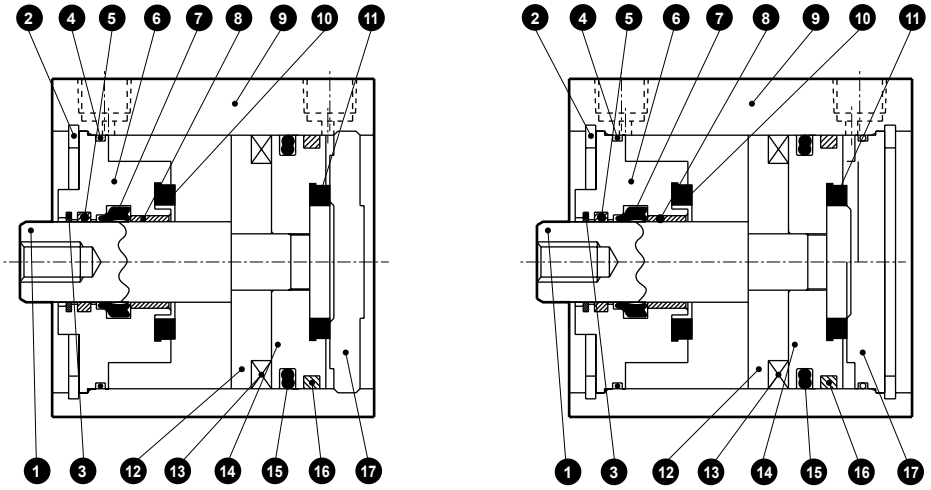
Repair parts list

Part name / Bore size (mm)	Kit No.	Repair parts No.
φ25	SSD-KG1-25K	❸ ❹ ❼ ❿ ⓫ ⓰ ⓱
φ32	SSD-KG1-32K	
φ40	SSD-KG1-40K	
φ50	SSD-KG1-50K	

Internal structure and parts list

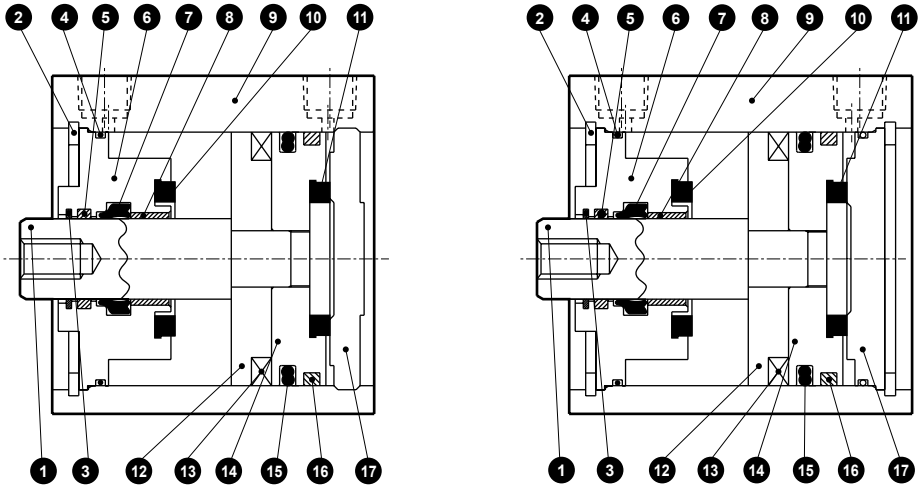
● SSD-KG1L/KG4L-63 to 100 (double acting/single rod high load/anti-spatter adherence/with switch)

φ63 to φ100: Over 200 to 300 mm stroke length



● SSD-KG1/KG4-63 to 100 (double acting/single rod high load/anti-spatter adherence)

φ63 to φ100: Over 200 to 300 mm stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Zinc phosphate	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	G4 only	14	Piston	Aluminum alloy	Chromate
6	Rod metal	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod packing	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oiles drymet		17	Cover	Aluminum alloy	Chromate
9	Tube body	Aluminum alloy	Hard alumite				

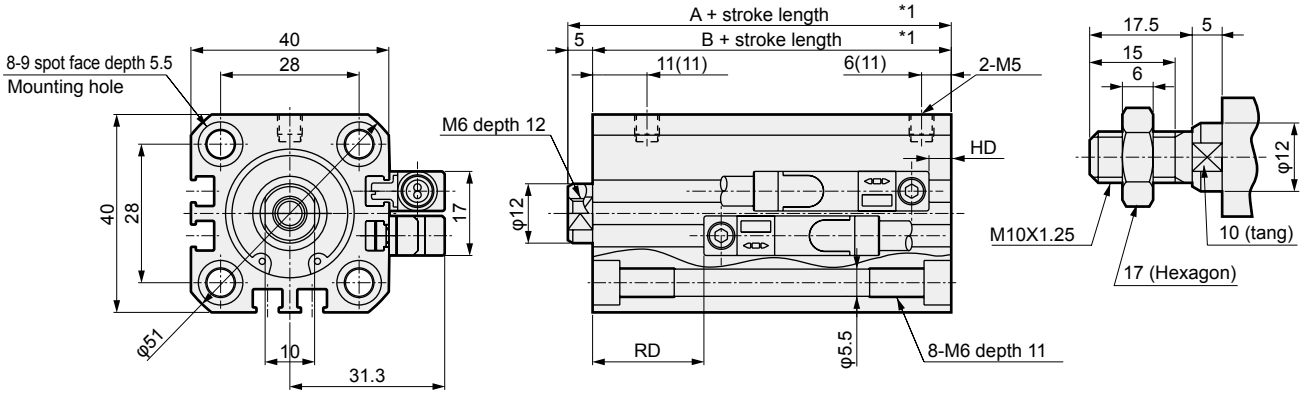
Repair parts list

Part name / Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-KG1-63K	❸ ❹ ❼ ❿ ⓫ ⓯ ⓰
φ80	SSD-KG1-80K	
φ100	SSD-KG1-100K	

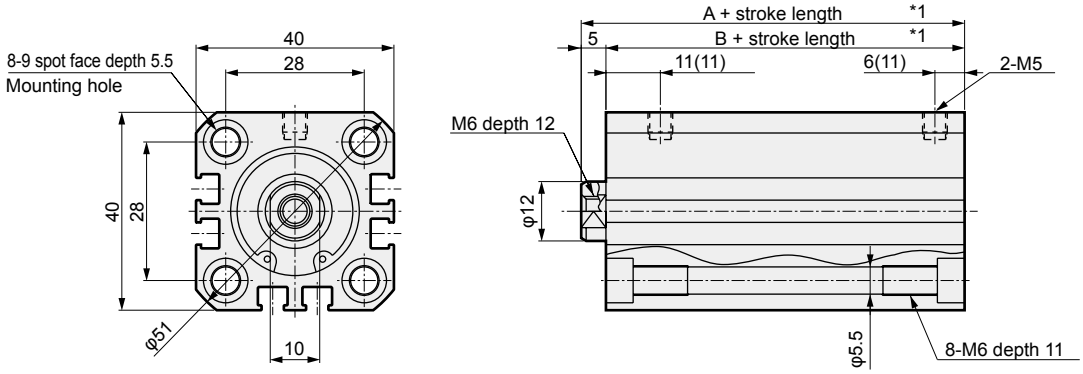
Dimensions CAD

● SSD-KG1L/KG4L-25 (with switch)

● Rod end male thread



● SSD-KG1/KG4-25 (without switch)



Code	Without switch		Dimensions with switch			
Bore size (mm)	A *1	B *1	A *1	B *1	RD *2,*3	HD *2,*3
φ25	42.5	37.5	52.5	47.5	22.5(27.5)	4.5(13)

● Table 2

Code	Without switch		Dimensions with switch	
Bore size (mm)	A *1	B *1	A *1	B *1
φ25	56	51	66	61

*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. When longer than 150 mm stroke, A and B dimensions are indicated in Table 2. In addition, there is no 9 spot face.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

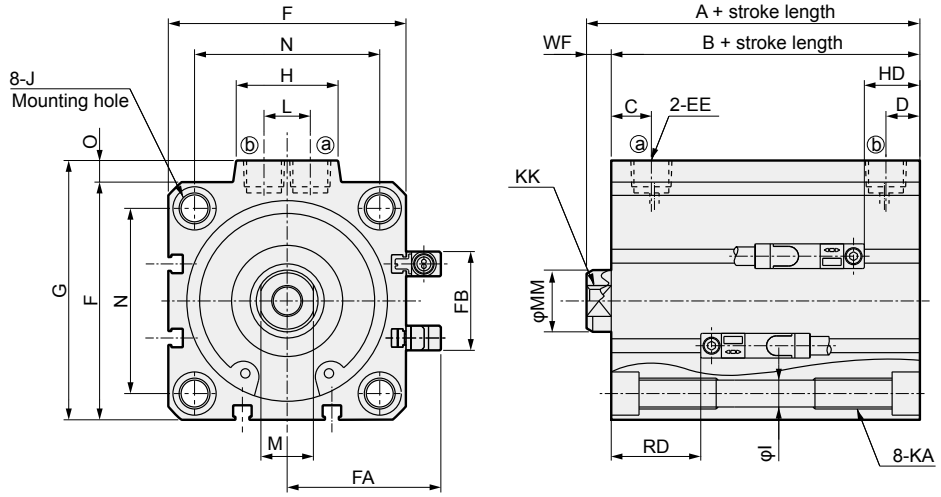
*2 : When longer than 150 mm stroke, HD and RD dimensions are indicated in ( ).

*3 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

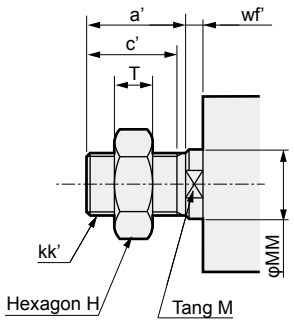
*4 : For dimensions of individual accessories, refer to pages 1092 to 1099.

Dimensions

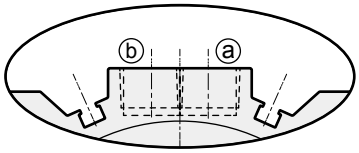
● SSD-KG1L/KG4L-32 to 100 (with switch)



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code	Dimensions with switch													
Bore size (mm)	A *1	B *1	C	D *2	EE	F	FA	FB	G	H	I	J	KA	KK
φ32	60	53	8	8(8)	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ40	66.5	59.5	12	8.5(12)	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ50	68.5	60.5	10.5	10.5(10.5)	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
φ63	74	66	13	11(13)	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
φ80	83.5	73.5	16	13(16)	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21
φ100	95	83	23	15(23)	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Code	Dimensions with switch						With T2YD type switch	
Bore size (mm)	L	M	MM	N	O	WF	RD *2,*3	HD *2
φ32	10	14	16	34	4.5	7	25.5(25.5)	9.5(17)
φ40	10	14	16	40	5	7	31(31)	10.5(20)
φ50	15	17	20	50	7	8	31(36)	11.5(20.5)
φ63	15	17	20	60	7	8	29(34)	18(23.5)
φ80	15	22	25	77	6	10	31.5(36.5)	24(29.5)
φ100	15	27	30	94	6.5	12	35.5(40.5)	29.5(35)

*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 17 mm, apply the standard stroke length 20 mm. When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, AB dimensions are indicated in Table 2. In addition, there is no spot face J.

*2 : When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, HD, RD, and D dimensions are indicated in ( ).

*3 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

*4 : For dimensions of individual accessories, refer to pages 1092 to 1099.

● Table 2

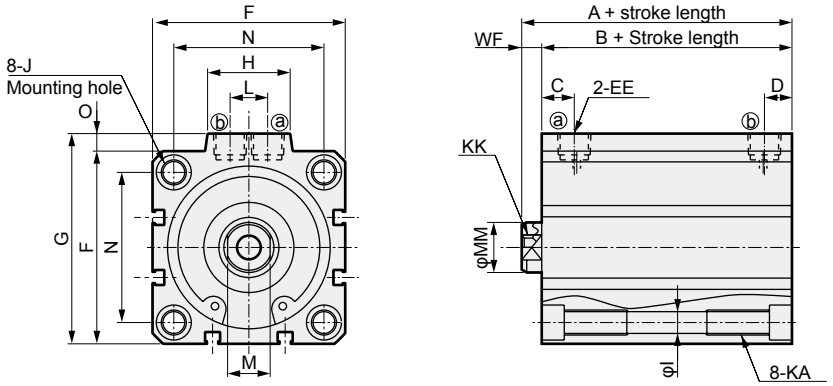
Code	With switch	
Bore size (mm)	A *1	B *1
φ32	67.5	60.5
φ40	76	69
φ50	82	74
φ63	84	76
φ80	93.5	83.5
φ100	105	93

● Dimensions of rod end male thread part

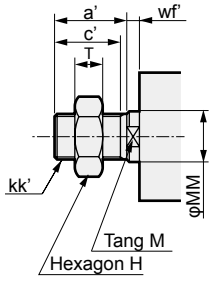
Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8

Dimensions CAD

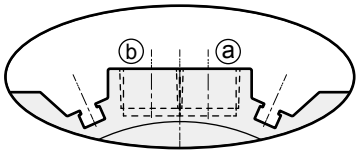
● SSD-KG1/KG4-32 to 100 (without switch)



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size (mm)	Dimensions without switch																	
	A *1	B *1	C	D *2	EE	F	G	H	I	J	KA	KK	L	M	MM	N	O	WF
φ32	50	43	8	8(8)	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	56.5	49.5	12	8.5(12)	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	58.5	50.5	10.5	10.5(10.5)	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	64	56	13	11(13)	Rc1/4	77	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	73.5	63.5	16	13(16)	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	85	73	23	15(23)	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

● Table 2

Code / Bore size (mm)	Dimensions without switch	
	A *1	B *1
φ32	57.5	50.5
φ40	66	59
φ50	72	64
φ63	74	66
φ80	83.5	73.5
φ100	95	83

*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 17 mm, apply the standard stroke length 20 mm.
When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, AB dimensions are indicated in Table 2. In addition, there is no spot face J.

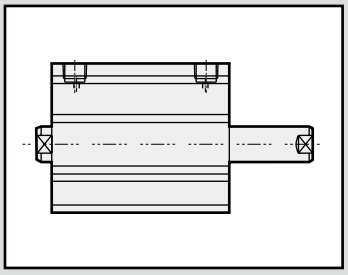
*2 : When longer than 150 mm stroke for φ32 to φ50 or longer than 200 mm stroke for φ63 to φ100, D dimensions are indicated in ( ).

● Dimensions of rod end male thread part

Code / Bore size (mm)	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

* For dimensions of individual accessories, refer to pages 1092 to 1099.

MEMO



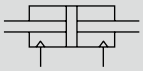
Compact cylinder
Double acting/double rod/coil scraper

SSD-DG1 Series

Compact cylinder
Double acting/double rod/anti-spatter adherence

SSD-DG4 Series

● Bore size: φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol 

RoHS CAD

Specifications

Descriptions	SSD-DG1/DG4 SSD-DG1L/DG4L (with switch)						
Bore size mm	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.2 (≈29 psi, 2 bar)				0.15 (≈22 psi, 1.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy 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) (with strong magnetic field proof switch)
φ25	5, 10, 15, 20, 25, 30, 40, 50	50	1 (10) *1) The value in ( ) is for types with one or two switches.
φ32			
φ40			
φ50			
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100			

*1) The custom stroke length is available in 1 mm increments.

Switch specifications

● Proximity switch for strong magnetic field proof

Descriptions	Proximity 2-wire
	T2YD
Applications	Dedicated for programmable controller
Indicator lamp	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay time *1 (ON delay, OFF delay)	60 ms or less
Lead wire length	1 m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm^2 x 2-conductor) *2, *3
Insulation resistance	100 MΩ or more at 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s^2
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.
*2: 3 m and 5 m lead wires are available as options.
*3: Flame-resistant lead wires are available as options.
*4: Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

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		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	234	325	249	340	265	356	281	372	297	388	313	403	344	435	375	466
φ32	308	423	354	468	399	514	446	560	490	605	537	651	631	741	725	831
φ40	446	589	473	616	499	642	526	669	553	696	579	732	632	775	685	828
φ50	696	890	746	940	796	989	846	1041	896	1089	946	1139	1046	1239	1149	1343
φ63	1128	1254	1203	1567	-	-	1353	1717	-	-	1503	1867	1654	2018	1804	2168
φ80	1995	1925	2112	2042	-	-	2345	2798	-	-	2578	3031	2812	3275	3045	3508
φ100	2984	3611	3153	3775	-	-	3490	4072	-	-	3828	4440	4165	4767	4503	5095

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
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

How to order

Without switch (without magnet for switch)

SSD-DG4 – 32 - 10 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-DG4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Stroke length
Ⓓ Switch model No. *4
Ⓔ Switch quantity
Ⓕ Option
Ⓖ Mounting bracket *1 *2
Ⓗ Accessory *3

Code	Content
Ⓐ Model No.	
SSD-DG1	Double acting/double rod/coil scraper
SSD-DG1L	Double acting/double rod/coil scraper/with switch
SSD-DG4	Double acting/double rod/anti-spatter adherence
SSD-DG4L	Double acting/double rod/anti-spatter adherence/with switch

Ⓑ Bore size (mm)	
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

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

Ⓓ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage	Display	Lead wire
T2YD*	—	Proximity	DC	2-color display AC magnetic field	2-wire
T2YDT*	—				
T2YDU (Custom order product)				Cable connector SW, strong magnetic field proof	

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread

Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
FA	Rod side flange

Ⓗ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-DG4L-32-10-T2YD-R-N

Model: Compact cylinder
Double acting double rod
anti-spatter adherence
Ⓑ Bore size : φ32 mm
Ⓒ Stroke length : 10 mm
Ⓓ Switch model No.: Proximity switch for strong magnetic field proof T2YD
· Lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Option : Rod end male thread

[Stroke length table]

Stroke length (mm)		Applicable bore size						
		φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke length (mm) *1		1						
Max. stroke length (mm)		50						
Custom stroke length *2		In 1 mm increments						

*1: Less than 10 mm stroke length with AC magnetic field proof switch is not available.
*2: The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - T2YD

Switch model No.
(Item Ⓓ above)

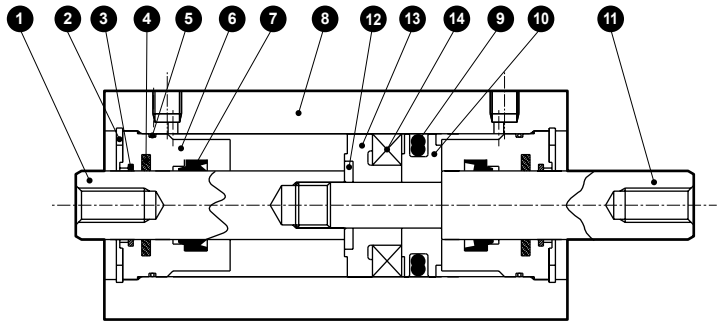
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

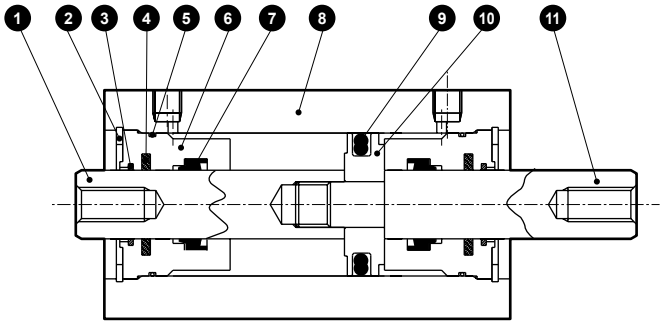
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

● SSD-DG1L/DG4L-25 (double acting/double rod/anti-spatter adherence/with switch)



● SSD-DG1/DG4-25 (double acting/double rod/anti-spatter adherence)



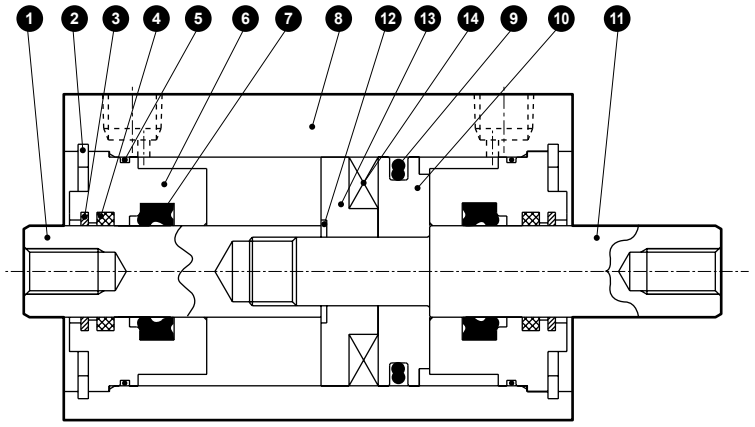
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Stainless steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	C type snap ring for hole	Steel	Zinc phosphate	9	Piston packing	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber		11	Piston rod B	Stainless steel	Industrial chrome plating
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	
6	Rod metal	Special aluminum	Alumite	13	Spacer	Special resin	
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

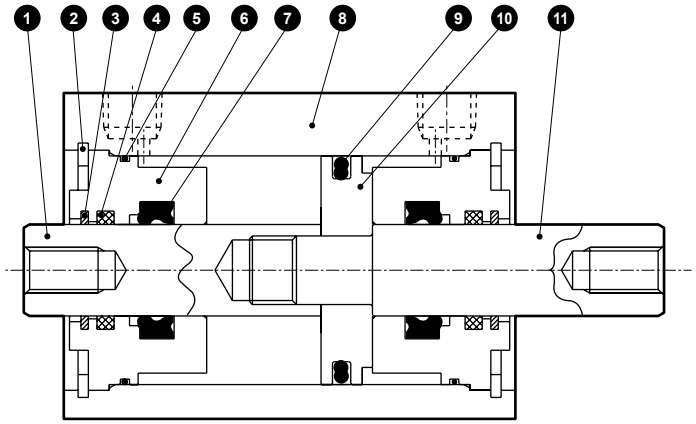
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ25	SSD-DG1-25K	❸ ❺ ❼ ❾

Internal structure and parts list

● SSD-DG1L/DG4L-32 to 50 (double acting/double rod/anti-spatter adherence/with switch)



● SSD-DG1/DG4-32 to 50 (double acting/double rod/anti-spatter adherence)



No.	Part name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating
2	C type snap ring for hole	Steel	Zinc phosphate
3	Coil scraper	Phosphor bronze	
4	Lube keeping structure	Special rubber	G4 only
5	Rod metal gasket	Nitrile rubber	
6	Rod metal	Special aluminum	Alumite
7	Rod packing	Nitrile rubber	

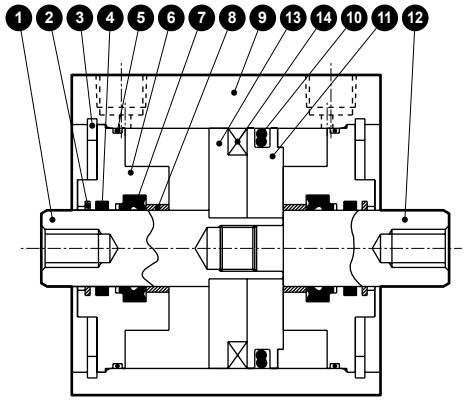
No.	Part name	Material	Remarks
8	Tube body	Aluminum alloy	Hard alumite
9	Piston packing	Nitrile rubber	
10	Piston	Aluminum alloy	Chromate
11	Piston rod B	Steel	Industrial chrome plating
12	Spacer washer	Stainless steel	φ50
13	Spacer	φ32, φ40: Aluminum alloy φ50: Special resin	φ32, φ40: Chromate
14	Magnet	Plastic	

Repair parts list

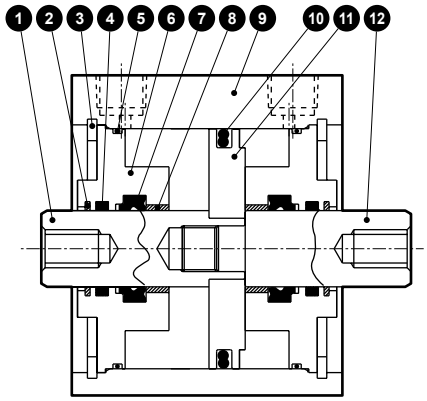
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ32	SSD-DG1-32K	❸ ❺ ❼ ❾
φ40	SSD-DG1-40K	
φ50	SSD-DG1-50K	

Internal structure and parts list

● SSD-DG1L/DG4L-63 to 100 (double acting/double rod/anti-spatter adherence/with switch)



● SSD-DG1/DG4-63 to 100 (double acting/double rod/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Bush	Oiles drymet	
2	Coil scraper	Phosphor bronze		9	Tube body	Aluminum alloy	Hard alumite
3	C type snap ring for hole	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		12	Piston rod B	Steel	Industrial chrome plating
6	Rod metal	Aluminum alloy	Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

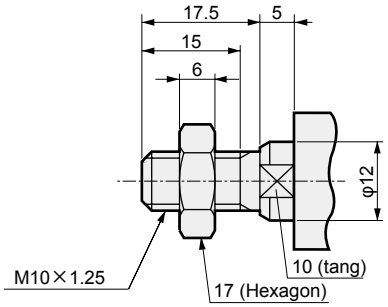
Repair parts list

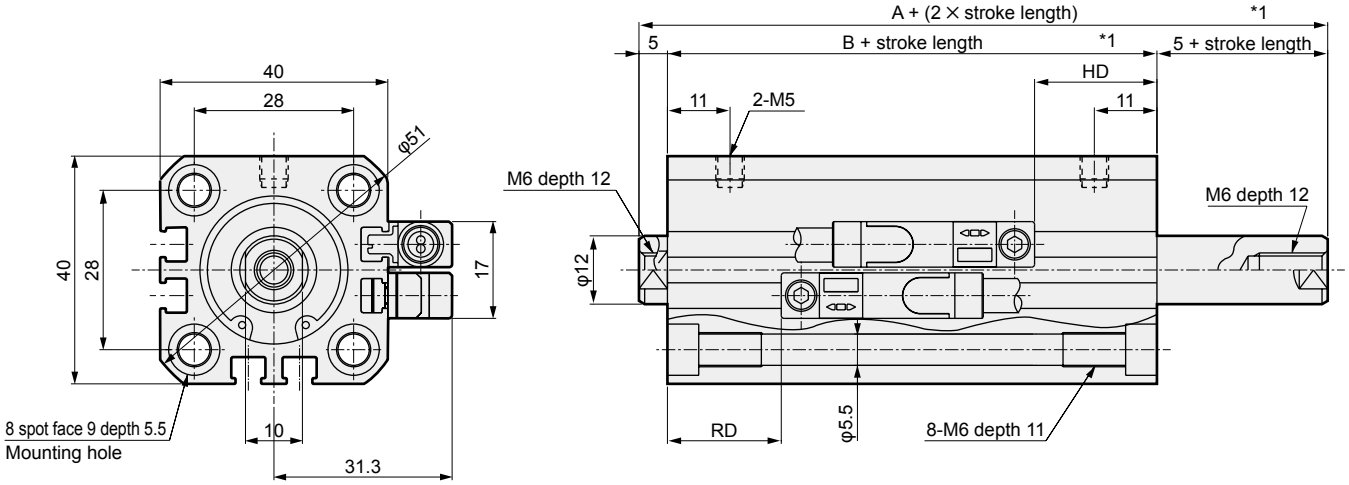
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-DG1-63K	❷ ❺ ❼ ❿
φ80	SSD-DG1-80K	
φ100	SSD-DG1-100K	

Dimensions CAD

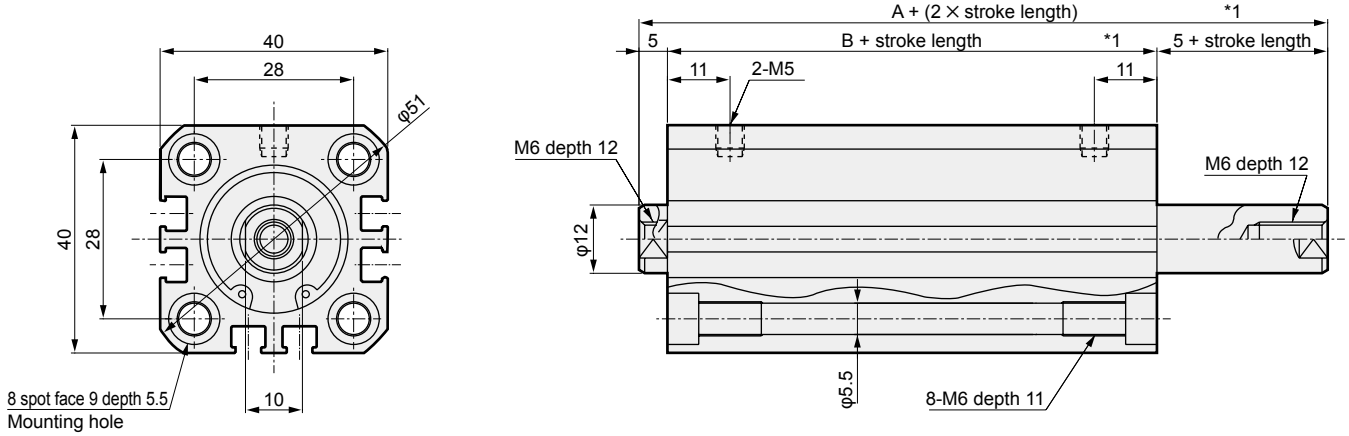
● SSD-DG1L/DG4L-25 (with switch)

● Rod end male thread





● SSD-DG1/DG4-25 (without switch)



Code	Without switch		Dimensions with switch			
Bore size (mm)	A *1	B *1	A *1	B *1	RD *2	HD
φ25	61	51	71	61	20	21.5

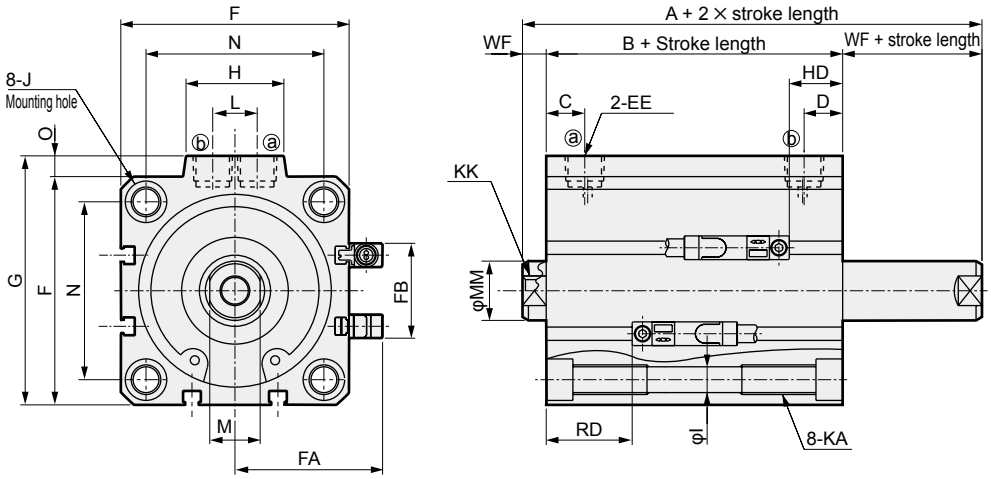
*1 : To calculate A+ (2 x stroke length), B+ stroke length or 5+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

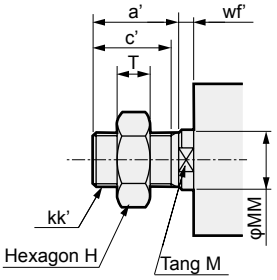
*3 : For dimensions of individual accessories, refer to pages 1092 to 1093.

Dimensions

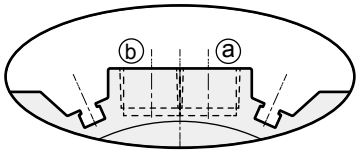
● SSD-DG1L/DG4L-32 to 100 (with switch)



● Rod end male thread

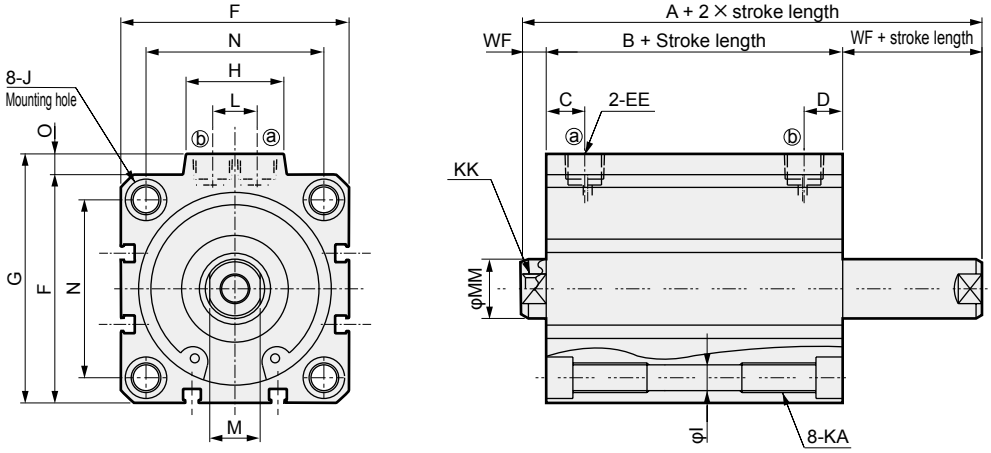


[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

● SSD-DG1/DG4-32 to 100 (without switch)



Code / Bore size (mm)	Without switch A *1	Without switch B *1	Common dimensions with switch A *1	B *1	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
φ32	64.5	50.5	74.5	60.5	8	8	Rc1/8	45	33.8	20.5	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ40	73	59	83	69	12	12	Rc1/8	52	37.3	27.5	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ50	75	59	85	69	10.5	10.5	Rc1/4	64	43.3	28.5	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
φ63	77	61	87	71	13	13	Rc1/4	77	49.8	28.5	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
φ80	88.5	68.5	98.5	78.5	16	16	Rc3/8	98	60.3	28.5	104	38	10.5	17 spot face depth 11	M12 depth 28	M16 depth 21
φ100	102	78	112	88	23	23	Rc3/8	117	69.8	28.5	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Code / Bore size (mm)	Common dimensions with switch L	M	MM	N	O	WF	With T2YD switch RD *2	HD
φ32	10	14	16	34	4.5	7	20.5	22
φ40	10	14	16	40	5	7	23.5	27.5
φ50	15	17	20	50	7	8	23.5	27.5
φ63	15	17	20	60	7	8	24	28.5
φ80	15	22	25	77	6	10	26.5	35
φ100	15	27	30	94	6.5	12	30.5	40.5

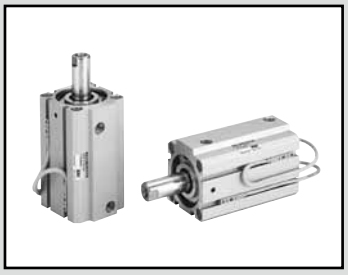
*1 : To calculate A+ (2 x stroke length), B+ stroke length or WF+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

● Dimensions of rod end male thread part

Code / Bore size (mm)	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

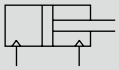
* For dimensions of individual accessories, refer to pages 1092 to 1093.



Compact cylinder double acting/single rod/environment-resistant scraper

SSD-G5 Series

● Bore size: φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol 

RoHS

Specifications

* Custom order product.

Descriptions		SSD-G5 SSD-G5L (with switch)							
Bore size	mm	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure	MPa	0.2 (≈29 psi, 2 bar)					0.15 (≈22 psi, 1.5 bar)		
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy	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)
φ20	5, 10, 15, 20, 25, 30, 40, 50	50	1
φ25			
φ32			
φ40			
φ50		*1	
φ63	5, 10, 20, 30, 40, 50	50	
φ80			
φ100		*1	

*1: For φ12 to φ100, if the standard stroke is exceeded, the high load is used.
Refer to page 1264 for specifications.
*2: For the type with switch, refer to the table below of installed switch numbers and minimum stroke length.
*3: The custom stroke length is available in 1 mm increments. The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4
Switch model No. / Bore size (mm)	T*	T*	T*	T*
φ20	5	5	-	-
φ25	5	5	35	50
φ32	5	5	35	50
φ40	5	5	35	50
φ50	5	5	35	50
φ63	5	5	35	50
φ80	5	5	35	50
φ100	5	5	35	50

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

Switch specifications

●1-color/2-color display/for AC magnetic field

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 programming controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay			Dedicated 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)			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 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: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:61 3 m:166 5 m:272

*1 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*2 : Refer to Ending Page 1 for other switch specifications.
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 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		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ20	95	150	107	182	120	195	133	208	145	220	158	233	183	258	208	283
φ25	131	222	146	237	162	253	178	269	194	285	209	300	241	332	272	363
φ32	185	299	207	321	229	343	251	365	272	386	294	408	338	452	381	495
φ40	269	412	296	439	322	465	349	492	376	519	402	545	455	598	508	651
φ50	434	628	476	670	518	712	560	754	602	796	645	839	729	923	813	1007
φ63	648	927	703	982	-	-	813	1092	-	-	923	1202	1074	1313	1144	1423
φ80	1153	1566	1240	1653	-	-	1413	1826	-	-	1586	1990	1760	2173	1933	2346
φ100	1765	2332	1879	2446	-	-	2106	2673	-	-	2334	2901	2561	3128	2789	3356

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
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

How to order

Without switch (without magnet for switch)

SSD-G5 - 20 ○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-G5L - 20 ○ - 5 - T0H - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *1 *4
Ⓕ Switch quantity
Ⓖ Option
Ⓗ Mounting bracket *2
Ⓘ Accessory *3

Precautions for model No. selection

1 : T8 switch cannot be installed on φ20 to φ32.
*2 : The mounting bracket is attached at shipment.
WF and wf dimensions of cylinders for "LB2" and "FA" are set 10 mm longer than those of the standard.
Contact CKD for the cylinder model No. when individually ordering cylinders, LB2 brackets and FA brackets.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-G5L-32-5-T0H-R-N-LB-I

Model: Compact cylinder double acting single rod/environment-resistant scraper
Ⓑ Bore size : φ32 mm
Ⓒ Port thread : Type of Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed switch T0H
Lead wire length 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread
Ⓗ Mounting bracket : Axial foot
Ⓘ Accessory : Rod eye

Code	Content
Ⓐ Model No.	
SSD-G5	Double acting/single rod/environment-resistant scraper
SSD-G5L	Double acting/single rod/environment-resistant scraper/with switch
Ⓑ Bore size (mm)	
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Port thread	
Blank	Rc thread/M5 thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Prox.	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		3-wire
T3PH*	T3PV*			●	1 color display (PNP output) (custom)	
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display for AC magnetic field	2-wire
T2YDT*	-			●		

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓗ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60								
	70								
	80								
	90								
	100								
Min. stroke length (mm) *1		1							
Max. stroke length (mm)		50							
Custom stroke length *2		In 1 mm increments							

If the standard stroke is exceeded, the high load (K) is used. Refer to page 1264 for specifications, and pages 1270 and 1271 for dimensions.

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 1256 for the number of installed switches and the min. stroke length.
*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 Ⓔ on the previous page)

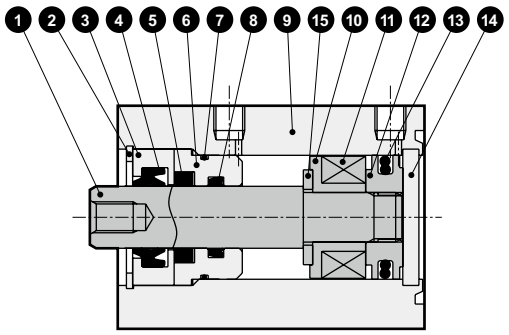
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

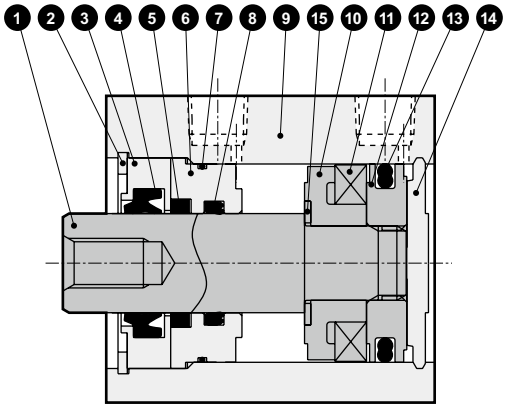
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list (φ20 to φ50)

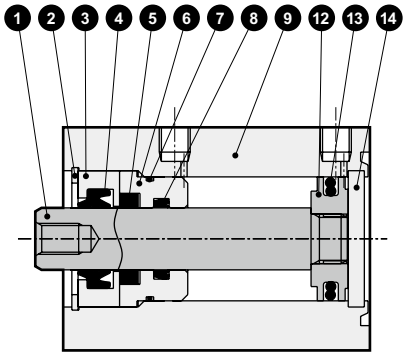
● SSD-G5L-20/25
(double acting/environment-resistant scraper/with switch)



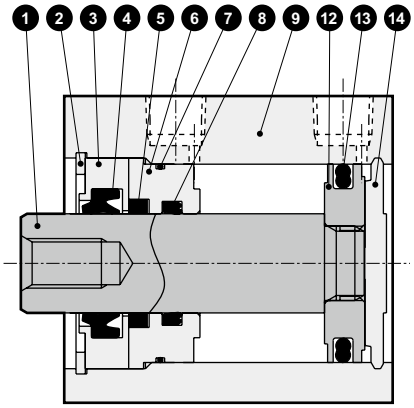
● SSD-G5L-32 to 50
(double acting/environment-resistant scraper/with switch)



● SSD-G5-20/25
(double acting/environment-resistant scraper)



● SSD-G5-32 to 50
(double acting/environment-resistant scraper)



Main parts list

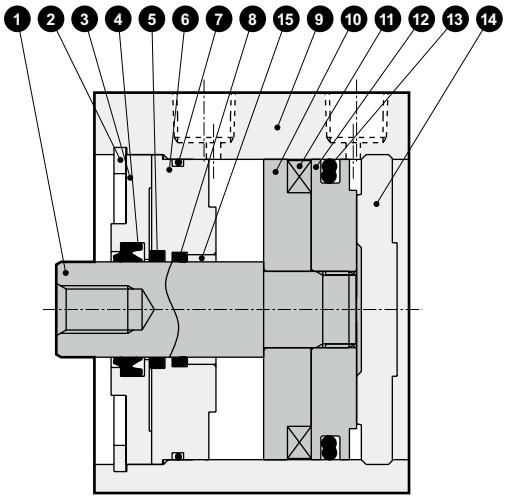
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20/φ25: Stainless steel	Industrial chrome	9	Body	Aluminum alloy	Hard alumite
		φ32 to φ50: Steel	plating	10	Spacer	Special resin	
2	C type snap ring	Steel	Zinc phosphate	11	Magnet	Plastic	
3	Rod metal 1	Special aluminum	Chromate	12	Piston	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		13	Piston packing	Nitrile rubber	
5	Lube keeping structure	Special rubber		14	Cover	φ20/φ25: Stainless steel	φ32 to φ50: Alumite
6	Rod metal 2	Special aluminum	Alumite			φ32 to φ50: Aluminum alloy	
7	Rod metal gasket	Nitrile rubber		15	Spacer washer	Stainless steel	
8	Rod packing	Nitrile rubber					

Repair parts list

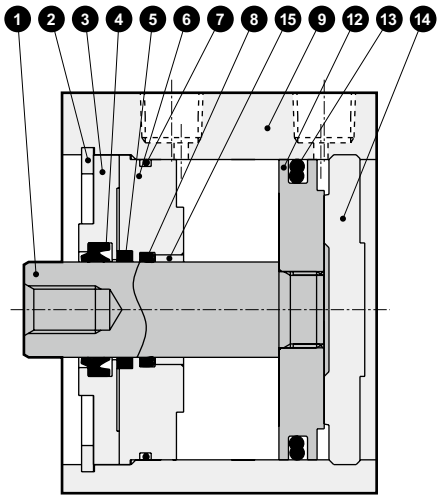
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ20	SSD-G5-20K	4 5 7 8 13
φ25	SSD-G5-25K	
φ32	SSD-G5-32K	
φ40	SSD-G5-40K	
φ50	SSD-G5-50K	

Internal structure and parts list (φ63 to φ100)

● SSD-G5L-63 to 100 (double acting/environment-resistant scraper/with switch)



● SSD-G5-63 to 100 (double acting/environment-resistant scraper)



Main parts list

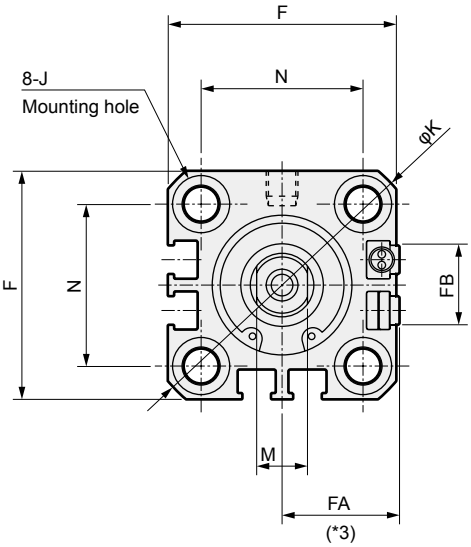
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Zinc phosphate	10	Spacer	Aluminum alloy	Chromate
3	Rod metal 1	Aluminum alloy	Chromate	11	Magnet	Plastic	
4	Scraper	Nitrile rubber		12	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		13	Piston packing	Nitrile rubber	
6	Rod metal 2	Aluminum alloy	Chromate	14	Cover	Aluminum alloy	Alumite
7	Rod metal gasket	Nitrile rubber		15	Bush	Dry bearing	
8	Rod packing	Nitrile rubber					

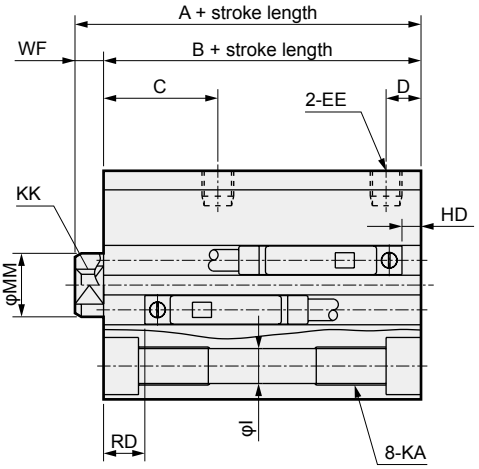
Repair parts list

Part name / Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-G5-63K	4 5 7 8 13
φ80	SSD-G5-80K	
φ100	SSD-G5-100K	

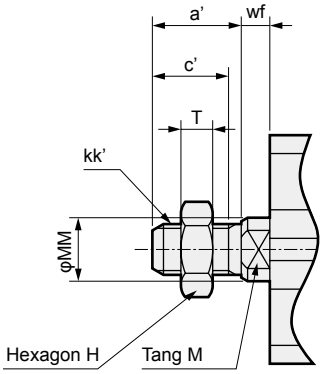
Dimensions (φ20, φ25)

● SSD-G5L-20, 25 (with switch)





● Rod end male thread



Code / Bore size	Without switch A *1	Without switch B *1	Common dimensions with switch A *1	B *1	C	D	EE	F	FA *3	FB
φ20	34	29.5	44	39.5	18	5.5	M5	36	18.5(22)	12.5
φ25	37.5	32.5	47.5	42.5	21	6	M5	40	20.5(24)	13.5

Code / Bore size	Common dimensions with switch I	J	K	KA	KK	M	MM	N	WF
φ20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimensions / Bore size	Reed/proximity 1-color HD	RD	Proximity 2-color HD	RD	T8H/V switch HD	RD
φ20	3	16.5	1.5	15	1.5	15
φ25	3	19.5	1.5	18	1.5	18

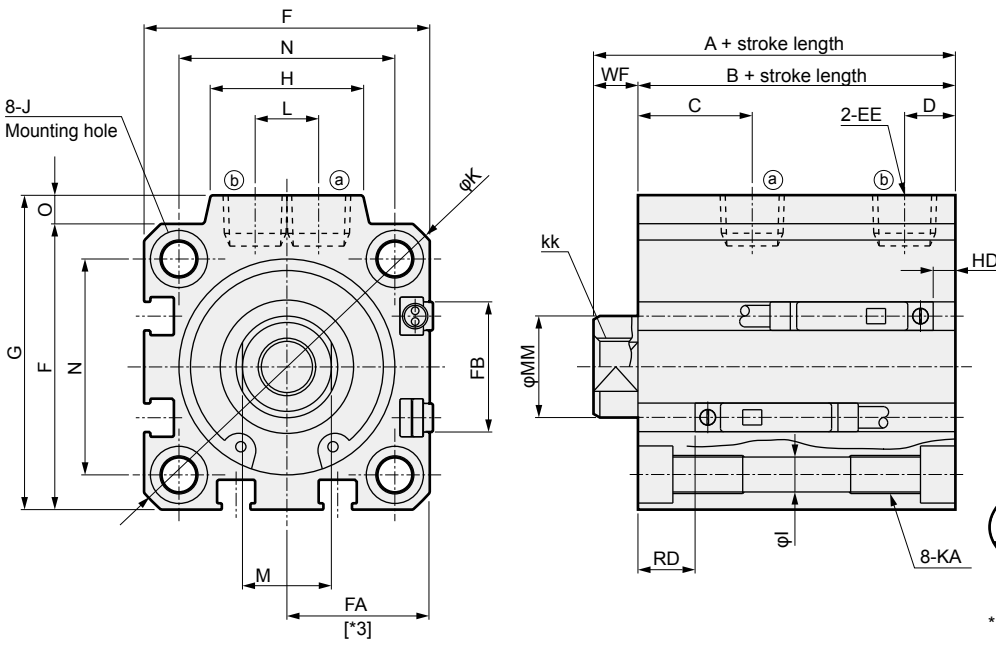
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : Dimensions in ( ) of FA are for the radial lead wire.
*4 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

Rod end male thread

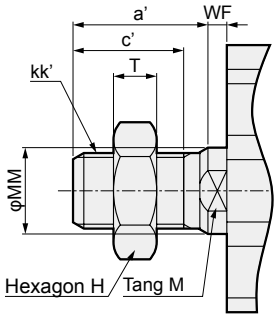
Code / Bore size	a'	c'	H	kk'	M	MM	T	wf
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions (φ32 to φ100)

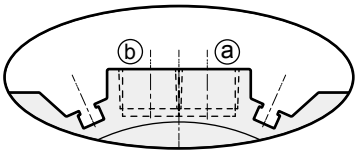
● SSD-G5L-32 to 100 (with switch)



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size	Without switch A *1	Without switch B *1	Common dimensions with switch A *1	B *1	C	D	EE	F	FA *3	FB	G	H
φ32	40	33	50	43	18	8	Rc1/8	45	23(26.5)	20.5	49.5	24
φ40	46.5	39.5	56.5	49.5	22	8.5	Rc1/8	52	26.5(30)	27.5	57	24
φ50	48.5	40.5	58.5	50.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33
φ63	54	46	64	56	23	11	Rc1/4	77	39(42.5)	28.5	84	33
φ80	63.5	53.5	73.5	63.5	26	13	Rc3/8	98	49.5(53)	28.5	104	38
φ100	75	63	85	73	33	15	Rc3/8	117	59(62.5)	28.5	123.5	38

Code / Bore size	Common dimensions with switch I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	15	27	30	94	6.5	12

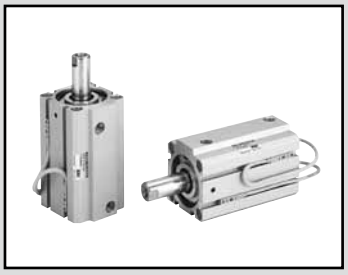
Switch dimensions / Bore size	Reed/proximity 1-color HD	RD	Proximity 2-color HD	RD	T8H/V switch HD	RD
φ32	3.5	19	2	17.5	0	13
φ40	7	22	5.5	20.5	1	16
φ50	7.5	22.5	6	21	1.5	16.5
φ63	12.5	23	11	21.5	6.5	17
φ80	17.5	25.5	16	24	11.5	19.5
φ100	22	30.5	21.5	28	7	23.5

*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.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : Dimensions in ( ) of FA are for the radial lead wire.

Rod end male thread

Code / Bore size	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

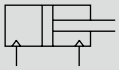
* Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.



Compact cylinder, double acting/single rod/high load/environment-resistant scraper

SSD-KG5 Series

● Bore size: φ20/φ25/φ32/φ40/φ50/φ63/φ80/φ100

JIS symbol 

RoHS

Specifications

Descriptions		SSD-KG5 SSD-KG5L (with switch)							
Bore size	mm	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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	°C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy	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)
φ20	5, 10, 15, 20, 25, 30, 40, 50	200 *2	1
φ25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	300	
φ32			
φ40			
φ50			
φ63	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	*2	
φ80			
φ100			

*1 : The custom stroke length is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke length.
*2 : Stroke length over standard to maximum is available in increments of 10.
*3 : From 101 to 200 for φ20, 151 to 300 for φ25 to φ50, or 201 to 300 for φ63 to φ100, internal structure and total length are different in some products.
*4 : For the type with switch, refer to the table below of installed switch numbers and minimum stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model No. / Bore size (mm)	T*	T*	T*	T*	T*
φ20	5	5	35	50	65
φ25	5	5	35	50	65
φ32	5	5	35	50	65
φ40	5	5	35	50	65
φ50	5	5	35	50	65
φ63	5	5	35	50	65
φ80	5	5	35	50	65
φ100	5	5	35	50	65

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

Switch specifications

●1-color/2-color display/for AC magnetic field

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 (no lamp), serial		For programmable controller, relay			Dedicated 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)			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 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: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:61 3 m:166 5 m:272

*1 : The above max. load current is 20 mA at 25°C. The current will be lower than 20 mA when operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*2 : Refer to Ending Page 1 for other switch specifications.
*3 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

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
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

How to order

Without switch (without magnet for switch)

SSD-KG5 - 20 ○ - 5 ——— N - LB - I

With switch (built-in magnet for switch)

SSD-KG5L - 20 ○ - 5 - T0H - R - N - LB - I

Ⓐ Model No.
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Stroke length
Ⓔ Switch model No. *3
Ⓕ Switch quantity
Ⓖ Option
Ⓗ Mounting bracket *1
Ⓘ Accessory *2

Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : "I" and "Y" cannot be selected together. WF and wf dimensions of cylinders for "LB2" and "FA" are set 10 mm longer than those of the standard. Contact CKD for the cylinder model No. when individually ordering cylinders, LB2 brackets and FA brackets.
*3 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KG5L-32-5-T0H-R-N

Model: Compact cylinder double acting single rod/high load/environment-resistant scraper

Ⓑ Bore size : φ32 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model No. : Reed switch T0H lead wire 1 m
Ⓕ Switch quantity : 1 on rod side
Ⓖ Option : Rod end male thread

Code	Content
Ⓐ Model No.	
SSD-KG5	Double acting/single rod/high load/environment-resistant scraper
SSD-KG5L	Double acting/single rod/high load/environment-resistant scraper/switch
Ⓑ Bore size (mm)	
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓒ Port thread	
Blank	Rc thread/M5 thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
Ⓓ Stroke length (mm)	
Refer to the stroke length table on the following page.	

Ⓔ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
TOH*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Prox.	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		3-wire
T3PH*	T3PV*			●	1 color display (PNP output) (custom)	
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color display off-delay	2-wire
T2YD*	-			●	2-color display for AC magnetic field	2-wire
T2YDT*	-			●		

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓕ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓗ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓘ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60		●	●	●	●	●	●	●
	70		●	●	●	●	●	●	●
	80		●	●	●	●	●	●	●
	90		●	●	●	●	●	●	●
	100		●	●	●	●	●	●	●
Min. stroke length (mm) *1		1							
Max. stroke length (mm)		200	300						
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 1264 for the number of installed switches and the min. stroke length.

*2: The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - T0H

Switch model No.
(Item Ⓔ on the previous page)

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		40		50		60		70		80		90		100	
Bore size (mm)	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	No switch	Switch
φ20	107	182	120	195	133	208	145	220	158	233	170	245	195	270	220	295	245	320	270	345	295	370	320	395	345	420
φ25	-	-	162	253	178	269	194	285	209	300	226	317	258	349	290	381	322	413	354	445	386	477	418	509	450	541
φ32	-	-	251	365	272	386	294	408	316	430	338	452	381	495	424	538	467	581	510	624	553	667	596	710	639	753
φ40	-	-	349	492	376	519	402	545	428	571	455	598	508	651	561	704	614	757	667	810	720	863	773	916	826	969
φ50	-	-	560	754	602	796	645	839	688	882	729	923	813	1007	897	1091	981	1175	1065	1259	1149	1343	1233	1427	1317	1481
φ63	-	-	813	1092	-	-	923	1202	-	-	1034	1313	1144	1423	1254	1533	1364	1643	1474	1753	1584	1863	1694	1973	1804	2083
φ80	-	-	1413	1826	-	-	1586	1999	-	-	1760	2173	1933	2346	2106	2519	2279	2692	2452	2865	2625	3038	2798	3211	2971	3384
φ100	-	-	2106	2673	-	-	2334	2901	-	-	2561	3128	2789	3356	3017	3584	3245	3812	3473	4040	3701	4268	3929	4496	4157	4724

Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	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
φ20	370	445	395	470	420	495	445	520	470	545	495	570	520	595	545	620	570	645	595	670
φ25	482	573	514	605	546	637	581	669	610	701	642	733	674	765	706	797	738	829	770	861
φ32	682	796	725	839	768	882	811	925	854	968	896	1010	939	1053	982	1096	1025	1139	1068	1182
φ40	879	1022	932	1075	985	1128	1038	1181	1091	1234	1144	1287	1197	1340	1250	1393	1303	1446	1356	1499
φ50	1401	1595	1485	1679	1569	1763	1653	1847	1737	1931	1835	2029	1920	2114	2005	2199	2090	2284	2175	2369
φ63	1914	2193	2024	2303	2134	2413	2244	2523	2354	2633	2464	2743	2574	2853	2684	2963	2794	3073	2904	3183
φ80	3144	3557	3317	3730	3490	3903	3663	4076	3836	4249	4009	4422	4182	4595	4355	4768	4528	4941	4701	5112
φ100	4385	4952	4613	5180	4841	5408	5069	5636	5297	5864	5525	6092	5753	6320	5981	6548	6209	6776	6437	7004

Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	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
φ20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
φ25	813	893	845	925	877	957	909	989	941	1021	973	1053	1005	1085	1037	1117	1069	1149	1101	1181
φ32	1111	1225	1154	1268	1197	1311	1240	1354	1283	1397	1326	1440	1369	1483	1412	1526	1455	1569	1498	1612
φ40	1409	1552	1462	1605	1515	1658	1568	1711	1621	1764	1674	1817	1727	1870	1780	1923	1833	1976	1886	2029
φ50	2260	2454	2345	2539	2430	2624	2515	2709	2600	2794	2685	2879	2770	2964	2855	3049	2940	3134	3025	3219
φ63	3013	3292	3123	3402	3233	3512	3343	3622	3453	3732	3563	3842	3673	3952	3783	4062	3893	4172	4003	4282
φ80	4873	5286	5046	5459	5219	5632	5392	5805	5565	5978	5738	6151	5911	6324	6084	6497	6257	6670	6430	6843
φ100	6666	7233	6894	7461	7122	7689	7350	7917	7578	8145	7806	8373	8034	8601	8262	8829	8490	9057	8718	9285

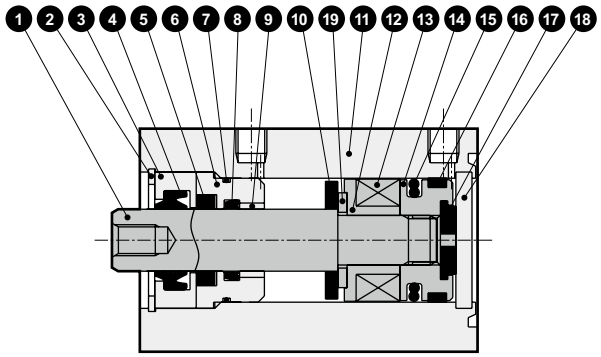
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

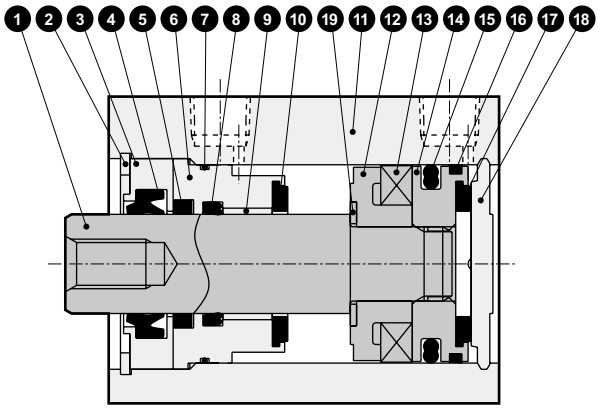
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list (φ20 to φ50)

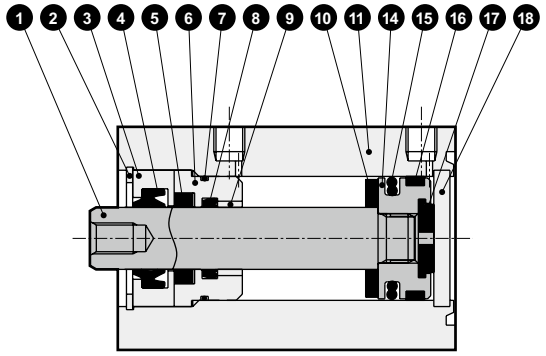
● SSD-KG5L-20/25
(double acting/high load/environment-resistant scraper/with switch)



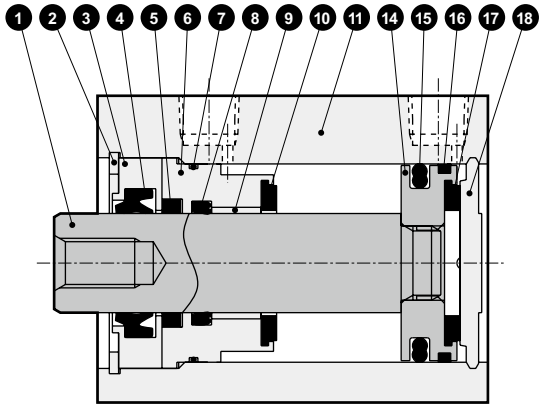
● SSD-KG5L-32/50
(double acting/high load/environment-resistant scraper/with switch)



● SSD-KG5-20/25
(double acting/high load/environment-resistant scraper)



● SSD-KG5-32 to 50
(double acting/high load/environment-resistant scraper)



Main parts list

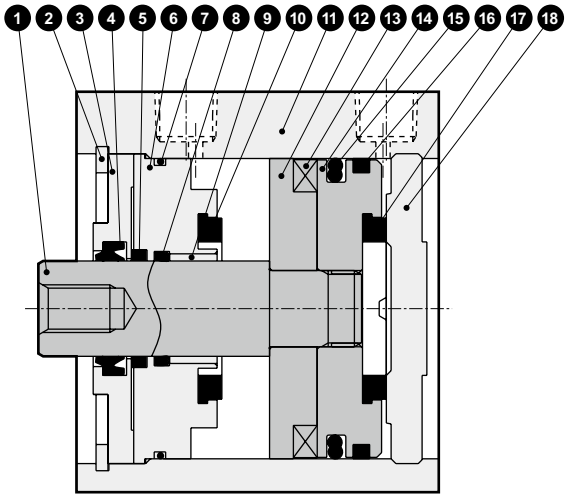
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20/φ25: Stainless steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
		φ32 to φ50: Steel		12	Spacer	Special resin	
2	C type snap ring	Steel	Zinc phosphate	13	Magnet	Plastic	
3	Rod metal 1	Special aluminum	Chromate	14	Piston	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		15	Piston packing	Nitrile rubber	
5	Lube keeping structure	Special rubber		16	Wear ring	Polyacetal resin	
6	Rod metal 2	Special aluminum	Alumite	17	Cushion rubber H	Urethane rubber	
7	Rod metal gasket	Nitrile rubber		18	Cover	φ20/φ25: Stainless steel	φ32 to φ50: Alumite
8	Rod packing	Nitrile rubber				φ32 to φ50: Aluminum alloy	
9	Bush	Dry bearing		19	Spacer washer	Stainless steel	
10	Cushion rubber R	Urethane rubber					

Repair parts list

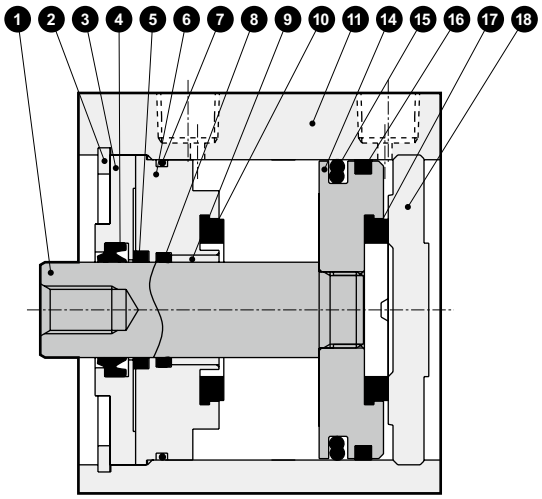
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ20	SSD-KG5-20K	4 5 7 8 10 15 16 17
φ25	SSD-KG5-25K	
φ32	SSD-KG5-32K	
φ40	SSD-KG5-40K	
φ50	SSD-KG5-50K	

Internal structure and parts list (φ63 to φ100)

● SSD-KG5L-63 to 100 (double acting/high load/environment-resistant scraper/with switch)



● SSD-KG5-63 to 100 (double acting/high load/environment-resistant scraper)



Main parts list

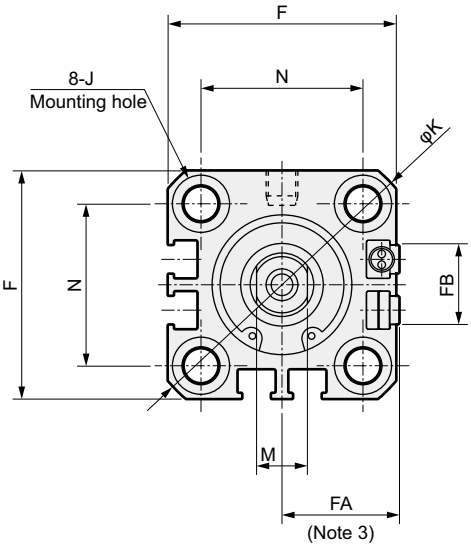
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring	Steel	Zinc phosphate	11	Body	Aluminum alloy	Hard alumite
3	Rod metal 1	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber		14	Piston	Aluminum alloy	Chromate
6	Rod metal 2	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Rod packing	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
9	Bush	Dry bearing		18	Cover	Aluminum alloy	Alumite

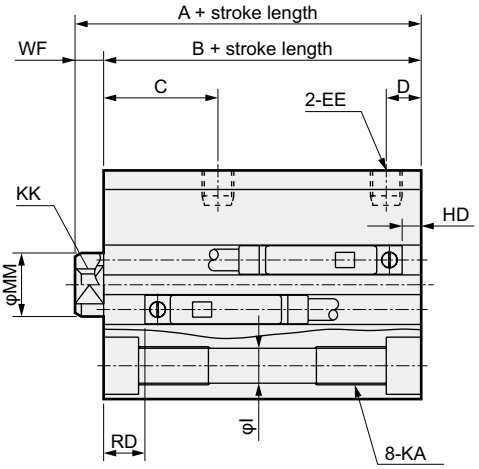
Repair parts list

Part name / Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD-KG5-63K	4 5 7 8 10 15 16 17
φ80	SSD-KG5-80K	
φ100	SSD-KG5-100K	

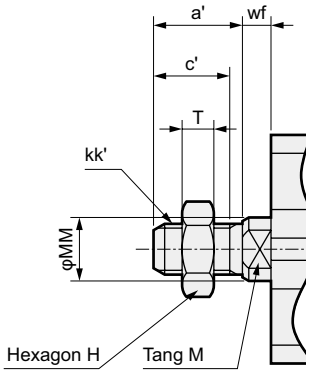
Dimensions (φ20, φ25)

● SSD-KG5L-20, 25 (with switch)





● Rod end male thread



Code / Bore size	Without switch A *1	Without switch B *1	Common dimensions with switch A *1	B *1	C	D	EE	F	FA *3	FB
φ20	39	34.5	49	44.5	18	5.5	M5	36	18.5(22)	12.5
φ25	42.5	37.5	52.5	47.5	21	6	M5	40	20.5(24)	13.5

Code / Bore size	Common dimensions with switch I	J	K	KA	KK	M	MM	N	WF
φ20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimensions / Bore size	Reed/proximity 1-color HD *5	RD *5	Proximity 2-color HD *5	RD *5	T8H/V switch HD *5	RD *5
φ20	6(12.5)	18.5(23.5)	4.5(11)	18.5(23.5)	0(6.5)	12.5(17.5)
φ25	5.5(14)	22(27)	4(12.5)	22(27)	0(8)	16(21)

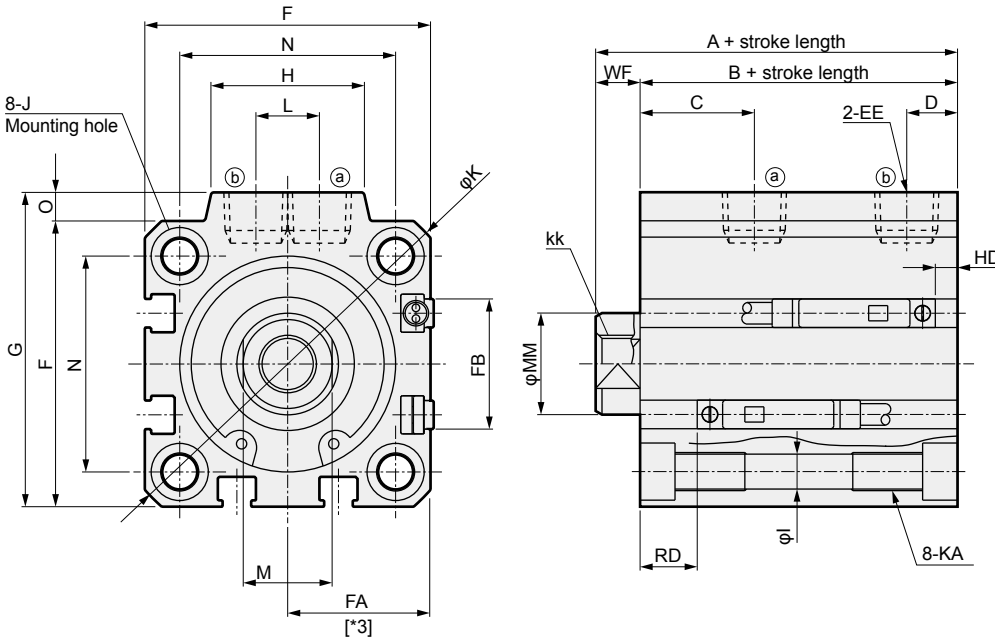
*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : Dimensions in ( ) of FA are for the radial lead wire.
*4 : Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.
*5 : When longer than φ20: 100 mm stroke length or φ25: 150 mm stroke length, HD and RD dimensions are indicated in ( ).

Rod end male thread

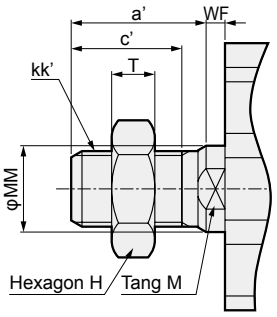
Code / Bore size	a'	c'	H	kk'	M	MM	T	wf
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions (φ32 to φ100)

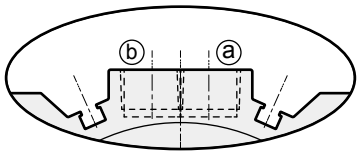
● SSD-KG5L-32 to 100 (with switch)



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size	Without switch A *1	Without switch B *1	Common dimensions with switch A *1	B *1	C	D	EE	F	FA *3	FB	G	H
φ32	50	43	60	53	18	8	Rc1/8	45	23(26.5)	20.5	49.5	24
φ40	56.5	49.5	66.5	59.5	22	8.5	Rc1/8	52	26.5(30)	27.5	57	24
φ50	58.5	50.5	68.5	60.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33
φ63	64	56	74	66	23	11	Rc1/4	77	39(42.5)	28.5	84	33
φ80	73.5	63.5	83.5	73.5	26	13	Rc3/8	98	49.5(53)	28.5	104	38
φ100	85	73	95	83	33	15	Rc3/8	117	59(62.5)	28.5	123.5	38

Code / Bore size	Common dimensions with switch I	J	K	KA	KK	L	M	MM	N	O	WF
φ32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
φ40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
φ50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
φ63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
φ80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
φ100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	15	27	30	94	6.5	12

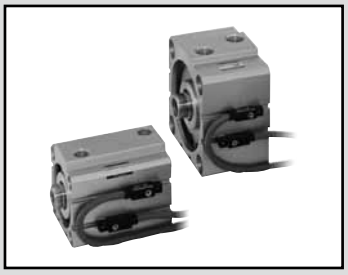
Switch dimensions / Bore size	Reed/proximity 1-color HD *5	Reed/proximity 1-color RD *5	Proximity 2-color HD *5	Proximity 2-color RD *5	T8H/V switch HD *5	T8H/V switch RD *5
φ32	8.5(16)	24(24)	7(14.5)	22.5(22.5)	2.5(10)	18(18)
φ40	9.5(19)	29.5(29.5)	8(17.5)	28(28)	3.5(13)	23.5(23.5)
φ50	10(19)	30(35)	8.5(17.5)	28.5(33.5)	4(13)	24(29)
φ63	17.5(23)	28(33)	16(21.5)	26.5(31.5)	11.5(17)	22(27)
φ80	22(28)	30.5(35.5)	20.5(26.5)	29(34)	16(22)	24.5(29.5)
φ100	28(33.5)	34.5(39.5)	26.5(32)	33(38)	22(27.5)	28.5(33.5)

*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.
*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
*3 : Dimensions in ( ) of FA are for the radial lead wire.
*4 : When longer than φ32 to 50: 150 mm stroke or φ63 to 100: 200 mm stroke, HD and RD dimensions are indicated in ( ).

Rod end male thread

Code / Bore size	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14x1.5	14	16	8	5
φ40	23.5	20.5	22	M14x1.5	14	16	8	5
φ50	28.5	26	27	M18x1.5	17	20	11	5
φ63	28.5	26	27	M18x1.5	17	20	11	5
φ80	35.5	32.5	32	M22x1.5	22	25	13	8
φ100	35.5	32.5	41	M26x1.5	27	30	16	8

* Refer to pages 1302 to 1307 for dimensions including the accessories and pages 1092 to 1099 for dimensions of individual accessories.

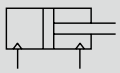


Compact cylinder double acting/single rod/with strong magnetic field proof switch

SSD-L4 Series

● Bore size: φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS

Specifications

Descriptions	SSD-L4				
Bore size mm	φ40	φ50	φ63	φ80	φ100
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 °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy 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)
φ40	20, 30, 40, 50	50	20
φ50			
φ63			
φ80			
φ100			

*1: The custom stroke length is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No. / Bore size (mm)	V0		
φ40	20	20	35
φ50	20	20	35
φ63	20	20	35
φ80	20	20	35
φ100	20	20	35

Switch specifications

Descriptions	Reed 2-wire V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight g	1 m:63 3 m:170 5 m:277	

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

(Unit: g)

Stroke length (mm) / Bore size (mm)	20	30	40	50
φ40	493	546	599	652
φ50	757	841	925	1009
φ63	1089	1200	1311	1422
φ80	1822	1996	2170	2344
φ100	2665	2892	3119	3346

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
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}

How to order

SSD-L4 - 50 - 40 - V0 - D - N - LB - I

- SSD-L4: Model No.
- 50: Ⓐ Bore size
- 40: Ⓑ Stroke length
- V0: Ⓒ Switch model No. *4
- D: Ⓓ Switch quantity
- N: Ⓔ Option
- LB: Ⓕ Mounting bracket *1 *2
- I: Ⓖ Accessory *3

Code	Content
Ⓐ Bore size (mm)	
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓑ Stroke length (mm)

Bore size	Stroke length *1	Custom stroke length *2
φ40 to φ100	**20 to 50**	**In 1 mm increments**

*1: Refer to page 1272 for the number of installed switches and the min. stroke length.
*2: The total length is the same as that of the next longer standard stroke length.

Ⓒ Switch model No.

Axial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
V0*	Reed	●	●	1-color display	2-wire

*** Lead wire length**

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

Ⓓ Switch quantity

R	1 on rod side
H	1 on head side
D	2
T	3

Ⓔ Option

Blank	Rod end female thread
N	Rod end male thread

Ⓕ Mounting bracket

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

Ⓖ Accessory (available when rod end male thread "N" is selected)

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/single rod/ with strong magnetic field proof switch

- Ⓐ Bore size : φ50 mm
- Ⓑ Stroke length : 40 mm
- Ⓒ Switch model No. : Reed switch V0, lead wire length 1 m
- Ⓓ Switch quantity : 2
- Ⓔ Option : Rod end male thread
- Ⓕ Mounting bracket : Axial foot
- Ⓖ Accessory : Rod eye

How to order switch

SW - V0

Switch model No.
(Item Ⓒ on the previous page)

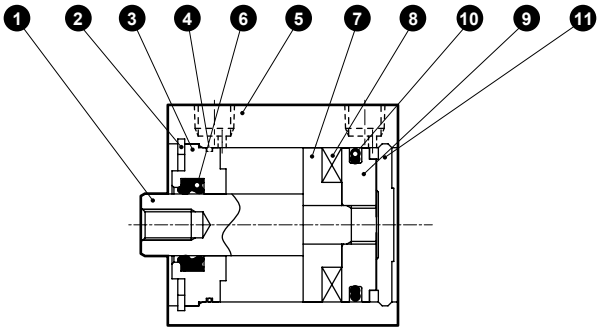
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

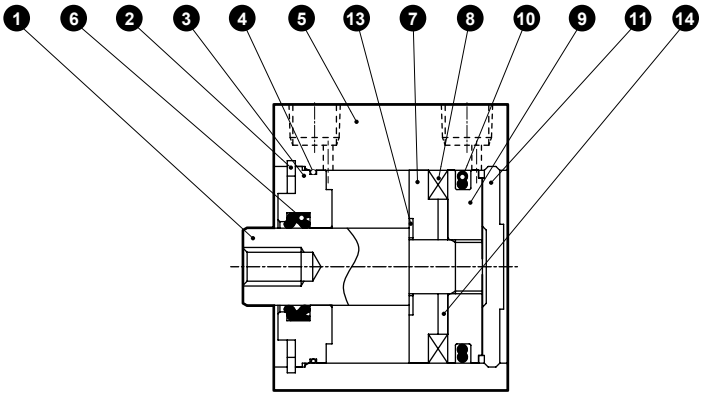
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

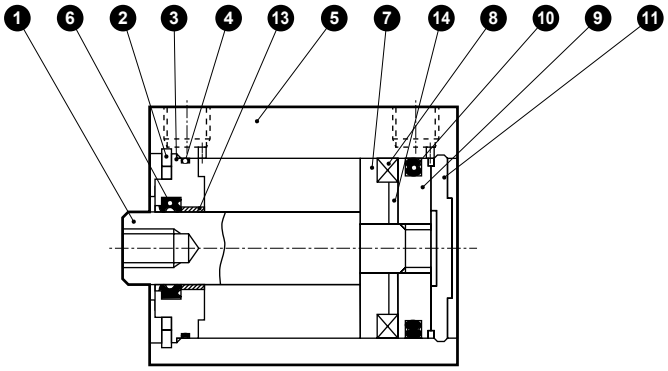
● SSD-L4-40



● SSD-L4-50



● SSD-L4-63 to 100



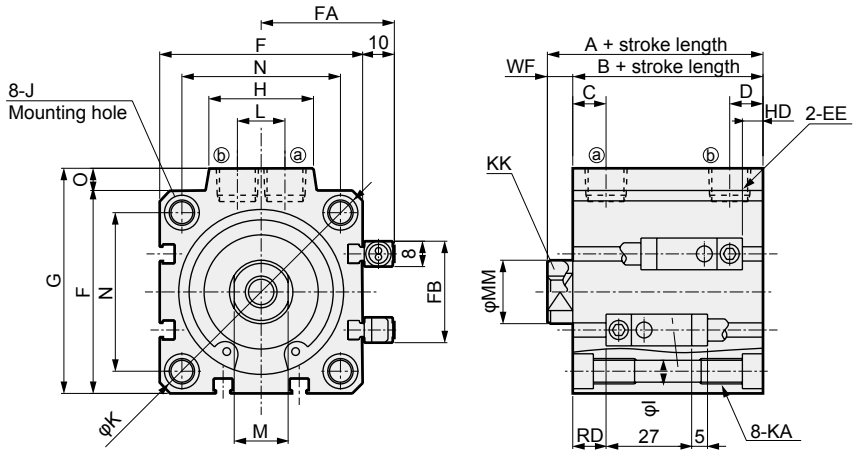
No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring	Steel	Zinc phosphate
3	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing	Nitrile rubber	
7	Spacer	Aluminum alloy (resin for φ50 only)	Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	Oiles drymet	
13	Spacer washer	Stainless steel	φ50
14	Collar	Aluminum alloy	φ50 to φ100

Repair parts list

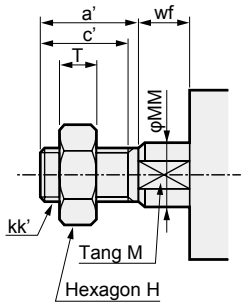
Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-40K	❹ ❻ ❿
φ50	SSD-50K	
φ63	SSD-63K	
φ80	SSD-80K	
φ100	SSD-100K	

Dimensions

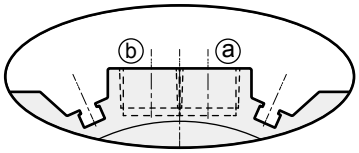
● SSD-L4-40 to 100



● Rod end male thread



[Bore size φ100]



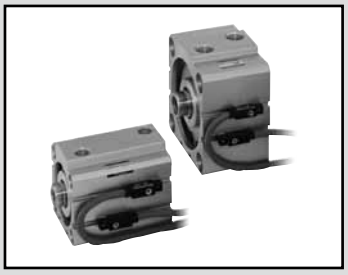
* Only for φ100, the port surface has switch grooves.

Code / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	56.5	49.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9, depth 5.5, φ5.5 through hole
φ50	58.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11, depth 6.5, φ6.9 through hole
φ63	64	56	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14, depth 9, φ8.7 through hole
φ80	73.5	63.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole
φ100	85	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole

Code / Bore size	K	KA	KK	M	MM	N	O	WF	HD	RD	
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	7.5	13	
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	8.5	13	
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	13.5	13.5	
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	18.5	16	
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	24	20	

*1: The A, B dimensions when using a custom stroke length are the same as those of when using the next longer standard stroke length.

* For dimensions of individual accessories, refer to pages 1092 to 1099.

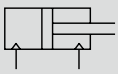


Compact cylinder double acting/single rod
with strong magnetic field proof switch/with coil scraper

SSD-G1L4 Series

● Bore size: φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS

Specifications

Descriptions	SSD-G1L4				
Bore size mm	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy 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)
φ40	20, 30, 40, 50	50	20
φ50			
φ63			
φ80			
φ100			

*1: The custom stroke length is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No. / Bore size (mm)	V0		
φ40	20	20	35
φ50	20	20	35
φ63	20	20	35
φ80	20	20	35
φ100	20	20	35

Switch specifications

Descriptions	Reed 2-wire	
	VO	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	O mA	
Weight g	1 m:63 3 m:170 5 m:277	

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

(Unit: g)

Stroke length (mm) / Bore size (mm)	20	30	40	50
φ40	575	628	681	734
φ50	876	960	1044	1128
φ63	1240	1351	1462	1573
φ80	2074	2248	2422	2596
φ100	3000	3227	3454	3681

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
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}

How to order

SSD-G1L4 - 50 - 40 - V0 - D - N - LB - I

- SSD-G1L4: Model No.
- 50: Ⓐ Bore size
- 40: Ⓑ Stroke length
- V0: Ⓒ Switch model No. *4
- D: Ⓓ Switch quantity
- N: Ⓔ Option
- LB: Ⓕ Mounting bracket *1 *2
- I: Ⓖ Accessory *3

Code	Content
Ⓐ Bore size (mm)	
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100

Ⓑ Stroke length (mm)

Bore size	Stroke length *1	Custom stroke length *2
φ40 to φ100	**20 to 50**	**In 1 mm increments**

*1: Refer to page 1278 for the number of installed switches and the min. stroke length.
*2: The total length is the same as that of the next longer standard stroke length.

Ⓒ Switch model No.

Axial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
V0*	Reed	●	●	1-color display	2-wire

*** Lead wire length**

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

Ⓓ Switch quantity

R	1 on rod side
H	1 on head side
D	2
T	3

Ⓔ Option

Blank	Rod end female thread
N	Rod end male thread

Ⓕ Mounting bracket

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

Ⓖ Accessory (available when rod end male thread "N" is selected)

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-G1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/with coil scraper/ with strong magnetic field proof switch

Ⓐ Bore size : φ50 mm
Ⓑ Stroke length : 40 mm
Ⓒ Switch model No. : Reed switch V0, lead wire length 1 m
Ⓓ Switch quantity : 2
Ⓔ Option : Rod end male thread
Ⓕ Mounting bracket : Axial foot
Ⓖ Accessory : Rod eye

How to order switch

SW - V0

Switch model No.
(Item Ⓒ on the previous page)

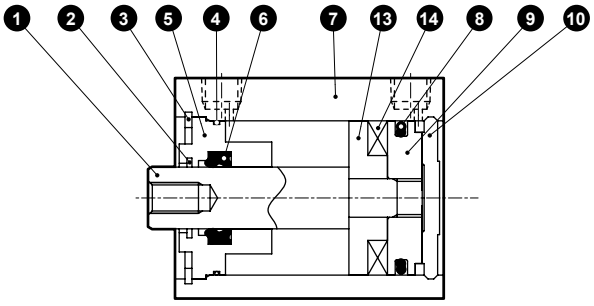
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

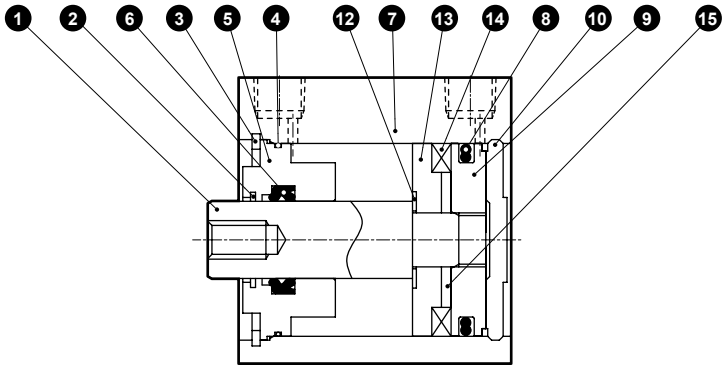
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

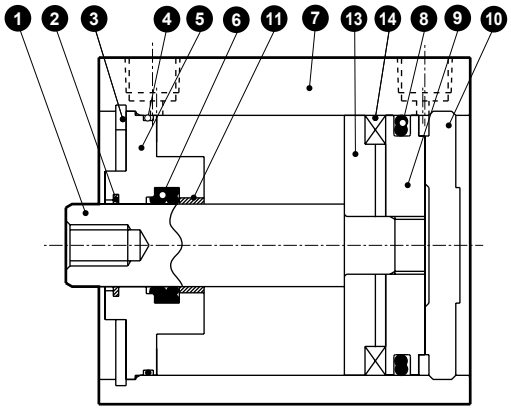
● SSD-G1L4-40



● SSD-G1L4-50



● SSD-G1L4-63 to 100



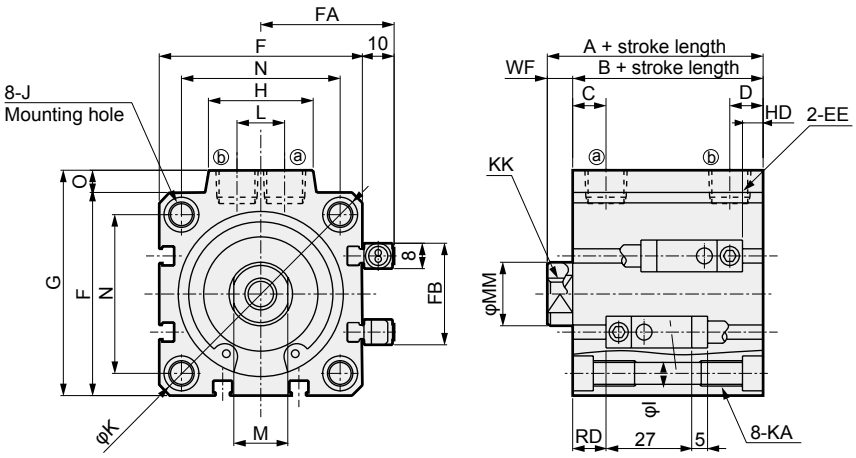
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	Coil scraper	Phosphor bronze		10	Cover	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Zinc phosphate	11	Bush	Oiles drymet	φ63 to φ100
4	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	φ50
5	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy		13	Spacer	Aluminum alloy (resin for φ50 only)	Chromate
6	Rod packing	Nitrile rubber	Chromate	14	Magnet	Plastic	
7	Tube body	Aluminum alloy	Hard alumite	15	Collar	Aluminum alloy	φ50 to φ100
8	Piston packing	Nitrile rubber					

Repair parts list

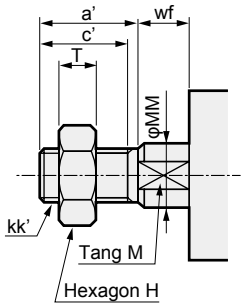
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-G1-40K	❷ ❹ ❻ ❽
φ50	SSD-G1-50K	
φ63	SSD-G1-63K	
φ80	SSD-G1-80K	
φ100	SSD-G1-100K	

Dimensions

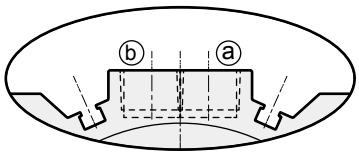
● SSD-G1L4-40 to 100



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9, depth 5.5, φ5.5 through hole
φ50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11, depth 6.5, φ6.9 through hole
φ63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14, depth 9, φ8.7 through hole
φ80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole
φ100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole

Code / Bore size	K	KA	KK	L	M	MM	N	O	WF	HD	RD
φ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	7.5	23
φ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	8.5	23
φ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	13.5	23.5
φ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	18.5	26
φ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	24	30

*1: The A, B dimensions when using a custom stroke length are the same as those of when using the next longer standard stroke length.

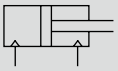
* For dimensions of individual accessories, refer to pages 1092 to 1099.

Compact cylinder double acting/high load/
with strong magnetic field proof switch

SSD-KL4 Series

● Bore size: φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS

Specifications

Descriptions	SSD-KL4				
Bore size mm	φ40	φ50	φ63	φ80	φ100
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 °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy 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)
φ40	20, 30, 40, 50, 60 70, 80, 90, 100	150	20
φ50			
φ63		200	
φ80			
φ100			

*1: The custom stroke length is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No. / Bore size (mm)	V0		
φ40	20	20	35
φ50	20	20	35
φ63	20	20	35
φ80	20	20	35
φ100	20	20	35

Switch specifications

Descriptions	Reed 2-wire V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight g	1 m:63 3 m:170 5 m:277	

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

(Unit: g)

Stroke length (mm) / Bore size (mm)	20	30	40	50	60	70	80	90	100
φ40	546	599	652	705	758	811	864	917	970
φ50	841	925	1009	1093	1177	1261	1345	1429	1513
φ63	1199	1309	1419	1529	1639	1749	1859	1969	2079
φ80	1995	2169	2343	2517	2691	2865	3039	3213	3387
φ100	2893	3120	3347	3574	3801	4028	4255	4482	4709

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
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}

How to order

SSD-KL4 - 50 - 40 - V0 - D - N - LB - I

- Model No.: SSD-KL4
- Ⓐ Bore size: 50
- Ⓑ Stroke length: 40
- Ⓒ Switch model No. *4: V0
- Ⓓ Switch quantity: D
- Ⓔ Option: N
- Ⓕ Mounting bracket *1 *2: LB
- Ⓖ Accessory *3: I

Code	Content
Ⓐ Bore size (mm)	
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓑ Stroke length (mm)	
Refer to the stroke length table below.	

Ⓒ Switch model No.

Axial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
V0*	Reed	●	●	1-color display	2-wire

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

Ⓓ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

Ⓔ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓖ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KL4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/one side high load/with strong magnetic field proof switch

- Ⓐ Bore size : φ50 mm
- Ⓑ Stroke length : 40 mm
- Ⓒ Switch model No. : Reed switch V0, lead wire length 1 m
- Ⓓ Switch quantity : 2
- Ⓔ Option : Rod end male thread
- Ⓕ Mounting bracket : Axial foot
- Ⓖ Accessory : Rod eye

[Stroke length table]

Stroke length (mm)		Applicable bore size φ40	φ50	φ63	φ80	φ100
Standard stroke length	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. stroke length (mm) *1		20				
Max. stroke length (mm)		150		200		
Custom stroke length *2		In 1 mm increments				

*1 : Refer to page 1284 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - V0

Switch model No.
(Item Ⓒ on the previous page)

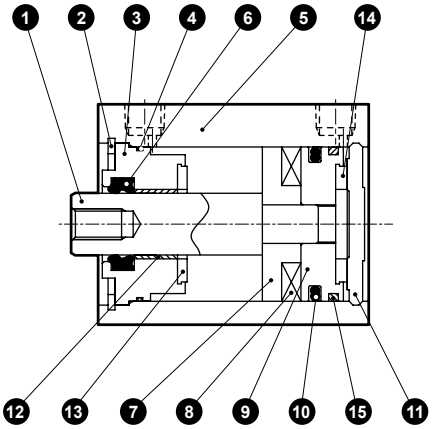
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

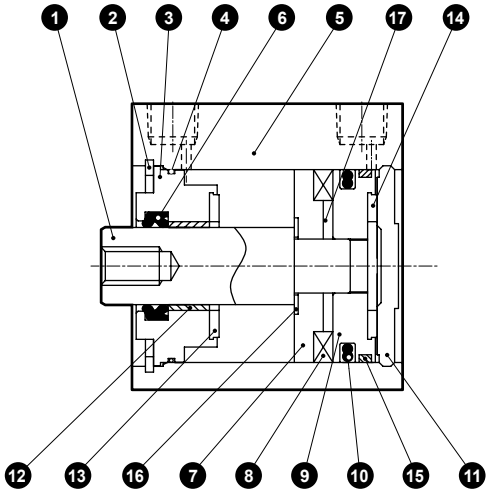
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

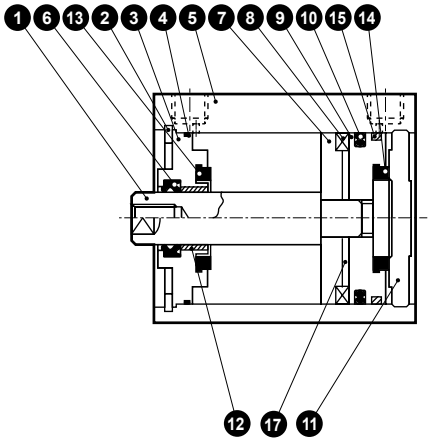
● SSD-KL4-40



● SSD-KL4-50



● SSD-KL4-63 to 100



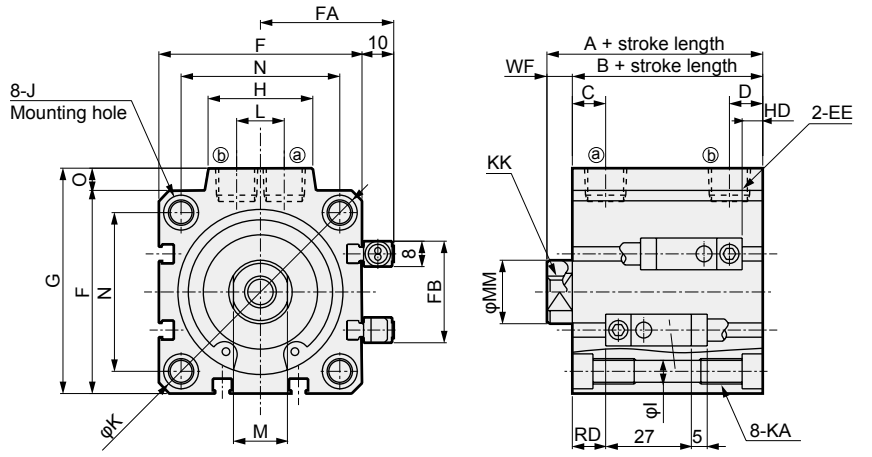
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Aluminum alloy	Alumite	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber R	Urethane rubber	
6	Rod packing	Nitrile rubber		14	Cushion rubber H	Urethane rubber	
7	Spacer	Aluminum alloy (resin for φ50 only)	Chromate	15	Wear ring	Polyacetal resin	
				16	Spacer washer	Stainless steel	φ50
8	Magnet	Plastic		17	Collar	Aluminum alloy	φ50 to φ100

Repair parts list

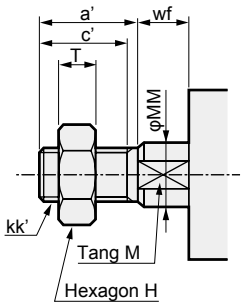
Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-K-40K	❹ ❻ ❿ ⓭ ⓮ ⓯
φ50	SSD-K-50K	
φ63	SSD-K-63K	
φ80	SSD-K-80K	
φ100	SSD-K-100K	

Dimensions

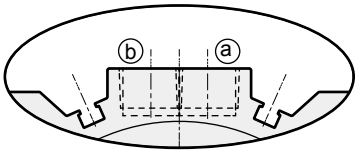
● SSD-KL4-40 to 100



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9, depth 5.5, φ5.5 through hole
φ50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11, depth 6.5, φ6.9 through hole
φ63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14, depth 9, φ8.7 through hole
φ80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole
φ100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole

Code / Bore size	K	KA	KK	L	M	MM	N	O	WF	HD	RD
φ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	20.5
φ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	20.5
φ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	18.5
φ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	21
φ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	25

*1: The A, B dimensions when using a custom stroke length are the same as those of when using the next longer standard stroke length.

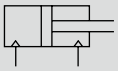
* For dimensions of individual accessories, refer to pages 1092 to 1099.

Compact cylinder double acting/high load/with strong magnetic field proof switch/with coil scraper

SSD-KG1L4 Series

● Bore size: φ40/φ50/φ63/φ80/φ100

JIS symbol



RoHS

Specifications

Descriptions	SSD-KG1L4				
Bore size mm	φ40	φ50	φ63	φ80	φ100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy 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)
φ40	20, 30, 40, 50, 60, 70, 80, 90, 100	150	20
φ50			
φ63		200	
φ80			
φ100			

*1: The custom stroke length is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke length.

Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No. / Bore size (mm)	V0		
φ40	20	20	35
φ50	20	20	35
φ63	20	20	35
φ80	20	20	35
φ100	20	20	35

Switch specifications

Descriptions	Reed 2-wire	
	VO	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	O mA	
Weight g	1 m:63 3 m:170 5 m:277	

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

(Unit: g)

Stroke length (mm) / Bore size (mm)	20	30	40	50	60	70	80	90	100
φ40	628	681	734	787	840	893	946	999	1052
φ50	960	1044	1128	1212	1296	1380	1464	1548	1632
φ63	1350	1461	1572	1683	1794	1905	2016	2127	2238
φ80	2247	2421	2595	2769	2943	3117	3291	3465	3639
φ100	3228	3455	3682	3909	4136	4363	4590	4817	5044

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
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}

How to order

SSD-KG1L4 - 50 - 40 - V0 - D - N - LB - I

Model No. | Ⓐ Bore size | Ⓑ Stroke length | Ⓒ Switch model No. *4 | Ⓓ Switch quantity | Ⓔ Option | Ⓕ Mounting bracket *1 *2 | Ⓖ Accessory *3

Code	Content
Ⓐ Bore size (mm)	
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
Ⓑ Stroke length (mm)	
Refer to the stroke length table below.	
Ⓒ Switch model No.	

Axial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
V0*	Reed	●	●	1-color display	2-wire

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓓ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
Ⓔ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓕ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring attached)
CB2	Clevis bracket (compact) (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
Ⓖ Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact) (pin and snap ring attached)

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1093 and 1094. 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.
*3 : "I" and "Y" cannot be selected together.
*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

SSD-KG1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/high load/with coil scraper/with strong magnetic field proof switch

Ⓐ Bore size : φ50 mm
Ⓑ Stroke length : 40 mm
Ⓒ Switch model No. : Reed switch V0, lead wire length 1 m
Ⓓ Switch quantity : 2
Ⓔ Option : Rod end male thread
Ⓕ Mounting bracket : Axial foot
Ⓖ Accessory : Rod eye

[Stroke length table]

Stroke length (mm)		Applicable bore size φ40	φ50	φ63	φ80	φ100
Standard stroke length	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. stroke length (mm) *1		20				
Max. stroke length (mm)		150		200		
Custom stroke length *2		In 1 mm increments				

*1 : Refer to page 1290 for the number of installed switches and the min. stroke length.
*2 : The total length is the same as that of the next longer standard stroke length.

How to order switch

SW - V0

Switch model No.
(Item Ⓒ on the previous page)

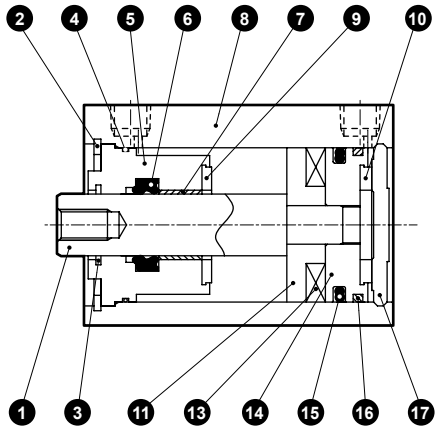
How to order mounting bracket

Bore size (mm) / Mounting bracket	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

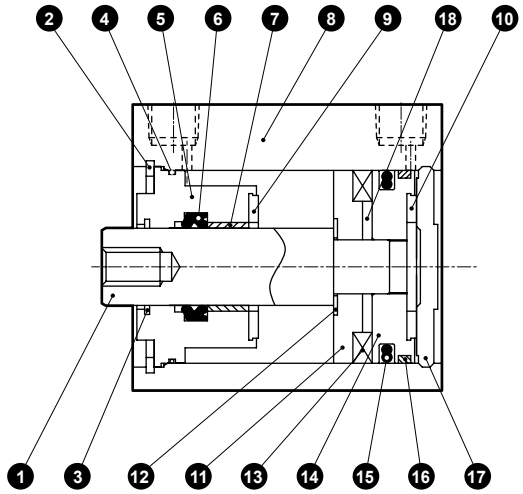
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

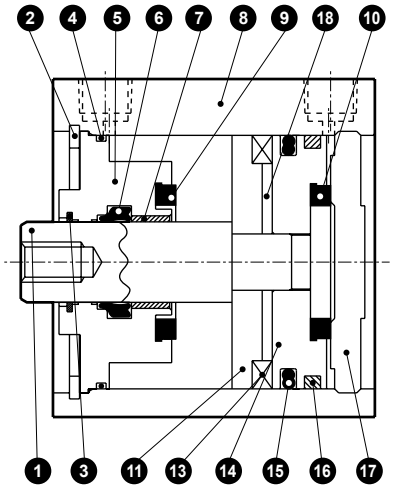
● SSD-KG1L4-40



● SSD-KG1L4-50



● SSD-KG1L4-63 to 100



No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring for hole	Steel	Zinc phosphate
3	Coil scraper	Phosphor bronze	
4	Rod metal gasket	Nitrile rubber	
5	Rod metal	Aluminum alloy	Chromate
6	Rod packing	Nitrile rubber	
7	Bush	Oiles drymet	
8	Tube body	Aluminum alloy	Hard alumite
9	Cushion rubber R	Urethane rubber	
10	Cushion rubber H	Urethane rubber	

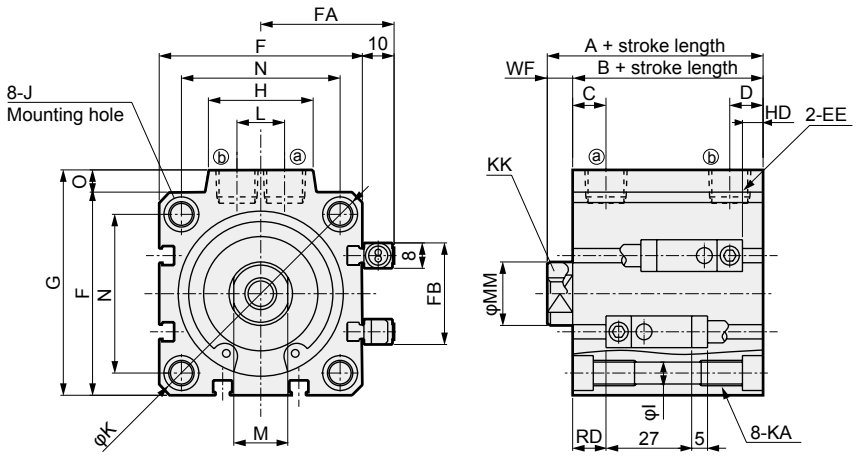
No.	Part name	Material	Remarks
11	Spacer	Aluminum alloy (resin for φ50 only)	Chromate
12	Spacer washer	Stainless steel	φ50
13	Magnet	Plastic	
14	Piston	Aluminum alloy	Chromate
15	Piston packing	Nitrile rubber	
16	Wear ring	Polyacetal resin	
17	Cover	Aluminum alloy	Chromate
18	Collar	Aluminum alloy	φ50 to φ100

Repair parts list

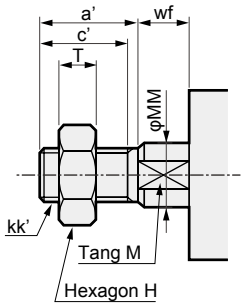
Part name / Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD-KG1-40K	❸ ❹ ❻ ❾ ❿ ⓯ ⓰
φ50	SSD-KG1-50K	
φ63	SSD-KG1-63K	
φ80	SSD-KG1-80K	
φ100	SSD-KG1-100K	

Dimensions

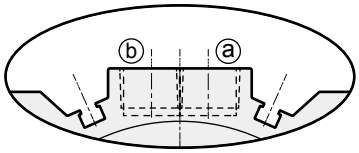
● SSD-KG1L4-40 to 100



● Rod end male thread



[Bore size φ100]



* Only for φ100, the port surface has switch grooves.

Code / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	76.5	69.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9, depth 5.5, φ5.5 through hole
φ50	78.5	70.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11, depth 6.5, φ6.9 through hole
φ63	84	76	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14, depth 9, φ8.7 through hole
φ80	93.5	83.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole
φ100	105	93	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5, depth 11, φ10.5 through hole

Code / Bore size	K	KA	KK	L	M	MM	N	O	WF	HD	RD	
φ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	30.5	
φ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	30.5	
φ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	28.5	
φ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	31	
φ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	35	

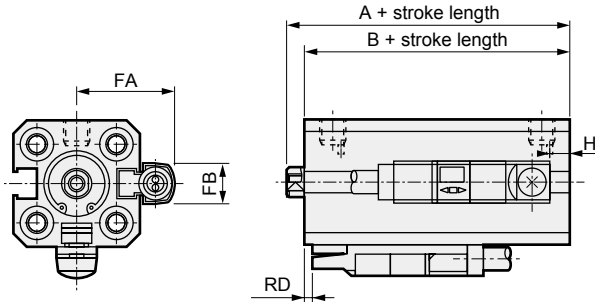
*1: The A, B dimensions when using a custom stroke length are the same as those of when using the next longer standard stroke length.

* For dimensions of individual accessories, refer to pages 1092 to 1099.

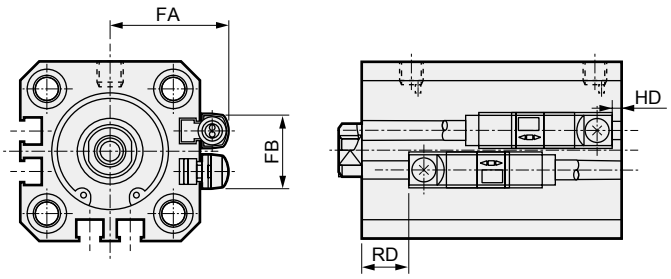
SSD Series common dimensions (2-color display, off-delay, for AC magnetic field, with T1* switch)

● SSD-*L1-12, 16 (2-color display, off-delay, T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$)
SSD-*L-20, 25 (2-color display, off-delay, T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$)

φ12/φ16



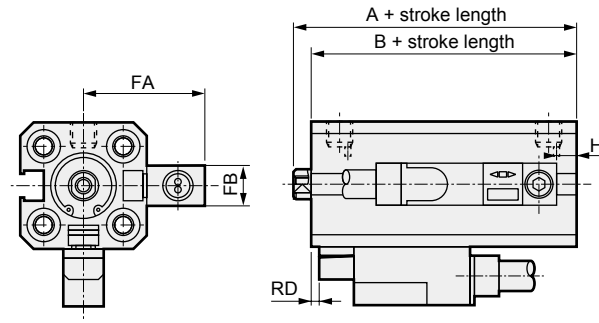
φ20/φ25



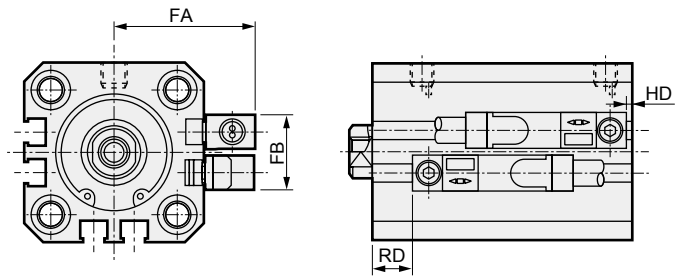
Code / Bore size (mm)	FA	FB	T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$		SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
			RD	HD	A	B	A	B	A	B
φ12	18.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
φ16	20.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
φ20	24.3	16	5	1.5	-	-	-	-	-	-
φ25	26.3	17	8	1.5	-	-	-	-	-	-

● SSD*-L1-12, 16, T1* with switch T1$^{H}/_{V}$)
SSD-L-20, 25, for AC magnetic field, with T1* switch, T2YD, T2YDT, T1$^{H}/_{V}$)

φ12/φ16



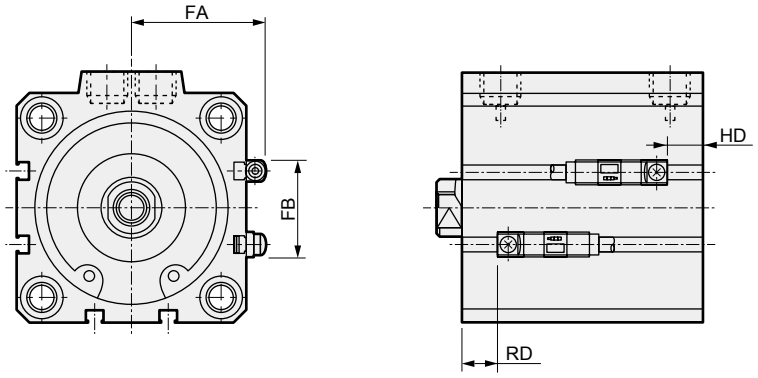
φ20/φ25



Code / Bore size (mm)	FA	FB	RD	HD	SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
					A	B	A	B	A	B
φ12	23.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
φ16	25.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
φ20	29.3	16	5	1.5	-	-	-	-	-	-
φ25	31.3	17	8	1.5	-	-	-	-	-	-

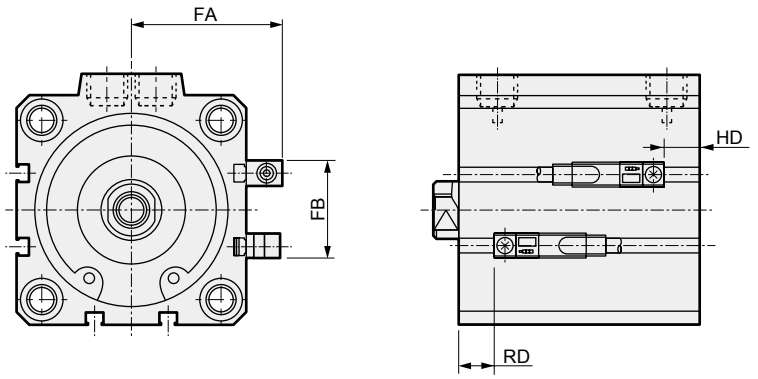
SSD Series common dimensions (with 2-color display, off-delay, AC magnetic field, T1* and T8* switches)

● SSD-*L-32 to 100 (2-color display, off-delay, T8* with switch T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$, T8$^{H}/_{V}$)



Code / Bore size (mm)	FA	FB	T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$		T8$^{H}/_{V}$		
			RD	HD	RD	HD	
φ32	28.8	24	7.5	2	-	-	
φ40	32.3	31	10.5	5.5	6	1	
φ50	38.3	32	11	6	6.5	1.5	
φ63	44.8	32	11.5	11	7	6.5	
φ80	55.3	32	14	16	9.5	11.5	
φ100	64.8	32	18	21.5	13.5	7	
φ125	77.5	48	28	23	23.5	18.5	
φ140	85.5	48	31.5	29.5	27	25	
φ160	95.5	52	37.5	32.5	33	28	

● SSD-*L-32 to 100 for AC magnetic field, with T1* switch, T2YD, T2YDT, T1$^{H}/_{V}$)

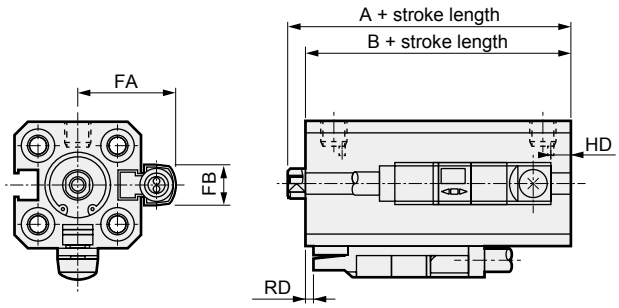


Code / Bore size (mm)	FA	FB	RD	HD	
φ32	33.8	24	7.5	2	
φ40	37.3	31	10.5	5.5	
φ50	43.3	32	11	6	
φ63	49.8	32	11.5	11	
φ80	60.3	32	14	16	
φ100	69.8	32	18	21.5	
φ125	82.5	48	28	23	
φ140	90.5	48	31.5	29.5	
φ160	100.5	52	37.5	32.5	

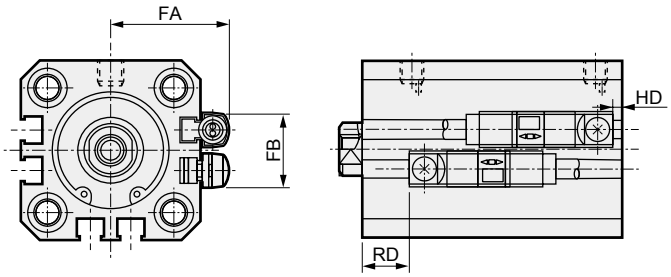
SSD-K Series common dimensions (with 2-color display, off-delay, AC magnetic field, T1* and T8* switches)

● SSD-KL(1)-12 to 25 (2-color display, off-delay, T8* with switch T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$, T8$^{H}/_{V}$)

φ12/φ16



φ20/φ25

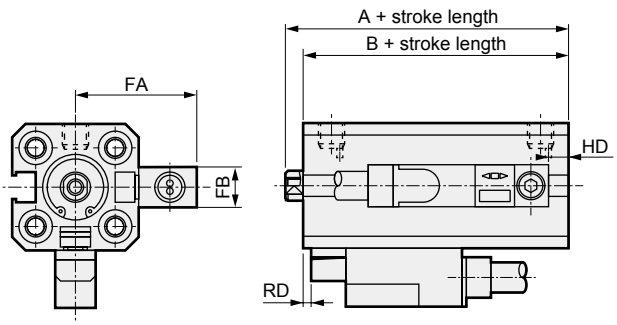


Code / Bore size (mm)	FA	FB	T2Y$^{H}/_{V}$, T3Y$^{H}/_{V}$, T2J$^{H}/_{V}$		T8$^{H}/_{V}$		
			RD *1	HD *1	RD	HD	
φ12	18.8	8	4.5	1	—	—	
φ16	20.8	8	4	1.5	—	—	
φ20	24.3	16	8.5(13.5)	4.5(11)	2.5(7.5)	0(6.5)	
φ25	26.3	17	12(17)	4(12.5)	6(11)	0(8)	

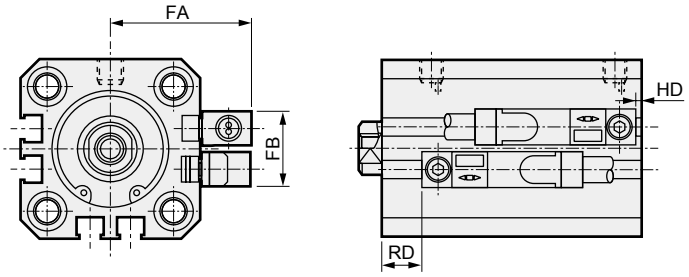
*1: When longer than φ20: 100 mm stroke length or φ25: 150 mm stroke length, HD and RD dimensions are indicated in ( ).

● SSD-KL(1)-12 to 25 for AC magnetic field, with T1* switch, T2YD, T2YDT, T1$^{H}/_{V}$)

φ12/φ16



φ20/φ25

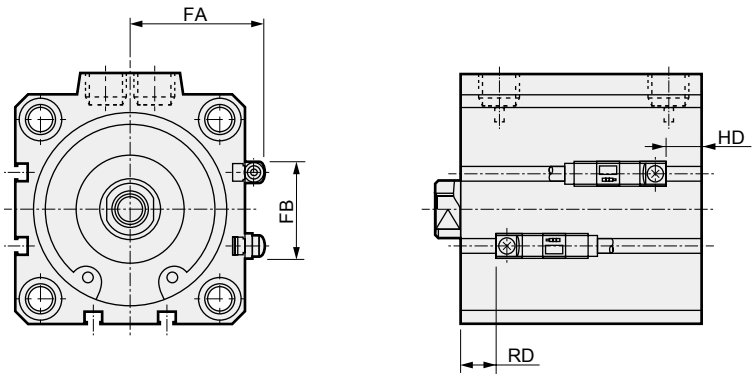


Code / Bore size (mm)	FA	FB	RD *1	HD *1	
φ12	23.8	8	4.5	1	
φ16	25.8	8	4	1.5	
φ20	29.3	16	8.5(13.5)	4.5(11)	
φ25	31.3	17	12(17)	4(12.5)	

*1: When longer than φ20: 100 mm stroke length or φ25: 150 mm stroke length, HD and RD dimensions are indicated in ( ).

SSD-K Series common dimensions (with 2-color display, off-delay, AC magnetic field, T1* and T8* switches)

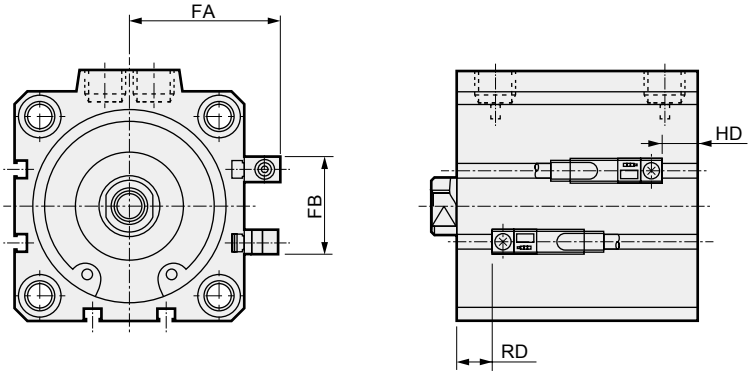
● SSD-KL-32 to 100 (2-color display, off-delay, T8* with switch T2Y$^{H}_{V}$, T3Y$^{H}_{V}$, T2J$^{H}_{V}$, T8$^{H}_{V}$)



Code / Bore size (mm)	FA	FB	T2Y$^{H}_{V}$, T3Y$^{H}_{V}$, T2J$^{H}_{V}$		T8$^{H}_{V}$		
			RD *1	HD *1	RD	HD	
φ32	28.8	24	12.5(12.5)	7(14.5)	8(8)	(10)	
φ40	32.3	31	18(18)	8(17.5)	13.5(13.5)	3.5(13)	
φ50	38.3	32	18.5(23.5)	8.5(17.5)	14(19)	4(13)	
φ63	44.8	32	16.5(21.5)	16(21.5)	12(17)	11.5(17)	
φ80	55.3	32	19(24)	20.5(26.5)	14.5(19.5)	16(22)	
φ100	64.8	32	23(28)	26.5(32)	18.5(23.5)	22(27.5)	

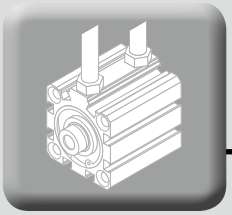
*1: When longer than φ32 to 50: 150 mm stroke or φ63 to 100: 200 mm stroke, HD and RD dimensions are indicated in ( ).

● SSD-KL-32 to 100 for AC magnetic field, with T1* switch, T2YD, T2YDT, T1$^{H}_{V}$)



Code / Bore size (mm)	FA	FB	RD *1	HD *1	
φ32	33.8	24	12.5(12.5)	7(14.5)	
φ40	37.3	31	18(18)	8(17.5)	
φ50	43.3	32	18.5(23.5)	8.5(17.5)	
φ63	49.8	32	16.5(21.5)	16(21.5)	
φ80	60.3	32	19(24)	20.5(26.5)	
φ100	69.8	32	23(28)	26.5(32)	

*1: When longer than φ32 to 50: 150 mm stroke or φ63 to 100: 200 mm stroke, HD and RD dimensions are indicated in ( ).



Introduction of custom order products

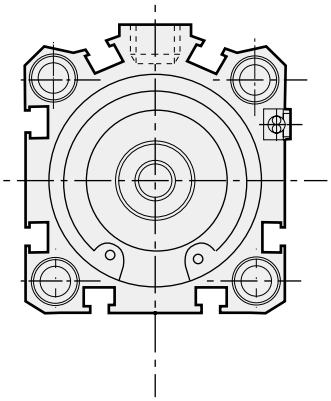
Cylinder switch can be mounted from 4 surfaces!

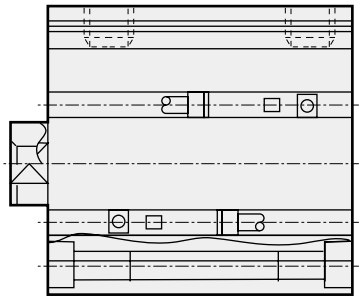
- Series: All SSD Series
- Corresponding bore size: 25 to φ80 (φ100 or more is 4 surface mounting as standard.)

How to order

Contact CKD for model No.

Dimensions

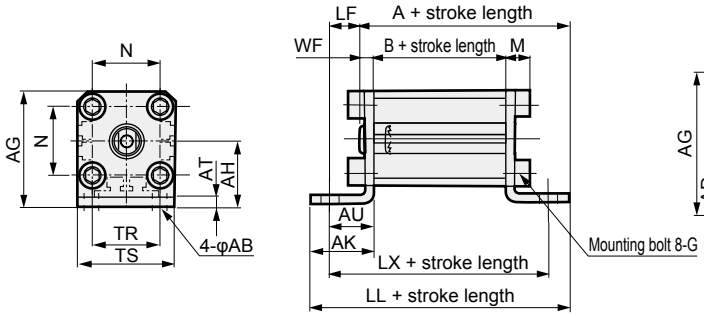




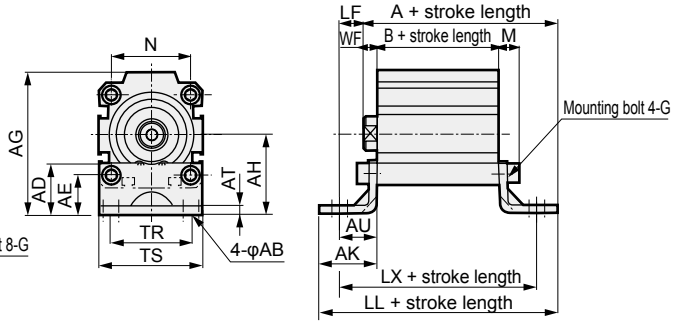
MEMO

Dimensions with accessories (Mounting bracket: LB)

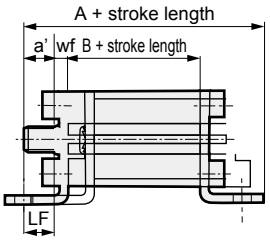
● φ12 to φ32



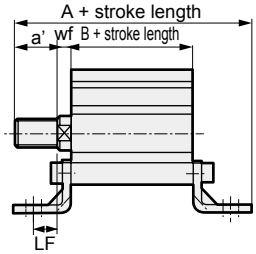
● φ40 to φ100



Rod end male thread



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-T (low speed) dimensions table

Code	Common dimensions													Female thread								Male thread									
																Without switch				With switch *1								Without switch				With switch *1			
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	A	B	LL	LX	A	B	LL	LX	a'	wf	LF	A	B	LL	LX	A	B	LL	LX
φ12	6	-	-	29.5	17	18	2.3	12	M4×12	15.5	16	25	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	10.5	3.5	8.5	49	17	53	41	54	22	58	46
φ16	6	-	-	33.5	19	18	2.3	12	M4×12	20	16	29	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	12	3.5	8.5	50.5	17	53	41	55.5	22	58	46
φ20	7	-	-	42	24	24	3.2	16	M6×16	25.5	24	36	9.2	4.5	11.5	48	19.5	67.5	51.5	58	29.5	77.5	61.5	14	4.5	11.5	62	19.5	67.5	51.5	72	29.5	77.5	61.5
φ25	7	-	-	46	26	24	3.2	16	M6×16	28	28	40	9.2	5	11	51.5	22.5	70.5	54.5	61.5	32.5	80.5	64.5	17.5	5	11	69	22.5	70.5	54.5	79	32.5	80.5	64.5
φ32	7	-	-	53.5	31	24	3.2	16	M6×16	34	34	45	9.2	7	9	54	23	71	55	64	33	81	65	23.5	5	11	75.5	23	71	55	85.5	33	81	65
φ40	7	26	20	71	40	29	4.5	19	M6×16	40	40	52	10	7	12	65.5	29.5	87.5	67.5	75.5	39.5	97.5	77.5	23.5	5	14	87	29.5	87.5	67.5	97	39.5	97.5	77.5
φ50	9	23	15	79	40	34	4.5	22	M8×20	50	46	64	13	8	14	72.5	30.5	98.5	74.5	82.5	40.5	108.5	84.5	28.5	5	17	98	30.5	98.5	74.5	108	40.5	108.5	84.5
φ63	11	33	21	96.5	51	40	4.5	25	M10×25	60	60	77	15	8	17	84	36	116	86	94	46	126	96	28.5	5	20	109.5	36	116	86	119.5	46	126	96
φ80	13	42	23	116.5	61.5	50	6	35	M12×40	77	77	98	18	10	25	103.5	43.5	143.5	113.5	113.5	53.5	153.5	123.5	35.5	8	27	137	43.5	143.5	113.5	147	53.5	153.5	123.5
φ100	13	48	22	134	69	50	6	35	M12×40	94	94	117	18	12	23	115	53	153	123	125	63	163	133	35.5	8	27	146.5	53	153	123	156.5	63	163	133

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
φ12	48.5	27	63	51	59	27	63	51
φ16	48.5	27	63	51	60.5	27	63	51

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions													For female thread *1								For male thread *1									
																Without switch				With switch *2								Without switch				With switch *2			
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	A	B	LL	LX	A	B	LL	LX	a'	wf	LF	A	B	LL	LX	A	B	LL	LX
φ12	6	-	-	29.5	17	18	2.3	12	M4×12	15.5	16	25	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	10.5	3.5	8.5	54	22	58	46	59	27	63	51
φ16	6	-	-	33.5	19	18	2.3	12	M4×12	20	16	29	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	12	3.5	8.5	55.5	22	58	46	60.5	27	63	51
φ20	7	-	-	42	24	24	3.2	16	M6×16	25.5	24	36	9.2	4.5	11.5	53	24.5	72.5	56.5	63	34.5	82.5	66.5	14	4.5	11.5	67	24.5	72.5	56.5	77	34.5	82.5	66.5
φ25	7	-	-	46	26	24	3.2	16	M6×16	28	28	40	9.2	5	11	56.5	27.5	75.5	59.5	66.5	37.5	85.5	69.5	17.5	5	11	74	27.5	75.5	59.5	84	37.5	85.5	69.5
φ32	7	-	-	53.5	31	24	3.2	16	M6×16	34	34	45	9.2	7	9	64	33	81	65	74	43	91	75	23.5	5	11	85.5	33	81	65	95.5	43	91	75
φ40	7	28	20	71	40	29	4	19	M6×16	40	40	52	10	7	12	75.5	39.5	97.5	77.5	85.5	49.5	107.5	87.5	23.5	5	14	97	39.5	97.5	77.5	107	49.5	107.5	87.5
φ50	9	25	15	79	40	34	5	22	M8×20	50	46	64	13	8	14	82.5	40.5	108.5	84.5	92.5	50.5	118.5	94.5	28.5	5	17	108	40.5	108.5	84.5	118	50.5	118.5	94.5
φ63	11	40	21	96.5	51	40	5	25	M10×25	60	60	77	15	8	17	94	46	126	96	104	56	136	106	28.5	5	20	119.5	46	126	96	129.5	56	136	106
φ80	13	47	23	116.5	61.5	50	6	35	M12×40	77	77	98	18	10	25	113.5	53.5	153.5	123.5	123.5	63.5	163.5	133.5	35.5	8	27	147	53.5	153.5	123.5	157	63.5	163.5	133.5
φ100	13	50	22	134	69	50	6	35	M12×40	94	94	117	18	12	23	125	63	163	133	135	73	173	143	35.5	8	27	156.5	63	163	133	166.5	73	173	143

*1: For the long stroke length, dimensions are as below.

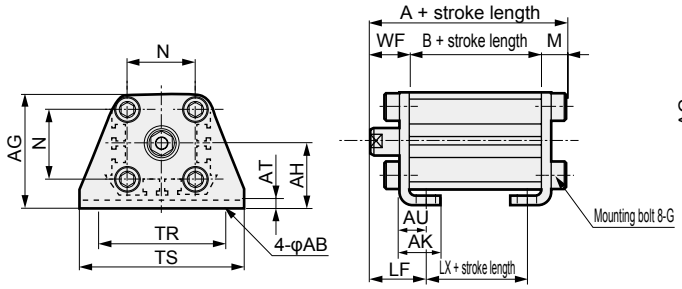
Code		Female thread								Male thread							
		Without switch				With switch				Without switch				With switch *2			
Bore size (mm)		A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX
φ20	Over 100 st	64.5	36	84	68	74.5	46	94	78	78.5	36	84	68	88.5	46	94	78
φ25	Over 150 st	70	41	89	73	80	51	99	83	87.5	41	89	73	97.5	51	99	83
φ32		71.5	40.5	88.5	72.5	81.5	50.5	98.5	82.5	93	40.5	88.5	72.5	103	50.5	98.5	82.5
φ40		85	49	107	87	95	59	117	97	106.5	49	107	87	116.5	59	117	97
φ50		96	54	122	98	106	64	132	108	121.5	54	122	98	131.5	64	132	108
φ63	Over 200 st	104	56	136	106	114	66	146	116	129.5	56	136	106	139.5	66	146	116
φ80		123.5	63.5	163.5	133.5	133.5	73.5	173.5	143.5	157	63.5	163.5	133.5	167	73.5	173.5	143.5
φ100		135	73	173	143	145	83	183	153	166.5	73	173	143	176.5	83	183	153

*2: When the stroke length with switch is 5 mm, dimensions are as below.

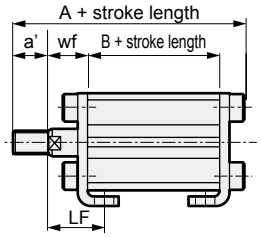
Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
φ12	53.5	32	68	56	64	32	68	56
φ16	53.5	32	68	56	65.5	32	68	56

Dimensions with accessories (Mounting bracket: LB2)

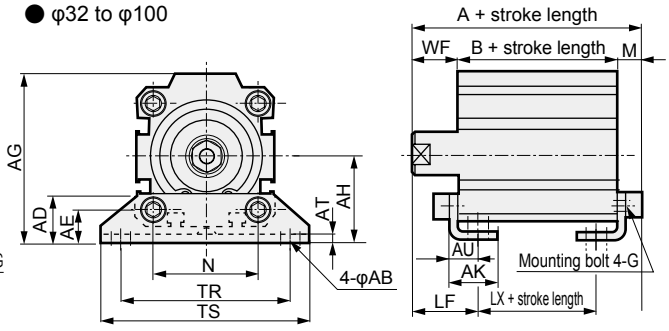
● φ12 to φ25



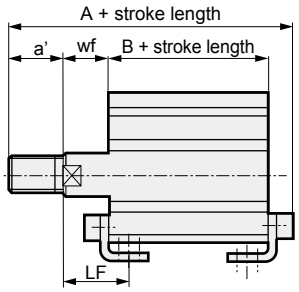
Rod end male thread



● φ32 to φ100



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions													Female thread							Male thread							
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			With switch *1			a'	wf	LF	Without switch			With switch *1		
																A	B	LX	A	B	LX				A	B	LX	A	B	LX
φ12	5	-	-	29.5	17	12.5	2	8	M4×10	15.5	34	44	6	13.5	19.5	36.5	17	5	41.5	22	10	10.5	13.5	19.5	47	17	5	52	22	10
φ16	5	-	-	33.5	19	13	2	8	M4×10	20	38	48	6	13.5	19.5	36.5	17	5	41.5	22	10	12	13.5	19.5	48.5	17	5	53.5	22	10
φ20	7	-	-	42	24	15	3.2	9.2	M6×16	25.5	48	62	9.2	14.5	20.5	43.2	19.5	7.5	53.2	29.5	17.5	14	14.5	20.5	57.2	19.5	7.5	67.2	29.5	17.5
φ25	7	-	-	46	26	16.5	3.2	10.7	M6×16	28	52	66	9.2	15	22.5	46.7	22.5	7.5	56.7	32.5	17.5	17.5	15	22.5	64.2	22.5	7.5	74.2	32.5	17.5
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	9.2	17	25	49.2	23	7	59.2	33	17	23.5	15	23	70.7	23	7	80.7	33	17
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	9.2	17	25	55.7	29.5	13.5	65.7	39.5	23.5	23.5	15	23	77.2	29.5	13.5	87.2	39.5	23.5
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	11.2	18	29.5	59.7	30.5	7.5	69.7	40.5	17.5	28.5	15	26.5	85.2	30.5	7.5	95.2	40.5	17.5
φ63	11	28	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	13.2	18	31	67.2	36	10	77.2	46	20	28.5	15	28	92.7	36	10	102.7	46	20
φ80	13	39.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	16.5	20	35	80	43.5	13.5	90	53.5	23.5	35.5	18	33	113.5	43.5	13.5	123.5	53.5	23.5
φ100	13	50	24	136	71	35.5	6	23	M12×40	94	137	162	18	22	39	93	53	19	103	63	29	35.5	18	35	124.5	53	19	134.5	63	29

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
φ12	46.5	27	15	57	27	15
φ16	46.5	27	15	58.5	27	15

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions													For female thread *1							For male thread *1							
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			With switch *2			a'	wf	LF	Without switch			With switch *2		
																A	B	LX	A	B	LX				A	B	LX	A	B	LX
φ12	5	-	-	29.5	17	12.5	2	8	M4×10	15.5	34	44	6	13.5	19.5	41.5	22	10	46.5	27	15	10.5	13.5	19.5	52	22	10	57	27	15
φ16	5	-	-	33.5	19	13	2	8	M4×10	20	38	48	6	13.5	19.5	41.5	22	10	46.5	27	15	12	13.5	19.5	53.5	22	10	58.5	27	15
φ20	7	-	-	42	24	15	3.2	9.2	M6×16	25.5	48	62	9.2	14.5	20.5	48.2	24.5	12.5	58.2	34.5	22.5	14	14.5	20.5	62.2	24.5	12.5	72.2	34.5	22.5
φ25	7	-	-	46	26	16.5	3.2	10.7	M6×16	28	52	66	9.2	15	22.5	51.7	27.5	12.5	61.7	37.5	22.5	17.5	15	22.5	69.2	27.5	12.5	79.2	37.5	22.5
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	9.2	17	25	59.2	33	17	69.2	43	27	23.5	15	23	80.7	33	17	90.7	43	27
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	9.2	17	25	65.7	39.5	23.5	75.7	49.5	33.5	23.5	15	23	87.2	39.5	23.5	97.2	49.5	33.5
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	11.2	18	29.5	69.7	40.5	17.5	79.7	50.5	27.5	28.5	15	26.5	95.2	40.5	17.5	105.2	50.5	27.5
φ63	11	28	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	13.2	18	31	77.2	46	20	87.2	56	30	28.5	15	28	102.7	46	20	112.7	56	30
φ80	13	39.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	16.5	20	35	90	53.5	23.5	100	63.5	33.5	35.5	18	33	123.5	53.5	23.5	133.5	63.5	33.5
φ100	13	50	24	136	71	35.5	6	23	M12×40	94	137	162	18	22	39	103	63	29	113	73	39	35.5	18	35	134.5	63	29	144.5	73	39

*1: For the long stroke length, dimensions are as below.

Code		Female thread						Male thread					
		Without switch			With switch			Without switch			With switch		
Bore size (mm)		A	B	LX	A	B	LX	A	B	LX	A	B	LX
φ20	Over 100 st	59.7	36	24	69.7	46	34	73.7	36	24	83.7	46	34
φ25	Over 150 st	65.2	41	26	75.2	51	36	82.7	41	26	92.7	51	36
φ32		66.7	40.5	24.5	76.7	50.5	34.5	88.2	40.5	24.5	98.2	50.5	34.5
φ40		75.2	49	33	85.2	59	43	96.7	49	33	106.7	59	43
φ50		83.2	54	31	93.2	64	41	108.7	54	31	118.7	64	41
φ63	Over 200 st	87.2	56	30	97.2	66	40	112.7	56	30	122.7	66	40
φ80		100	63.5	33.5	110	73.5	43.5	133.5	63.5	33.5	143.5	73.5	43.5
φ100		113	73	39	123	83	49	144.5	73	39	154.5	83	49

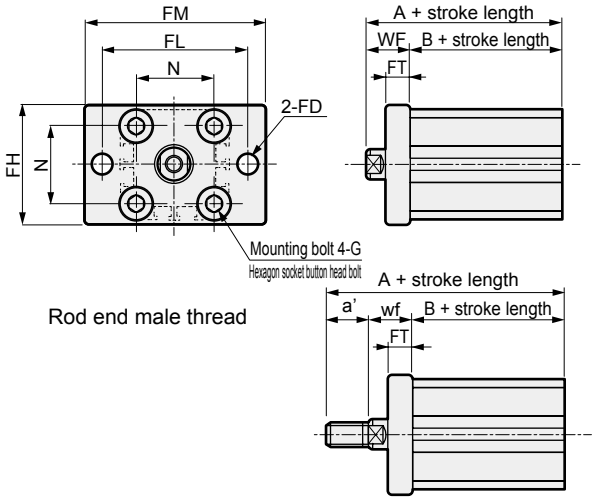
*2: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
φ12	51.5	32	20	62	32	20
φ16	51.5	32	20	63.5	32	20

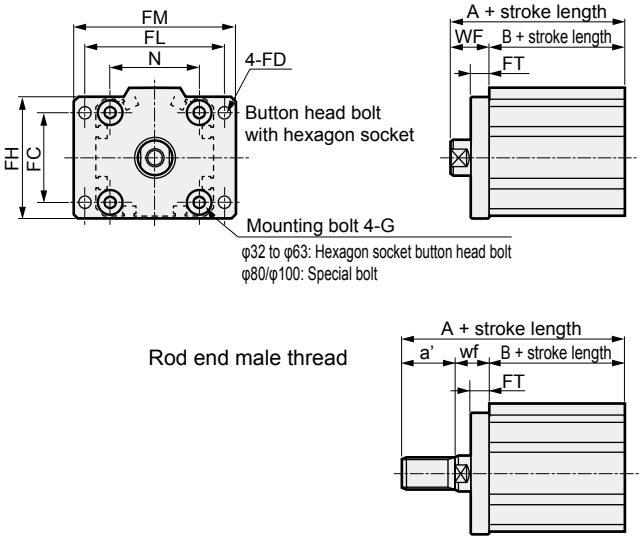
Note: The WF/wf dimension of the cylinder for LB2 is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and LB2 brackets.

Dimensions with accessories (Mounting bracket: FA) CAD

● φ12 to φ25



● φ32 to φ100



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions								Female thread					Male thread					
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch A	Without switch B	With switch *1 A	With switch *1 B	a'	wf	Without switch A	Without switch B	With switch *1 A	With switch *1 B
φ12	-	4.5	25	45	55	5.5	15.5	M4×12	13.5	30.5	17	35.5	22	10.5	13.5	41	17	46	22
φ16	-	4.5	30	45	55	5.5	20	M4×12	13.5	30.5	17	35.5	22	12	13.5	42.5	17	47.5	22
φ20	-	6.6	39	48	60	8	25.5	M6×16	14.5	34	19.5	44	29.5	14	14.5	48	19.5	58	29.5
φ25	-	6.6	42	52	64	8	28	M6×16	15	37.5	22.5	47.5	32.5	17.5	15	55	22.5	65	32.5
φ32	34	5.5	48	56	65	8	34	M6×16	17	40	23	50	33	23.5	15	61.5	23	71.5	33
φ40	40	5.5	54	62	72	8	40	M6×16	17	46.5	29.5	56.5	39.5	23.5	15	68	29.5	78	39.5
φ50	50	6.6	67	76	89	9	50	M8×20	18	48.5	30.5	58.5	40.5	28.5	15	74	30.5	84	40.5
φ63	60	9	80	92	108	9	60	M10×25	18	54	36	64	46	28.5	15	79.5	36	89.5	46
φ80	77	11	99	116	134	11	77	M12×40	20	63.5	43.5	73.5	53.5	35.5	18	97	43.5	107	53.5
φ100	94	11	117	136	154	11	94	M12×40	22	75	53	85	63	35.5	18	106.5	53	116.5	63

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread A	Female thread B	Male thread A	Male thread B
φ12	40.5	27	51	27
φ16	40.5	27	52.5	27

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions								For female thread *1					For male thread *1					
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch A	Without switch B	With switch *2 A	With switch *2 B	a'	wf	Without switch A	Without switch B	With switch *2 A	With switch *2 B
φ12	-	4.5	25	45	55	5.5	15.5	M4×12	13.5	35.5	22	40.5	27	10.5	13.5	46	22	51	27
φ16	-	4.5	30	45	55	5.5	20	M4×12	13.5	35.5	22	40.5	27	12	13.5	47.5	22	52.5	27
φ20	-	6.6	39	48	60	8	25.5	M6×16	14.5	39	24.5	49	34.5	14	14.5	53	24.5	63	34.5
φ25	-	6.6	42	52	64	8	28	M6×16	15	42.5	27.5	52.5	37.5	17.5	15	60	27.5	70	37.5
φ32	34	5.5	48	56	65	8	34	M6×16	17	50	33	60	43	23.5	15	71.5	33	81.5	43
φ40	40	5.5	54	62	72	8	40	M6×16	17	56.5	39.5	66.5	49.5	23.5	15	78	39.5	88	49.5
φ50	50	6.6	67	76	89	9	50	M8×20	18	58.5	40.5	68.5	50.5	28.5	15	84	40.5	94	50.5
φ63	60	9	80	92	108	9	60	M10×25	18	64	46	74	56	28.5	15	89.5	46	99.5	56
φ80	77	11	99	116	134	11	77	M12×40	20	73.5	53.5	83.5	63.5	35.5	18	107	53.5	117	63.5
φ100	94	11	117	136	154	11	94	M12×40	22	85	63	95	73	35.5	18	116.5	63	126.5	73

*1: For the long stroke length, dimensions are as below.

Code		Female thread				Male thread			
Bore size (mm)		Without switch A	Without switch B	With switch A	With switch B	Without switch A	Without switch B	With switch A	With switch B
φ20	Over 100 st	50.5	36	60.5	46	64.5	36	74.5	46
φ25	Over 150 st	56	41	66	51	73.5	41	83.5	51
φ32		57.5	40.5	67.5	50.5	79	40.5	89	50.5
φ40		66	49	76	59	87.5	49	97.5	59
φ50		72	54	82	64	97.5	54	107.5	64
φ63	Over 200 st	74	56	84	66	99.5	56	109.5	66
φ80		83.5	63.5	93.5	73.5	117	63.5	127	73.5
φ100		95	73	105	83	126.5	73	136.5	83

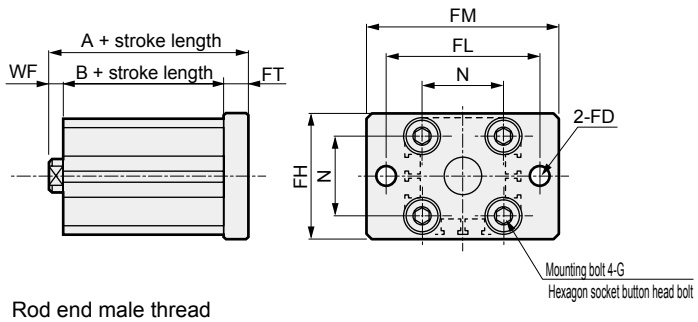
*2: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread A	Female thread B	Male thread A	Male thread B
φ12	45.5	32	56	32
φ16	45.5	32	57.5	32

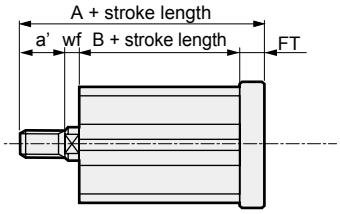
Note: The WF/wf dimension of the cylinder for FA is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and FA brackets.

Dimensions with accessories (Mounting bracket: FB)

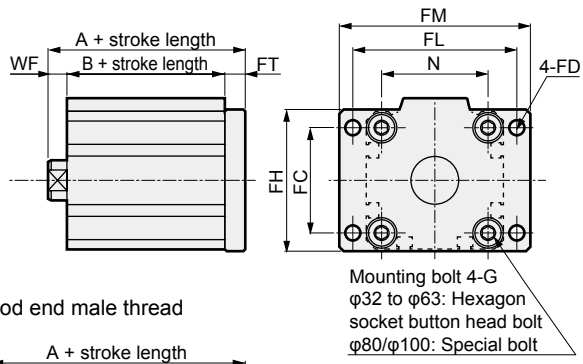
● φ12 to φ25



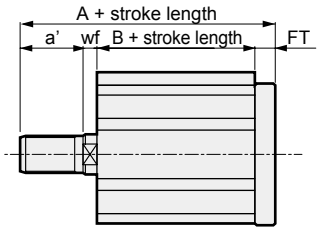
Rod end male thread



● φ32 to φ100



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions								Female thread					Male thread					
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch *1		a'	wf	Without switch		With switch *1	
										A	B	A	B			A	B	A	B
φ12	-	4.5	25	45	55	5.5	15.5	M4×12	3.5	26	17	31	22	10.5	3.5	36.5	17	41.5	22
φ16	-	4.5	30	45	55	5.5	20	M4×12	3.5	26	17	31	22	12	3.5	38	17	43	22
φ20	-	6.6	39	48	60	8	25.5	M6×16	4.5	32	19.5	42	29.5	14	4.5	46	19.5	56	29.5
φ25	-	6.6	42	52	64	8	28	M6×16	5	35.5	22.5	45.5	32.5	17.5	5	53	22.5	63	32.5
φ32	34	5.5	48	56	65	8	34	M6×16	7	38	23	48	33	23.5	5	59.5	23	69.5	33
φ40	40	5.5	54	62	72	8	40	M6×16	7	44.5	29.5	54.5	39.5	23.5	5	66	29.5	76	39.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	47.5	30.5	57.5	40.5	28.5	5	73	30.5	83	40.5
φ63	60	9	80	92	108	9	60	M10×25	8	53	36	63	46	28.5	5	78.5	36	88.5	46
φ80	77	11	99	116	134	11	77	M12×40	10	64.5	43.5	74.5	53.5	35.5	8	98	43.5	108	53.5
φ100	94	11	117	136	154	11	94	M12×40	12	76	53	86	63	35.5	8	107.5	53	117.5	63

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread		Male thread	
	A	B	A	B
φ12	36	27	46.5	27
φ16	36	27	48	27

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions								For female thread *1					For male thread *1					
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch *2		a'	wf	Without switch		With switch *2	
										A	B	A	B			A	B	A	B
φ12	-	4.5	25	45	55	5.5	15.5	M4×12	3.5	31	22	36	27	10.5	3.5	41.5	22	46.5	27
φ16	-	4.5	30	45	55	5.5	20	M4×12	3.5	31	22	36	27	12	3.5	43	22	48	27
φ20	-	6.6	39	48	60	8	25.5	M6×16	4.5	37	24.5	47	34.5	14	4.5	51	24.5	61	34.5
φ25	-	6.6	42	52	64	8	28	M6×16	5	40.5	27.5	50.5	37.5	17.5	5	58	27.5	68	37.5
φ32	34	5.5	48	56	65	8	34	M6×16	7	48	33	58	43	23.5	5	69.5	33	79.5	43
φ40	40	5.5	54	62	72	8	40	M6×16	7	54.5	39.5	64.5	49.5	23.5	5	76	39.5	86	49.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	57.5	40.5	67.5	50.5	28.5	5	83	40.5	93	50.5
φ63	60	9	80	92	108	9	60	M10×25	8	63	46	73	56	28.5	5	88.5	46	98.5	56
φ80	77	11	99	116	134	11	77	M12×40	10	74.5	53.5	84.5	63.5	35.5	8	108	53.5	118	63.5
φ100	94	11	117	136	154	11	94	M12×40	12	86	63	96	73	35.5	8	117.5	63	127.5	73

*1: For the long stroke length, dimensions are as below.

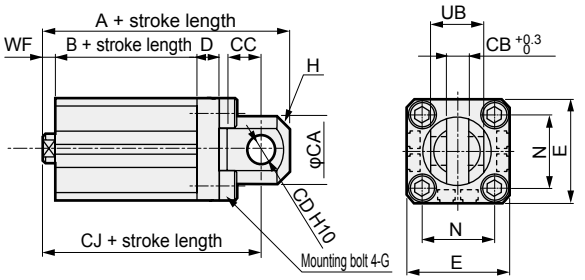
Code		Female thread				Male thread			
Bore size (mm)		Without switch		With switch		Without switch		With switch	
		A	B	A	B	A	B	A	B
φ20	Over 100 st	48.5	36	58.5	46	62.5	36	72.5	46
φ25	Over 150 st	54	41	64	51	71.5	41	81.5	51
φ32		55.5	40.5	65.5	50.5	77	40.5	87	50.5
φ40		64	49	74	59	85.5	49	95.5	59
φ50		71	54	81	64	96.5	54	106.5	64
φ63	Over 200 st	73	56	83	66	98.5	56	108.5	66
φ80		84.5	63.5	94.5	73.5	118	63.5	128	73.5
φ100		96	73	106	83	127.5	73	137.5	83

*2: When the stroke length with switch is 5 mm, dimensions are as below.

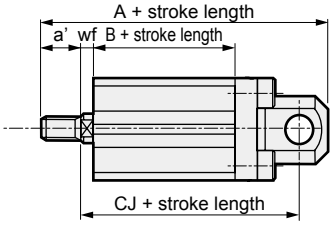
Bore size	Female thread		Male thread	
	A	B	A	B
φ12	41	32	51.5	32
φ16	41	32	53	32

Dimensions with accessories (Mounting bracket: CB)

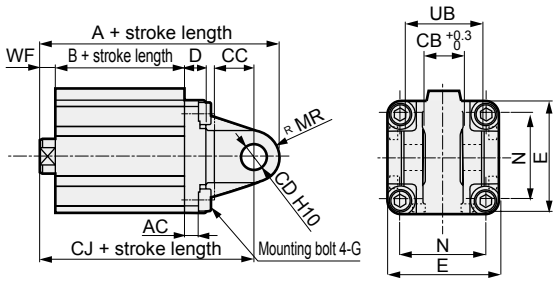
● φ12 to φ25



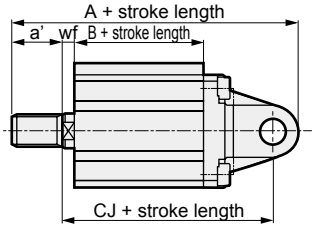
Rod end male thread



● φ32 to φ100



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions												Female thread							Male thread						
Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch *1			a'	wf	Without switch			With switch *1		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ12	-	13.5	6.6	7	5	5	25	M4×12	C1.5	-	15.5	12 -0.1 -0.4	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
φ16	-	15	6.6	8	5	5	29	M4×12	C2	-	20	12 -0.1 -0.4	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
φ20	-	24	8.1	12	10	8	36	M6×20	C4	-	25.5	19 -0.1 -0.4	4.5	57	19.5	47	67	29.5	57	14	4.5	71	19.5	47	81	29.5	57
φ25	-	27.5	10.1	16	12	8	40	M6×20	C5	-	28	21 -0.1 -0.4	5	66.5	22.5	54.5	76.5	32.5	64.5	17.5	5	84	22.5	54.5	94	32.5	64.5
φ32	9.5	-	10.1	16	12	10	45	M6×20	-	12	34	21 -0.1 -0.4	7	72	23	60	82	33	70	23.5	5	93.5	23	58	103.5	33	68
φ40	6.5	-	18.1	18	12	10	52	M6×20	-	12	40	36 -0.1 -0.4	7	80.5	29.5	68.5	90.5	39.5	78.5	23.5	5	102	29.5	66.5	112	39.5	76.5
φ50	6.5	-	18.1	18	12	10	64	M8×20	-	12	50	36 -0.1 -0.4	8	82.5	30.5	70.5	92.5	40.5	80.5	28.5	5	108	30.5	67.5	118	40.5	77.5
φ63	7.5	-	20.1	24	14	10	77	M10×25	-	16	60	40 -0.1 -0.4	8	97	36	81	107	46	91	28.5	5	122.5	36	78	132.5	46	88
φ80	10.5	-	28.1	30	20	14	98	M12×40	-	20	77	56 -0.1 -0.4	10	125.5	43.5	105.5	135.5	53.5	115.5	35.5	8	159	43.5	103.5	169	53.5	113.5
φ100	10.5	-	28.1	30	20	16	118	M12×40	-	20	94	56 -0.1 -0.4	12	137	53	117	147	63	127	35.5	8	168.5	53	113	178.5	63	123

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
φ12	50.5	27	44.5	61	27	44.5
φ16	51.5	27	45.5	63.5	27	45.5

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions												Female thread *1							Male thread *1						
Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch *2			a'	wf	Without switch			With switch *2		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ12	-	13.5	6.5 +0.4 +0.1	7	5	5	25	M4×12	C1.5	-	15.5	12 -0.1 -0.4	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
φ16	-	15	6.5 +0.4 +0.1	8	5	5	29	M4×12	C2	-	20	12 -0.1 -0.4	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
φ20	-	24	8 +0.4 +0.1	12	10	8	36	M6×20	C4	-	25.5	19 -0.1 -0.4	4.5	62	24.5	52	72	34.5	62	14	4.5	76	24.5	52	86	34.5	62
φ25	-	27.5	10 +0.4 +0.1	16	12	8	40	M6×20	C5	-	28	21 -0.1 -0.4	5	71.5	27.5	59.5	81.5	37.5	69.5	17.5	5	89	27.5	59.5	99	37.5	69.5
φ32	9.5	-	10 +0.4 +0.1	16	12	10	45	M6×20	-	12	34	21 -0.1 -0.4	7	82	33	70	92	43	80	23.5	5	103.5	33	68	13.5	43	78
φ40	6.5	-	18 +0.4 +0.1	18	12	10	52	M6×20	-	12	40	36 -0.1 -0.4	7	90.5	39.5	78.5	100.5	49.5	88.5	23.5	5	112	39.5	76.5	122	49.5	86.5
φ50	6.5	-	18 +0.4 +0.1	18	12	10	64	M8×20	-	12	50	36 -0.1 -0.4	8	92.5	40.5	80.5	102.5	50.5	90.5	28.5	5	118	40.5	77.5	128	50.5	87.5
φ63	7.5	-	20 +0.4 +0.1	24	14	10	77	M10×25	-	16	60	40 -0.1 -0.4	8	107	46	91	117	56	101	28.5	5	132.5	46	88	142.5	56	98
φ80	10.5	-	28 +0.4 +0.1	30	20	14	98	M12×40	-	20	77	56 -0.1 -0.4	10	135.5	53.5	115.5	145.5	63.5	125.5	35.5	8	169	53.5	113.5	179	63.5	123.5
φ100	10.5	-	28 +0.4 +0.1	30	20	16	118	M12×40	-	20	94	56 -0.1 -0.4	12	147	63	127	157	73	137	35.5	8	178.5	63	123	188.5	73	133

*1: For the long stroke length, dimensions are as below.

Code		Female thread						Male thread					
Bore size (mm)		Without switch			With switch *2			Without switch			With switch *2		
		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
φ20	Over 100 st	80	36	63.5	83.5	46	73.5	87.5	36	63.5	97.5	46	73.5
φ25	Over 150 st	90	41	73	95	51	83	102.5	41	73	112.5	51	83
φ32		91.5	40.5	77.5	99.5	50.5	87.5	111	40.5	75.5	121	50.5	85.5
φ40		101	49	88	110	59	98	121.5	49	86	131.5	59	96
φ50		115	54	94	116	64	104	131.5	54	91	141.5	64	101
φ63	Over 200 st	138	56	101	127	66	111	142.5	56	98	152.5	66	108
φ80		147.5	63.5	125.5	155.5	73.5	135.5	179	63.5	123.5	189	73.5	133.5
φ100		73	73	137	167	83	147	188.5	73	133	198.5	83	143

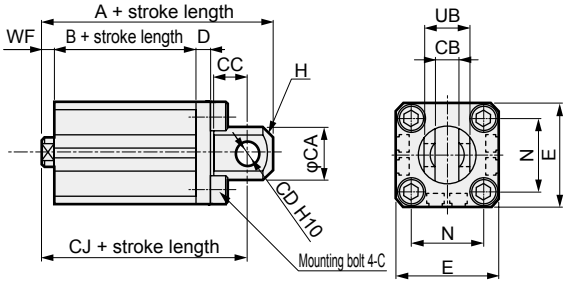
*2: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
φ12	55.5	32	49.5	66	32	49.5
φ16	56.5	32	50.5	68.5	32	50.5

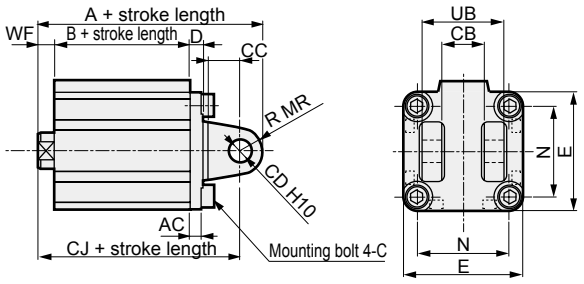
* A pin and a snap ring are attached.

Dimensions with accessories (Mounting bracket: CB2)

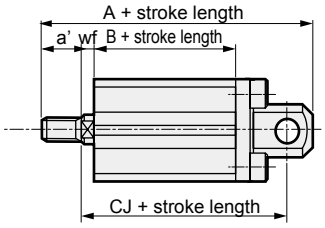
● φ12 to φ25



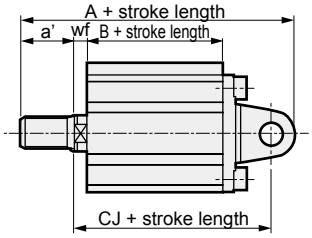
● φ32 to φ100



Rod end male thread



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code / Bore size (mm)	Common dimensions												Female thread							Male thread						
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch *1			a'	wf	Without switch			With switch *1		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ12	-	12	$5.2^{+0.2}_{0}$	7	5	4	25	M4×12	C1.5	-	15.5	$10^{-0.1}_{-0.3}$	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
φ16	-	15	$6.6^{+0.3}_{0}$	8	5	5	29	M4×12	C2	-	20	$12^{-0.1}_{-0.4}$	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
φ20	-	20	$8.2^{+0.2}_{0}$	12	8	5	36	M6×16	C4	-	25.5	$16^{-0.1}_{-0.3}$	4.5	51	19.5	42	61	29.5	52	14	4.5	65	19.5	42	75	29.5	52
φ25	-	24	$10.2^{+0.2}_{0}$	14	10	5	40	M6×16	C5	-	28	$20^{-0.1}_{-0.3}$	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
φ32	4.5	-	$18.2^{+0.2}_{0}$	14	10	5	45	M6×16	-	10	34	$36^{-0.1}_{-0.3}$	7	60	23	50	70	33	60	23.5	5	81.5	23	48	91.5	33	58
φ40	5	-	$18.2^{+0.2}_{0}$	14	10	6	52	M6×16	-	10	40	$36^{-0.1}_{-0.3}$	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
φ50	6	-	$22.2^{+0.2}_{0}$	20	14	7	64	M8×20	-	14	50	$44^{-0.1}_{-0.3}$	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
φ63	7	-	$22.2^{+0.2}_{0}$	20	14	8	77	M10×25	-	14	60	$44^{-0.1}_{-0.3}$	8	88	36	74	98	46	84	28.5	5	113.5	36	71	123.5	46	81
φ80	9	-	$28.2^{+0.2}_{0}$	27	18	10	98	M12×40	-	18	77	$56^{-0.1}_{-0.3}$	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
φ100	12	-	$32.2^{+0.2}_{0}$	31	22	13	117	M12×40	-	22	94	$64^{-0.1}_{-0.3}$	12	132	53	110	142	63	120	35.5	8	163.5	53	106	173.5	63	116

*1: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
φ12	50.5	27	44.5	61	27	44.5
φ16	51.5	27	45.5	63.5	27	45.5

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code / Bore size (mm)	Common dimensions												Female thread *1							Male thread *1						
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch *2			a'	wf	Without switch			With switch *2		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ12	-	12	$5.2^{+0.2}_{0}$	7	5	4	25	M4×12	C1.5	-	15.5	$10^{-0.1}_{-0.3}$	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
φ16	-	15	$6.6^{+0.3}_{0}$	8	5	5	29	M4×12	C2	-	20	$12^{-0.1}_{-0.4}$	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
φ20	-	20	$8.2^{+0.2}_{0}$	12	8	5	36	M6×16	C4	-	25.5	$16^{-0.1}_{-0.3}$	4.5	56	24.5	47	66	34.5	57	14	4.5	70	24.5	47	80	34.5	57
φ25	-	24	$10.2^{+0.2}_{0}$	14	10	5	40	M6×16	C5	-	28	$20^{-0.1}_{-0.3}$	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
φ32	4.5	-	$18.2^{+0.2}_{0}$	14	10	5	45	M6×16	-	10	34	$36^{-0.1}_{-0.3}$	7	70	33	60	80	43	70	23.5	5	91.5	33	58	101.5	43	68
φ40	5	-	$18.2^{+0.2}_{0}$	14	10	6	52	M6×16	-	10	40	$36^{-0.1}_{-0.3}$	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
φ50	6	-	$22.2^{+0.2}_{0}$	20	14	7	64	M8×20	-	14	50	$44^{-0.1}_{-0.3}$	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
φ63	7	-	$22.2^{+0.2}_{0}$	20	14	8	77	M10×25	-	14	60	$44^{-0.1}_{-0.3}$	8	98	46	84	108	56	94	28.5	5	123.5	46	81	133.5	56	91
φ80	9	-	$28.2^{+0.2}_{0}$	27	18	10	98	M12×40	-	18	77	$56^{-0.1}_{-0.3}$	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
φ100	12	-	$32.2^{+0.2}_{0}$	31	22	13	117	M12×40	-	22	94	$64^{-0.1}_{-0.3}$	12	142	63	120	152	73	130	35.5	8	173.5	63	116	183.5	73	126

*1: For the long stroke length, dimensions are as below.

Code / Bore size (mm)		Female thread						Male thread					
		Without switch			With switch *2			Without switch			With switch *2		
		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
φ20	Over 100 st	71	36	58.5	77.5	46	68.5	81.5	36	58.5	91.5	46	68.5
φ25	Over 150 st	78	41	66	86	51	76	93.5	41	66	103.5	51	76
φ32		79.5	40.5	67.5	87.5	50.5	77.5	99	40.5	65.5	109	50.5	75.5
φ40		99	49	78	98	59	88	109.5	49	76	119.5	59	86
φ50		106	54	90	114	64	100	129.5	54	87	139.5	64	97
φ63	Over 200 st	122	56	94	118	66	104	133.5	56	91	143.5	66	101
φ80		142.5	63.5	111.5	139.5	73.5	121.5	163	63.5	109.5	173	73.5	119.5
φ100		73	73	130	162	83	140	183.5	73	126	193.5	83	136

*2: When the stroke length with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
φ12	55.5	32	49.5	66	32	49.5
φ16	56.5	32	50.5	68.5	32	50.5

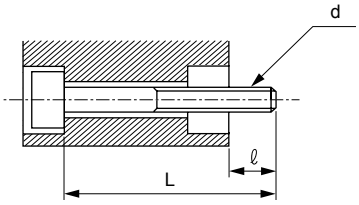
* A pin and a snap ring are attached.

How to order mounting bolts

SSD - **BOLT** - **d×L**

Mounting bolts (Bolts are available in units of 4 bolts per set.)

How to read the list



Material: Steel
Treatment: Black finish

d : Mounting bolt screw diameter
L : Mounting bolt length
ℓ : Mating side screw-in available length
(Note) The mounting bolts will be displayed as d × L.

For SSD- □

Model No.	ℓ	d×L
SSD-12- 5	6.5	M3×25
10		×30
15		×35
20		×40
25		×45
30		×50
SSD-16- 5		M3×25
10		×30
15		×35
20		×40
25		×45
30		×50
SSD-20- 5	6	M5×25
10		×30
15		×35
20		×40
25		×45
30		×50
SSD-25- 5	8	M5×30
10		×35
15		×40
20		×45
25		×50
30		×55
40		×65
50		×75
SSD-32- 5	7.5	M5×30
10		×35
15		×40
20		×45
25		×50
30		×55
40		×65
50		×75

Model No.	ℓ	d×L
SSD-40- 5	6	M5× 35
10		× 40
15		× 45
20		× 50
25		× 55
30		× 60
40		× 70
50		× 80
SSD-50- 5	11	M6× 40
10		× 45
15		× 50
20		× 55
25		× 60
30		× 65
40		× 75
50		× 85
SSD-63- 5	13	M8× 45
10		× 50
20		× 60
30		× 70
40		× 80
50		× 90
SSD-80- 5	17.5	M10× 55
10		× 60
20		× 70
30		× 80
40		× 90
50		×100

Model No.	ℓ	d×L
SSD-100- 5	18	M10× 65
10		× 70
20		× 80
30		× 90
40		×100
50		×110
SSD-125- 10	21	M12× 90
20		×100
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180
SSD-140- 10	21	M12 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190
SSD-160- 10	24.2	M14 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190

For SSD-L-□

Model No.	ℓ	d×L
SSD-L-12- 5	6.5	M3×35
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-L-16- 5		M3×35
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-L-20- 5	6	M5×35
10		×40
15		×45
20		×50
25		×55
30		×60
SSD-L-25- 5	8	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85
SSD-L-32- 5	7.5	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85

Model No.	ℓ	d×L
SSD-L-40- 5	6	M5× 45
10		× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
SSD-L-50- 5	11	M6× 50
10		× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50		× 95
SSD-L-63- 5	13	M8× 55
10		× 60
20		× 70
30		× 80
40		× 90
50		×100
SSD-L-80- 5	17.5	M10× 65
10		× 70
20		× 80
30		× 90
40		×100
50		×110

Model No.	ℓ	d×L
SSD-L-100- 5	18	M10× 75
10		× 80
20		× 90
30		×100
40		×110
50		×120
SSD-L-125- 10	21	M12× 90
20		×100
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180
SSD-L-140- 10	21	M12 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190
SSD-L-160- 10	24.2	M14 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190

For SSD-$^{X}_{Y}$-□

Model No.	ℓ	d×L
SSD-$^{X}_{Y}$-12- 5	6.5	M3×25
10		×30
-16- 5		M3×25
10		×30
-20- 5	6	M5×25
10		×30

Model No.	ℓ	d×L
SSD-$^{X}_{Y}$-25- 5	8	M5×30
10		×35
-32- 5	7.5	M5×30
10		×35
-40-10	6	M5×40
20		×50

Model No.	ℓ	d×L
SSD-$^{X}_{Y}$-50-10	11	M6×45
20		×55

For SSD-$^{XL}_{YL}$-□

Model No.	ℓ	d×L
SSD-$^{XL}_{YL}$-12- 5	6.5	M3×35
10		×35
-16- 5		M3×35
10		×35
-20- 5	6	M5×35
10		×40

Model No.	ℓ	d×L
SSD-$^{XL}_{YL}$-25- 5	8	M5×40
10		×45
-32- 5	7.5	M5×40
10		×45
-40-10	6	M5×50
20		×60

Model No.	ℓ	d×L
SSD-$^{XL}_{YL}$-50-10	11	M6×55
20		×65

For SSD-D-□

Model No.	ℓ	d×L
SSD-D-12- 5	6.5	M3×30
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-D-16- 5		M3×30
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-D-20- 5	9.5	M5×35
10		×40
15		×45
20		×50
25		×55
30		×60
SSD-D-25- 5		M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85
SSD-D-32- 5	10	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85

Model No.	ℓ	d×L
SSD-D-40- 5	6.5	M5× 45
10		× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
SSD-D-50- 5	7.5	M6× 45
10		× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
SSD-D-63- 5	13	M8× 50
10		× 55
20		× 65
30		× 75
40		× 85
50		× 95
SSD-D-80- 5	12.5	M10× 55
10		× 60
20		× 70
30		× 80
40		× 90
50		×100
SSD-D-100- 5	13	M10× 65
10		× 70
20		× 80
30		× 90
40		×100
50		×110

Model No.	ℓ	d×L
SSD-D-125- 10	21	M12× 90
20		×100
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180
SSD-D-140- 10	21	M12 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190
SSD-D-160- 10	24.2	M14 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190

For SSD-DL-□

Model No.	ℓ	d×L
SSD-DL-12- 5	6.5	M3× 35
10		× 40
15		× 45
20		× 50
25		× 55
30		× 60
SSD-DL-16- 5		M3× 35
10		× 40
15		× 45
20		× 50
25		× 55
30		× 60
SSD-DL-20- 5	9.5	M5× 45
10		× 50
15		× 55
20		× 60
25		× 65
30		× 70
SSD-DL-25- 5		M5× 50
10		× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50	14.5	×100
SSD-DL-32- 5	10	M5× 50
10		× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50	15	×100

Model No.	ℓ	d×L
SSD-DL-40- 5	6.5	M5× 55
10		× 60
15		× 65
20		× 70
25		× 75
30		× 80
40		× 90
50		×100
SSD-DL-50- 5	7.5	M6× 55
10		× 60
15		× 65
20		× 70
25		× 75
30		× 80
40		× 90
50		×100
SSD-DL-63- 5	13	M8× 60
10		× 65
20		× 75
30		× 85
40		× 95
50	18	×110
SSD-DL-80- 5	12.5	M10× 65
10		× 70
20		× 80
30		× 90
40		×100
50		×110
SSD-DL-100- 5	13	M10× 75
10		× 80
20		× 90
30		×100
40		×110
50		×120

Model No.	ℓ	d×L
SSD-DL-125- 10	21	M12× 90
20		×100
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180
SSD-DL-140- 10	21	M12 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190
SSD-DL-160- 10	24.2	M14 ×100
20		×110
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190

For SSD-K-□

Model No.	ℓ	d×L
SSD-K-12- 5	6.5	M3× 30
10		× 35
15		× 40
20		× 45
25		× 50
30		× 55
40		× 65
50		× 75
SSD-K-16- 5	6.5	M3× 30
10		× 35
15		× 40
20		× 45
25		× 50
30		× 55
40		× 65
50		× 75
SSD-K-20- 5	6	M5× 30
10		× 35
15		× 40
20		× 45
25		× 50
30		× 55
40		× 65
50		× 75
SSD-K-25- 10	8	M5× 40
15		× 45
20		× 50
25		× 55
30		× 60
40		× 70
50		× 80
60		× 90
70		×100
80		×110
90		×120
100		×130

Model No.	ℓ	d×L
SSD-K-32- 10	12.5	M5× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
60		×100
70		×110
80		×120
90		×130
100		×140
SSD-K-40- 10	6	M5× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
60		×100
70		×110
80		×120
90		×130
100		×140
SSD-K-50- 10	11	M6× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50	16	× 95
60		×110
70		×120
80		×130
90		×140
100		×150

Model No.	ℓ	d×L
SSD-K-63- 10	13	M8× 60
20		× 70
30		× 80
40		× 90
50		×100
60		×110
70		×120
80		×130
90		×140
100		×150
SSD-K-80- 10	17.5	M10× 70
20		× 80
30		× 90
40		×100
50		×110
60		×120
70		×130
80		×140
90		×150
100		×160
SSD-K-100- 10	18	M10× 80
20		× 90
30		×100
40		×110
50		×120
60		×130
70		×140
80		×150
90		×160
100		×170

For SSD-KL-□

Model No.	ℓ	d×L
SSD-KL-12- 5	6.5	M3× 35
10		× 40
15		× 45
20		× 50
25		× 55
30		× 60
40		× 70
50		× 80
SSD-KL-16- 5	6.5	M3× 35
10		× 40
15		× 45
20		× 50
25		× 55
30		× 60
40		× 70
50		× 80
SSD-KL-20- 5	6	M5× 40
10		× 45
15		× 50
20		× 55
25		× 60
30		× 65
40		× 75
50		× 85
SSD-KL-25- 10	8	M5× 50
15		× 55
20		× 60
25		× 65
30		× 70
40		× 80
50		× 90
60		×100
70		×110
80		×120
90		×130
100		×140

Model No.	ℓ	d×L
SSD-KL-32- 10	12.5	M5× 60
15		× 65
20		× 70
25		× 75
30		× 80
40		× 90
50		×100
60		×110
70		×120
80		×130
90		×140
100		×150
SSD-KL-40- 10	6	M5× 60
15		× 65
20		× 70
25		× 75
30		× 80
40		× 90
50		×100
60		×110
70		×120
80		×130
90		×140
100		×150
SSD-KL-50- 10	11	M6× 65
15		× 70
20		× 75
25		× 80
30		× 85
40		× 95
50	16	×110
60		×120
70		×130
80		×140
90		×150
100		×160

Model No.	ℓ	d×L
SSD-KL-63- 10	13	M8× 70
20		× 80
30		× 90
40		×100
50		×110
60		×120
70		×130
80		×140
90		×150
100		×160
SSD-KL-80- 10	17.5	M10× 80
20		× 90
30		×100
40		×110
50		×120
60		×130
70		×140
80		×150
90		×160
100		×170
SSD-KL-100- 10	18	M10× 90
20		×100
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180

For SSD-M-□

Model No.	ℓ	d×L
SSD-M-12- 5	6.5	M3×30
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-M-16- 5		M3×30
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-M-20- 5	6	M5×30
10		×35
15		×40
20		×45
25		×50
30		×55
SSD-M-25- 5	8	M5×35
10		×40
15		×45
20		×50
25		×55
30		×60
40		×70
50		×80

Model No.	ℓ	d×L
SSD-M-32- 5	7.5	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85
SSD-M-40- 5	6	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
40		×75
50		×85
SSD-M-50- 5	11	M6×45
10		×50
15		×55
20		×60
25		×65
30		×70
40		×80
50		×90

Model No.	ℓ	d×L
SSD-M-63- 5	13	M8×50
10		×55
20		×65
30		×75
40		×85
50		×95

For SSD-ML-□

Model No.	ℓ	d×L
SSD-ML-12- 5	6.5	M3×40
10		×40
15		×45
20		×50
25		×55
30		×60
SSD-ML-16- 5		M3×40
10		×40
15		×45
20		×50
25		×55
30		×60
SSD-ML-20- 5	6	M5×40
10		×45
15		×50
20		×55
25		×60
30		×65
SSD-ML-25- 5	8	M5×45
10		×50
15		×55
20		×60
25		×65
30		×70
40		×80
50		×90

Model No.	ℓ	d×L
SSD-ML-32- 5	7.5	M5× 50
10		× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50	12.5	×100
SSD-ML-40- 5	6	M5× 50
10		× 55
15		× 60
20		× 65
25		× 70
30		× 75
40		× 85
50	11	×100
SSD-ML-50- 5	11	M6× 55
10		× 60
15		× 65
20		× 70
25		× 75
30		× 80
40		× 90
50		×100

Model No.	ℓ	d×L
SSD-ML-63- 5	13	M8× 60
10		× 65
20		× 75
30		× 85
40		× 95
50	18	×110

For SSD-Q□H/R

Model No.	ℓ	d×L
SSD-Q-16- 5	5.5	M3× 60
10		× 65
15		× 70
20		× 75
25		× 80
30	10.5	× 90
40		×100
50	When bolts are not available, screw-mount the body.	
SSD-Q-20- 5	12.5	M5× 65
10		× 70
15		× 75
20		× 80
25		× 85
30		× 90
40		×100
50		×110

Model No.	ℓ	d×L
SSD-Q-25- 10	9.5	M5× 70
15		× 75
20		× 80
25		× 85
30		× 90
40		×100
50		×110
60		×120
70		×130
80		×140
90		×150
100		×160
SSD-Q-32- 10	13.5	M5× 80
15		× 85
20		× 90
25		× 95
30		×100
40		×110
50		×120
60		×130
70		×140
80		×150
90		×160
100		×170

Model No.	ℓ	d×L
SSD-Q-40- 10	10	M5× 90
15		× 95
20		×100
25		×105
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180
SSD-Q-50- 10	12	M6×110
15		×115
20		×120
25		×125
30		×130
40		×140
50		×150
60		×160
70		×170
80		×180
90		×190
100		×200

Model No.	ℓ	d×L
SSD-Q-63- 10	19	M8×120
20		×130
30		×140
40		×150
50		×160
60		×170
70		×180
80		×190
90		×200
100		×210
SSD-Q-80- 10	12	M10×140
20		×150
30		×160
40		×170
50		×180
60		×190
70		×200
80		×210
90		×220
100		×230
SSD-Q-100- 10	12	M10×140
20		×150
30		×160
40		×170
50		×180
60		×190
70		×200
80		×210
90		×220
100		×230

For SSD-QL□H/R

Model No.	ℓ	d×L
SSD-QL-16- 5	5.5	M3× 65
10		× 70
15		× 75
20		× 80
25	10.5	× 90
30	5.5	× 90
40		×100
50	When bolts are not available, screw-mount the body.	
SSD-QL-20- 5	12.5	M5× 75
10		× 80
15		× 85
20		× 90
25		× 95
30		×100
40		×110
50		×120

Model No.	ℓ	d×L
SSD-QL-25- 10	9.5	M5× 80
15		× 85
20		× 90
25		× 95
30		×100
40		×110
50		×120
60		×130
70		×140
80		×150
90		×160
100		×170
SSD-QL-32- 10	13.5	M5× 90
15		× 95
20		×100
25		×105
30		×110
40		×120
50		×130
60		×140
70		×150
80		×160
90		×170
100		×180

Model No.	ℓ	d×L
SSD-QL-40- 10	10	M5×100
15		×105
20		×110
25		×115
30		×120
40		×130
50		×140
60		×150
70		×160
80		×170
90		×180
100		×190
SSD-QL-50- 10	12	M6×120
15		×125
20		×130
25		×135
30		×140
40		×150
50		×160
60		×170
70		×180
80		×190
90		×200
100		×210

Model No.	ℓ	d×L
SSD-QL-63- 10	19	M8×130
20		×140
30		×150
40		×160
50		×170
60		×180
70		×190
80		×200
90		×210
100		×220
SSD-QL-80- 10	12	M10×150
20		×160
30		×170
40		×180
50		×190
60		×200
70		×210
80		×220
90		×230
100		×240
SSD-QL-100- 10	12	M10×150
20		×160
30		×170
40		×180
50		×190
60		×200
70		×210
80		×220
90		×230
100		×240