

Space-Saving Type

SSD2
Compact Cylinders

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63
ø80, ø100, ø125, ø140, ø160, ø180, ø200



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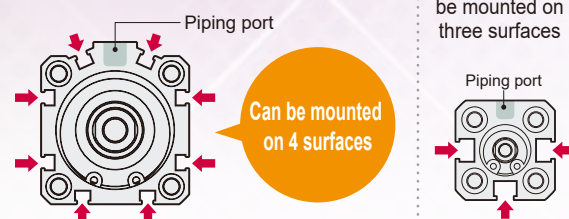
Wide variations, compact type with switch mountable on 4 surfaces

Space-saving cylinder with a compact overall length compared to general types. Can be installed even in limited spaces, contributing to equipment miniaturization.

Cylinder switch grooves on all 4 surfaces

Cylinder switches can also be mounted on the same surface as the piping port, improving visibility and maintainability. (ø20 to ø200)

● Cylinder switch groove position (ø20 to ø200)



Same dimensions even with rubber cushion

Even if the rubber cushion is selected, the overall length dimension remains the same.

Abundant standard stroke settings

Finer stroke settings compared to conventional products. Optimal model can be selected according to the design.

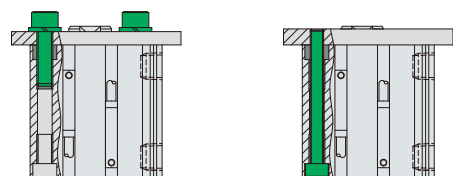
Through hole + taps on both ends equipped as standard

Mounting direction does not need to be selected when choosing the model number. Contributes to reduction in design man-hours and spare parts.

Rod Side Mounting

Screw-in mounting

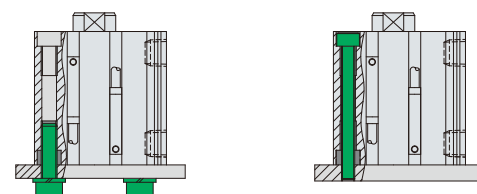
Through-bolt mounting



Head Side Mounting

Screw-in mounting

Through-bolt mounting



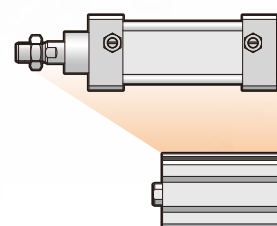
Compact overall length

SCA2: SCA2-00-40B-50

SSD2: SSD2-L-40-50

SCA2
200.5 mm

SSD2
96.5 mm



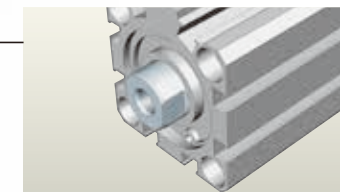
Shorter overall length with dedicated body

Supports stroke increments of 1 mm without using spacers. (Basic type only, ø125 to ø200 standard, ø12 to ø100 optional)

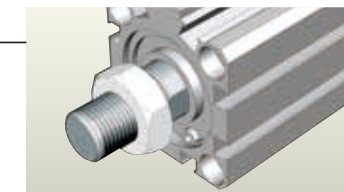
Selectable rod end thread

Rod end can be selected as female thread (standard) or male thread (option).

Female thread
(Standard)

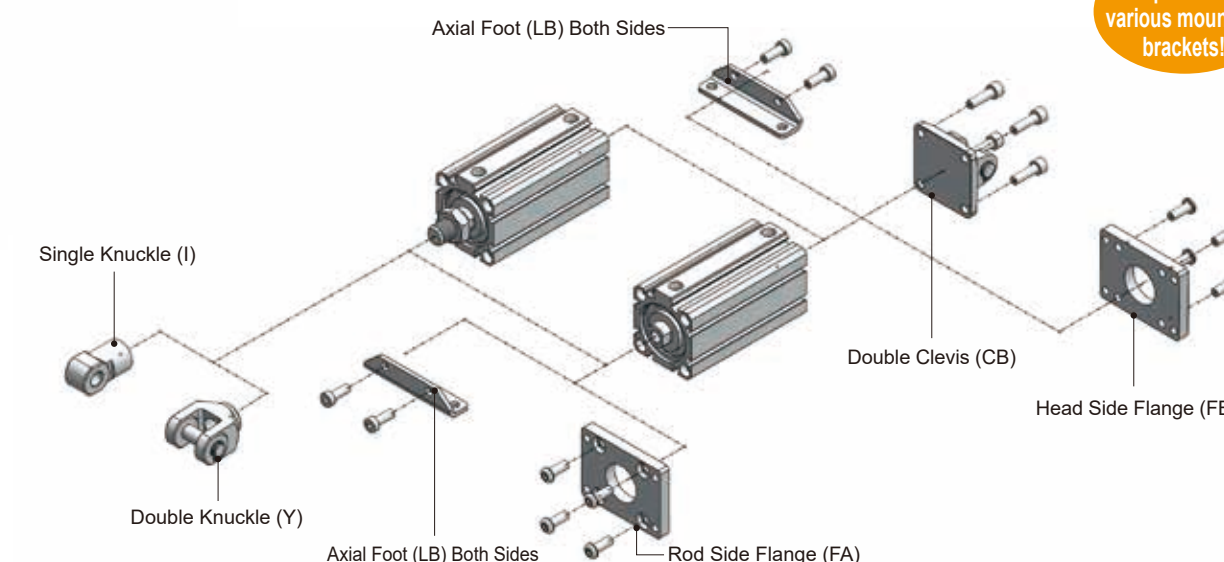


Male thread
(Option)



Abundant Mounting Brackets

Achieves high design flexibility with a wide variety of mounting brackets.



SSD2 Series Product System

Series		Bore size (mm)	Series		Bore size (mm)
Single rod	SSD2	ø12 to ø200	Rubber scraper	SSD2-G	ø20 to ø100
High load	SSD2-K	ø12 to ø100	Coolant proof	SSD2-G2/G3	ø16 to ø100
Long stroke	SSD2-L	ø12 to ø100	High load/coolant proof	SSD2-KG2/KG3	ø16 to ø100
Single Acting, Push Type	SSD2-X	ø12 to ø50	Coil scraper	SSD2-G1	ø25 to ø100
Single acting/pull	SSD2-Y	ø12 to ø50	Anti-spatter adherence	SSD2-G4	ø25 to ø100
Heat resistance	SSD2-T1	ø12 to ø100	High load/coil scraper	SSD2-KG1	ø25 to ø100
With heat resistant cylinder switch	SSD2-T1L	ø16 to ø63	High load/ anti-spatter adherence	SSD2-KG4	ø25 to ø100
High load/rubber-air cushioned	SSC2-K-□ C	ø20 to ø100	Double rod/coil scraper	SSD2-DG1	ø25 to ø100
Position locking	SSD2-Q	ø20 to ø100	Double rod/anti-spatter adherence	SSD2-DG4	ø25 to ø100
Fine speed/high load/fine speed	SSD2-F/SSD2-KF	ø12 to ø100	Environment-resistant scraper	SSD2-G5	ø20 to ø100
Low speed	SSD2-O	ø12 to ø100	High load/environment-resistant scraper	SSD2-KG5	ø20 to ø100
High load/low friction	SSD2-KU	ø20 to ø100	With strong magnetic field proof switch	SSD2-L4	ø40 to ø100
Double rod	SSD2-D	ø12 to ø200	With strong magnetic field proof switch with coil scraper	SSD2-G1L4	ø40 to ø100
Back to back	SSD2-B	ø12 to ø100	High load/with strong magnetic field proof switch	SSD2-KL4	ø40 to ø100
Two-stage	SSD2-W	ø12 to ø100	High load with strong magnetic field proof switch/coil scraper	SSD2-KG1L4	ø40 to ø100
rotation-stop	SSD2-M	ø12 to ø63			
Double rod/rotation-stop	SSD2-DM	ø12 to ø63			

System Table

Compact Cylinder SSD2 Series

●: Standard, ◎: Option, ○: Custom Products, △: Available depending on conditions (Contact CKD) □: Not manufacturable

Variation	Model No.	Bore Size (mm)	Standard Stroke (mm)																			Min. Stroke (mm)	Max. Stroke (mm)	Intermediate Stroke (mm)	Option		Mounting bracket					Switch	Page
																									Rod end male thread	Dedicated body for intermediate stroke	Foot	Double Clevis	Rod Side Flange	Head Side Flange			
			5	10	15	20	25	30	35	40	45	50	70	75	100	125	150	175	200	250	300										N		
Double Acting, Single Rod Type with Switch	SSD2	ø12, ø16	●	●	●	●	●														30							12					
	SSD2-L	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50		○	○	○	○	○						
	SSD2	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●							100	1					○						
	Large Bore	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●						300		○	●									
		ø125, ø140, ø160, ø180, ø200	●		●		●		●		●		●	●	●	●	●	●	●	●													
Double Acting, Single Rod High Load Type with Switch	SSD2-K	ø12, ø16	●	●	●	●	●	●													30							36					
	SSD2-KL	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50	1	○	○	○	○	○						
	SSD2-KL	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●							100												
		ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●						300												
Double Acting, Single Rod Type, Long Stroke with Switch	SSD2	ø12, ø16								●	●	●	●	●	●						31	100						48					
	SSD2-L	ø20											●	●	●	●	●	●	●		200	1	○		○	○	○						
	SSD2-L	ø25											●	●	●	●	●	●	●	●	300												
		ø32 • ø40 • ø50 • ø63 • ø80 • ø100												●	●	●	●	●	●	●	101												
Single Acting, Push Type with Switch	SSD2-X	ø12, ø16, ø20, ø25, ø32, ø40	●	●																	10		-	○		○	○	○	60				
	SSD2-XL	ø50		●		●															20												
Single Acting, Retracting Type with Switch	SSD2-Y	ø12, ø16, ø20, ø25, ø32, ø40	●	●																	10		-	○		○	○	○	60				
	SSD2-YL	ø50		●		●															20												
Double Acting/ Heat Resistant Type	SSD2-T1	ø12, ø16	●	●	●	●	●														30							78					
	SSD2-T1	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50	1	○		○	○	○						
	SSD2-T1	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●							100												
	SSD2-T1	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●						300												
Double Acting, With Heat Resistant Cylinder Switch	SSD2-T1L	ø16		●	●	●	●														30							82					
	SSD2-T1L	ø20, ø25			●	●	●	●	●	●	●	●	●	●							50	1	○		○	○	○						
	SSD2-T1L	ø32, ø40			●	●	●	●	●	●	●	●	●	●	●						100												
	SSD2-T1L	ø50, ø63			●	●	●	●	●	●	●	●	●	●	●	●					300												
Double Acting, High Load, With Rubber Air Cushion, With Switch	SSD2-K* ^C	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50							92					
	SSD2-KL* ^C	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●	●						100	1	○		○	○	○						
	SSD2-KL* ^C	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●	●					300												
Double Acting, Fall Prevention Type with Switch	SSD2-Q	ø20, ø25, ø32, ø40, ø50, ø63	●	●	●	●					●		●	●							10	100	-	○		○	○	○	100				
	SSD2-QL	ø80, ø100				●					●		●	●							25												
Double Acting, Creep Speed Type with Switch	SSD2-F	ø12, ø16	●	●	●	●	●														30							114					
	SSD2-LF	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50	1	○		○	○	○						
	SSD2-KF	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●	●						100												
	SSD2-KLF	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●	●					300												
Double Acting, Low Speed Type with Switch	SSD2-O	ø12, ø16	●	●	●	●	●														30							118					
	SSD2-OL	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50	1	○		○	○	○						
	SSD2-OL	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●	●						100												
	SSD2-OL	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●	●					300												
Double Acting, High Load, Low Friction Type with Switch	SSD2-KU	ø20, ø25	●	●	●	●	●	●	●	●	●	●									50							124					
	SSD2-KUL	ø32, ø40	●	●	●	●	●	●	●	●	●	●	●	●	●						100	1	○		○	○	○						
	SSD2-KUL	ø50, ø63, ø80, ø100		●	●	●	●	●	●	●	●	●	●	●	●	●					300												

●: Standard, ◎: Option, ○: Custom Products, △: Available depending on conditions (Contact CKD) □: Not manufacturable

Variation	Model No.	Bore Size (mm)	Standard Stroke (mm)																									Min. Stroke	Max. Stroke	Intermediate Stroke	Option	Mounting bracket					Switch	Page																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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			5	10	15	20	25	30	35	40	45	50	70	75	100	125	150	175	200	250	300	(mm)	(mm)	(mm)	N	LB	CB				FA	FB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
Double Acting, Double Rod Type with Switch	SSD2-D	ø12, ø16	●	●	●	●	●														30																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

Combination Availability Table for Variations and Option Items

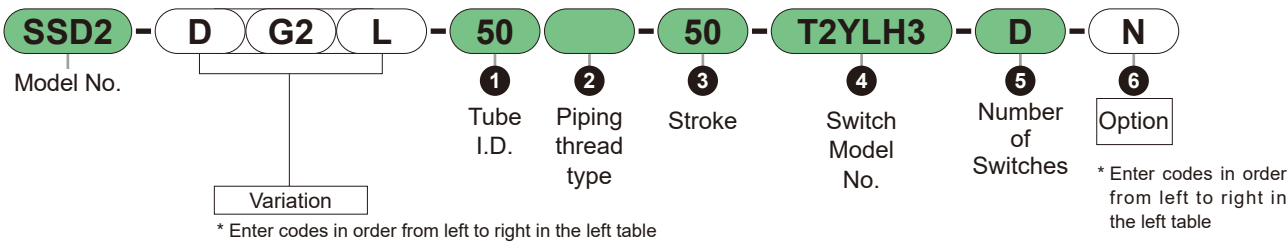
SSD2 (ø100 or less)

●symbol: Standard ○symbol: Option ○symbol: Custom △symbol: Available depending on conditions (Contact CKD) X: Not manufacturable

Category		Category	Variation											Variation										Piping thread			Option			
			Double Acting Basic Type	High Load Type	Single Acting, Push Type	Single Acting, Retracting Type	Double Acting Double Rod Type	Back-to-Back Type	Two-Stage Type	With Fall Prevention	Non-Rotating Type	Heat Resistant 150°C Specification			Low Speed Type	Low Friction Type	Heavy-duty Scraper	Metal Scraper	Cutting Oil Resistant Scraper Type	Cutting Oil Resistant Scraper Type	Sputter adhesion prevention type	With Switch	With Switch, Strong Magnetic Field	With Switch, Heat Resistant	Low speed type	NPT	G		Piston Rod Stainless Steel	Piston Rod End Male Thread
Variation		Code	None	K	X	Y	D	B	W	Q	M	T1		O	KU	G	G1	G2	G3	G4	L	L4	T1L	F	NN	GN		M	N	
	Double Acting Basic Type	Blank																												
	High Load Type	K			X	X	△	○	△	△	○	X		○		○	○	○	○	○	○	○	X	○	○	○		◎	◎	
	Single Acting, Push Type	X				X	△	○	X	X	△	X		X	X	△	△	△	△	△	◎	○	X	X	○	○		◎	◎	
	Single Acting, Retracting Type	Y					△	○	X	X	△	X		X	X	△	△	△	△	△	◎	○	X	X	○	○		◎	◎	
	Double Acting Double Rod Type	D						X	X	△	○	○		○	X	○	○	○	○	○	◎	○	○	○	○	○		◎	◎	
	Back-to-Back Type	B							X	○	○	○		○	○	○	○	○	○	◎	○	○	○	○	○		◎	◎		
	Two-Stage Type	W								X	○	○		○	X	△	△	△	△	△	◎	○	○	○	○	○		◎	◎	
	With Fall Prevention	Q									△	X		△	X	△	△	△	△	△	◎	○	△	△	○	○		△	◎	
	Non-Rotating Type	M										X		○	X	X	X	X	X	X	◎	○	X	○	○	○		◎	◎	
	Heat Resistant Type (150°C)	T1												X	X	X	○	X	X	X	X	X	X	X	○	○		◎	◎	
	Low Speed Type	O													X	X	X	X	X	X	◎	○	X	X	○	○		◎	◎	
	Low Friction Type	KU															X	X	X	X	◎	◎	X	X	○	○		○	◎	
	With Heavy-duty Scraper	G															X	X	X	X	○	○	X	X	○	○		○	○	
	With Metal Scraper	G1																X	X	X	◎	○	X	X	○	○		○	○	
	With Cutting Oil Resistant Scraper (NBR)	G2																	X	X	◎	○	X	X	○	○		*1	◎	
	With Cutting Oil Resistant Scraper (FKM)	G3																		X	◎	X	X	X	○	○		*1	◎	
	Sputter adhesion prevention type	G4																			X	◎	○	X	X	○	○		○	○
	With Cylinder Switch	L																				○	X	◎	○	○		◎	◎	
	With Cylinder Switch (For Strong Magnetic Field)	L4																					X	○	○	○		○	◎	
With Cylinder Switch (For Heat Resistance)	T1L																						X	○	○		○	◎		
Piping	Low speed type	F																							○	○		○	◎	
	NPT (ø32 to ø100)	NN																							X			○	○	
	G (ø32 to ø100)	GN																										○	○	
Option																														
	Piston Rod Material Stainless Steel (Including C-type retaining ring)	M																											◎	
	Piston Rod End Male Thread	N																												
Accessories																														
	Cylinder Switch	Separately Shown	◎	◎	◎	◎	◎	◎	◎	◎	◎	X		◎		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎	◎	
	Single Knuckle (Male thread only)	I	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎		◎	◎	△	△	◎	◎	◎	◎	◎	◎	◎		△	◎	
	Double Knuckle (Male thread only)	Y	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎		◎	◎	△	△	◎	◎	◎	◎	◎	◎	◎		△	◎	
	Mounting Bracket LB With Bolts	LB	◎	◎	◎	◎	◎	△	△	◎	◎	◎		◎		△	△	△	△	△	◎	◎	◎	◎	◎	◎		△	◎	
	Mounting Bracket CB With Bolts & Pins	CB	◎	◎	◎	◎	X	X	△	◎	◎	◎		◎		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		△	◎	
	Mounting Bracket FA With Bolts	FA	◎	◎	◎	◎	◎	△	△	◎	◎	◎		◎		△	△	△	△	△	◎	◎	◎	◎	◎	◎		△	◎	
	Mounting Bracket FB With Bolts	FB	◎	◎	◎	◎	X	X	△	◎	◎	◎		◎		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		△	◎	
	Mounting Bolt	Separately Shown	◎	◎	◎	◎	◎	X	X	◎	◎	◎		◎		◎	◎	△	△	◎	◎	◎	◎	◎	◎		△	◎		

*1: For "G2" and "G3", the material of the piston rod and C-type retaining ring is stainless steel. The "M" code is not necessary.

[Model Number Indication Example]



- Model No. Compact Cylinder
- Variation Double rod/coolant proof scraper/with switch
- 1 Bore size: ø50 mm
 - 2 Port Thread Type: Rc Thread
 - 3 Stroke: 50 mm
 - 4 Switch Model No.: Coolant proof switch, 3 m lead wire
 - 5 Number of Switches: With 2 pcs
 - 6 Option: Rod end male thread

*1: Back-to-back type has two cylinders. When indicating each variation, use the following method.

If only S1 has a variation, enter the variation symbol before the S1 stroke.

(Example) SSD2-B-32- = M10-30: Only S1 is non-rotating type.

If only S2 has a variation, enter the variation symbol before the S2 stroke.

(Example) SSD2-B-32-10- = M30: Only S2 is non-rotating type.

If S1 and S2 have the same variation, enter the variation symbol before the bore size.

(Example) SSD2- = MB-32-10-30:S1 and S2 are both rotation-stop.

MEMO

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

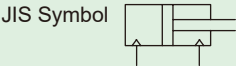
Ending



Compact Cylinder Double Acting, Single Rod Type

SSD2 Series

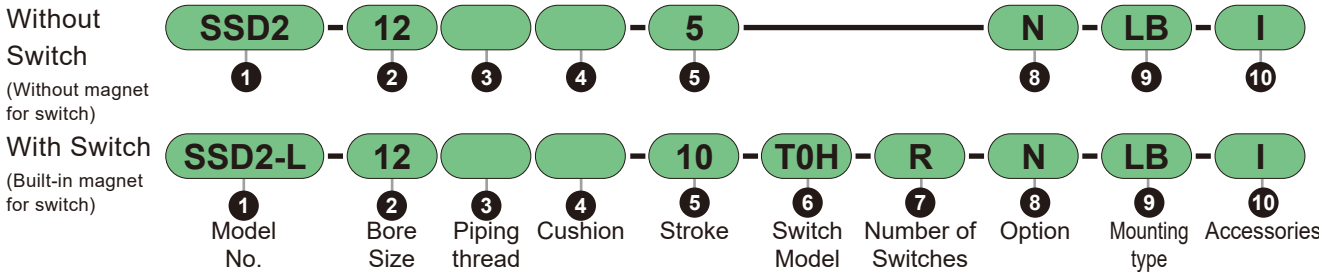
● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



SSD2 Series

Model No. Notation Method

Model No. Notation Method



Code	Content
SSD2	Double Acting/Single Rod Type
SSD2-L	Double-acting, Single rod type with switch

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

Code	Content
Blank	M5 (ø12 to ø25)
N	NPT thread (Custom product) (ø32 to ø100)
G	G thread (Custom product) (ø32 to ø100)

Code	Content
Blank	Without Cushion
D	With Rubber Cushion

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size										
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S		●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S		●	●								
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V		●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V		●	●								
	2-Color	3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV		●	●								
		2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV		●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV		●	●								
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H	T1V		●	●	●	●	●	●	●	●	●	
		—	10 to 30	—	5 to 20 *2	T2H	T2V		●	●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H	T3V		●	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	—	—	—	T3PH	T3PV		●	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV		●	●	●	●	●	●	●	●	●	
	2-Color Improved Water Resistance		—	24 ± 10%	—	5 to 20	T2WLH	T2WLV		●	●	●	●	●	●	●	●	●	
	2-Color for AC Magnetic Field	2-wire	—	—	—	—	T2YD	—		●	●	●	●	●	●	●	●	●	
			—	—	—	—	T2YDT	—		●	●	●	●	●	●	●	●	●	
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH	T2JV		●	●	●	●	●	●	●	●	●	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		●	●	●	●	●	●	●	●	●	
Reed	1-Color		110	12/24	7 to 20	5 to 50	T0H	T0V		●	●	●	●	●	●	●	●	●	
	No Indicator Lamp	2-wire	110	5/12/24	20 or less	50 or less	T5H	T5V		●	●	●	●	●	●	●	●	●	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V											

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.
4: T8 switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 15.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model No.s are also available. (Custom products) For details, refer to P. 869.

7 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

9 Mounting Type

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 17, 18, 20, 21. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

8 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)
S	Dedicated body for intermediate stroke

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.
*2: For intermediate stroke, refer to P. 14.

10 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: ③ Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●	●
	100					●	●	●	●	●	●
Minimum Stroke (mm) *1 *3		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *2		Every 1 mm									

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 14.
*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.
*3: For minimum stroke for ⑨ mounting type LB, refer to P. 17, 20.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

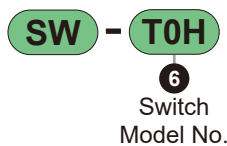
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2 - - XP5

Switch Single Unit Model No. Notation Method



Clean Specification

(Catalog No. CB-033SAA)

●Dust generation prevention structure usable in cleanrooms

SSD2 - - P7

SSD2 - - P5

Rechargeable Battery Compatible Specification

(Catalog No. CC-1226AA)

●Structure usable in rechargeable battery manufacturing processes

SSD2 - - P4

*Please contact us for details.

Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

●Food grade lubricant usable in food manufacturing processes

SSD2 - - FP1

High Durability Components HP Series

(Catalog No. CC-1421AA)

●Long-life actuator that can contribute to productivity improvement with stable operation

SSD2 - - HP

Specifications

Item		SSD2									
		SSD2-L (With Switch)									
Bore size mm		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type									
Operating Fluid		Compressed Air									
Max. Operating Pressure MPa		1.0									
Min. Operating Pressure MPa		0.1							0.05		
Proof pressure MPa		1.6									
Ambient Temperature °C		-10 to 60 (Provided that freezing does not occur)									
Port Size		M5				Rc1/8 *1		Rc1/4		Rc3/8	
Stroke	With Rubber Cushion						+2.0 0				
tolerance mm	Without Cushion						+1.0 0				
Operating Piston Speed mm/s		50 to 500							50 to 300		
Cushion		Rubber cushion available/unavailable selectable									
Lubrication		Not required (When lubricating, use turbine oil Class 1 ISO VG32)									
Allowable absorbed	With Rubber Cushion	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92
Energy J	Without Cushion	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke
(With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20			
ø25	5		20
ø32			
ø40			15
ø50			
ø63			10
ø80			
ø100			

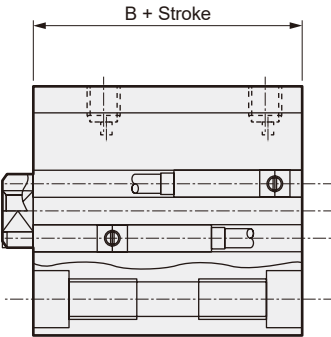
*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.

*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2 Series

Item	Standard Product		Optional Product	
	Spacer type on standard stroke body		Dedicated Body Type (-S)	
Model No. indication	Refer to model No. indication method.		Indicates the "Option" code -S in the model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.		A dedicated body is manufactured for the specified stroke	
Stroke Range	Bore Size	Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Model Number	Model No.: SSD2-32-38		Model No.: SSD2-32-38-S	
Indication	A +2 mm spacer is added to the standard cylinder SSD2-32-40 to make it 38 mm.		A dedicated body for 41 stroke is manufactured.	
Example	B + Stroke = 23 + 40 = 63		B + Stroke = 23 + 38 = 61	



Specifications

Cylinder Weight Table (Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		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	Without Switch	With Switch	Without Switch	With Switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2,000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ⁴	1.13 × 10 ⁴
	Pull	-	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	20.1	30.2	40.2	60.3	80.4	1.01 × 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 ³	1.51 × 10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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 ³
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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
ø80	Push	2.51 × 10 ²	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	2.27 × 10 ²	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
ø100	Push	3.93 × 10 ²	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	3.57 × 10 ²	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

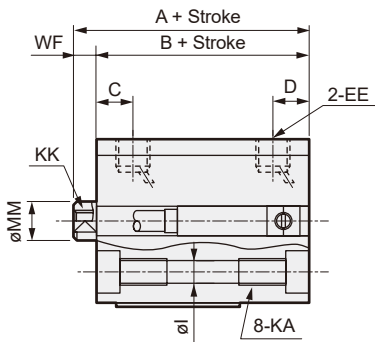
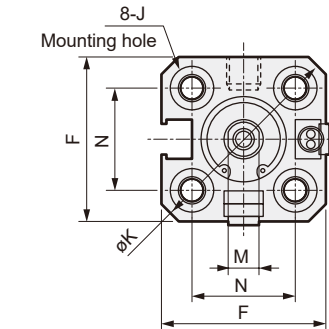
Mounting Bracket Model No. Notation Method

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

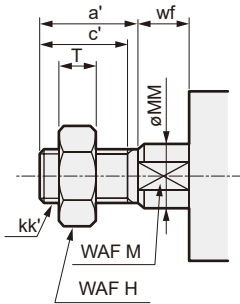
Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø12 to ø25)

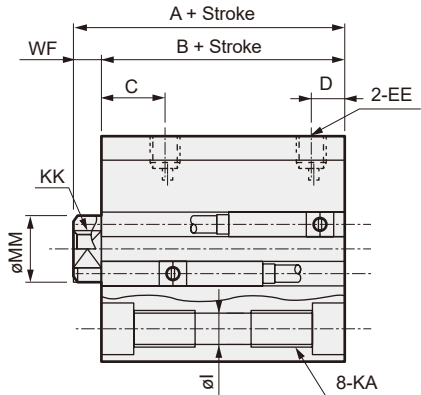
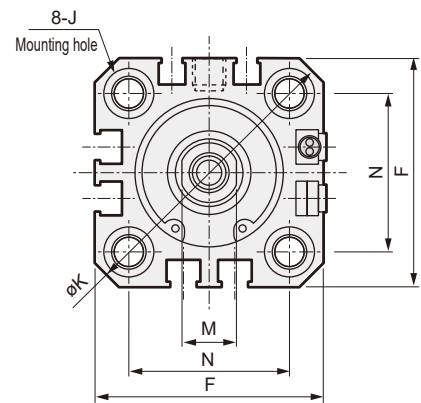
- SSD2-(L)-12 to 25
ø12, ø16



- Rod end male thread part



- ø20, ø25



Code	Dimension with switch		Dimension without switch		Common dimension					
Bore Size (mm)	A ¹	B ¹	A ¹	B ¹	C	D	EE	F	I	J
ø12	25.5	22	20.5	17	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5
ø16	25.5	22	20.5	17	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5
ø20	34	29.5	24	19.5	8	5.5	M5	36	5.5	9 Counterbore depth 5.5
ø25	37.5	32.5	27.5	22.5	11	6	M5	40	5.5	9 Counterbore depth 5.5
Code										
Bore Size (mm)	K	KA		KK			M	MM	N	WF
ø12	32	M4 depth 7		M3 depth 6			5	6	15.5	3.5
ø16	38	M4 depth 7		M4 depth 8			6	8	20	3.5
ø20	47	M6 depth 11		M5 depth 7			8	10	25.5	4.5
ø25	51	M6 depth 11		M6 Depth 12			10	12	28	5

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
For ø16: A (25.5) + Stroke (10) = 35.5 B (22) + Stroke (10) = 32
If the dedicated body "S" for intermediate stroke is selected, enter the intermediate stroke value of 7 mm as is for calculation.
For ø16: A (25.5) + Stroke (7) = 32.5 B (22) + Stroke (7) = 29

*2: For dimensions with each switch, refer to P. 300 to 309.
*3: For outline dimension drawings of individual accessories, refer to P. 34.
*4: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.

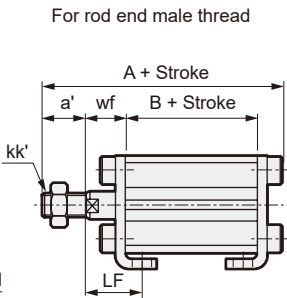
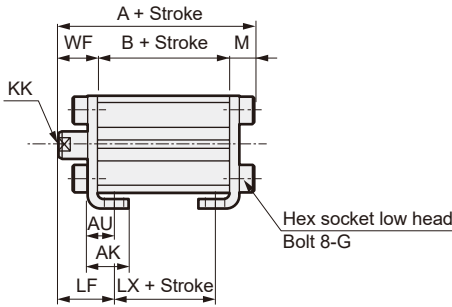
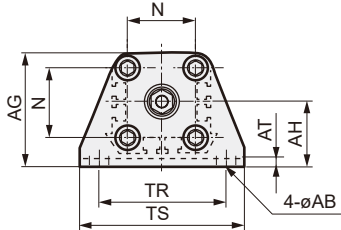
- Rod end male thread part

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

Double Acting/Single Rod Type

Outline Dimension Drawing (Bore size: ø12 to ø25)

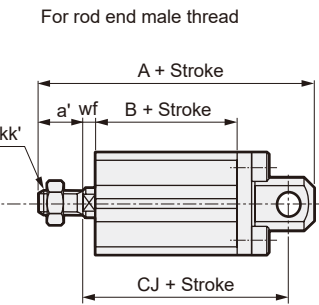
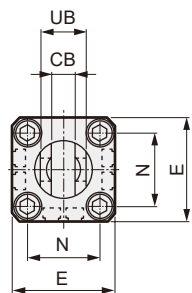
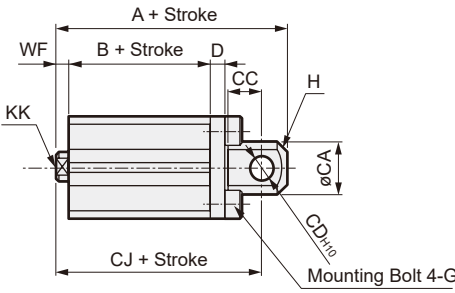
- Axial Foot (LB)
SSD2-(L)-12 to 25-LB



Code	Common dimension													For female thread		
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	KK	M	WF	LF		
ø12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	M3 depth 6	4.8	13.5	19.5		
ø16	5	33.5	19	13	2	8	M4×10	20	38	48	M4 depth 8	4.8	13.5	19.5		
ø20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	M5 depth 7	7.2	14.5	20.5		
ø25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	M6 Depth 12	7.2	15	22.5		
Code							For male thread									
	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
Bore Size (mm)	A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø12	40.3	22	10	35.3	17	5	10.5	M5	13.5	19.5	50.8	22	10	45.8	17	5
ø16	40.3	22	10	35.3	17	5	12	M6	13.5	19.5	52.3	22	10	47.3	17	5
ø20	51.2	29.5	17.5	41.2	19.5	7.5	14	M8	14.5	20.5	65.2	29.5	17.5	55.2	19.5	7.5
ø25	54.7	32.5	17.5	44.7	22.5	7.5	17.5	M10 × 1.25	15	22.5	72.2	32.5	17.5	62.2	22.5	7.5

*1: ø20: LB cannot be selected for 5 strokes without switch.

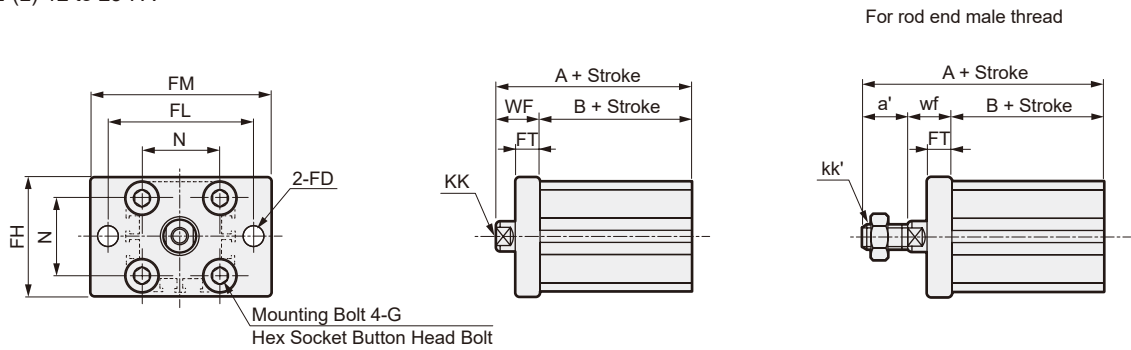
- Double Knuckle Clevis (CB)
SSD2-(L)-12 to 25-CB



Code	Common dimension															
Bore Size (mm)	CA	CB	CC	CD	D	E	G	H	KK	N	UB					
ø12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	M3 depth 6	15.5	10 ^{+0.1} _{-0.3}					
ø16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	M4 depth 8	20	12 ^{+0.1} _{-0.4}					
ø20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	M5 depth 7	25.5	16 ^{+0.1} _{-0.3}					
ø25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	M6 Depth 12	28	20 ^{+0.1} _{-0.3}					
Code	For female thread						For male thread									
	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
A		B	CJ	A	B	CJ	A				B	CJ	A	B	CJ	
ø12	3.5	45.5	22	39.5	40.5	17	34.5	10.5	M5	3.5	56	22	39.5	51	17	34.5
ø16	3.5	46.5	22	40.5	41.5	17	35.5	12	M6	3.5	58.5	22	40.5	53.5	17	35.5
ø20	4.5	61	29.5	52	51	19.5	42	14	M8	4.5	75	29.5	52	65	19.5	42
ø25	5	67.5	32.5	57.5	57.5	22.5	47.5	17.5	M10 × 1.25	5	85	32.5	57.5	75	22.5	47.5

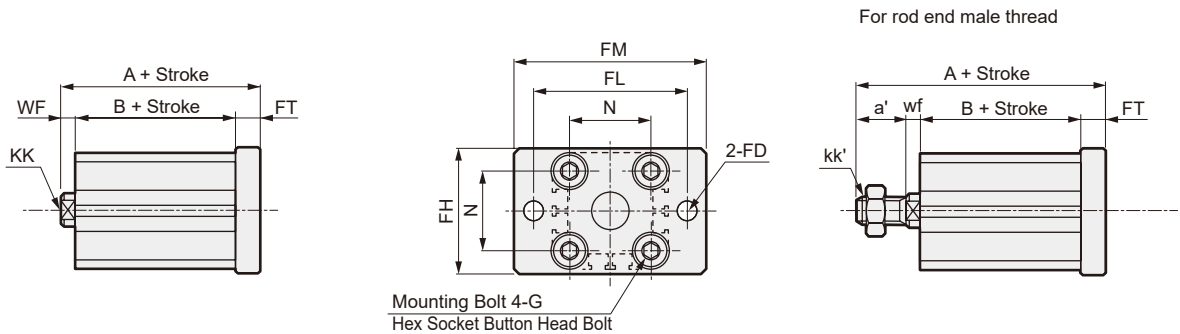
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA)
SSD2-(L)-12 to 25-FA



Code	Common dimension											
Bore Size (mm)	FD	FH	FL	FM	FT	N	G		KK			
ø12	4.5	25	45	55	5.5	15.5	M4×12		M3 depth 6			
ø16	4.5	30	45	55	5.5	20	M4×12		M4 depth 8			
ø20	6.6	39	48	60	8	25.5	M6×16		M5 depth 7			
ø25	6.6	42	52	64	8	28	M6×16		M6 Depth 12			
Code	For female thread					For male thread						
	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
A		B	A	B	A				B	A	B	
ø12	13.5	35.5	22	30.5	17	10.5	M5	13.5	46	22	41	17
ø16	13.5	35.5	22	30.5	17	12	M6	13.5	47.5	22	42.5	17
ø20	14.5	44	29.5	34	19.5	14	M8	14.5	58	29.5	48	19.5
ø25	15	47.5	32.5	37.5	22.5	17.5	M10 × 1.25	15	65	32.5	55	22.5

- Head Side Flange (FB)
SSD2-(L)-12 to 25-FB

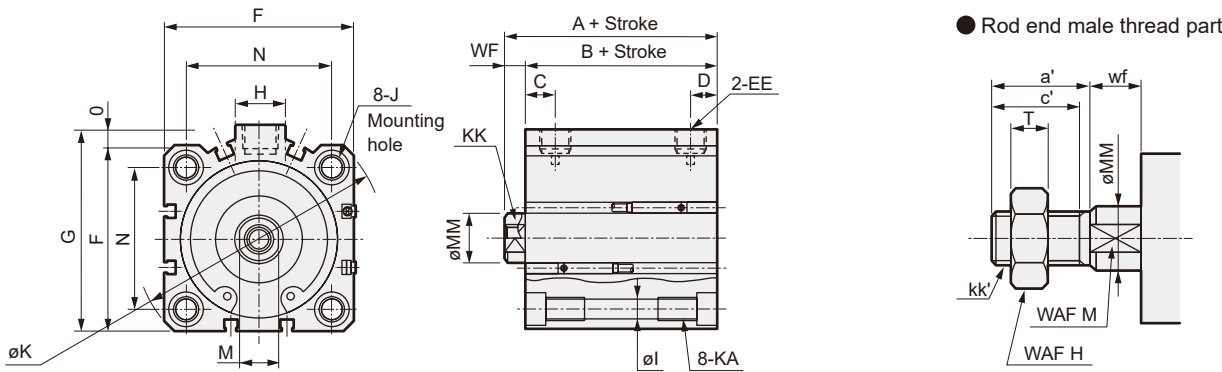


Code	Common dimension												
Bore Size (mm)	FD	FH	FL	FM	FT	N	G	KK					
ø12	4.5	25	45	55	5.5	15.5	M4×12	M3 depth 6					
ø16	4.5	30	45	55	5.5	20	M4×12	M4 depth 8					
ø20	6.6	39	48	60	8	25.5	M6×16	M5 depth 7					
ø25	6.6	42	52	64	8	28	M6×16	M6 Depth 12					
Code	For female thread					For male thread							
	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
A		B	A	B	A				B	A	B		
ø12	3.5	31	22	26	17	10.5	M5	3.5	41.5	22	36.5	17	
ø16	3.5	31	22	26	17	12	M6	3.5	43	22	38	17	
ø20	4.5	42	29.5	32	19.5	14	M8	4.5	56	29.5	46	19.5	
ø25	5	45.5	32.5	35.5	22.5	17.5	M10 × 1.25	5	63	32.5	53	22.5	

Double Acting/Single Rod Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

- SSD2-(L)-32 to 100



Code	Dimension with switch		Dimension without switch		Common dimension						
	A ¹	B ¹	A ^{1 1/4}	B ^{1 1/4}	C ⁶	D ⁶	EE	F	G	H	I
ø32	40	33	30 (40)	23 (33)	8 (10)	8 (5.5)	Rc1/8 ⁵	45	49.5	12.5	5.5
ø40	46.5	39.5	36.5 (46.5)	29.5 (39.5)	12 (11.5)	8.5 (8)	Rc1/8	52	57	15	5.5
ø50	48.5	40.5	38.5 (48.5)	30.5 (40.5)	10.5	10.5	Rc1/4	64	71	18	6.9
ø63	54	46	44 (54)	36 (46)	13	11	Rc1/4	77	84	23	8.7
ø80	63.5	53.5	53.5 (63.5)	43.5 (53.5)	16	13	Rc3/8	98	104	31	10.5
ø100	75	63	65 (75)	53 (63)	23	15	Rc3/8	117	123.5	38	10.5
Code											
	J		K	KA	KK	M	MM	N	O	WF	
ø32	9 Counterbore depth 5.5		60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	
ø40	9 Counterbore depth 5.5		69	M6 depth 11	M8 depth 13	14	16	40	5	7	
ø50	11 Counterbore Depth 6.5		86	M8 depth 13	M10 depth 15	17	20	50	7	8	
ø63	14 Counterbore depth 9		103	M10 depth 25	M10 depth 15	17	20	60	7	8	
ø80	17.5 Counterbore depth 11		132	M12 depth 28	M16 depth 21	22	25	77	6	10	
ø100	17.5 Counterbore depth 11		156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	

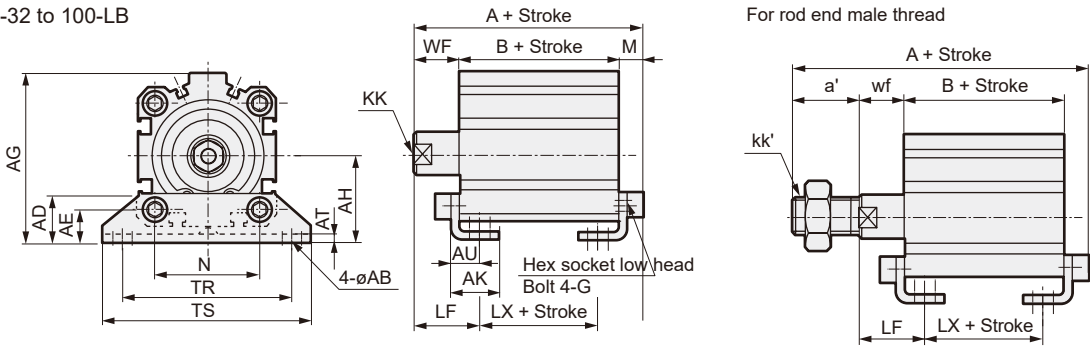
- *1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For SSD2-L-32-7, when the intermediate stroke is 7 mm, enter the standard stroke of 10 mm for calculation.
For ø32 A + Stroke = 40 + 10 = 50 B + Stroke = 33 + 10 = 43
If the dedicated body "S" for intermediate stroke is selected, enter the intermediate stroke value of 7 mm as is for calculation.
For ø32 A + Stroke = 40 + 7 = 47 B + Stroke = 33 + 7 = 40
- *2: For dimensions with each switch, refer to P. 300 to 309.
*3: For outline dimension drawings of individual accessories, refer to P. 34.
*4: Dimensions in () for codes A and B are values when exceeding 50 strokes.
*5: For code EE, ø32 without switch, 5 strokes, the port size will be M5.
*6: Dimensions in () for codes V and D are values for 5 strokes without switch.

- Rod end male thread part

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

Outline Dimension Drawing (Bore size: ø32 to ø100)

- Axial Foot (LB)
SSD2-(L)-32 to 100-LB

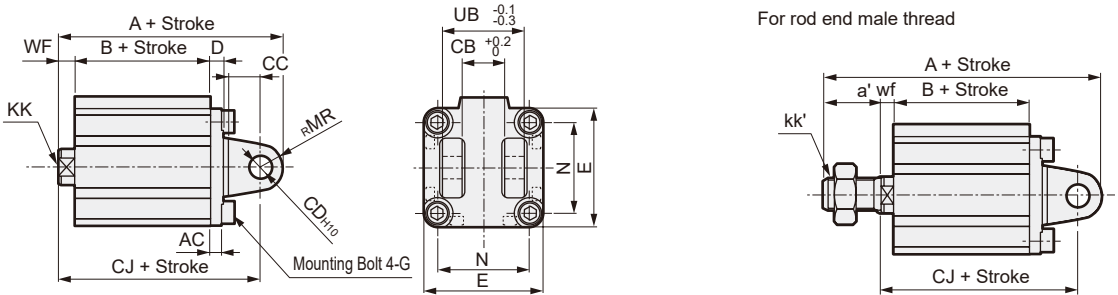


Code	Common dimension															For female thread								
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with switch			Dimension without switch				
																	A	B	LX	A '2	B '2	LX '2		
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	17	25	57.2	33	17	47.2 (57.2)	23 (33)	7 (17)		
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	17	25	63.7	39.5	23.5	53.7 (63.7)	29.5 (39.5)	13.5 (23.5)		
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	18	29.5	66.7	40.5	17.5	56.7 (66.7)	30.5 (40.5)	7.5 (17.5)		
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2	18	31	73.2	46	20	63.2 (73.2)	36 (46)	10 (20)		
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5	20	35	85	53.5	23.5	75 (85)	43.5 (53.5)	13.5 (23.5)		
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13	22	39	98	63	29	88 (98)	53 (63)	19 (29)		

Code	For male thread									
Bore Size (mm)	a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
					A	B	LX	A '2	B '2	LX '2
ø32	23.5	M14 × 1.5	15	23	78.7	33	17	68.7 (78.7)	23 (33)	7 (17)
ø40	23.5	M14 × 1.5	15	23	85.2	39.5	23.5	75.2 (85.2)	29.5 (39.5)	13.5 (23.5)
ø50	28.5	M18 × 1.5	15	26.5	92.2	40.5	17.5	82.2 (92.2)	30.5 (40.5)	7.5 (17.5)
ø63	28.5	M18 × 1.5	15	28	98.7	46	20	88.7 (98.7)	36 (46)	10 (20)
ø80	35.5	M22 × 1.5	18	33	118.5	53.5	23.5	108.5 (118.5)	43.5 (53.5)	13.5 (23.5)
ø100	35.5	M26 × 1.5	18	35	129.5	63	29	119.5 (129.5)	53 (63)	19 (29)

*2: Dimensions in () are values when exceeding 50 strokes.

- Double Knuckle Clevis (CB)
SSD2-(L)-32 to 100-CB



Code	Common dimension											For female thread							
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB	WF	Dimension with switch			Dimension without switch			
													A	B	CJ	A '2	B '2	CJ	
ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36	7	70	33	60	60 (70)	23 (33)	50	
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	7	78.5	39.5	68.5	68.5 (78.5)	29.5 (39.5)	58.5	
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	8	90.5	40.5	76.5	80.5 (90.5)	30.5 (40.5)	66.5	
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	8	98	46	84	88 (98)	36 (46)	74	
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56	10	119.5	53.5	101.5	109.5 (119.5)	43.5 (53.5)	91.5	
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64	12	142	63	120	132 (142)	53 (63)	110	

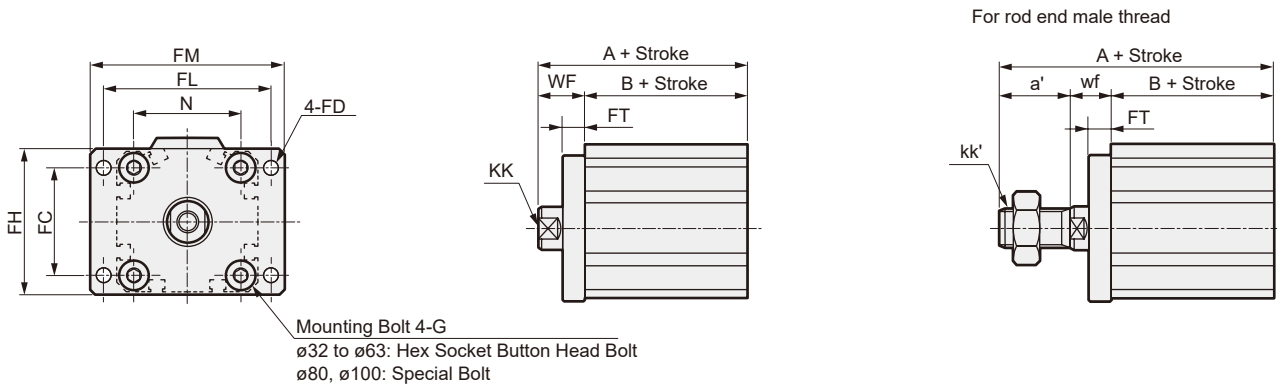
Code	For male thread								
Bore Size (mm)	a'	kk'	wf	Dimension with switch			Dimension without switch		
				A	B	CJ	A '2	B '2	CJ
ø32	23.5	M14 × 1.5	5	91.5	33	58	81.5 (91.5)	23 (33)	48
ø40	23.5	M14 × 1.5	5	100	39.5	66.5	90 (100)	29.5 (39.5)	56.5
ø50	28.5	M18 × 1.5	5	116	40.5	73.5	106 (116)	30.5 (40.5)	63.5
ø63	28.5	M18 × 1.5	5	123.5	46	81	113.5 (123.5)	36 (46)	71
ø80	35.5	M22 × 1.5	8	153	53.5	99.5	143 (153)	43.5 (53.5)	89.5
ø100	35.5	M26 × 1.5	8	173.5	63	116	163.5 (173.5)	53 (63)	106

*2: Dimensions in () are values when exceeding 50 strokes.

Double Acting/Single Rod Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

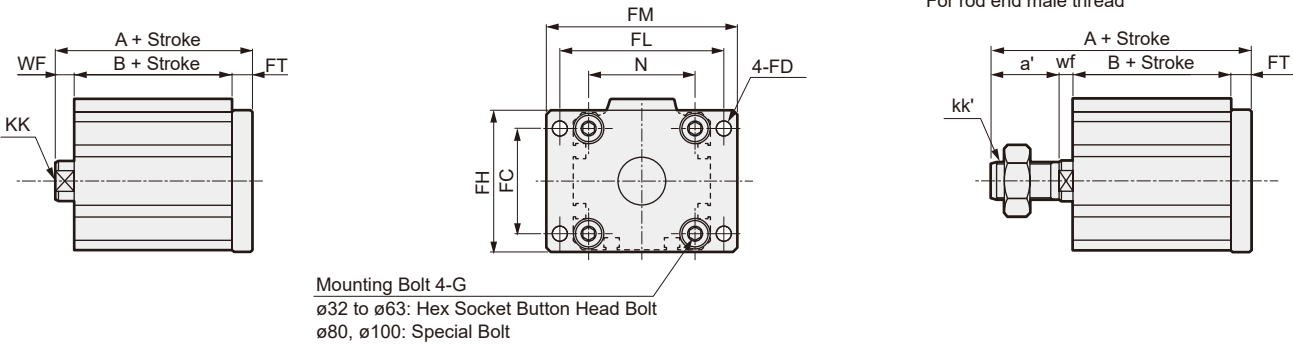
- Rod Side Flange (FA)
SSD2-(L)-32 to 100-FA



Code	Common dimension									For female thread					For male thread						
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A '1	B '1				A	B	A '1	B '1
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	17	50	33	40 (50)	23 (33)	23.5	M14 × 1.5	15	71.5	33	61.5 (71.5)	23 (33)
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	17	56.5	39.5	46.5 (56.5)	29.5 (39.5)	23.5	M14 × 1.5	15	78	39.5	68 (78)	29.5 (39.5)
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	18	58.5	40.5	48.5 (58.5)	30.5 (40.5)	28.5	M18 × 1.5	15	84	40.5	74 (84)	30.5 (40.5)
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	18	64	46	54 (64)	36 (46)	28.5	M18 × 1.5	15	89.5	46	79.5 (89.5)	36 (46)
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21	20	73.5	53.5	63.5 (73.5)	43.5 (53.5)	35.5	M22 × 1.5	18	107	53.5	97 (107)	43.5 (53.5)
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27	22	85	63	75 (85)	53 (63)	35.5	M26 × 1.5	18	116.5	63	106.5 (116.5)	53 (63)

*1: Dimensions in () are values when exceeding 50 strokes.

- Head Side Flange (FB)
SSD2-(L)-32 to 100-FB



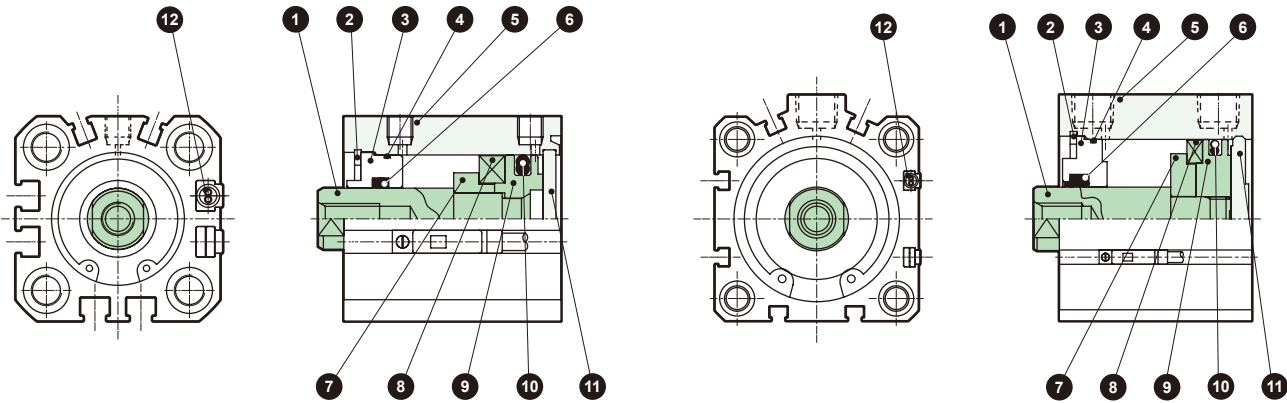
Code	Common dimension									For female thread					For male thread						
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A '1	B '1				A	B	A '1	B '1
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	7	48	33	38 (48)	23 (33)	23.5	M14 × 1.5	5	69.5	33	59.5 (69.5)	23 (33)
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	7	54.5	39.5	44.5 (54.5)	29.5 (39.5)	23.5	M14 × 1.5	5	76	39.5	66 (76)	29.5 (39.5)
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	8	57.5	40.5	47.5 (57.5)	30.5 (40.5)	28.5	M18 × 1.5	5	83	40.5	73 (83)	30.5 (40.5)
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	8	63	46	53 (63)	36 (46)	28.5	M18 × 1.5	5	88.5	46	78.5 (88.5)	36 (46)
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21	10	74.5	53.5	64.5 (74.5)	43.5 (53.5)	35.5	M22 × 1.5	8	108	53.5	98 (108)	43.5 (53.5)
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27	12	86	63	76 (86)	53 (63)	35.5	M26 × 1.5	8	117.5	63	107.5 (117.5)	53 (63)

*1: Dimensions in () are values when exceeding 50 strokes.

Internal Structure Diagram/Material (Bore size: ø12 to ø50) (Without Cushion)

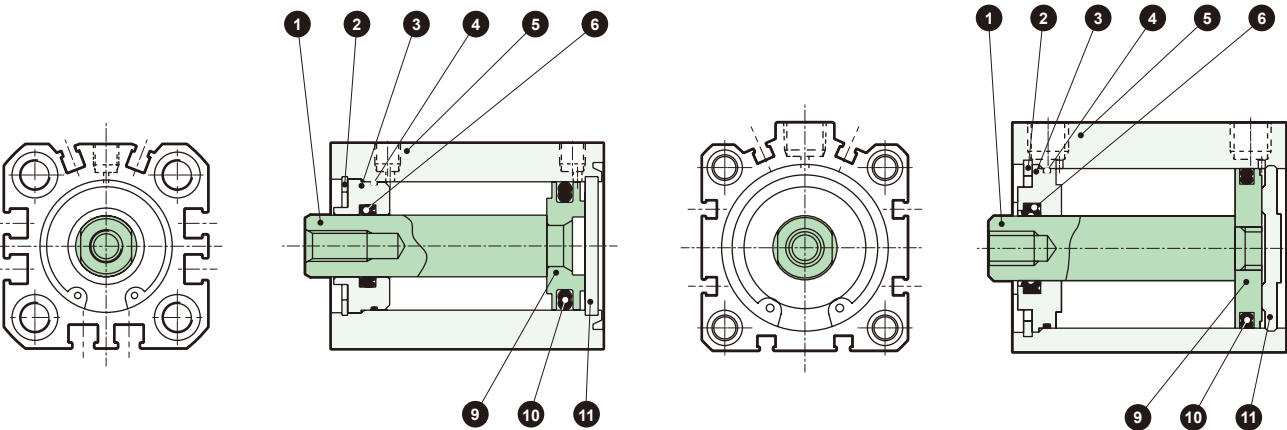
● SSD2-L-12 to 25 (Double Acting Type with Switch)

● SSD2-L-32 to 50 (Double Acting Type with Switch)



● SSD2-12 to 25 (Double Acting Type)

● SSD2-32 to 50 (Double Acting Type)



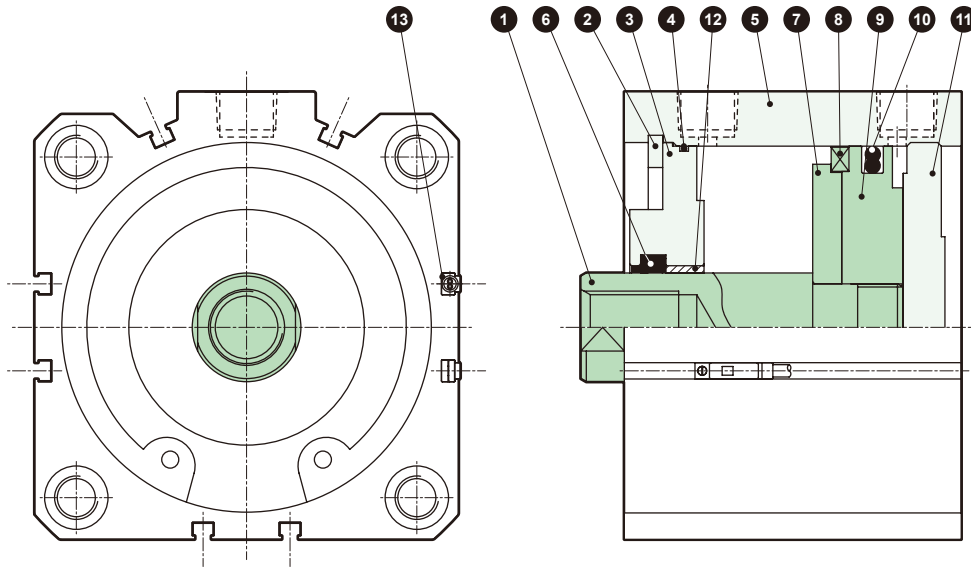
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	Alumite	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	With Switch			
6	Rod Packing	Nitrile Rubber		12	Switch		
7	Spacer	Aluminum Alloy	ø12 to ø32: Chromate				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

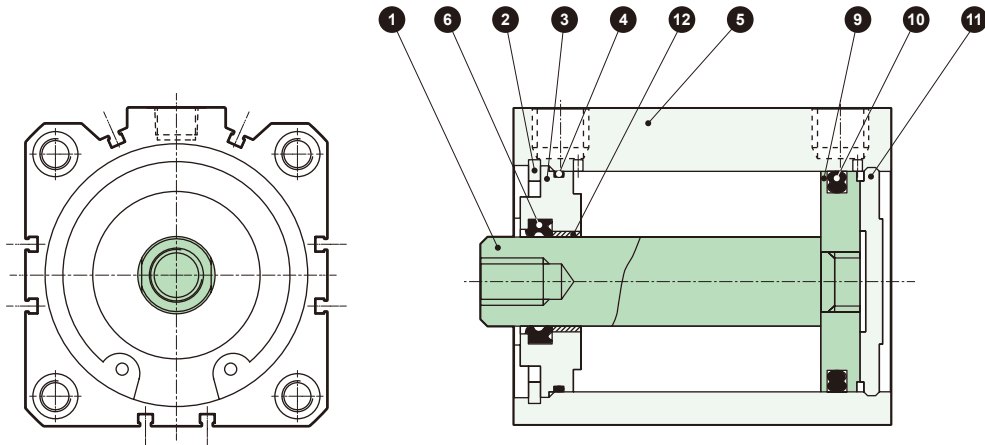
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100) (Without Cushion)

● SSD2-L-63 to 100 (Double Acting Type with Switch)



● SSD2-63 to 100 (Double Acting Type)

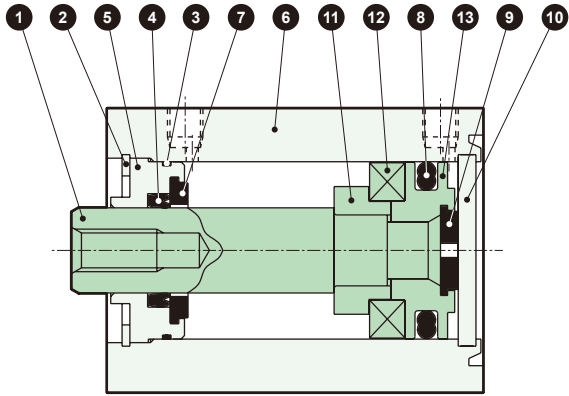


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	Chromate	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	Aluminum Alloy	Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Bearing Alloy	
6	Rod Packing	Nitrile Rubber		With Switch			
7	Spacer	Aluminum Alloy		13	Switch		

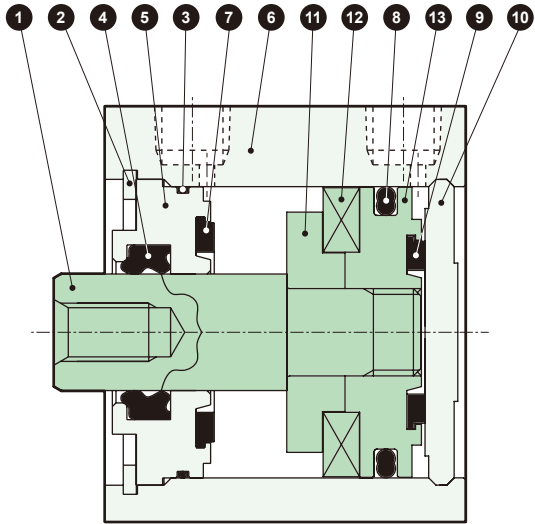
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Internal Structure Diagram/Material (Bore size: ø12 to ø50) (With Rubber Cushion)

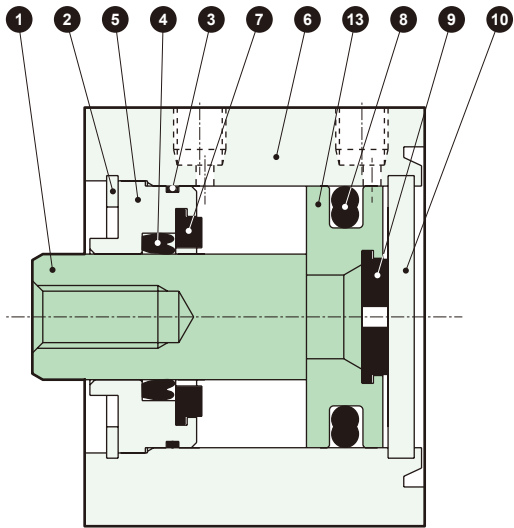
● SSD2-L-12D to 32D (Double Acting Type with Switch)



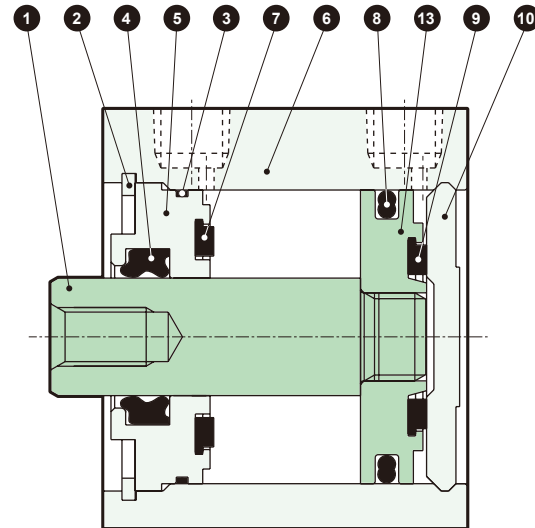
● SSD2-L-40D, 50D (Double Acting Type with Switch)



● SSD2-12D to 32D (Double Acting Type)



● SSD2-40D, 50D (Double Acting Type)



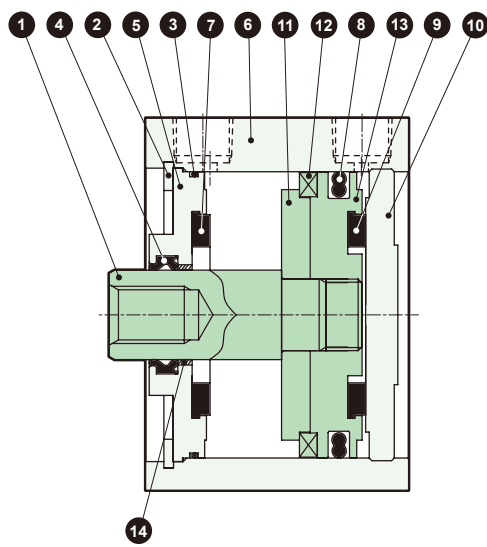
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	8	Piston Packing	Nitrile Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane Rubber	
3	Rod metal gasket	Nitrile Rubber		10	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
4	Rod Packing	Nitrile Rubber		11	Spacer	Aluminum Alloy	ø12 to ø32: Chromate
5	Rod Metal	Aluminum Alloy	Alumite	12	Magnet	Plastic	
6	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Piston	Aluminum Alloy	Chromate
7	Cushion rubber (R)	Urethane Rubber					

For maintenance parts, please visit the CKD Equipment Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

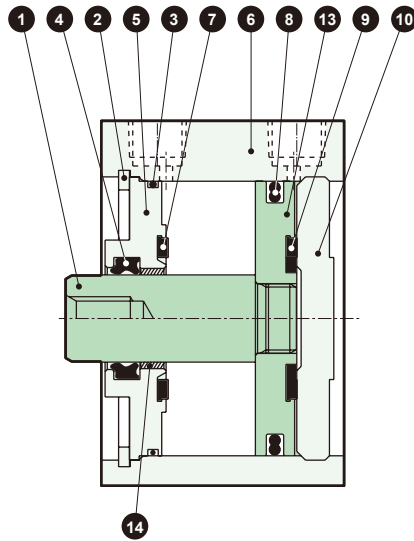
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100) (With Rubber Cushion)

● SSD2-L-63D to 100D (Double Acting Type with Switch)



● SSD2-63D to 100D (Double Acting Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Piston Packing	Nitrile Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane Rubber	
3	Rod metal gasket	Nitrile Rubber		10	Cover	Aluminum Alloy	Alumite
4	Rod Packing	Nitrile Rubber		11	Spacer	Aluminum Alloy	
5	Rod Metal	Aluminum Alloy	Chromate	12	Magnet	Plastic	
6	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Piston	Aluminum Alloy	Chromate
7	Cushion rubber (R)	Urethane Rubber		14	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Equipment Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

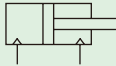


Compact Cylinder Double Acting, Single Rod Type (Large Bore)

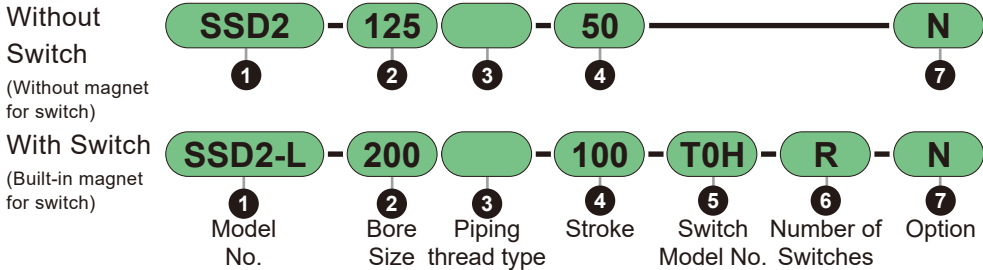
SSD2 Series

● Bore size: ø125, ø140, ø160, ø180, ø200

Circuit Diagram Symbol



Model No. Notation Method



1 Model No.

Code	Content
SSD2	Double Acting/Single Rod Type
SSD2-L	Double-acting, Single rod type with switch

2 Bore Size (mm)

Code	Content
125	ø125
140	ø140
160	ø160
180	ø180
200	ø200

3 Port Thread Type:

Code	Content
Blank	Rc Thread
NN	NPT thread (Custom product) (ø125 to ø160)
GN	G thread (Custom product) (ø125 to ø160)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø125 to ø200	1 to 300	Every 1 mm

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size												
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100			
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□			●	●	●	●	●	●	●	●	●		*3
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	●	●	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	●	●	●	●	●	●	●	●	●	●			
			3-wire (PNP)	—	—	—	less	T3PH□	T3PV□	●	●	●	●	●	●	●	●	●	●		
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	●	●	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	●	●	●	●	●	●	●	●	●	●			
	2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—			●	●	●	●	●	●	●	●			
			—	—	—	—	T2YDT□	—			●	●	●	●	●	●	●	●			
	1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□			●	●	●	●	●	●	●	●		*3	
	1-Color Flexible Lead Wire Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●	●			
	Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	●	●	●	●	●	●	●	●	●	●		
		No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	●	●	●	●	●	●	●	●	●			
1-Color		2-wire	110/220	12/24	7 to 20/7 to 10	5 to 50	T8H□	T8V□							●	●	●	●		*4	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.
4: T8 switches cannot be mounted on ø12 to ø32.
*5: Switches other than the model No.s listed above are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m T0H[3]
3 m T0H[3]
5 m T0H[5]

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

Appendix Table 1

Stroke (mm)		Applicable Bore				
		ø125	ø140	ø160	ø180	ø200
Standard Stroke	10	●	●	●	●	●
	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
	125	●	●	●	●	●
	150	●	●	●	●	●
	175	●	●	●	●	●
	200	●	●	●	●	●
	250	●	●	●	●	●
	300	●	●	●	●	●
Minimum Stroke (mm) *1		1				
Maximum Stroke (mm)		300				
Intermediate Stroke *2		Every 1 mm				

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For the number of switches attachable and minimum stroke, refer to P. 28.
*2: The overall length dimension for intermediate stroke will be handled with a length dedicated to intermediate stroke.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-.....-A2

Clean Specification

(Catalog No. CB-033SAA)

● Dust generation prevention structure usable in cleanrooms

SSD2-.....-P7□

SSD2-.....-P5□

Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-.....-FP1

Rechargeable Battery Compatible Specification

(Catalog No. CC-1226AA)

● Structure usable in rechargeable battery manufacturing processes

SSD2-.....-P4□

*Please contact us for details.

Switch Single Unit Model No. Notation Method

SW - T0H

5

Switch Model No.

Specifications

Item	SSD2 SSD2-L (With Switch)				
Bore size mm	ø125	ø140	ø160	ø180	ø200
Actuation method	Double Acting Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0			0.7	
Min. Operating Pressure MPa	0.05				
Proof pressure MPa	1.6			1.05	
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc3/8			Rc1/2	
Stroke tolerance mm	+2.0 0				
Operating Piston Speed mm/s	50 to 300			20 to 300	
Cushion	Rubber Cushion				
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)				
Allowable absorbed energy J	6.52	6.52	7.78	12.4	

Number of Switches Mounted and Min. Stroke (mm)

Switch Model No.	T*	
Number of Switches	1	2
Bore Size (mm)		
ø125	5	5
ø140		
ø160		
ø180		
ø200		

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

Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: kg)

Stroke (mm)	10		20		30		40		50		75		100	
Bore Size (mm)	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
ø125	4.58	4.68	4.85	4.95	5.11	5.21	5.38	5.48	5.64	5.74	6.30	6.40	6.97	7.07
ø140	6.36	6.47	6.66	6.77	6.97	7.08	7.27	7.38	7.58	7.69	8.34	8.45	9.10	9.21
ø160	8.64	8.76	9.02	9.14	9.40	9.52	9.78	9.90	10.16	10.28	11.11	11.23	12.06	12.18
ø180	12.98	13.06	13.38	13.46	13.78	13.86	14.18	14.26	14.58	14.66	15.59	15.67	16.59	16.67
ø200	17.23	17.31	17.69	17.77	18.16	18.24	18.62	18.70	19.08	19.16	20.23	20.31	21.39	21.47
Stroke (mm)	125		150		175		200		250		300			
Bore Size (mm)	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch		
ø125	7.63	7.73	8.30	8.40	8.96	9.06	9.62	9.72	10.95	11.05	12.27	12.37		
ø140	9.86	9.97	10.63	10.74	11.39	11.50	12.15	12.26	13.68	13.79	15.20	15.31		
ø160	13.01	13.13	13.96	14.08	14.91	15.03	15.86	15.98	17.76	17.88	19.66	19.78		
ø180	17.59	17.67	18.59	18.67	19.60	19.68	20.60	20.68	22.60	22.68	24.61	24.69		
ø200	22.54	22.62	23.70	23.78	24.85	24.93	26.01	26.09	28.32	28.40	30.63	30.71		

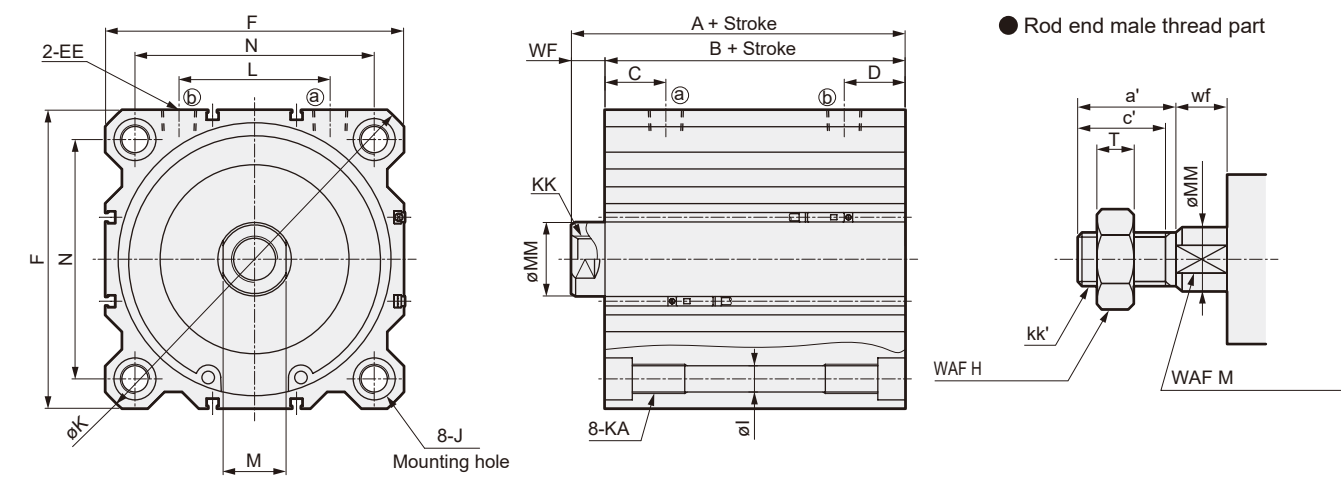
Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø125	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 ⁴	2.26 × 10 ²	3.39×10 ³	4.52 × 10 ³	5.65 × 10 ³	6.79×10 ³	7.92×10 ³	9.05 × 10 ²	1.02 × 10 ⁴	1.13 × 10 ⁴	
ø140	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	
ø160	Push	2.01 × 10 ³	3.02 × 10 ³	4.02 × 10 ³	6.03 × 10 ³	8.04 × 10 ⁴	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	
ø180	Push	2.54 × 10 ³	3.82 × 10 ³	5.09 × 10 ³	7.63 × 10 ³	1.02 × 10 ⁴	1.27 × 10 ⁴	1.53 × 10 ⁴	1.78 × 10 ⁴	-	-	-	
	Pull	2.39 × 10 ³	3.58 × 10 ³	4.77 × 10 ³	7.16 × 10 ³	9.54 × 10 ³	1.19 × 10 ⁴	1.43 × 10 ⁴	1.67 × 10 ⁴	-	-	-	
ø200	Push	3.14 × 10 ³	4.71 × 10 ³	6.28 × 10 ³	9.43×10 ³	1.26 × 10 ⁴	1.57 × 10 ⁴	1.89 × 10 ²	2.20 × 10 ⁴	-	-	-	
	Pull	3.02 × 10 ³	4.52 × 10 ³	6.03 × 10 ³	9.05 × 10 ²	1.21 × 10 ⁴	1.51 × 10 ⁴	1.81 × 10 ⁴	2.11 × 10 ²	-	-	-	

Outline Dimension Drawing (Bore size: ø125 to ø160)

● SSD2-(L)-125 to 160



Code	A	B	C	D	EE	F	I	J	K	KA	KK	L	M	MM	N	WF
Bore Size (mm)																
ø125	99	83	29	29	Rc3/8	142	12.5	20 Counterbore Depth 13	190	M14 depth 25	M22 depth 30	72	30	35	114	16
ø140	99	83	27.5	27.5	Rc3/8	158	12.5	20 Counterbore Depth 13	210	M14 depth 25	M22 depth 30	80	30	35	128	16
ø160	108	91	30	30	Rc3/8	178	14.7	23 Counterbore depth 15.2	238	M16 depth 28	M24 depth 33	90	36	40	144	17

*1: For dimensions with each switch, refer to P. 300 to 309.

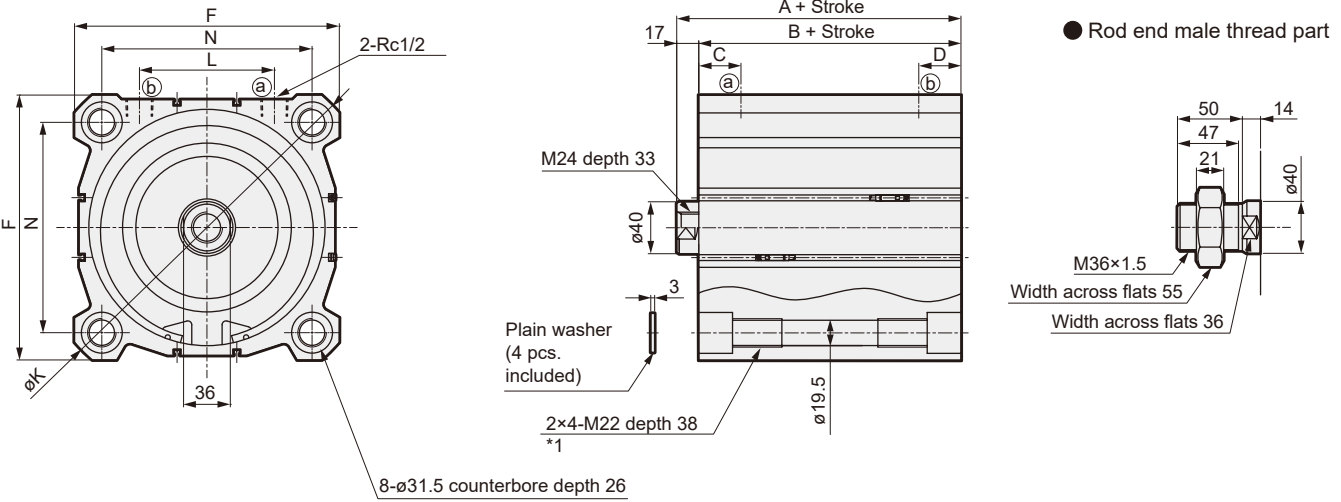
● Rod end male thread part dimension table

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø125	45	42	46	M30 × 1.5	30	35	18	13
ø140	45	42	46	M30 × 1.5	30	35	18	13
ø160	50	47	55	M36 × 1.5	36	40	21	14

Double Acting/Single Rod Type

Outline Dimension Drawing (Bore size: ø180, ø200)

● SSD2-(L)-180, 200



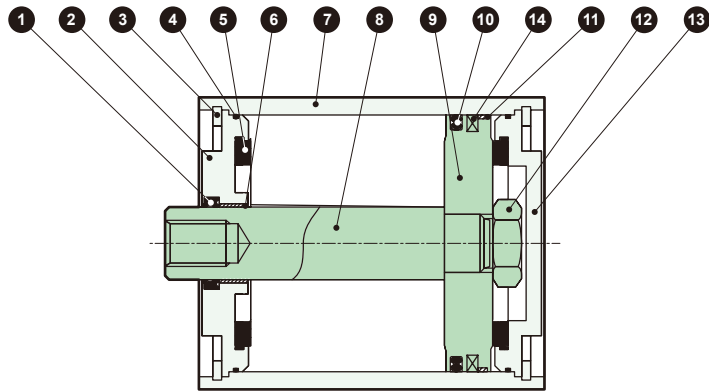
Code	A	B	C	D	F	K	L	N
Bore Size (mm)								
ø180	119	102	32.5	32.5	204	270	104	162
ø200	126	109	33.5	33.5	226	300	110	182

*1: For 20 strokes or less, it will be 2×4-M22 through-hole.

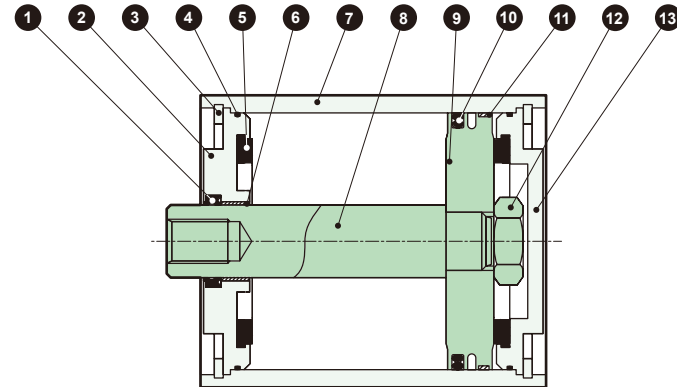
*2: For dimensions with each switch, refer to P. 300 to 309.

Internal Structure Diagram/Material (Bore size: ø125 to ø160) (With Cushion)

● SSD2-L-ø125 to ø160 (Double Acting with Switch)



● SSD2-125 to 160 (Double Acting without Switch)



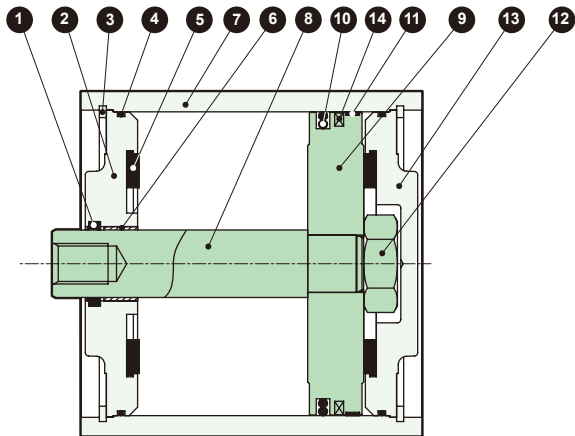
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing	Nitrile Rubber		8	Piston Rod	Steel	Industrial Hard Chrome Plating
2	Rod Metal	Aluminum Alloy	Chromate	9	Piston	Aluminum Alloy	
3	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	
4	Gasket	Nitrile Rubber		11	Wear Ring	Polyacetal	
5	Cushion Rubber	Urethane Rubber		12	Hexagon Nut	Steel	Zinc Chromate
6	Bushing	Bearing Alloy		13	Cover	Aluminum Alloy	Chromate
7	Cylinder Body	Aluminum Alloy	Hard Anodized	14	Magnet	Rubber	With switch only

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

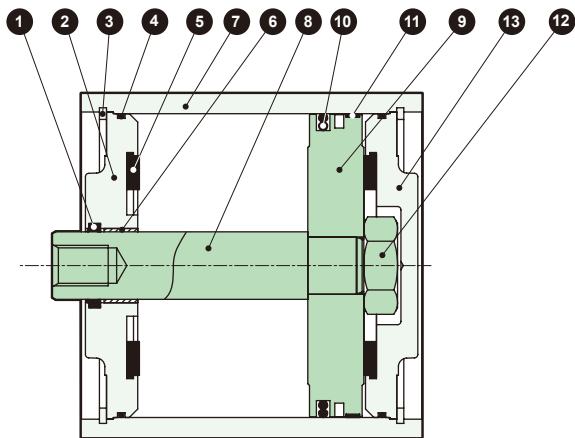
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø180, ø200)

● SSD2-L-180, 200 (Double Acting, Single Rod Type with Switch)



● SSD2-180, 200 (Double Acting, Single Rod Type without Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing	Nitrile Rubber		8	Piston Rod	Steel	Industrial Hard Chrome Plating
2	Rod Metal	Cast Iron	Painting	9	Piston	Aluminum Alloy	
3	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	
4	Gasket	Nitrile Rubber		11	Wear Ring	Polyacetal	
5	Cushion Rubber	Urethane Rubber		12	Hexagon Nut	Steel	Zinc Chromate
6	Bushing	Bearing Alloy		13	Cover	Cast Iron	Painting
7	Cylinder Body	Aluminum Alloy	Hard Anodized	14	Magnet	Rubber	With switch only

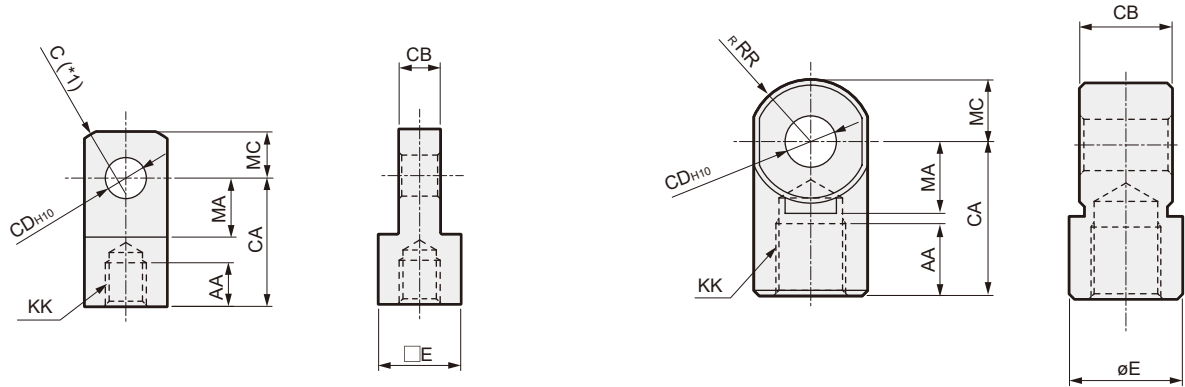
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Accessories Outline Dimension Drawing

● Single Knuckle (I)
· ø12 to ø25

Material: Steel
Zinc chromate
treatment
· ø32 to ø100

Material: Cast Iron
Paint treatment



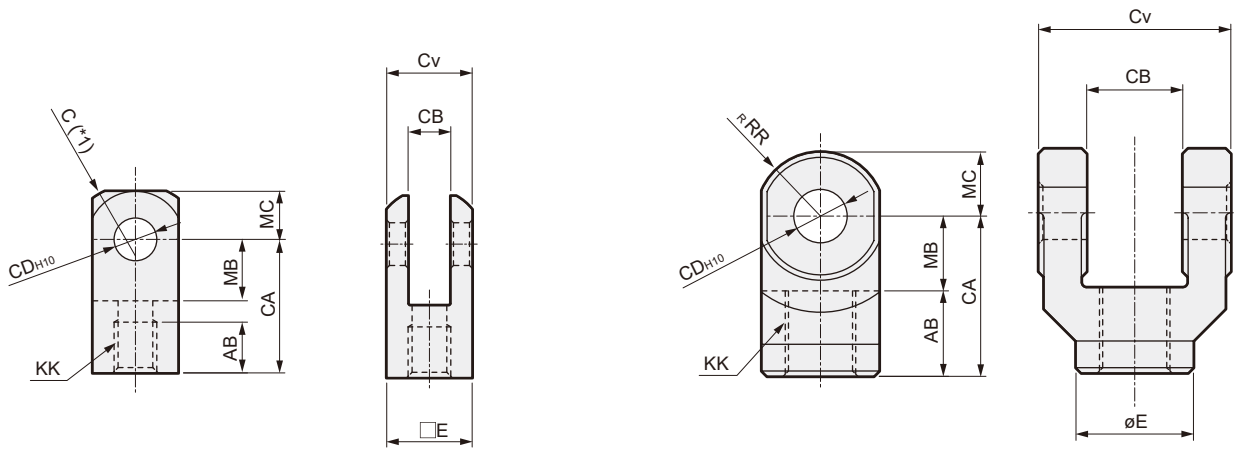
Model No.	Applicable Bore	AA	CA	CB	CD	E	KK	MA	C	RR	MC	Weight (g)
SSD2-I-12	ø12	6	16	5 ^{+0.2} _{-0.4}	5	□10	M5×0.8	7	2	-	5.5	9
SSD2-I-16	ø16	8	25	6.5 ^{+0.2} _{-0.4}	5	□12	M6×1	14	2	-	7	21
SSD2-I-20	ø20	8.5	25	8 ^{+0.2} _{-0.4}	8	□16	M8×1.25	11.5	-	13.4	9	38
SSD2-I-25	ø25	10.5	30	10 ^{+0.2} _{-0.4}	10	□20	M10 × 1.25	14	-	17.1	11	71
SSD2-I-32	ø32, ø40	14	30	18 ^{+0.3} _{-0.5}	10	ø22	M14 × 1.5	14	-	12	12	74
SSD2-I-50	ø50, ø63	18	40	22 ^{+0.3} _{-0.5}	14	ø28	M18 × 1.5	20	-	16	16	155
SSD2-I-80	ø80	21	50	28 ^{+0.3} _{-0.5}	18	ø38	M22 × 1.5	27	-	21	21	380
SSD2-I-100	ø100	21	55	32 ^{+0.3} _{-0.5}	22	ø44	M26 × 1.5	31	-	24	24	550

*1: ø20/25 is SR RR
*2: Accessories for SSD2 have the same dimensions as accessories for SSD compact type. When checking with Pneumatic Cylinder ② (No. RJ-003AA), please be careful not to make a mistake.
(Example SSD2-I-32 is the same dimensions as SSD-I2-32.)

● Double Knuckle (Y)
· ø12 to ø25

Material: Steel
Zinc chromate
treatment
· ø32 to ø100

Material: Cast Iron
Paint treatment



Model No.	Applicable Bore	AB	CA	CB	CD	Cv	E	KK	MB	C	RR	MC	Weight (g)
SSD2-Y-12	ø12	6	16	5 ^{+0.2} _{-0.4}	5	10	□10	M5×0.8	7	2	-	5.5	12
SSD2-Y-16	ø16	11	21	6.5 ^{+0.2} _{-0.4}	5	12	□12	M6×1	10	2	-	7	20
SSD2-Y-20	ø20	13.5	25	8 ^{+0.2} _{-0.4}	8	16	□16	M8×1.25	11.5	-	13.4	9	45
SSD2-Y-25	ø25	16	30	10 ^{+0.2} _{-0.4}	10	20	□20	M10 × 1.25	14	-	17.1	11	84
SSD2-Y-32	ø32, ø40	16	30	18 ^{+0.3} _{-0.5}	10	36	ø22	M14 × 1.5	14	-	12	12	120
SSD2-Y-50	ø50, ø63	20	40	22 ^{+0.3} _{-0.5}	14	44	ø28	M18 × 1.5	20	-	16	16	257
SSD2-Y-80	ø80	23	50	28 ^{+0.3} _{-0.5}	18	56	ø38	M22 × 1.5	27	-	21	21	589
SSD2-Y-100	ø100	24	55	32 ^{+0.3} _{-0.5}	22	64	ø44	M26 × 1.5	31	-	24	24	933

*1: ø20/25 is SR RR
*2: Pins and retaining rings are included.
*3: Pins for double knuckle are common with pins for double clevis.
*4: Accessories for SSD2 have the same dimensions as accessories for SSD compact type. When checking with Pneumatic Cylinder ② (No. RJ-003AA), please be careful not to make a mistake.
(Example SSD2-Y-32 is the same dimensions as SSD-Y2-32.)

MEMO

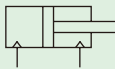


Compact Cylinder Double Acting, Single Rod, High Load Type

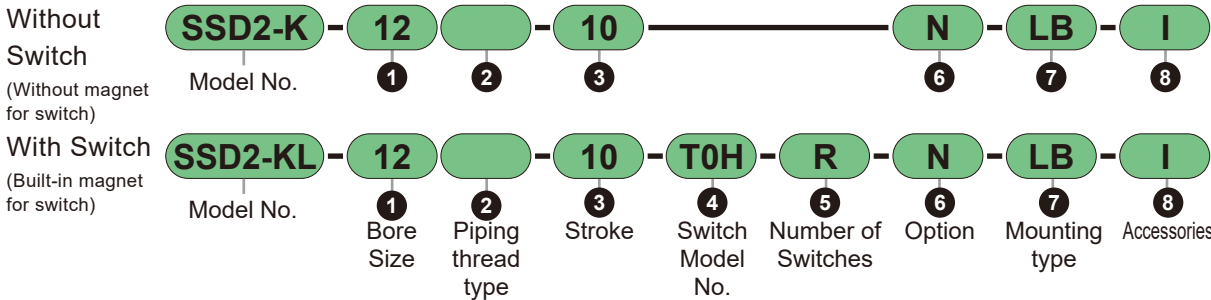
SSD2-K Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Content	Code	Content
12	ø12	40	ø40
16	ø16	50	ø50
20	ø20	63	ø63
25	ø25	80	ø80
32	ø32	100	ø100

2 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25)
	Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size										
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□		●	●	●	●	●	●	●	●	●	
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□		●	●	●	●	●	●	●	●	●	
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□		●	●	●	●	●	●	●	●	●	
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH□	F3YV□		●	●	●	●	●	●	●	●	●	
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□		●	●	●	●	●	●	●	●	●	
		2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□		●	●	●	●	●	●	●	●	●	
		—	—	10 to 30	—	5 to 20 *2	T2H□	T2V□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	—	—	100 or less	T3H□	T3V□		●	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	30 or less	—	—	T3PH□	T3PV□		●	●	●	●	●	●	●	●	●	
Reed	1-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□		●	●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	T2WLH□	T2WLV□		●	●	●	●	●	●	●	●	●	
		—	—	24 ± 10%	—	5 to 20	T2YD□	—		●	●	●	●	●	●	●	●	●	
		—	—	—	—	—	T2YDT□	—		●	●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	T2JH□	T2JV□		●	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□		●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□		●	●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	T2WLH□	T2WLV□		●	●	●	●	●	●	●	●	●	
		—	—	24 ± 10%	—	5 to 20	T2YD□	—		●	●	●	●	●	●	●	●	●	
		—	—	—	—	—	T2YDT□	—		●	●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	T2JH□	T2JV□		●	●	●	●	●	●	●	●	●	
Ending	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□		●	●	●	●	●	●	●	●	●	
		—	110	5/12/24	20 or less	50 or less	T5H□	T5V□		●	●	●	●	●	●	●	●	●	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□		●	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—		●	●	●	●	●	●	●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 10.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model No.s are also available. (Custom products) For details, refer to P. 869.

SSD2-K Series

Model No. Notation Method

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 41, 42, 44, 45. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

6 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)
S	Dedicated body for intermediate stroke

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 6 Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Minimum Stroke (mm) *1 *3		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *2		Every 1 mm									

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 38.
*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.
*3: For minimum stroke for 7 mounting type LB, refer to P. 41, 44.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-K-.....-XP5

Switch Single Unit Model No. Notation Method

SW - T0H

4 Switch Model No.

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-K-.....-FP1

Rechargeable Battery Compatible Specification (Catalog No. CC-126AA)

● Structure usable in rechargeable battery manufacturing processes

SSD2-K-.....-P4□

*Please contact us for details.

Oil-free Specification (Catalog No. RJ-001AA)

● Grease scatter prevention structure

SSD2-K-.....-P12

Specifications

Item	SSD2-K SSD2-KL (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type									
Operating Fluid	Compressed Air									
Maximum operating pressure MPa	1.0									
Min. Operating Pressure MPa	0.1							0.05		
Proof pressure MPa	1.6									
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)									
Port Size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke Tolerance mm	+2.0									
	0									
Operating Piston Speed mm/s	50 to 500							50 to 300		
Cushion	Rubber Cushion									
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)									
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Minimum Stroke with Switch
(With 1 or 2 Switches)

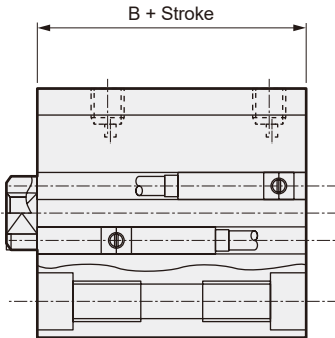
Tube I.D. (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	20
ø16			
ø20			
ø25	5		15
ø32			
ø40			10
ø50			
ø63			
ø80			
ø100			

1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1, T8* switch.
*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-K Series

Item	Standard Product		Optional Product	
	Spacer type on standard stroke body		Dedicated Body Type (-S)	
Model number indication	Refer to model number indication method.		Indicates the "Option" symbol -S in the model number indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.		A dedicated body is manufactured for the specified stroke	
Stroke Range	Tube I.D.	Stroke Range	Tube I.D.	Stroke Range
	12, 16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Model Number Indication Example	Model No.: SSD2-K-32-41 A +4 mm spacer is added to the standard cylinder SSD2-K-32-45 to make it 41 mm. B + Stroke = 33 + 45 = 78		Model No.: SSD2-K-32-41-S A dedicated body for 41 stroke is manufactured. B + Stroke = 33 + 41 = 74	



Specifications

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ⁴	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
ø16	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 ³	1.51 × 10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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 ³
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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
ø80	Push	2.51 × 10 ²	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	2.27 × 10 ²	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
ø100	Push	3.93 × 10 ²	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	3.57 × 10 ²	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

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	44	86	53	95	61	103	70	112	78	121	87	129	-	-	-	-	-	-	-	-	-	-	-	-
ø16	59	104	69	114	80	125	91	136	102	147	113	158	-	-	-	-	-	-	-	-	-	-	-	-
ø20	75	150	88	163	101	176	113	188	126	201	138	213	151	226	163	238	176	251	188	263	-	-	-	-
ø25	102	193	118	209	134	225	150	241	165	256	182	273	198	289	214	305	230	321	246	337	-	-	-	-
ø32	167	281	188	302	209	323	231	345	253	367	275	389	297	411	318	432	340	454	361	475	534	583	642	690
ø40	236	379	263	406	290	433	316	459	342	485	369	512	396	539	422	565	449	592	475	618	702	751	834	883
ø50	-	-	425	619	467	661	510	704	553	747	594	788	636	830	678	872	720	914	762	956	1109	1166	1319	1376
ø63	-	-	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1003	1282	1058	1337	1548	1612	1823	1887
ø80	-	-	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	1708	2121	1794	2207	2574	2640	3006	3072
ø100	-	-	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	2457	3024	2571	3138	3636	3708	4206	4278

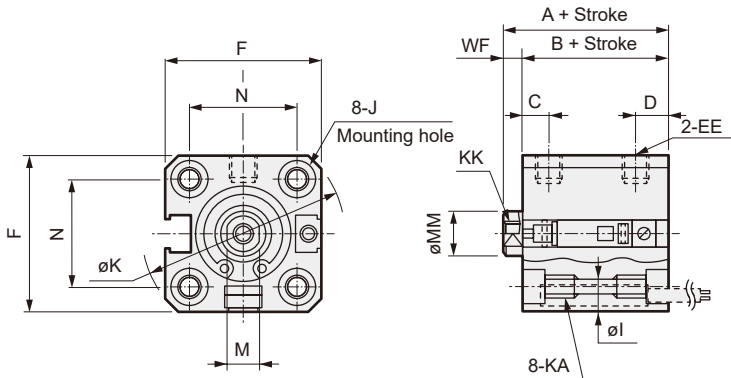
Note: Foot type mounting brackets are 2 pcs/set.

Mounting Bracket Model No. Display Method

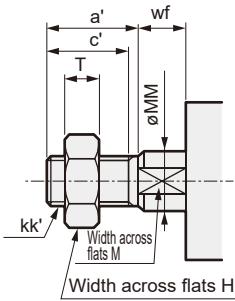
Bore Size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket										
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63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

Outline Dimension Drawing (Bore size: ø12 to ø25)

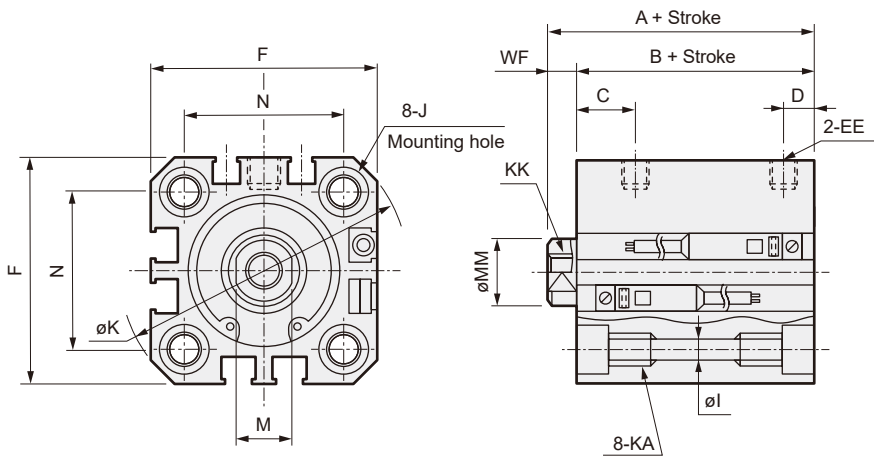
- SSD2-K(L)-12 to 25
ø12, ø16



- Rod end male thread part



ø20, ø25



Code	Dimension with switch		Dimension without switch		Common dimension													
Bore Size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF	
ø12	30.5	27	25.5	22	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	
ø16	30.5	27	25.5	22	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	
ø20	39	34.5	29	24.5	8	5.5	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	
ø25	42.5	37.5	32.5	27.5	11	6	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5	

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.

(Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

For ø16: A (30.5) + Stroke (10) = 40.5 B (27) + Stroke (10) = 37

If the dedicated body "S" for intermediate stroke is selected, enter the intermediate stroke value of 7 mm as is for calculation.

For ø16: A (30.5) + Stroke (7) = 37.5 B (27) + Stroke (7) = 34

*2: For tube bores ø20, ø25, the piping port surface is for F-type switches only.

*3: For dimensions with each switch, refer to P. 300 to P. 309.

*4: For outline dimension drawings of individual accessories, refer to P. 34.

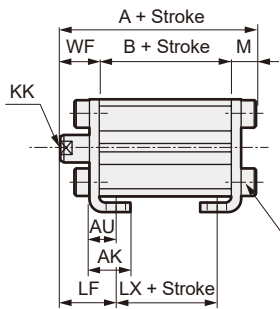
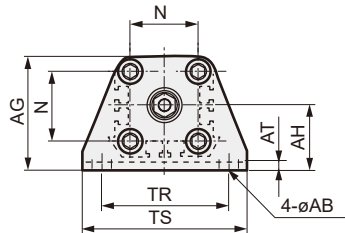
- Rod end male thread part dimension table

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

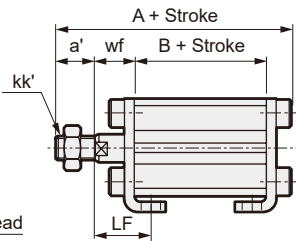
Double Acting, Single Rod, High Load Type

Outline Dimension Drawing (Bore size: ø12 to ø25)

- Axial Foot (LB)
SSD2-K(L)-12 to 25-LB



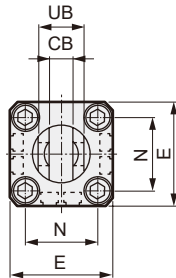
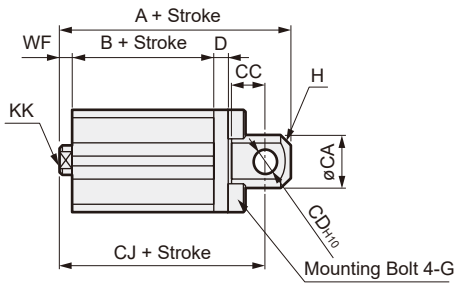
For rod end male thread



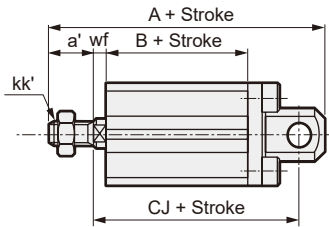
Code	Common dimension												For female thread	
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	KK	M	WF	LF
ø12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	M3 depth 6	4.8	13.5	19.5
ø16	5	33.5	19	13	2	8	M4×10	20	38	48	M4 depth 8	4.8	13.5	19.5
ø20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	M5 depth 7	7.2	14.5	20.5
ø25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	M6 Depth 12	7.2	15	22.5

Code							For male thread									
	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
Bore Size (mm)	A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø12	45.3	27	15	40.3	22	10	10.5	M5	13.5	19.5	55.8	27	15	50.8	22	10
ø16	45.3	27	15	40.3	22	10	12	M6	13.5	19.5	57.3	27	15	52.3	22	10
ø20	56.2	34.5	22.5	46.2	24.5	12.5	14	M8	14.5	20.5	70.2	34.5	22.5	60.2	24.5	12.5
ø25	59.7	37.5	22.5	49.7	27.5	12.5	17.5	M10 × 1.25	15	22.5	77.2	37.5	22.5	67.2	27.5	12.5

- Double Knuckle Clevis (CB)
SSD2-K(L)-12 to 25-CB



For rod end male thread

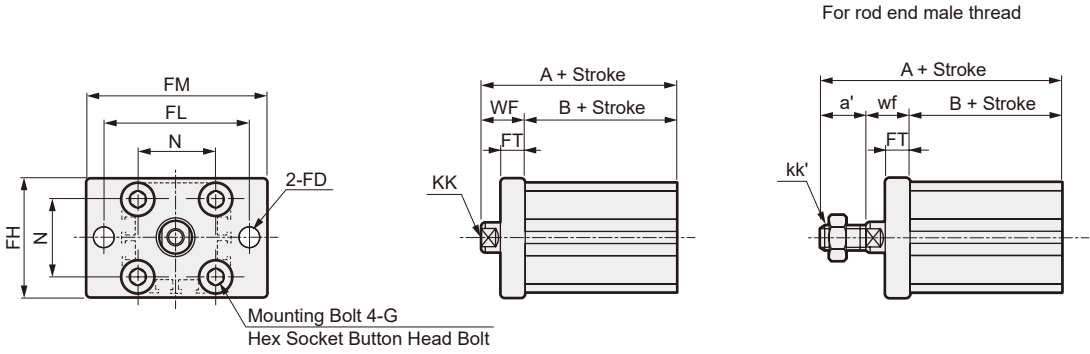


Code	Common dimension										
Bore Size (mm)	CA	CB	CC	CD	D	E	G	H	KK	N	UB
ø12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	M3 depth 6	15.5	10 ^{+0.1} _{0.3}
ø16	15	6.6 ^{+0.2} ₀	8	5	5	29	M4×12	C2	M4 depth 8	20	12 ^{+0.1} _{0.4}
ø20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	M5 depth 7	25.5	16 ^{+0.1} _{0.3}
ø25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	M6 Depth 12	28	20 ^{+0.1} _{0.3}

Code	For female thread						For male thread							
Bore Size (mm)	Dimension with switch			Dimension without switch			a'		kk'		wf		LF	
	A	B	CJ	A	B	CJ								
ø12	3.5	50.5	27	44.5	45.5	22	39.5	10.5	M5	3.5	61	27	44.5	56
ø16	3.5	51.5	27	44.5	46.5	22	40.5	12	M6	3.5	63.5	27	45.5	58.5
ø20	4.5	66	34.5	57	56	24.5	47	14	M8	4.5	80	34.5	57	70
ø25	5	72.5	37.5	62.5	62.5	27.5	52.5	17.5	M10 × 1.25	5	90	37.5	62.5	80

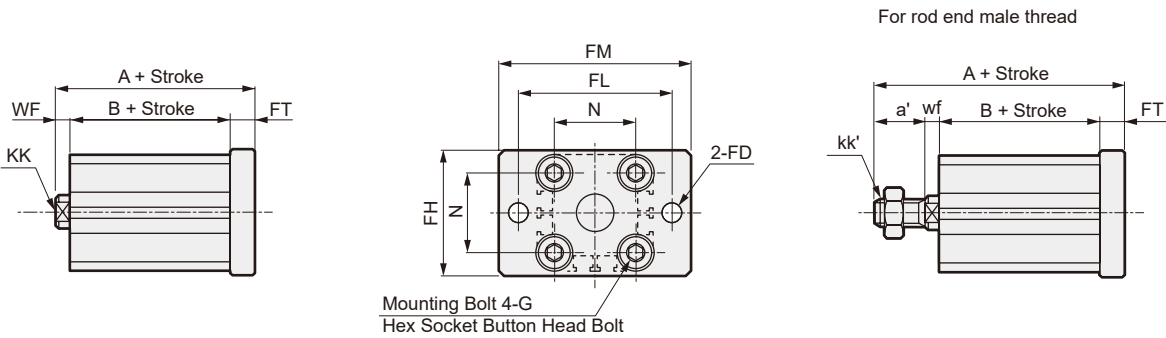
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA) With Switch
SSD2-K(L)-12 to 25-FA



Code	Common dimension											
Bore Size (mm)	FD	FH	FL	FM	FT	N	G		KK			
ø12	4.5	25	45	55	5.5	15.5	M4×12		M3 depth 6			
ø16	4.5	30	45	55	5.5	20	M4×12		M4 depth 8			
ø20	6.6	39	48	60	8	25.5	M6×16		M5 depth 7			
ø25	6.6	42	52	64	8	28	M6×16		M6 Depth 12			
Code	For female thread					For male thread						
	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
A		B	A	B	A				B	A	B	
ø12	13.5	40.5	27	35.5	22	10.5	M5	13.5	51	27	46	22
ø16	13.5	40.5	27	35.5	22	12	M6	13.5	52.5	27	47.5	22
ø20	14.5	49	34.5	39	24.5	14	M8	14.5	63	34.5	53	24.5
ø25	15	52.5	37.5	42.5	27.5	17.5	M10 × 1.25	15	70	37.5	60	27.5

- Head Side Flange (FB) With Switch
SSD2-K(L)-12 to 25-FB

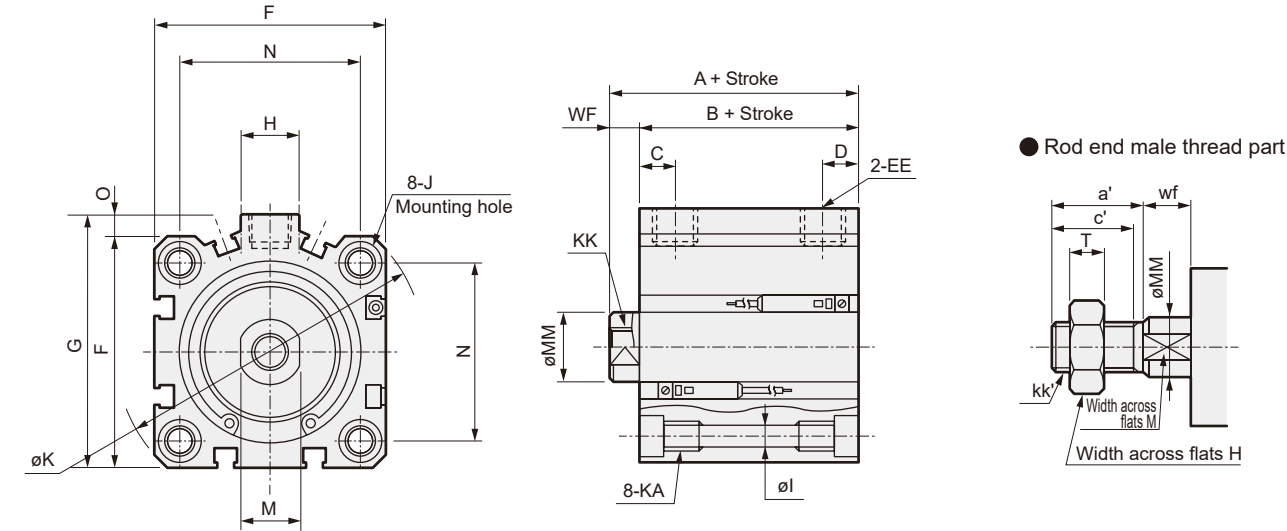


Code	Common dimension											
Bore Size (mm)	FD	FH	FL	FM	FT	N	G		KK			
ø12	4.5	25	45	55	5.5	15.5	M4×12		M3 depth 6			
ø16	4.5	30	45	55	5.5	20	M4×12		M4 depth 8			
ø20	6.6	39	48	60	8	25.5	M6×16		M5 depth 7			
ø25	6.6	42	52	64	8	28	M6×16		M6 Depth 12			
Code	For female thread					For male thread						
	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
A		B	A	B	A				B	A	B	
ø12	3.5	36	27	31	22	10.5	M5	3.5	46.5	22	41.5	22
ø16	3.5	36	27	31	22	12	M6	3.5	48	22	43	22
ø20	4.5	47	34.5	37	24.5	14	M8	4.5	61	29.5	51	24.5
ø25	5	50.5	37.5	40.5	27.5	17.5	M10 × 1.25	5	68	32.5	58	27.5

Double Acting, Single Rod, High Load Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

- SSD2-K(L)-32 to 100



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

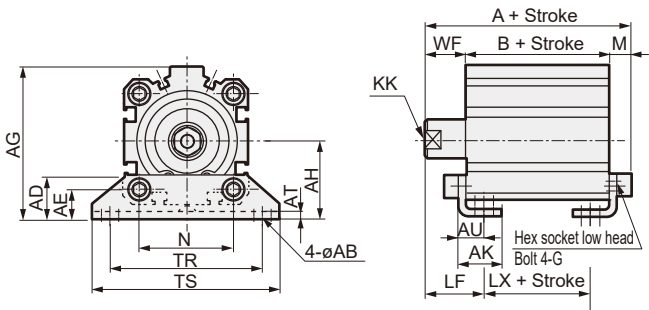
*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For SSD2-KL-32-7, when the intermediate stroke is 7 mm, enter the standard stroke of 10 mm for calculation.
• For ø32 A + Stroke = 50 + 10 = 60 B + Stroke = 43 + 10 = 53
If the dedicated body "S" for intermediate stroke is selected, enter the intermediate stroke value of 7 mm as is for calculation.
• For ø32 A + Stroke = 50 + 7 = 57 B + Stroke = 43 + 7 = 50
*2: Dimensions in () for symbols A and B are values when exceeding 50 strokes.
*3: For dimensions with each switch, refer to P. 300 to P. 309.
*4: For outline dimension drawings with accessories and outline dimension drawings of individual accessories, refer to P. 34.

- Rod end male thread part dimension table

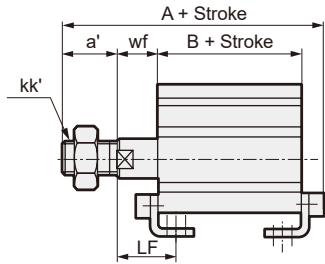
Code	a'	c'	H	kk'	M	MM	T	wf
ø32	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø50	28.5	26	27	M18 × 1.5	17	20	11	5
ø63	28.5	26	27	M18 × 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 × 1.5	22	25	13	8
ø100	35.5	32.5	41	M26 × 1.5	27	30	16	8

Outline Dimension Drawing (Bore size: ø32 to ø100)

- Axial Foot (LB) With Switch
SSD2-K(L)-32 to 100-LB



For rod end male thread

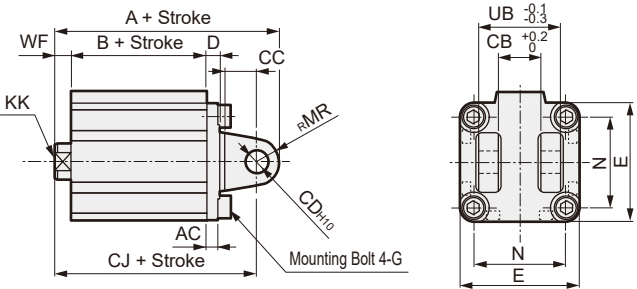


Code	Common dimension														For female thread					
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	KK	M	WF	LF	Dimension with switch			
Bore Size (mm)																	A	B	LX	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	M8 depth 13	7.2	17	25	67.2	43	27	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	M8 depth 13	7.2	17	25	73.7	49.5	33.5	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	M10 depth 15	8.2	18	29.5	76.7	50.5	27.5	
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	M10 depth 15	9.2	18	31	83.2	56	30	
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	M16 depth 21	11.5	20	35	95	63.5	33.5	
ø100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	M20 depth 27	13	22	39	108	73	39	

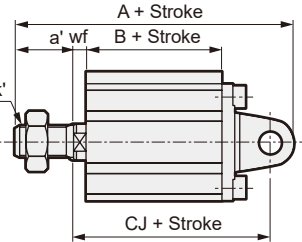
Code	For male thread										Dimension without switch		
	Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
Bore Size (mm)	A '2	B '2	LX '2					A	B	LX	A '2	B '2	LX '2
ø32	57.2 (67.2)	33 (43)	17 (27)	23.5	M14 × 1.5	15	23	88.7	43	27	78.7 (88.7)	33 (43)	17 (27)
ø40	63.7 (73.7)	39.5 (49.5)	23.5 (33.5)	23.5	M14 × 1.5	15	23	95.2	49.5	33.5	85.2 (95.2)	39.5 (49.5)	23.5 (33.5)
ø50	66.7 (76.7)	40.5 (50.5)	17.5 (27.5)	28.5	M18 × 1.5	15	26.5	102.2	50.5	27.5	92.2 (102.2)	40.5 (50.5)	17.5 (27.5)
ø63	73.2 (83.2)	46 (56)	20 (30)	28.5	M18 × 1.5	15	28	108.7	56	30	98.7 (108.7)	46 (56)	20 (30)
ø80	85 (95)	53.5 (63.5)	23.5 (33.5)	35.5	M22 × 1.5	18	33	128.5	63.5	33.5	118.5 (128.5)	53.5 (63.5)	23.5 (33.5)
ø100	98 (108)	63 (73)	29 (39)	35.5	M26 × 1.5	18	35	139.5	73	39	129.5 (139.5)	63 (73)	29 (39)

*1: ø80: LB cannot be selected for 15 strokes or less without switch.
*2: Dimensions in () are values when exceeding 50 strokes.

- Double Knuckle Clevis (CB) With Switch
SSD2-K(L)-32 to 100-CB



For rod end male thread



Code	Common dimension											For female thread			
	AC	CB	CC	CD	D	E	G	MR	KK	N	UB	WF	Dimension with switch		
Bore Size (mm)													A	B	CJ
ø32	4.5	18.2	14	10	5	45	M6×16	10	M8 depth 13	34	36	7	80	43	70
ø40	5	18.2	14	10	6	52	M6×16	10	M8 depth 13	40	36	7	88.5	49.5	78.5
ø50	6	22.2	20	14	7	64	M8×20	14	M10 depth 15	50	44	8	100.5	50.5	86.5
ø63	7	22.2	20	14	8	77	M10×25	14	M10 depth 15	60	44	8	108	56	94
ø80	9	28.2	27	18	10	98	M12×40	18	M16 depth 21	77	56	10	129.5	63.5	111.5
ø100	12	32.2	31	22	13	117	M12×40	22	M20 depth 27	94	64	12	152	73	130

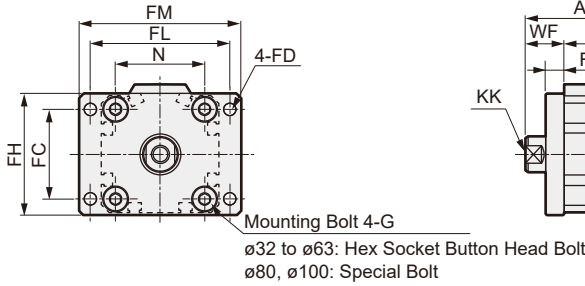
Code						For male thread						
	Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
Bore Size (mm)	A '2	B '2	CJ				A	B	CJ	A '2	B '2	CJ
ø32	70 (80)	33 (43)	60	23.5	M14 × 1.5	5	101.5	43	68	91.5 (101.5)	33 (43)	58
ø40	78.5 (88.5)	39.5 (49.5)	68.5	23.5	M14 × 1.5	5	110	49.5	76.5	100 (110)	39.5 (49.5)	66.5
ø50	90.5 (100.5)	40.5 (50.5)	76.5	28.5	M18 × 1.5	5	126	50.5	83.5	116 (126)	40.5 (50.5)	73.5
ø63	98 (108)	46 (56)	84	28.5	M18 × 1.5	5	133.5	56	91	123.5 (133.5)	46 (56)	81
ø80	119.5 (129.5)	53.5 (63.5)	101.5	35.5	M22 × 1.5	8	163	63.5	109.5	153 (163)	53.5 (63.5)	99.5
ø100	142 (152)	63 (73)	120	35.5	M26 × 1.5	8	183.5	73	126	173.5 (183.5)	63 (73)	116

*1: Pin and retaining ring are included.
*2: Dimensions in () are values when exceeding 50 strokes.

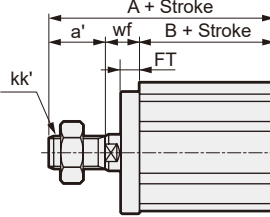
Double Acting, Single Rod, High Load Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

- Rod Side Flange (FA) With Switch
SSD2-K(L)-32 to 100-FA



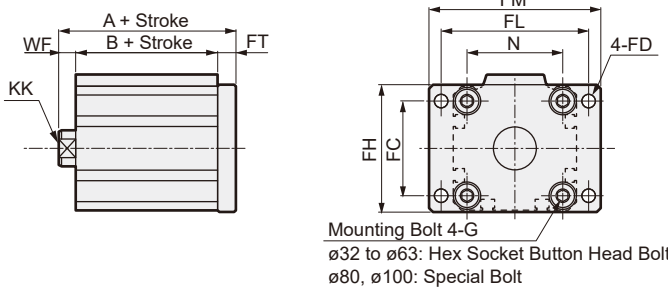
For rod end male thread



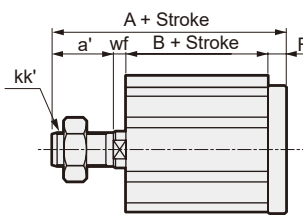
Code Bore Size (mm)	Common dimension								For female thread						For male thread							
	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
											A	B	A '1	B '1				A	B	A '1	B '1	
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	17	60	43	50 (60)	33 (43)	23.5	M14 × 1.5	15	81.5	43	71.5 (81.59)	33 (43)	
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	17	66.5	49.5	56.5 (66.5)	39.5 (49.5)	23.5	M14 × 1.5	15	88	49.5	78 (88)	39.5 (49.5)	
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	18	68.5	50.5	58.5 (68.5)	40.5 (50.5)	28.5	M18 × 1.5	15	94	50.5	84 (94)	40.5 (50.5)	
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	18	74	56	64 (74)	46 (56)	28.5	M18 × 1.5	15	99.5	56	89.5 (99.5)	46 (56)	
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21	20	83.5	63.5	73.5 (83.5)	53.5 (63.5)	35.5	M22 × 1.5	18	117	63.5	107 (117)	53.5 (63.5)	
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27	22	95	73	85 (95)	63 (73)	35.5	M26 × 1.5	18	126.5	73	116.5 (126.5)	63 (73)	

*1: Dimensions in () are values when exceeding 50 strokes.

- Head Side Flange (FB) With Switch
SSD2-K(L)-32 to 100-FB



For rod end male thread

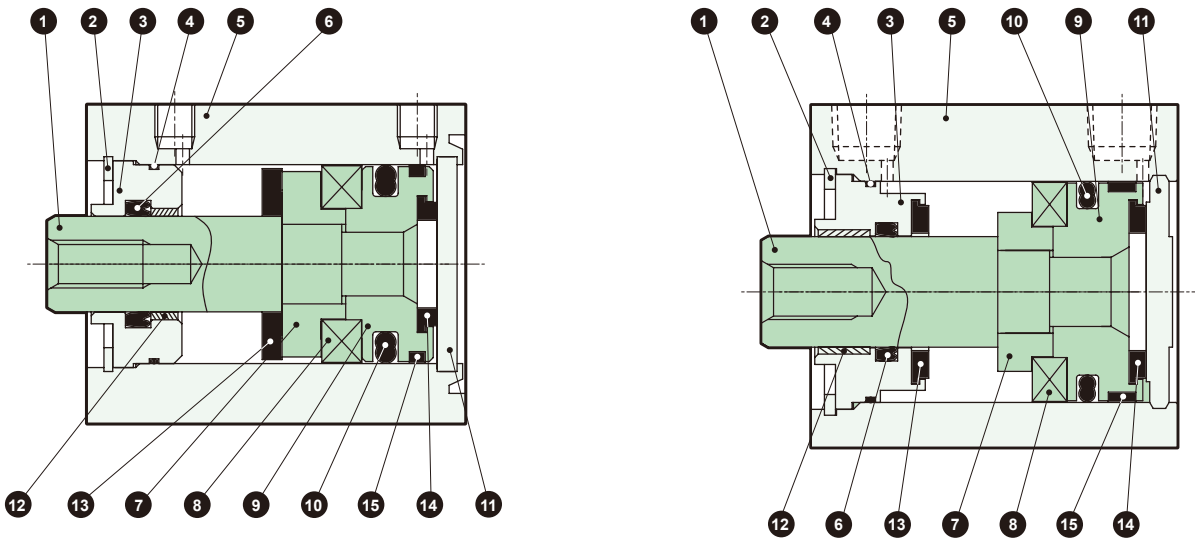


Code Bore Size (mm)	Common dimension								For female thread						For male thread							
	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
											A	B	A '1	B '1				A	B	A '1	B '1	
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	7	58	43	48 (58)	33 (43)	23.5	M14 × 1.5	5	79.5	43	69.5 (79.5)	33 (43)	
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	7	64.5	49.5	54.5 (64.5)	39.5 (49.5)	23.5	M14 × 1.5	5	86	49.5	76 (86)	39.5 (49.5)	
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	8	67.5	50.5	57.5 (67.5)	40.5 (50.5)	28.5	M18 × 1.5	5	93	50.5	83 (93)	40.5 (50.5)	
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	8	73	56	63 (73)	46 (56)	28.5	M18 × 1.5	5	98.5	56	88.5 (98.5)	46 (56)	
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21	10	84.5	63.5	74.5 (84.5)	53.5 (63.5)	35.5	M22 × 1.5	8	118	63.5	108 (118)	53.5 (63.5)	
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27	12	96	73	86 (96)	63 (73)	35.5	M26 × 1.5	8	127.5	73	117.5 (127.5)	63 (73)	

*1: Dimensions in () are values when exceeding 50 strokes.

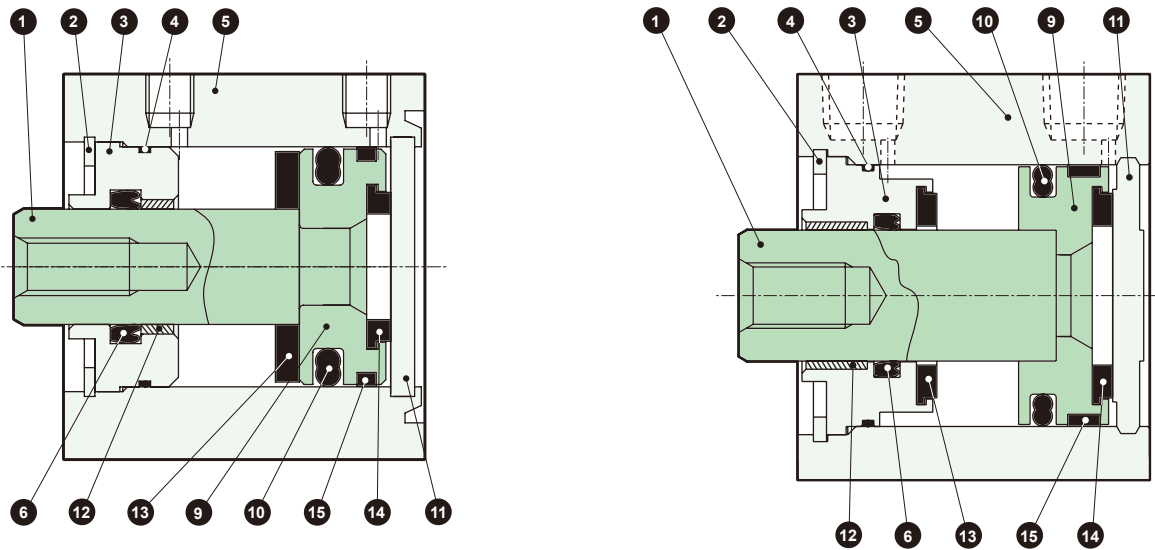
Internal Structure Diagram/Material (Bore size: ø12 to ø32)

● SSD2-KL-12 to 25 (Double Acting, High Load Type, With Switch) ● SSD2-KL-32 (Double Acting, High Load Type, With Switch)



● SSD2-K-12 to 25 (Double Acting, High Load Type)

● SSD2-K-32 (Double Acting, High Load Type)



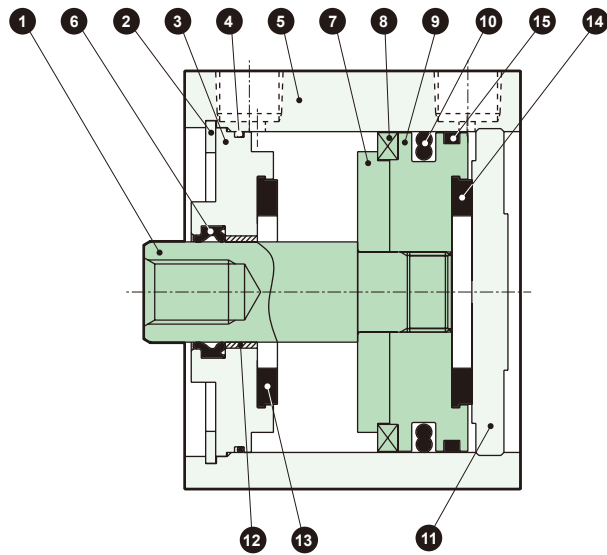
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32: Steel	ø16 to ø32 Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	ø12 to ø25: Alumite ø32: Chromate treatment	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	ø12 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Bearing Alloy	ø20 to ø32 only
6	Rod Packing	Nitrile Rubber		13	Cushion rubber (R)	Urethane Rubber	
7	Spacer	Aluminum Alloy	Chromate	14	Cushion rubber (H)	Urethane Rubber	
				15	Wear Ring	Polyacetal	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

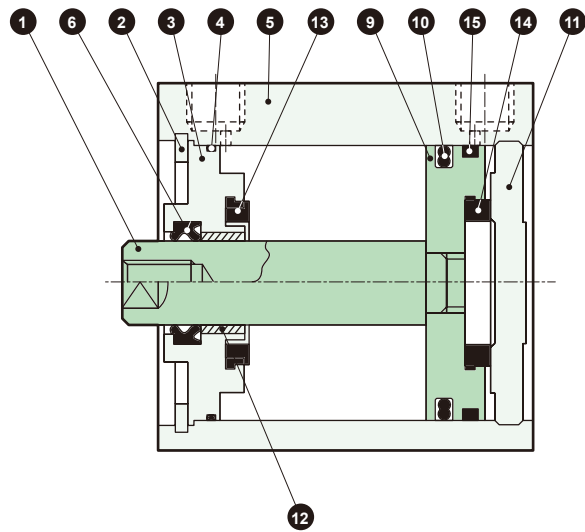
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø40 to ø100)

● SSD2-KL-40 to 100 (Double Acting, High Load Type, With Switch)



● SSD2-K-40 to 100 (Double Acting, High Load Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	ø40, ø50: Chromate treatment ø63 to ø100: Alumite	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	Aluminum Alloy	Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Bearing Alloy	
6	Rod Packing	Nitrile Rubber		13	Cushion rubber (R)	Urethane Rubber	
7	Spacer	Aluminum Alloy		14	Cushion rubber (H)	Urethane Rubber	
				15	Wear Ring	Polyacetal	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.



Compact Cylinder Double Acting, Single Rod, Long Stroke

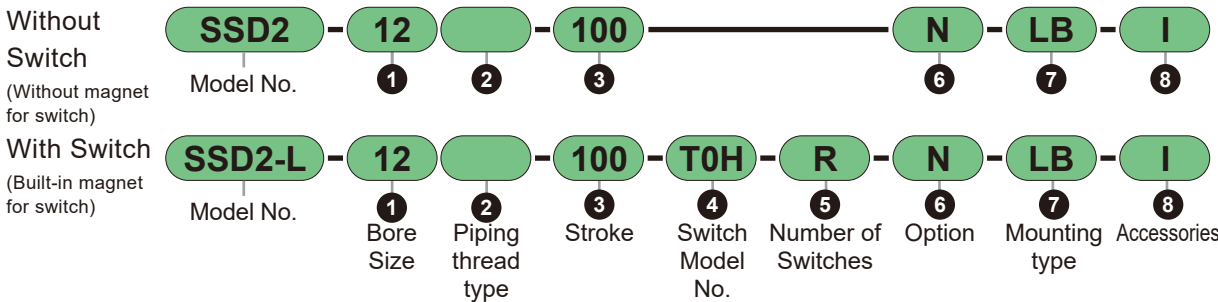
SSD2 Series (Long Stroke)

- Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Content	Code	Content
12	ø12	40	ø40
16	ø16	50	ø50
20	ø20	63	ø63
25	ø25	80	ø80
32	ø32	100	ø100

2 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25)
	Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	35 to 100	Every 1 mm
ø20	75 to 200	
ø25	75 to 300	
ø32 to ø100	125 to 300	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size											
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100		
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□		●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□		●	●									
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□		●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□		●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□		●	●									
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□		●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□		●	●									
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□		●	●	●	●	●	●	●	●	●		
		—	10 to 30	—	5 to 20 *2	T2H□	T2V□		●	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	—	—	100 or less	T3H□	T3V□		●	●	●	●	●	●	●	●	●		
		3-wire (PNP)	—	30 or less	—	—	T3PH□	T3PV□		●	●	●	●	●	●	●	●	●		
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□		●	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□		●	●	●	●	●	●	●	●	●		
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□		●	●	●	●	●	●	●	●	●		
			—				T2YD□	—		●	●	●	●	●	●	●	●			
			—				T2YDT□	—		●	●	●	●	●	●	●	●	●		
		1-Color Off- Delay Type	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□		●	●	●	●	●	●	●	●			
			—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		●	●	●	●	●	●	●	●			●
			—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3		●	●	●	●	●	●	●	●			●
	Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□		●	●	●	●	●	●	●	●		
		No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□		●	●	●	●	●	●	●	●		
		1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□		●	●	●	●	●	●	●	●		●

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.

*4: T8□ switches cannot be mounted on ø12, ø16.

*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.

*6: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*7: Switches other than the model No.s listed above are also available. (Custom products) For details, refer to P. 869.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (-) Lead Wire 0.3 m

*9

*8: Only T2WLH, T2WLV can be selected.

*9: F-type switch with 5 m lead wire length cannot be selected.

Example) Lead wire length
1 m T0H
3 m T0H[3]
5 m T0H[5]

SSD2 (Long Stroke) Series

Model No. Notation Method

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	
M	Piston Rod Material (Stainless Steel)	

*1

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (Pin and retaining ring included)	

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

*1

Code	Content	
Blank	Without mounting bracket	
LB	Axial Foot Type (Double Side)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod Side Flange Type	
FB	Head Side Flange Type	

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 53, 54, 56, 57. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	35	●	●								
	40	●	●								
	45	●	●								
	50	●	●								
	75	●	●	●	●						
	100	●	●	●	●						
	125			●	●	●	●	●	●	●	●
	150			●	●	●	●	●	●	●	●
	175			●	●	●	●	●	●	●	●
	200			●	●	●	●	●	●	●	●
	250				●	●	●	●	●	●	●
300				●	●	●		●	●	●	
Max. Stroke (mm)		100		200	300						
Intermediate Stroke *1		Every 1 mm									

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

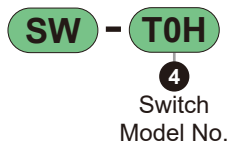
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2 - - XP5

Switch Single Unit Model No. Notation Method



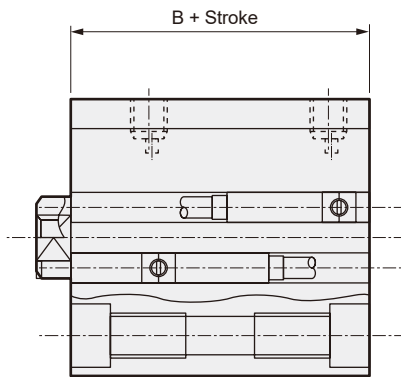
Specifications

Item	SSD2									
	SSD2-L (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type									
Operating Fluid	Compressed Air									
Max. Operating Pressure MPa	1.0									
Min. Operating Pressure MPa	0.1							0.05		
Proof pressure MPa	1.6									
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)									
Port Size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke Tolerance mm	+2.0									
	0									
Operating Piston Speed mm/s	50 to 500							50 to 300		
Cushion	Rubber Cushion									
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)									
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

About Intermediate Stroke

● SSD2 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	31 to 99
	20	51 to 199
	25	51 to 299
	32 to 100	101 to 299
Model Number	Model No.: SSD2-32-121	
Indication Example	A +4 mm spacer is added to the standard cylinder SSD2-32-125 to make it 121 mm. B + Stroke = 45.5 + 125 = 170.5	



Specifications

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ⁴	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
ø16	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 ³	1.51 × 10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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 ³
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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
ø80	Push	2.51 × 10 ²	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	2.27 × 10 ²	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
ø100	Push	3.93 × 10 ²	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	3.57 × 10 ²	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

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	35		40		45		50		75		100		125		150		175		200		250		300	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	144	146	153	155	161	163	170	172	212	214	255	257	-	-	-	-	-	-	-	-	-	-	-	-
ø16	179	180	190	191	201	202	212	213	267	268	322	323	-	-	-	-	-	-	-	-	-	-	-	-
ø20	-	-	-	-	-	-	-	-	321	326	383	388	446	451	508	513	571	576	633	638	-	-	-	-
ø25	-	-	-	-	-	-	-	-	412	417	492	497	572	577	652	657	732	737	812	817	972	977	1132	1137
ø32	-	-	-	-	-	-	-	-	-	-	-	-	790	799	897	905	1003	1012	1111	1119	1326	1334	1541	1549
ø40	-	-	-	-	-	-	-	-	-	-	-	-	1,000	1016	1133	1148	1265	1281	1398	1413	1663	1678	1928	1943
ø50	-	-	-	-	-	-	-	-	-	-	-	-	1553	1571	1779	1796	2004	2022	2217	2234	2642	2659	3067	3084
ø63	-	-	-	-	-	-	-	-	-	-	-	-	2138	2162	2413	2437	2688	2712	2963	2987	3512	3536	4062	4086
ø80	-	-	-	-	-	-	-	-	-	-	-	-	3478	3505	3911	3937	4343	4370	4776	4802	5640	5666	6505	6531
ø100	-	-	-	-	-	-	-	-	-	-	-	-	4816	4848	5386	5418	5956	5988	6526	6558	7667	7699	8807	8839

Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

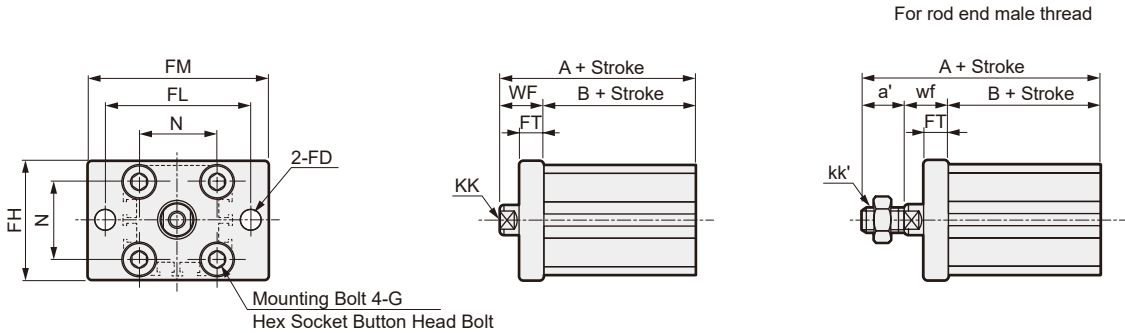
FC□

Cylinder Switch

Ending

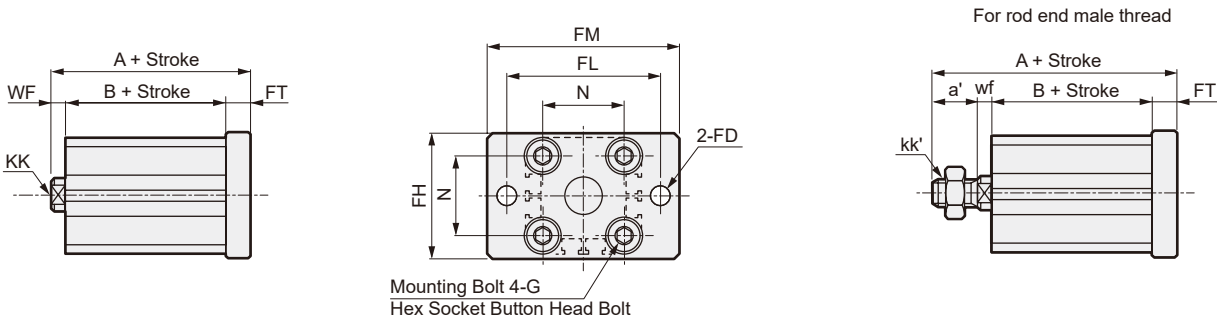
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA)
SSD2-(L)-12 to 25-FA



Code	Common dimension							
Bore Size (mm)	FD	FH	FL	FM	FT	N	G	KK
ø12	4.5	25	45	55	5.5	15.5	M4×12	M3 depth 6
ø16	4.5	30	45	55	5.5	20	M4×12	M4 depth 8
ø20	6.6	39	48	60	8	25.5	M6×16	M5 depth 7
ø25	6.6	42	52	64	8	28	M6×16	M6 Depth 12
Code	For female thread			For male thread				
	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch	
A		B	A				B	
ø12	13.5	45.5	32	10.5	M5	13.5	56	32
ø16	13.5	45.5	32	12	M6	13.5	57.5	32
ø20	14.5	55.5	41	14	M8	14.5	69.5	41
ø25	15	59	44	17.5	M10 × 1.25	15	76.5	44

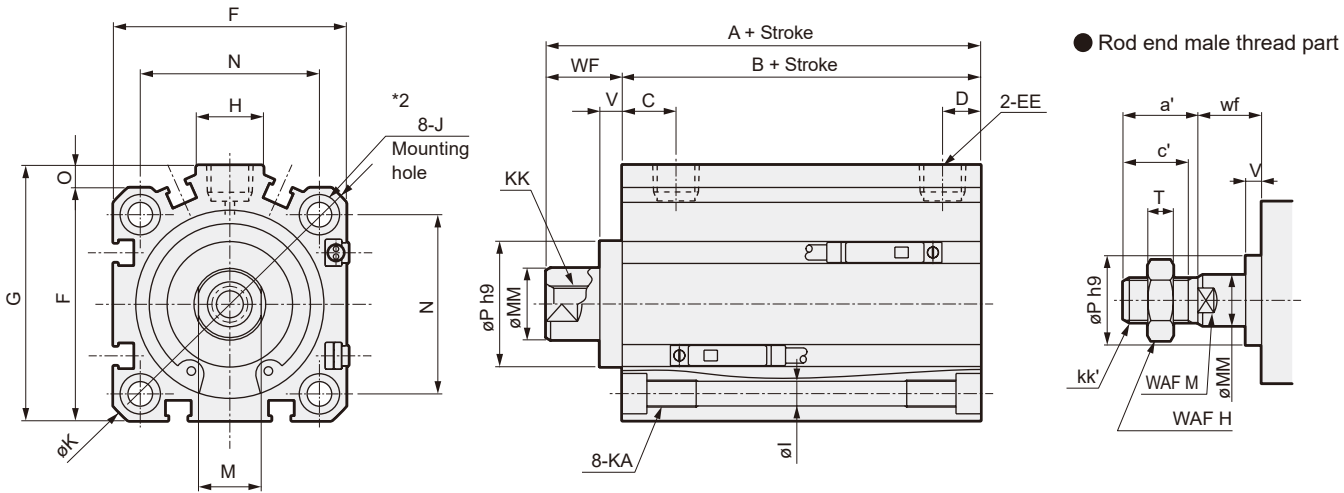
- Head Side Flange (FB)
SSD2-(L)-12 to 25-FB



Code	Common dimension							
Bore Size (mm)	FD	FH	FL	FM	FT	N	G	KK
ø12	4.5	25	45	55	5.5	15.5	M4×12	M3 depth 6
ø16	4.5	30	45	55	5.5	20	M4×12	M4 depth 8
ø20	6.6	39	48	60	8	25.5	M6×16	M5 depth 7
ø25	6.6	42	52	64	8	28	M6×16	M6 Depth 12
Code	For female thread			For male thread				
	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch	
Bore Size (mm)		A	B				A	B
ø12	13.5	51	32	10.5	M5	13.5	61.5	32
ø16	13.5	51	32	12	M6	13.5	63	32
ø20	14.5	63.5	41	14	M8	14.5	77.5	41
ø25	15	67	44	17.5	M10 × 1.25	15	84.5	44

Outline Dimension Drawing (Bore size: ø32 to ø100)

- SSD2 (Long Stroke)-(L)-32 to 100
*Outline dimensions are common for both with and without switch.



Code	A ^{*1}	B ^{*1}	C	D ^{*3}	EE	F	G	H	I	J ^{*2}	K	KA	KK	M	MM	N	O	P	V	WF
Bore Size (mm)																				
ø32	62.5	45.5	8	8	Rc1/8	45	49.5	12.5	5.5	9 Counterbore Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	22	5	17
ø40	72	55	12	8.5 (12)	Rc1/8	52	57	15	5.5	9 Counterbore Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	28	5	17
ø50	73.5	55.5	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	35	5	18
ø63	75	57	13	11 (13)	Rc1/4	77	84	23	8.7	14 Counterbore Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	35	5	18
ø80	86	66	16	13 (16)	Rc3/8	98	104	31	10.5	17.5 Counterbore Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	43	5	20
ø100	97.5	75.5	23	15 (23)	Rc3/8	117	123.5	38	10.5	17.5 Counterbore Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59	5	22

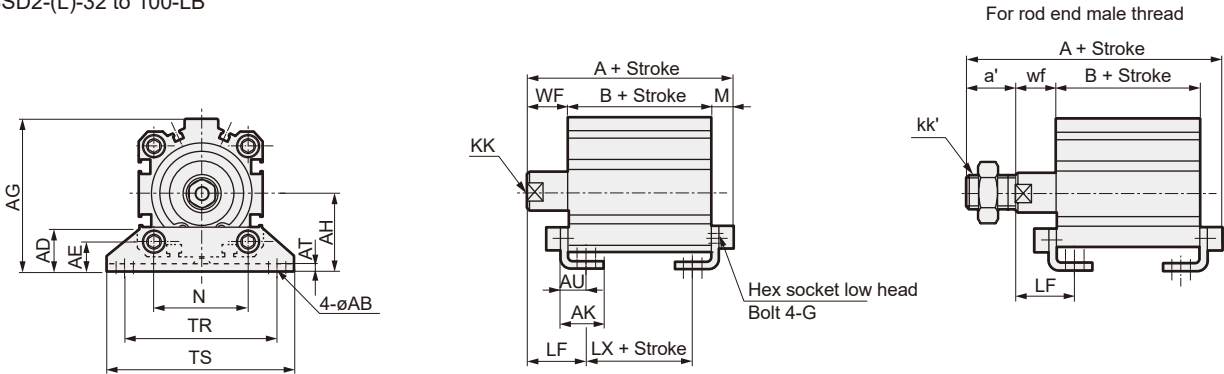
- *1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 121 mm, enter the standard stroke of 125 mm for calculation.
- *2: ø32 to ø50: When exceeding 150 strokes, ø63 to ø100: When exceeding 200 strokes, there is no counterbore J.
- *3: Dimension in () for code D is the value when ø32 to ø50 exceeds 150 strokes, ø63 to ø100 exceeds 200 strokes.
- *4: For dimensions with each switch, refer to P. 300 to 309.
- *5: For outline dimension drawings of individual accessories, refer to P. 34.

- Rod end male thread part dimension table

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

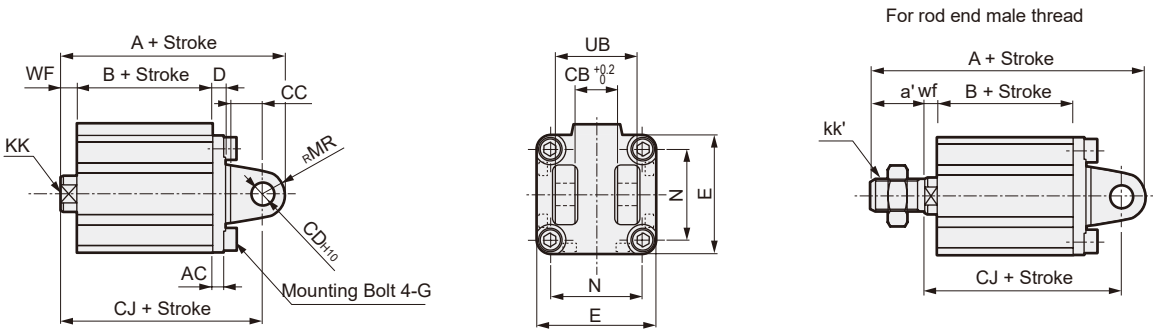
Outline Dimension Drawing (Bore size: ø32 to ø100)

- Axial Foot (LB)
SSD2-(L)-32 to 100-LB



Code	Common dimension														
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2	
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5	
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13	
Code	For female thread						For male thread								
	WF	LF	Dimension with/without switch			a'	kk'	wf	LF	Dimension with/without switch					
			A	B	LX					A	B	LX			
ø32	17	25	69.7	45.5	29.5	23.5	M14 × 1.5	15	23	91.2	45.5	29.5			
ø40	17	25	79.2	55	39	23.5	M14 × 1.5	15	23	100.7	55	39			
ø50	18	29.5	81.7	55.5	32.5	28.5	M18 × 1.5	15	26.5	107.2	55.5	32.5			
ø63	18	31	84.2	57	31	28.5	M18 × 1.5	15	28	109.7	57	31			
ø80	20	35	97.5	66	36	35.5	M22 × 1.5	18	33	131	66	36			
ø100	22	39	110.5	75.5	41.5	35.5	M26 × 1.5	18	35	142	75.5	41.5			

- Double Knuckle Clevis (CB)
SSD2-(L)-32 to 100-CB

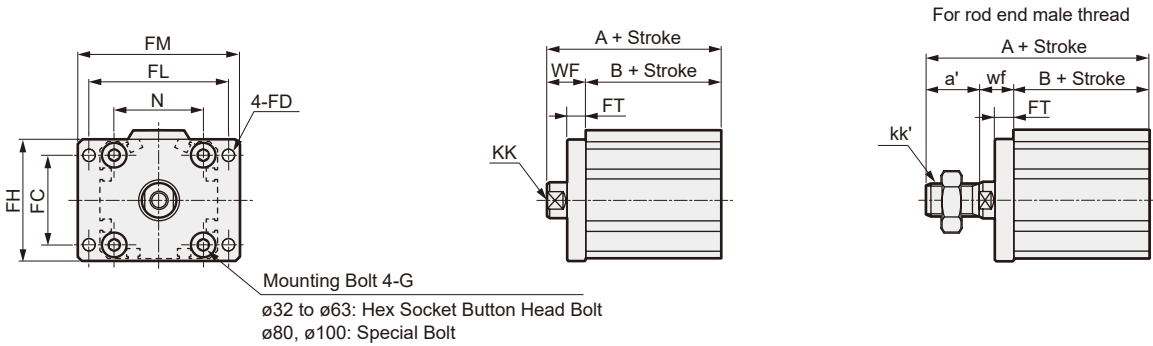


Code	Common dimension										
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB
ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64
Code	For female thread					For male thread					
	WF	Dimension with/without switch			a'	kk'	wf	Dimension with/without switch			
		A	B	CJ				A	B	CJ	
ø32	17	92.5	45.5	82.5	23.5	M14 × 1.5	15	114	45.5	80.5	
ø40	17	104	55	94	23.5	M14 × 1.5	15	125.5	55	92	
ø50	18	115.5	55.5	101.5	28.5	M18 × 1.5	15	141	55.5	98.5	
ø63	18	119	57	105	28.5	M18 × 1.5	15	144.5	57	102	
ø80	20	142	66	124	35.5	M22 × 1.5	18	175.5	66	122	
ø100	22	164.5	75.5	142.5	35.5	M26 × 1.5	18	196	75.5	138.5	

Double Acting, Single Rod, Long Stroke

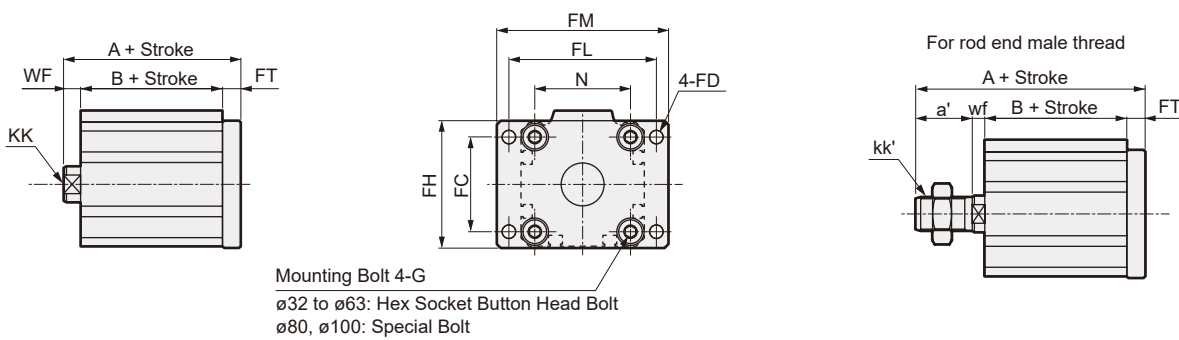
Outline Dimension Drawing (Bore size: ø32 to ø100)

- Rod Side Flange (FA)
SSD2-(L)-32 to 100-FA



Code	Common dimension								
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27
Code	For female thread			For male thread					
	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch		
A		B	A				B		
ø32	17	62.5	45.5	23.5	M14 × 1.5	15	84	45.5	
ø40	17	72	55	23.5	M14 × 1.5	15	93.5	55	
ø50	18	73.5	55.5	28.5	M18 × 1.5	15	99	55.5	
ø63	18	75	57	28.5	M18 × 1.5	15	100.5	57	
ø80	20	86	66	35.5	M22 × 1.5	18	119.5	66	
ø100	22	97.5	75.5	35.5	M26 × 1.5	18	129	75.5	

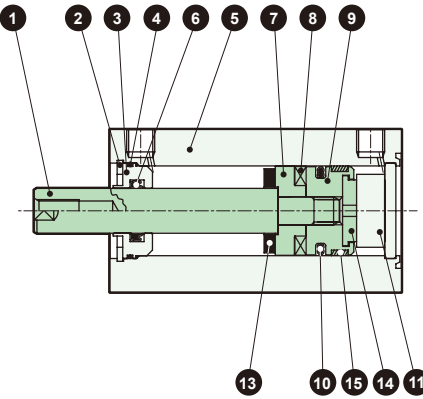
- Head Side Flange (FB)
SSD2-(L)-32 to 100-FB



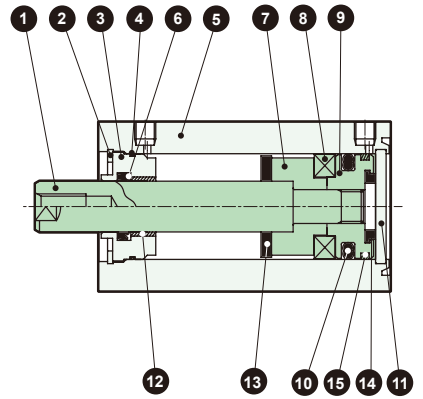
Code	Common dimension								
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27
Code	For female thread				For male thread				
	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch		
		A	B				A	B	
ø32	17	70.5	45.5	23.5	M14 × 1.5	15	92	45.5	
ø40	17	80	55	23.5	M14 × 1.5	15	101.5	55	
ø50	18	82.5	55.5	28.5	M18 × 1.5	15	108	55.5	
ø63	18	84	57	28.5	M18 × 1.5	15	109.5	57	
ø80	20	97	66	35.5	M22 × 1.5	18	130.5	66	
ø100	22	108.5	75.5	35.5	M26 × 1.5	18	140	75.5	

Internal Structure Diagram/Material

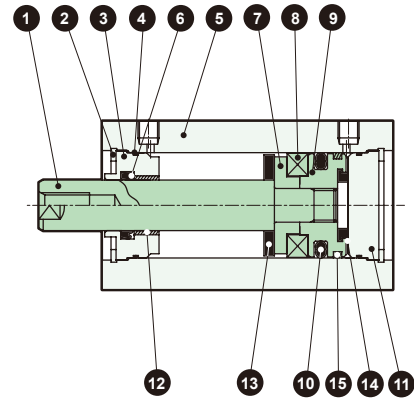
● SSD2 (Long Stroke)-L-12, 16
(Double Acting, Single Rod Type with Switch)



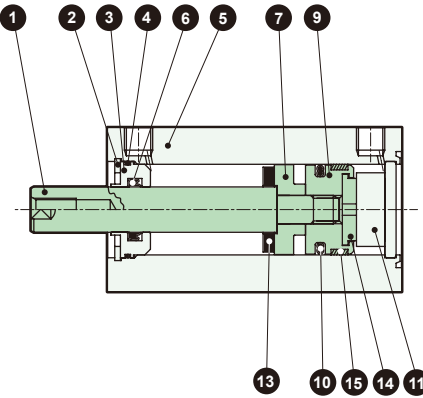
● SSD2 (long stroke) -L-20 to 100
(Double Acting, Single Rod Type with Switch)



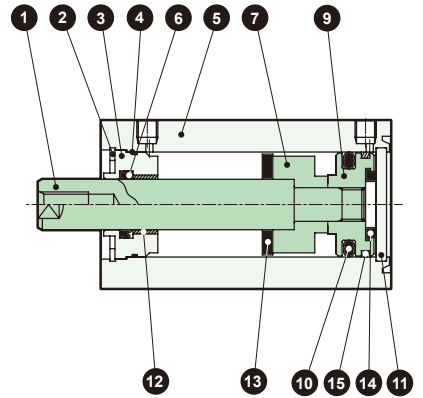
ø20: Exceeding 100 stroke up to 200 stroke
ø25: Exceeding 150 stroke up to 300 stroke
ø32 to ø50: Stroke exceeding 150 and up to 300
ø63 to ø100: Stroke exceeding 200 and up to 300



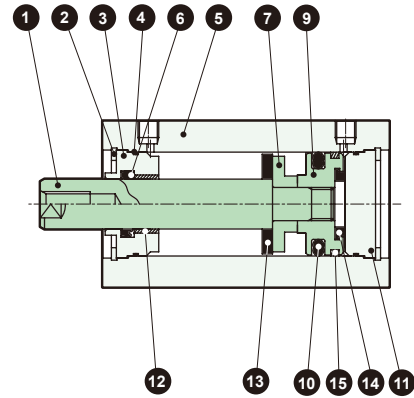
● SSD2 (Long Stroke)-12, 16
(Double Acting, Single Rod Type)



● SSD2 (Long Stroke)-20 to 100
(Double Acting, Single Rod Type)



ø20: Exceeding 100 stroke up to 200 stroke
ø25: Exceeding 150 stroke up to 300 stroke
ø32 to ø50: Stroke exceeding 150 and up to 300
ø63 to ø100: Stroke exceeding 200 and up to 300



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to 25: Stainless steel ø32 to 100: Steel	ø16 to 100 Industrial Hard Chrome Plating	9	Piston	Aluminum Alloy	Chromate
2	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	
3	Rod Metal	Aluminum Alloy	Chromate	11	Cover (*1)	ø12 to 25: Stainless steel ø32 to 100: Aluminum alloy	ø32 to 100: Alumite
4	Rod metal gasket	Nitrile Rubber		12	Bushing	Bearing Alloy	ø20 to 100
5	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Cushion rubber (R)	Urethane Rubber	
6	Rod Packing	Nitrile Rubber		14	Cushion rubber (H)	Urethane Rubber	
7	Spacer	Aluminum Alloy	ø12 to 32: Chromate	15	Wear Ring	Polyacetal	
8	Magnet	Plastic					

Note: For strokes exceeding ø20:100 or ø25:150, the cover is made of: Aluminum alloy, remarks: Chromate the product.

MEMO

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.



Compact Cylinder Single Acting, Push Type

SSD2-X Series

Single Acting/Retracting Type with Switch

SSD2-Y Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50

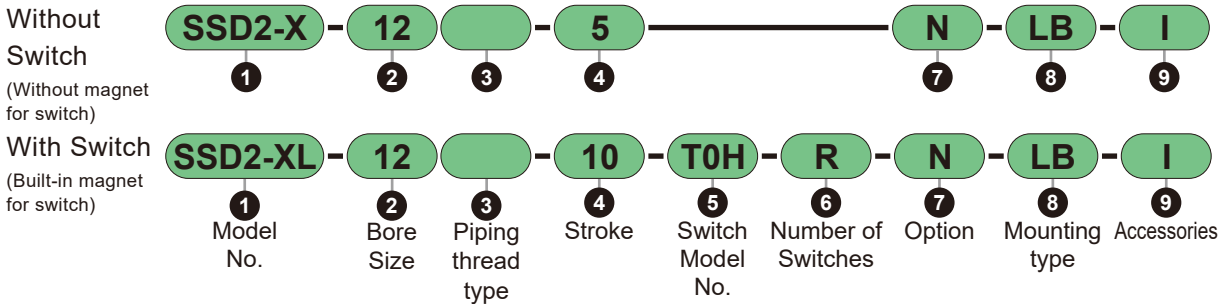
Circuit Diagram Symbol SSD2-X SSD2-Y



SSD2-X^Y Series

Model No. Notation Method

Model No. Notation Method



1 Model No.

Code	Content
SSD2-X	Single Acting, Push Type
SSD2-XL	Single Acting/Push Type with Switch
SSD2-Y	Single Acting, Retracting Type
SSD2-YL	Single Acting/Retracting Type with Switch

2 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

3 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25)
	Rc thread (ø32 to ø50)
NN	NPT thread (Custom product) (ø32 to ø50)
GN	G thread (Custom product) (ø32 to ø50)

4 Stroke (mm)

Stroke	Bore Size	ø12	ø16	ø20	ø25	ø32	ø40	ø50
5	5	●	●	●	●	●	●	
10	10	●	●	●	●	●	●	
20	20							●

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 62.

*2: For minimum stroke for 8 mounting type LB, refer to P. 65, 71.

5 Switch Model No.:		For switch details, please refer to P. 869. Switches are included to the product and shipped.																
Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size									
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50			
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□			●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□			●	●						
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□			●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□			●	●						
	2-Color	3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□			●	●						
		2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□			●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□			●	●						
		1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□			●	●	●	●	●	●	
	—		10 to 30	—	5 to 20 *2	T2H□	T2V□	●	●	●	●	●	●	●	●			
	3-wire (NPN)		—	—	—	100 or less	T3H□	T3V□	●	●	●	●	●	●	●	●		
	3-wire (PNP)		—	30 or less	—	—	T3PH□	T3PV□	●	●	●	●	●	●	●	●		
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	●	●	●	●	●	●	●	●		
		2-Color Improved Water Resistance	—	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	●	●	●	●	●	●	●	●	
			—	—	—	—	—	T2YD□	—			●	●	●	●	●	●	
	—		—	—	—	—	T2YDT□	—			●	●	●	●	●	●		
1-Color Off-Delay Type	—		10 to 30	—	5 to 20 *2	T2JH□	T2JV□			●	●	●	●	●	●			
1-Color Flexible Lead Wire Type	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●			
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	●	●	●	●	●	●	●			
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	●	●	●	●	●	●	●	●		
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□							●	●		

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model No.s are also available. (Custom products) For details, refer to P. 869.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 65, 66, 68, 69, 71, 72, 74, 75. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

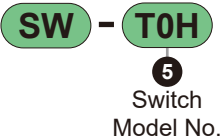
Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+), 4PIN (-) Lead Wire 0.3 m

Model No. Example)

SSD2-X - - XP5

SSD2-Y - - XP5

Switch Single Unit Model No. Notation Method



7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-X - - FP1

SSD2-Y - - FP1

Specifications

Item	SSD2-X, SSD2-Y							
	SSD2-XL (With Switch), SSD2-YL (With Switch)							
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Actuation method		SSD2-X, XL: Single acting/push, SSD2-Y, YL: Single Acting, Retracting Type						
Operating Fluid		Compressed Air						
Max. Operating Pressure	MPa	1.0						
Min. Operating Pressure	MPa	0.2		0.17		0.12		
Proof pressure	MPa	1.6						
Ambient Temperature	°C	-10 to 60 (Provided that freezing does not occur)						
Port Size		M5			Rc1/8 *2		Rc1/4	
Stroke Tolerance	mm	+1.0 0						
Operating Piston Speed	mm/s	50 to 500						
Cushion		None						
Lubrication		Not Required (When lubricating, use Turbine Oil ISO VG32)						
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1

*1: Do not leave single-acting cylinders pressurized. If left pressurized, the piston rod may not return by spring load when the pressure is released. If it is necessary to use the product while pressurized, use a double-acting type.
*2: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke
(With 1 or 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V	
			SSD2-XL	SSD2-YL
ø12	10 *2	5	Not mountable	Not mountable
ø16				
ø20				
ø25				
ø32				
ø40				
ø50	10	10	20	20

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.
*2: Can be manufactured with 5 strokes only when 1 pc. is included to the rod side.

SSD2-X/SSD2-Y Spring Load

(Unit: N)

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

Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		20	
Bore Size (mm)	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch
ø12	40	80	49	89	-	-
ø16	52	92	64	104	-	-
ø20	74	114	89	129	-	-
ø25	107	147	127	167	-	-
ø32	155	195	183	223	-	-
ø40	249	289	285	325	-	-
ø50	-	-	459	499	572	612

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ⁴	1.13 × 10 ²
	Pull	-	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	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	-	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ³	1.51 × 10 ²
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	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	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 ³
ø40	Push	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	1.58 × 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
ø50	Push	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	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

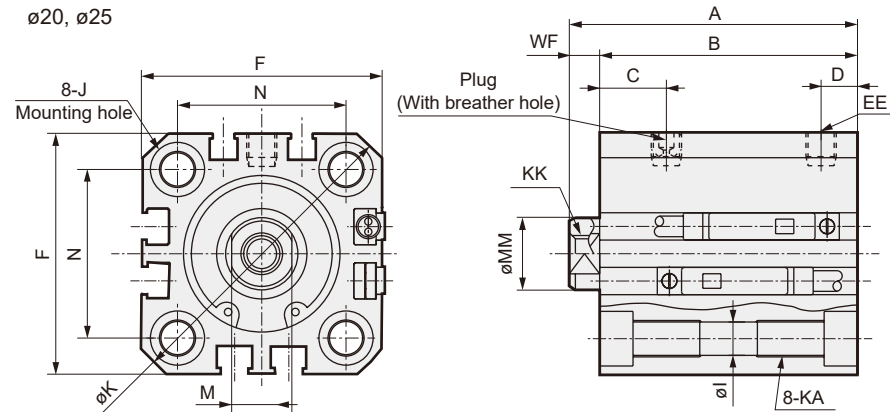
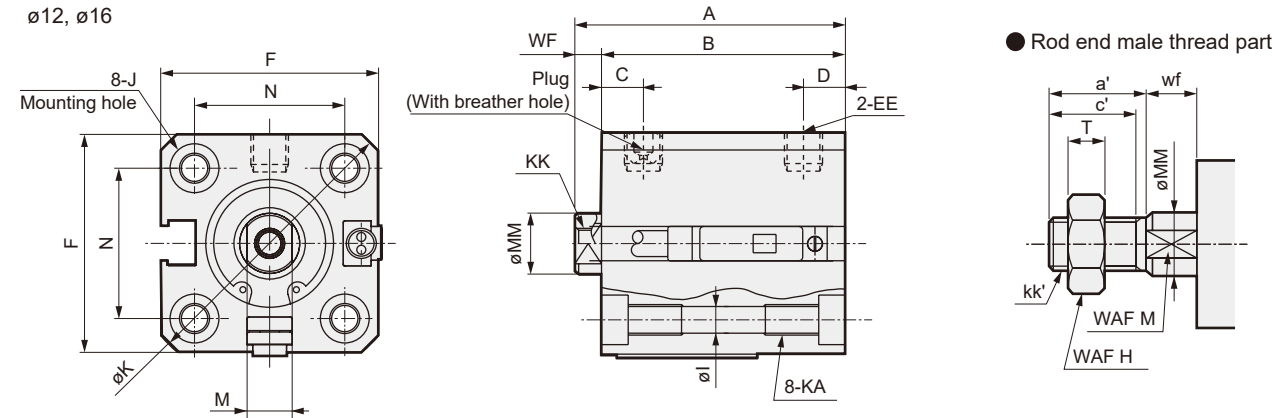
Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø12 to ø25)

- SSD2-X(L)-12 to 25
ø12, ø16



Code			Dimension with switch		Dimension without switch		Common dimension												
Bore Size (mm)			A	B	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	Stroke	5	30.5	27	25.5	22	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10	35.5	32	30.5	27													
ø16	Stroke	5	30.5	27	25.5	22	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10	35.5	32	30.5	27													
ø20	Stroke	5	39	34.5	29	24.5	8	5.5	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	44	39.5	34	29.5													
ø25	Stroke	5	42.5	37.5	32.5	27.5	11	6	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	47.5	42.5	37.5	32.5													

- *1: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.
- *2: For dimensions with each switch, refer to P. 300 to 309.
- *3: For outline dimension drawings of individual accessories, refer to P. 34.

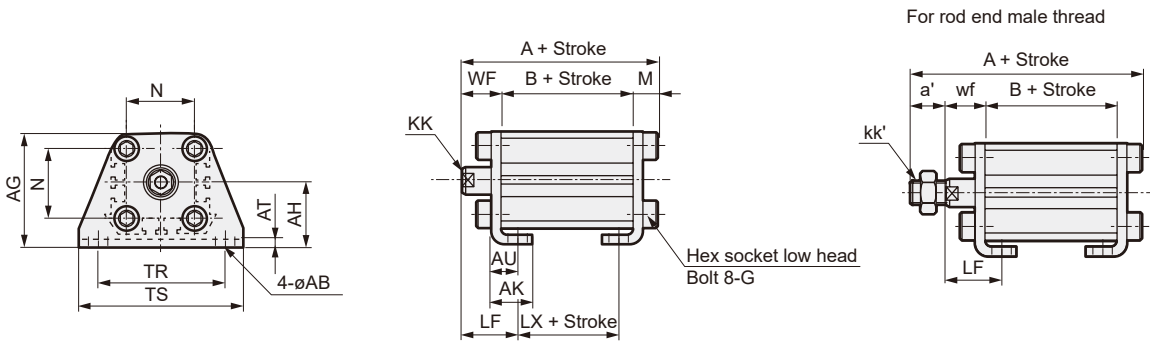
- Rod end male thread part

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

Single Acting, Push Type

Outline Dimension Drawing (Bore size: ø12 to ø25)

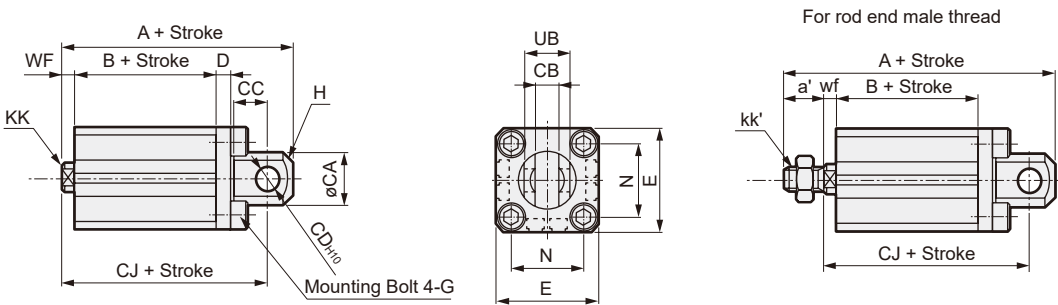
- Axial Foot (LB)
SSD2-X(L)-12 to 25-LB



Code		Common dimension												For female thread									For male thread								
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch			
	A	B	LX	A	B	LX	A	B	LX	A	B	LX																			
ø12	5	29.5	17	12.5	2	8	M4×10	M3 depth 6	15.5	34	44	4.8	13.5	19.5	40.3	22	10	35.3	17	5	10.5	M5	13.5	19.5	50.8	22	10	45.8	17	5	
ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8	13.5	19.5	40.3	22	10	35.3	17	5	12	M6	13.5	19.5	52.3	22	10	47.3	17	5	
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2	14.5	20.5	51.2	29.5	17.5	41.2	19.5	7.5	14	M8	14.5	20.5	65.2	29.5	17.5	55.2	19.5	7.5	
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 depth 12	28	52	66	7.2	15	22.5	54.7	32.5	17.5	44.7	22.5	7.5	17.5	M10 × 1.25	15	22.5	72.2	32.5	17.5	62.2	22.5	7.5	

Note: ø20: LB cannot be selected for 5 strokes without switch.

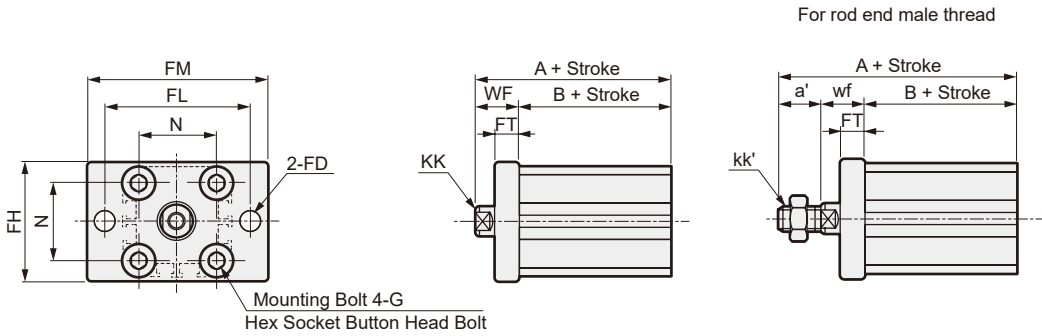
- Double Knuckle Clevis (CB)
SSD2-X(L)-12 to 25-CB



Code	Common dimension												For female thread						For male thread									
Bore Size (mm)	CA	CB	CC	CD	D	E	G	KK	H	N	UB	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch			
												A	B	CJ	A	B	CJ	A				B	CJ	A	B	CJ		
ø12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	M3 depth 6	C1.5	15.5	10	-0.1 -0.3	3.5	45.5	22	39.5	40.5	17	34.5	10.5	M5	3.5	56	22	39.5	51	17	34.5
ø16	15	6.6 ^{+0.3} _{-0.3}	8	5	5	29	M4×12	M4 depth 8	C2	20	12	-0.1 -0.4	3.5	46.5	22	40.5	41.5	17	35.5	12	M6	3.5	58.5	22	40.5	53.5	17	35.5
ø20	20	8.2 ^{+0.2} _{-0.3}	12	8	5	36	M6×16	M5 depth 7	C4	25.5	16	-0.1 -0.3	4.5	61	29.5	52	51	19.5	42	14	M8	4.5	75	29.5	52	65	19.5	42
ø25	24	10.2 ^{+0.2} _{-0.3}	14	10	5	40	M6×16	M6 depth 12	C5	28	20	-0.1 -0.3	5	67.5	32.5	57.5	57.5	22.5	47.5	17.5	M10 × 1.25	5	85	32.5	57.5	75	22.5	47.5

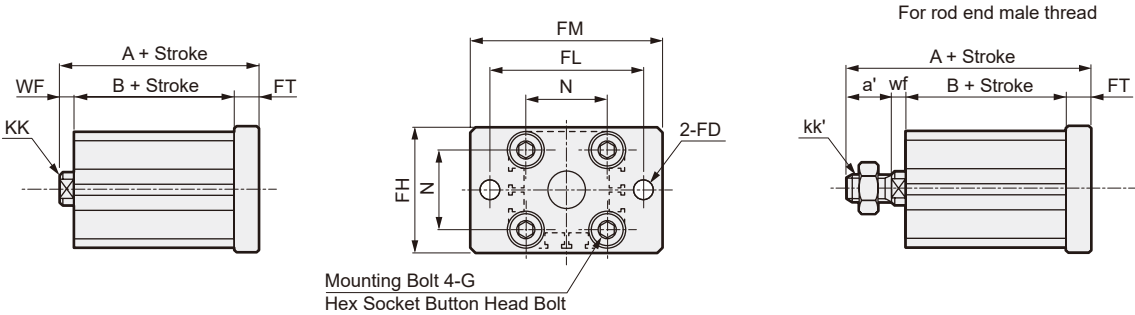
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA)
SSD2-X(L)-12 to 25-FA



Code		Common dimension							For female thread						For male thread						
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
										A	B	A	B				A	B	A	B	
ø12	4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	13.5	35.5	22	30.5	17	10.5	M5	13.5	46	22	41	17	
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20	13.5	35.5	22	30.5	17	12	M6	13.5	47.5	22	42.5	17	
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	14.5	44	29.5	34	19.5	14	M8	14.5	58	29.5	48	19.5	
ø25	6.6	42	52	64	8	M6×16	M6 depth 12	28	15	47.5	32.5	37.5	22.5	17.5	M10 × 1.25	15	65	32.5	55	22.5	

- Head Side Flange (FB)
SSD2-X(L)-12 to 25-FB

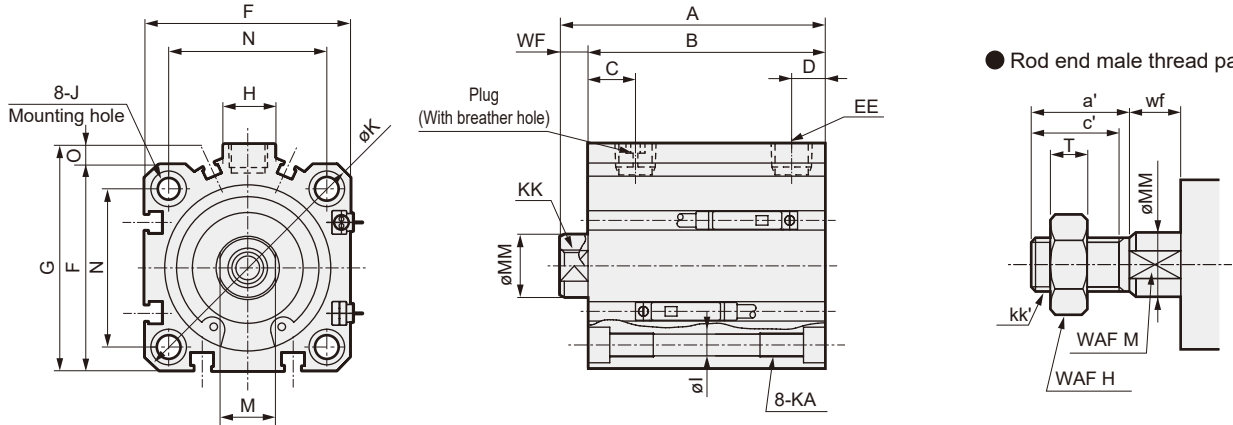


Code	Common dimension								For female thread					For male thread							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
										A	B	A	B				A	B	A	B	
ø12	4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	3.5	31	22	26	17	10.5	M5	3.5	41.5	22	36.5	17	
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20	3.5	31	22	26	17	12	M6	3.5	43	22	38	17	
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	4.5	42	29.5	32	19.5	14	M8	4.5	56	29.5	46	19.5	
ø25	6.6	42	52	64	8	M6×16	M6 depth 12	28	5	45.5	32.5	35.5	22.5	17.5	M10 × 1.25	5	63	32.5	53	22.5	

Single Acting, Push Type

Outline Dimension Drawing (Bore size: ø32 to ø50)

- SSD2-X(L)-32 to 50



Code			Dimension with switch		Dimension without switch		Common dimension															
			A *1	B *1	A *1	B *1	C *3	D *3	EE *2	F	G	H	I	J	K	KA	KK	M	MM	N	O	WF
ø32	Stroke	5	45	38	35	28	8 (10)	8 5.5	Rc1/8	45	49.5	12.5	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	M8 Depth 13	14	16	34	4.5	7
		10	50	43	40	33																
ø40	Stroke	5	51.5	44.5	41.5	34.5	12 (11.5)	8.5 (8)	Rc1/8	52	57	15	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	M8 Depth 13	14	16	40	5	7
		10	56.5	49.5	46.5	39.5																
ø50	Stroke	10	58.5	50.5	48.5	40.5	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	17	20	50	7	8
		20	68.5	60.5	58.5	50.5																

- *1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
- *2: For code EE, ø32 without switch, 5 strokes, the port size will be M5.
- *3: Dimensions in () for columns C and D are values for 5 strokes without switch.
- *4: For dimensions with each switch, refer to P. 300 to 309.
- *5: For outline dimension drawings of individual accessories, refer to P. 34.

- Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø32	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø50	28.5	26	27	M18 × 1.5	17	20	11	5

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

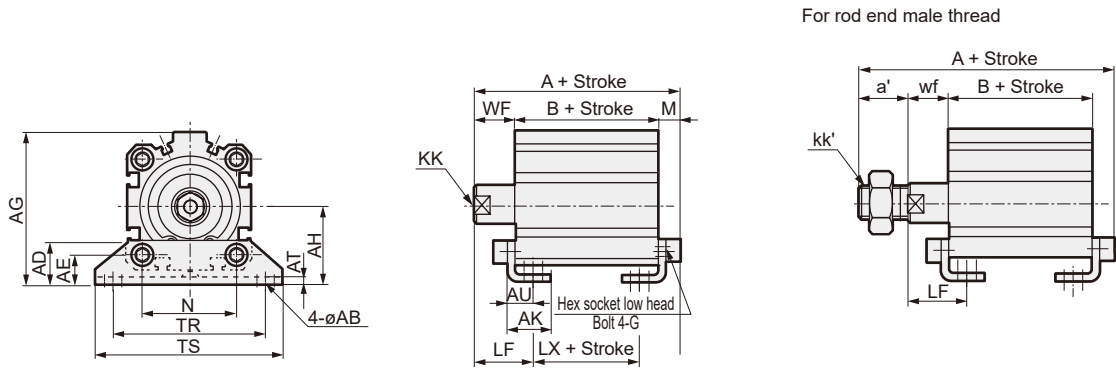
FC□

Cylinder Switch

Ending

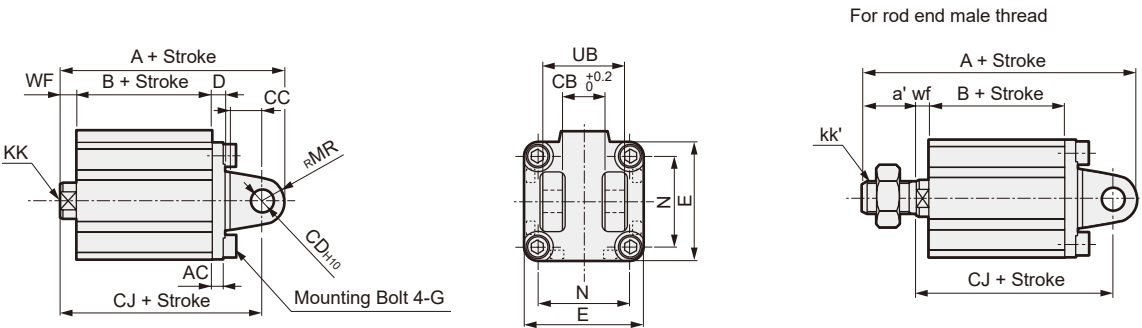
Outline Dimension Drawing (Bore size: ø32 to ø50)

- Axial Foot (LB)
SSD2-X(L)-32 to 50-LB



Code	Common dimension																	
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M				
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2				
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2				
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2				
Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø32	17	25	57.2	33	17	47.2	23	7	23.5	M14 × 1.5	15	23	78.7	33	17	68.7	23	7
ø40	17	25	63.7	39.5	23.5	53.7	29.5	13.5	23.5	M14 × 1.5	15	23	85.2	39.5	23.5	75.2	29.5	13.5
ø50	18	29.5	66.7	40.5	17.5	56.7	30.5	7.5	28.5	M18 × 1.5	15	26.5	92.2	40.5	17.5	82.2	30.5	7.5

- Double Knuckle Clevis (CB)
SSD2-X(L)-32 to 50-CB

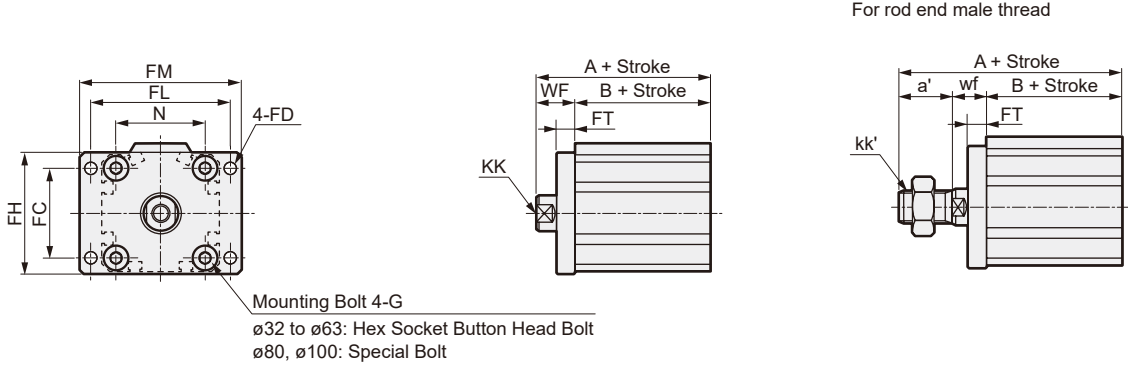


Code	Common dimension															
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB					
ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36					
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36					
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44					
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A	B	CJ				A	B	CJ	A	B	CJ
ø32	7	70	33	60	60	23	50	23.5	M14 × 1.5	5	91.5	33	58	81.5	23	48
ø40	7	78.5	39.5	68.5	68.5	29.5	58.5	23.5	M14 × 1.5	5	100	39.5	66.5	90	29.5	56.5
ø50	8	90.5	40.5	76.5	80.5	30.5	66.5	28.5	M18 × 1.5	5	116	40.5	73.5	106	30.5	63.5

Single Acting, Push Type

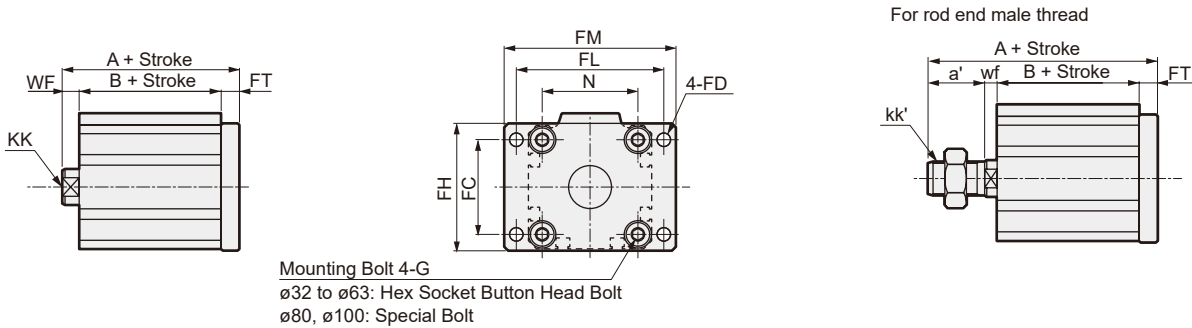
Outline Dimension Drawing (Bore size: ø32 to ø50)

- Rod Side Flange (FA)
SSD2-X(L)-32 to 50-FA



Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A	B				A	B	A	B
ø32	17	50	33	40	23	23.5	M14 × 1.5	15	71.5	33	61.5	23
ø40	17	56.5	39.5	46.5	29.5	23.5	M14 × 1.5	15	78	39.5	68	29.5
ø50	18	58.5	40.5	48.5	30.5	28.5	M18 × 1.5	15	84	40.5	74	30.5

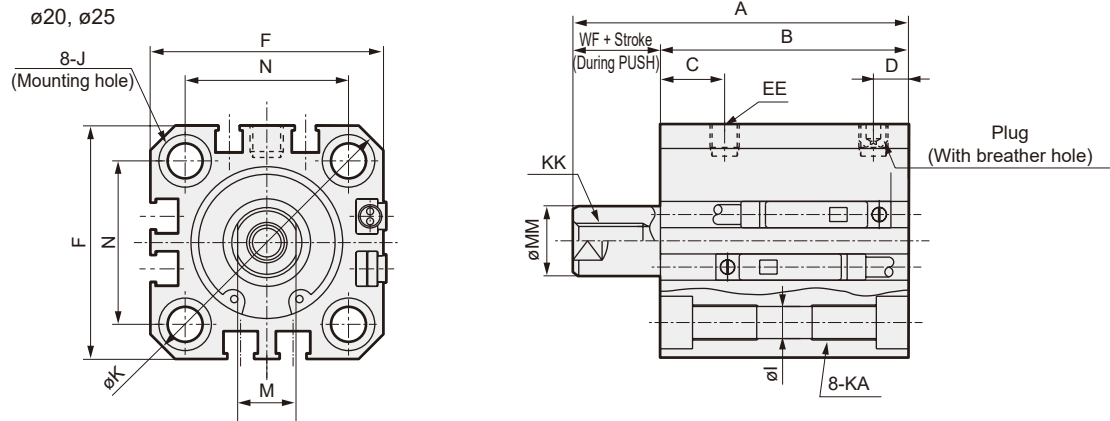
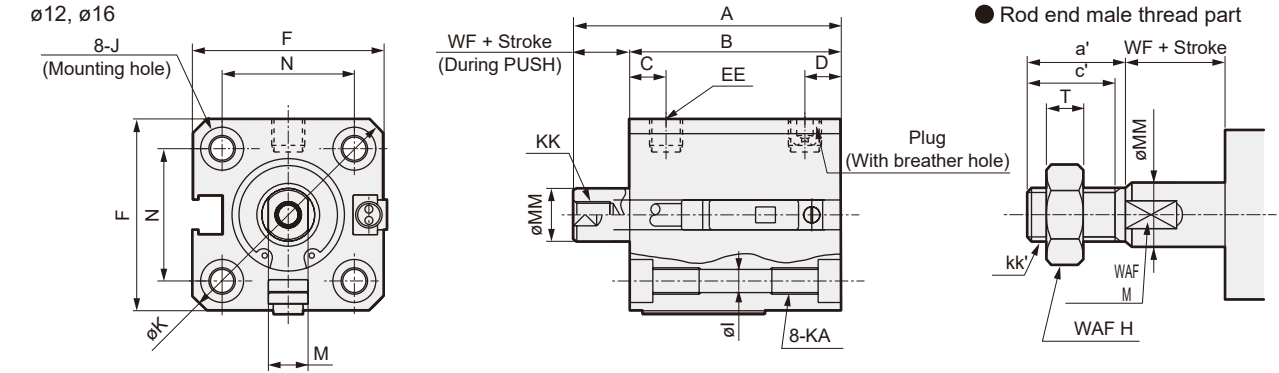
- Head Side Flange (FB)
SSD2-X(L)-32 to 50-FB



Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A	B				A	B	A	B
ø32	7	48	33	38	23	23.5	M14 × 1.5	5	69.5	33	59.5	23
ø40	7	54.5	39.5	44.5	29.5	23.5	M14 × 1.5	5	76	39.5	66	29.5
ø50	8	57.5	40.5	47.5	30.5	28.5	M18 × 1.5	5	83	40.5	73	30.5

Outline Dimension Drawing (Bore size: ø12 to ø25)

- SSD2-Y(L)-12 to 25 (With Switch)
ø12, ø16



Code			Dimension with switch		Dimension without switch		Common dimension												
Bore Size (mm)			A	B	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	Stroke	5	35.5	27	30.5	22	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 Depth 7	M3 Depth 6	5	6	15.5	3.5
		10	45.5	32	40.5	27													
ø16	Stroke	5	35.5	27	30.5	22	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 Depth 7	M4 Depth 8	6	8	20	3.5
		10	45.5	32	40.5	27													
ø20	Stroke	5	44	34.5	34	24.5	8	5.5	M5	36	5.5	9 Counterbore Depth 5.5	47	M6 Depth 11	M5 Depth 7	8	10	25.5	4.5
		10	54	39.5	44	29.5													
ø25	Stroke	5	47.5	37.5	37.5	27.5	11	6	M5	40	5.5	9 Counterbore Depth 5.5	51	M6 Depth 11	M6 Depth 12	10	12	28	5
		10	57.5	42.5	47.5	32.5													

- *1: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.
- *2: For dimensions with each switch, refer to P. 300 to 309.
- *3: For outline dimension drawings of individual accessories, refer to P. 34.

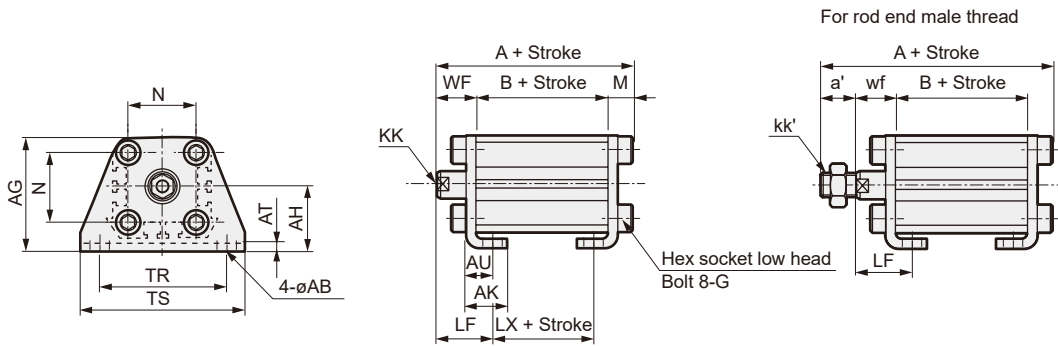
- Rod end male thread part

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

Single Acting, Retracting Type

Outline Dimension Drawing (Bore size: ø12 to ø25)

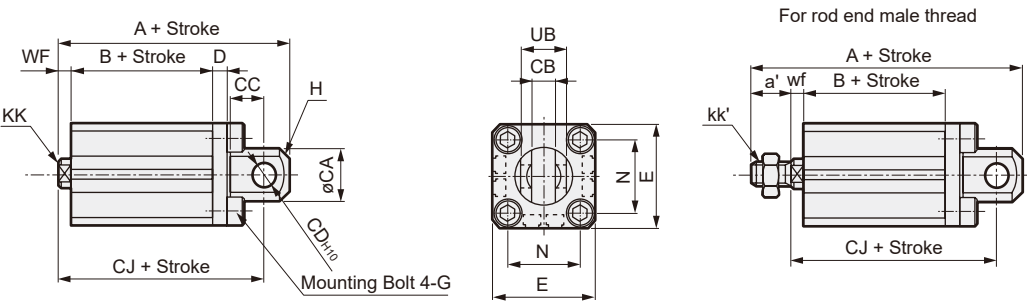
- Axial Foot (LB)
SSD2-Y(L)-12 to 25-LB



Code	Common dimension													For female thread								For male thread								
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
	A	B	LX	A	B	LX	A	B	LX	a'	kk'	wf	LF	A	B	LX	A	B	LX											
ø12	5	29.5	17	12.5	2	8	M4×10	M3 depth 6	15.5	34	44	4.8	13.5	19.5	40.3	22	10	35.3	17	5	10.5	M5	13.5	19.5	50.8	22	10	45.8	17	5
ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8	13.5	19.5	40.3	22	10	35.3	17	5	12	M6	13.5	19.5	52.3	22	10	47.3	17	5
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2	14.5	20.5	51.2	29.5	17.5	41.2	19.5	7.5	14	M8	14.5	20.5	65.2	29.5	17.5	55.2	19.5	7.5
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 depth 12	28	52	66	7.2	15	22.5	54.7	32.5	17.5	44.7	22.5	7.5	17.5	M10 × 1.25	15	22.5	72.2	32.5	17.5	62.2	22.5	7.5

Note: ø20: LB cannot be selected for 5 strokes without switch.

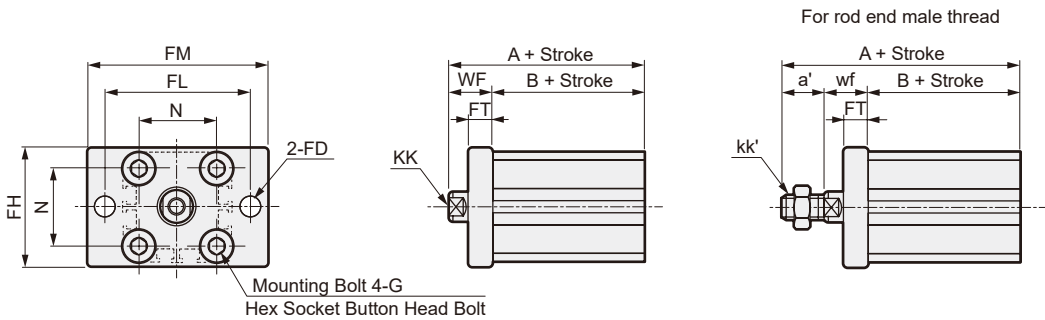
- Double Knuckle Clevis (CB)
SSD2-Y(L)-12 to 25-CB



Code	Common dimension												For female thread						For male thread								
Bore Size (mm)	CA	CB	CC	CD	D	E	G	H	KK	N	UB	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
													A	B	CJ	A	B	CJ				A	B	CJ	A	B	CJ
ø12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	M3 depth 6	15.5	10 ^{-0.1} _{-0.3}	3.5	45.5	22	39.5	40.5	17	34.5	10.5	M5	3.5	56	22	39.5	51	17	34.5
ø16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	M4 depth 8	20	12 ^{-0.1} _{-0.4}	3.5	46.5	22	40.5	41.5	17	35.5	12	M6	3.5	58.5	22	40.5	53.5	17	35.5
ø20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	M5 depth 7	25.5	16 ^{-0.1} _{-0.3}	4.5	61	29.5	52	51	19.5	42	14	M8	4.5	75	29.5	52	65	19.5	42
ø25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	M6 depth 12	28	20 ^{-0.1} _{-0.3}	5	67.5	32.5	57.5	57.5	22.5	47.5	17.5	M10 × 1.25	5	85	32.5	57.5	75	22.5	47.5

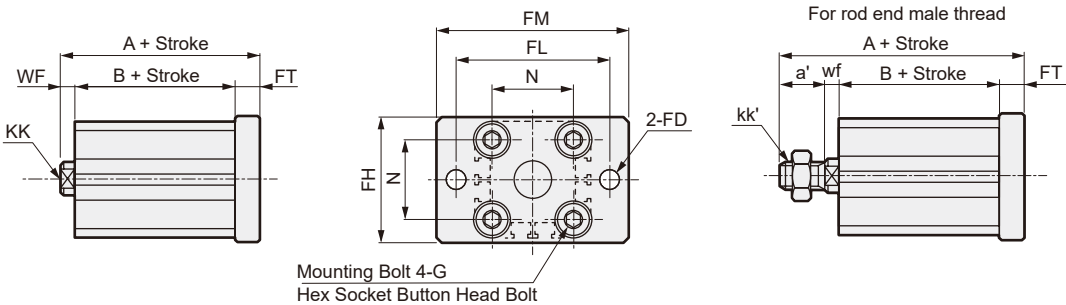
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA)
SSD2-Y(L)-12 to 25-FA



Code		Common dimension							For female thread						For male thread							
Bore Size (mm)		FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
											A	B	A	B				A	B	A	B	
ø12		4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	13.5	35.5	22	30.5	17	10.5	M5	13.5	46	22	41	17	
ø16		4.5	30	45	55	5.5	M4×12	M4 depth 8	20	13.5	35.5	22	30.5	17	12	M6	13.5	47.5	22	42.5	17	
ø20		6.6	39	48	60	8	M6×16	M5 depth 7	25.5	14.5	44	29.5	34	19.5	14	M8	14.5	58	29.5	48	19.5	
ø25		6.6	42	52	64	8	M6×16	M6 depth 12	28	15	47.5	32.5	37.5	22.5	17.5	M10 × 1.25	15	65	32.5	55	22.5	

- Head Side Flange (FB)
SSD2-Y(L)-12 to 25-FB

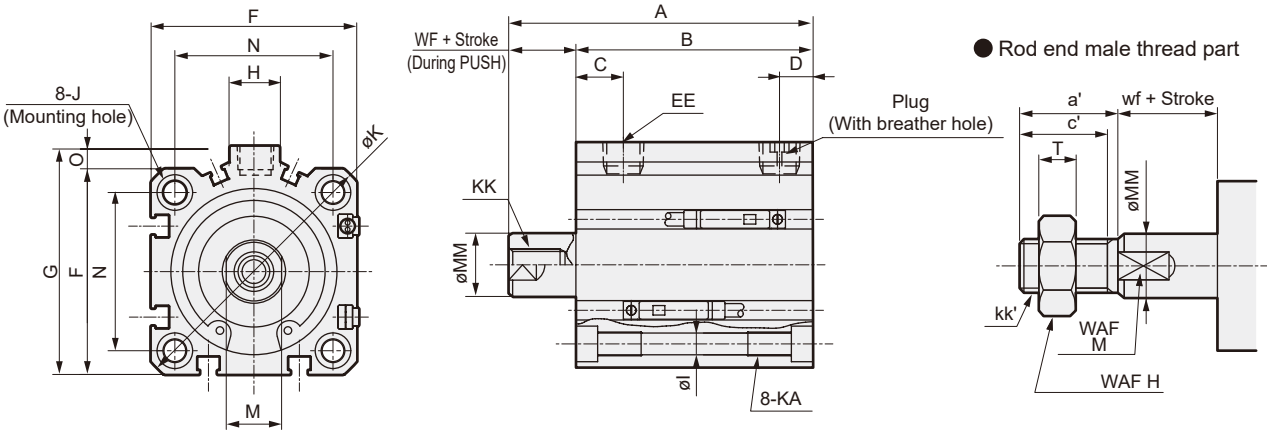


Code	Common dimension								For female thread				For male thread							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
										A	B	A	B				A	B	A	B
ø12	4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	3.5	31	22	26	17	10.5	M5	3.5	41.5	22	36.5	17
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20	3.5	31	22	26	17	12	M6	3.5	43	22	38	17
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	4.5	42	29.5	32	19.5	14	M8	4.5	56	29.5	46	19.5
ø25	6.6	42	52	64	8	M6×16	M6 depth 12	28	5	45.5	32.5	35.5	22.5	17.5	M10 × 1.25	5	63	32.5	53	22.5

Single Acting, Retracting Type

Outline Dimension Drawing (Bore size: ø32 to ø50)

- SSD2-Y(L)-32 to 50 (With Switch)



Code			Dimension with switch		Dimension without switch		Common dimension															
			A	B	A	B	C ⁺²	D ⁺²	EE ⁺¹	F	G	H	I	J	K	KA	KK	M	MM	N	O	WF
Bore Size (mm)																						
ø32	Stroke	5	50	38	40	28	8	8	Rc1/8	45	49.5	12.5	5.5	9 Counterbore Depth 5.5	60	M6 Depth 11	M8 Depth 13	14	16	34	4.5	7
		10	60	43	50	33	(10)	5.5														
ø40	Stroke	5	56.5	44.5	46.5	34.5	12	8.5	Rc1/8	52	57	15	5.5	9 Counterbore Depth 5.5	69	M6 Depth 11	M8 Depth 13	14	16	40	5	7
		10	66.5	49.5	56.5	39.5	(11.5)	(18)														
ø50	Stroke	10	68.5	50.5	58.5	40.5	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 Depth 13	M10 Depth 15	17	20	50	7	8
		20	88.5	60.5	78.5	50.5																

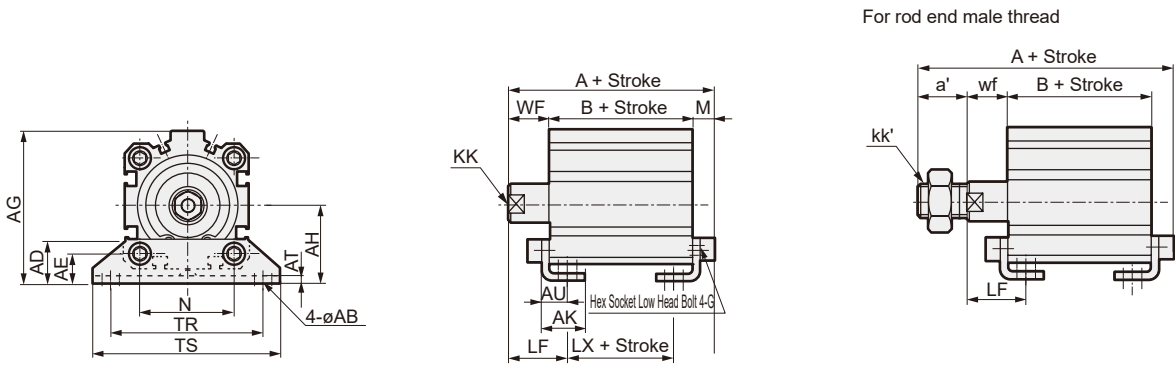
- *1: For code EE, ø32 without switch, 5 strokes, the port size will be M5.
- *2: Dimensions in () for columns C and D are values for 5 strokes without switch.
- *3: For dimensions with each switch, refer to P. 300 to 309.
- *4: For outline dimension drawings of individual accessories, refer to P. 34.

- Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø32	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø50	28.5	26	27	M18 × 1.5	17	20	11	5

Outline Dimension Drawing (Bore size: ø32 to ø50)

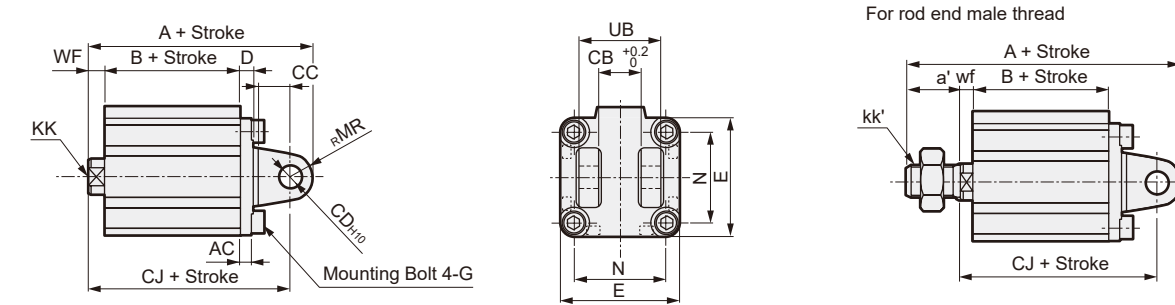
- Axial Foot (LB)
SSD2-Y(L)-32 to 50-LB



Code	Common dimension														
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	

Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø32	17	25	57.2	33	17	47.2	23	7	23.5	M14 × 1.5	15	23	78.7	33	17	68.7	23	7
ø40	17	25	63.7	39.5	23.5	53.7	29.5	13.5	23.5	M14 × 1.5	15	23	85.2	39.5	23.5	75.2	29.5	13.5
ø50	18	29.5	66.7	40.5	17.5	56.7	30.5	7.5	28.5	M18 × 1.5	15	26.5	92.2	40.5	17.5	82.2	30.5	7.5

- Double Knuckle Clevis (CB)
SSD2-Y(L)-32 to 50-CB

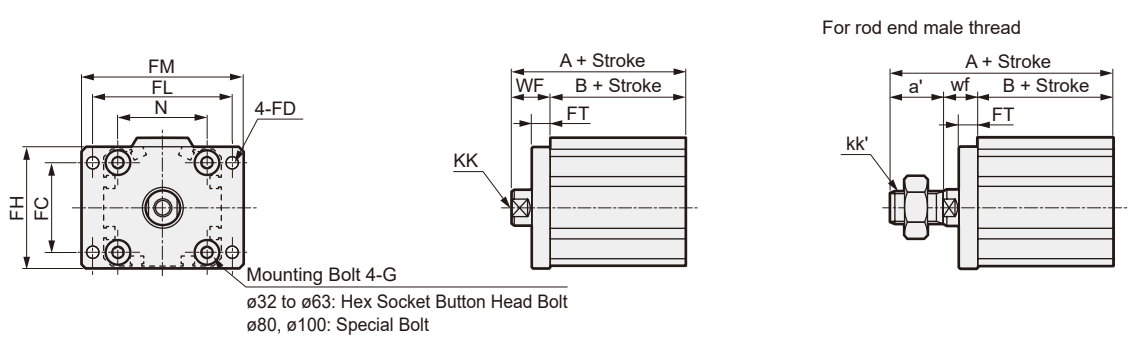


Code	Common dimension										
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB
	ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44

Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A	B	CJ				A	B	CJ	A	B	CJ
ø32	7	70	33	60	60	23	50	23.5	M14 × 1.5	5	91.5	33	58	81.5	23	48
ø40	7	78.5	39.5	68.5	68.5	29.5	58.5	23.5	M14 × 1.5	5	100	39.5	66.5	90	29.5	56.5
ø50	8	90.5	40.5	76.5	80.5	30.5	66.5	28.5	M18 × 1.5	5	116	40.5	73.5	106	30.5	63.5

Outline Dimension Drawing (Bore size: ø32 to ø50)

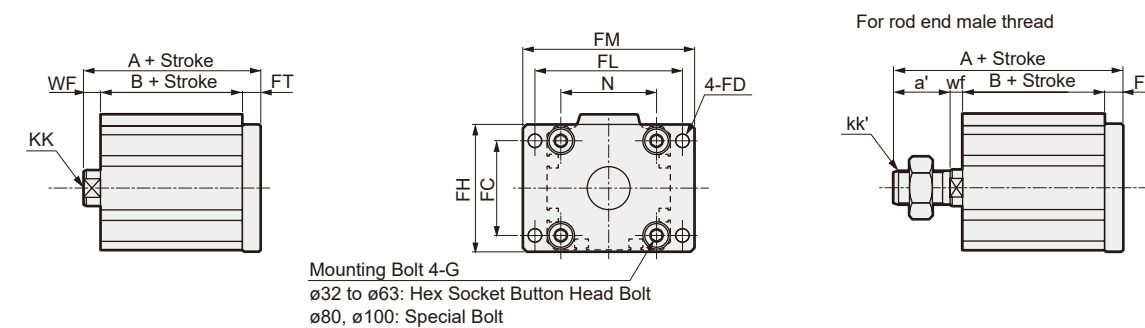
- Rod Side Flange (FA)
SSD2-Y(L)-32 to 50-FA



Code	Common dimension								
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50

Code	For female thread					For male thread							
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
		A	B	A	B				A	B	A	B	
ø32	17	50	33	40	23	23.5	M14 × 1.5	15	71.5	33	61.5	23	
ø40	17	56.5	39.5	46.5	29.5	23.5	M14 × 1.5	15	78	39.5	68	29.5	
ø50	18	58.5	40.5	48.5	30.5	28.5	M18 × 1.5	15	84	40.5	74	30.5	

- Head Side Flange (FB)
SSD2-Y(L)-32 to 50-FB



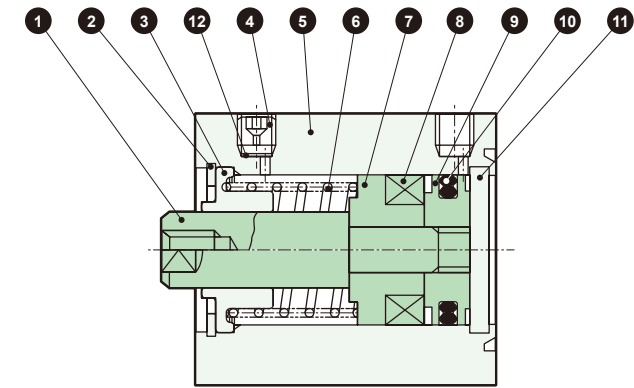
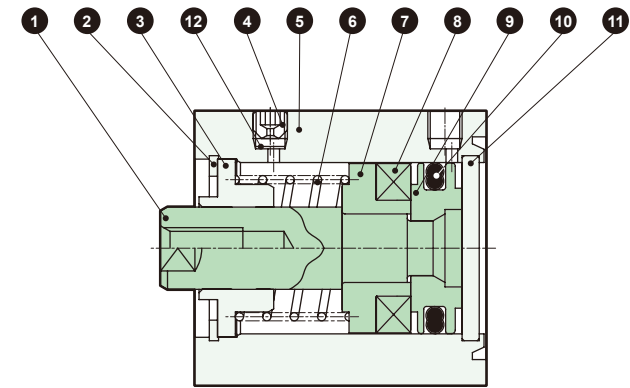
Code	Common dimension								
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50

Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A	B				A	B	A	B
ø32	7	48	33	38	23	23.5	M14 × 1.5	5	69.5	33	59.5	23
ø40	7	54.5	39.5	44.5	29.5	23.5	M14 × 1.5	5	76	39.5	66	29.5
ø50	8	57.5	40.5	47.5	30.5	28.5	M18 × 1.5	5	83	40.5	73	30.5

Internal Structure Diagram/Material

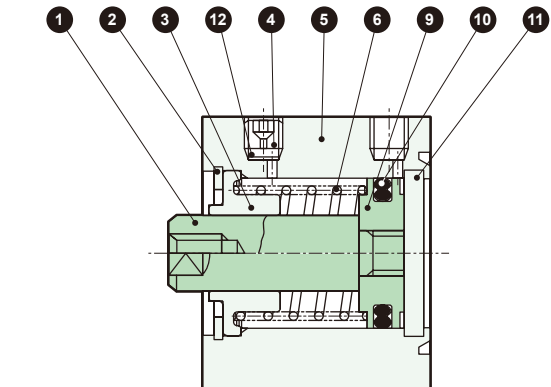
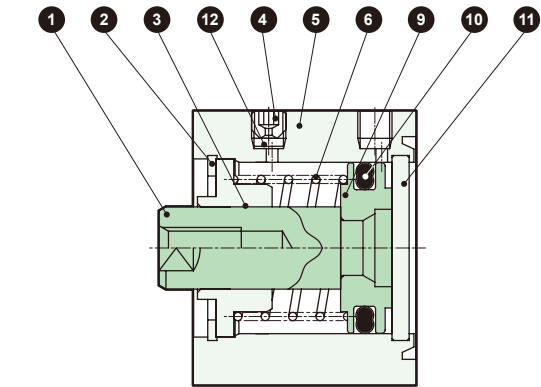
● SSD2-XL-12 to 32 (Single Acting, Push Type with Switch)

● SSD2-XL-40, 50 (Single Acting, Push Type with Switch)



● SSD2-X-12 to 32 (Single Acting, Push Type)

● SSD2-X-40, 50 (Single Acting, Push Type)

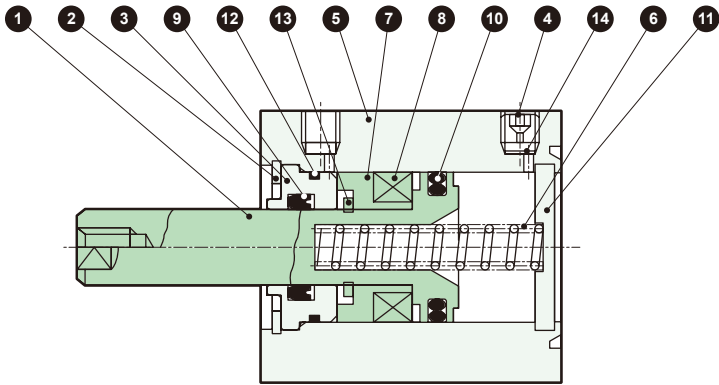


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	7	Spacer	Aluminum Alloy	Chromate
2	C-type retaining ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod Metal	Aluminum Alloy	Alumite	9	Piston	Aluminum Alloy	Chromate
4	Plug	Stainless Steel		10	Piston Packing	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
6	Coil Spring	Piano Wire	Electrodeposition Coating	12	Stainless Steel Wire Mesh	Stainless Steel	

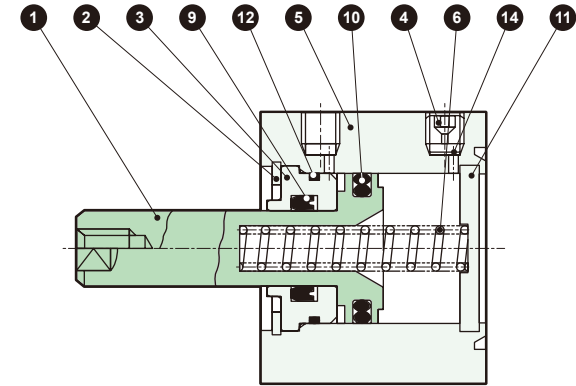
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Internal Structure Diagram/Material

● SSD2-YL (Single Acting, Retracting Type with Switch)



● SSD2-Y (Single Acting, Retracting Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston	Stainless Steel		9	Rod Packing	Nitrile Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	
3	Rod Metal	Aluminum Alloy	Alumite	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
4	Plug	Stainless Steel		12	Metal gasket	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Round S-type retaining ring	Steel	Zinc phosphate
6	Coil Spring	Piano Wire	Electrodeposition Coating	14	Stainless Steel Wire Mesh	Stainless Steel	
7	Spacer	Aluminum Alloy	Chromate				
8	Magnet	Plastic					

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

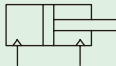


Compact Cylinder Double Acting, Heat Resistant Type

SSD2-T1 Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



SSD2-T1 Series

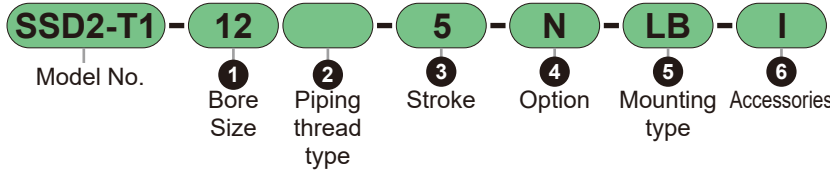
Specifications

Specifications

Item	SSD2-T1									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type									
Operating Fluid	Compressed Air									
Max. Operating Pressure MPa	1.0									
Min. Operating Pressure MPa	0.1							0.05		
Proof pressure MPa	1.6									
Ambient Temperature °C	5 to 150									
Port Size	M5				Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0									
Operating Piston Speed mm/s	50 to 500							50 to 300		
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

*1: For ø32, 5 stroke, the port size will be M5.

Model No. Notation Method



1 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 below for details.

5 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1

*1

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 17, 18, 20, 21. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

4 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●		●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●	●
100					●	●	●	●	●	●	
Minimum Stroke (mm) *2		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *1		Every 1 mm									

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

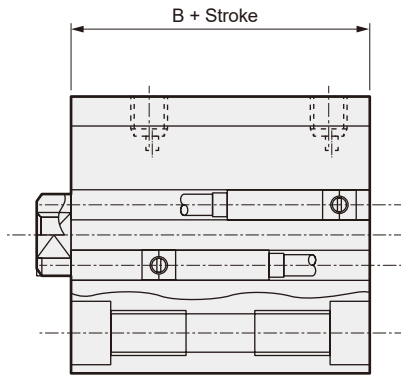
*2: For minimum stroke for 5 mounting type LB, refer to P. 17, 20.

*For combination of variations and options, refer to P. 8, 9.

About Intermediate Stroke

● SSD2-T1 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number Indication Example	Model No.: SSD2-T-32-38 A +2 mm spacer is added to the standard cylinder SSD2-T32-40 to make it 38 mm. B + Stroke = 23 + 40 = 63	



About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-T1 - - XP5

Cylinder Weight Table (Weight with switch is when 2 cylinder switches are included) (Unit: g)

Stroke (mm) Bore Size (mm)	5	10	15	20	25	30	35	40	45	50	75	100
ø12	36	44	53	61	70	72	-	-	-	-	-	-
ø16	48	59	69	80	91	102	-	-	-	-	-	-
ø20	63	75	88	101	113	126	139	152	165	203	-	-
ø25	87	102	118	134	150	165	181	197	213	228	-	-
ø32	122	144	166	188	209	231	253	275	297	318	494	604
ø40	183	210	236	263	290	316	342	369	395	472	646	776
ø50	-	341	383	425	467	510	552	594	636	678	1025	1235
ø63	-	507	562	617	672	727	782	838	893	948	1438	1713
ø80	-	928	1015	1101	1188	1274	1361	1448	1535	1621	2401	2833
ø100	-	1433	1547	1660	1774	1888	2002	2115	2229	2343	3406	3973

Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

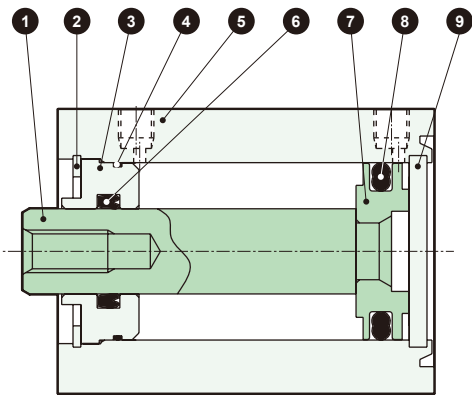
Outline Dimension Drawing/Internal Structure Diagram/Material

Outline Dimension Drawing

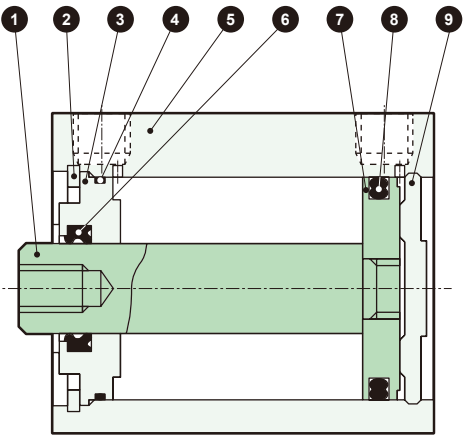
Same as double acting/single rod type. Refer to P. 16 to 21.

Internal Structure Diagram/Material

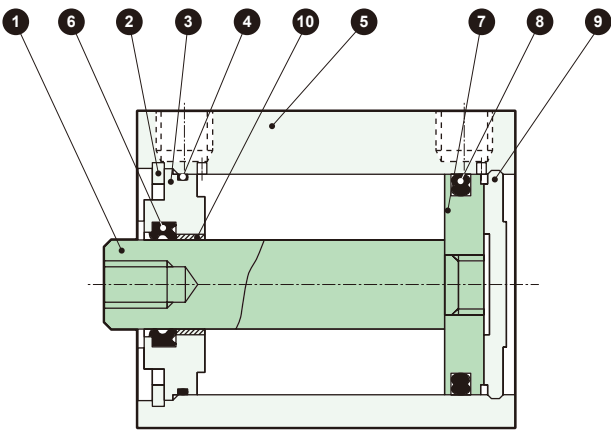
● SSD2-T1-12 to 25



● SSD2-T1-32 to 50



● SSD2-T1-63 to 100



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø100: Steel	ø16 to ø100: Industrial chrome plating	6	Rod Packing	Fluoro Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	7	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	ø12 to ø50: Alumite ø63 to ø100: Chromate	8	Piston Packing	Fluoro Rubber	
4	Rod metal gasket	Fluoro Rubber		9	Cover	ø12 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	10	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site (<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

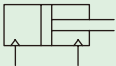


Compact Cylinder
Double Acting with Heat Resistant Cylinder Switch

SSD2-T1L Series

● Bore size: ø16, ø20, ø25, ø32, ø40, ø50, ø63

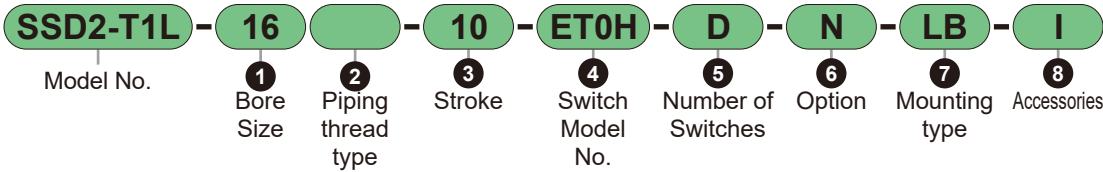
Circuit Diagram Symbol



SSD2-T1L Series

Model No. Notation Method

Model No. Notation Method



1 Bore Size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

2 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø63)
NN	NPT thread (Custom product) (ø32 to ø63)
GN	G thread (Custom product) (ø32 to ø63)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø16	10 (20) to 30	Every 1 mm
ø20	15 (25) to 50	
ø25	15 (20) to 50	
ø32 to ø63	15 (20) to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire (1 m)		
			AC	DC	AC	DC	Straight	L-shape	
Reed	1-Color Heat Resistant	2-wire	110	12/24	7 to 20	5 to 50	ET0H	ET0V	

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	
M	Piston Rod Material (Stainless Steel)	

*1

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

7 Mounting Type

Mounting brackets are included to the product for shipment.

	Code	Content	
*1	Blank	Without mounting bracket	
	LB	Axial Foot Type (Double Side)	
	CB	Double Clevis Type (Pin and Retaining Ring Attached)	
*1	FA	Rod Side Flange Type	
	FB	Head Side Flange Type	

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 87 to 89. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore						
		ø16	ø20	ø25	ø32	ø40	ø50	ø63
Standard Stroke	10	●						
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35		●	●	●	●	●	●
	40		●	●	●	●	●	●
	45		●	●	●	●	●	●
	50		●	●	●	●	●	●
	70				●	●	●	●
	100				●	●	●	●
Minimum Stroke (mm) *1		10 (20)	15 (25)	15 (20)	15 (20)			
Maximum Stroke (mm)		30	50		100			
Intermediate Stroke *2		Every 1 mm						

*1: () indicates when 2 switches are included. For minimum stroke with switch, refer to P. 84.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

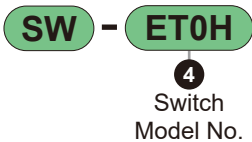
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-T1L - - XP5

Switch Single Unit Model No. Notation Method



Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC

Cylinder Switch

Ending

Specifications

Item	SSD2-T1L						
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Operating Pressure MPa	1.0						
Min. Operating Pressure MPa	0.1						0.05
Proof pressure MPa	1.6						
Ambient Temperature °C	5 to 150 *1						
Port Size	M5			Rc1/8		Rc1/4	
Stroke Tolerance mm	+1.0 0						
Operating Piston Speed mm/s	50 to 500						50 to 300
Cushion	None						
Lubrication *2	-						

*1: In an environment with an ambient temperature of 150°C, external leakage will gradually occur after about 500,000 cycles. Please be careful.

*2: Periodically apply heat-resistant grease.

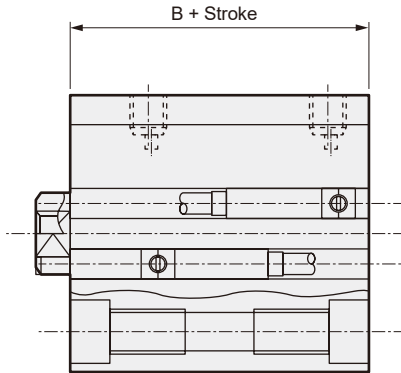
Minimum Stroke with Switch

Bore Size (mm)	With 1 Switch	With 2 Switches
ø16	10	20
ø20	15	25
ø25		20
ø32	15	
ø40		
ø50		
ø63		

About Intermediate Stroke

● SSD2-T1L Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	16	10 to 29
	20 to 25	15 to 49
	32 to 63	15 to 99
Model Number Indication Example	Model No.: SSD2-T1L-32-38	
	A +2 mm spacer is added to the standard cylinder SSD2-T1L-32-40 to make it 38 mm.	
	B + Stroke = 33 + 40 = 73	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø16	71	127	82	127	92	137	103	148	114	159	125	170	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	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 ³	1.51 × 10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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 ³
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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

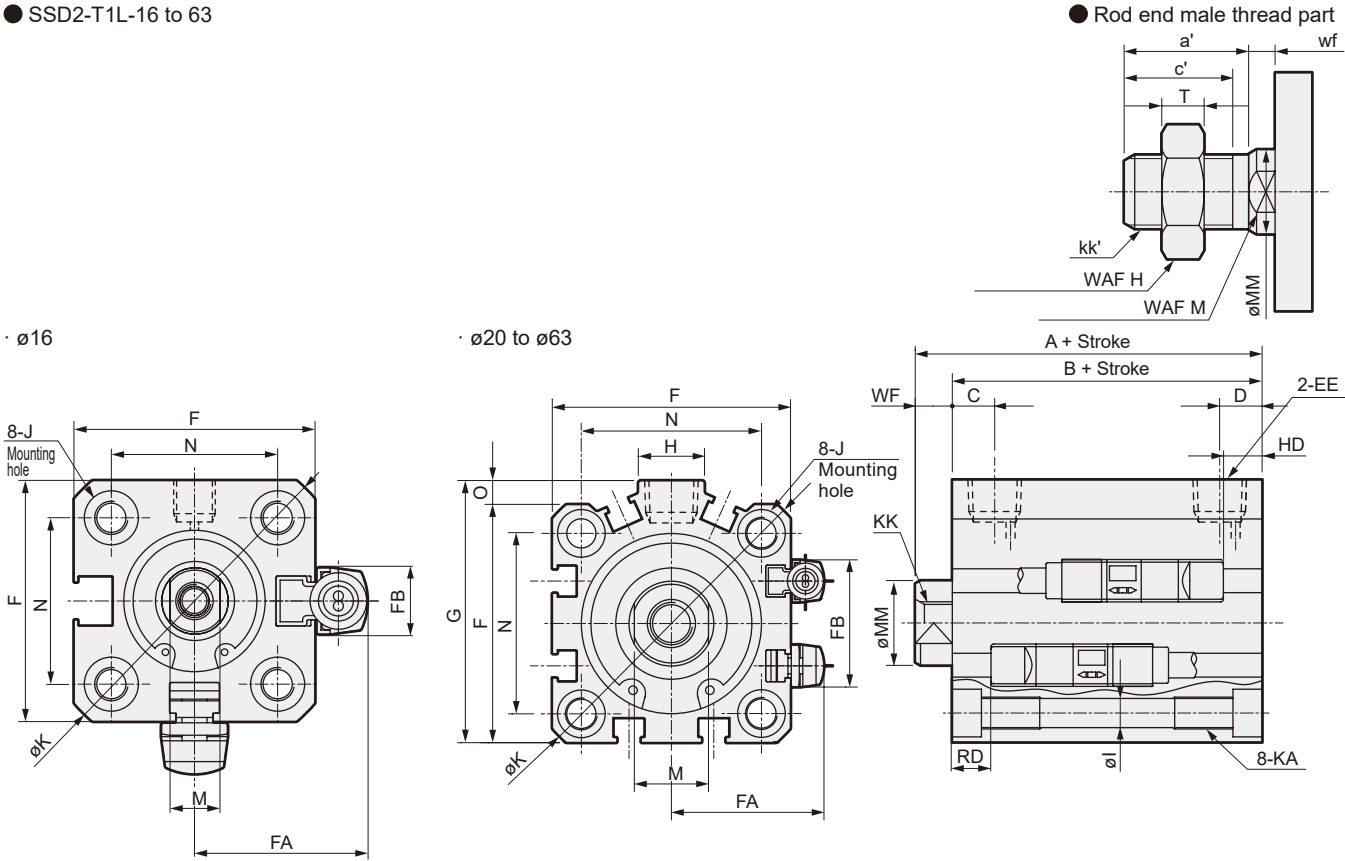
Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Mounting bracket							
Foot (LB)	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63
Flange (FA/FB)	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63
Double Clevis (CB)	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø16 to ø63)

● SSD2-T1L-16 to 63



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

Switch dimension	Reed ETOH/ETOV	
	RD	HD
ø16	0	0.5
ø20	0	0
ø25	0.5	0
ø32	2	0.5
ø40	7	1.5
ø50	6	1.5
ø63	5.5	5.5

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Switches cannot be mounted on the piping port surface of bore sizes ø20, ø25.

*3: For outline dimension drawings of individual accessories, refer to P. 34.

*4: For dimensions with each switch, refer to P. 300 to 309.

● Rod end male thread part

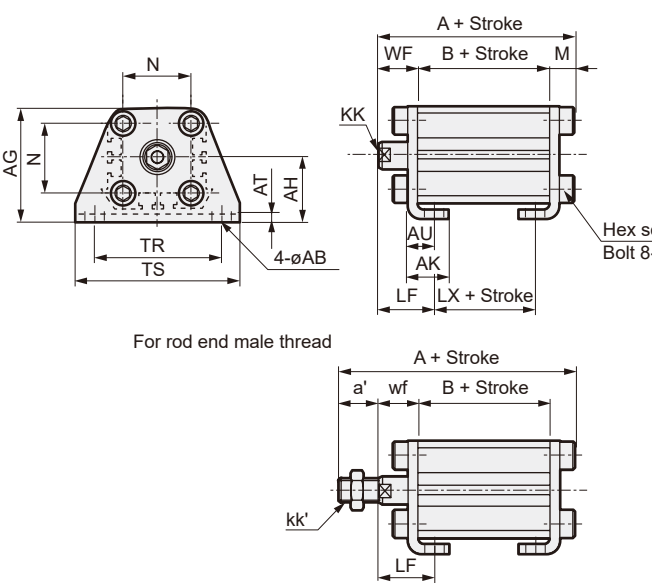
Code	a'	c'	H	kk'	M	MM	T	wf
ø16	12	10	10	M6	6	8	3.6	3.5
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10 × 1.25	10	12	6	5
ø32	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø50	28.5	26	27	M18 × 1.5	17	20	11	5
ø63	28.5	26	27	M18 × 1.5	17	20	11	5

Double Acting with Heat Resistant Cylinder Switch

Outline Dimension Drawing (Bore size: ø16 to ø25)

● Axial Foot (LB) With Switch

SSD2-T1L-16 to 25-LB SSD2-T1L-16 to 25-CB

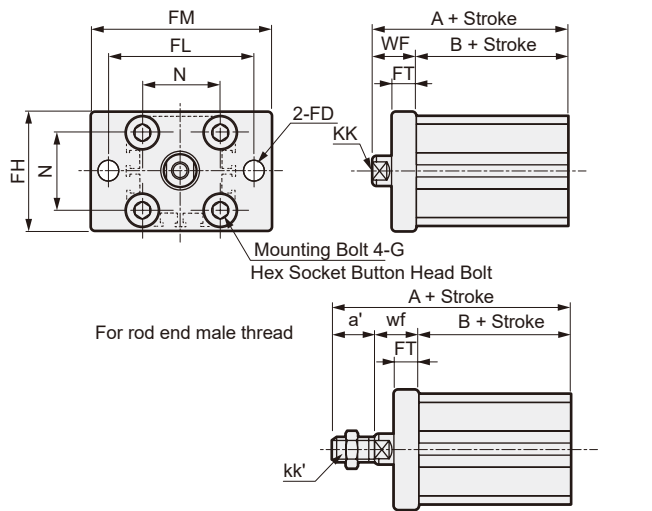


Code	Common dimension												
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	
ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8	
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2	
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 Depth 12	28	52	66	7.2	

Code	For female thread						For male thread					
Bore Size (mm)	WF	LF	A	B	LX	a'	kk'	wf	LF	A	B	LX
ø16	13.5	19.5	50.3	32	20	12	M6	13.5	19.5	62.3	32	20
ø20	14.5	20.5	51.2	29.5	17.5	14	M8	14.5	20.5	65.2	29.5	17.5
ø25	15	22.5	54.7	32.5	17.5	17.5	M10 × 1.25	15	22.5	72.2	32.5	17.5

● Rod Side Flange (FA) With Switch

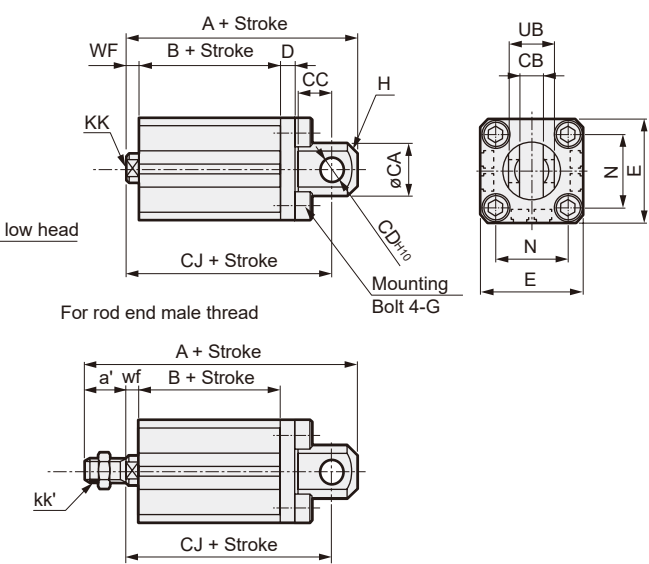
SSD2-T1L-16 to 25-FA



Code	Common dimension							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28

Code	For female thread				For male thread			
Bore Size (mm)	WF	A	B	a'	kk'	wf	A	B
ø16	13.5	45.5	32	12	M6	13.5	57.5	32
ø20	14.5	44	29.5	14	M8	14.5	58	29.5
ø25	15	47.5	32.5	17.5	M10 × 1.25	15	65	32.5

● Double Knuckle Clevis (CB) With Switch

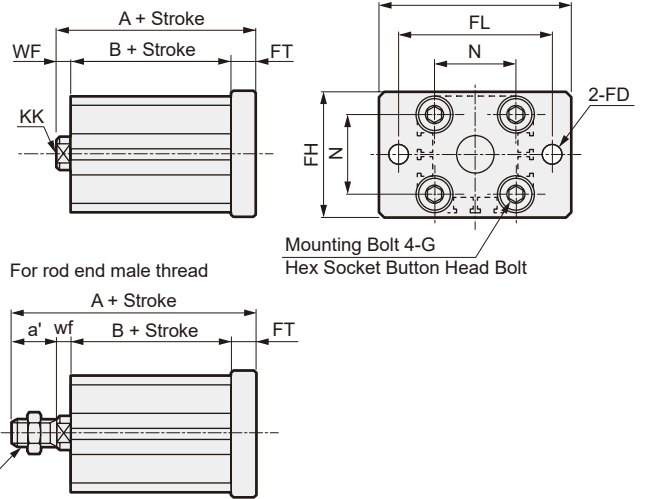


Code	Common dimension											
Bore Size (mm)	CA	CB	CC	CD	D	E	G	KK	H	N	UB	
ø16	15	6.6 ^{+0.3}	8	5	5	29	M4×12	M4 depth 8	C2	20	12 ^{-0.1}	
ø20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	M5 depth 7	C4	25.5	16 ^{-0.1}	
ø25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	M6 Depth 12	C5	28	20 ^{-0.1}	

Code	For female thread						For male thread					
Bore Size (mm)	WF	A	B	CJ	a'	kk'	wf	A	B	CJ		
ø16	3.5	56.5	32	50.5	12	M6	3.5	68.5	32	50.5		
ø20	4.5	61	29.5	52	14	M8	4.5	75	29.5	52		
ø25	5	67.5	32.5	57.5	17.5	M10 × 1.25	5	85	32.5	57.5		

● Head Side Flange (FB) With Switch

SSD2-T1L-16 to 25-FB

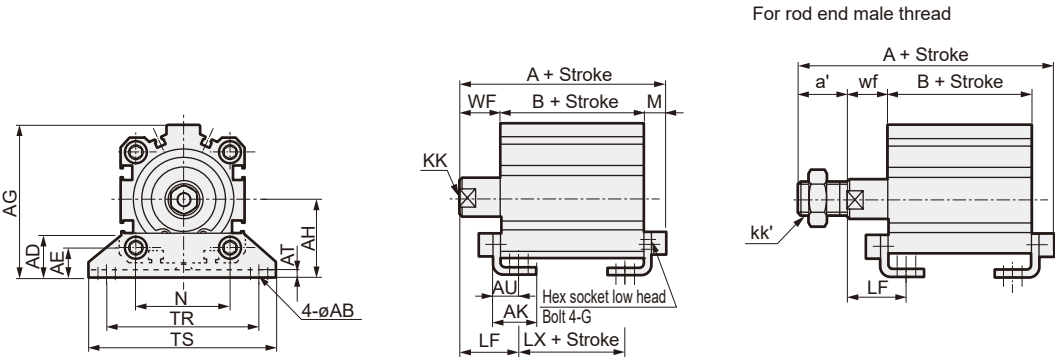


Code	Common dimension							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28

Code	For female thread				For male thread			
Bore Size (mm)	WF	A	B	a'	kk'	wf	A	B
ø16	3.5	41	32	12	M6	3.5	53	32
ø20	4.5	42	29.5	14	M8	4.5	56	29.5
ø25	5	45.5	32.5	17.5	M10 × 1.25	5	63	32.5

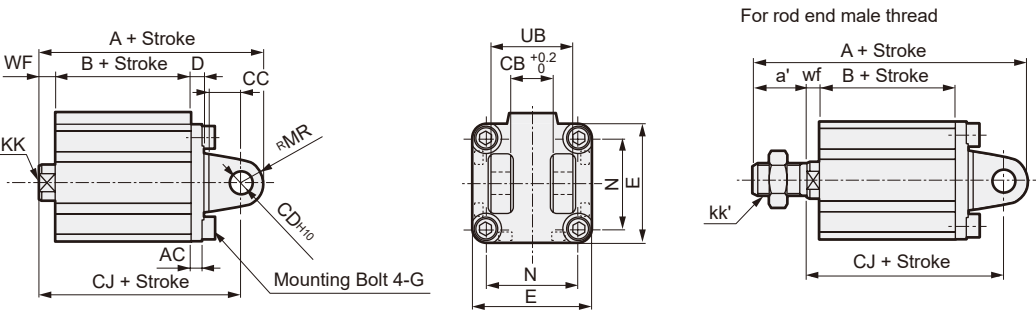
Outline Dimension Drawing (Bore size: ø32 to ø63)

- Axial Foot (LB)
SSD2-T1L-32 to 63-LB



Code	Common dimension														
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2	
Code	For female thread						For male thread								
Bore Size (mm)	WF	LF	A	B	LX	a'	kk'	wf	LF	A	B	LX			
ø32	17	25	57.2	33	17	23.5	M14 × 1.5	15	23	78.7	33	17			
ø40	17	25	63.7	39.5	23.5	23.5	M14 × 1.5	15	23	85.2	39.5	23.5			
ø50	18	29.5	66.7	40.5	17.5	28.5	M18 × 1.5	15	26.5	92.2	40.5	17.5			
ø63	18	31	73.2	46	20	28.5	M18 × 1.5	15	28	98.7	46	20			

- Double Knuckle Clevis (CB)
SSD2-T1L-32 to 63-CB

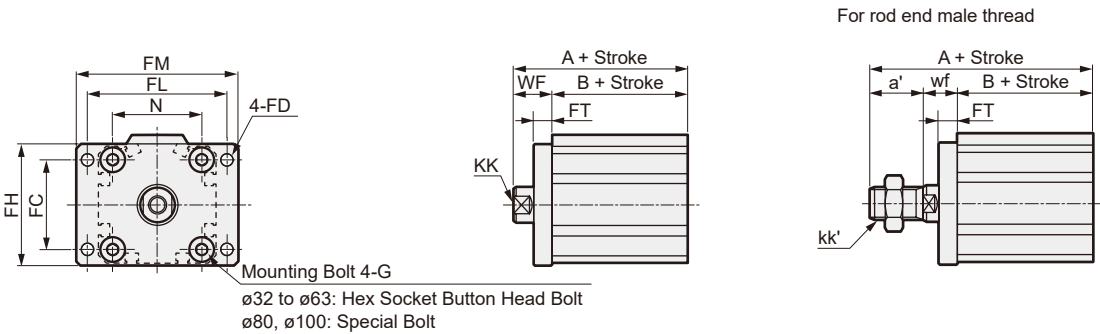


Code	Common dimension										
	Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	UB
Cylinder Switch	ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34
	ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	36
Ending	ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	44
	ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	44
Code	For female thread					For male thread					
	Bore Size (mm)	WF	A	B	CJ	a'	kk'	wf	A	B	CJ
Cylinder Switch	ø32	7	70	33	60	23.5	M14 × 1.5	5	91.5	33	58
	ø40	7	78.5	39.5	68.5	23.5	M14 × 1.5	5	100	39.5	66.5
Ending	ø50	8	90.5	40.5	76.5	28.5	M18 × 1.5	5	116	40.5	73.5
	ø63	8	98	46	84	28.5	M18 × 1.5	5	123.5	46	81

Double Acting with Heat Resistant Cylinder Switch

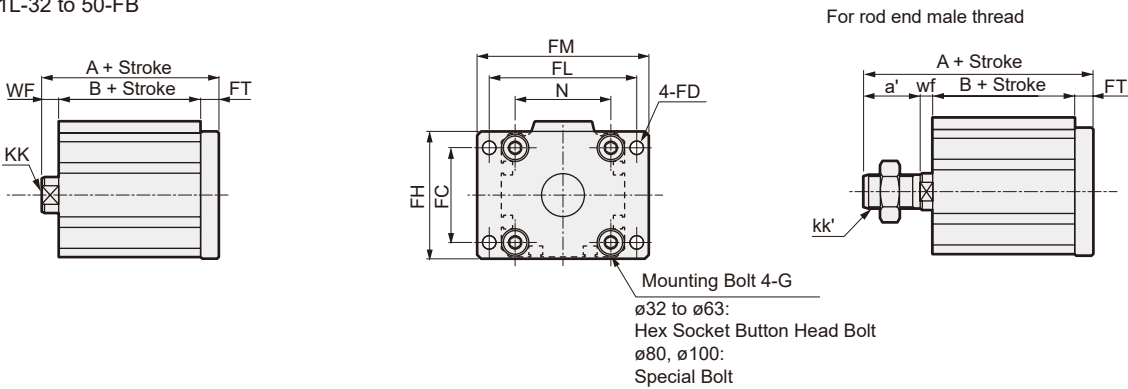
Outline Dimension Drawing (Bore size: ø32 to ø63)

- Rod Side Flange (FA)
SSD2-T1L-32 to 50-FA



Code	Common dimension									
	Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N
SSD2	ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34
	ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40
SSG	ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50
	ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60
SSD										
Code	For female thread					For male thread				
	Bore Size (mm)	WF	A	B		a'	kk'	wf	A	B
CAT	ø32	17	50	33		23.5	M14 × 1.5	15	71.5	33
	ø40	17	56.5	39.5		23.5	M14 × 1.5	15	78	39.5
MDC2	ø50	18	58.5	40.5		28.5	M18 × 1.5	15	84	40.5
	ø63	18	64	46		28.5	M18 × 1.5	15	89.5	46

- Head Side Flange (FB)
SSD2-T1L-32 to 50-FB

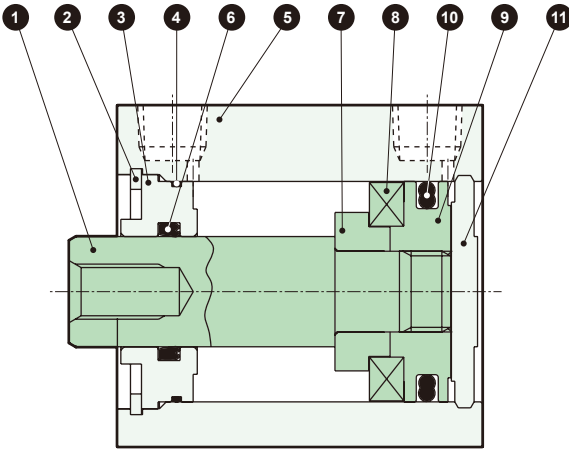
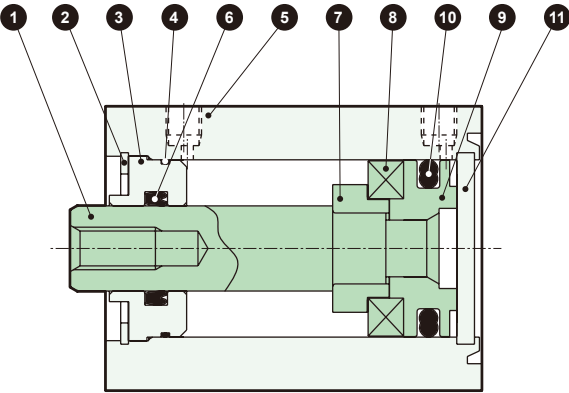


Code	Common dimension									
	Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N
Cylinder Switch	ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34
	ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40
Ending	ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50
	ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60
Code	For female thread					For male thread				
	Bore Size (mm)	WF	A	B		a'	kk'	wf	A	B
Cylinder Switch	ø32	7	48	33		23.5	M14 × 1.5	5	69.5	33
	ø40	7	54.5	39.5		23.5	M14 × 1.5	5	76	39.5
Ending	ø50	8	57.5	40.5		28.5	M18 × 1.5	5	83	40.5
	ø63	8	63	46		28.5	M18 × 1.5	5	88.5	46

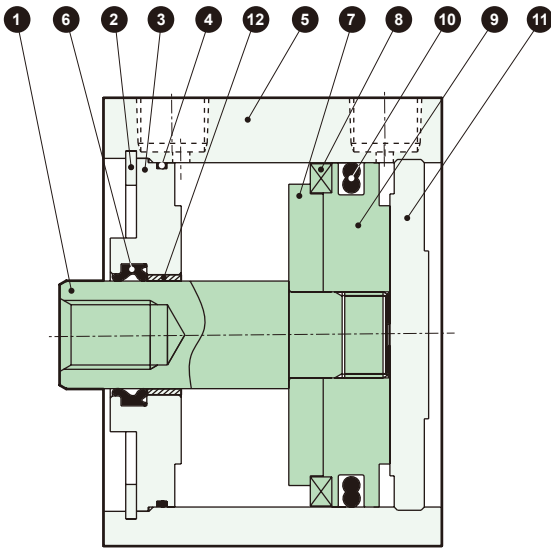
Internal Structure Diagram/Material

● SSD2-T1L-16 to 25

● SSD2-T1L-32 to 50



● SSD2-T1L-63



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø16 to ø25: Stainless steel ø32 to ø63: Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	ø32: Chromate
2	C-type retaining ring	Steel	Zinc phosphate	8	Magnet		
3	Rod Metal	Aluminum Alloy	ø16 to ø50: Alumite ø63: Chromate	9	Piston	ø16 to ø32: Aluminum alloy ø40 to ø63: Stainless steel	ø32: Chromate
4	Rod metal gasket	Fluoro Rubber		10	Piston Packing	Fluoro Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Cover	ø16 to ø25: Stainless steel ø32 to ø63: Aluminum alloy	ø32 to ø100: Alumite
6	Rod Packing	Fluoro Rubber		12	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

MEMO

MEMO

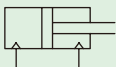


Compact Cylinder High Load Type with Rubber Air Cushion

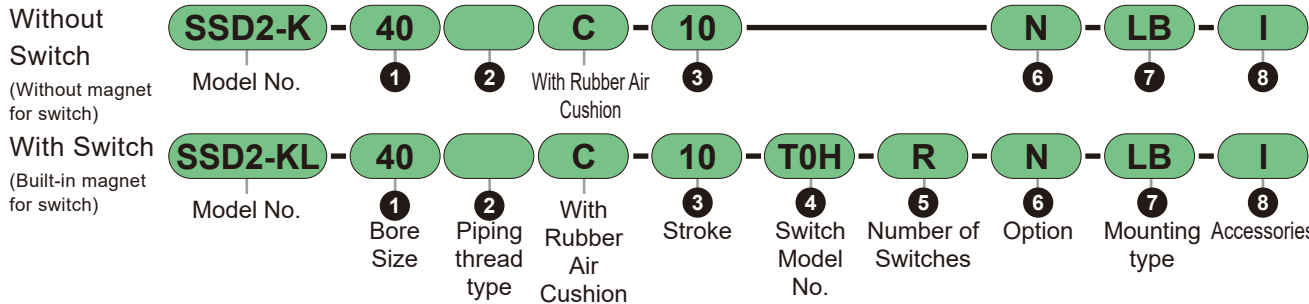
SSD2-K-□C Series

● Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Port Thread Type

Code	Content
Blank	M5 (ø20 to ø25) Rc thread (ø32 to ø100)
N	NPT thread (Custom product) (ø32 to ø100)
G	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø20, ø25	5 to 50	Every 1 mm
ø32, ø40	5 to 100	
ø50 to ø100	10 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	●	●							
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	●	●							
		2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□	●	●							
	2-Color	3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□	●	●							
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	●	●	●	●	●	●	●	●	
		—	—	10 to 30	—	5 to 20 *2	T2H□	T2V□	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	less	—	less	T3PH□	T3PV□	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	●	●	●	●	●	●	●	●	
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	●	●	●	●	●	●	●	●	
	2-Color for AC Magnetic Field		—	—	—	—	T2YD□	—	●	●	●	●	●	●	●	●	
			—	—	—	—	T2YDT□	—	●	●	●	●	●	●	●	●	
	1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	●	●	●	●	●	●	●	●	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	●	●	●	●	●	●	●	●	
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	●	●	●	●	●	●	●	●	
	1-Color		110/220	12/24	7 to 20/7 to 10	5 to 50	T8H□	T8V□			●	●	●	●	●	●	

- *1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.
- *2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
- *3: T8□ switches cannot be mounted on ø20 to ø32.
- *4: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.
- *5: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
- *6: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 41, 42, 44, 45. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

6 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1: The piston rod material for ø20 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 6 Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard Stroke	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Minimum Stroke (mm) *1 *3		5				10			
Maximum Stroke (mm)		50		100					
Intermediate Stroke *2		Every 1 mm							

- *1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For the number of switches attachable and minimum stroke, refer to P. 94.
- *2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.
- *3: For minimum stroke for 7 mounting type LB, refer to P. 41, 44.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

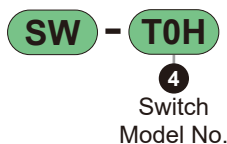
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-K-□C-.....-XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD-K-□C							
	SSD-KL-□C (With Switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	1.0							
Min. Operating Pressure MPa	0.25		0.2					
Proof pressure MPa	1.6							
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)							
Port Size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0							
Operating Piston Speed mm/s	50 to 500					50 to 300		
Cushion	Rubber Air Cushion							
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Minimum Stroke with Switch (With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø20	5	5	20
ø25			15
ø32			
ø40		10	
ø50		10	10
ø63			
ø80			
ø100			

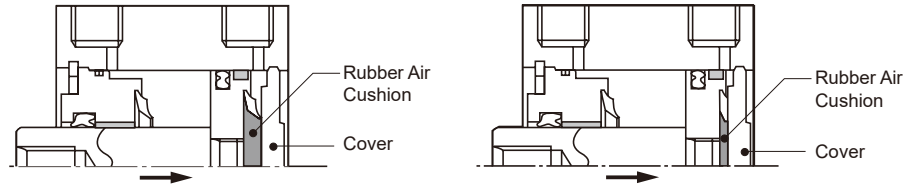
Note: Less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1□ or T8□ switch is not available.

About Intermediate Stroke

● SSD2-K-□C Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number Indication Example	Model No.: SSD2-K-32C-38 A +2 mm spacer is added to the standard cylinder SSD2-K-32C-40 to make it 38 mm. B + Stroke = 33 + 40 = 73	

Rubber Air Cushion Mechanism



Explanation at Pull
When the piston operates and the rubber air cushion contacts the cover, a sealed air space is formed in the part. The air in this sealed space is compressed as the piston operates and absorbs energy. At the stroke end, energy absorption due to compressive strain of the rubber cushion is also added.

Specifications

Theoretical Thrust Table

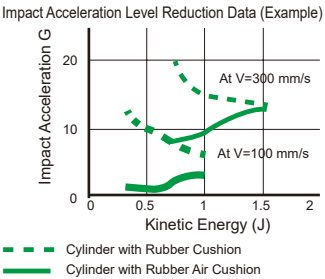
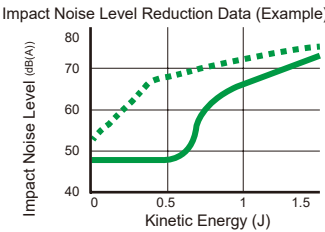
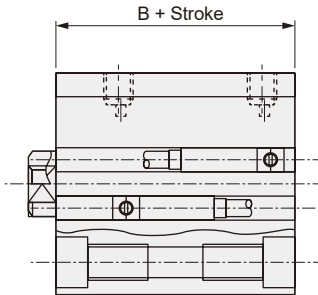
(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø20	Push	-	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	-	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	
ø25	Push	-	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	-	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	
ø32	Push	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	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	
ø40	Push	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	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	
ø50	Push	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	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	
ø63	Push	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	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	
ø80	Push	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	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	
ø100	Push	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	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	

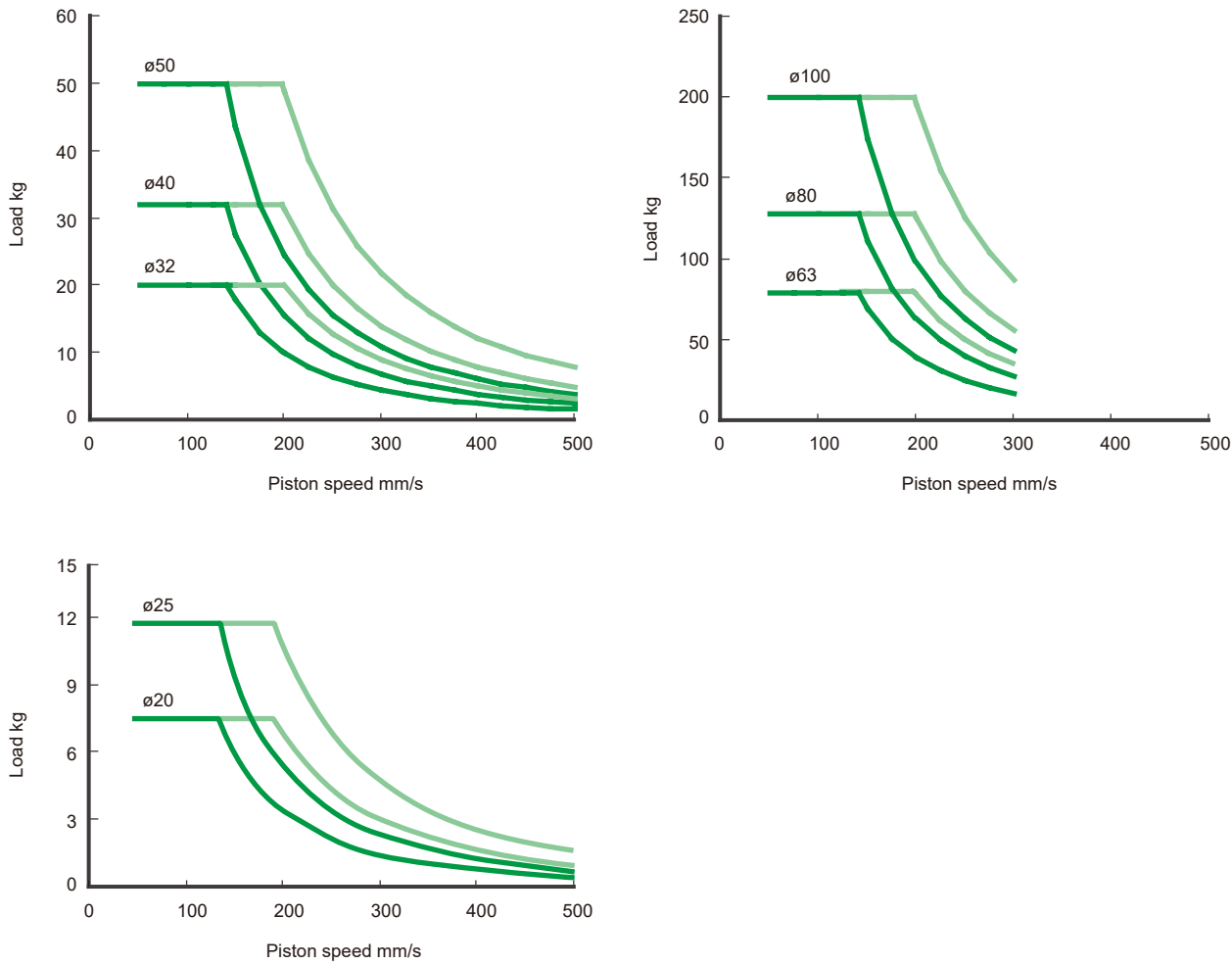
Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.



[Allowable Energy Value]



The usable range is to the lower left of the curve. It can be used within the range indicated by the —— line in the diagram , but it is recommended to use it within the range of the solid line to achieve a more effective noise reduction effect.

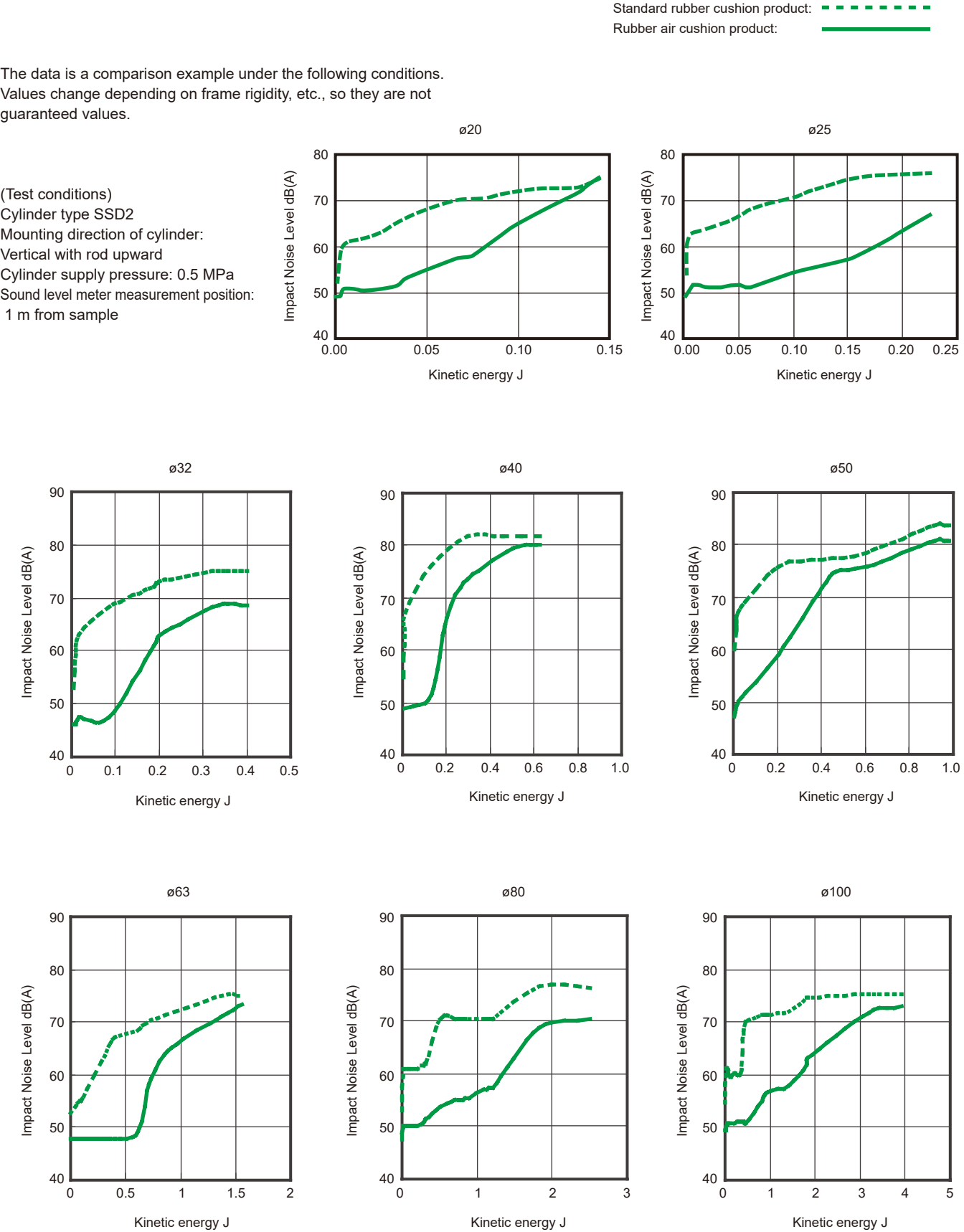
Technical Data

Technical Data

[Performance Comparison of Impact Noise Level]

The data is a comparison example under the following conditions.
Values change depending on frame rigidity, etc., so they are not guaranteed values.

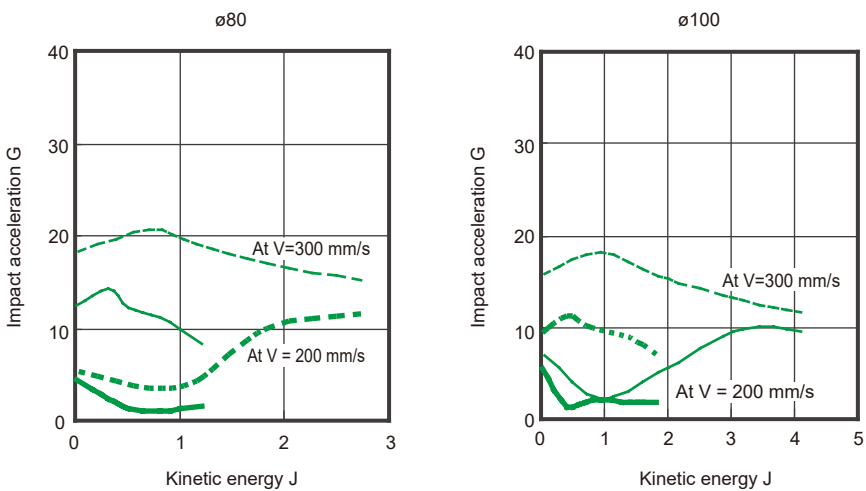
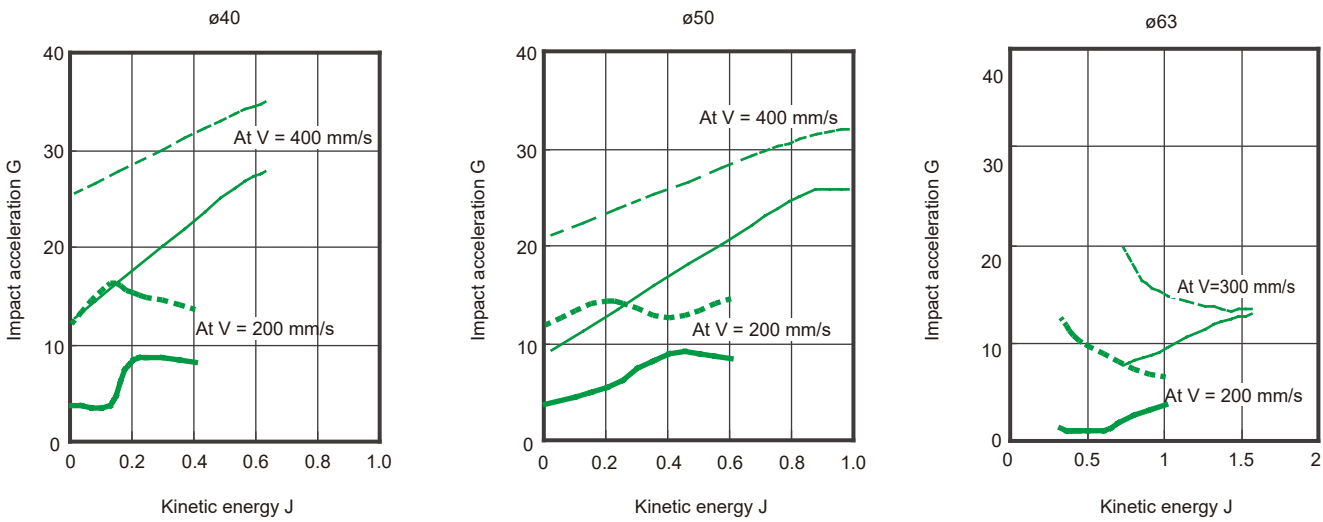
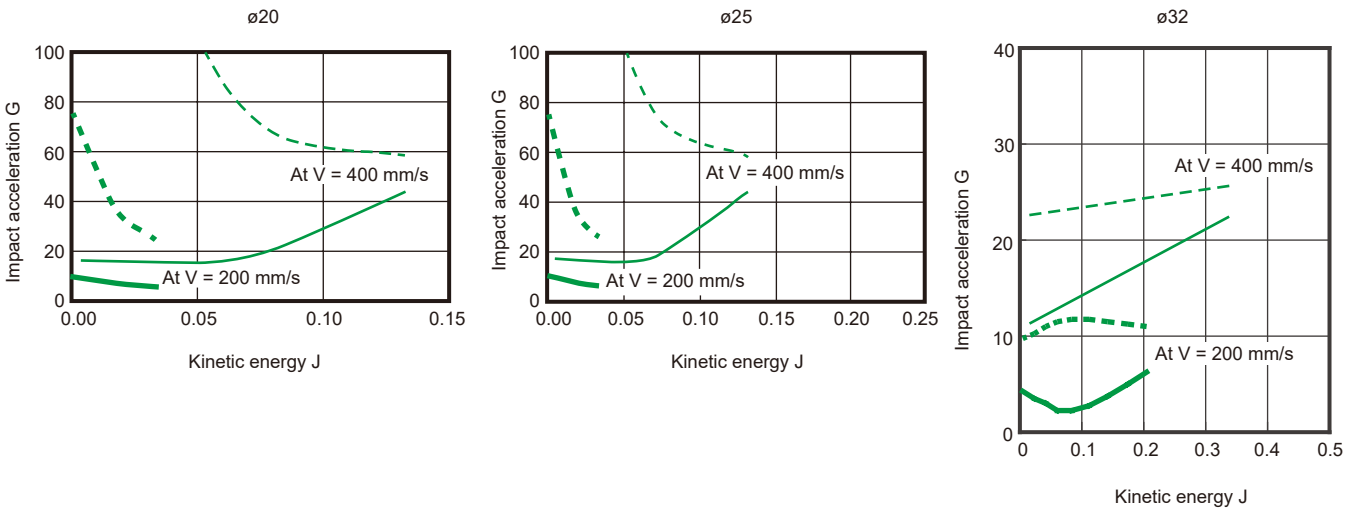
(Test conditions)
Cylinder type SSD2
Mounting direction of cylinder:
Vertical with rod upward
Cylinder supply pressure: 0.5 MPa
Sound level meter measurement position:
1 m from sample



Technical Data

[Performance Comparison of Impact Acceleration]

Standard rubber cushion product: - - - - -
Rubber air cushion product: —————



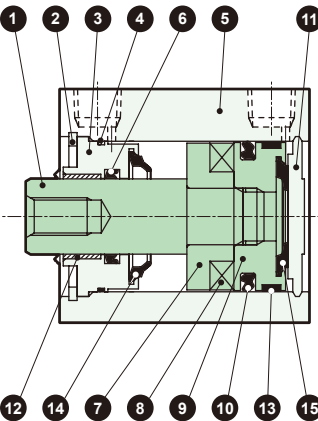
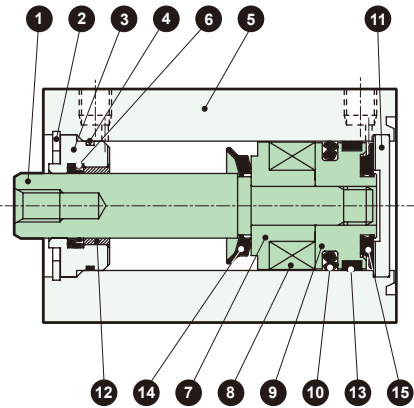
Outline Dimension Drawing/Internal Structure Diagram/Material

Outline Dimension Drawing

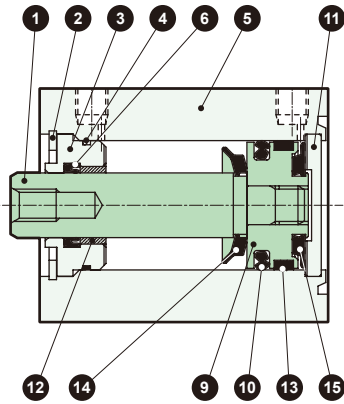
Same as Double Acting, High Load Type SSD2-K Series. Refer to P. 40 to P. 45.

Internal Structure Diagram/Material

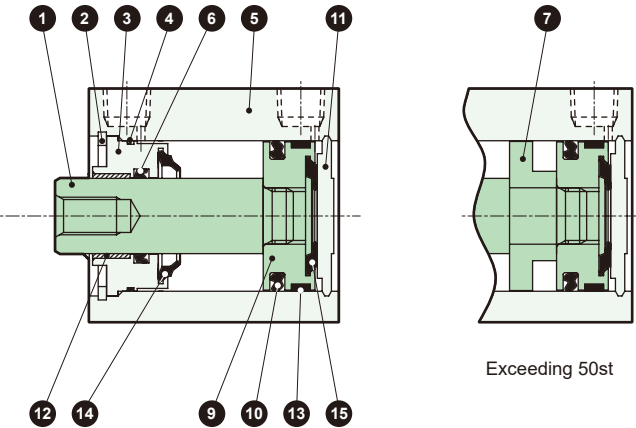
- SSD2-KL-20C, 25C (Double Acting, High Load Type, Rubber Air Cushion with Switch)
- SSD2-KL-32C to 100C (Double Acting, High Load Type, Rubber Air Cushion with Switch)



- SSD2-K-20C, 25C (Double Acting, High Load Type with Rubber Air Cushion)



- SSD2-K-32C to 100C (Double Acting, High Load Type, Rubber Air Cushion)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20 to ø25: Stainless steel ø32 to ø100: Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	ø20 to ø50: Alumite ø63 to ø100: Chromate	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	ø20 to 25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Bearing Alloy	
6	Rod Packing	Nitrile Rubber		13	Wear Ring	Polyacetal	
7	Spacer	Aluminum Alloy	Chromate	14	Rubber air cushion (R)	Special rubber	
				15	Rubber air cushion (H)	Special rubber	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

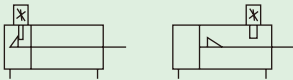


Compact Cylinder Double Acting with Fall Prevention

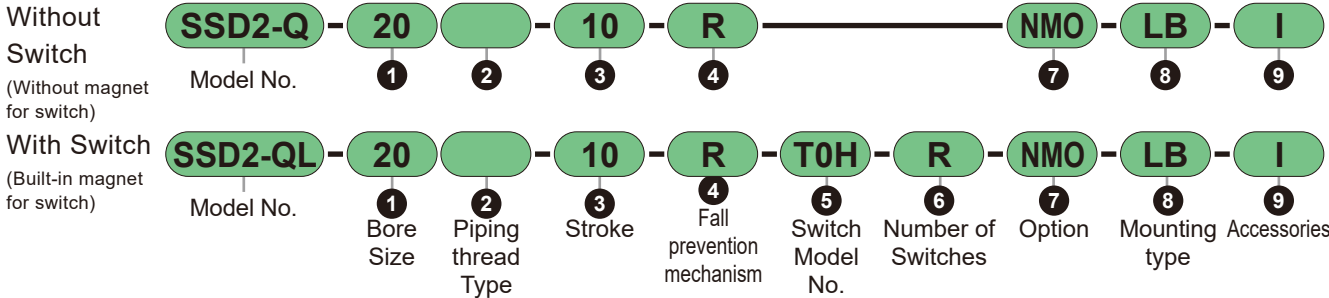
SSD2-Q Series

● Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Port Thread Type:

Code	Content
Blank	M5 (ø20 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke
ø20 to ø63	10 to 100
ø80, ø100	25 to 100

Note: Refer to Appendix 1 on the following page for details.

4 Drop prevention mechanism

Code	Content
R	With rod side fall prevention
H	With head side fall prevention

5 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size										
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100			
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S	●	●									
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V	●	●									
	3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV	●	●										
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV	●	●									
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H	T1V	●	●	●	●	●	●	●	●		●	
			—	10 to 30	—	5 to 20 *2	T2H	T2V	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	100 or less	T3H	T3V	●	●	●	●	●	●	●	●			
			3-wire (PNP)	—	—	—	—	T3PH	T3PV	●	●	●	●	●	●	●			●
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	●		
	2-Color AC For Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD	—	●	●	●	●	●	●	●	●	●		
			—	10%	—	5 to 20	T2YDT	—	●	●	●	●	●	●	●	●	●		
1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH	T2JV	●	●	●	●	●	●	●	●	●			
1-Color Flexible Lead wire type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●			
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●			
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●			
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V	●	●	●	●	●	●	●	●			

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.

*4: Switches other than the model Nos. listed above are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

*5

*5: F-type switch with 5 m lead wire length cannot be selected.

Example) Lead wire length
1 m T0H
3 m T0H[3]
5 m T0H[5]

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 107, P. 108, P. 110, P. 111. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M0	Non-Locking Manual Device (Release bolt attached)
M1	Locking Manual Device

*1: If "M0" or "M1" is not selected as an option, only the non-locking manual device will be provided. Release bolt is not included.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard Stroke	10	●	●	●	●	●	●		
	15	●	●	●	●	●	●		
	20	●	●	●	●	●	●		
	25	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●
Min. Stroke (mm)		10						25	
Maximum Stroke (mm)		100							

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

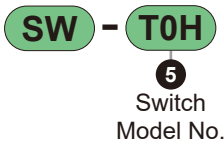
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-Q - - XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-Q							
	SSD2-QL (With Switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting, Drop Prevention Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	1.0							
Min. Operating Pressure MPa	0.15							
Proof pressure MPa	1.6							
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)							
Port Size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke Tolerance mm	+2.5 0							
Operating Piston Speed mm/s	50 to 500					50 to 300		
Cushion	Rubber Cushion							
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)							
Fall prevention mechanism	Rod side or head side							
Holding Force (N)	Max. Thrust × 0.7							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

SSG

Minimum Stroke with Switch (With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø20	10	10	20
ø25			
ø32			
ø40			
ø50			15
ø63			
ø80	25	25	10
ø100			25

⚠ Before use, be sure to read "Precautions for Use"(Fall Prevention Type) P. 322 to 327.

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	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	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
ø25	Push	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	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
ø32	Push	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	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
ø40	Push	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	1.58 × 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
ø50	Push	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	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
ø63	Push	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	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
ø80	Push	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	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
ø100	Push	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	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

Ending

Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

● With rod side fall prevention

(Unit: g)

Stroke (mm)	10		15		20		25		50		75		100	
Bore Size (mm)	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
ø20	201	242	213	254	226	267	238	279	330	370	392	433	455	495
ø25	274	315	290	331	306	347	322	363	439	480	519	560	599	640
ø32	430	474	451	495	473	517	494	538	602	646	709	753	817	861
ø40	632	681	658	708	685	734	711	761	844	893	976	1026	1109	1158
ø50	1096	1147	1138	1189	1180	1231	1222	1273	1432	1483	1642	1693	1852	1903
ø63	1609	1663	1664	1718	1719	1773	1774	1828	2049	2103	2324	2378	2599	2653
ø80	-	-	-	-	-	-	3822	3882	4255	4315	4904	4964	5336	5396
ø100	-	-	-	-	-	-	5769	5835	6339	6405	7194	7260	7764	7830

● With head side fall prevention

(Unit: g)

Stroke (mm)	10		15		20		25		50		75		100	
Bore Size (mm)	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
ø20	217	258	230	270	242	283	255	295	330	370	392	433	455	495
ø25	295	336	311	352	327	368	343	384	439	480	519	560	599	640
ø32	462	506	484	528	505	549	527	571	634	678	742	786	849	893
ø40	688	737	714	763	741	790	767	816	900	949	1032	1081	1165	1214
ø50	1180	1231	1222	1273	1264	1315	1306	1357	1516	1567	1726	1777	1936	1987
ø63	1675	1729	1730	1784	1785	1839	1840	1894	2115	2169	2390	2444	2665	2719
ø80	-	-	-	-	-	-	3952	4012	4385	4445	4904	4964	5336	5396
ø100	-	-	-	-	-	-	5940	6006	6510	6576	7194	7260	7764	7830

Mounting Bracket Model No. Notation Method

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

Bore Size (mm)	ø100
Mounting bracket	
Foot (LB)	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

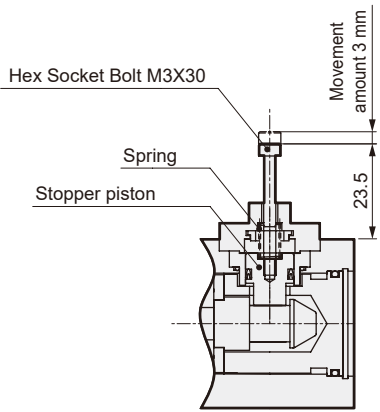
FC□

Cylinder Switch

Ending

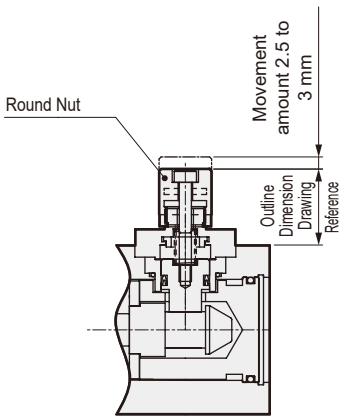
[Explanation of Manual Device]

● Manual override of non-locking (option code: M0)



Screw the hex socket bolt (M3X30) into the stopper piston and pull the bolt with a force of 20N or more, the stopper piston will move and the lock will be released. (Work with no load horizontal mounting, or when the opposite side port is pressurized.) When you release your hand from the bolt, the built-in spring returns the stopper piston to its original position, and if it enters the lock groove, the piston will be locked.

● Locking manual override (option code: M1)



Turning the round nut to the left (counterclockwise) moves the stopper piston and releases the lock. Turning it to the right (clockwise) to the lock position returns the stopper piston, and if it enters the lock groove, the piston will be locked. When locking, if the stopper piston's engagement with the groove is shallow, it may cause damage. Be sure to securely screw the round nut all the way in.

MEMO

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

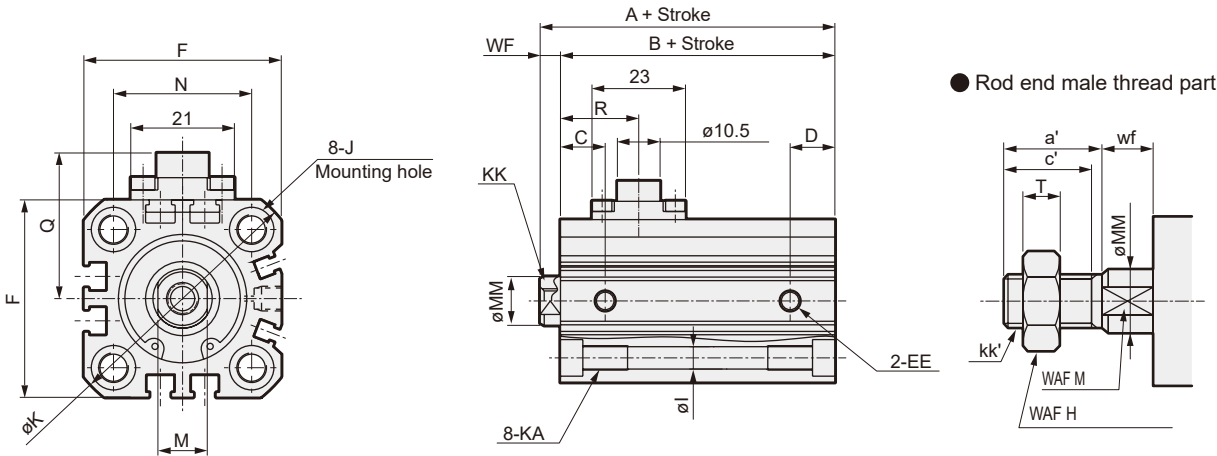
FC□

Cylinder Switch

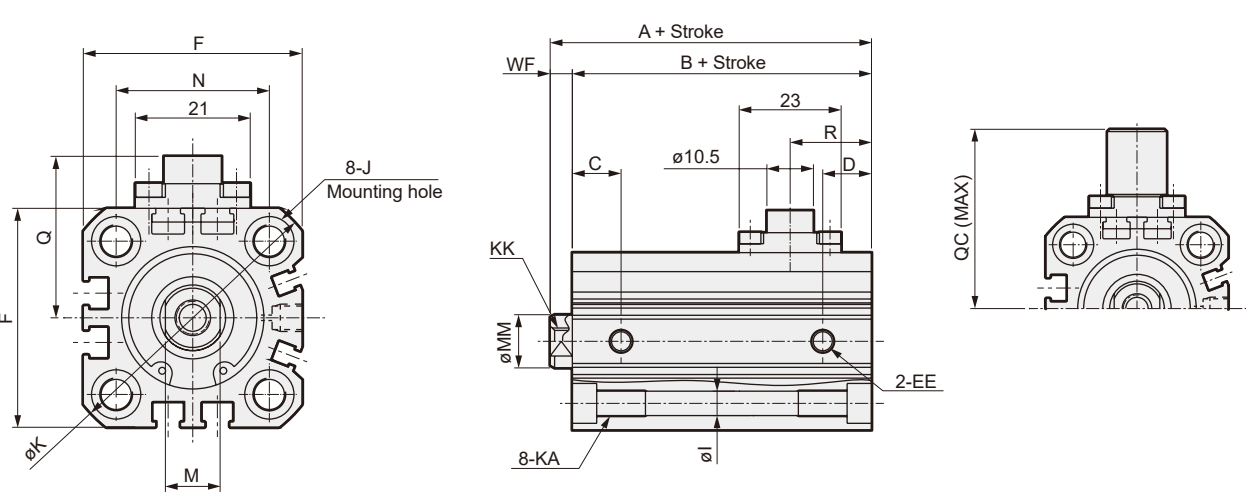
Ending

Outline Dimension Drawing (Bore size: ø20, ø25)

- SSD2-Q(L)-20 to 25-R
- *Outline dimensions are common for both without and with switch.



- SSD2-Q(L)-20 to 25-H
- *Outline dimensions are common for both without and with switch.



Code	Common dimension												
	EE	F	I	J	K	KA	KK	M	MM	N	WF	Q	QC
ø20	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5 (14.5)	28.5	40
ø25	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5 (15)	29.5	41
Code	With rod side fall prevention mechanism						With head side fall prevention mechanism						
	A	B	C	D	R	A	B	C	D	R			
ø20	59 (80.5)	54.5 (66)	9.5	8	18.6	65.5 (80.5)	61 (66)	9.5	8	17.3			
ø25	62.5 (84)	57.5 (69)	12	8.5	19.3	69 (84)	64 (69)	12	8.5	18.4			

- Rod end male thread part

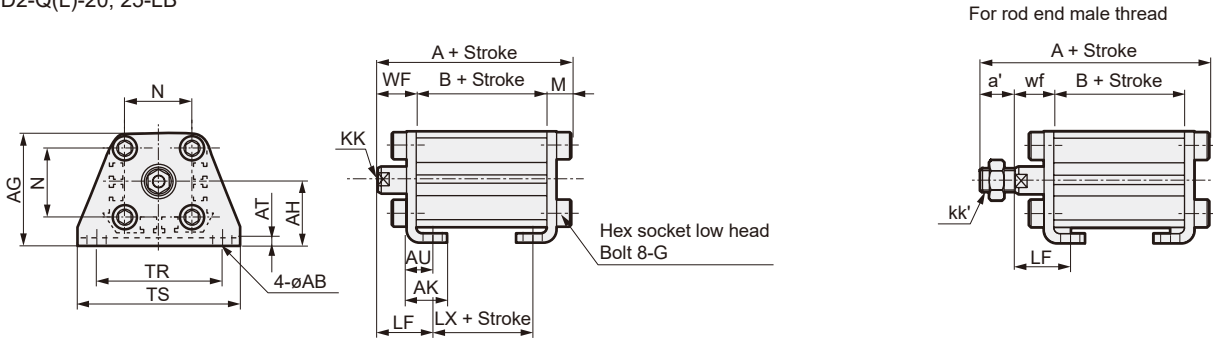
Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø20	14	12	13	M8	8	10	5	4.5 (14.5)
ø25	17.5	15	17	M10 × 1.25	10	12	6	5 (15)

- *1: Values in () are for when exceeding 25 strokes.
- *2: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.
- *3: For dimensions with each switch, refer to P. 300 to 309.
- *4: For outline dimension drawings of individual accessories, refer to P. 34.

Double Acting with Fall Prevention

Outline Dimension Drawing (Bore size: ø20, ø25)

- Axial Foot (LB)
- SSD2-Q(L)-20, 25-LB

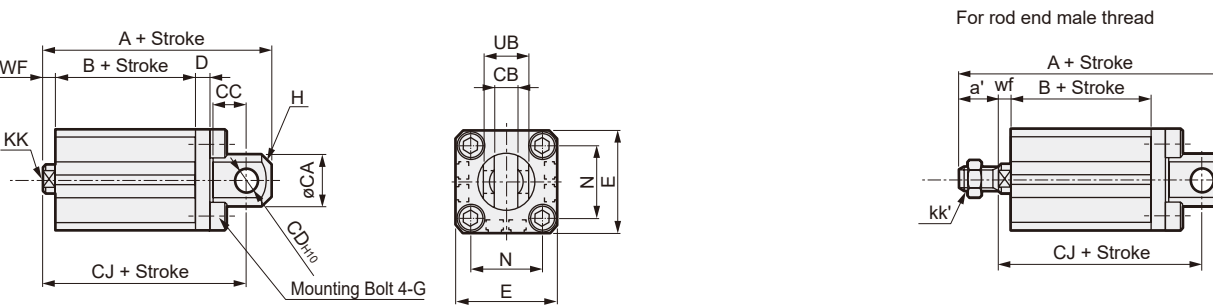


Code	Common dimension													SSD2-Q-R (For female thread)				SSD2-Q-R (For male thread)			
	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	A	B	LX	a'	kk'	wf	LF
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2	14.5	20.5	76.2 (87.7)	54.5 (66)	42.5 (54)	14	M8	14.5	20.5
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 Depth 12	28	52	66	7.2	15	22.5	79.7 (91.2)	57.5 (69)	42.5 (54)	17.5	M10 × 1.25	15	22.5

Code	SSD2-Q-H (For female thread)						SSD2-Q-H (For male thread)					
	WF	LF	A	B	LX	a'	kk'	wf	LF	A	B	LX
ø20	14.5	20.5	82.7 (87.7)	61 (66)	49 (54)	14	M8	14.5	20.5	96.7 (101.7)	61 (66)	49 (54)
ø25	15	22.5	86.2 (91.2)	64 (69)	49 (54)	17.5	M10 × 1.25	15	22.5	103.7 (108.7)	64 (69)	49 (54)

- *1: Dimensions in () are values when exceeding 25 strokes.

- Double Knuckle Clevis (CB)
- SSD2-Q(L)-20, 25-CB



Code	Common dimension											SSD2-Q-R (For female thread)				SSD2-Q-R (For male thread)					
Bore Size (mm)	CA	CB	CC	CD	D	E	G	KK	H	N	UB	WF *1	A *1	B *1	CJ *1	a'	kk'	wf *1	A *1	B *1	CJ *1
ø20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	M5 depth 7	C4	25.5	16 ^{+0.1} _{-0.1}	4.5 (14.5)	86 (107.5)	54.5 (66)	77 (98.5)	14	M8	4.5 (14.5)	100 (121.5)	54.5 (66)	77 (98.5)
ø25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	M6 Depth 12	C5	28	20 ^{+0.1} _{-0.1}	5 (15)	92.5 (114)	57.5 (69)	82.5 (104)	17.5	M10×1.25	5 (15)	110 (131.5)	57.5 (69)	82.5 (104)
Code	SSD2-Q-H (For female thread)											SSD2-Q-H (For male thread)									
Bore Size (mm)	WF *1		A *1		B *1		CJ *1		a'		kk'		wf *1		A *1		B *1		CJ *1		
ø20	4.5 (14.5)		92.5 (107.5)		61 (66)		83.5 (98.5)		14		M8		4.5 (14.5)		106.5 (121.5)		61 (66)		83.5 (98.5)		
ø25	5 (15)		99 (114)		64 (69)		89 (104)		17.5		M10 × 1.25		5 (15)		116.5 (131.5)		64 (69)		89 (104)		

- *1: Dimensions in () are values when exceeding 25 strokes.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

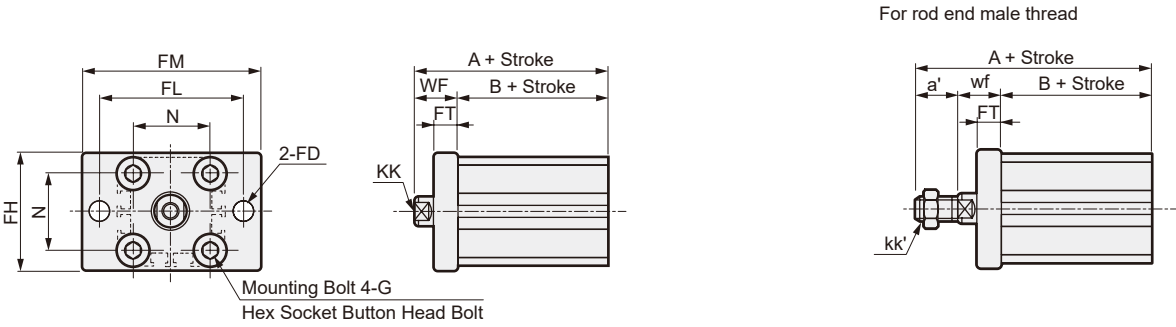
FC□

Cylinder Switch

Ending

Outline Dimension Drawing (Bore size: ø20, ø25)

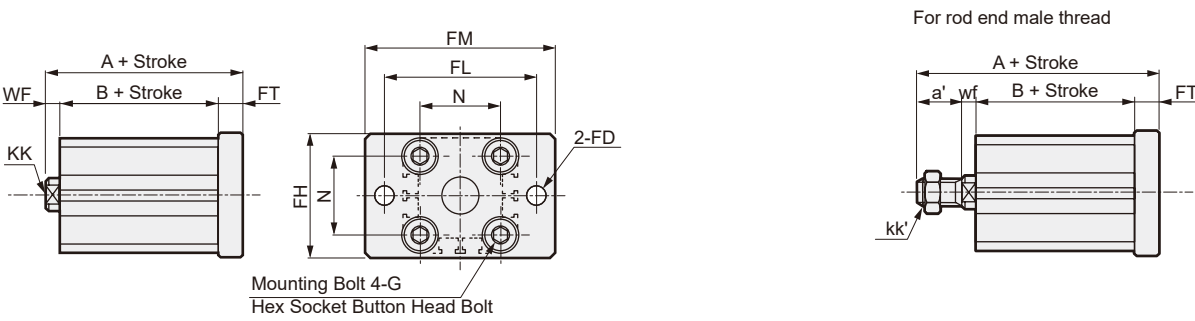
- Rod Side Flange (FA)
SSD2-Q(L)-20, 25-FA



Code	Common dimension									SSD2-Q-R (For female thread)			SSD2-Q-R (For male thread)					
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch			
										A	B				A	B		
										*1	*1				*1	*1		
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	14.5	69 (80.5)	54.5 (66)	14	M8	14.5	83 (94.5)	54.5 (66)		
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28	15	72.5 (84)	57.5 (69)	17.5	M10 × 1.25	15	90 (101.5)	57.5 (69)		
Code	SSD2-Q-H (For female thread)						SSD2-Q-H (For male thread)											
Bore Size (mm)	WF	Dimension with/without switch				a'	kk'	wf	Dimension with/without switch									
		A		B					A		B							
		*1	*1	*1	*1				*1	*1	*1	*1						
ø20	14.5	75.5 (80.5)				61 (66)	14	M8	14.5	89.5 (94.5)				61 (66)				
ø25	15	79 (84)				64 (69)	17.5	M10 × 1.25	15	96.5 (101.5)				64 (69)				

*1: Dimensions in () are values when exceeding 25 strokes.

- Head Side Flange (FB)
SSD2-Q(L)-20, 25-FB



Code	Common dimension									SSD2-Q-R (For female thread)			SSD2-Q-R (For male thread)				
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF *1	A *1	B *1	a'	kk'	wf *1	A *1	B *1	
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	4.5 (14.5)	67 (88.5)	54.5 (66)	46	M8	19.5 (14.5)	71 (92.5)	54.5 (66)	
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28	5 (15)	70.5 (92)	57.5 (69)	53	M10 × 1.25	22.5 (15)	88 (109.5)	57.5 (69)	
Code	SSD2-Q-H (For female thread)								SSD2-Q-H (For male thread)								
Bore Size (mm)	WF *1		A *1		B *1		a'	kk'		wf *1		A *1		B *1			
ø20	4.5 (14.5)		73.5 (88.5)		61 (66)		46	M8		19.5 (14.5)		77.5 (92.5)		61 (66)			
ø25	5 (15)		77 (92)		64 (69)		53	M10 × 1.25		22.5 (15)		94.5 (109.5)		64 (69)			

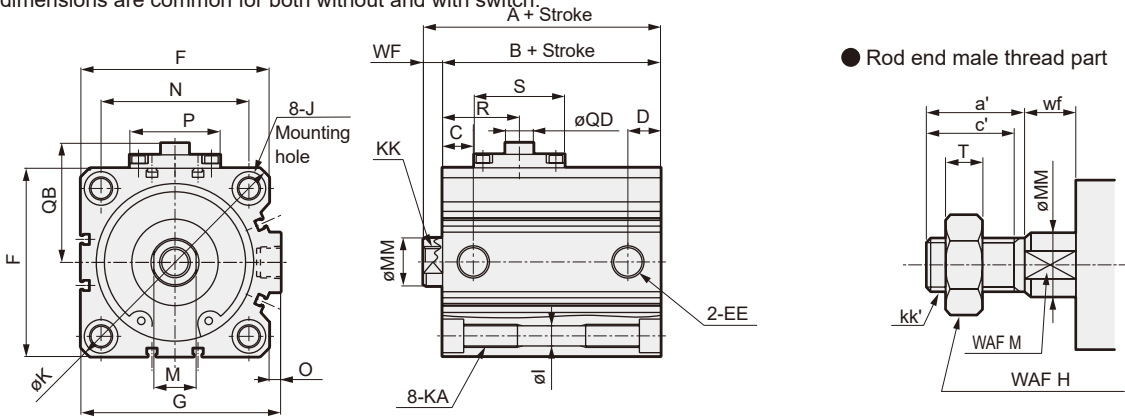
*1: Dimensions in () are values when exceeding 25 strokes.

Double Acting with Fall Prevention

Outline Dimension Drawing (Bore size: ø32 to ø100)

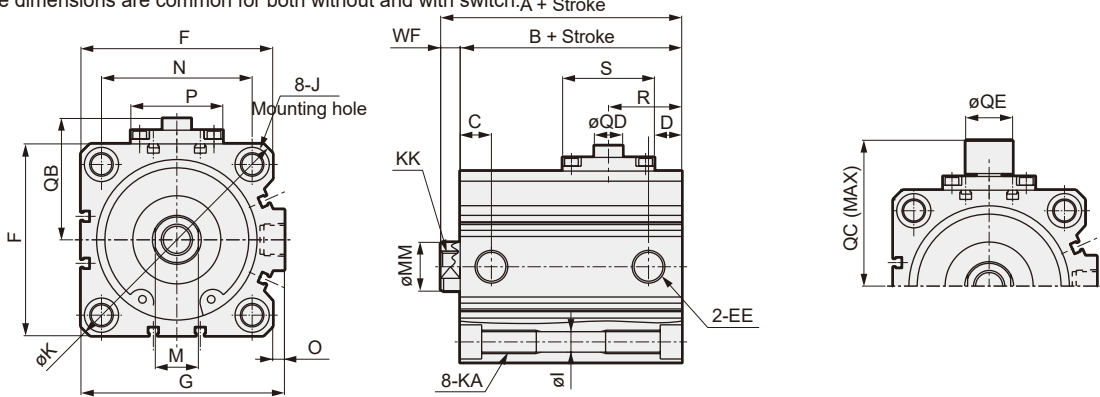
- SSD2-Q(L)-32 to 100-R

*Outline dimensions are common for both without and with switch.



- SSD2-Q(L)-32 to 100-H

*Outline dimensions are common for both without and with switch.



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

Code		Common dimension								
Bore Size (mm)	O	P	S	QB	QC	QD	QE	WF *1		
	ø32	4.5	22	30.5	33.5	46.3	10.5	13	7	
	ø40	5	22	30.5	37	49.8	10.5	13	7	
	ø50	7	40.5	23	44	56.3	10.5	13	8	
	ø63	7	40.5	23	50.5	62.8	10.5	13	8	
	ø80	6	47	47	62	77.5	14.5	24	10 (20)	
	ø100	6.5	47	47	71.5	87	14.5	24	12 (22)	
	With rod side fall prevention mechanism					With head side fall prevention mechanism				
	A *1	B *1	C	D	R	A *1	B *1	C	D	R
ø32	65	58	11	9	19.2	72.5	65.5	11	9	20.9
ø40	71.5	64.5	14	11	21.7	82	75	14	14	23.9
ø50	73.5	65.5	15	12.5	24.7	83.5	75.5	15	12.5	29.8
ø63	79	71	19	16	26.2	85	77	15	16	25.5
ø80	113.5 (136)	103.5 (116)	18	17	40	121 (136)	111 (116)	18	17	37.5
ø100	125 (147.5)	113 (125.5)	23	21	44.5	132.5 (147.5)	120.5 (125.5)	23	21	40

- Rod end male thread part

Code	Common dimension							
	Bore Size (mm)	a'	c'	H	kk'	M	MM	T
ø32	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø40	23.5	20.5	22	M14 × 1.5	14	16	8	5
ø50	28.5	26	27	M18 × 1.5	17	20	11	5
ø63	28.5	26	27	M18 × 1.5	17	20	11	5
ø80	35.5	32.5	32	M22 × 1.5	22	25	13	8 (18)
ø100	35.5	32.5	41	M26 × 1.5	27	30	16	8 (18)

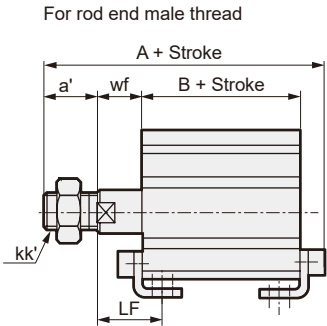
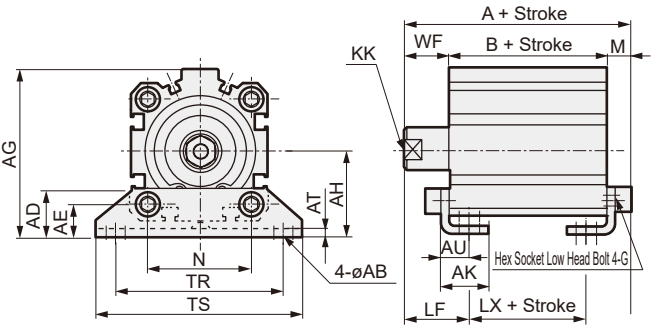
*1: Dimensions in () are values when exceeding 50 strokes.

*2: For dimensions with each switch, refer to P. 300 to 309.

*3: For outline dimension drawings of individual accessories, refer to P. 34.

Outline Dimension Drawing (Bore size: ø32 to ø100)

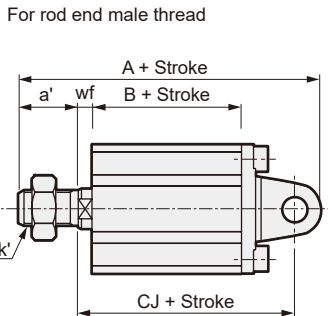
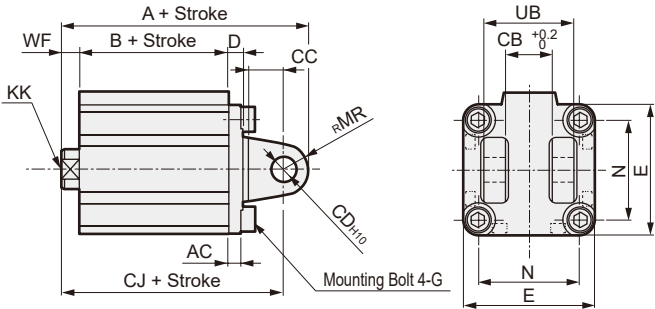
- Axial Foot (LB)
SSD2-Q(L)-32 to 100-LB



Code	Common dimension															SSD2-Q-R (For female thread)						
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with/without switch					
																	A "1	B "1	LX "1			
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	17	25	82.2	58	42			
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	17	25	88.7	64.5	48.5			
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	18	29.5	91.7	65.5	42.5			
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2	18	31	98.2	71	45			
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5	20	35	135 (147.5)	103.5 (116)	73.5 (86)			
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13	22	39	148 (160.5)	113 (125.5)	79 (91.5)			
Code	SSD2-Q-R (For male thread)									SSD2-Q-H (For female thread)						SSD2-Q-H (For male thread)						
Bore Size (mm)	a'	kk'	wf	LF	Dimension with/without switch			WF	LF	Dimension with/without switch			a'	kk'	wf	LF	Dimension with/without switch					
					A "1	B "1	LX "1			A "1	B "1	LX "1					A "1	B "1	LX "1			
ø32	23.5	M14 × 1.5	15	23	103.7	58	42	17	25	89.7	65.5	49.5	23.5	M14 × 1.5	15	23	111.2	65.5	49.5			
ø40	23.5	M14 × 1.5	15	23	110.2	64.5	48.5	17	25	99.2	75	59	23.5	M14 × 1.5	15	23	120.7	75	59			
ø50	28.5	M18 × 1.5	15	26.5	117.2	65.5	42.5	18	29.5	101.7	75.5	52.5	28.5	M18 × 1.5	15	26.5	127.2	75.5	52.5			
ø63	28.5	M18 × 1.5	15	28	123.7	71	45	18	31	104.2	77	51	28.5	M18 × 1.5	15	28	129.7	77	51			
ø80	35.5	M22 × 1.5	18	33	168.5 (181)	103.5 (116)	73.5 (86)	20	35	142.5 (147.5)	111 (116)	81 (86)	35.5	M22 × 1.5	18	33	176 (181)	111 (116)	81 (86)			
ø100	35.5	M26 × 1.5	18	35	179.5 (192)	113 (125.5)	79 (91.5)	22	39	155.5 (160.5)	120.5 (125.5)	86.5 (91.5)	35.5	M26 × 1.5	18	35	187 (192)	120.5 (125.5)	86.5 (91.5)			

*1: Dimensions in () are values when exceeding 50 strokes.

- Double Knuckle Clevis (CB)
SSD2-Q(L)-32 to 100-CB



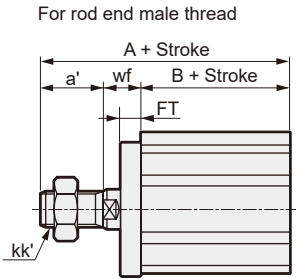
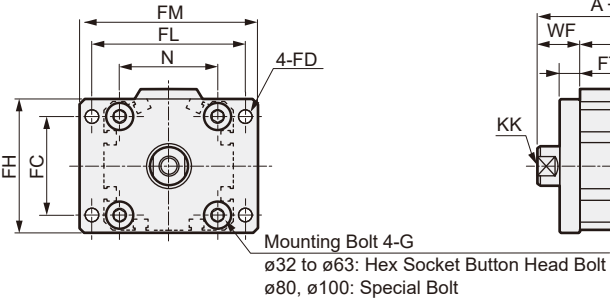
Code	Common dimension											SSD2-Q-R (For female thread)					
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB	WF *1	A	B	CJ		
	ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36	7	95	58	85	
	ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	7	103.5	64.5	93.5	
	ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	8	115.5	65.5	101.5	
	ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	8	123	71	109	
	ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56	10 (20)	169.5 (192)	103.5 (116)	151.5 (174)	
	ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64	12 (22)	192 (214.5)	113 (125.5)	170 (192.5)	
Code	SSD2-Q-R (For male thread)							SSD2-Q-H (For female thread)				SSD2-Q-H (For male thread)					
Bore Size (mm)	a'	kk'	wf	A	B	CJ	WF	A	B	CJ	a'	kk'	wf	A	B	CJ	
	ø32	23.5	M14 × 1.5	5	116.5	58	83	7	102.5	65.5	92.5	23.5	M14 × 1.5	5	124	65.5	90.5
	ø40	23.5	M14 × 1.5	5	125	64.5	91.5	7	114	75	104	23.5	M14 × 1.5	5	135.5	74.5	102
	ø50	28.5	M18 × 1.5	5	141	65.5	98.5	8	125.5	75.5	111.5	28.5	M18 × 1.5	5	151	71.5	108.5
	ø63	28.5	M18 × 1.5	5	148.5	71	106	8	129	77	115	28.5	M18 × 1.5	5	154.5	77	112
	ø80	35.5	M22 × 1.5	8 (18)	203 (225.5)	103.5 (116)	149.5 (172)	10 (20)	177 (192)	111 (116)	159 (174)	35.5	M22 × 1.5	8 (18)	210.5 (225.5)	111 (116)	157 (172)
	ø100	35.5	M26 × 1.5	8 (18)	223.5 (246)	113 (125.5)	166 (188.5)	12 (22)	199.5 (214.5)	120.5 (125.5)	177.5 (192.5)	35.5	M26 × 1.5	8 (18)	231 (246)	120.5 (125.5)	173.5 (188.5)

*1: Dimensions in () are values when exceeding 50 strokes.

Double Acting with Fall Prevention

Outline Dimension Drawing (Bore size: ø32 to ø100)

- Rod Side Flange (FA)
SSD2-Q(L)-32 to 100-FA

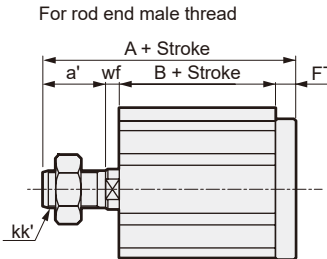
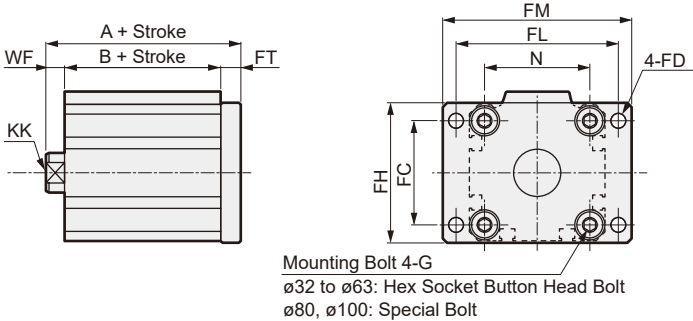


Code	Common dimension										SSD2-Q-R (For female thread)			SSD2-Q-R (For male thread)				
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch		
											A "1	B "1				A "1	B "1	
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34	17	75	58	23.5	M14 × 1.5	15	96.5	58	
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	17	81.5	64.5	23.5	M14 × 1.5	15	103	64.5	
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	18	83.5	65.5	28.5	M18 × 1.5	15	109	65.5	
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	18	89	71	28.5	M18 × 1.5	15	114.5	71	
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	20	123.5 (136)	103.5 (116)	35.5	M22 × 1.5	18	157 (169.5)	103.5 (116)	
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	22	135 (147.5)	113 (125.5)	35.5	M26 × 1.5	18	166.5 (179)	113 (125.5)	

Code	SSD2-Q-H (For female thread)						SSD2-Q-H (For male thread)					
Bore Size (mm)	WF	Dimension with/without switch		a'	kk'	wf	Dimension with/without switch					
		A "1	B "1				A "1	B "1				
ø32	17	82.5		65.5	23.5	M14 × 1.5	15	104	65.5			
ø40	17	92		75	23.5	M14 × 1.5	15	113.5	75			
ø50	18	93.5		75.5	28.5	M18 × 1.5	15	119	75.5			
ø63	18	95		77	28.5	M18 × 1.5	15	120.5	77			
ø80	20	131 (136)		111 (116)	35.5	M22 × 1.5	18	164.5 (169.5)	111 (116)			
ø100	22	142.5 (147.5)		120.5 (125.5)	35.5	M26 × 1.5	18	174 (179)	120.5 (125.5)			

*1: Dimensions in () are values when exceeding 50 strokes.

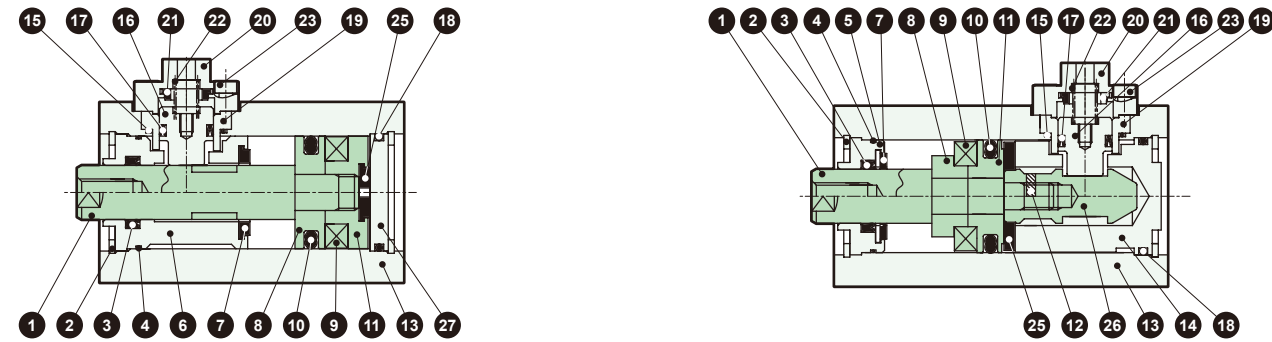
- Head Side Flange (FB)
SSD2-Q(L)-32 to 100-FB



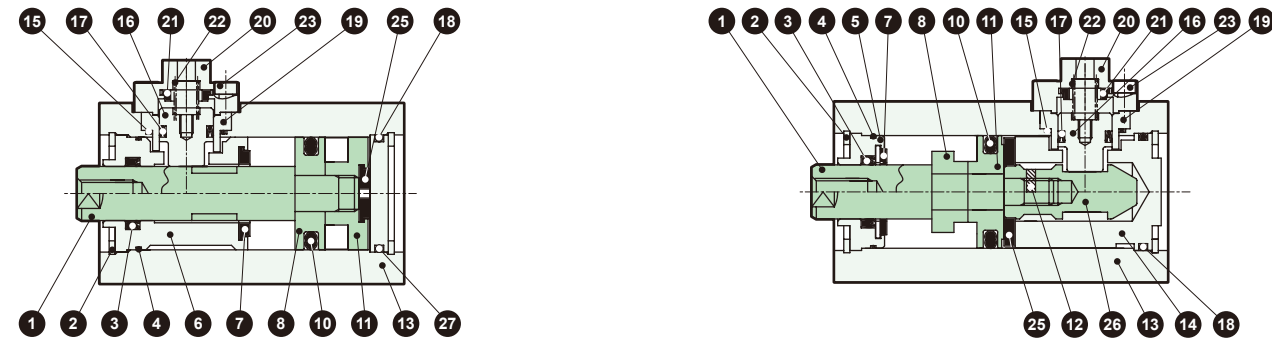
Code	Common dimension									SSD2-Q-R (For female thread)			SSD2-Q-R (For male thread)					
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF 吋	A 吋	B 吋	a'	kk'	wf 吋	A 吋	B 吋	
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34	7	73	58	59.5	M14 × 1.5	23	94.5	58	
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	7	79.5	64.5	66	M14 × 1.5	29.5	101	64.5	
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	8	82.5	65.5	73	M18 × 1.5	30.5	108	65.5	
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	8	88	71	78.5	M18 × 1.5	36	113.5	71	
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	10 (20)	124.5 (147)	103.5 (116)	98	M22 × 1.5	43.5 (18)	158 (180.5)	103.5 (116)	
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	12 (22)	136 (158.5)	113 (125.5)	107.5	M26 × 1.5	53 (18)	167.5 (190)	113 (125.5)	
Code	SSD2-Q-H (For female thread)									SSD2-Q-H (For male thread)								
Bore Size (mm)	WF 吋	A 吋		B 吋		a'		kk'		wf 吋	A 吋		B 吋					
ø32	7	80.5		65.5		59.5		M14 × 1.5		23	102		65.5					
ø40	7	90		75		66		M14 × 1.5		29.5	111.5		74.5					
ø50	8	92.5		75.5		73		M18 × 1.5		30.5	118		71.5					
ø63	8	94		77		78.5		M18 × 1.5		36	119.5		77					
ø80	10 (20)	132 (147)		111 (116)		98		M22 × 1.5		43.5 (18)	165.5 (180.5)		111 (116)					
ø100	12 (22)	143.5 (158.5)		120.5 (125.5)		107.5		M26 × 1.5		53 (18)	175 (190)		120.5 (125.5)					

Internal Structure Diagram/Material (Bore size: ø20 to ø50)

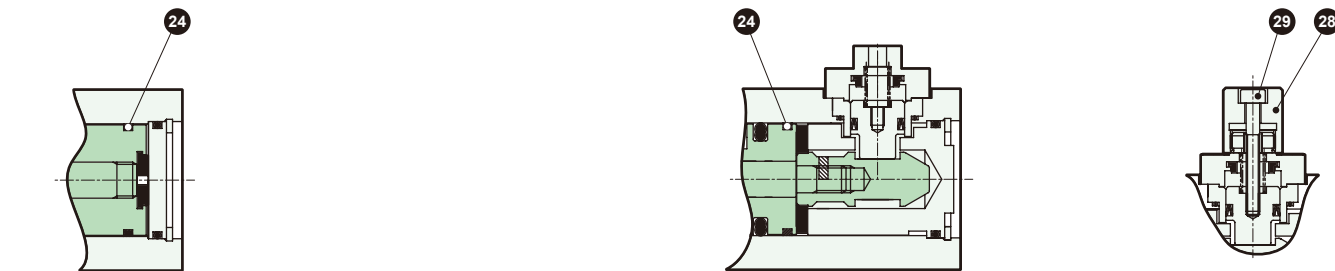
- SSD2-QL-20 to 50-R (double acting/with switch/rod side position locking)
- SSD2-QL-20 to 50-H (double acting/with switch/head side position locking)



- SSD2-Q-20 to 50-R (Double Acting with Rod Side Fall Prevention)
- SSD2-Q-20 to 50-H (Double Acting with Head Side Fall Prevention)



- ø20, ø25: 50 strokes or more
- ø20, ø25: 50 strokes or more
- Locking manual device

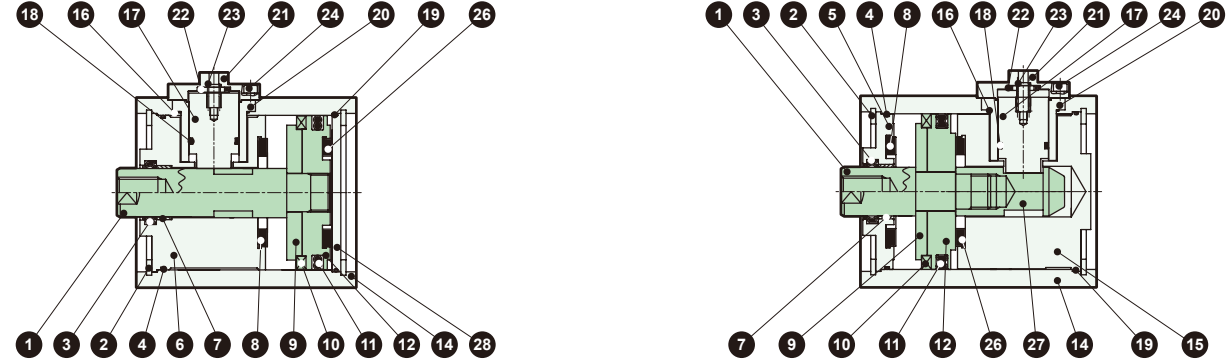


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20 to ø25: Stainless steel ø32 to ø50: Steel	Industrial Hard Chrome Plating	16	Stopper Piston	Steel	Nitriding Treatment
2	C-type retaining ring	Steel	Zinc phosphate	17	Stopper packing	Nitrile Rubber	
3	Rod Packing	Nitrile Rubber		18	O-ring	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		19	Stopper housing	ø20 to ø30, ø50: Aluminum alloy ø40: Alloy steel	Alumite Chromate
5	Rod Metal	Aluminum Alloy	Alumite	20	Stopper Cover	Aluminum Alloy	Chromate
6	Rod Cover	Aluminum Alloy	Alumite	21	Cushion Rubber	Urethane Rubber	
7	Cushion rubber (R)	Urethane Rubber		22	Coil Spring	Piano Wire	Electrodeposition Coating
8	Spacer	Aluminum Alloy	ø20 to ø32: Chromate	23	Hexagon Socket Head Cap Screw	Steel	
9	Magnet	Plastic		24	Wear Ring	Polyacetal	ø20, ø25, 50 strokes or more only
10	Piston Packing	Nitrile Rubber		25	Cushion rubber (H)	Urethane Rubber	
11	Piston	Aluminum Alloy	Chromate	26	Sleeve	Steel	Nitriding Treatment
12	Spring Pin	Steel	Black Oxide	27	Cover	Aluminum Alloy	Chromate
13	Cylinder Body	Aluminum Alloy	Hard Anodized	28	Round Nut	Aluminum Alloy	
14	Head Cover	Aluminum Alloy	Chromate	29	Hexagon Socket Head Cap Screw	Steel	
15	O-ring	Nitrile Rubber					

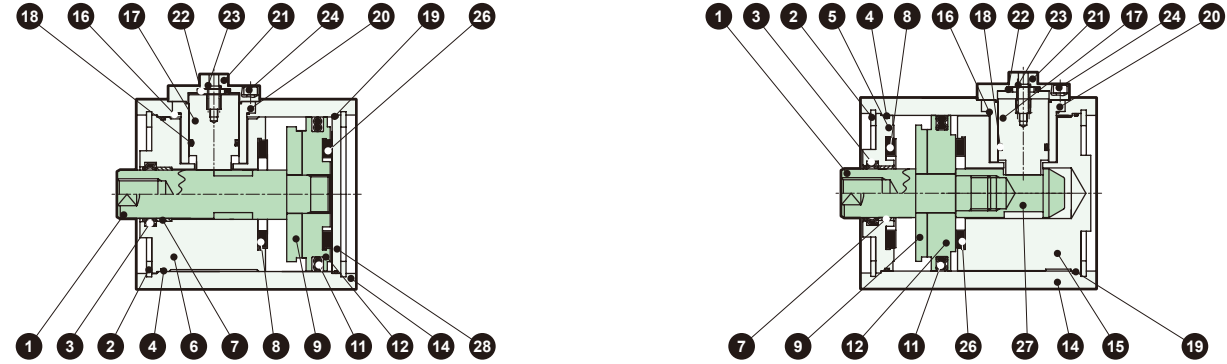
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100)

- SSD2-QL-63 to 100-R (double acting/with switch/rod side position locking)
- SSD2-QL-63 to 100-H (double acting/with switch/head side position locking)



- SSD2-Q-63 to 100-R (Double Acting with Rod Side Fall Prevention)
- SSD2-Q-63 to 100-H (Double Acting with Head Side Fall Prevention)



- ø80, ø100: 75 strokes or more
- ø80, ø100: 75 strokes or more
- Locking manual device



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	17	Stopper Piston	Steel	Nitriding Treatment
2	C-type retaining ring	Steel	Zinc phosphate	18	Stopper packing	Nitrile Rubber	
3	Rod Packing	Nitrile Rubber		19	O-ring	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		20	Stopper housing	ø80: Aluminum alloy ø63, ø100: Alloy steel	Alumite Chromate
5	Rod Metal	Aluminum Alloy	Alumite	21	Stopper Cover	Aluminum Alloy	Chromate
6	Rod Cover	Aluminum Alloy	Alumite	22	Cushion Rubber	Urethane Rubber	
7	Bushing	Oiles Drymet		23	Coil Spring	Piano Wire	Electrodeposition Coating
8	Cushion rubber (R)	Urethane Rubber		24	Hexagon Socket Head Cap Screw	Steel	
9	Spacer	Aluminum Alloy		25	Wear Ring	Polyacetal	ø80, ø100, 75 strokes or more only
10	Magnet	Plastic		26	Cushion rubber (H)	Urethane Rubber	
11	Piston Packing	Nitrile Rubber		27	Sleeve	Steel	Nitriding Treatment
12	Piston	Aluminum Alloy	Chromate	28	Cover	Aluminum Alloy	Chromate
13	Spring Pin	Steel	Black Oxide	29	Round Nut	Aluminum Alloy	
14	Cylinder Body	Aluminum Alloy	Hard Anodized	30	Hexagon Socket Head Cap Screw	Steel	
15	Head Cover	Aluminum Alloy	Chromate				
16	O-ring	Nitrile Rubber					

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

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(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Specifications

Item	SSD2-F										SSD2-KF									
	SSD2-LF (With Switch)										SSD2-KLF (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type																			
Operating Fluid	Compressed Air																			
Max. Operating Pressure MPa	1.0																			
Min. Operating Pressure MPa	0.1							0.05			0.1							0.05		
Proof pressure MPa	1.6																			
Ambient Temperature °C	5 to 60																			
Port Size	M5				Rc1/8 *1		Rc1/4		Rc3/8		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	^{+1.0} ₀										^{+2.0} ₀									
Operating 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

*1: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke (With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20			
ø25	5		20
ø32			
ø40			15
ø50			
ø63			10
ø80			
ø100			

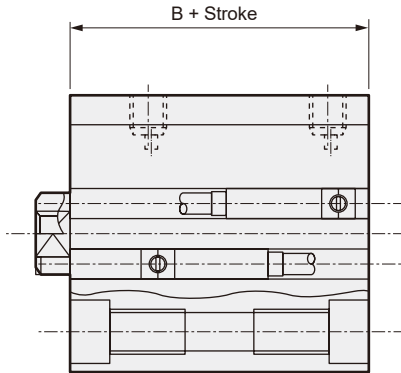
*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.

*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-F Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number	Model No.: SSD2-F-32-38	
Indication Example	A +2 mm spacer is added to the standard cylinder SSD2-F-32-40 to make it 38 mm. B + Stroke = 23 + 40 = 63	



Specifications/Outer Dimensions Diagram

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 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
ø16	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
ø20	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
ø25	Push	-	49.1k	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
ø32	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
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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
ø80	Push	2.51 × 10 ²	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	2.27 × 10 ²	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
ø100	Push	3.93 × 10 ²	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	3.57 × 10 ²	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

Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

Same as Double Acting, Single Rod Type SSD2 Series, Double Acting, High Load Type SSD2-K Series. Refer to P. 16 to 21, P. 40 to 45.

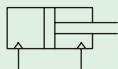


Compact Cylinder Double Acting, Low Speed Type

SSD2-O Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

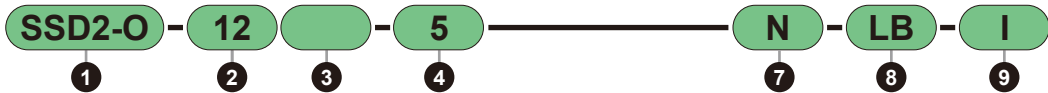
Circuit Diagram Symbol



Model No. Notation Method

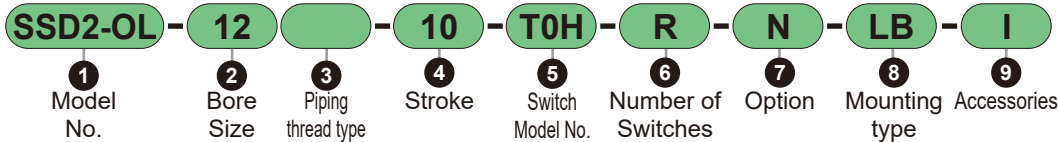
Without Switch

(Without magnet for switch)



With Switch

(Built-in magnet for switch)



1 Model No.

Code	Content
SSD2-O	Double Acting/Single Rod Type
SSD2-OL	Double-acting, Single rod type with switch

2 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Port Thread Type

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size												
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100			
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S			●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S			●	●									
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V			●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V			●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV			●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV			●	●									
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV			●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV			●	●									
		2-wire	85 to 265	—	5 to 100	—	T1H	T1V			●	●	●	●	●	●	●	●	●		
		—	10 to 30	—	5 to 20 *2	—	T2H	T2V			●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	100 or less	T3H	T3V			●	●	●	●	●	●	●	●			
		3-wire (PNP)	—	30 or less	—	100 or less	T3PH	T3PV			●	●	●	●	●	●	●	●			
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV			●	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV			●	●	●	●	●	●	●	●	●		
		2-Color Improved Water Resistance	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV			●	●	●	●	●	●	●	●	●		
		2-Color for AC Magnetic Field	—		—		T2YD	—			●	●	●	●	●	●	●				
		1-Color Off-Delay Type	—		10 to 30		—	5 to 20 *2	T2JH	T2JV			●	●	●	●	●	●	●		
		1-Color Flexible Lead Wire Type	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			●	●	●	●	●	●	●	●	●		
Reed	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V			●	●	●	●	●	●	●	●			
			110	5/12/24	20 or less	50 or less	T5H	T5V			●	●	●	●	●	●	●	●			
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V					●	●	●	●	●				

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.

*4: T8□ switches cannot be mounted on ø12 to ø32.

*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.

*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 15.

*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*8: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*9: Only T2WLH, T2WLV can be selected.

*10: F switch lead wire length 5 m cannot be selected.

Example) Lead wire length
1 m T0H□
3 m T0H□
5 m T0H□

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 17, 18, 20, 21. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●	●
100					●	●	●	●	●	●	
Minimum Stroke (mm) *1 *3		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *2		Every 1 mm									

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 120.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*3: For minimum stroke for 8 mounting type LB, refer to P. 17, 20.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

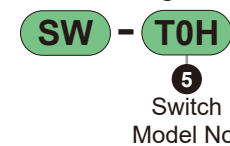
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-O - - XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-O									
	SSD2-OL (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type									
Operating Fluid	Compressed Air									
Max. Operating Pressure MPa	1.0									
Min. Operating Pressure MPa	0.1							0.05		
Proof pressure MPa	1.6									
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)									
Port Size	M5				Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	+1,0 0									
Operating 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

*1: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke (With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20			
ø25	5		20
ø32			
ø40			15
ø50			
ø63			10
ø80			
ø100			

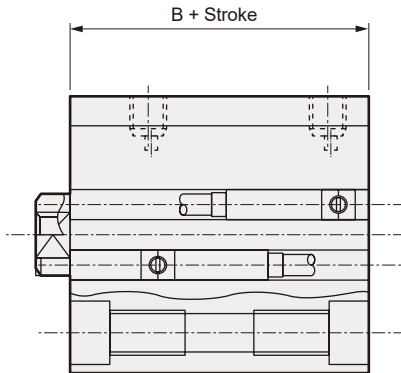
*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.

*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-O Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number Indication Example	Model No.: SSD2-O-32-38	
	A +2 mm spacer is added to the standard cylinder SSD2-O-32-40 to make it 38 mm. B + Stroke = 23 + 40 = 63	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		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	Without Switch	With Switch	Without Switch	With Switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2,000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10²	1.13 × 10²
	Pull	-	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	20.1	30.2	40.2	60.3	80.4	1.01 × 10²	1.21 × 10²	1.41 × 10²	1.61 × 10²	1.81 × 10²	2.01 × 10²
	Pull	-	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10²	1.21 × 10²	1.36 × 10³	1.51 × 10²
ø20	Push	-	31.4	47.1	62.8	94.2	1.26 × 10²	1.57 × 10²	1.88 × 10²	2.20 × 10²	2.51 × 10²	2.83 × 10²	3.14 × 10²
	Pull	-	23.6	35.3	47.1	70.7	94.2	1.18 × 10²	1.41 × 10²	1.65 × 10²	1.88 × 10²	2.12 × 10²	2.36 × 10²
ø25	Push	-	49.1k	73.6	98.2	1.47 × 10²	1.96 × 10²	2.45 × 10²	2.95 × 10²	3.44 × 10²	3.93 × 10²	4.42 × 10²	4.91 × 10²
	Pull	-	37.8	56.7	75.6	1.13 × 10²	1.51 × 10²	1.89 × 10²	2.27 × 10²	2.64 × 10²	3.02 × 10²	3.40 × 10²	3.78 × 10²
ø32	Push	-	80.4	1.21 × 10²	1.61 × 10²	2.41 × 10²	3.22 × 10²	4.02 × 10²	4.83 × 10²	5.63 × 10²	6.43 × 10²	7.24 × 10²	8.04 × 10²
	Pull	-	60.3	90.5	1.21 × 10²	1.81 × 10²	2.41 × 10²	3.02 × 10²	3.62 × 10²	4.22 × 10²	4.83 × 10²	5.43 × 10²	6.03 × 10²
ø40	Push	-	1.26 × 10²	1.88 × 10²	2.51 × 10²	3.77 × 10²	5.03 × 10²	6.28 × 10²	7.54 × 10²	8.80 × 10²	1.01 × 10³	1.13 × 10³	1.26 × 10³
	Pull	-	1.06 × 10²	1.58 × 10²	2.11 × 10²	3.17 × 10²	4.22 × 10²	5.28 × 10²	6.33 × 10²	7.39 × 10²	8.44 × 10²	9.50 × 10²	1.06 × 10³
ø50	Push	-	1.96 × 10²	2.95 × 10²	3.93 × 10²	5.89 × 10²	7.85 × 10²	9.82 × 10²	1.18 × 10³	1.37 × 10³	1.57 × 10³	1.77 × 10³	1.96 × 10³
	Pull	-	1.65 × 10²	2.47 × 10²	3.30 × 10²	4.95 × 10²	6.60 × 10²	8.25 × 10²	9.90 × 10²	1.15 × 10³	1.32 × 10³	1.48 × 10³	1.65 × 10³
ø63	Push	1.56 × 10²	3.12 × 10²	4.68 × 10²	6.23 × 10²	9.35 × 10²	1.25 × 10³	1.56 × 10³	1.87 × 10³	2.18 × 10³	2.49 × 10³	2.81 × 10³	3.12 × 10³
	Pull	1.40 × 10²	2.80 × 10²	4.20 × 10²	5.61 × 10²	8.41 × 10²	1.12 × 10³	1.40 × 10³	1.68 × 10³	1.96 × 10³	2.24 × 10³	2.52 × 10³	2.80 × 10³
ø80	Push	2.51 × 10²	5.03 × 10²	7.54 × 10²	1.01 × 10³	1.51 × 10³	2.01 × 10³	2.51 × 10³	3.02 × 10³	3.52 × 10³	4.02 × 10³	4.52 × 10³	5.03 × 10³
	Pull	2.27 × 10²	4.54 × 10²	6.80 × 10²	9.07 × 10²	1.36 × 10³	1.81 × 10³	2.27 × 10³	2.72 × 10³	3.17 × 10³	3.63 × 10³	4.08 × 10³	4.54 × 10³
ø100	Push	3.93 × 10²	7.85 × 10²	1.18 × 10³	1.57 × 10³	2.36 × 10³	3.14 × 10³	3.93 × 10³	4.71 × 10³	5.50 × 10³	6.28 × 10³	7.07 × 10³	7.85 × 10³
	Pull	3.57 × 10²	7.15 × 10²	1.07 × 10³	1.43 × 10³	2.14 × 10³	2.86 × 10³	3.57 × 10³	4.29 × 10³	5.00 × 10³	5.72 × 10³	6.43 × 10³	7.15 × 10³

Mounting Bracket Model No. Notation Method

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

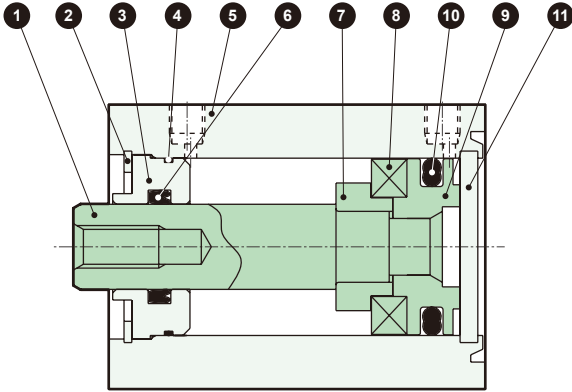
Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

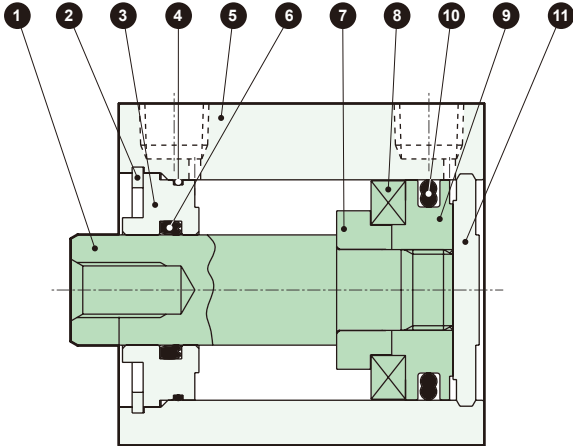
Same as Double Acting, Single Rod Type SSD2 Series. Refer to P. 16 to 21.

Internal Structure Diagram/Material (ø12 to ø50)

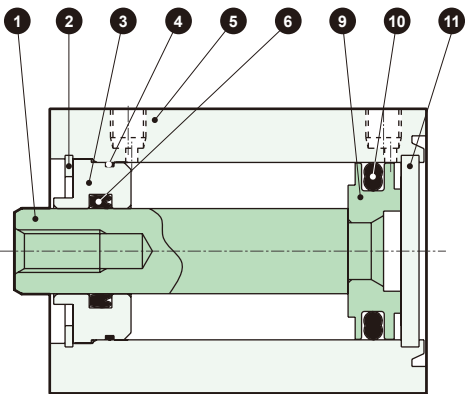
● SSD2-OL-12 to 25 (Double Acting Type with Switch)



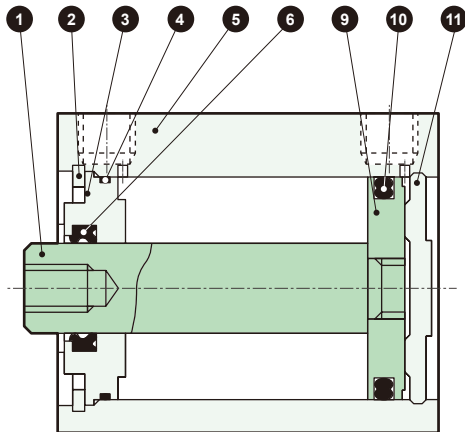
● SSD2-OL-32 to 50 (Double Acting Type with Switch)



● SSD2-O-12 to 25 (Double Acting Type)



● SSD2-O-32 to 50 (Double Acting Type)



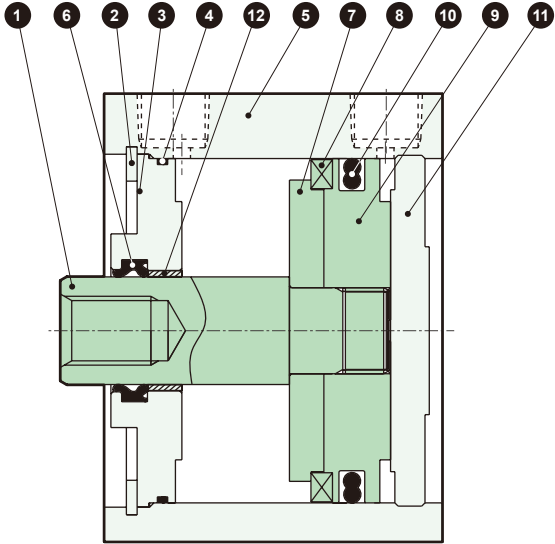
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	ø12 to ø32: Chromate
2	C-type retaining ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod Metal	Aluminum Alloy	Alumite	9	Piston	Aluminum Alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		10	Piston Packing	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
6	Rod Packing	Nitrile Rubber					

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

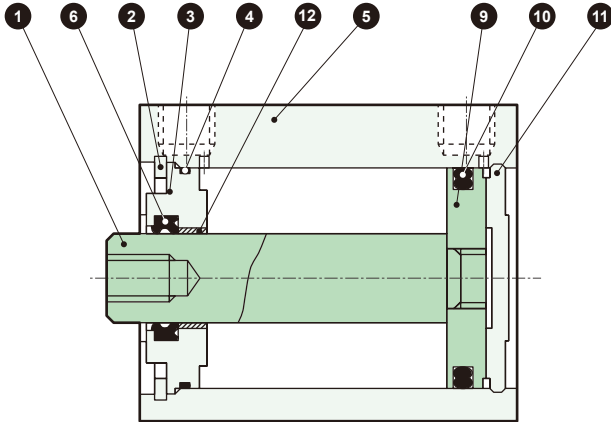
Internal Structure Diagram/Material

Internal Structure Diagram/Material (ø63 to ø100)

● SSD2-OL-63 to 100 (Double Acting Type with Switch)



● SSD2-O-63 to 100 (Double Acting Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	
2	C-type retaining 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	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Cover	Aluminum Alloy	Alumite
6	Rod Packing	Nitrile Rubber		12	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

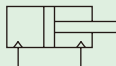


Compact Cylinder
Double Acting, High Load, Low Friction Type

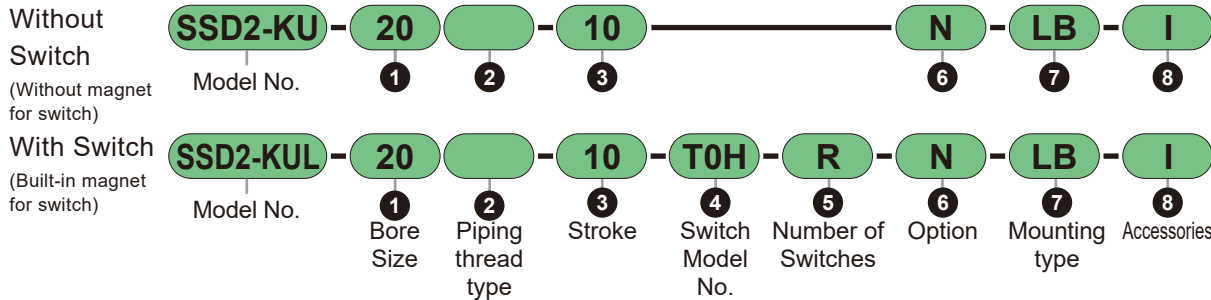
SSD2-KU Series

● Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Port Thread Type

Code	Content
Blank	M5 (ø20 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø20, ø25	5 to 50	Every 1 mm
ø32 to ø100	5 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size										
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100			
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	●	●									
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH□	F3YV□	●	●									
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□	●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□	●	●									
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	●	●	●	●	●	●	●	●	●		
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	●	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—		—	100 or less	T3H□	T3V□	●	●	●	●	●	●	●	●	●		
	2-Color	3-wire (PNP)	—	30 or less	—		T3PH□	T3PV□	●	●	●	●	●	●	●	●	●		
		2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	●	●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	●	●	●	●	●	●	●	●	●		
	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	●	●	●	●	●	●	●	●	●		
			—		—		T2YD□	—	●	●	●	●	●	●	●	●			
			—		—		T2YDT□	—	●	●	●	●	●	●	●	●			
1-Color Off- Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	●	●	●	●	●	●	●	●	●			
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●			
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●	●		
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	●	●	●	●	●	●	●	●			
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	●	●	●	●	●	●	●	●			
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□					●	●	●	●	●		

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T8□ switches cannot be mounted on ø20 to ø32.

*4: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.

*5: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 10.

*6: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*7: Switches other than the model No.s listed above are also available. (Custom products) For details, refer to P. 869.

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 41, 42, 44, 45. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

6 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1

*1: The piston rod material for ø20, ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard Stroke	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●		●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Minimum Stroke (mm) *1 *3		5							
Maximum Stroke (mm)		50		100					
Intermediate Stroke *2		Every 1 mm							

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, strong magnetic field, T1□, T8□ switch. For minimum stroke with switch, refer to P. 126.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*3: For minimum stroke for 7 mounting type LB, refer to P. 41, 44.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KU-..... -XP5

Specifications

Item	SSD2-KU SSD2-KUL (With Switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	0.7							
Min. Operating Pressure MPa	0.03							
Proof pressure MPa	1.0							
Ambient Temperature °C	5 to 60							
Port Size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke Tolerance mm	+2.0							
	0							
Operating Piston Speed mm/s	10 to 500					10 to 300		
Cushion	Rubber Cushion							
Lubrication	Not Available							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92
Internal leakage L/min	5						8	

Minimum Stroke with Switch (With 1 or 2 Switches)

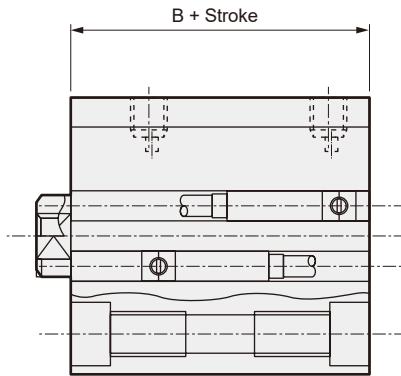
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø20	5	5	20
ø25			15
ø32			
ø40			
ø50			10
ø63			
ø80			
ø100			

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

About Intermediate Stroke

● SSD2-KU Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number Indica- tion Example	Model No.: SSD2-KU-32-41	
	A +4 mm spacer is added to the standard cylinder SSD2-KU-32-45 to make it 41 mm.	
	B + Stroke = 33 + 45 = 78	



Specifications, Outline Dimension Drawings, Technical Data

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.03	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	
ø20	Push	9.42	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	
	Pull	7.07	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	
ø25	Push	14.7	49.1k	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	
	Pull	11.3	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	
ø32	Push	24.1	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	
	Pull	18.1	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	
ø40	Push	37.7	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	
	Pull	31.7	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	
ø50	Push	58.9	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	
	Pull	49.5	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	
ø63	Push	93.5	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	
	Pull	84.0	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	
ø80	Push	1.51 × 10 ²	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	
	Pull	1.36 × 10 ³	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	
ø100	Push	2.36 × 10 ²	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	
	Pull	2.14 × 10 ³	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	

Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

Same as Double Acting, High Load Type SSD2-K Series. Refer to P. 40 to 45.

Technical Data

For technical data on sliding resistance values, refer to the SCM-U series in "Pneumatic Cylinder ①" (No. RJ-002AA). The data is for the "SCM-U Series," but the "SSD2-KU Series" also shows the same trend.

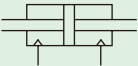


Compact Cylinder Double Acting, Double Rod Type

SSD2-D Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

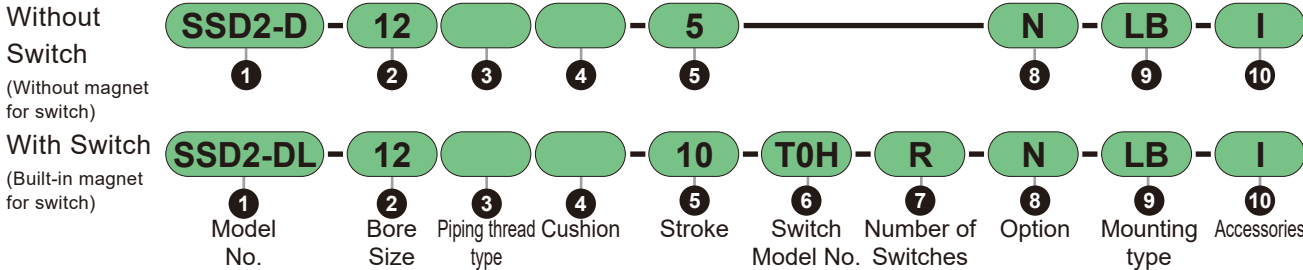
Circuit Diagram Symbol



SSD2-D Series

Model No. Notation Method

Model No. Notation Method



Code	Content	Code	Content	Code	Content	Code	Content	Bore Size	Stroke	Intermediate Stroke
SSD2-D	Double Acting/Double Rod Type	12	ø12	Blank	M5 (ø12 to ø25)	Blank	Without Cushion	ø12, ø16	5 to 30	Every 5 mm
SSD2-DL	Double-acting, Double rod type with switch	16	ø16	NN	NPT thread (Custom product) (ø32 to ø100)	D	With Rubber Cushion	ø20, ø25	5 to 50	
		20	ø20	GN	G thread (Custom product) (ø32 to ø100)			ø32 to ø40	5 to 100	
		25	ø25					ø50 to ø100	10 to 100	
		32	ø32							
		40	ø40							
		50	ø50							
		63	ø63							
		80	ø80							
		100	ø100							

Contact		Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)	Load Current (mA)	Lead wire *1		Bore Size												
				AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S			●	●								
			3-wire (NPN)	-	30 or less	-	50 or less	-	F3S			●	●							
			2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V			●	●							
		3-wire	(NPN)	-	30 or less	-	50 or less	F3H	F3V			●	●							
			(PNP)	-	30 or less	-	50 or less	F3PH	F3PV			●	●							
			2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV			●	●							
	2-Color	3-wire	(NPN)	-	30 or less	-	50 or less	F3YH	F3YV			●	●							
			2-wire	85 to 265	—	5 to 100	—	T1H	T1V	●	●	●	●	●	●	●	●	●		
			—	10 to 30	—	5 to 20 *2	—	T2H	T2V	●	●	●	●	●	●	●	●	●	●	
		3-wire	(NPN)	—	—	—	100 or less	T3H	T3V	●	●	●	●	●	●	●	●	●	●	
			(PNP)	—	30 or less	—	—	T3PH	T3PV	●	●	●	●	●	●	●	●	●	●	
			2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	●	●	
	2-Color	3-wire	(NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	●	●	
			2-wire	—	—	—	—	T2WLH	T2WLV	●	●	●	●	●	●	●	●	●	●	
			2-wire	—	24 ± 10%	—	5 to 20	T2YD	—			●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	—	T2YDT	—			●	●	●	●	●	●	●	●	
			1-Color Off-Delay Type	—	10 to 30	—	5 to 20 *2	T2JH	T2JV	●	●	●	●	●	●	●	●	●	●	
			1-Color Flexible Lead Wire Type	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	●	●	
Reed	1-Color	No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●	●	●	
				110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●	●	●	
	1-Color			110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V		●	●	●	●	●	●	●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T2YD□, T2YDT□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12, ø16.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 bore sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 15.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model No.s are also available. (Custom products) For details, refer to P. 869.

7 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

9 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
FA	Rod Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 133, P. 135. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model No.s when ordering cylinders and mounting brackets separately, please contact us.

8 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel)

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

10 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: ③ Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
100					●	●	●	●	●	●	
Minimum Stroke (mm) *1		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *2 *3		-				Every 5 mm					

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 130.
*2: Intermediate stroke is possible only when exceeding 50 strokes.
*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-D-.....-XP5

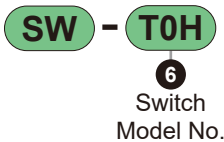
Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-D-.....-FP1

Switch Single Unit Model No. Notation Method



Specifications

Item		SSD2-D									
		SSD2-DL (With Switch)									
Bore size mm		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method		Double Acting Type									
Operating Fluid		Compressed Air									
Max. Operating Pressure MPa		1.0									
Min. Operating Pressure MPa		0.15							0.1		
Proof pressure MPa		1.6									
Ambient Temperature °C		-10 to 60 (Provided that freezing does not occur)									
Port Size		M5				Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	With Rubber Cushion					+2.0 0					
	Without Cushion					+1.0 0					
Operating Piston Speed mm/s		50 to 500							50 to 300		
Cushion		Rubber cushion available/unavailable selectable									
Lubrication		Not required (When lubricating, use turbine oil Class 1 ISO VG32)									
Allowable absorbed	With Rubber Cushion	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92
Energy J	Without Cushion	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke (With 1 or 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	5	5	20
ø16			15
ø20			
ø25			
ø32			
ø40			10
ø50			
ø63			
ø80			
ø100			

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

Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-
ø16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-
ø20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-
ø25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-
ø32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012
ø40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490
ø50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270
ø63	-	-	902	1266	977	1341	1052	1416	1127	1491	1202	1566	1278	1642	1353	1717	1428	1792	1503	1867	2218	2242	2593	2617
ø80	-	-	1608	1538	1725	1916	1841	2294	1958	2411	2074	2527	2191	2649	2308	2771	2425	2888	2541	3004	3560	3587	4143	4169
ø100	-	-	2483	3105	2652	3254	2820	3402	2989	3586	3158	3770	3327	3934	3495	4097	3664	4261	3833	4425	5213	5245	6033	6065

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push/Pull	-	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push/Pull	-	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10²	1.21 × 10²	1.36 × 10³	1.51 × 10²
ø20	Push/Pull	-	35.3	47.1	70.7	94.2	1.18 × 10²	1.41 × 10²	1.65 × 10²	1.88 × 10²	2.12 × 10²	2.36 × 10²
ø25	Push/Pull	-	56.7	75.6	1.13 × 10²	1.51 × 10²	1.89 × 10²	2.27 × 10²	2.64 × 10²	3.02 × 10²	3.40 × 10²	3.78 × 10²
ø32	Push/Pull	-	90.5	1.21 × 10²	1.81 × 10²	2.41 × 10²	3.02 × 10²	3.62 × 10²	4.22 × 10²	4.83 × 10²	5.43 × 10²	6.03 × 10³
ø40	Push/Pull	-	1.58 × 10²	2.11 × 10²	3.17 × 10²	4.22 × 10²	5.28 × 10²	6.33 × 10²	7.39 × 10²	8.44 × 10²	9.50 × 10²	1.06 × 10³
ø50	Push/Pull	-	2.47 × 10²	3.30 × 10²	4.95 × 10²	6.60 × 10²	8.25 × 10²	9.90 × 10²	1.15 × 10³	1.32 × 10³	1.48 × 10³	1.65 × 10³
ø63	Push/Pull	2.80 × 10²	4.20 × 10²	5.61 × 10²	8.41 × 10²	1.12 × 10³	1.40 × 10³	1.68 × 10³	1.96 × 10³	2.24 × 10³	2.52 × 10³	2.80 × 10³
ø80	Push/Pull	4.54 × 10²	6.80 × 10²	9.07 × 10²	1.36 × 10³	1.81 × 10³	2.27 × 10³	2.72 × 10³	3.17 × 10³	3.63 × 10³	4.08 × 10³	4.54 × 10³
ø100	Push/Pull	7.15 × 10²	1.07 × 10³	1.43 × 10³	2.14 × 10³	2.86 × 10³	3.57 × 10³	4.29 × 10³	5.00 × 10³	5.72 × 10³	6.43 × 10³	7.15 × 10³

Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

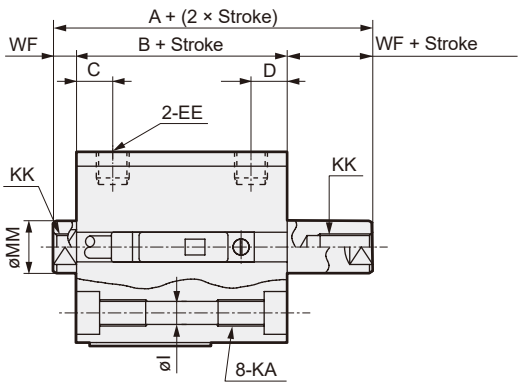
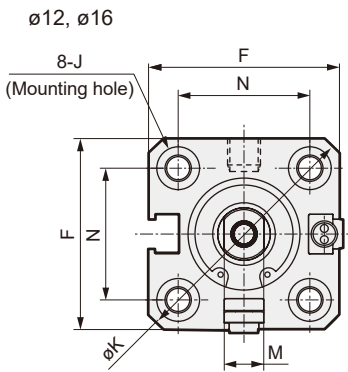
FC□

Cylinder Switch

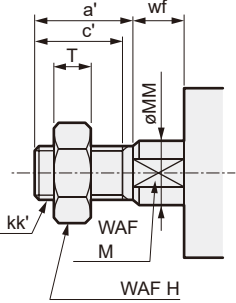
Ending

Outline Dimension Drawing (Bore size: ø12 to ø25)

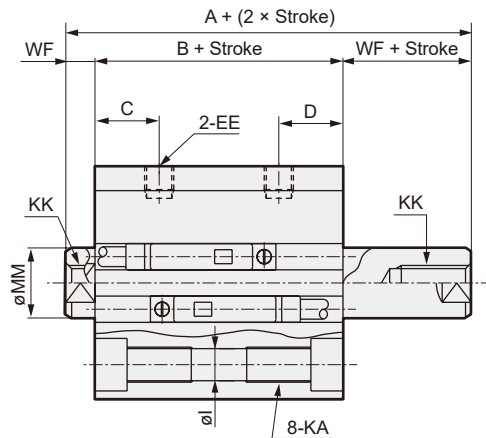
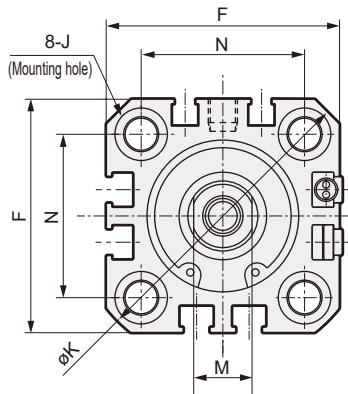
● SSD2-D(L)-12 to 25



● Rod end male thread part



ø20, ø25



Code	Dimension with switch		Dimension without switch		Common dimension												
Bore Size (mm)	A	B	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	34	27	29	22	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	34	27	29	22	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	45	36	35	26	8	8	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	49	39	39	29	11	11	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

- *1: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.
*2: The positions of the flats for wrenches on the left and right sides are not fixed.
*3: For dimensions with each switch, refer to P. 300 to 309.
*4: For outline dimension drawings of individual accessories, refer to P. 34.

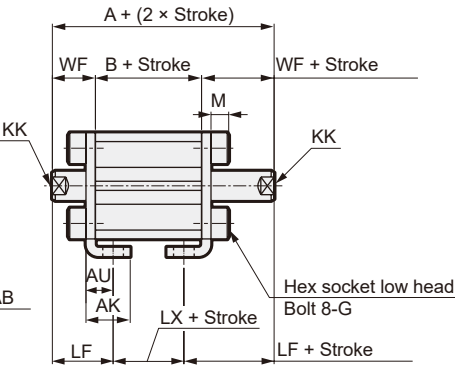
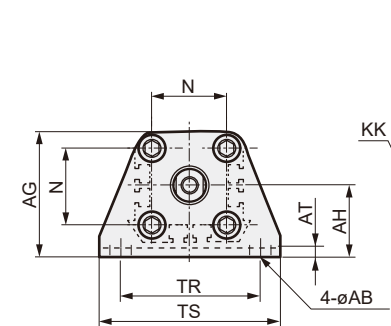
● Rod end male thread part dimension table

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

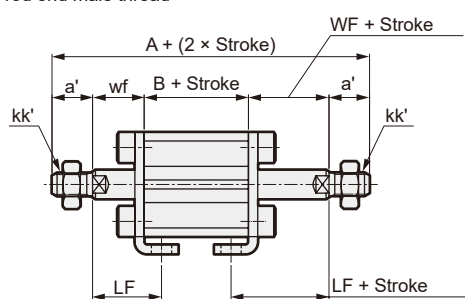
Double Acting/Double Rod Type

Outline Dimension Drawing (Bore size: ø12 to ø25)

● Axial Foot (LB) With Switch
SSD2-D(L)-12 to 25-LB



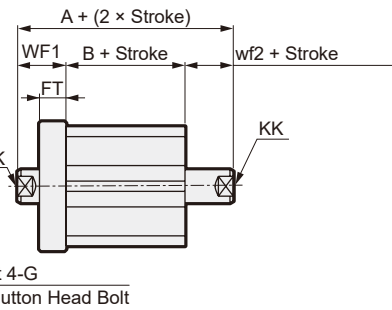
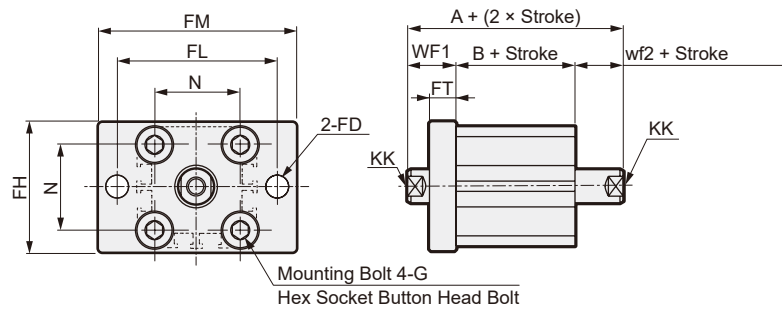
For rod end male thread



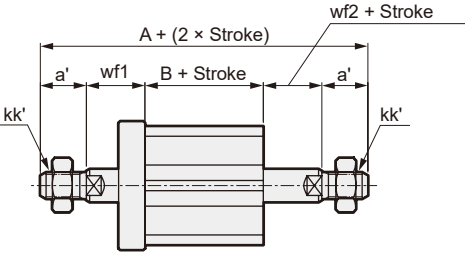
Code	Common dimension											
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M
ø12	5	29.5	17	12.5	2	8	M4×10	M3 depth 6	15.5	34	44	4.8
ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 Depth 12	28	52	66	7.2

Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø12	13.5	19.5	54	27	15	49	22	10	10.5	M5	13.5	19.5	75	27	15	70	22	10
ø16	13.5	19.5	54	27	15	49	22	10	12	M6	13.5	19.5	78	27	15	73	22	10
ø20	14.5	20.5	65	36	24	55	26	14	14	M8	14.5	20.5	93	36	24	83	26	14
ø25	15	22.5	69	39	24	59	29	14	17.5	M10 × 1.25	15	22.5	104	39	24	94	29	14

● Rod Side Flange (FA) With Switch
SSD2-D(L)-12 to 25-FA



For rod end male thread

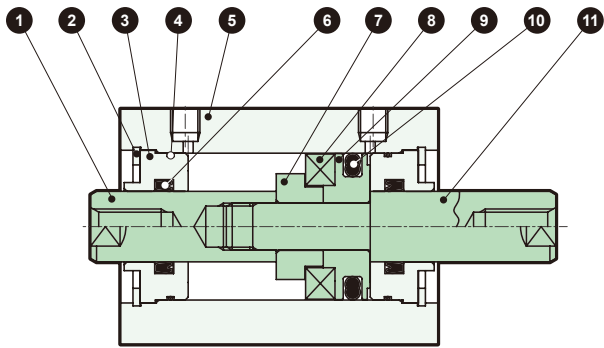


Code	Common dimension							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N
ø12	4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28

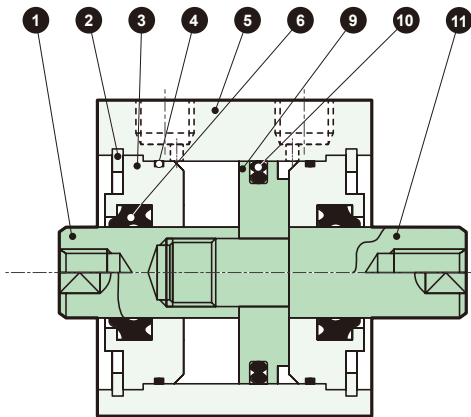
Code	For female thread						For male thread							
	WF1	WF2	Dimension with switch		Dimension without switch		a'	kk'	wf1	wf2	Dimension with switch		Dimension without switch	
A			B	A	B	A					B	A	B	
ø12	13.5	3.5	44	27	39	22	11	M5	13.5	3.5	65	27	60	22
ø16	13.5	3.5	44	27	39	22	12	M6	13.5	3.5	68	27	63	22
ø20	14.5	4.5	55	36	45	26	14	M8	14.5	4.5	83	36	73	26
ø25	15	5	59	39	49	29	18	M10 × 1.25	15	5	94	39	84	29

Internal Structure Diagram/Material (Bore size: ø12 to ø50) (Without Cushion)

● SSD2-DL-12 to 50 (Double Acting, Double Rod Type with Switch)



● SSD2-D-12 to 50 (Double Acting, Double Rod Type)



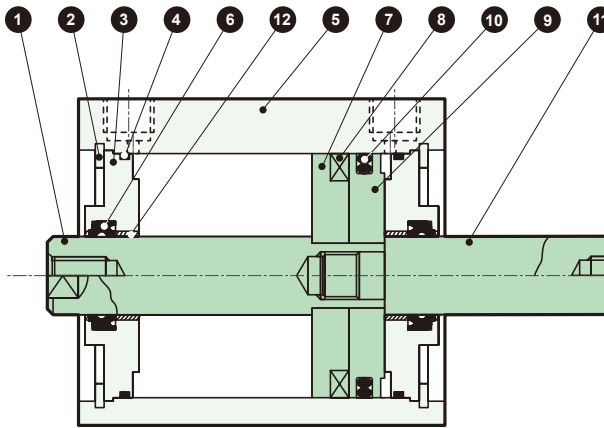
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod ①	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial Hard Chrome Plating	7	Spacer	ø12, ø20, ø32, ø40: Aluminum alloy ø16, ø25, ø50: Special resin	ø12, 20, 32, 40: Chromate
2	C-type retaining ring	Steel	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	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Piston Rod ②	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial Hard Chrome Plating
6	Rod Packing	Nitrile Rubber					

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

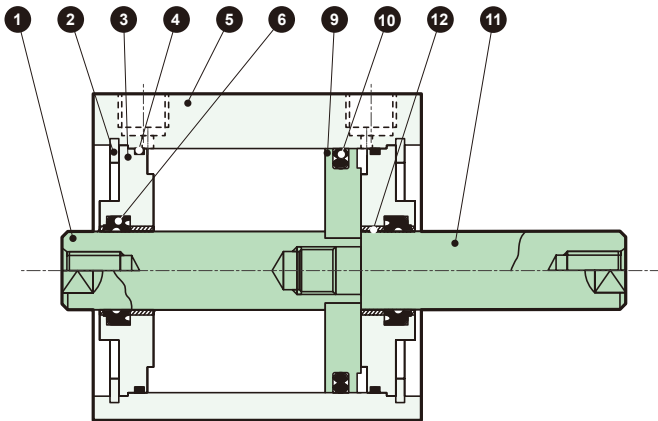
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100) (Without Cushion)

● SSD2-DL-63 to 100 (Double Acting, Double Rod Type with Switch)



● SSD2-D-63 to 100 (Double Acting, Double Rod Type)

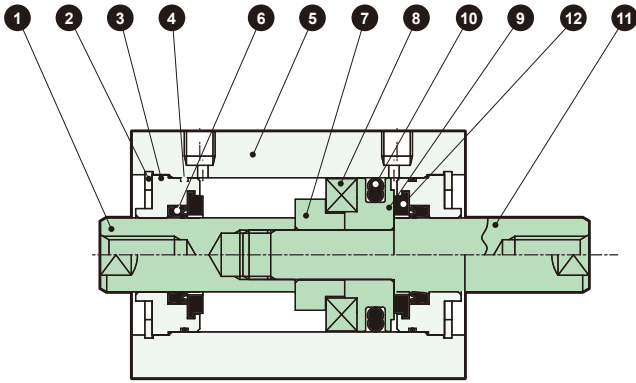


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod ①	Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	Chromate
2	C-type retaining ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod Metal	Aluminum Alloy	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		10	Piston Packing	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Piston Rod ②	Steel	Industrial Hard Chrome Plating
6	Rod Packing	Nitrile Rubber		12	Bushing	Bearing Alloy	

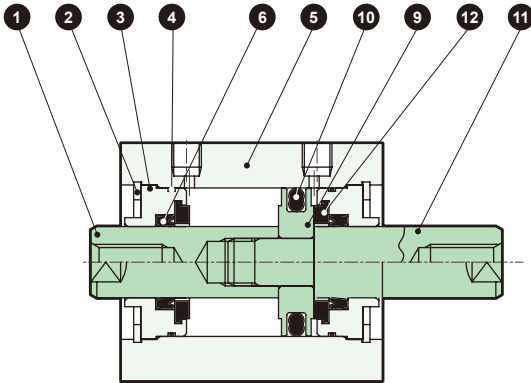
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Internal Structure Diagram/Material (Bore size: ø12 to ø50) (With Rubber Cushion)

● SSD2-DL-12D to 50D (Double Acting, Double Rod Type with Switch)



● SSD2-D-12D to 50D (Double Acting, Double Rod Type)



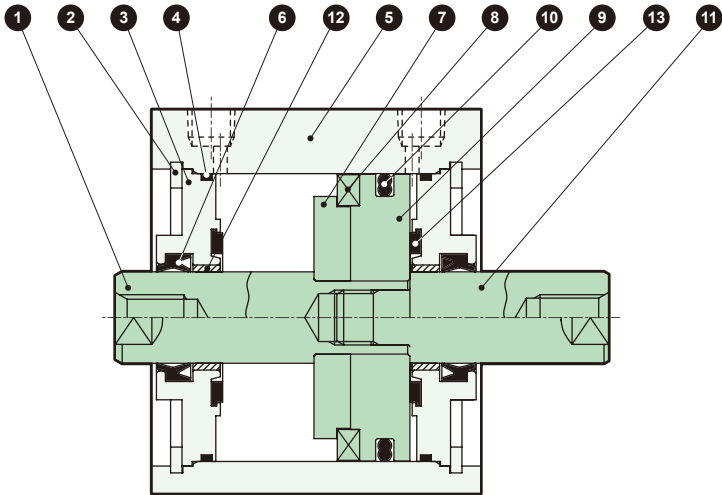
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod ①	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	Alumite	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Piston Rod ②	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Cushion Rubber	Urethane Rubber	
6	Rod Packing	Nitrile Rubber					
7	Spacer	ø12, ø20, ø32, ø40: Aluminum alloy ø16, ø25, ø50: Special resin	ø12, 20, 32, 40: Chromate				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

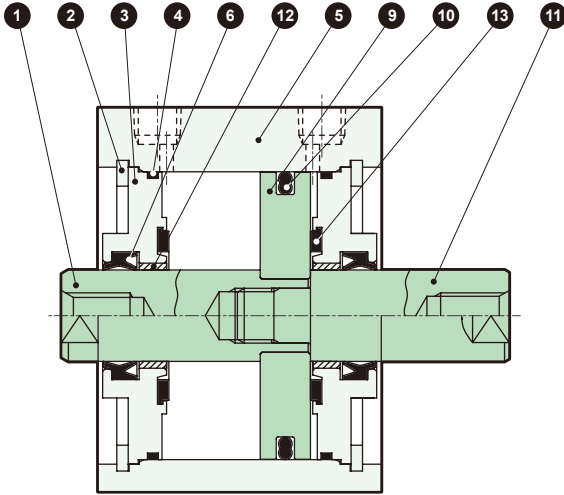
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100) (With Rubber Cushion)

● SSD2-DL-63D to 100D (Double Acting, Double Rod Type with Switch)



● SSD2-D-63D to 100D (Double Acting, Double Rod Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod ①	Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining 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	Piston Rod ②	Steel	Industrial Hard Chrome Plating
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Bearing Alloy	
6	Rod Packing	Nitrile Rubber		13	Cushion Rubber	Urethane Rubber	
7	Spacer	Aluminum Alloy	Chromate				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

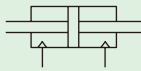


Compact Cylinder Double Acting, Double Rod Type (Large Bore)

SSD2-D Series

● Bore size: ø125, ø140, ø160, ø180, ø200

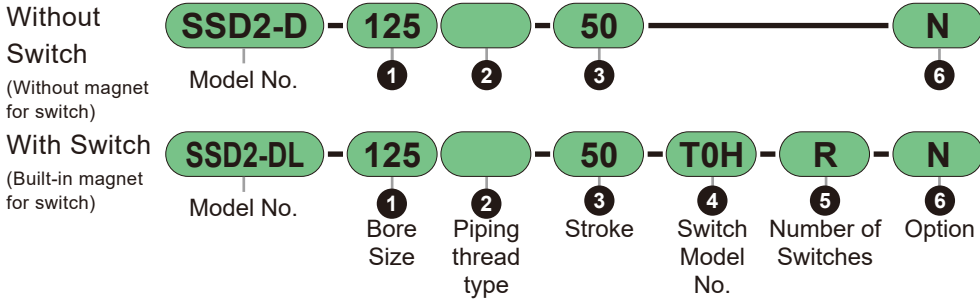
Circuit Diagram Symbol



SSD2-D (Large Bore) Series

Model No. Notation Method

Model No. Notation Method



1 Bore Size (mm)

Code	Content
125	ø125
140	ø140
160	ø160
180	ø180
200	ø200

2 Piping thread type

Code	Content
Blank	Rc Thread
NN	NPT thread (Custom product) (ø125 to ø160)
GN	G thread (Custom product) (ø125 to ø160)

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø125 to ø200	10 to 300	Every 1 mm

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□	
		3-wire (NPN)	—	—	—	100 or less	T3H□	T3V□	
		3-wire (PNP)	—	30 or less	—	—	T3PH□	T3PV□	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	
	2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—	
			—	—	—	—	T2YDT□	—	
	1-Color Off-Delay Type		—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	
	1-Color Flexible Lead Wire Type		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□	
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□	
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: Switches other than the model No.s listed above are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m T0H
3 m T0H[3]
5 m T0H[5]

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

Appendix Table 1

Stroke (mm)		Applicable Bore				
		ø125	ø140	ø160	ø180	ø200
Standard Stroke	10	●	●	●	●	●
	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
	125	●	●	●	●	●
	150	●	●	●	●	●
	175	●	●	●	●	●
	200	●	●	●	●	●
	250	●	●	●	●	●
	300	●	●	●	●	●
Minimum Stroke (mm) *1		10				
Maximum Stroke (mm)		300				
Intermediate Stroke *2		Every 1 mm				

*1: For the number of switches attachable and minimum stroke, refer to P. 142.

*2: The overall length dimension for intermediate stroke will be handled with a length dedicated to intermediate stroke.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-D-..... - T2

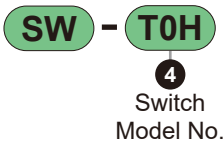
Food Manufacturing Process Compatible Specification

(Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-D-..... - FP1

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-D				
	SSD2-DL (With Switch)				
Bore size mm	ø125	ø140	ø160	ø180	ø200
Actuation method	Double Acting, Double Rod Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0			0.7	
Min. Operating Pressure MPa	0.05				
Proof pressure MPa	1.6			1.05	
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc3/8			Rc1/2	
Stroke tolerance mm	+2.0				
	0				
Operating Piston Speed mm/s	50 to 300			20 to 300	
Cushion	With rubber cushion (Standard)				
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)				
Allowable absorbed energy J	6.52	6.52	7.78	12.4	

Number of Switches Mounted and Min. Stroke (mm)

Switch Model No.	T*	
Number of Switches	1	2
Bore Size (mm)		
ø125	10	10
ø140		
ø160		
ø180		
ø200		

Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: kg)

Stroke (mm)	10		20		30		40		50		75		100	
Bore Size (mm)	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
ø125	4.64	4.74	4.98	5.08	5.32	5.42	5.66	5.76	6.00	6.10	6.85	6.95	7.70	7.80
ø140	6.62	6.73	7.00	7.11	7.38	7.49	7.77	7.88	8.15	8.26	9.00	9.11	10.07	10.18
ø160	9.10	9.22	9.58	9.70	10.06	10.18	10.54	10.66	11.02	11.14	12.22	12.34	13.41	13.53
ø180	13.12	13.27	13.62	13.77	14.12	14.27	14.62	14.77	15.12	15.27	16.36	16.51	17.61	17.76
ø200	16.09	16.27	16.65	16.83	17.21	17.39	17.77	17.95	18.33	18.51	19.73	19.91	21.13	21.31
Stroke (mm)	125		150		175		200		250		300			
Bore Size (mm)	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch		
ø125	8.55	8.65	9.40	9.50	10.25	10.35	11.10	11.20	12.80	12.90	14.50	14.60		
ø140	11.02	11.13	11.87	11.98	12.72	12.83	13.57	13.68	15.27	15.38	16.97	17.08		
ø160	14.61	14.73	15.81	15.93	17.01	17.13	18.21	18.33	20.61	20.73	23.01	23.13		
ø180	18.85	19.00	20.10	20.25	21.35	21.50	22.59	22.74	25.09	25.24	27.58	27.73		
ø200	22.53	22.71	23.93	24.11	25.32	25.50	26.72	26.90	29.52	29.70	32.32	32.50		

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø125	Push/Pull	1.13 × 10³	1.70 × 10³	2.26 × 10³	3.39 × 10³	4.52 × 10³	5.65 × 10³	6.79 × 10³	7.92 × 10³	9.05 × 10³	1.02 × 10⁴	1.13 × 10⁴	
ø140	Push/Pull	1.44 × 10³	2.16 × 10³	2.89 × 10³	4.33 × 10³	5.77 × 10³	7.22 × 10³	8.66 × 10³	1.01 × 10⁴	1.15 × 10⁴	1.30 × 10⁴	1.44 × 10⁴	
ø160	Push/Pull	1.88 × 10³	2.83 × 10³	3.77 × 10³	5.65 × 10³	7.54 × 10³	9.42 × 10³	1.13 × 10⁴	1.32 × 10⁴	-	-	-	
ø180	Push/Pull	2.39 × 10³	3.58 × 10³	4.77 × 10³	7.16 × 10³	9.54 × 10³	1.19 × 10⁴	1.43 × 10⁴	1.67 × 10⁴	-	-	-	
ø200	Push/Pull	3.02 × 10³	4.52 × 10³	6.03 × 10³	9.05 × 10³	1.21 × 10⁴	1.51 × 10⁴	1.81 × 10⁴	2.11 × 10⁴	-	-	-	

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

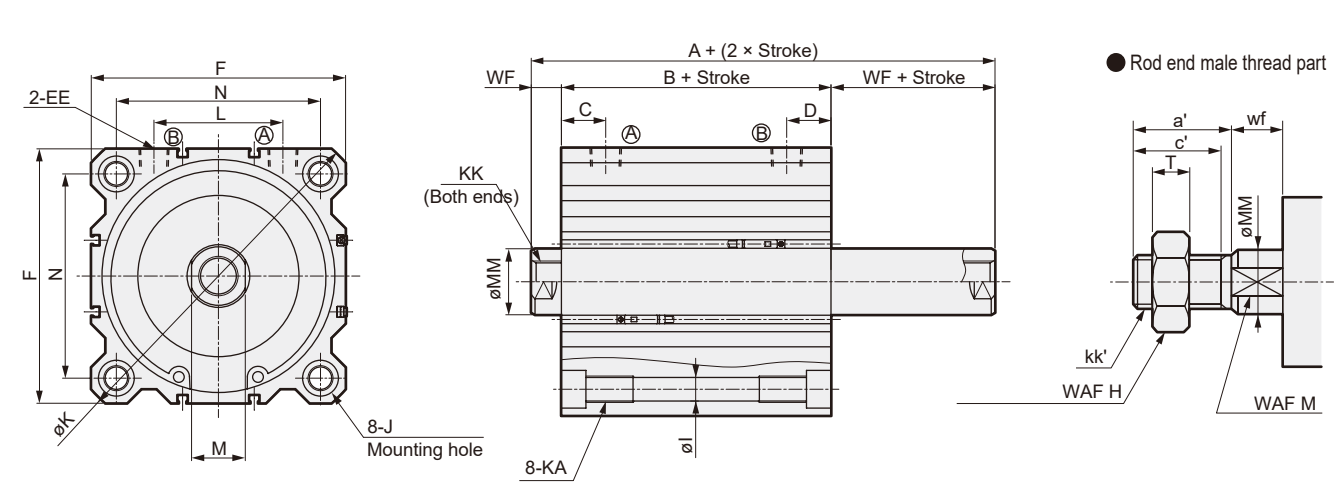
FC□

Cylinder Switch

Ending

Outline Dimension Drawing (Bore size: ø125 to ø160)

● SSD2-D(L)-125 to 160 (Double Acting, Single Rod Type)



Code	A	B	C	D	EE	F	I	J	K	KA
Bore Size (mm)										
ø125	115	83	29	29	Rc3/8	142	12.5	20 Counterbore Depth 13	190	M14 depth 25
ø140	115	83	27.5	27.5	Rc3/8	158	12.5	20 Counterbore Depth 13	210	M14 depth 25
ø160	125	91	30	30	Rc3/8	178	14.7	23 Counterbore depth 15.2	238	M16 depth 28

Code	KK *1	L	M	MM	N	WF
Bore Size (mm)						
ø125	M22×2.5 depth 30 (22.5)	72	30	35	114	16
ø140	M22×2.5 depth 30 (22.5)	80	30	35	128	16
ø160	M24×3 depth 33 (24)	90	36	40	144	17

*1: The value in () for code KK indicates the effective thread length on one side for a 10 stroke.
*2: The positions of the flats for wrenches on the left and right sides are not fixed.

*3: For dimensions with each switch, refer to P. 300 to 309.
*4: For outline dimension drawings of individual accessories, refer to P. 34.

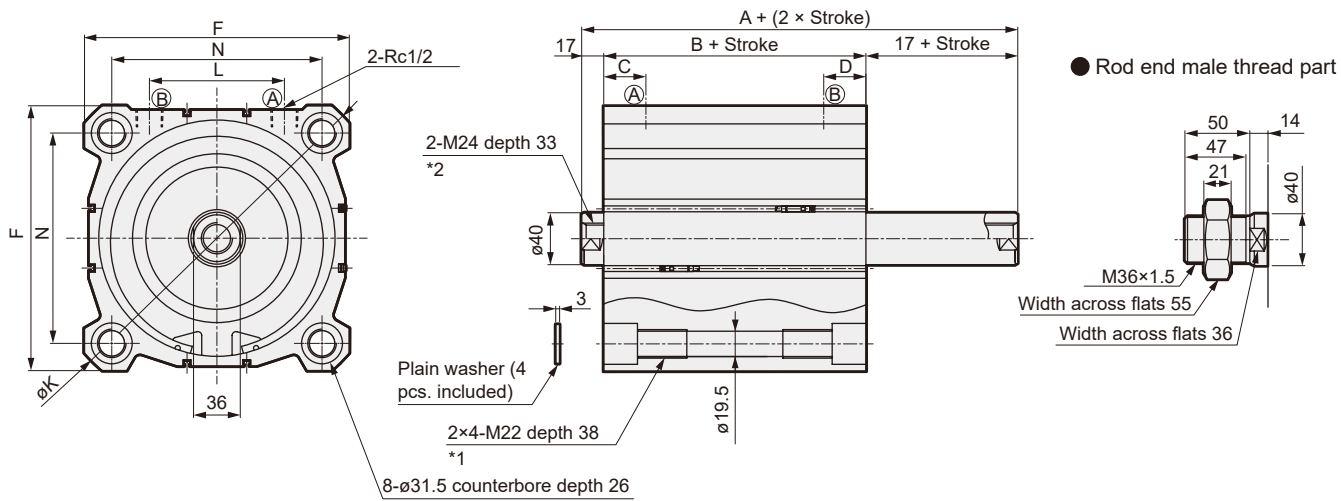
● Rod end male thread part dimension table

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø125	45	42	46	M30 × 1.5	30	35	18	13
ø140	45	42	46	M30 × 1.5	30	35	18	13
ø160	50	47	55	M36 × 1.5	36	40	21	14

Double Acting, Double Rod Type (Large Bore)

Outline Dimension Drawing (Bore size: ø180 to ø200)

● SSD2-D(L)-180, 200 (Double Acting, Double Rod Type)



Code	A	B	C	D	F	K	L	N
Bore Size (mm)								
ø180	136	102	32.5	32.5	204	270	104	162
ø200	143	109	33.5	33.5	226	300	110	182

*1: For 20 strokes or less, it will be 2×4-M22 through-hole.
*2: For 10 strokes, it will be 2-M24 depth 27 (ø180), 2-M24 depth 29 (ø200).
*3: The position of the width across flats for spanner engagement on the left and right is not fixed.
*4: For dimensions with each switch, refer to P. 300 to 309.
*5: For outline dimension drawings of individual accessories, refer to P. 34.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

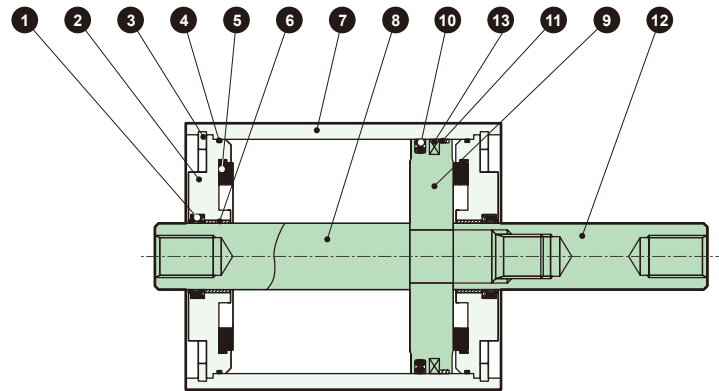
FC□

Cylinder Switch

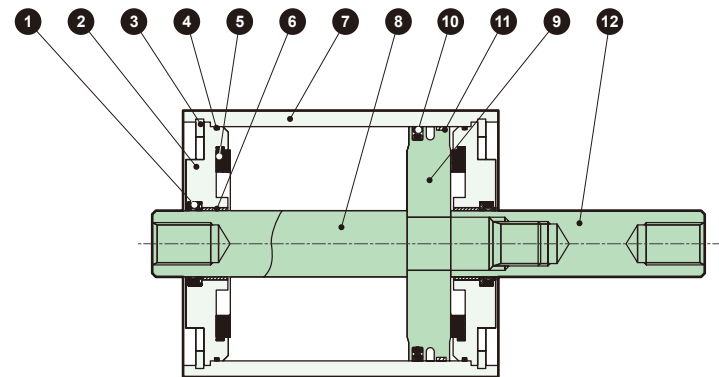
Ending

Internal Structure Diagram/Material (Bore size: ø125 to ø160)

● SSD2-DL-125 to 160 (Double Acting, Double Rod Type with Switch)



● SSD2-D-125 to 160 (Double Acting, Double Rod Type without Switch)



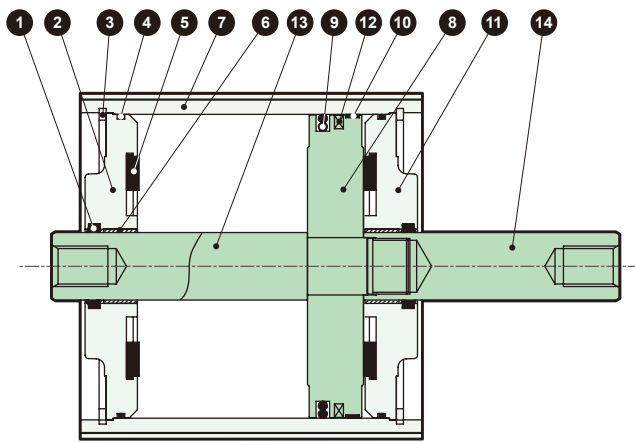
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing	Nitrile Rubber		8	Piston Rod A	Steel	Industrial Hard Chrome Plating
2	Rod Metal	Aluminum Alloy	Chromate	9	Piston	Aluminum Alloy	
3	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	
4	Gasket	Nitrile Rubber		11	Wear Ring	Polyacetal	
5	Cushion Rubber	Urethane Rubber		12	Piston Rod B	Steel	Industrial Hard Chrome Plating
6	Bushing	Bearing Alloy		13	Magnet	Rubber	With switch only
7	Cylinder Body	Aluminum Alloy	Hard Anodized				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

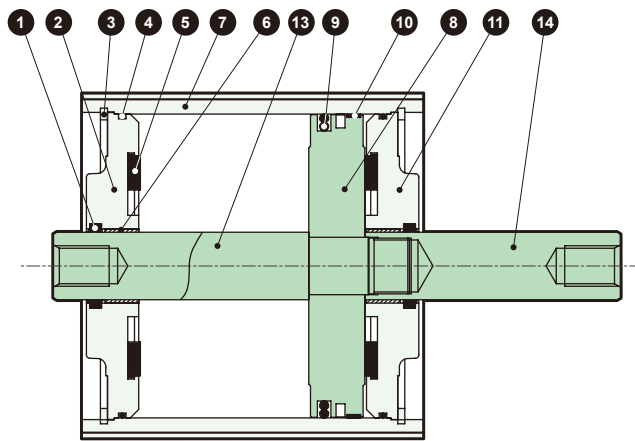
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø180, ø200)

● SSD2-DL-180, 200 (Double Acting, Double Rod Type with Switch)



● SSD2-D-180, 200 (Double Acting, Double Rod Type without Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rod Packing	Nitrile Rubber		8	Piston	Aluminum Alloy	
2	Rod Metal	Cast Iron	Painting	9	Piston Packing	Nitrile Rubber	
3	C-type retaining ring	Steel	Zinc phosphate	10	Wear Ring	Polyacetal	
4	Gasket	Nitrile Rubber		11	Cover	Cast Iron	Painting
5	Cushion Rubber	Urethane Rubber		12	Magnet	Rubber	With switch only
6	Bushing	Bearing Alloy		13	Piston Rod A	Steel	Industrial Hard Chrome Plating
7	Cylinder Body	Aluminum Alloy	Hard Anodized	14	Piston Rod B	Steel	Industrial Hard Chrome Plating

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

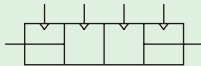


Compact Cylinder Double Acting, Back-to-Back Type

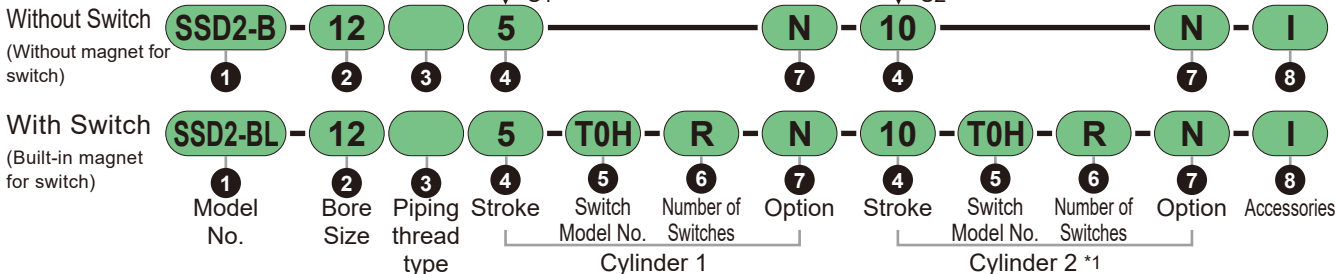
SSD2-B Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



*1: The two cylinders are coupled from the Cylinder 2 side. (Refer to outline dimension drawing) Pay attention to the mounting method and determine Cylinders 1 and 2.

1 Model No.

Code	Content
SSD2-B	Double Acting, Back-to-Back Type
SSD2-BL	Double Acting, Back-to-Back Type with Switch

2 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Piping thread type

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

*1: For details, refer to Appendix Table 1 on the next page.

*2: If the S1 stroke is less than or equal to the values in the right table, the usable mounting bolt length differs from the standard. Please contact our sales department.

Bore	Without Switch	With switch
	S1 Stroke	
ø20	10 or less	-
ø25	5 or less	-
ø32	5 or less	-
ø50	5 or less	-
ø63	15 or less	5 or less
ø80	20 or less	10 or less
ø100	10 or less	-

5 Switch Model No.

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size													
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100				
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S			●	●										
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S			●	●										
		2-wire	-	10 to 30	-	5 to 20 *2	-	F2H	F2V			●	●									
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3H	F3V			●	●									
		3-wire (PNP)	-	30 or less	-	50 or less	-	F3PH	F3PV			●	●									
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV			●	●										
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV			●	●										
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H	T1V				●	●	●	●	●	●	●	●			
		—	10 to 30	—	5 to 20 *2	—	T2H	T2V			●	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	100 or less	T3H	T3V			●	●	●	●	●	●	●	●	●			
		3-wire (PNP)	—	30 or less	—	100 or less	T3PH	T3PV			●	●	●	●	●	●	●	●	●			
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV			●	●	●	●	●	●	●	●	●			
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV			●	●	●	●	●	●	●	●	●			
	2-Color Improved Water Resistance	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV			●	●	●	●	●	●	●	●	●	●			
		—		—		T2YD	—				●	●	●	●	●	●	●	●	●			
		—		—		T2YDT	—				●	●	●	●	●	●	●	●	●			
—		—																				
1-Color Off- Delay Type	—	10 to 30	—	5 to 20 *2	T2JH	T2JV				●	●	●	●	●	●	●	●					
	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			●	●	●	●	●	●	●	●	●					
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V			●	●	●	●	●	●	●	●				
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H	T5V			●	●	●	●	●	●	●	●				
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V							●	●	●	●				

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T1□, T2YD□, T2J□ switches cannot be mounted on ø12, ø16.

*4: T8□ switches cannot be mounted on ø12 to ø32.

*5: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 15.

*6: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*7: Switches other than the model No.s listed above are also available. (Custom products) For details, refer to P. 869.

SSD2-B Series

Model No. Notation Method

7 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	
M	Piston Rod Material (Stainless Steel)	

*1

*2

*1: The Option code "N" is indicated on both S1 and S2 sides, but other option codes are indicated only on the S2 side.

*2: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (Pin and retaining ring included)	

*1: Optionally, N: Available only when rod end male thread is selected.

*2: When selecting accessories, 2 pcs. will be included. If "IY" is selected, 1 pc. of each will be included.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		12	16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●
	100					●	●	●	●	●	●
Minimum Stroke (mm) *1		1									
Maximum Stroke (mm)		30		50		100					
Intermediate Stroke *2		Every 1 mm									

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 150.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

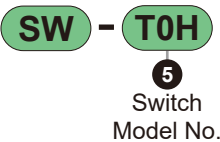
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-B-.....-XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-B									
	SSD2-BL (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting, Back-to-Back Type									
Operating Fluid	Compressed Air									
Max. Operating Pressure MPa	1.0									
Min. Operating Pressure MPa	0.1							0.05		
Proof pressure MPa	1.6									
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)									
Port Size	M5				Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$					$S_2 = \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$				
Operating Piston Speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

Minimum Stroke with Switch (With 2 Switches)

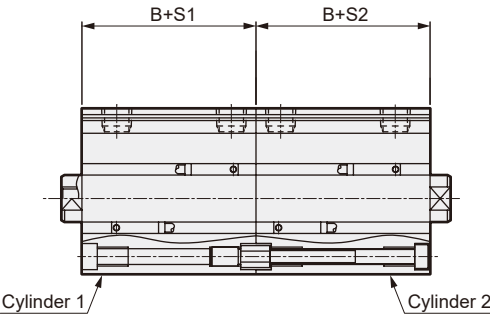
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20	5		
ø25			20
ø32			
ø40			15
ø50			
ø63			10
ø80			
ø100			

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.
*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-B Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model Number	Model No.: SSD2-B-32-38-50	
Indication Example	A +2 mm spacer is added to Cylinder 1 of the standard cylinder SSD2-B-32-40-50 to make it 38 mm. B + S1 = 23 + 40 = 63 / B + S2 = 23 + 50 = 73	



Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Cylinder Weight Table (Weight with switch is when 2 cylinder switches are included) (Unit: g)

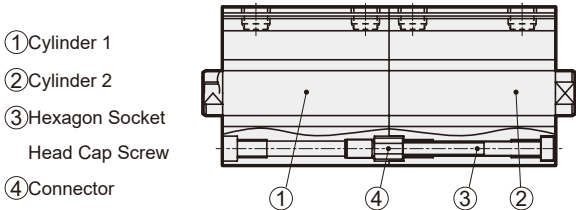
Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch	Without Switch	With Switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
ø25	87	178	102	193	118	209	134	225	160	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
ø32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
ø40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
ø50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
ø80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1887	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
ø100	-	-	1433	2,000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

Theoretical Thrust Table (Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 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
ø16	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 ³	1.51 × 10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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
ø40	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
ø50	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
ø63	Push	1.56 × 10 ²	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	1.40 × 10 ²	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
ø80	Push	2.51 × 10 ²	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	2.27 × 10 ²	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
ø100	Push	3.93 × 10 ²	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	3.57 × 10 ²	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

Hex Socket Bolt Weight (Unit: g)

Stroke (mm)	Cylinder 2 Stroke												Con- nector
Bore Size (mm)	5	10	15	20	25	30	35	40	45	50	75	100	
ø12	3.2	4	4.8	5.6	6.4	7.2	-	-	-	-	-	-	5.6
ø16	3.2	2.4	2.4	2.4	2.4	2.4	-	-	-	-	-	-	5.6
ø20	8	11	14	16	19	22	25	28	30	33	-	-	14
ø25	8	11	14	16	19	22	25	28	30	33	-	-	14
ø32	8	11	14	16	19	22	25	28	30	33	47	61	14
ø40	8	11	14	16	19	22	25	28	30	33	47	61	14
ø50	-	16.7	20.6	24.5	28.5	32.4	36.3	40.3	44.2	48.1	67.8	87.5	28.8
ø63	-	40.8	47.2	53.6	60	66.4	72.8	79.2	85.6	92	124	156	60
ø80	-	60	72	84	96	108	120	132	144	156	216	276	116
ø100	-	60	72	84	96	108	120	132	144	156	216	276	116



Total cylinder weight is
Total weight = Cylinder 1 weight + Cylinder 2 weight + (Hex socket bolt + Connector) weight.

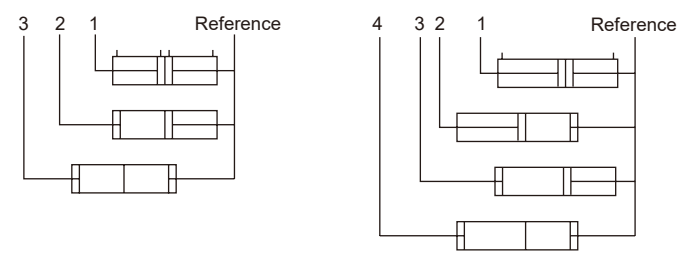
Example Total weight of SSD-B-25-30-N-10-N >
Weight of ø25 with 30 mm stroke: ... ①
Weight of ø25 with 10 mm stroke: ... ②
Weight of ø25 cylinder 2 hexagon socket head cap screw for 10 mm stroke + weight of connector.: ③

Total weight = ①+②+③= 165 g+102 g+11 g+14 g=292 g

SSD2-B Usage Example

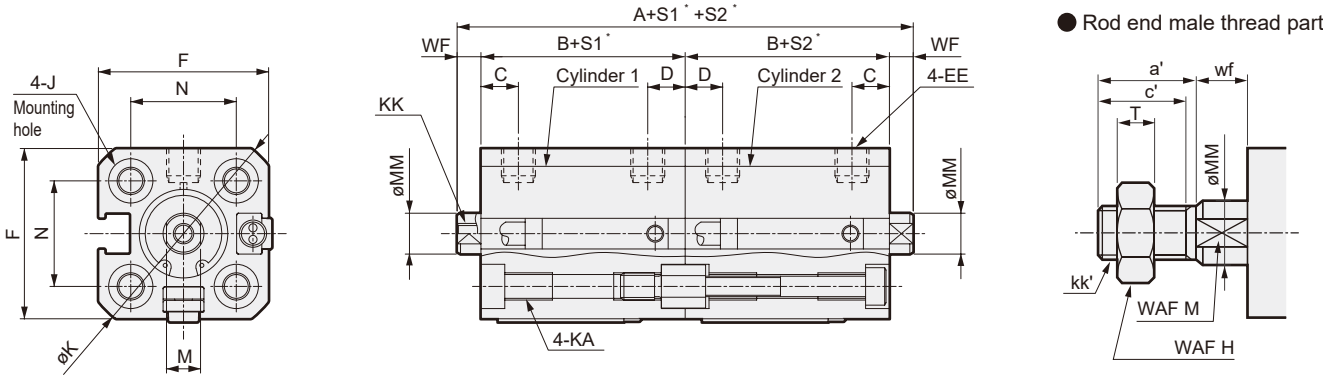
When combining same strokes.
3 positions can be taken.

When combining different strokes.
4 positions can be taken.

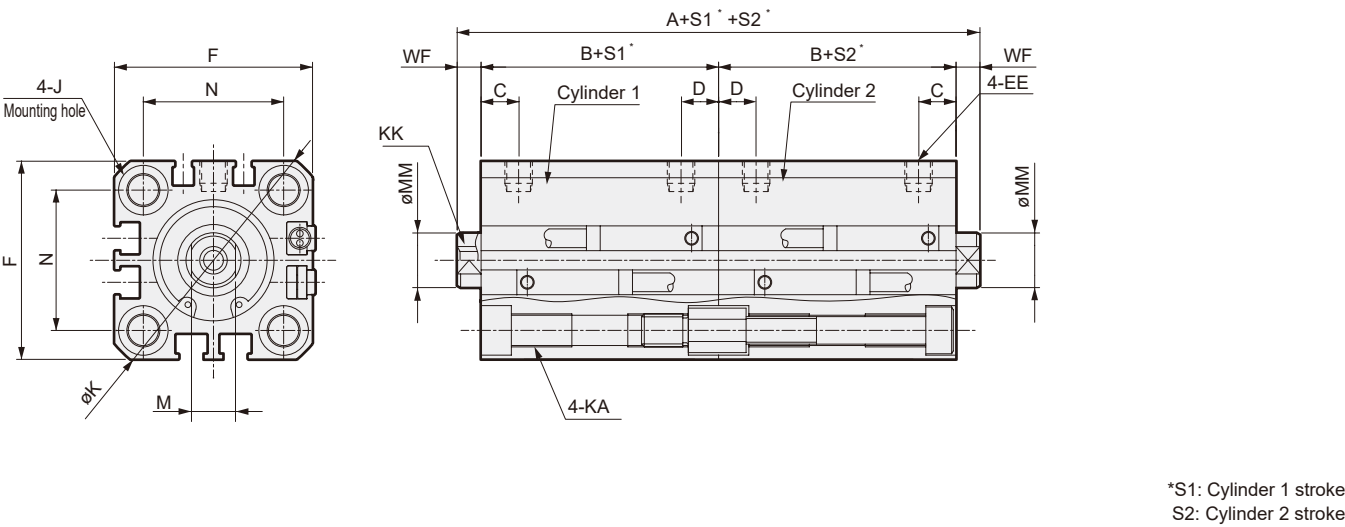


Outline Dimension Drawing (Bore size: ø12 to ø25)

● SSD2-B(L)-12~16



● SSD2-B(L)-25



Code	Dimension with switch		Dimension without switch		Common dimension											
Bore Size (mm)	A [†]	B [†]	A [†]	B [†]	C	D	EE	F	J	K	KA	KK	M	MM	N	WF
ø12	51	22	41	17	5.5	5.5	M5	25	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	51	22	41	17	5.5	5.5	M5	29	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	68	29.5	48	19.5	8	5.5	M5	36	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	75	32.5	55	22.5	11	6	M5	40	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

*1: When calculating A + S1 + S2, B + S1, B + S2 dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
*2: For bore sizes ø20, ø25, the piping port surface is for F-type switches only.
*3: For dimensions with each switch, refer to P. 300 to 309.
*4: For outline dimension drawings of individual accessories, refer to P. 34.

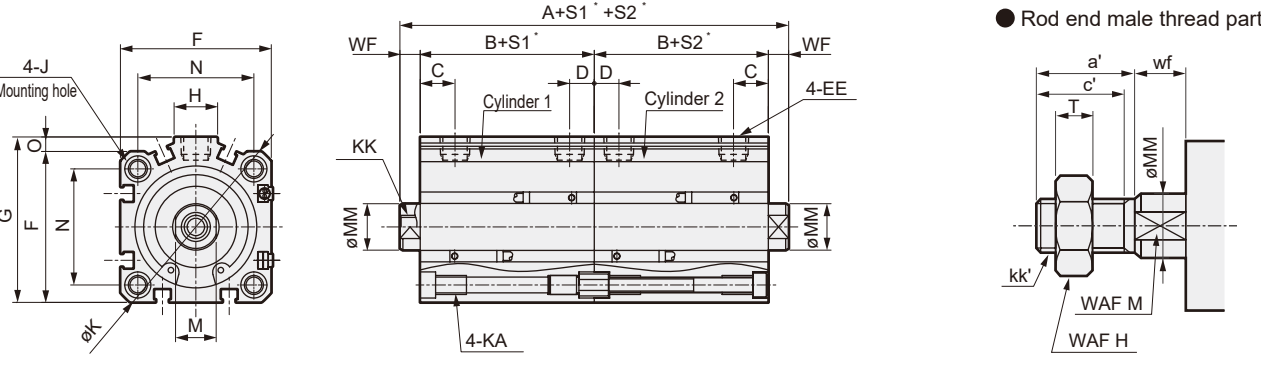
● Rod end male thread part

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

Double Acting, Back-to-Back Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

● SSD2-B(L)-32 to 100



Code	Dimension with switch		Dimension without switch		Common dimension				
Bore Size (mm)	A ^{*1}	B ^{*1}	A ^{*1} 2	B ^{*1} 2	C ^{*4}	D ^{*4}	EE ^{*3}	F	G
ø32	80	33	60 (80)	23 (33)	8 (10)	8 (5.5)	Rc1/8	45	49.5
ø40	93	39.5	73 (93)	29.5 (39.5)	12 (11.5)	8.5 (8)	Rc1/8	52	57
ø50	97	40.5	77 (97)	30.5 (40.5)	10.5	10.5	Rc1/4	64	71
ø63	108	46	88 (108)	36 (46)	13	11	Rc1/4	77	84
ø80	127	53.5	107 (127)	43.5 (53.5)	16	13	Rc3/8	98	104
ø100	150	63	130 (150)	53 (63)	23	15	Rc3/8	117	123.5

Code	Common dimension									
Bore Size (mm)	H	J	K	KA	KK	M	MM	N	O	WF
ø32	12.5	9 Counterbore depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	15	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	18	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	23	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	31	17.5 Counterbore depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	38	17.5 Counterbore depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

*1: When calculating A + S1 + S2, B + S1, B + S2 dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
*2: Dimensions in () for codes A and B are values when exceeding 50 strokes.
*3: For code EE, ø32 without switch, 5 strokes, the port size will be M5.
*4: Dimensions in () for columns C and D are values for 5 strokes without switch.
*5: For dimensions with each switch, refer to P. 300 to 309.
*6: For outline dimension drawings of individual accessories, refer to P. 34.

● Rod end male thread part

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

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

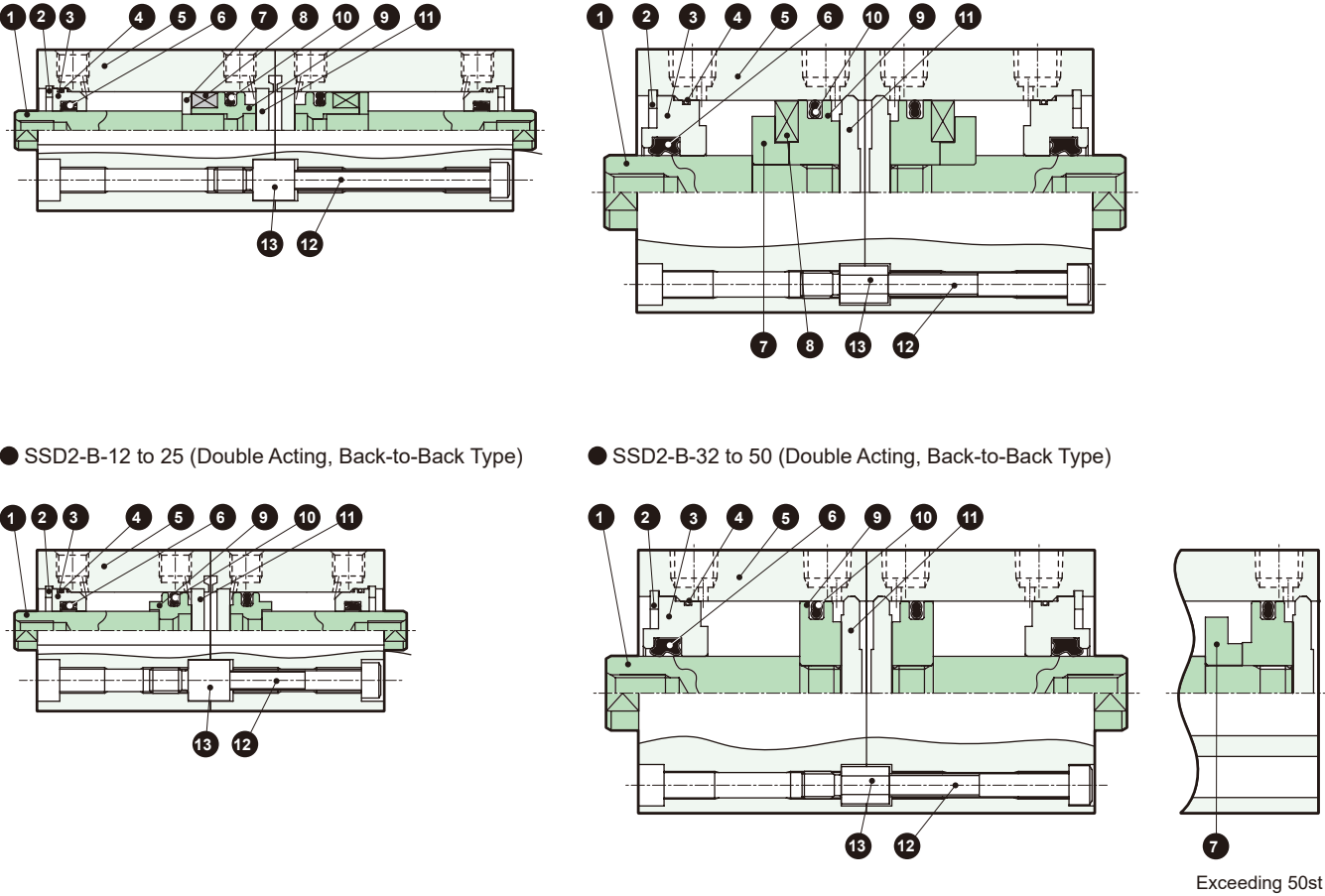
FC

Cylinder Switch

Ending

Internal Structure Diagram/Material (Bore size: ø12 to ø50)

- SSD2-BL-12 to 25 (Double Acting, Back-to-Back Type with Switch)
- SSD2-BL-32 to 50 (Double Acting, Back-to-Back Type with Switch)





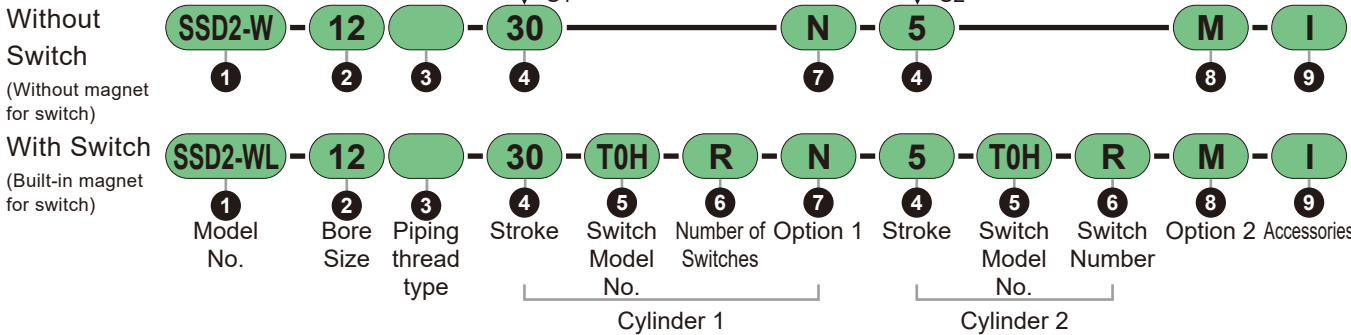
Compact Cylinder Double Acting, Tandem Type

SSD2-W Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100



Model No. Notation Method



1 Model No.

Code	Content
SSD2-W	Double Acting, Two-Stage Type
SSD2-WL	Double Acting, Tandem Type with Switch

2 Bore Size (mm)

Code	Content	Code	Content
12	ø12	40	ø40
16	ø16	50	ø50
20	ø20	63	ø63
25	ø25	80	ø80
32	ø32	100	ø100

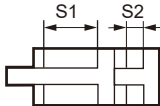
3 Port Thread Type:

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20 to ø100	1 to 50	

Note: Refer to Appendix 1 on the following page for details.



6 Switch Model No.:

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size											
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	80	100		
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□			●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□			●	●								
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□			●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□			●	●								
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□			●	●								
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□			●	●								
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□			●	●								
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□			●	●	●	●	●	●	●	●	●	
			—	10 to 30	—	5 to 20 *2	T2H□	T2V□			●	●	●	●	●	●	●	●		
		3-wire (NPN)	—	30 or less	—	100 or less	T3H□	T3V□			●	●	●	●	●	●	●	●		
		3-wire (PNP)	—	30 or less	—	100 or less	T3PH□	T3PV□			●	●	●	●	●	●	●	●		
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□			●	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□			●	●	●	●	●	●	●	●		
	Improved Water Resistance	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□			●	●	●	●	●	●	●	●	
				T2YD□				—			●	●	●	●	●	●	●	●		
				T2YDT□				—			●	●	●	●	●	●	●	●		
2-Color for AC Magnetic Field		2-wire	—	—	—	—	T2YD□	—			●	●	●	●	●	●	●			
			T2YDT□				—			●	●	●	●	●	●	●	●			
			T2YD□				—			●	●	●	●	●	●	●	●			
1-Color Off- Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□			●	●	●	●	●	●	●	●			
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			●	●	●	●	●	●	●	●			
1-Color Flexible Lead Wire Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			●	●	●	●	●	●	●	●	●		
		—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3			●	●	●	●	●	●	●	●	●		
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H□	T0V□			●	●	●	●	●	●	●	●		
	No Indicator Lamp		110	5/12/24	20 or less	50 or less	T5H□	T5V□			●	●	●	●	●	●	●			
	1-Color		110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□					●	●	●	●	●			

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2J□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.
*6: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*7: Switches other than the model Nos. listed above are also available. (Custom products) For details, refer to P. 869.

SSD2-W Series

Model No. Notation Method

7 Option 1

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

9 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: With 7 option 1, select N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Option 2

Code	Content
M	Piston Rod Material (Stainless Steel)

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

Appendix Table 1

Stroke (mm)		Applicable Bore									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard Stroke	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
Minimum Stroke (mm) *1		1									
Maximum Stroke (mm)		30		50							
Intermediate Stroke *2		Every 1 mm									

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator, off-delay type, AC magnetic field type, T1□, T8□ switch. For the number of switches attachable and minimum stroke, refer to P. 160.
*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluorine Packing Type
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-W-.....-XP5

Switch Single Unit Model No. Notation Method

SW - T0H
5
Switch Model No.

Specifications

Item	SSD2-W									
	SSD2-WL (With Switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting, Two-Stage Type									
Operating Fluid	Compressed Air									
Max. Operating Pressure MPa	1.0 *1									
Min. Operating Pressure MPa	0.15							0.1		
Proof pressure MPa	1.6									
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)									
Port Size	M5				Rc1/8 *2		Rc1/4		Rc3/8	
Stroke tolerance mm	S ₁ = ^{+1.0} ₀					S ₂ = ⁰ _{-1.5}				
Operating Piston Speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)									
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: If S1 and S2 are the same, please use with a maximum operating pressure of 0.5 MPa.
*2: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke (With 2 Switches)

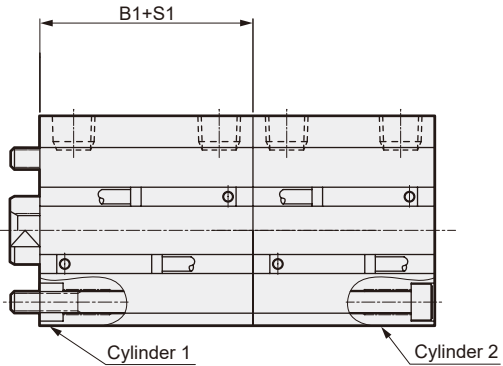
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20			
ø25	5		20
ø32			15
ø40			10
ø50			
ø63			
ø80			
ø100			

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.
*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-W Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-W-32-38-10 A +2 mm spacer is added to Cylinder 1 of the standard cylinder SSD2-W-32-40-10 to make it 38 mm. B1+S1=30.5+40=70.5	



Specifications/Usage Examples

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	37	87	45	87	54	96	62	104	71	113	73	115	-	-	-	-	-	-	-	-	-	-	-	-
ø16	49	105	60	105	70	115	81	126	92	137	103	148	-	-	-	-	-	-	-	-	-	-	-	-
ø20	65	120	77	152	90	165	103	178	115	190	128	203	141	216	154	229	167	242	205	280	-	-	-	-
ø25	90	181	105	196	121	212	137	228	163	244	168	259	184	275	200	291	216	307	231	322	-	-	-	-
ø32	126	240	148	262	170	284	192	306	213	327	235	349	257	371	279	393	301	415	322	436	494	542	604	652
ø40	189	332	216	359	242	385	269	412	296	439	322	465	348	491	375	518	401	544	478	571	646	695	776	825
ø50	-	-	354	548	396	590	438	632	480	674	523	717	565	759	607	801	649	843	691	885	1038	1095	1248	1305
ø63	-	-	543	822	598	877	653	932	708	987	763	1042	818	1097	874	1153	929	1208	984	1263	1474	1538	1749	1813
ø80	-	-	1002	1415	1089	1502	1175	1588	1262	1675	1348	1961	1435	1848	1522	1935	1609	2022	1695	2108	2475	2541	2907	2973
ø100	-	-	1558	2125	1672	2239	1785	2352	1899	2466	2013	2580	2127	2694	2240	2807	2354	2921	2468	3035	3531	3603	4098	4170

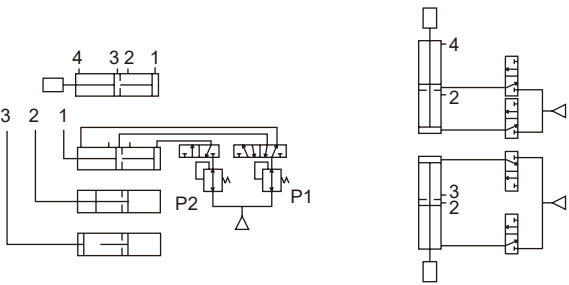
Total cylinder weight is
Total weight = Cylinder 1 weight + Cylinder 2 weight.
[Example Total weight of SSD-W-25-30-N-10-N]
Weight of ø25 with 30 mm stroke length: ... ①
Weight of ø25 with 10 mm stroke length: ... ②
Total weight = ①+②= 168 g+105 g=273 g

SSD2-W Usage Example

Set the pressure to P2 > P1.

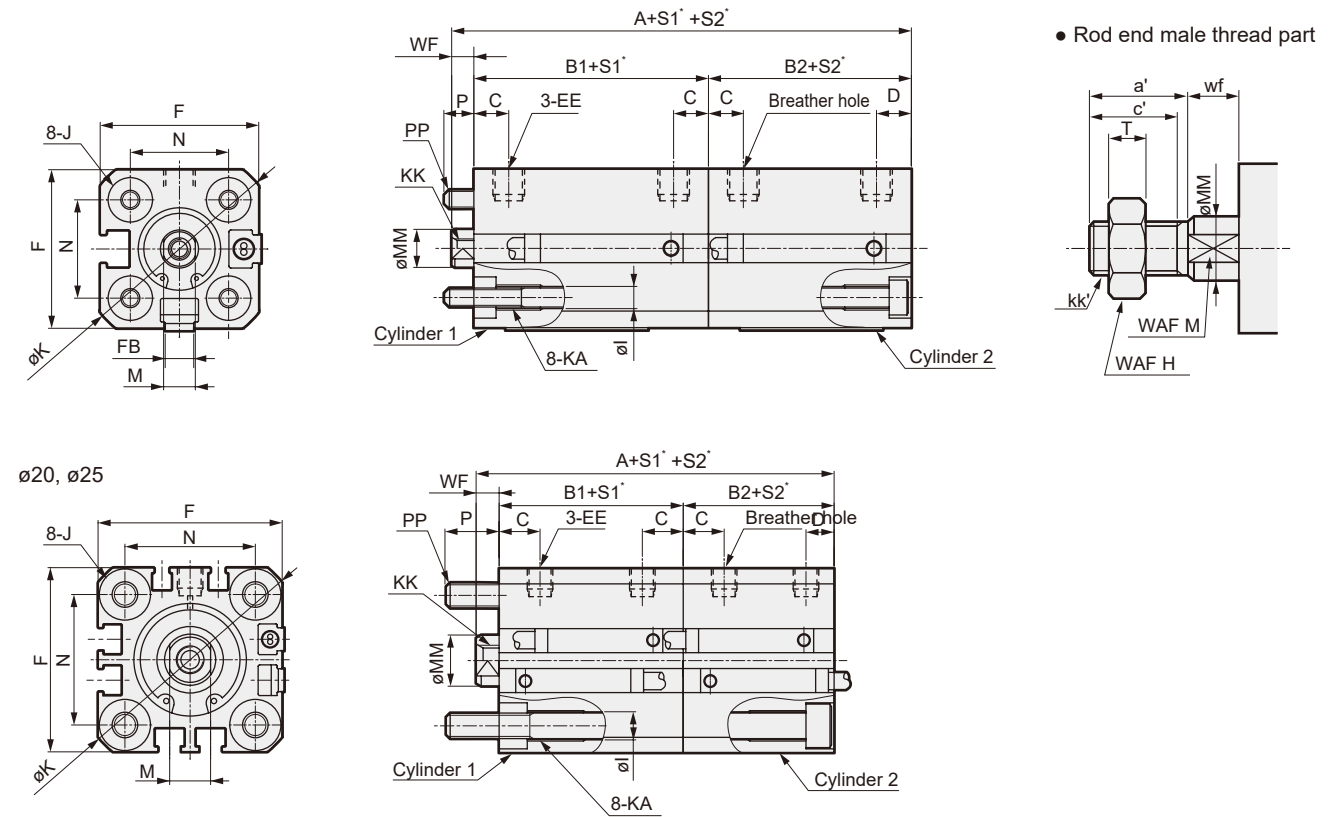
- First stage push
While Port 4 is pressurized, pressurize Port 1.
- Second stage push
While Port 1 is pressurized, pressurize Port 3.

Depending on the direction of the load, P2 may not equal P1. In case of single acting use due to natural drop of load, ports 2 and 4 in the upper diagram, and ports 2 and 3 in the lower diagram become breather ports. Basically, Port 2, which does not require piping, has a plug with a filter.



Outline Dimension Drawing (Bore size: ø12 to ø25)

- SSD2-W(L)-12 to 25
- ø12, ø16



*S1: Total stroke S2: 1st stage stroke

Code	Dimension with switch		Dimension without switch		Common dimension															
	A *1	B1 *1	A *1	B1 *1	B2 *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF	P	PP
Bore Size (mm)																				
ø12	52.5	27	42.5	22	22	5.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	4.5	M3
ø16	52.5	27	42.5	22	22	5.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	4.5	M3
ø20	70	36	50	26	29.5	8	5.5	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	10	M5
ø25	76.5	39	56.5	29	32.5	11	6	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5	9	M5

*1: When calculating A + S1 + S2, B1 + S1, B2 + S2 dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.

***3: For dimensions with each switch, refer to P. 300 to 309.**

***4: For outline dimension drawings of individual accessories, refer to P. 34.**

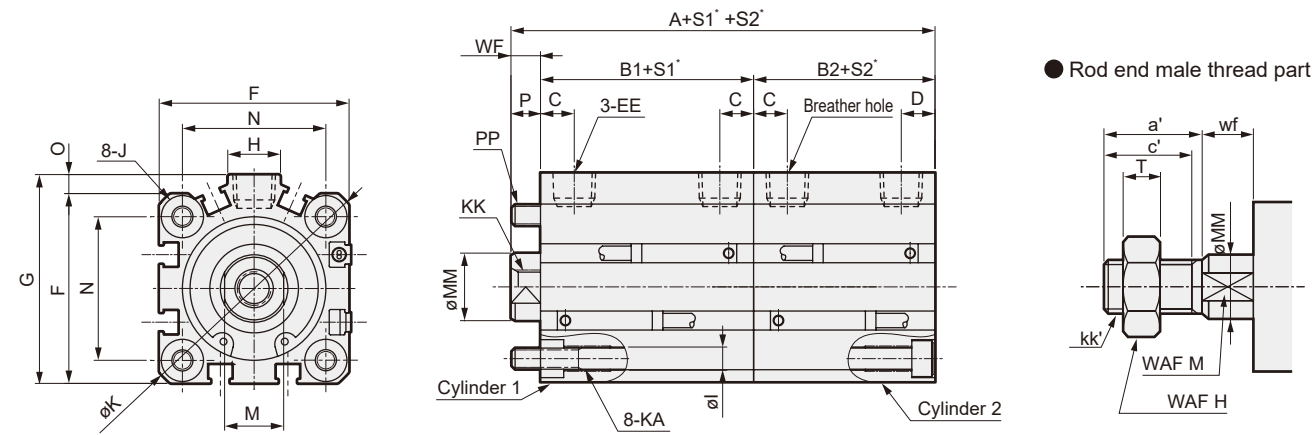
● Rod end male thread part

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

Double Acting, Two-Stage Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

- SSD2-W(L)-32 to 100



*S1: Total stroke S2: 1st stage stroke

Code	Dimension with switch			Dimension without switch			Common dimension									
	A *1	B1 *1	B2 *1	A *1	B1 *1	B2 *1	C *3	D *3	EE *2	F	G	H	I	J		
ø32	80.5	40.5	33	60.5	30.5	23	8 (11)	8 (5.5)	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5		
ø40	96.5	50	39.5	76.5	40	29.5	12 (11.5)	8.5 (8)	Rc1/8	52	57	15	5.5	9 Counterbore depth 5.5		
ø50	99	50.5	40.5	79	40.5	30.5	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5		
ø63	106	52	46	86	42	36	13	11	Rc1/4	77	84	23	8.7	14 Counterbore depth 9		
ø80	124.5	61	53.5	104.5	51	43.5	16	13	Rc3/8	98	104	31	10.5	17.5 Counterbore depth 11		
ø100	145.5	70.5	63	125.5	60.5	53	23	15	Rc3/8	117	123.5	38	10.5	17.5 Counterbore depth 11		

Code	Common dimension									
	K	KA	KK	M	MM	N	O	WF	P	PP
ø32	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	7	M5
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	6	M5
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	10.5	M6
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	11	M8
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	11.5	M10
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	12.5	M10

*1: When calculating A + S1 + S2, B1 + S1, B2 + S2 dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: For code EE, ø32 without switch, 5 strokes, the port size will be M5.

*3: Dimensions in () for columns C and D are values for 5 strokes without switch.

***4: For dimensions with each switch, refer to P. 300 to 309.**

***5: For outline dimension drawings of individual accessories, refer to P. 34.**

● Rod end male thread part

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

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

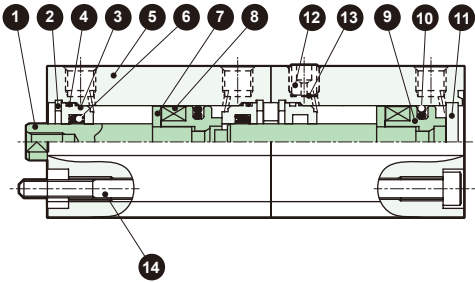
FC

Cylinder Switch

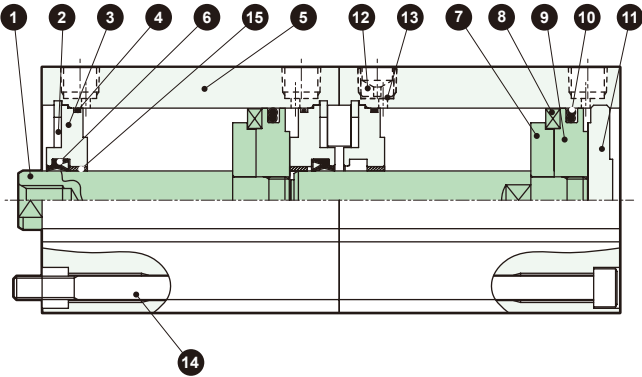
Ending

Internal Structure Diagram/Material

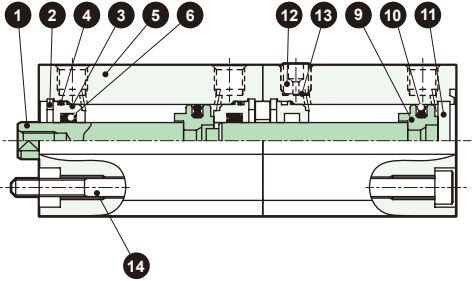
● SSD2-WL-12 to 50 (Double Acting, Tandem Type with Switch)



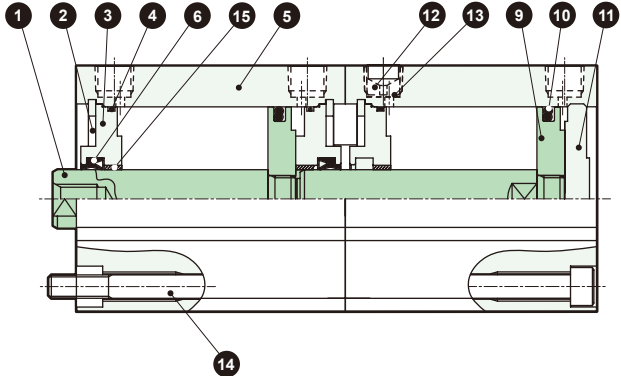
● SSD2-WL-63 to 100 (Double Acting, Tandem Type with Switch)



● SSD2-W-12 to 50 (Double Acting, Tandem Type)



● SSD2-W-63 to 100 (Double Acting, Tandem Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø12 to ø25: Stainless steel ø32 to ø100: Steel	ø16 to ø100 Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	ø12 to ø50: Alumite ø63 to ø100: Chromate	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	ø12 to 25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100 Alumite
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Plug	Stainless Steel	
6	Rod Packing	Nitrile Rubber		13	Stainless steel wire rope	Stainless Steel	
7	Spacer	Aluminum Alloy	Chromate	14	Hexagon Socket Head Cap Screw	Steel	Black Oxide
				15	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

MEMO



Compact Cylinder Double Acting, Non-rotating Type

SSD2-M Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63

Circuit Diagram Symbol

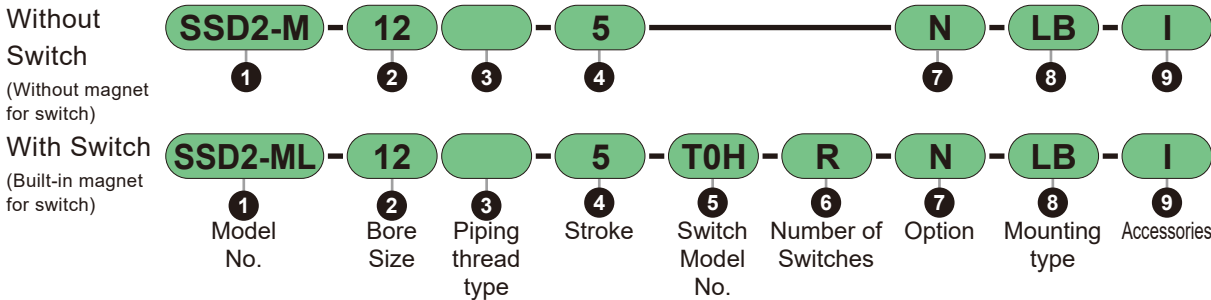


RoHS

SSD2-M Series

Model No. Notation Method

Model No. Notation Method



1 Model No.

Code	Content
SSD2-M	Double Acting, Non-Rotating Type
SSD2-ML	Double Acting, Non-rotating Type with Switch

2 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

3 Port Thread Type:

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø63)
NN	NPT thread (Custom product)(ø32 to ø63)
GN	G thread (Custom product)(ø32 to ø63)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø63	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.:

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S		●	●						
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V		●	●						
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV		●	●						
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH	F3YV		●	●						
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV		●	●						
		2-wire	85 to 265	—	5 to 100	—	T1H	T1V		●	●	●	●	●	●	●	
		—	10 to 30	—	5 to 20 *2	—	T2H	T2V	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	—	—	—	T3H	T3V	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	30 or less	—	100 or less	T3PH	T3PV	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	
		2-wire	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV	●	●	●	●	●	●	●	●	
		—	—	24 ± 10%	—	5 to 20	T2YD	—		●	●	●	●	●	●	●	
		—	—	—	—	—	T2YDT	—		●	●	●	●	●	●	●	
		2-wire	—	10 to 30	—	5 to 20 *2	T2JH	T2JV		●	●	●	●	●	●	●	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●	
		No Indicator Lamp	110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V						●	●	●	
		—	—	—	—	—	—	—						●	●	●	
		—	—	—	—	—	—	—						●	●	●	
		—	—	—	—	—	—	—						●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2YDT□, T2J□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 10.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 171, P. 172, P. 174, P. 175. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel) (Custom product for ø32 to ø63 only)

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		12	16	20	25	32	40	50	63
Standard Stroke	5	●	●	●	●	●	●		
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●
	40			●	●	●	●	●	●
	45			●	●	●	●	●	●
	50			●	●	●	●	●	●
	75					●	●	●	●
	100					●	●	●	●
Minimum Stroke (mm) *1		1							
Maximum Stroke (mm)		30		50		100			
Intermediate Stroke *2		Every 1 mm							

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 168.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-M - - XP5

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2-M - - FP1

Switch Single Unit Model No. Notation Method

SW - T0H
5
Switch Model No.

Specifications

Item	SSD2-M								SSD2-ML (With Switch)							
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63								
Bore size mm																
Actuation method	Double Acting Type															
Operating Fluid	Compressed Air															
Max. Operating Pressure MPa	1.0															
Min. Operating Pressure MPa	0.1														0.05	
Proof pressure MPa	1.6															
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)															
Port Size	M5								Rc1/8 *1				Rc1/4			
Stroke tolerance mm	+1.0 0															
Operating Piston Speed mm/s	50 to 500														50 to 300	
Cushion	None															
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)															
Non-rotation Accuracy (*2)	±1°				±0.7°						±0.8°					
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12								

*1: For ø32 without switch, 5 stroke, the port size will be M5.
*2: Initial value at retracted end.

Minimum Stroke with Switch (With 2 Switches)

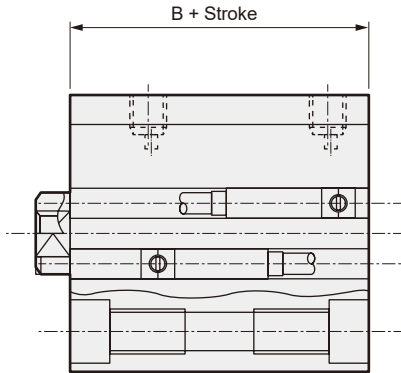
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	25
ø16			
ø20	5		20
ø25			
ø32			15
ø40			
ø50			
ø63			10

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.
*2: () indicates when 1 pc. is included to the rod side.

About Intermediate Stroke

● SSD2-M Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	12, 16	1 to 29
	20 to 25	1 to 49
	32 to 63	1 to 99
Model No. Indication Example	Model No.: SSD2-M-32-38 A +2 mm spacer is added to the standard cylinder SSD2-M-32-40 to make it 38 mm. B + Stroke = 32 + 40 = 72	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	44	94	52	94	61	103	69	11	78	120	80	122	-	-	-	-	-	-	-	-	-	-	-	-
ø16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-	-	-	-	-	-	-	-	-
ø20	76	131	88	163	101	176	114	189	126	201	139	214	152	227	165	240	178	253	191	266	-	-	-	-
ø25	102	193	117	208	133	224	149	240	165	256	180	271	196	287	212	303	228	319	243	334	-	-	-	-
ø32	166	280	188	302	210	324	232	346	253	367	275	389	297	411	319	433	341	455	362	476	575	583	682	691
ø40	-	-	210	353	237	380	263	406	290	433	317	460	343	486	370	513	396	539	423	566	683	698	815	831
ø50	-	-	341	535	383	577	425	619	467	661	509	703	552	746	594	788	636	830	678	872	1065	1082	1275	1292
ø63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	837	1116	893	1172	948	1227	1478	1502	1753	1777

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02×10 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
ø16	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 ³	1.51×10 ²
ø20	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
ø25	Push	-	49.1k	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
ø32	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
ø40	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
ø50	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
ø63	Push	1.56×10 ²	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	1.40×10 ²	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

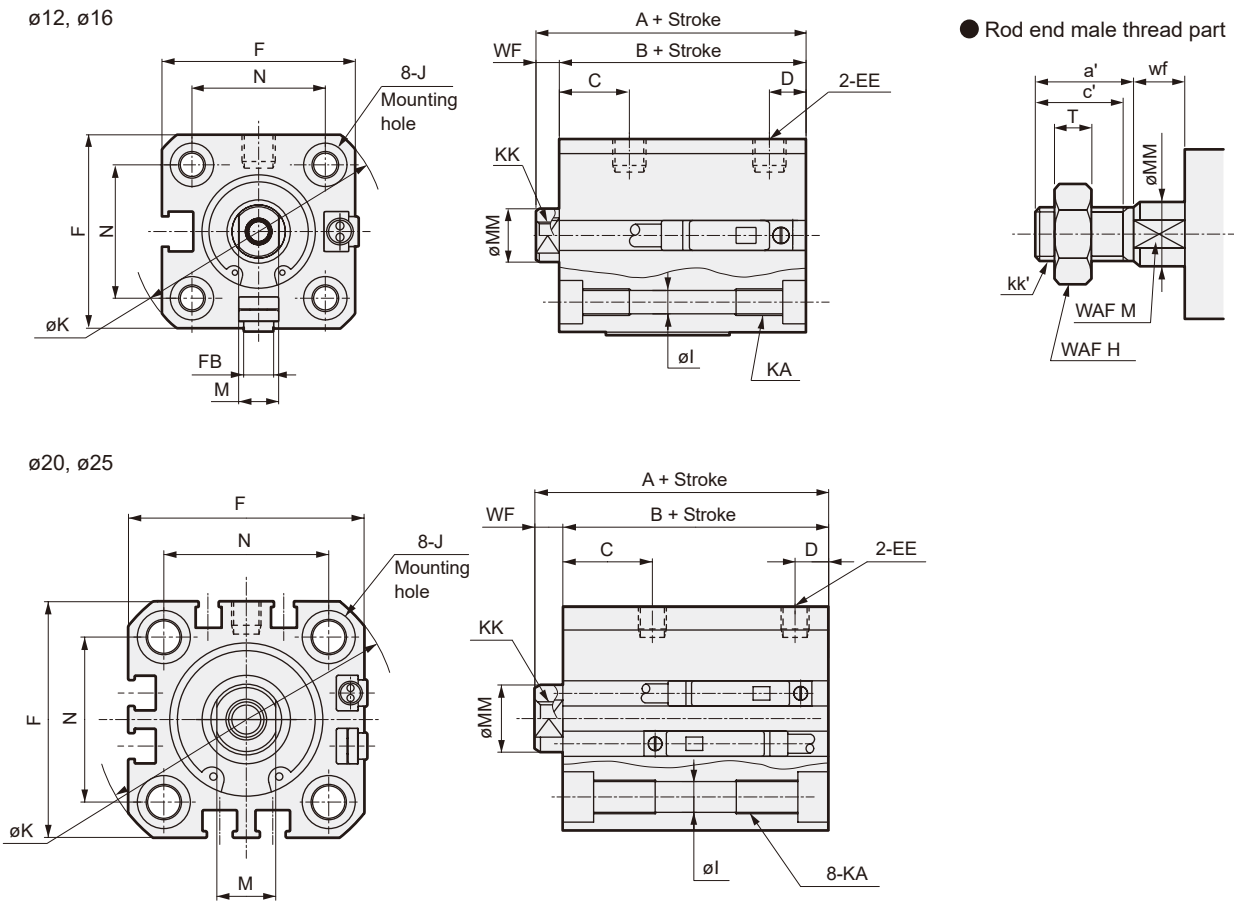
Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø12 to ø25)

● SSD2-M(L)-12 to 25



Code	Dimension with switch		Dimension without switch		Common dimension												
	A +1	B +1	A +1	B +1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	30.5	27	25.5	22	10.5	5.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	30.5	27	25.5	22	10.5	5.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	39	34.5	29	24.5	13	5.5	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	42.5	37.5	32.5	27.5	16	6	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
*2: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.
*3: For dimensions with each switch, refer to P. 300 to 309.
*4: For outline dimension drawings of individual accessories, refer to P. 34.

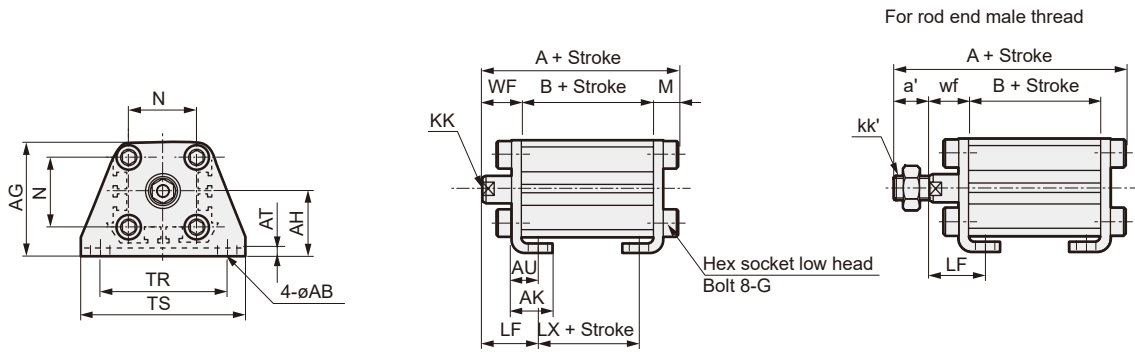
● Rod end male thread part dimension table

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

Double Acting, Non-Rotating Type

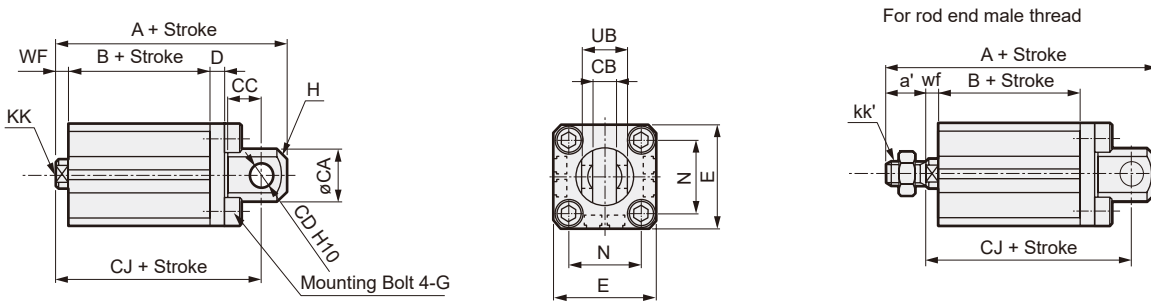
Outline Dimension Drawing (Bore size: ø12 to ø25)

● Axial Foot (LB)
SSD2-M(L)-12 to 25-LB



Code		Common dimension												For female thread								For male thread									
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch			
	A	B	LX	A	B	LX	A	B	LX	A	B	LX																			
ø12	5	29.5	17	12.5	2	8	M4×10	M3 depth 6	15.5	34	44	4.8	13.5	19.5	45.3	27	15	40.3	22	10	10.5	M5	13.5	19.5	55.8	27	15	50.8	22	10	
ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8	13.5	19.5	45.3	27	15	40.3	22	10	12	M6	13.5	19.5	57.3	27	15	52.3	22	10	
ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2	14.5	20.5	56.2	34.5	22.5	46.2	24.5	12.5	14	M8	14.5	20.5	70.2	34.5	22.5	60.2	24.5	12.5	
ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 Depth 12	28	52	66	7.2	15	22.5	59.7	37.5	22.5	49.7	27.5	12.5	17.5	M10×1.25	15	22.5	77.2	37.5	22.5	67.2	27.5	12.5	

● Double Knuckle Clevis (CB)
SSD2-M(L)-12 to 25-CB



Code	Common dimension											For female thread						For male thread									
Bore Size (mm)	CA	CB	CC	CD	D	E	G	KK	H	N	UB	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
													A	B	CJ	A	B	CJ				A	B	CJ	A	B	CJ
ø12	12	5.2 ^{+0.2} _{-0.3}	7	5	4	25	M4×12	M3 depth 6	C1.5	15.5	10 ^{-0.1} _{-0.3}	3.5	50.5	27	44.5	45.5	22	39.5	10.5	M5	8.5	61	27	44.5	56	22	39.5
ø16	15	6.6 ^{+0.3} _{-0.4}	8	5	5	29	M4×12	M4 depth 8	C2	20	12 ^{-0.1} _{-0.4}	3.5	51.5	27	44.5	46.5	22	40.5	12	M6	8.5	63.5	27	45.5	58.5	22	40.5
ø20	20	8.2 ^{+0.2} _{-0.3}	12	8	5	36	M6×16	M5 depth 7	C4	25.5	16 ^{-0.1} _{-0.3}	4.5	66	34.5	57	56	24.5	47	14	M8	9.5	80	34.5	57	70	24.5	47
ø25	24	10.2 ^{+0.2} _{-0.3}	14	10	5	40	M6×16	M6 Depth 12	C5	28	20 ^{-0.1} _{-0.3}	5	72.5	37.5	62.5	62.5	27.5	52.5	17.5	M10×1.25	10	90	37.5	62.5	80	27.5	52.5

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

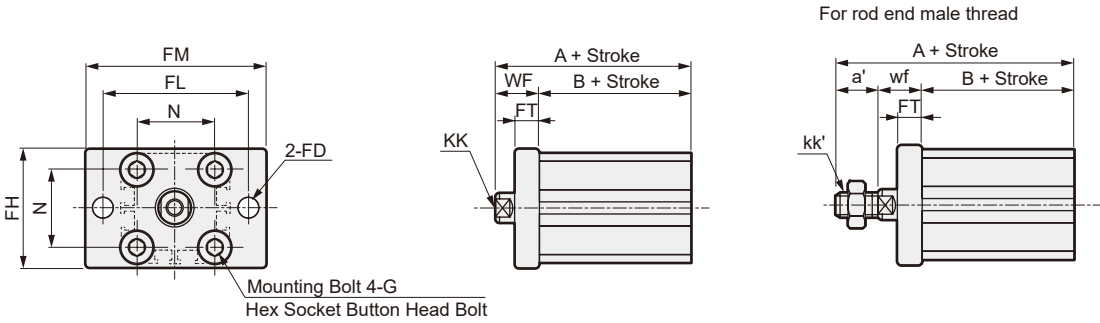
FC□

Cylinder Switch

Ending

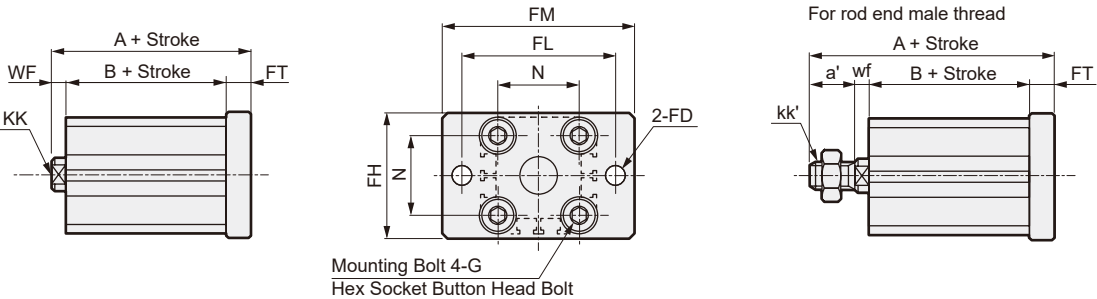
Outline Dimension Drawing (Bore size: ø12 to ø25)

- Rod Side Flange (FA)
SSD2-M(L)-12 to 25-FA



Code		Common dimension							For female thread				For male thread								
Bore Size (mm)		FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A	B				A	B	A	B
ø12		4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	13.5	40.5	27	35.5	22	10.5	M5	13.5	51	27	46	22
ø16		4.5	30	45	55	5.5	M4×12	M4 depth 8	20	13.5	40.5	27	35.5	22	12	M6	13.5	52.5	27	47.5	22
ø20		6.6	39	48	60	8	M6×16	M5 depth 7	25.5	14.5	49	34.5	39	24.5	14	M8	14.5	63	34.5	53	24.5
ø25		6.6	42	52	64	8	M6×16	M6 Depth 12	28	15	52.5	37.5	42.5	27.5	17.5	M10×1.25	15	70	37.5	60	27.5

- Head Side Flange (FB)
SSD2-M(L)-12 to 25-FB

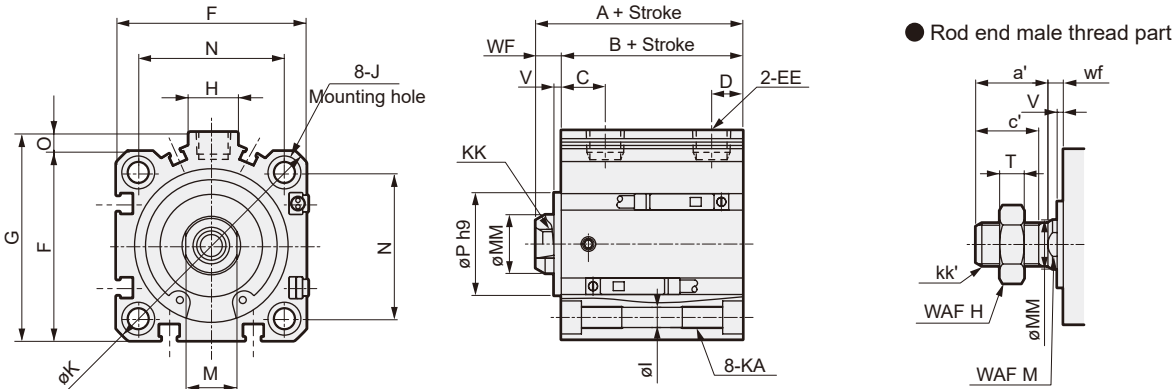


Code	Common dimension								For female thread				For male thread							
Bore Size (mm)	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
										A	B	A	B				A	B	A	B
ø12	4.5	25	45	55	5.5	M4×12	M3 depth 6	15.5	3.5	36	27	31	22	10.5	M5	8.5	46.5	27	41.5	22
ø16	4.5	30	45	55	5.5	M4×12	M4 depth 8	20	3.5	36	27	31	22	12	M6	8.5	48	27	43	22
ø20	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	4.5	47	34.5	37	24.5	14	M8	9.5	61	34.5	51	24.5
ø25	6.6	42	52	64	8	M6×16	M6 Depth 12	28	5	50.5	37.5	40.5	27.5	17.5	M10×1.25	10	68	37.5	58	27.5

Double Acting, Non-Rotating Type

Outline Dimension Drawing (Bore size: ø32 to ø63)

- SSD2-M(L)-32 to 63



Code	Dimension with switch		Dimension without switch		Common dimension											
	Bore Size (mm)	A	B	A	B	C	D	EE	F	G	H	I	J	K	KA	
		*1	*1	*1, *2	*1, *2	*4	*4	*3								
SSG	ø32	49	42	39 (49)	32 (42)	18 (20)	8 (5.5)	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5	60	M6 depth 11	
	ø40	46.5	39.5	36.5 (46.5)	29.5 (39.5)	12 (11.5)	8.5 (8)	Rc1/8	52	57	15	5.5	9 Counterbore depth 5.5	69	M6 depth 11	
SSD	ø50	48.5	40.5	38.5 (48.5)	30.5 (40.5)	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	
	ø63	54	46	44 (54)	36 (46)	13	11	Rc1/4	77	84	23	8.7	14 Counterbore depth 9	103	M10 depth 25	

Code	Common dimension							
Bore Size (mm)	KK	M	MM	N	O	P	V	WF
ø32	M8 depth 13	14	16	34	4.5	21	2	7
ø40	M8 depth 13	14	16	40	5	28	2	7
ø50	M10 depth 15	18	20	50	7	35	2	8
ø63	M10 depth 15	18	20	60	7	35	2	8

- *1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
- *2: Dimensions in () for codes A and B are values when exceeding 50 strokes.
- *3: For code EE, ø32 without switch, 5 strokes, the port size will be M5.
- *4: Dimensions in () for columns C and D are values for 5 strokes without switch.
- *5: For dimensions with each switch, refer to P. 300 to 309.
- *6: For outline dimension drawings of individual accessories, refer to P. 34.

- Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø32	23.5	20.5	22	M14×1.5	14	16	8	5
ø40	23.5	20.5	22	M14×1.5	14	16	8	5
ø50	28.5	26	27	M18×1.5	18	20	11	5
ø63	28.5	26	27	M18×1.5	18	20	11	5

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

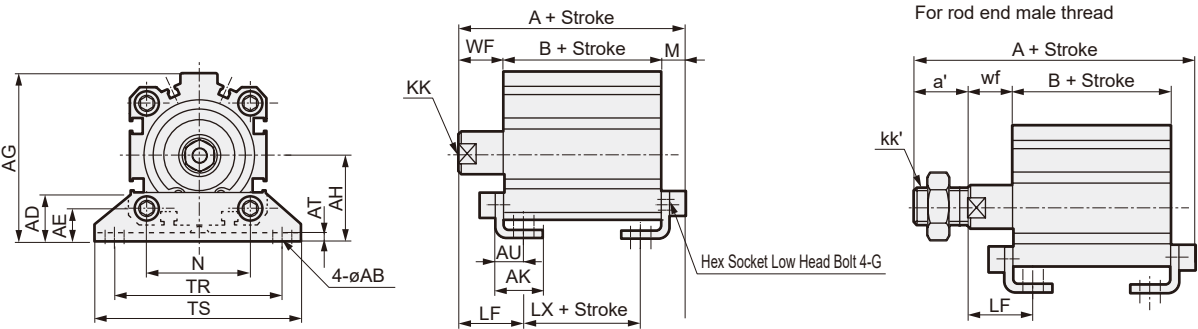
FC□

Cylinder Switch

Ending

Outline Dimension Drawing (Bore size: ø32 to ø63)

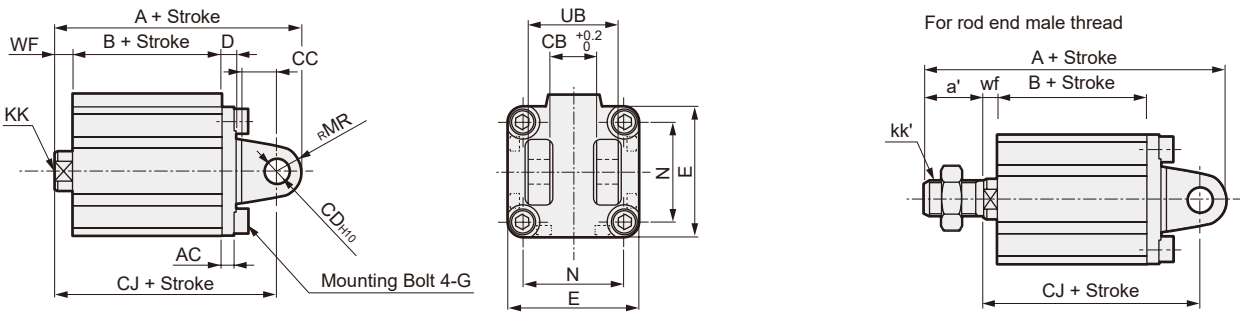
- Axial Foot (LB)
SSD2-M(L)-32 to 63-LB



Code	Common dimension															For female thread				
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M	WF	LF	Dimension with switch			
																	A	B	LX	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2	17	25	66.2	42	26	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2	17	25	63.7	39.5	23.5	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2	18	29.5	66.7	40.5	17.5	
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2	18	31	73.2	46	20	
Code	For female thread							For male thread												
Bore Size (mm)	Dimension without switch						a'	kk'	wf	LF	Dimension with switch			Dimension without switch						
	A *1	B *1	LX *1	A	B	LX					A *1	B *1	LX							
ø32	56.2 (66.2)		32 (42)		16 (26)		23.5	M14×1.5	15	23	87.7	42	26	77.7 (87.7)		32 (42)		16 (26)		
ø40	53.7 (63.7)		29.5 (39.5)		13.5 (23.5)		23.5	M14×1.5	15	23	85.2	39.5	23.5	75.2 (85.2)		29.5 (39.5)		13.5 (23.5)		
ø50	56.7 (66.7)		30.5 (40.5)		7.5 (17.5)		28.5	M18×1.5	15	26.5	92.2	40.5	17.5	82.2 (92.2)		30.5 (40.5)		7.5 (17.5)		
ø63	63.2 (73.2)		36 (46)		10 (20)		28.5	M18×1.5	15	28	98.7	46	20	88.7 (98.7)		36 (46)		10 (20)		

*1: Dimensions in () are values when exceeding 50 strokes.

- Double Knuckle Clevis (CB)
SSD2-M(L)-32 to 63-CB

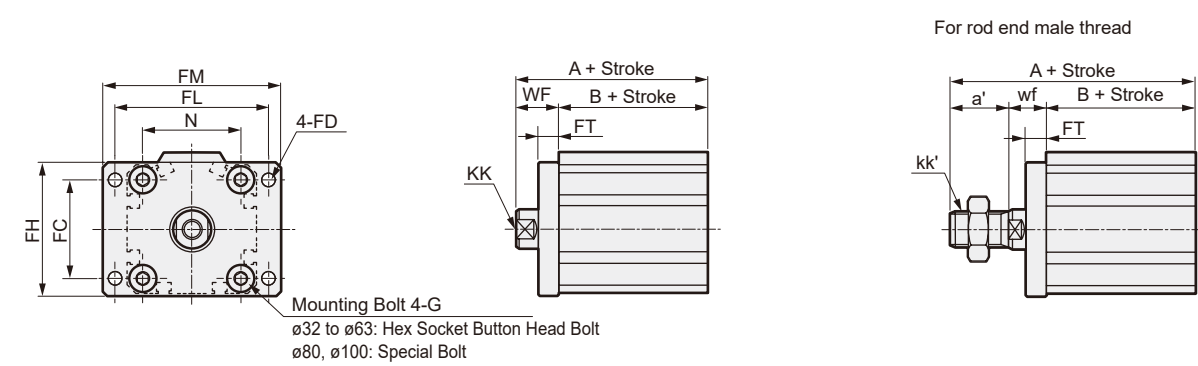


Code	Common dimension												For female thread						For male thread								
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
	A	B	C	J	A	B	C	A	B	C	A	B	C	A	B	C	A	B				C					
ø32	4.5	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36	7	79	42	69	69	32	59	23.5	M14×1.5	14	100.5	42	67	90.5	32	57
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	7	78.5	39.5	68.5	68.5	29.5	58.5	23.5	M14×1.5	5	100	39.5	66.5	90	29.5	56.5
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	8	90.5	40.5	76.5	80.5	30.5	66.5	28.5	M18×1.5	5	116	40.5	73.5	106	30.5	63.5
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	8	98	46	84	88	36	74	28.5	M18×1.5	5	123.5	46	81	113.5	36	71

Double Acting, Non-Rotating Type

Outline Dimension Drawing (Bore size: ø32 to ø63)

- Rod Side Flange (FA)
SSD2-M(L)-32 to 63-FA

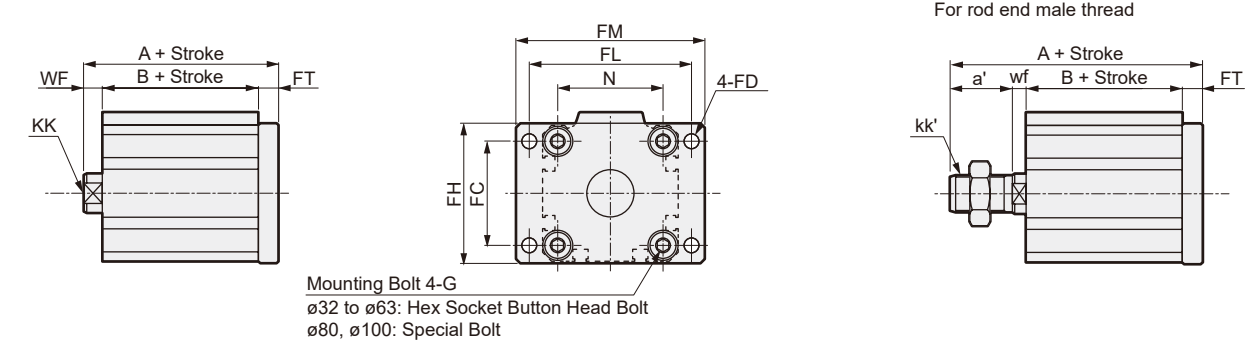


Code		Common dimension								For female thread					
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		
											A	B	A +1	B +1	
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	17	59	42	49 (59)	32 (42)	
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	17	56.5	39.5	46.5 (56.5)	29.5 (39.5)	
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	18	58.5	40.5	48.5 (58.5)	30.5 (40.5)	
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	18	64	46	54 (64)	36 (46)	

Code		For male thread					
Bore Size (mm)	a'	kk'	wf	Dimension with switch		Dimension without switch	
				A	B	A +1	B +1
ø32	23.5	M14×1.5	15	80.5	42	70.5 (80.5)	32 (42)
ø40	23.5	M14×1.5	15	78	39.5	68 (78)	29.5 (39.5)
ø50	28.5	M18×1.5	15	84	40.5	74 (84)	30.5 (40.5)
ø63	28.5	M18×1.5	15	89.5	46	79.5 (89.5)	36 (46)

*1: Dimensions in () are values when exceeding 50 strokes.

- Head Side Flange (FB)
SSD2-M(L)-32 to 63-FB



Code	Common dimension									For female thread				For male thread							
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A	B				A	B	A	B
ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13	7	57	42	47	32	23.5	M14×1.5	14	78.5	42	68.5	32
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	7	54.5	39.5	44.5	29.5	23.5	M14×1.5	5	76	39.5	66	29.5
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	8	57.5	40.5	47.5	30.5	28.5	M18×1.5	5	83	40.5	73	30.5
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	8	63	46	53	36	28.5	M18×1.5	5	88.5	46	78.5	36

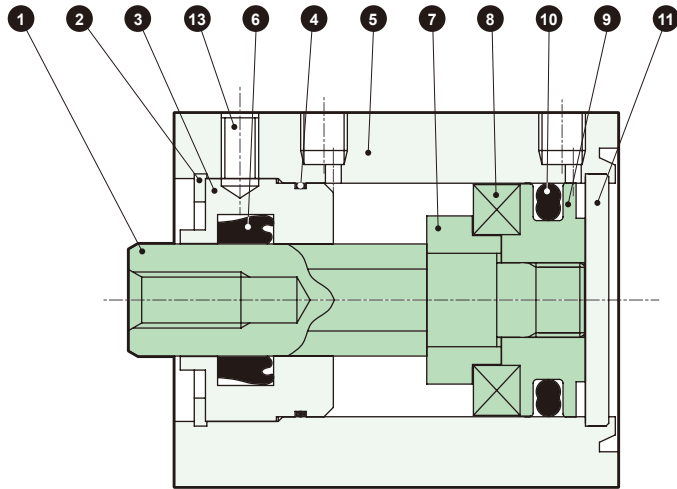
Cylinder Switch

Ending

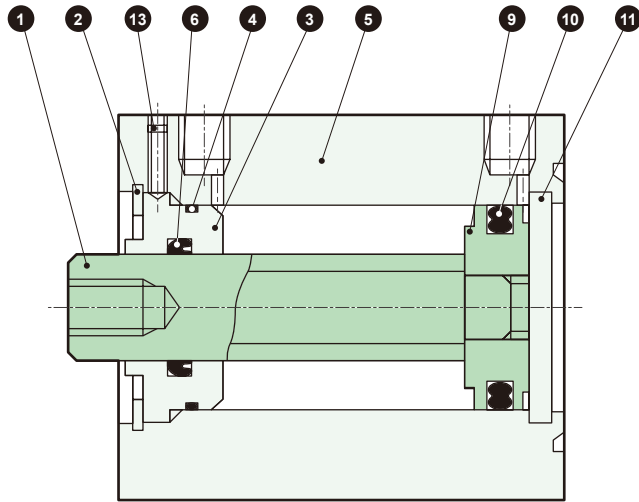
Ending

Internal Structure Diagram/Material (Bore size: ø12 to ø25)

● SSD2-ML-12 to 25 (Double Acting, Non-rotating Type with Switch)



● SSD2-M-12 to 25 (Double Acting, Non-rotating Type)



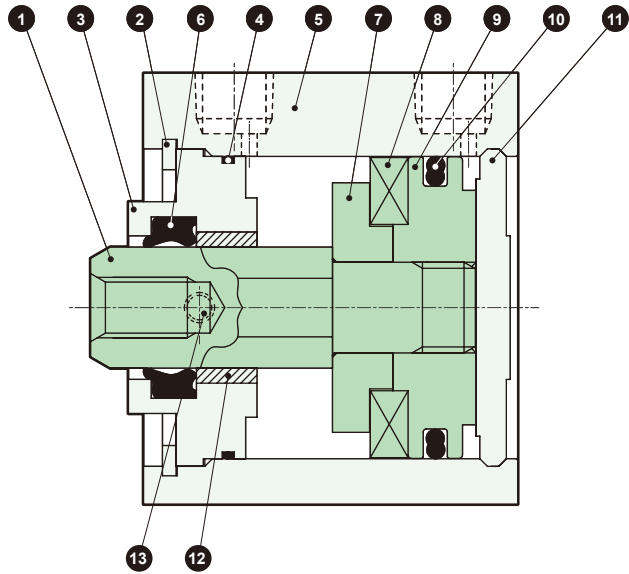
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel		8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	Chromate
3	Rod Metal	Aluminum Alloy	Alumite	10	Piston Packing	Nitrile Rubber	
4	Rod metal gasket	Nitrile Rubber		11	Cover	Stainless Steel	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Hexagon socket head set screw	Steel	
6	Rod Packing	Nitrile Rubber					
7	Spacer	Aluminum Alloy	Chromate				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

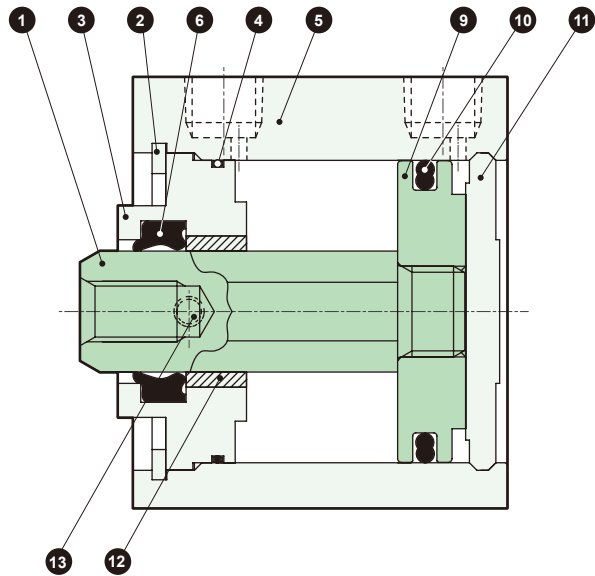
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø32 to ø63)

● SSD2-ML-32 to 63 (Double Acting, Non-rotating Type with Switch)



● SSD2-M-32 to 63 (Double Acting, Non-rotating Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining 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
5	Cylinder Body	Aluminum Alloy	Hard Anodized	12	Bushing	Oil-impregnated Bearing Alloy	
6	Rod Packing	Nitrile Rubber		13	Hexagon socket head set screw	Steel	
7	Spacer	Aluminum Alloy	Chromate				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending



Compact Cylinder Double Acting, Double Rod, Non-rotating Type

SSD2-DM Series

● Bore size: ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63

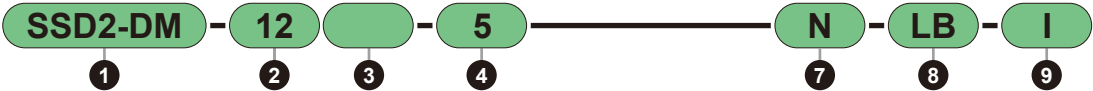
Circuit Diagram Symbol



Model No. Notation Method

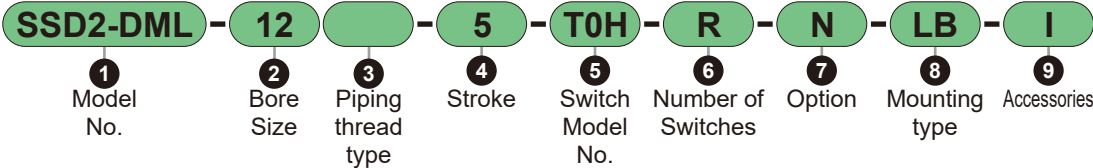
Without Switch

(Without magnet for switch)



With Switch

(Built-in magnet for switch)



1 Model No.

Code	Content
SSD2-DM	Double Acting, Double Rod, Non-rotating Type
SSD2-DML	Double Acting, Double Rod, Non-rotating Type with Switch

2 Bore Size (mm)

Code	Content
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

3 Port Thread Type:

Code	Content
Blank	M5 (ø12 to ø25) Rc thread (ø32 to ø63)
NN	NPT thread (Custom product) (ø32 to ø63)
GN	G thread (Custom product) (ø32 to ø63)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø12, ø16	5 to 30	-
ø20, ø25	5 to 50	-
ø32, ø40	5 to 100	Every 5 mm
ø50, ø63	10 to 100	Every 5 mm

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	12	16	20	25	32	40	50	63	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S		●	●						
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V		●	●						
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV		●	●						
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH	F3YV		●	●						
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV		●	●						
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV		●	●						
		2-wire	85 to 265	—	5 to 100	—	T1H	T1V		●	●	●	●	●	●	●	
		—	10 to 30	—	5 to 20 *2	—	T2H	T2V	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	—	—	—	T3H	T3V	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	30 or less	—	100 or less	T3PH	T3PV	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	
		2-wire	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV	●	●	●	●	●	●	●	●	
		—	24 ± 10%	—	5 to 20	—	T2YD	—		●	●	●	●	●	●	●	
		—	—	—	—	—	T2YDT	—		●	●	●	●	●	●	●	
		2-wire	—	10 to 30	—	5 to 20 *2	T2JH	T2JV		●	●	●	●	●	●	●	
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●	
	No Indicator Lamp	—	110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●	
	1-Color	—	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V					●	●	●	●	
	—	—	—	—	—	—	—	—									

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: T1□, T2YD□, T2J□ switches cannot be mounted on ø12, ø16.
*4: T8□ switches cannot be mounted on ø12 to ø32.
*5: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.
*6: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 10.
*7: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.
*8: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*9: Only T2WLH, T2WLV can be selected.

*10: F switch lead wire length 5 m cannot be selected.

Example) Lead wire length
1 m T0H
3 m T0H[3]
5 m T0H[5]

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
FA	Rod Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 183, P. 185. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread
M	Piston Rod Material (Stainless Steel) Custom product (ø32 to ø63)

*1: The piston rod material for ø12 to ø25 is stainless steel as standard. C-type retaining ring changes from steel to stainless steel. The nut material for rod end male thread type will be stainless steel.

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (Pin and retaining ring included)

*1: 7Optionally, N: Available only when rod end male thread is selected.
*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		12	16	20	25	32	40	50	63
Standard Stroke	5	●	●	●	●	●	●		
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●
	40			●	●	●	●	●	●
	45			●	●	●	●	●	●
	50			●	●	●	●	●	●
	75					●	●	●	●
100					●	●	●	●	
Minimum Stroke (mm) *1		5				10			
Maximum Stroke (mm)		30		50		100			
Intermediate Stroke *2		-				Every 5 mm			

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 180.

*2: Intermediate stroke is possible only when exceeding 50 strokes.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

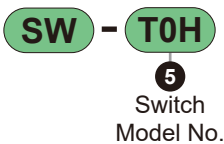
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-DM - - XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-DM							
	SSD2-DML (With Switch)							
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Actuation method	Double Acting Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	1.0							
Min. Operating Pressure MPa	0.15							0.1
Proof pressure MPa	1.6							
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)							
Port Size	M5				Rc1/8 *1		Rc1/4	
Stroke tolerance mm	+1.0							
	0							
Operating Piston Speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)							
Non-rotation Accuracy (*2)	±1°		±0.7°			±0.8°		
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

*1: For ø32 without switch, 5 stroke, the port size will be M5.
*2: Initial value at retracted end.

With Switch Minimum Stroke (With 2 Switches)

Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø12	10 (5)	5	20
ø16			
ø20	5		15
ø25			
ø32			
ø40			10
ø50	10	10	10
ø63			

*1: Cannot be manufactured for less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch.
*2: () indicates when 1 pc. is included to the rod side.

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-
ø16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-
ø20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-
ø25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-
ø32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012
ø40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490
ø50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270
ø63	-	-	902	1266	977	1341	1052	1416	1127	1491	1202	1566	1278	1642	1353	1717	1428	1792	1503	1867	2218	2242	2593	2617

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push/Pull	-	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push/Pull	-	22.6	30.2	45.2	60.3	75.4	90.5	1.06×10 ²	1.21×10 ²	1.36×10 ³	1.51×10 ²
ø20	Push/Pull	-	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
ø25	Push/Pull	-	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
ø32	Push/Pull	-	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
ø40	Push/Pull	-	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
ø50	Push/Pull	-	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
ø63	Push/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

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Bore Size (mm)	ø63						
Mounting bracket							
Foot (LB)	SSD2-LB-63						
Flange (FA)	SSD2-FA-63						

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

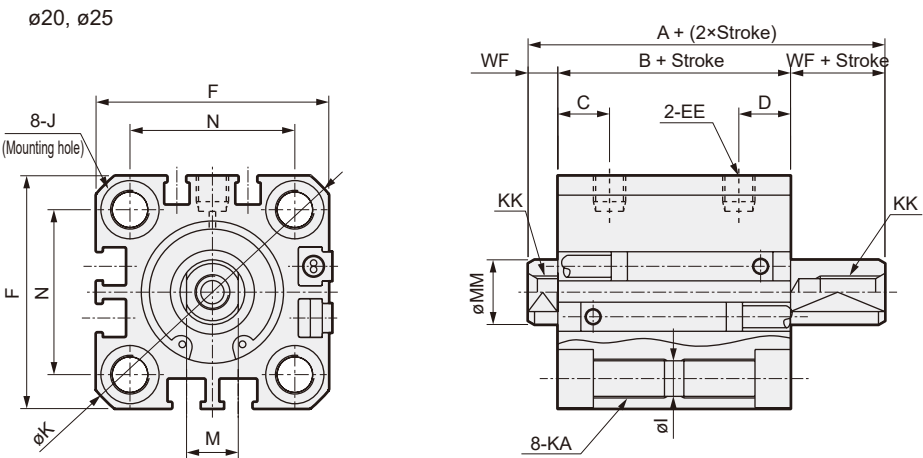
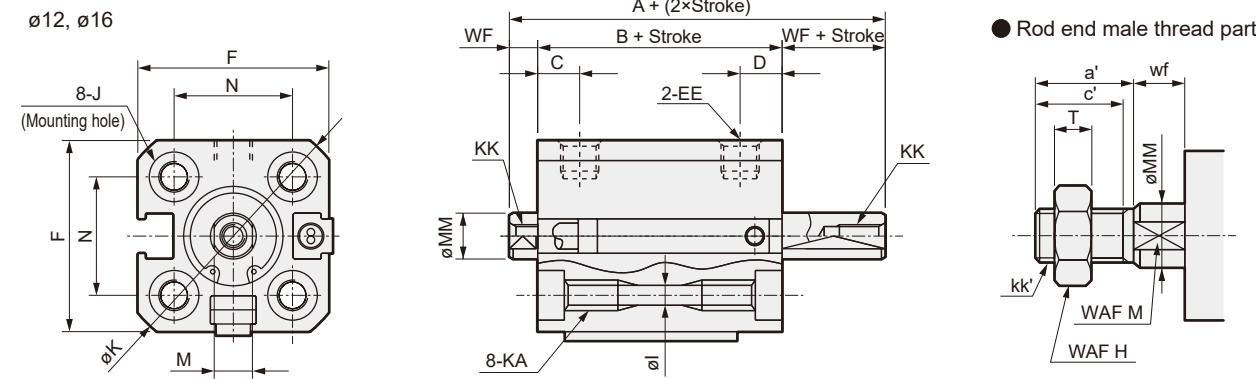
FC□

Cylinder Switch

Ending

Outline Dimension Drawing (Bore size: ø12 to ø25)

● SSD2-DM(L)-12 to 25



Code	Dimension with switch		Dimension without switch		Common dimension												
Bore Size (mm)	A	B	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	39	32	34	27	5.5	10.5	M5	25	3.5	6.5 Counterbore depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	39	32	34	27	5.5	10.5	M5	29	3.5	6.5 Counterbore depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	50	41	40	31	8	13	M5	36	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	54	44	44	34	11	16	M5	40	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

- *1: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.
*2: The positions of the flats for wrenches on the left and right sides are not fixed.
*3: For dimensions with each switch, refer to P. 300 to 309.
*4: For outline dimension drawings of individual accessories, refer to P. 34.

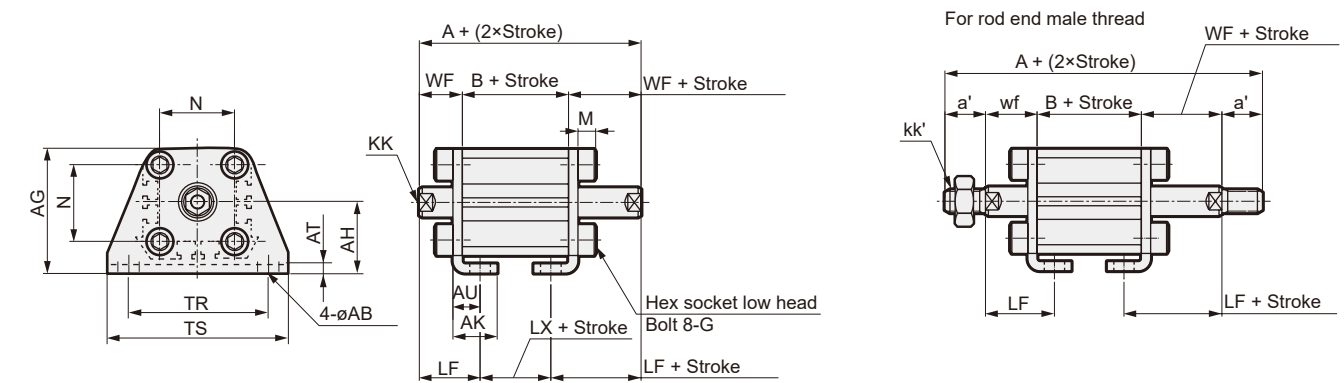
● Rod end male thread part dimension table

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

Double Acting/Double Rod Type

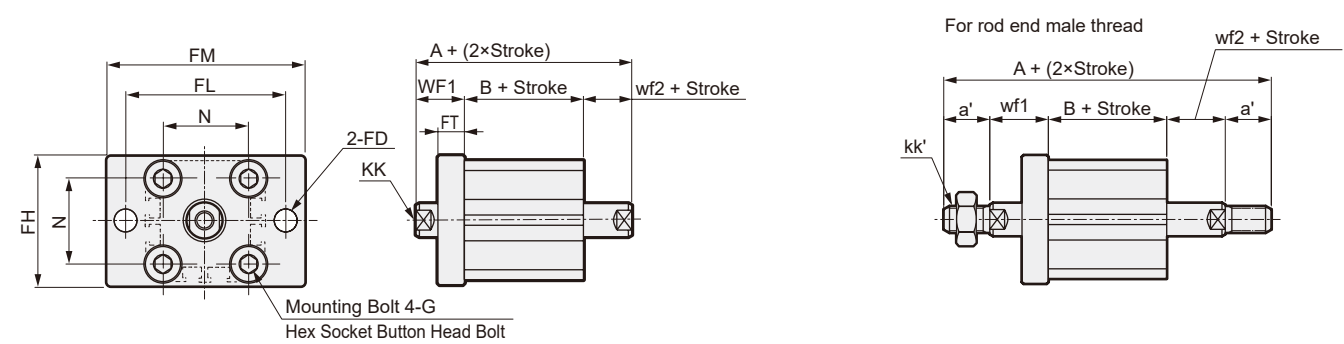
Outline Dimension Drawing (Bore size: ø12 to ø25)

● Axial Foot (LB)
SSD2-DM(L)-12 to 25-LB



Code	Common dimension																	
Bore Size (mm)	AB	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M						
	ø12	5	29.5	17	12.5	2	8	M4×10	M3 depth 6	15.5	34	44	4.8					
	ø16	5	33.5	19	13	2	8	M4×10	M4 depth 8	20	38	48	4.8					
	ø20	7	42	24	15	3.2	9.2	M6×16	M5 depth 7	25.5	48	62	7.2					
	ø25	7	46	26	16.5	3.2	10.7	M6×16	M6 Depth 12	28	52	66	7.2					
Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø12	13.5	19.5	59	32	15	54	27	15	10.5	M5	13.5	19.5	80	32	15	75	27	15
ø16	13.5	19.5	59	32	15	54	27	15	12	M6	13.5	19.5	83	32	15	78	27	15
ø20	14.5	20.5	70	41	19	60	31	19	14	M8	14.5	20.5	98	41	24	88	31	19
ø25	15	22.5	74	44	19	64	34	19	17.5	M10×1.25	15	22.5	109	44	24	99	34	19

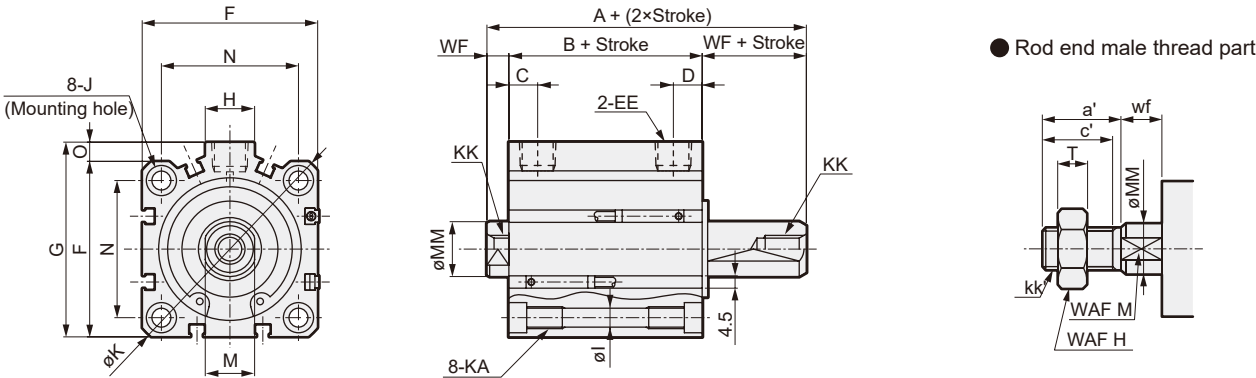
● Rod Side Flange (FA)
SSD2-DM(L)-12 to 25-FA



Code	Common dimension								For female thread						For male thread							
Bore Size (mm)	FD	FH	FL	FM	FT	N	G	KK	WF1	WF2	Dimension with switch		Dimension without switch		a'	kk'	wf1	wf2	Dimension with switch		Dimension without switch	
											A	B	A	B					A	B	A	B
ø12	4.5	25	45	55	5.5	15.5	M4×12	M3 depth 6	13.5	3.5	49	32	44	27	11	M5	13.5	3.5	70	32	65	27
ø16	4.5	30	45	55	5.5	20	M4×12	M4 depth 8	13.5	3.5	49	32	44	27	12	M6	13.5	3.5	73	32	68	27
ø20	6.6	39	48	60	8	25.5	M6×16	M5 depth 7	14.5	4.5	60	41	50	31	14	M8	14.5	4.5	88	41	78	31
ø25	6.6	42	52	64	8	28	M6×16	M6 Depth 12	15	5	64	44	54	34	18	M10×1.25	15	5	99	44	89	34

Outline Dimension Drawing (Bore size: ø32 to ø63)

● SSD2-DM(L)-32 to 63



Code Bore Size (mm)	Dimension with switch		Dimension without switch		Common dimension										
	A *2	B *3	A *2, *4	B *2, *4	C *6	D *6	EE *5	F	G	H	I	J	K	KA	KK
ø32	63.5	49.5	53.5 (63.5)	39.5 (49.5)	8 (5.5)	18 (20)	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5	60	M6 depth 11	M8 depth 13
ø40	64	50	54 (64)	40 (50)	12	12	Rc1/8	52	57	15	5.5	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13
ø50	66.5	50.5	56.5 (66.5)	40.5 (50.5)	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15
ø63	68	52	58 (68)	42 (52)	13	13	Rc1/4	77	84	23	8.7	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15
Code Bore Size (mm)	Common dimension														
	M	MM	N	O	P	WF									
ø32	14	16	34	4.5	21	7									
ø40	14	16	40	5	28	7									
ø50	17	20	50	7	35	8									
ø63	17	20	60	7	35	8									

- *1: Intermediate stroke is only supported when exceeding 50 strokes.
*2: When calculating A + (2×Stroke) for intermediate strokes, do not enter the intermediate stroke value; calculate using "A + Standard stroke above it + Intermediate stroke." (Example) For an intermediate stroke of 70 mm, "A + Standard stroke 75 mm + Intermediate stroke 70 mm"
*3: When calculating B + Stroke dimension for intermediate strokes, do not enter the intermediate stroke value; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 70 mm, enter the standard stroke of 75 mm for calculation.
*4: Dimensions in () for codes A and B are values when exceeding 50 strokes.
*5: For ø32 without switch, 5 strokes, the port size will be M5.
*6: Dimensions in () for columns C and D are values for 5 strokes without switch.
*7: The positions of the flats for wrenches on the left and right sides are not fixed.
***8: For dimensions with each switch, refer to P. 300 to 309.**
***9: For outline dimension drawings of individual accessories, refer to P. 34.**

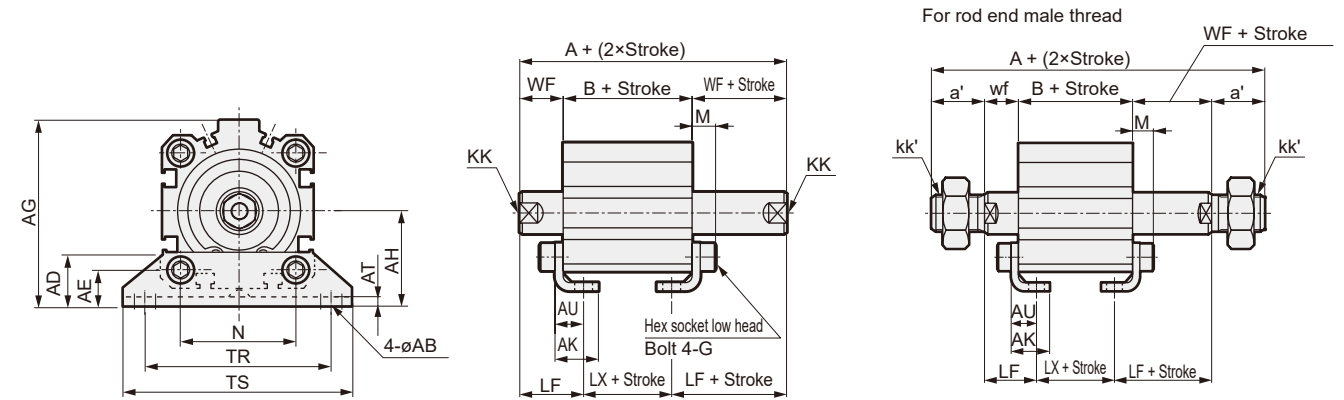
● Rod end male thread part dimension table

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø32	23.5	20.5	22	M14×1.5	14	16	8	5
ø40	23.5	20.5	22	M14×1.5	14	16	8	5
ø50	28.5	26	27	M18×1.5	17	20	11	5
ø63	28.5	26	27	M18×1.5	17	20	11	5

Double Acting/Double Rod Type

Outline Dimension Drawing (Bore size: ø32 to ø63)

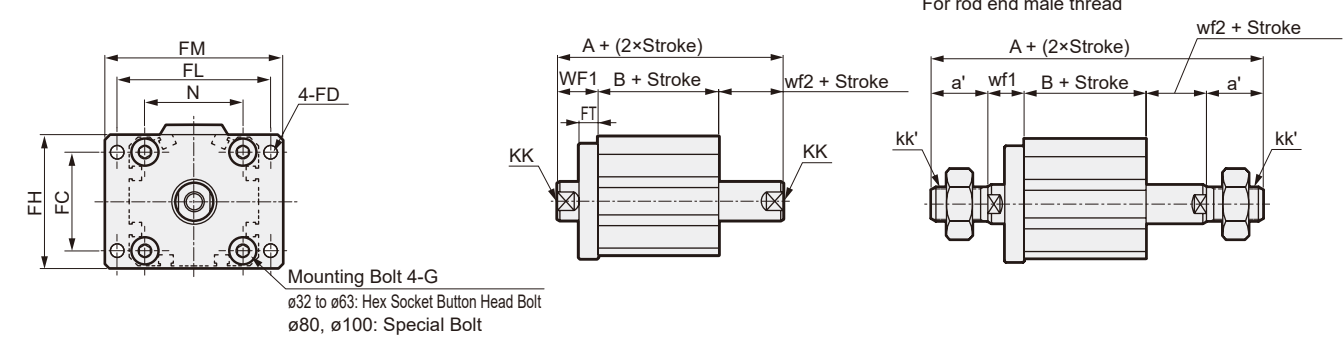
● Axial Foot (LB)
SSD2-DM(L)-32 to 63-LB



Code		Common dimension																
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M				
	ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2			
	ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2			
	ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2			
	ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2			
Code		For female thread							For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A	B	LX					A	B	LX	A	B	LX
ø32	17	25	74.5	40.5	24.5	64.5 (74.5)	30.5 (40.5)	14.5 (24.5)	23.5	M14×1.5	15	23	117.5	40.5	24.5	107.5 (117.5)	30.5 (40.5)	14.5 (24.5)
ø40	17	25	84	50	34	74 (84)	40 (50)	24 (34)	23.5	M14×1.5	15	23	127	50	34	117 (127)	40 (50)	24 (34)
ø50	18	29.5	86.5	50.5	27.5	76.5 (86.5)	40.5 (50.5)	17.5 (27.5)	28.5	M18×1.5	15	26.5	137.5	50.5	27.5	127.5 (137.5)	40.5 (50.5)	17.5 (27.5)
ø63	18	31	88	52	26	78 (88)	42 (52)	16 (26)	28.5	M18×1.5	15	28	139	52	26	129 (139)	42 (52)	16 (26)

*1: Dimensions in () are values when exceeding 50 strokes.

● Rod Side Flange (FA)
SSD2-DM(L)-32 to 63-FA

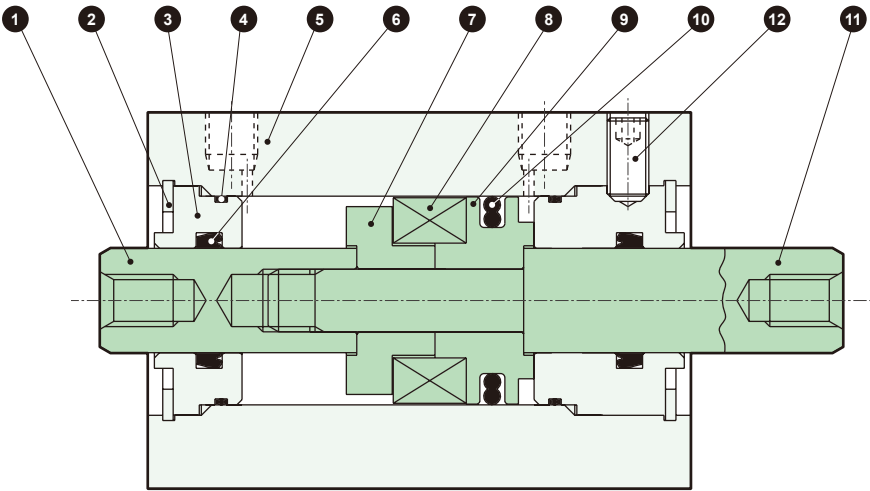


Code		Common dimension												
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK					
	ø32	34	5.5	48	56	65	8	34	M6×16	M8 depth 13				
	ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13				
	ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15				
	ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15				
Code		For female thread					For male thread							
Bore Size (mm)	WF1	WF2	Dimension with switch		Dimension without switch		a'	kk'	wf1	wf2	Dimension with switch		Dimension without switch	
			A	B	A ¹	B ¹					A	B	A ¹	B ¹
ø32	17	7	64.5	40.5	54.5 (64.5)	30.5 (40.5)	23.5	M14×1.5	15	5	107.5	40.5	97.5 (107.5)	30.5 (40.5)
ø40	17	7	74	50	64 (74)	40 (50)	23.5	M14×1.5	15	5	117	50	107 (117)	40 (50)
ø50	18	8	76.5	50.5	66.5 (76.5)	40.5 (50.5)	28.5	M18×1.5	15	5	127.5	50.5	117.5 (127.5)	40.5 (50.5)
ø63	18	8	78	52	68 (78)	42 (52)	28.5	M18×1.5	15	5	129	52	119 (129)	42 (52)

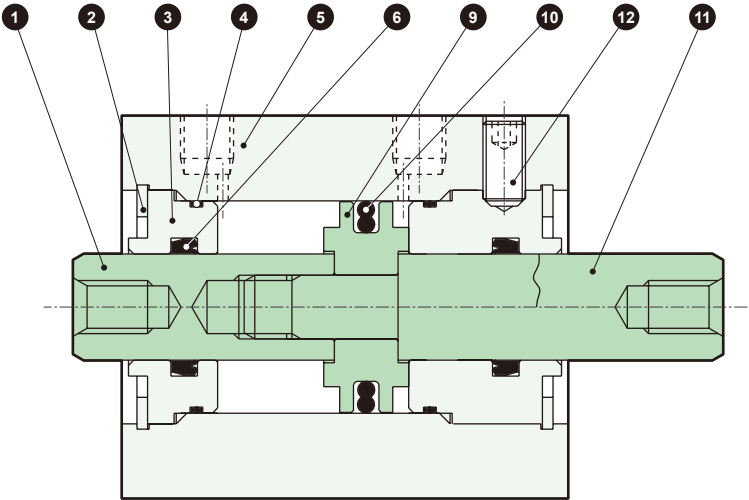
*1: Dimensions in () are values when exceeding 50 strokes.

Internal Structure Diagram/Material (Bore size: ø12 to ø25)

● SSD2-DML-12 to 25 (Double Acting, Double Rod, Non-rotating Type with Switch)



● SSD2-DM-12 to 25 (Double Acting, Double Rod, Non-rotating Type)

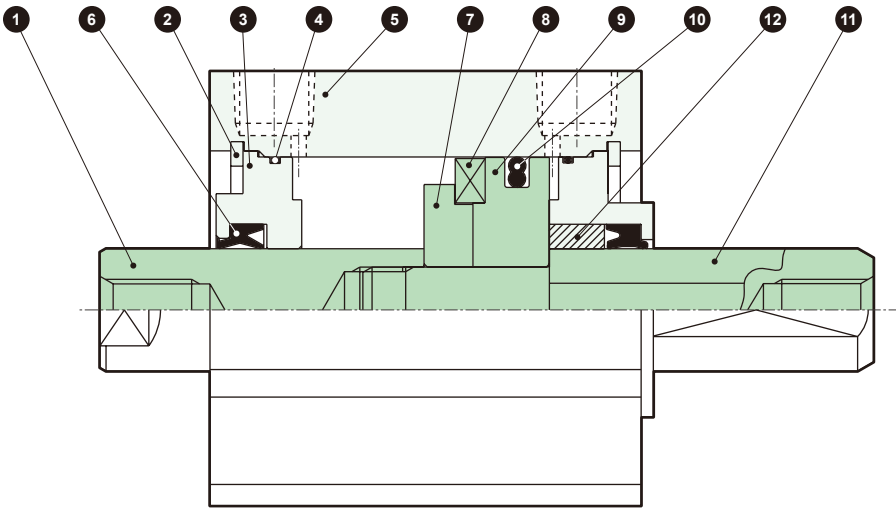


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod A	Stainless Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	Chromate
2	C-type retaining ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod Metal	Aluminum Alloy	Alumite	9	Piston	Aluminum Alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		10	Piston Packing	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Piston Rod B	Stainless Steel	Industrial Hard Chrome Plating
6	Rod Packing	Nitrile Rubber		12	Hexagon socket head set screw	Steel	

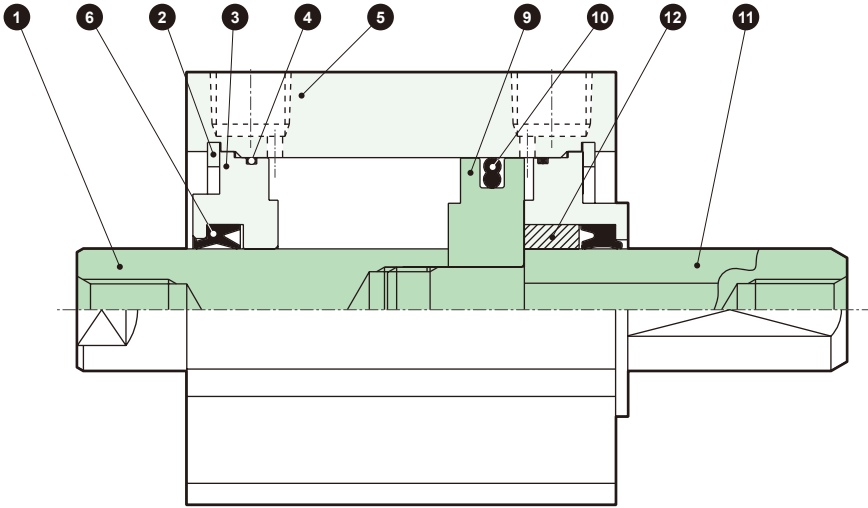
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø32 to ø63)

● SSD2-DML-32 to 63 (Double Acting, Double Rod, Non-rotating Type with Switch)



● SSD2-DM-32 to 63 (Double Acting, Double Rod, Non-rotating Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	ø32: Chromate
2	C-type retaining 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	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Piston Rod B	Steel	Industrial Hard Chrome Plating
6	Rod Packing	Nitrile Rubber		12	Bushing	Oil-Impregnated Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

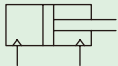


Compact Cylinder
Double Acting, Single Rod, Heavy-duty Scraper Type

SSD2-G Series

● Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



RoHS

Model No. Notation Method

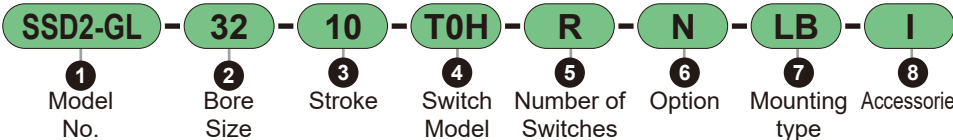
Without Switch

(Without magnet for switch)



With Switch

(Built-in magnet for switch)



1 Model No.

Code	Content
SSD2-G	Double Acting, Single Rod, Heavy-duty Scraper Type
SSD2-GL	Double Acting, Single Rod, Heavy-duty Scraper Type with Switch

2 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø20, ø25	1 to 50	Every 1 mm
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S□	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S□	●	●							
		2-wire	-	10 to 30	-	5 to 20 *2	F2H□	F2V□	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3H□	F3V□	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH□	F3PV□	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH□	F3YV□	●	●							
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH□	F2YV□	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH□	F3YV□	●	●							
	1-Color	2-wire	85 to 265	—	5 to 100	—	T1H□	T1V□	●	●	●	●	●	●	●	●	
		—	—	10 to 30	—	5 to 20 *2	T2H□	T2V□	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	—	—	100 or less	T3H□	T3V□	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	—	—	—	T3PH□	T3PV□	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH□	T2WV□	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH□	T3WV□	●	●	●	●	●	●	●	●	
		2-wire	—	24 ± 10%	—	5 to 20	T2WLH□	T2WLV□	●	●	●	●	●	●	●	●	
		—	—	—	—	—	T2YD□	—	●	●	●	●	●	●	●	●	
Reed	2-Color Improved Water Resistance	—	—	24 ± 10%	—	5 to 20	T2YDT□	—	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
	2-Color for AC Magnetic Field	—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
	1-Color Off-Delay Type	—	—	10 to 30	—	5 to 20 *2	T2JH□	T2JV□	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
	1-Color Flexible Lead Wire Type	—	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	
		—	—	—	—	—	—	—	●	●	●	●	●	●	●	●	
Cylinder Switch	1-Color	No Indicator Lamp	110	12/24	7 to 20	5 to 50	T0H□	T0V□	●	●	●	●	●	●	●	●	
			110	5/12/24	20 or less	50 or less	T5H□	T5V□	●	●	●	●	●	●	●	●	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H□	T8V□			●	●	●	●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T8□ switches cannot be mounted on ø20 to ø32.

*4: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.

*5: F-type switch with L-shaped lead wire for ø20 cannot be selected for strokes less than 15.

*6: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*7: Switches other than the model Nos. listed above are also available. (Custom products) For details, refer to P. 869.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*8: Only T2WLH, T2WLV can be selected.

*9: F-type switch with 5 m lead wire length cannot be selected.

Example) Lead wire length
1 m T0H□
3 m T0H□
5 m T0H□

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial foot type (both sides) (Custom product)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod side flange type (Custom product)
FB	Head Side Flange Type

*1: For ø20 to ø32, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Assembly at the time of product shipment is a custom order.

*2: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Minimum Stroke (mm) *1		1							
Maximum Stroke (mm)		50		100					
Intermediate Stroke *2		Every 1 mm							

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 190.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-G - - XP5

SSD2-G Series

Model No. Notation Method

6 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread

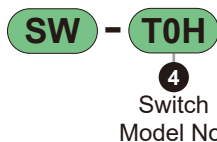
8 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (pin and retaining ring included)

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-G							
	SSD2-GL (With Switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	1.0							
Min. Operating Pressure MPa	0.15					0.1		
Proof pressure MPa	1.6							
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)							
Port Size	M5		Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0							
Operating Piston Speed mm/s	50 to 500					50 to 300		
Cushion	None							
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)							
Allowable absorbed energy J	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

Minimum Stroke with Switch (With 2 Switches)

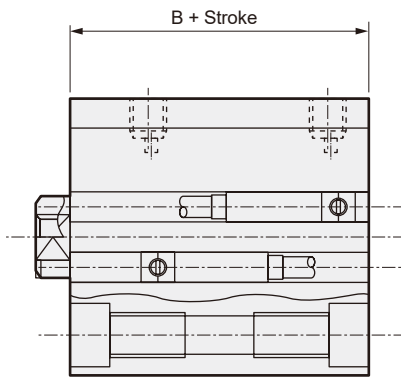
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø20	5	5	20
ø25			
ø32			15
ø40			
ø50			
ø63	10		10
ø80			
ø100			

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

About Intermediate Stroke

● SSD2 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-G-32-38 A +2 mm spacer is added to the standard cylinder SSD2-G-32-40 to make it 38 mm. B + Stroke = 33 + 40 = 73	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
ø25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
ø32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
ø40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
ø50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
ø63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
ø80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
ø100	-	-	2212	2779	2326	2893	2439	3006	2553	3120	2667	3234	2781	3348	2894	3461	3121	3575	3122	3689	3622	4259	4757	4829

Theoretical Thrust Table

(Unit: N)

Bore Size	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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 ³
ø40	Push	-	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	-	1.58×10 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
ø50	Push	-	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	-	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
ø63	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
ø80	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
ø100	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

Mounting Bracket Model No. Notation Method

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

*1: Foot type mounting brackets are 2 pcs/set.

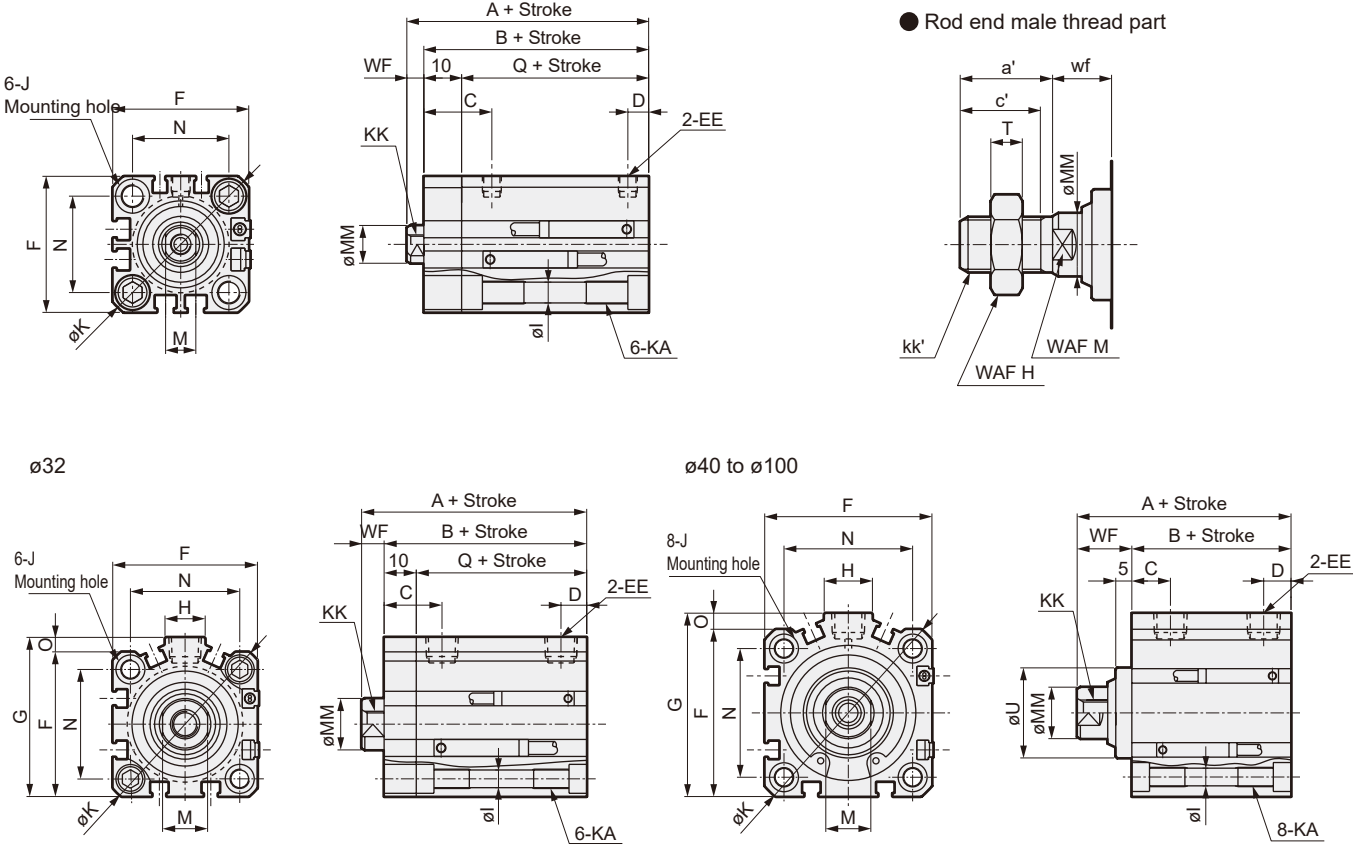
*2: For ø20 to ø32, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Please contact our sales department.

Outline Dimension Drawing

● SSD2-G(L)-20 to 100

ø20, ø25

● Rod end male thread part



Code	Dimension with switch			Dimension without switch			Common dimension													
Bore Size	A *1	B *1	Q	A *1 *2	B *1 *2	Q *2	C	D	EE *3	F	G	H	I	J *4						
ø20	44	39.5	29.5	34	29.5	19.5	18	5.5	M5	36	-	-	5.5	9 Counterbore depth 5.5 (15.5)						
ø25	47.5	42.5	32.5	37.5	32.5	22.5	21	6	M5	40	-	-	5.5	9 Counterbore depth 5.5 (15.5)						
ø32	50	43	33	40 (50)	33 (43)	23 (33)	18	8	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5 (15.5)						
ø40	56.5	39.5	-	46.5 (56.5)	29.5 (39.5)	-	12	8.5	Rc1/8	52	57	15	5.5	9 Counterbore depth 5.5						
ø50	58.5	40.5	-	48.5 (58.5)	30.5 (40.5)	-	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5						
ø63	64	46	-	54 (64)	36 (46)	-	13	11	Rc1/4	77	84	23	8.7	14 Counterbore depth 9						
ø80	73.5	53.5	-	63.5 (73.5)	43.5 (53.5)	-	16	13	Rc3/8	98	104	31	10.5	17.5 Counterbore depth 11						
ø100	85	63	-	75 (85)	53 (63)	-	23	15	Rc3/8	117	123.5	38	10.5	17.5 Counterbore depth 11						
Code	Common dimension									Rod end male thread part outline dimension										
Bore Size (mm)	K	KA		KK		M	MM	N	O	U	WF	a'	c'	H	kk'		M	MM	T	wf
ø20	47	M6 depth 11		M5 depth 7		8	10	25.5	-	-	4.5	14	12	13	M8		8	10	5	4.5
ø25	51	M6 depth 11		M6 Depth 12		10	12	28	-	-	5	17.5	15	17	M10×1.25		10	12	6	5
ø32	60	M6 depth 11		M8 depth 13		14	16	34	4.5	-	7	23.5	20.5	22	M14×1.5		14	16	8	5
ø40	69	M6 depth 11		M8 depth 13		14	16	40	5	28	17	23.5	20.5	22	M14×1.5		14	16	8	15
ø50	86	M8 depth 13		M10 depth 15		17	20	50	7	35	18	28.5	26	27	M18×1.5		17	20	11	15
ø63	103	M10 depth 25		M10 depth 15		17	20	60	7	35	18	28.5	26	27	M18×1.5		17	20	1	15
ø80	132	M12 depth 28		M16 depth 21		22	25	77	6	43	20	35.5	32.5	32	M22×1.5		22	25	13	18
ø100	156	M12 depth 28		M20 depth 27		27	30	94	6.5	59	22	35.5	32.5	41	M26×1.5		27	30	16	18

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Dimensions in () for codes A, B, Q are values when exceeding 50 strokes.

*3: For code EE, ø32 without switch, 5 strokes, the port size will be M5.

*4: Dimension in () for code J is the dimension of the rod side mounting hole.

***5: For dimensions with each switch, refer to P. 300 to 309.**

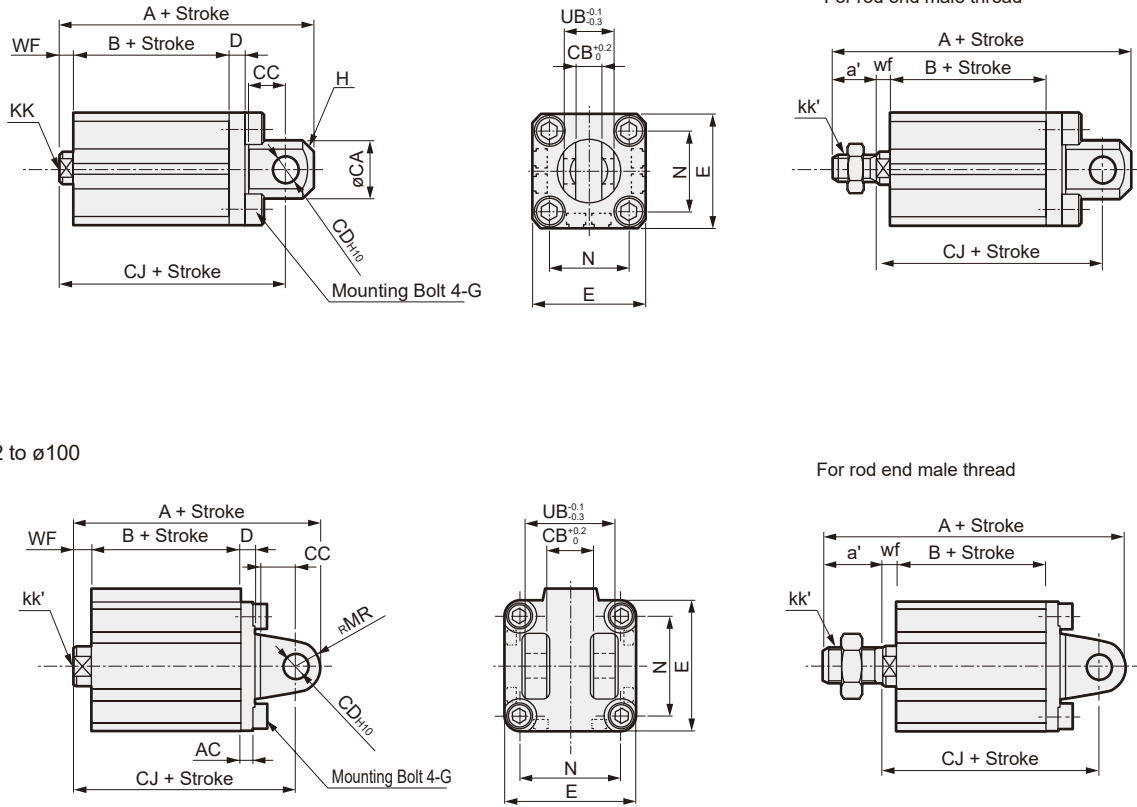
***6: For outline dimension drawings of individual accessories, refer to P. 34.**

*7: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.

Outline Dimension Drawing

● Double Knuckle Clevis (CB)
SSD2-G(L)-20 to 100-CB

· ø20, ø25



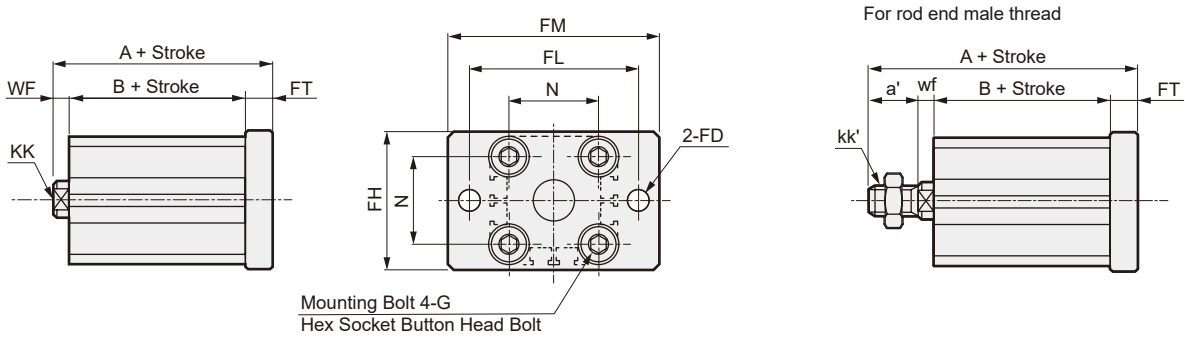
Code	Common dimension															
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	MR	N	UB	H			
ø20	-	20	8.2	12	8	5	36	M6×16	M5 depth 7	-	25.5	16	C4			
ø25	-	24	10.2	14	10	5	40	M6×16	M6 Depth 12	-	28	20	C5			
ø32	4.5	-	18.2	14	10	5	45	M6×16	M8 depth 13	10	34	36	-			
ø40	5	-	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	-			
ø50	6	-	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	-			
ø63	7	-	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	-			
ø80	9	-	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56	-			
ø100	12	-	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64	-			
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch		Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch			
		A	B	CJ	A ₁	B ₁				CJ ₁	A	B	CJ	A ₁	B ₁	CJ ₁
ø20	4.5	71	39.5	62	61	29.5	52	14	M8	4.5	85	39.5	62	75	29.5	52
ø25	5	77.5	42.5	67.5	67.5	32.5	57.5	17.5	M10×1.25	5	95	42.5	67.5	85	32.5	57.5
ø32	7	80	43	70	70 (80)	33 (43)	60 (70)	23.5	M14×1.5	5	101.5	43	68	91.5 (101.5)	33 (43)	58 (68)
ø40	17	88.5	39.5	78.5	78.5 (88.5)	29.5 (39.5)	68.5 (78.5)	23.5	M14×1.5	15	110	39.5	76.5	100 (110)	29.5 (39.5)	66.5 (76.5)
ø50	18	100.5	40.5	86.5	90.5 (100.5)	30.5 (40.5)	76.5 (86.5)	28.5	M18×1.5	15	126	40.5	83.5	116 (126)	30.5 (40.5)	73.5 (83.5)
ø63	18	108	46	94	98 (108)	36 (46)	84 (94)	28.5	M18×1.5	15	133.5	46	91	123.5 (133.5)	36 (46)	81 (91)
ø80	20	129.5	53.5	111.5	119.5 (129.5)	43.5 (53.5)	101.5 (111.5)	35.5	M22×1.5	18	163	53.5	109.5	153 (163)	43.5 (53.5)	99.5 (109.5)
ø100	22	152	63	130	142 (152)	53 (63)	120 (130)	35.5	M26×1.5	18	183.5	63	126	173.5 (183.5)	53 (63)	116 (126)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

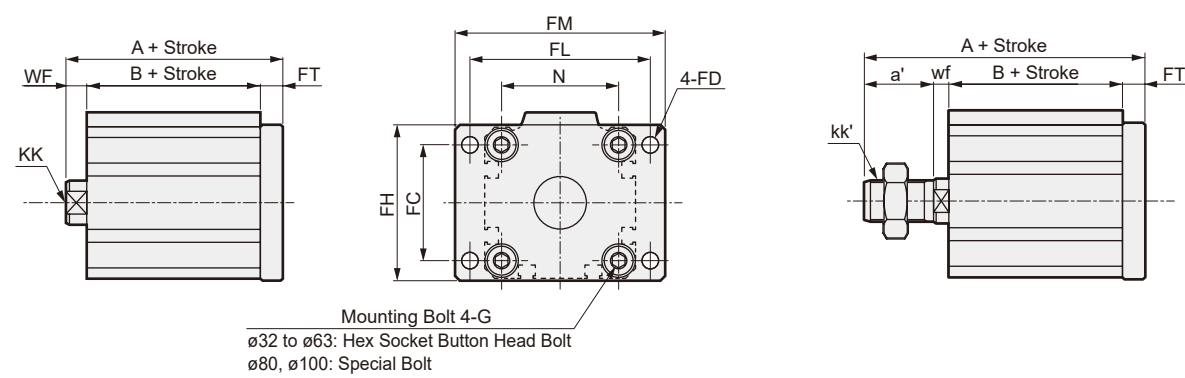
Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-G(L)-20 to 100-FB

· ø20, ø25



· ø32 to ø100



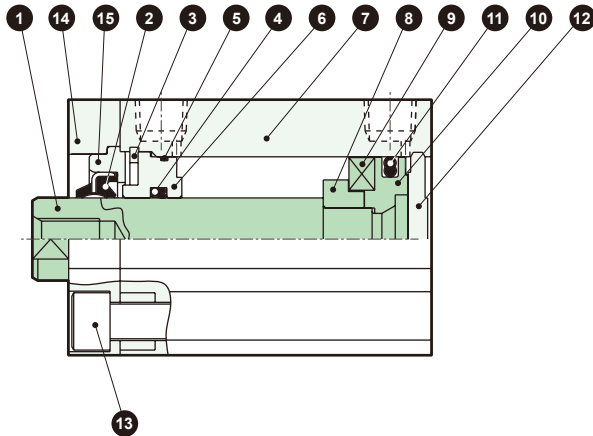
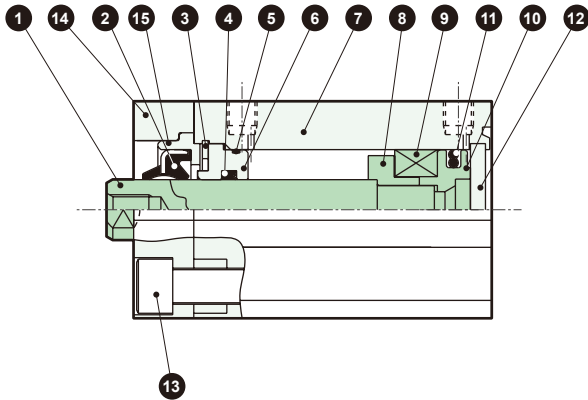
Code	Common dimension										For female thread				For male thread							
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch		
											A	B	A	B				A	B	A	B	
ø20	-	6.6	39	48	60	8	M6×16	M5 depth 7	25.5	4.5	52	39.5	42	29.5	14	M8	4.5	66	39.5	56	29.5	
ø25	-	6.6	42	52	64	8	M6×16	M6 Depth 12	28	5	55.5	42.5	45.5	32.5	17.5	M10×1.25	5	73	42.5	63	32.5	
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34	7	58	43	48 (58)	33 (43)	23.5	M14×1.5	5	79.5	43	69.5 (79.5)	33 (43)	
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	17	64.5	39.5	54.5 (64.5)	29.5 (39.5)	23.5	M14×1.5	15	86	39.5	76 (86)	29.5 (39.5)	
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	18	67.5	40.5	57.5 (67.5)	30.5 (40.5)	28.5	M18×1.5	15	93	40.5	83 (93)	30.5 (40.5)	
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	18	73	46	63 (73)	36 (46)	28.5	M18×1.5	15	98.5	46	88.5 (98.5)	36 (46)	
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	20	84.5	53.5	74.5 (84.5)	43.5 (53.5)	35.5	M22×1.5	18	118	53.5	108 (118)	43.5 (53.5)	
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	22	96	63	86 (96)	53 (63)	35.5	M26×1.5	18	127.5	63	117.5 (127.5)	53 (63)	

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

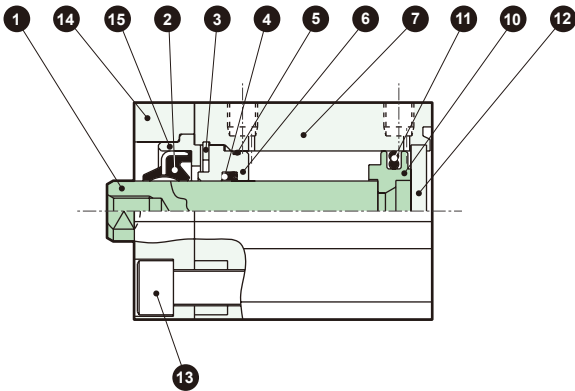
MEMO

Internal Structure Diagram/Material (Bore size: ø20 to ø32)

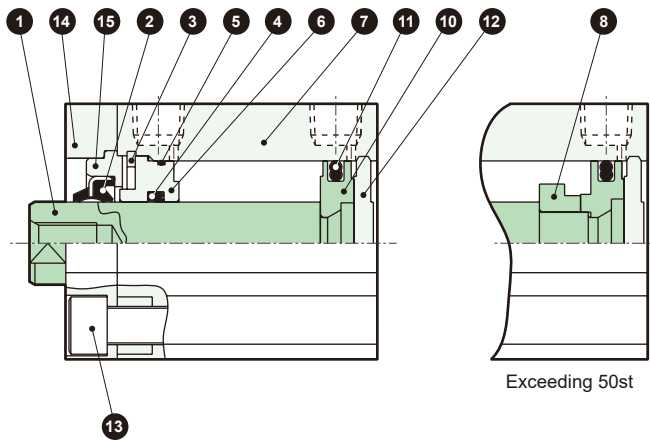
- SSD2-GL-20, 25 (Double Acting, Single Rod, Heavy-duty Scraper Type with Switch)
- SSD2-GL-32 (Double Acting, Single Rod, Heavy-duty Scraper Type with Switch)



- SSD2-G-20, 25 (Double Acting, Single Rod, Heavy-duty Scraper Type)



- SSD2-G-32 (Double Acting, Single Rod, Heavy-duty Scraper Type)

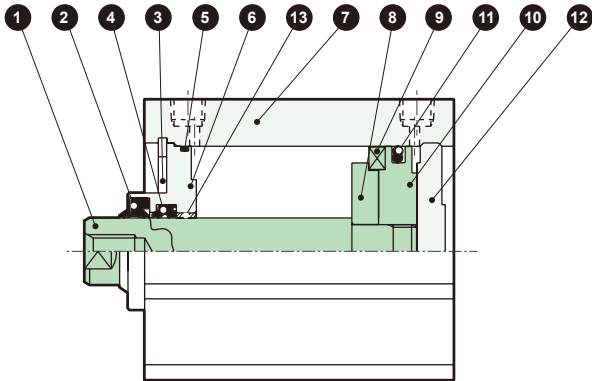
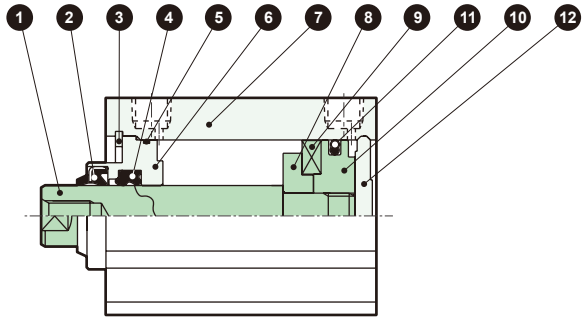


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20, ø25: Stainless Steel ø32: Steel	Industrial Hard Chrome Plating	9	Magnet	Plastic	
2	Scraper	Nitrile Rubber, Steel		10	Piston	Aluminum Alloy	Chromate
3	C-type retaining ring	Stainless Steel		11	Piston Packing	Nitrile Rubber	
4	Rod Packing	Nitrile Rubber		12	Cover	ø20 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite
5	Rod metal gasket	Nitrile Rubber		13	Hexagon Socket Head Cap Screw	Stainless Steel	
6	Rod Metal	Aluminum Alloy	Alumite	14	Adapter (A)	Aluminum Alloy	Alumite
7	Cylinder Body	Aluminum Alloy	Hard Anodized	15	Adapter (B)	Aluminum Alloy	Alumite
8	Spacer	Aluminum Alloy	Chromate				

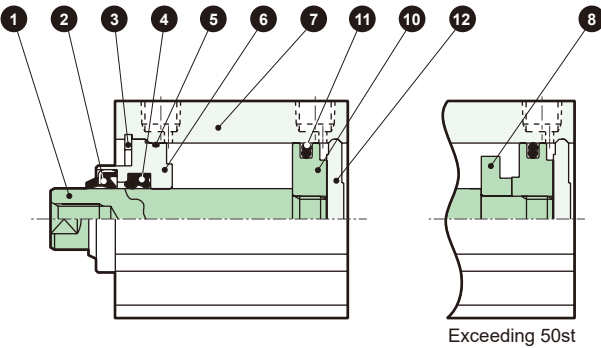
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø40 to ø100)

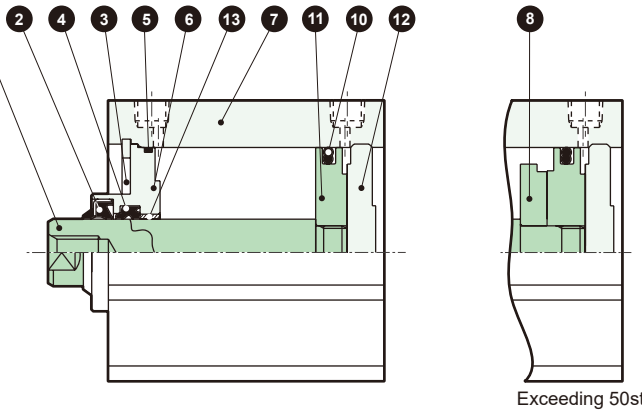
- SSD2-GL-40, 50 (Double Acting, Single Rod, Heavy-duty Scraper Type with Switch)
- SSD2-GL-63 to 100 (Double Acting, Single Rod, Heavy-duty Scraper Type with Switch)



- SSD2-G-40, 50 (Double Acting, Single Rod, Heavy-duty Scraper Type)



- SSD2-G-63 to 100 (Double Acting, Single Rod, Heavy-duty Scraper Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	7	Cylinder Body	Aluminum Alloy	Hard Anodized
2	Scraper	Nitrile Rubber, Steel		8	Spacer	Aluminum Alloy	Chromate
3	C-type retaining ring	Stainless Steel		9	Magnet	Plastic	
4	Rod Packing	Nitrile Rubber		10	Piston	Aluminum Alloy	Chromate
5	Rod metal gasket	Nitrile Rubber		11	Piston Packing	Nitrile Rubber	
6	Rod Metal	Aluminum Alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	12	Cover	Aluminum Alloy	Alumite
				13	Bushing	Bearing Alloy	ø63 to ø100 only

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

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(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

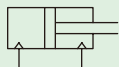


Compact Cylinder Double Acting, Cutting Oil Resistant Type

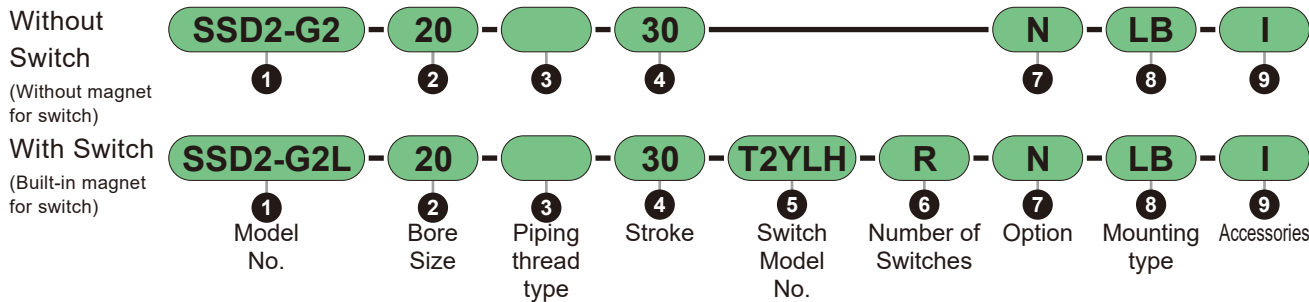
SSD2-G2, G3 Series

● Bore size: ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Model No.

Code	Content
SSD2-G2	Double Acting, Cutting Oil Resistant Type, Cutting Oil Resistant Scraper + Nitrile Rubber Packing
SSD2-G3	Double Acting, Cutting Oil Resistant Type, Cutting Oil Resistant Scraper + Fluororubber Packing
SSD2-G2L	Double Acting, Cutting Oil Resistant Type, Cutting Oil Resistant Scraper + Nitrile Rubber Packing with Switch
SSD2-G3L	Double Acting, Cutting Oil Resistant Type, Cutting Oil Resistant Scraper + Fluororubber Packing with Switch

2 Bore Size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Piping thread type

Code	Content
Blank	M5 (ø16 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	2-Color Improved Water Resistance	2-wire	-	24 ± 10%	-	5 to 20	T2WLH□	T2WLV□	
	For 2-Color Cutting Oil	2-wire	-	10 to 30	-	5 to 20	T2YLH□	T2YLV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3YLH□	T3YLV□	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length, connector specification

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)
W	M8 Connector, 1PIN (+) 4PIN (-) Lead Wire 0.3 m

*3

*3: Only T2WLH, T2WLV can be selected.

Example) Lead wire length
1 m T2WLH
3 m T2WLH [3]
5 m T2WLH [5]

SSD2-G2, G3 Series

Model No. Notation Method

7 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

9 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: 7 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod side flange type (Custom product)	
FB	Head Side Flange Type	

*1: For ø16 to ø32, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Assembly at the time of product shipment is a custom order.

*2: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

Appendix Table 1

Stroke (mm)		Applicable Bore								
		16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●
	35		●	●	●	●	●	●	●	●
	40		●	●	●	●	●	●	●	●
	45		●	●	●	●	●	●	●	●
	50		●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●
100				●	●	●	●	●	●	
Minimum Stroke (mm) *1		1								
Maximum Stroke (mm)		30	50		100					
Intermediate Stroke *2		Every 1 mm								
Minimum Stroke with Switch		10								

*1: Cannot be manufactured for less than 10 mm with switch.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-G2 - - XP5 SSD2-G3 - - XP5

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

● Food grade lubricant usable in food manufacturing processes

SSD2 - G2 - - FP1

SSD2 - G3 - - FP1

Switch Single Unit Model No. Notation Method

SW - T2YLH

5 Switch Model No.

Specifications

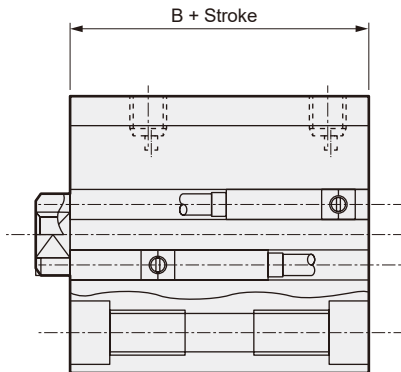
Item	SSD2-G2·G3								
	SSD2-G2L·G3L (With Switch)								
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting								
Operating Fluid	Compressed Air								
Max. Operating Pressure MPa	1.0								
Min. Operating Pressure MPa	0.15						0.1		
Proof pressure MPa	1.6								
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)								
Port Size	M5			Rc1/8 *1			Rc1/4		Rc3/8
Stroke Tolerance mm	+1.0 0								
Operating Piston Speed mm/s	50 to 500						50 to 300		
Cushion	None								
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)								
Allowable absorbed energy J	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

About Intermediate Stroke

● SSD2-G2·G3 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-G2-32-38 A +2 mm spacer is added to the standard cylinder SSD2-G2-32-40 to make it 38 mm. B + Stroke = 33 + 40 = 73	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø16	62	118	73	118	83	158	94	139	105	150	116	161	-	-	-	-	-	-	-	-	-	-	-	-
ø20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
ø25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
ø32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
ø40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
ø50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
ø63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
ø80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
ø100	-	-	2212	2779	2326	2893	2439	3006	2553	3120	2667	3234	2781	3348	2894	3461	3121	3575	3122	3689	3622	4259	4757	4829

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	Push	-	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	-	22.6	30.2	45.2	60.3	75.4	90.5	1.06×10 ²	1.21×10 ²	1.36×10 ³	1.51×10 ²
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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 ³
ø40	Push	-	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	-	1.58×10 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
ø50	Push	-	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	-	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
ø63	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
ø80	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
ø100	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

Mounting Bracket Model No. Notation Method

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

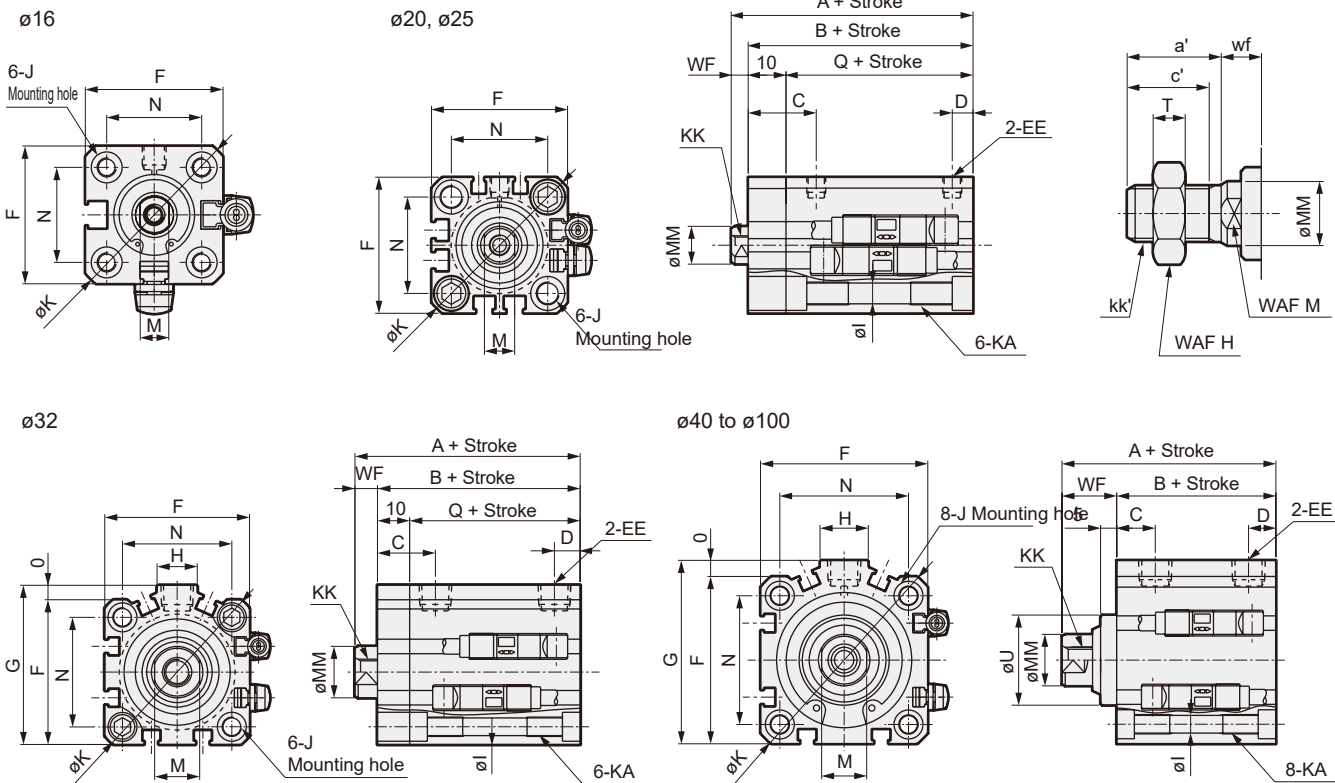
*1: Foot type mounting brackets are 2 pcs/set.

*2: For ø16 to ø32, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Please contact our sales department.

Outline Dimension Drawing

- Degree of protection: NBR Packing
SSD2-G2(L)-16 to 100
- Degree of protection: FKM Packing
SSD2-G3(L)-16 to 100

● Rod end male thread part



Code	Dimension with switch			Dimension without switch			Common dimension										
Bore Size (mm)	A	B	Q	A	B	Q	C	D	EE	F	G	H	I	J	K	KA	KK
	*1	*1	Q	*1, *2	*1, *2	Q			*3					*4			
ø16	40.5	32	22	35.5	27	17	15.5	5.5	M5	29	-	-	3.5	6.5 Counterbore depth 3.5 (13.4)	38	M4 depth 7	M4 depth 8
ø20	49	39.5	29.5	39	29.5	19.5	18	5.5	M5	36	-	-	5.5	9 Counterbore depth 5.5 (15.5)	47	M6 depth 11	M5 depth 7
ø25	52.5	42.5	32.5	42.5	32.5	22.5	21	6	M5	40	-	-	5.5	9 Counterbore depth 5.5 (15.5)	51	M6 depth 11	M6 Depth 12
ø32	55	43	33	45 (55)	33 (43)	23 (33)	18	8	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5 (15.5)	60	M6 depth 11	M8 depth 13
ø40	56.5	39.5	-	46.5 (56.5)	29.5 (39.5)	-	12	8.5	Rc1/8	52	57	15	5.5	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13
ø50	58.5	40.5	-	48.5 (58.5)	30.5 (40.5)	-	10.5	10.5	Rc1/4	64	71	18	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15
ø63	64	46	-	54 (64)	36 (46)	-	13	11	Rc1/4	77	84	23	8.7	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15
ø80	73.5	53.5	-	63.5 (73.5)	43.5 (53.5)	-	16	13	Rc3/8	98	104	31	10.5	17.5 Counterbore depth 11	132	M12 depth 28	M16 depth 21
ø100	85	63	-	75 (85)	53 (63)	-	23	15	Rc3/8	117	123.5	38	10.5	17.5 Counterbore depth 11	156	M12 depth 28	M20 depth 27
Code	Common dimension						Rod end male thread part outline dimension										
Bore Size (mm)	M	MM	N	O	U	WF	a'	c'	H	kk'	M	MM	T	wf			
ø16	6	8	20	-	-	8.5	12	10	10	M6	6	8	3.6	8.5			
ø20	8	10	25.5	-	-	9.5	14	12	13	M8	8	10	5	9.5			
ø25	10	12	28	-	-	10	17.5	15	17	M10×1.25	10	12	6	10			
ø32	14	16	34	4.5	-	12	23.5	20.5	22	M14×1.5	14	16	8	10			
ø40	14	16	40	5	28	17	23.5	20.5	22	M14×1.5	14	16	8	15			
ø50	17	20	50	7	35	18	28.5	26	27	M18×1.5	17	20	11	15			
ø63	17	20	60	7	35	18	28.5	26	27	M18×1.5	17	20	11	15			
ø80	22	25	77	6	43	20	35.5	32.5	32	M22×1.5	22	25	13	18			
ø100	27	30	94	6.5	59	22	35.5	32.5	41	M26×1.5	27	30	16	18			

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Dimensions in () for codes A, B, Q are values when exceeding 50 strokes.

*3: For code EE, ø32 without switch, 5 strokes, the port size will be M5.

*4: Dimension in () for code J is the counterbore dimension of the rod side mounting hole.

*5: Switches cannot be mounted on the piping port surface of Bore Sizes ø20, ø25.

***6: For dimensions with each switch, refer to P. 300 to 309.**

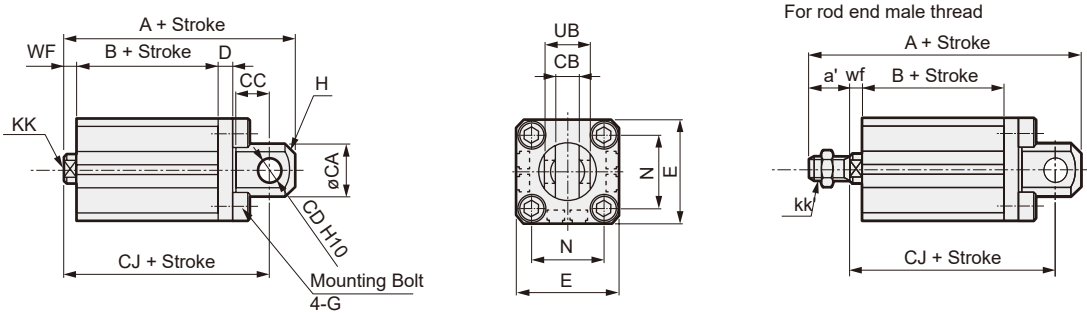
***7: For outline dimension drawings of individual accessories, refer to P. 34.**

Double Acting, Coolant Proof Type

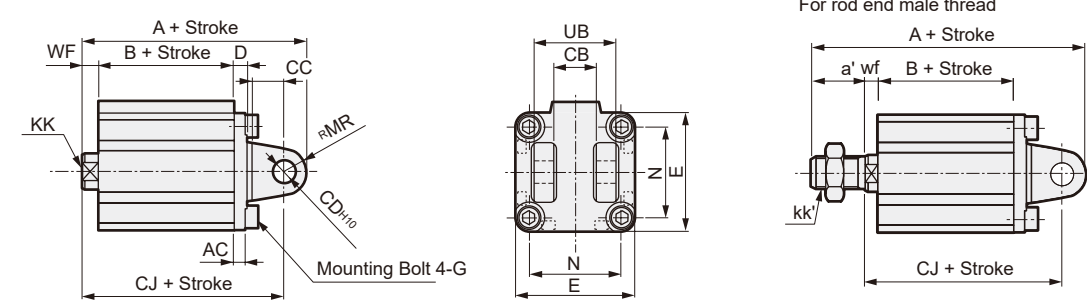
Outline Dimension Drawing

- Double Knuckle Clevis (CB)
SSD2-G2(L)-G3(L)-16 to 100-CB

· ø16 to ø25



· ø32 to ø100



Code	Common dimension												
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB
ø16	-	15	6.6 ^{+0.3} _{-0.2}	8	5	5	29	M4×12	M4 depth 8	C2	-	20	12
ø20	-	20	8.2 ^{+0.3} _{-0.2}	12	8	5	36	M6×16	M5 depth 7	C4	-	25.5	16
ø25	-	24	10.2 ^{+0.3} _{-0.2}	14	10	5	40	M6×16	M6 Depth 12	C5	-	28	20
ø32	4.5	-	18.2 ^{+0.3} _{-0.2}	14	10	5	45	M6×16	M8 depth 13	-	10	34	36
ø40	5	-	18.2 ^{+0.3} _{-0.2}	14	10	6	52	M6×16	M8 depth 13	-	10	40	36
ø50	6	-	22.2 ^{+0.3} _{-0.2}	20	14	7	64	M8×20	M10 depth 15	-	14	50	44
ø63	7	-	22.2 ^{+0.3} _{-0.2}	20	14	8	77	M10×25	M10 depth 15	-	14	60	44
ø80	9	-	28.2 ^{+0.3} _{-0.2}	27	18	10	98	M12×40	M16 depth 21	-	18	77	56
ø100	12	-	32.2 ^{+0.3} _{-0.2}	31	22	13	117	M12×40	M20 depth 27	-	22	94	64

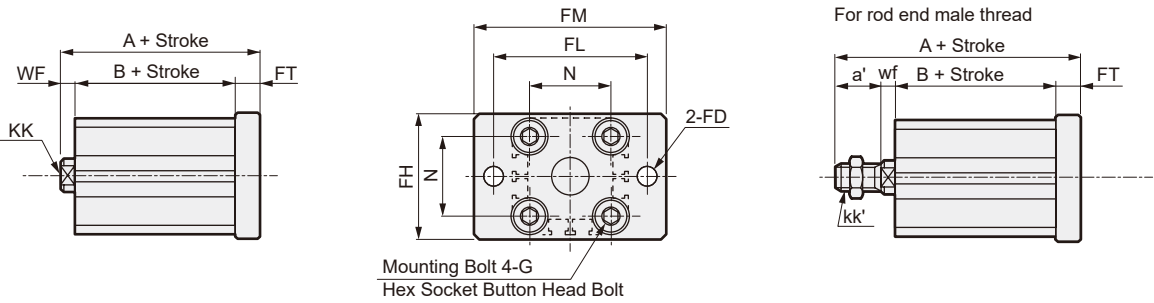
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A "1	B "1	CJ "1				A	B	CJ	A "1	B "1	CJ "1
ø16	8.5	61.5	32	55.5	56.5	27	50.5	12	M6	8.5	73.5	32	55.5	68.5	27	50.5
ø20	9.5	76	39.5	67	66	29.5	57	14	M8	9.5	90	39.5	67	80	29.5	57
ø25	10	82.5	42.5	72.5	72.5	32.5	62.5	17.5	M10×1.25	10	100	42.5	72.5	90	32.5	62.5
ø32	12	85	43	75	75 (85)	33 (43)	65 (75)	23.5	M14×1.5	10	106.5	43	73	96.5 (106.5)	33 (43)	63 (73)
ø40	17	88.5	39.5	78.5	78.5 (88.5)	29.5 (39.5)	68.5 (78.5)	23.5	M14×1.5	15	110	39.5	76.5	100 (110)	29.5 (39.5)	66.5 (76.5)
ø50	18	100.5	40.5	86.5	90.5 (100.5)	30.5 (40.5)	76.5 (86.5)	28.5	M18×1.5	15	126	40.5	83.5	116 (126)	30.5 (40.5)	73.5 (83.5)
ø63	18	108	46	94	98 (108)	36 (46)	84 (94)	28.5	M18×1.5	15	133.5	46	91	123.5 (133.5)	36 (46)	81 (91)
ø80	20	129.5	53.5	111.5	119.5 (129.5)	43.5 (53.5)	101.5 (111.5)	35.5	M22×1.5	18	163	53.5	109.5	153 (163)	43.5 (53.5)	99.5 (109.5)
ø100	22	152	63	130	142 (152)	53 (63)	120 (130)	35.5	M26×1.5	18	183.5	63	126	173.5 (183.5)	53 (63)	116 (126)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

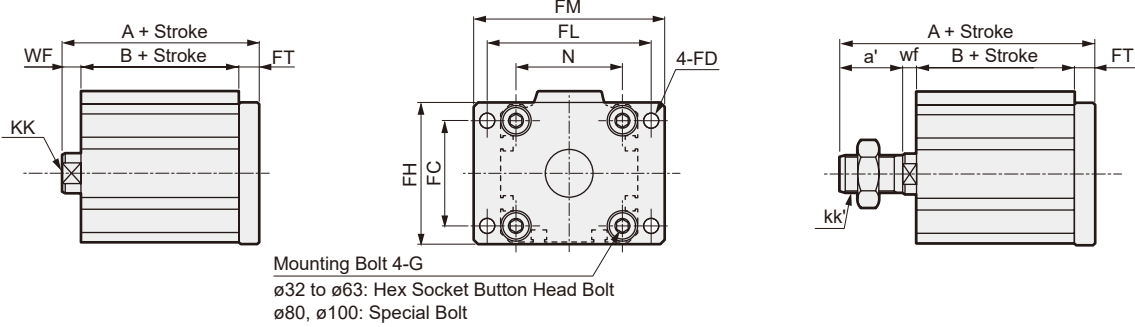
Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-G2(L)·G3(L)-16 to 100-FB

· ø16 to ø25



· ø32 to ø100



Code	Common dimension									For female thread					For male thread						
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	N	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A *1	B *1				A	B	A *1	B *1
ø16	-	4.5	30	45	55	5.5	M4×12	20	M4 depth 8	8.5	46	32	41	27	12	M6	8.5	58	32	53	27
ø20	-	6.6	39	48	60	8	M6×16	25.5	M5 depth 7	9.5	57	39.5	47	29.5	14	M8	9.5	71	39.5	61	29.5
ø25	-	6.6	42	52	64	8	M6×16	28	M6 Depth 12	10	60.5	42.5	50.5	32.5	17.5	M10×1.25	10	78	42.5	68	32.5
ø32	34	5.5	48	56	65	8	M6×16	34	M8 depth 13	12	63	43	53 (63)	33 (43)	23.5	M14×1.5	10	84.5	43	74.5 (84.5)	33 (43)
ø40	40	5.5	54	62	72	8	M6×16	40	M8 depth 13	17	64.5	39.5	54.5 (64.5)	29.5 (39.5)	23.5	M14×1.5	15	86	39.5	76 (86)	29.5 (39.5)
ø50	50	6.6	67	76	89	9	M8×20	50	M10 depth 15	18	67.5	40.5	57.5 (67.5)	30.5 (40.5)	28.5	M18×1.5	15	93	40.5	83 (93)	30.5 (40.5)
ø63	60	9	80	92	108	9	M10×25	60	M10 depth 15	18	73	46	63 (73)	36 (46)	28.5	M18×1.5	15	98.5	46	88.5 (98.5)	36 (46)
ø80	77	11	99	116	134	11	M12×40	77	M16 depth 21	20	84.5	53.5	74.5 (84.5)	43.5 (53.5)	35.5	M22×1.5	18	118	53.5	108 (118)	43.5 (53.5)
ø100	94	11	117	136	154	11	M12×40	94	M20 depth 27	22	96	63	86 (96)	53 (63)	35.5	M26×1.5	18	127.5	63	117.5 (127.5)	53 (63)

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

MEMO

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder
Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

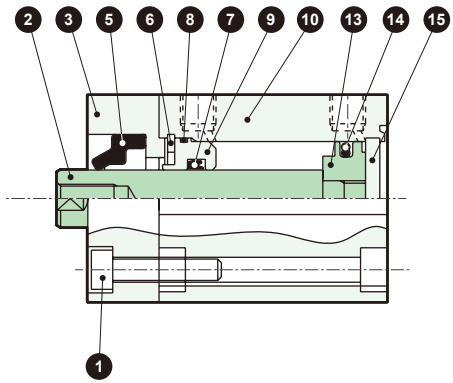
Cylinder
Switch

Ending

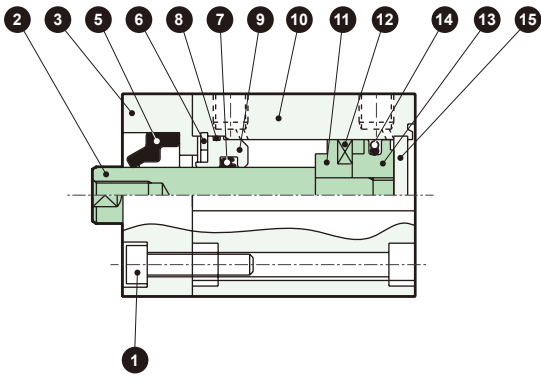
Internal Structure Diagram/Material (Bore size: ø16 to ø50)

● Degree of protection: Packing NBR SSD2-G2/G2L
Packing FKM SSD2-G3-G3L

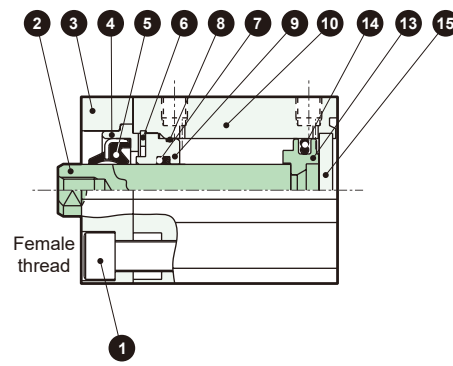
● SSD2-G₂² -16 (Without Switch)



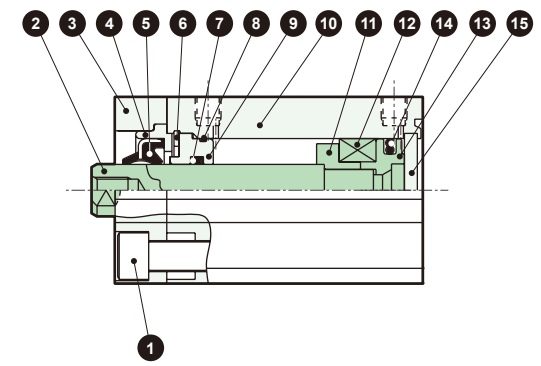
● SSD2-G₂² L-16 (With Switch)



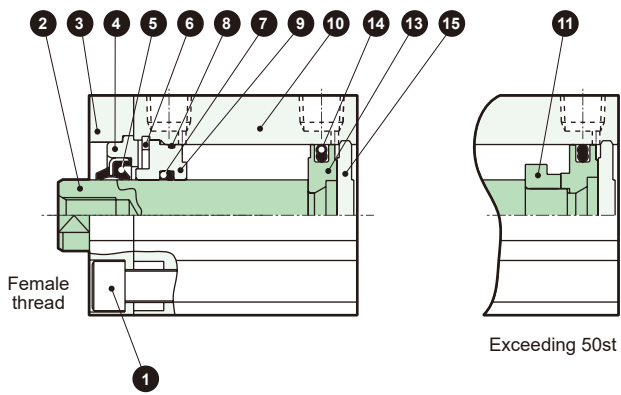
● SSD2-G₂² -20, 25 (Without Switch)



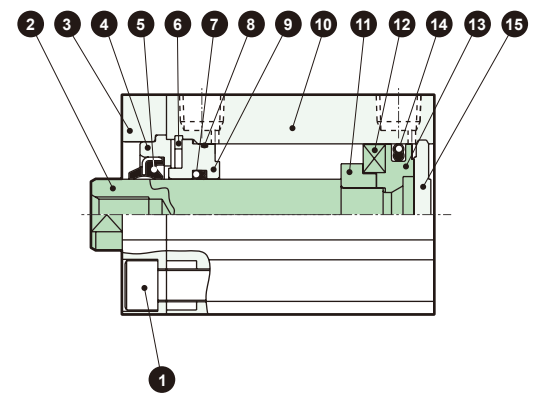
● SSD2-G₂² L-20, 25 (With Switch)



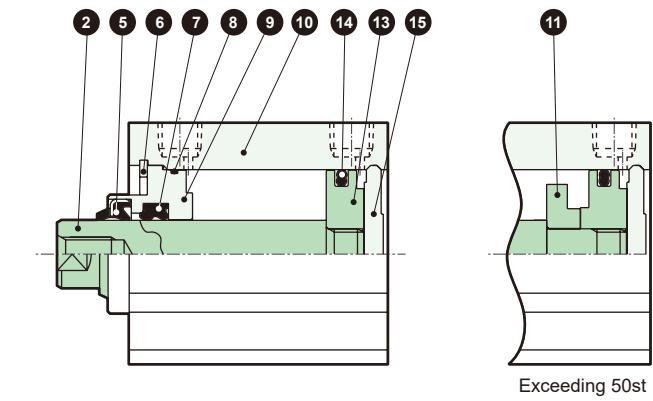
● SSD2-G₂² -32 (Without Switch)



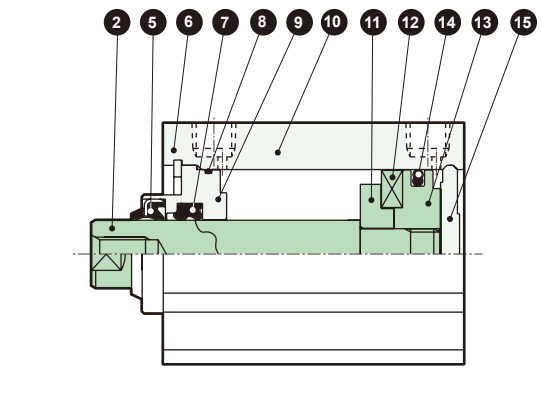
● SSD2-G₂² L-32 (With Switch)



● SSD2-G₂² -40, 50 (Without Switch)



● SSD2-G₂² L-40, 50 (With Switch)

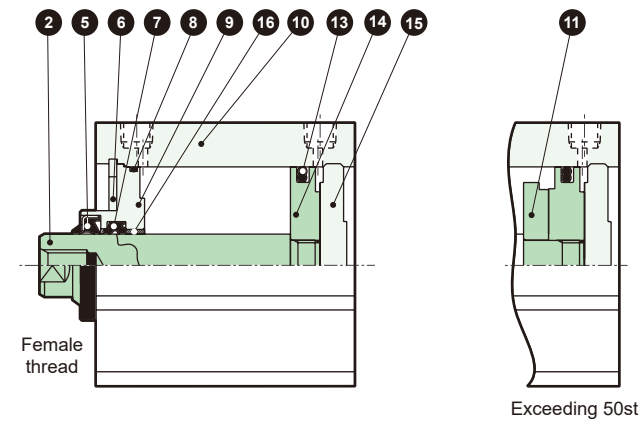


Internal Structure Diagram/Material

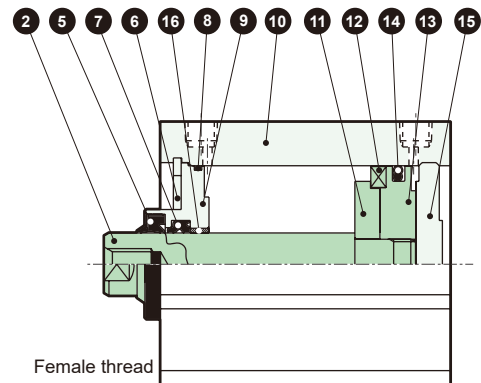
Internal Structure Diagram/Material (Bore size: ø63 to ø100)

● Degree of protection: Packing NBR SSD2-G2/G2L
Packing FKM SSD2-G3-G3L

● SSD2-G₂² -63 to 100 (Without Switch)



● SSD2-G₂² L-63, 100 (With Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Hexagon Socket Head Cap Screw	Stainless Steel	ø16 to ø32	9	Rod Metal	ø16 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø16 to ø50: Alumite ø63 to ø100: Chromate
2	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating	10	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Adapter (A)	Aluminum Alloy	ø16 to ø32: Alumite	11	Spacer	Aluminum Alloy	Chromate
4	Adapter (B)	Aluminum Alloy	ø16 to ø32: Alumite	12	Magnet	Plastic	
5	Scraper	G2 Nitrile Rubber, Steel G3 Fluororubber, Steel		13	Piston	Aluminum Alloy	Chromate
6	C-type retaining ring	Stainless Steel		14	Piston Packing	G2 Nitrile Rubber G3 Fluoro Rubber	
7	Rod Packing	G2 Nitrile Rubber G3 Fluoro Rubber		15	Cover	ø16 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
8	Rod metal gasket	G2 Nitrile Rubber G3 Fluoro Rubber		16	Bushing	Bearing Alloy	ø63 to ø100

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

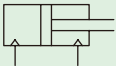


Compact Cylinder
Double Acting, High Load, Cutting Oil Resistant Type

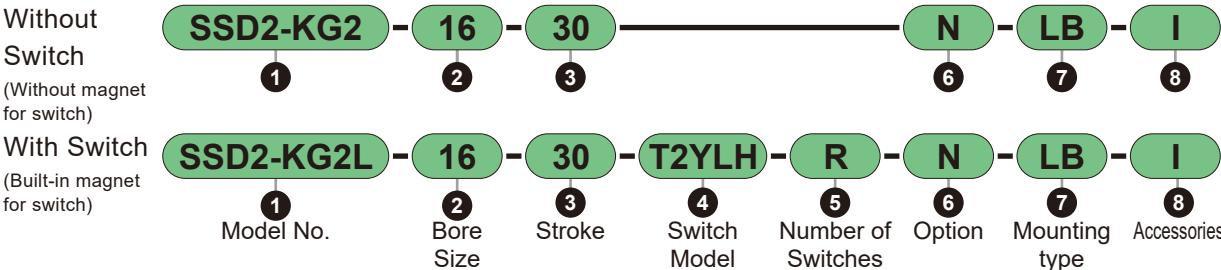
SSD2-KG2/KG3 Series

● Bore size: ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Model No.

Code	Content
SSD2-KG2	High Load + Cutting Oil Resistant Scraper + Nitrile Rubber Packing
SSD2-KG3	High Load + Cutting Oil Resistant Scraper + Fluororubber Packing
SSD2-KG2L	High Load + Cutting Oil Resistant Scraper + Nitrile Rubber Packing with Switch
SSD2-KG3L	High Load + Cutting Oil Resistant Scraper + Fluororubber Packing with Switch

2 Bore Size (mm)

Code	Content
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø16	1 to 30	Every 1 mm
ø20, ø25	1 to 50	
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	2-Color Improved Water Resistance	2-wire	-	24 ± 10%	-	5 to 20	T2WLH□	T2WLV□	
	For 2-Color Cutting Oil	2-wire	-	10 to 30	-	5 to 20	T2YLH□	T2YLV□	
		3-wire (NPN)	-	30 or less	-	50 or less	T3YLH□	T3YLV□	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

SSD2-KG2/KG3 Series

Model No. Notation Method

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (Pin and retaining ring included)	

*1: ⑥ Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

7 Mounting Type

Mounting brackets are included to the product for shipment.

	Code	Content	
*1	Blank	Without mounting bracket	
	LB	Axial foot type (both sides) (Custom product)	
	CB	Double Clevis Type (Pin and Retaining Ring Attached)	
*1	FA	Rod side flange type (Custom product)	
	FB	Head Side Flange Type	

*1: For ø16 to ø25, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Assembly at the time of product shipment is a custom order.

*2: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

Appendix Table 1

Stroke (mm)		Applicable Bore								
		16	20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●	●				
	10	●	●	●	●	●		●	●	●
	15	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●
	35		●	●	●	●	●	●	●	●
	40		●	●	●	●	●	●	●	●
	45		●	●	●	●	●	●	●	●
	50		●	●	●	●	●	●	●	●
	75				●	●	●	●	●	●
100				●	●	●	●	●	●	
Minimum Stroke (mm) *1		1								
Maximum Stroke (mm)		30	50		100					
Intermediate Stroke *2		Every 1 mm								
Minimum Stroke with Switch		10								

*1: Cannot be manufactured for less than 10 mm with switch.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

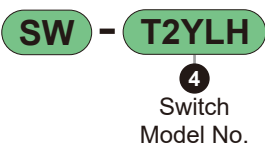
Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KG2 - - XP5

SSD2-KG3 - - XP5

Switch Single Unit Model No. Notation Method



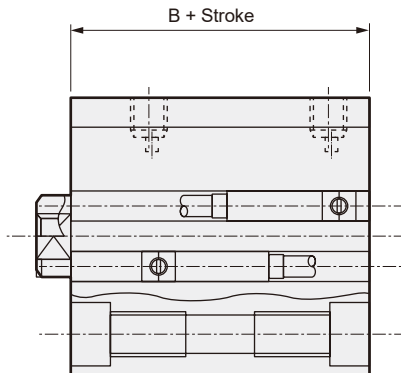
Specifications

Item	SSD2-KG2/KG3								
	SSD2-KG2L·KG3L (With Switch)								
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type								
Operating Fluid	Compressed Air								
Max. Operating Pressure MPa	1.0								
Min. Operating Pressure MPa	0.15						0.1		
Proof pressure MPa	1.6								
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)								
Port Size	M5			Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0								
Operating Piston Speed mm/s	50 to 500						50 to 300		
Cushion	Rubber Cushion								
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)								
Allowable absorbed energy J	0.09	0.16	0.16	0.4	0.63	0.98	1.56	2.51	3.92

About Intermediate Stroke

● SSD2-KG2·KG3 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-KG2-32-41 A +4 mm spacer is added to the standard cylinder SSD2-KG2-32-45 to make it 41 mm. B + Stroke = 43 + 45 = 88	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø16	69	114	79	124	90	135	101	146	112	157	123	168	-	-	-	-	-	-	-	-	-	-	-	-
ø20	68	163	101	176	114	189	126	201	139	214	151	226	164	239	176	251	189	264	201	276	-	-	-	-
ø25	118	209	134	225	150	241	166	257	181	272	198	289	214	305	230	321	246	337	262	353	-	-	-	-
ø32	211	325	232	346	253	367	275	389	297	411	319	433	341	455	362	476	384	498	405	519	513	627	620	734
ø40	289	432	316	459	343	486	369	512	395	538	422	565	449	592	475	618	502	645	528	671	661	804	793	936
ø50	-	-	509	703	551	745	594	788	637	831	678	872	720	914	762	956	804	998	846	1040	1056	1250	1266	1460
ø63	-	-	727	1006	782	1061	837	1116	893	1172	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1443	1722	1718	1997
ø80	-	-	1274	1687	1361	1774	1447	1860	1534	1947	1621	2034	1708	2121	1794	2207	1881	2294	1967	2380	2400	2813	2832	3245
ø100	-	-	1887	2454	2001	2568	2115	2682	2229	2796	2342	2909	2456	3023	2570	3137	2684	3251	2798	3365	3368	3935	3938	4505

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	Push	-	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	-	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
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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
ø40	Push	-	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	-	1.58×10 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
ø50	Push	-	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	-	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
ø63	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
ø80	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
ø100	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

Mounting Bracket Model No. Notation Method

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

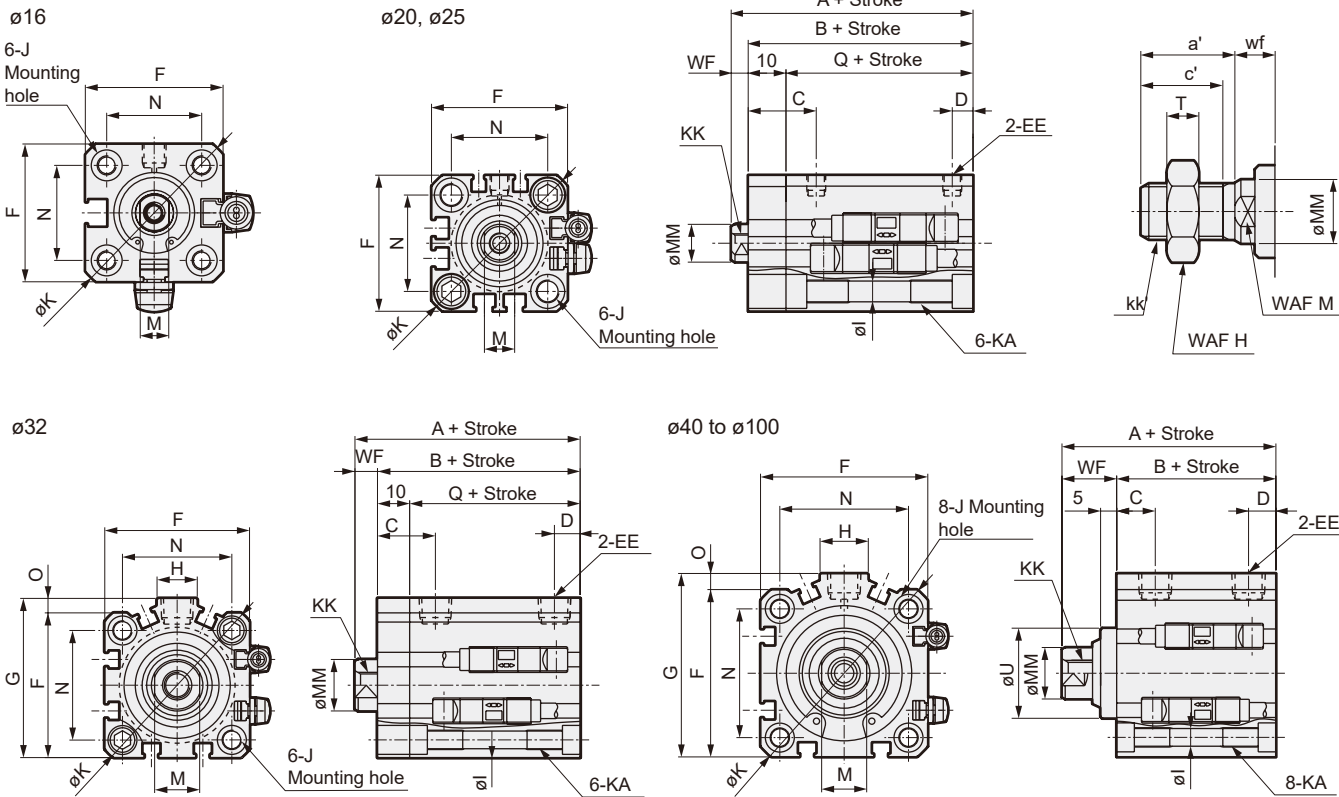
*1: Foot type mounting brackets are 2 pcs/set.

*2: For ø16 to ø25, due to structural reasons, foot brackets (LB) and flange brackets (FA) cannot be retrofitted to the rod side. Please contact our sales department.

Outline Dimension Drawing

- Degree of protection: NBR Packing
SSD2-KG2(L)-16 to 100
- Degree of protection: FKM Packing
SSD2-KG3(L)-16 to 100

● Rod tip male thread part



Code	Dimension with switch			Dimension without switch			Common dimension										
Bore Size (mm)	A *1	B *1	Q *1	A *1, *2	B *1, *2	Q *1, *2	C	D	EE	F	G	H	I	J *3	K		
ø16	45.5	37	27	40.5	32	22	15.5	5.5	M5	29	-	-	3.5	6.5 Counterbore depth 3.5 (13.4)	38		
ø20	54	44.5	34.5	44	34.5	24.5	18	5.5	M5	36	-	-	5.5	9 Counterbore depth 5.5 (15.5)	47		
ø25	57.5	47.5	37.5	47.5	37.5	27.5	21	6	M5	40	-	-	5.5	9 Counterbore depth 5.5 (15.5)	51		
ø32	65	53	43	55 (65)	43 (53)	33 (43)	18	8	Rc1/8	45	49.5	12.5	5.5	9 Counterbore depth 5.5 (15.5)	60		
ø40	66.5	49.5	-	56.5 (66.5)	39.5 (49.5)	-	12	8.5	Rc1/8	52	57	15	5.5	ø9 Counterbore depth 5.5	69		
ø50	68.5	50.5	-	58.5 (68.5)	40.5 (50.5)	-	10.5	10.5	Rc1/4	64	71	18	6.9	ø11 Counterbore depth 6.5	86		
ø63	74	56	-	64 (74)	46 (56)	-	13	11	Rc1/4	77	84	23	8.7	ø14 Counterbore depth 9	103		
ø80	83.5	63.5	-	73.5 (83.5)	53.5 (63.5)	-	16	13	Rc3/8	98	104	31	10.5	ø17.5 Counterbore depth 11	132		
ø100	95	73	-	85 (95)	63 (73)	-	23	15	Rc3/8	117	123.5	38	10.5	ø17.5 Counterbore depth 11	156		

Code	Common dimension								Rod end male thread part outline dimension							
Bore Size (mm)	KA	KK	M	MM	N	O	U	WF	a'	c'	H	kk'	M	MM	T	wf
ø16	M4 depth 7	M4 depth 8	6	8	20	-	-	8.5	12	10	10	M6	6	8	3.6	8.5
ø20	M6 depth 11	M5 depth 7	8	10	25.5	-	-	9.5	14	12	13	M8	8	10	5	9.5
ø25	M6 depth 11	M6 Depth 12	10	12	28	-	-	10	17.5	15	17	M10×1.25	10	12	6	10
ø32	M6 depth 11	M8 depth 13	14	16	34	4.5	-	12	23.5	20.5	22	M14×1.5	14	16	8	10
ø40	M6 depth 11	M8 depth 13	14	16	40	5	28	17	23.5	20.5	22	M14×1.5	14	16	8	15
ø50	M8 depth 13	M10 depth 15	17	20	50	7	35	18	28.5	26	27	M18×1.5	17	20	11	15
ø63	M10 depth 25	M10 depth 15	17	20	60	7	35	18	28.5	26	27	M18×1.5	17	20	11	15
ø80	M12 depth 28	M16 depth 21	22	25	77	6	43	20	35.5	32.5	32	M22×1.5	22	25	13	18
ø100	M12 depth 28	M20 depth 27	27	30	94	6.5	59	22	35.5	32.5	41	M26×1.5	27	30	16	18

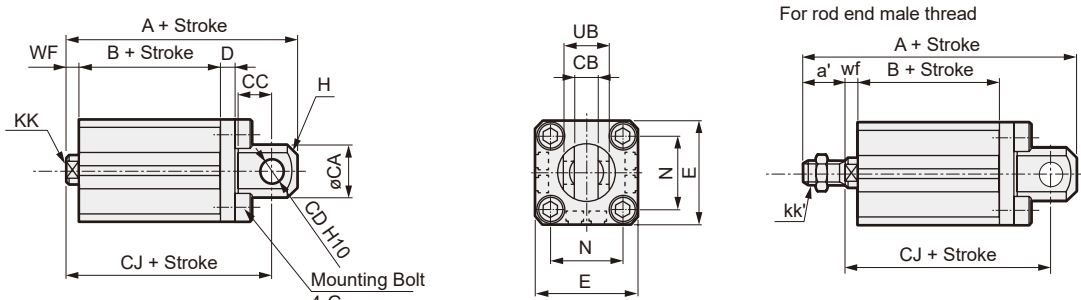
*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.
*2: Dimensions in () for codes A, B, Q are values when exceeding 50 strokes.
*3: Dimension in () for code J is the counterbore dimension of the rod side mounting hole.
*4: Switches cannot be mounted on the piping port surface of Bore Sizes ø20, ø25.
*5: For dimensions with each switch, refer to P. 300 to 309.
*6: For outline dimension drawings of individual accessories, refer to P. 34.

Double Acting, High Load, Cutting Oil Resistant Type

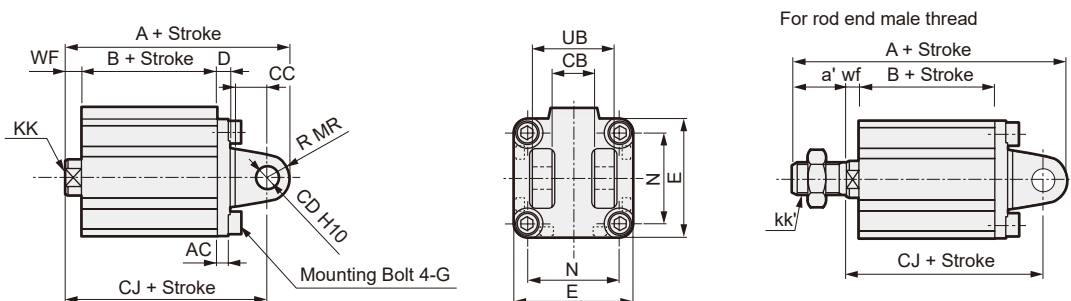
Outline Dimension Drawing

- Double Knuckle Clevis (CB)
SSD2-KG2(L)/KG3(L)-16 to 100-CB

· ø16 to ø25



· ø32 to ø100



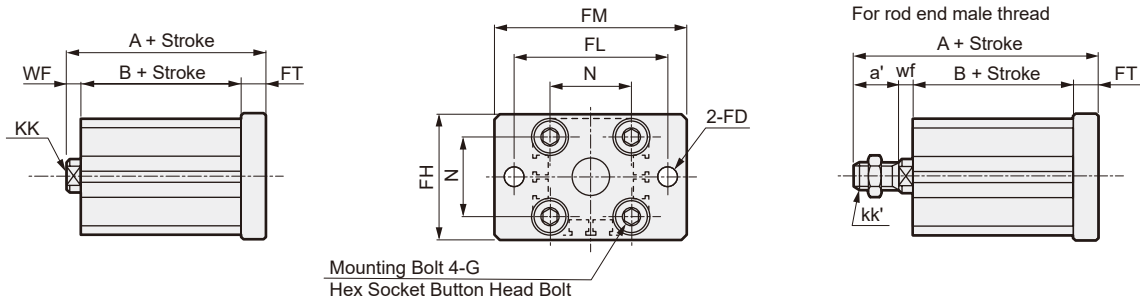
Code	Common dimension															
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB			
	ø16	-	15	6.6 ^{+0.3}	8	5	5	29	M4×12	M4 depth 8	C2	-	20	12		
	ø20	-	20	8.2 ^{+0.2}	12	8	5	36	M6×16	M5 depth 7	C4	-	25.5	16		
	ø25	-	24	10.2 ^{+0.2}	14	10	5	40	M6×16	M6 Depth 12	C5	-	28	20		
	ø32	4.5	-	18.2 ^{+0.2}	14	10	5	45	M6×16	M8 depth 13	-	10	34	36		
	ø40	5	-	18.2 ^{+0.2}	14	10	6	52	M6×16	M8 depth 13	-	10	40	36		
	ø50	6	-	22.2 ^{+0.2}	20	14	7	64	M8×20	M10 depth 15	-	14	50	44		
	ø63	7	-	22.2 ^{+0.2}	20	14	8	77	M10×25	M10 depth 15	-	14	60	44		
	ø80	9	-	28.2 ^{+0.2}	27	18	10	98	M12×40	M16 depth 21	-	18	77	56		
	ø100	12	-	32.2 ^{+0.2}	31	22	13	117	M12×40	M20 depth 27	-	22	94	64		
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A ₁	B ₁	CJ ₁				A	B	CJ	A ₁	B ₁	CJ ₁
ø16	8.5	66.5	37	60.5	61.5	32	55.5	12	M6	8.5	78.5	37	60.5	73.5	32	55.5
ø20	9.5	81	44.5	72	71	34.5	62	14	M8	9.5	95	44.5	72	85	34.5	62
ø25	10	87.5	47.5	77.5	77.5	37.5	67.5	17.5	M10×1.25	10	105	47.5	77.5	95	37.5	67.5
ø32	12	95	53	85	85 (95)	43 (53)	75 (85)	23.5	M14×1.5	10	116.5	53	83	106.5 (116.5)	43 (53)	73 (83)
ø40	17	98.5	49.5	88.5	88.5 (98.5)	39.5 (49.5)	78.5 (88.5)	23.5	M14×1.5	15	120	49.5	86.5	110 (120)	39.5 (49.5)	76.5 (86.5)
ø50	18	110.5	50.5	96.5	100.5 (110.5)	40.5 (50.5)	86.5 (96.5)	28.5	M18×1.5	15	136	50.5	93.5	126 (136)	40.5 (50.5)	83.5 (93.5)
ø63	18	118	56	104	108 (118)	46 (56)	94 (104)	28.5	M18×1.5	15	143.5	56	101	133.5 (143.5)	46 (56)	91 (101)
ø80	20	139.5	63.5	121.5	129.5 (139.5)	53.5 (63.5)	111.5 (121.5)	35.5	M22×1.5	18	173	63.5	119.5	163 (173)	53.5 (63.5)	109.5 (119.5)
ø100	22	162	73	140	152 (162)	63 (73)	10 (20)	35.5	M26×1.5	18	193.5	73	136	183.5 (193.5)	63 (73)	126 (136)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

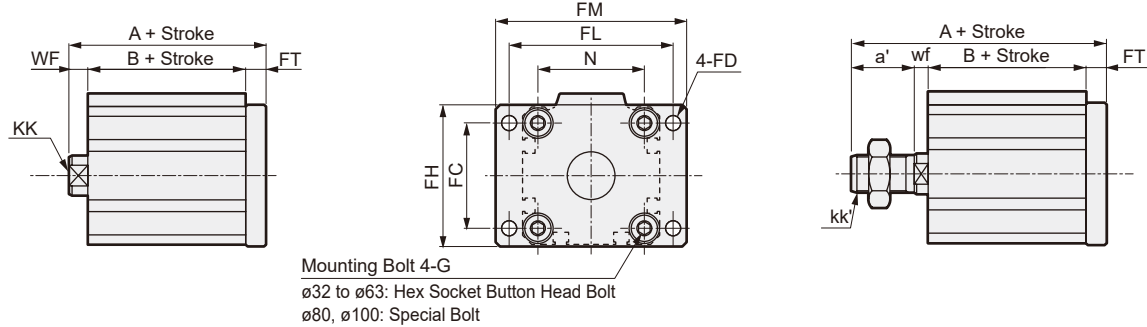
Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-KG2(L)/KG3(L)-16 to 100-FB

· ø16 to ø25



· ø32 to ø100



Code	Common dimension									For female thread				For male thread							
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	N	KK	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
											A	B	A *1	B *1				A	B	A *1	B *1
ø16	-	4.5	30	45	55	5.5	M4×12	20	M4 depth 8	8.5	51	37	46	32	12	M6	8.5	63	37	58	32
ø20	-	6.6	39	48	60	8	M6×16	25.5	M5 depth 7	9.5	62	44.5	52	34.5	14	M8	9.5	76	44.5	66	34.5
ø25	-	6.6	42	52	64	8	M6×16	28	M6 Depth 12	10	65.5	47.5	55.5	37.5	17.5	M10×1.25	10	83	47.5	73	37.5
ø32	34	5.5	48	56	65	8	M6×16	34	M8 depth 13	12	73	53	63 (73)	43 (53)	23.5	M14×1.5	10	94.5	53	84.5 (94.5)	43 (53)
ø40	40	5.5	54	62	72	8	M6×16	40	M8 depth 13	17	74.5	49.5	64.5 (74.5)	39.5 (49.5)	23.5	M14×1.5	15	96	49.5	86 (96)	39.5 (49.5)
ø50	50	6.6	67	76	89	9	M8×20	50	M10 depth 15	18	77.5	50.5	67.5 (77.5)	40.5 (50.5)	28.5	M18×1.5	15	103	50.5	93 (103)	40.5 (50.5)
ø63	60	9	80	92	108	9	M10×25	60	M10 depth 15	18	83	56	73 (83)	46 (56)	28.5	M18×1.5	15	108.5	56	98.5 (108.5)	46 (56)
ø80	77	11	99	116	134	11	M12×40	77	M16 depth 21	20	94.5	63.5	84.5 (94.5)	53.5 (63.5)	35.5	M22×1.5	18	128	63.5	118 (128)	53.5 (63.5)
ø100	94	11	117	136	154	11	M12×40	94	M20 depth 27	22	106	73	96 (106)	63 (73)	35.5	M26×1.5	18	137.5	73	127.5 (137.5)	63 (73)

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

MEMO

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

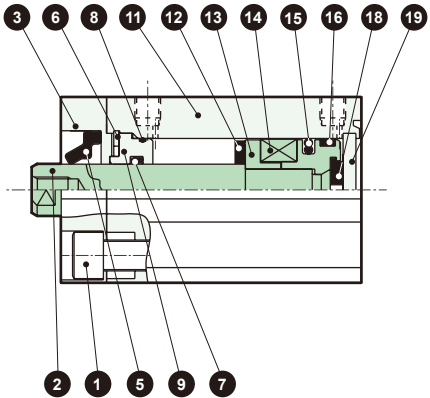
Cylinder Switch

Ending

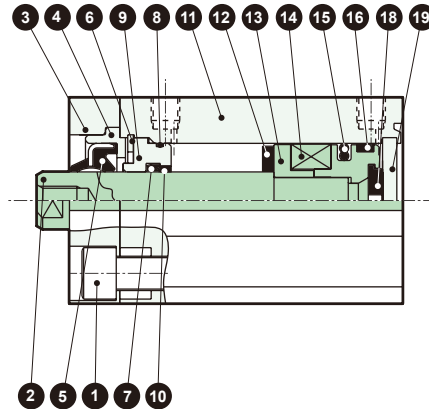
Internal Structure Diagram/Material

- Degree of protection: Packing NBR SSD2-KG2/KG2L
- Degree of protection: Packing FKM SSD2-KG3/KG3L

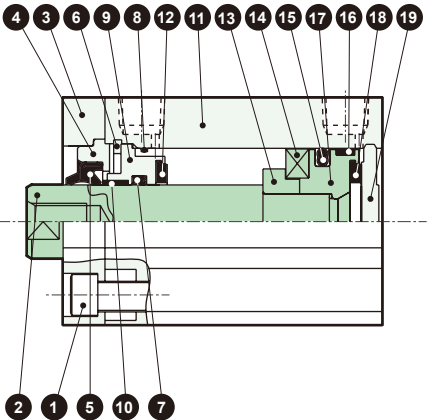
● SSD2-KG₂ L-16 (With Switch)



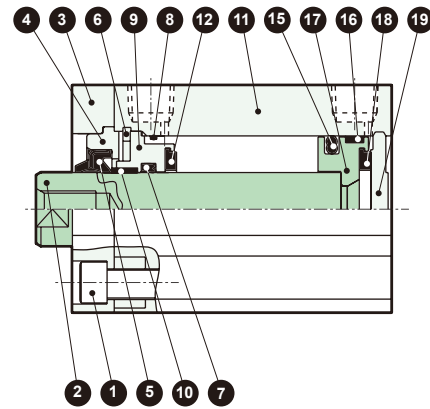
● SSD2-KG₂ L-20, 25 (With Switch)



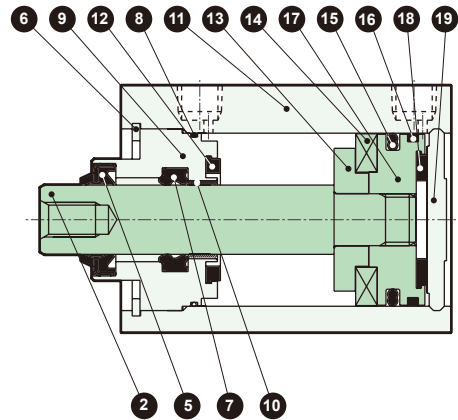
● SSD2-KG₂ L-32 to 50 (With Switch)



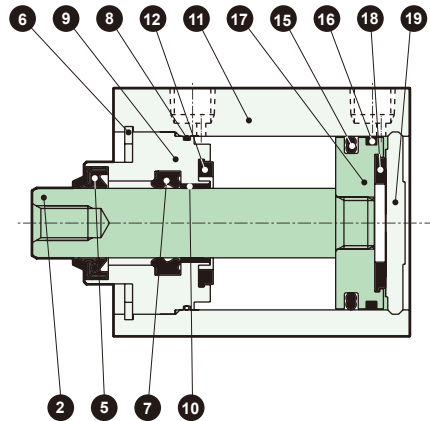
● SSD2-KG₂ -32 to 50 (Without Switch)



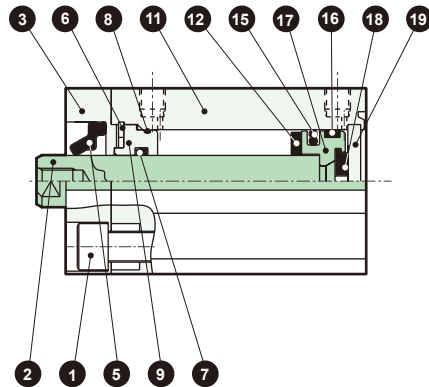
● SSD2-KG₂ -63 to 100 (Without Switch)



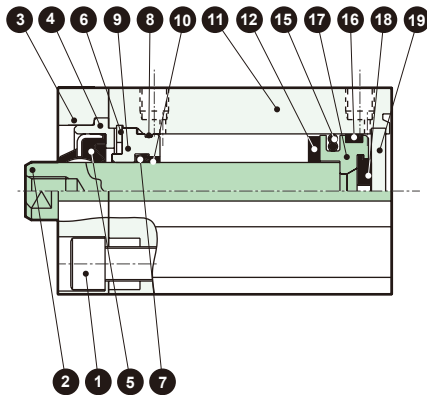
● SSD2-KG₂ L-63 to 100 (With Switch)



● SSD2-KG₂ -16 (Without Switch)



● SSD2-KG₂ -20, 25 (Without Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Hexagon Socket Head Cap Screw	Stainless Steel	ø16 to ø32	10	Bushing	Bearing Alloy	ø20 to ø100
2	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating	11	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Adapter (A)	Aluminum Alloy	ø16 to ø32	12	Cushion rubber (R)	Urethane Rubber	
4	Adapter (B)	Aluminum Alloy	ø16 to ø32	13	Spacer	Aluminum Alloy	ø16 to 32: Chromate
5	Scraper	G2 Nitrile Rubber, Steel		14	Magnet	Plastic	
		G3 Fluororubber, Steel		15	Piston Packing	G2 Nitrile Rubber	
6	C-type retaining ring (for hole)	Stainless Steel				G3 Fluoro Rubber	
7	Rod Packing	G2 Nitrile Rubber		16	Wear Ring	Polyacetal	
		G3 Fluoro Rubber		17	Piston	Aluminum Alloy	Chromate
8	Rod metal gasket	G2 Nitrile Rubber		18	Cushion rubber (H)	Urethane Rubber	
		G3 Fluoro Rubber		19	Cover	ø16 to ø25: Stainless steel	ø32 to ø100: Alumite
9	Rod Metal	Aluminum Alloy	Alumite			ø32 to ø100: Aluminum alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Internal Structure Diagram/Material

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending



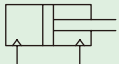
Compact Cylinder
Double acting, Single rod, Coil scraper type

Compact Cylinder
Double acting, Single rod, Spatter adhesion prevention

SSD2-G1 Series

● Bore Size: ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



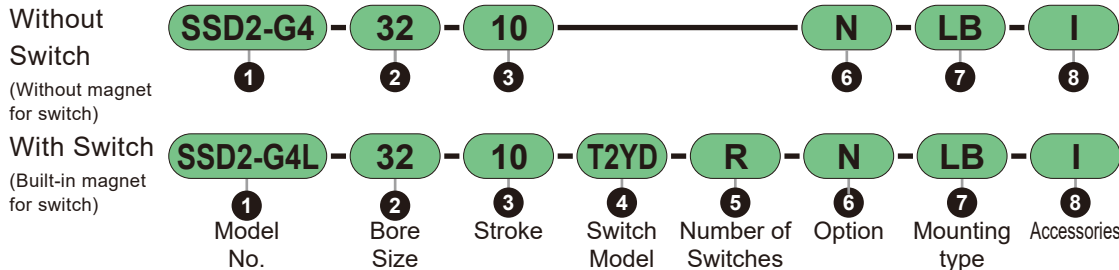
SSD2-G4 Series



SSD2-G1/G4 Series

Model No. Notation Method

Model No. Notation Method



1 Model No.

Code	Content
SSD2-G1	Double acting, Single rod, Coil scraper type
SSD2-G1L	Double acting, Single rod, Coil scraper type with switch
SSD2-G4	Double acting, Single rod, Spatter adhesion prevention type
SSD2-G4L	Double acting, Single rod, Spatter adhesion prevention type with switch

2 Bore Size (mm)

Code	Content
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø25	1 to 50	Every 1 mm
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State Contact	2-Color for AC Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—	
			—		—		T2YDT□	—	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length

1 m T2YD
3 m T2YD 3
5 m T2YD 3

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod side flange type (Custom product)	
FB	Head Side Flange Type	

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore						
		25	32	40	50	63	80	100
Standard Stroke	5	●	●	●				
	10	●	●	●				●
	15	●	●		●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●		●	●		●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75		●	●	●	●	●	●
100		●	●	●	●	●	●	
Minimum Stroke (mm) *1		1						
Maximum Stroke (mm)		50	100					
Intermediate Stroke *2		Every 1 mm						
Minimum Stroke with Switch		10						

*1: Cannot be manufactured for less than 10 mm with switch.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluororubber packing type (G1)
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-G1 - - XP5

SSD2-G4 - - XP5

Switch Single Unit Model No. Notation Method

SW - T2YD□
4
Switch Model No.

Specifications

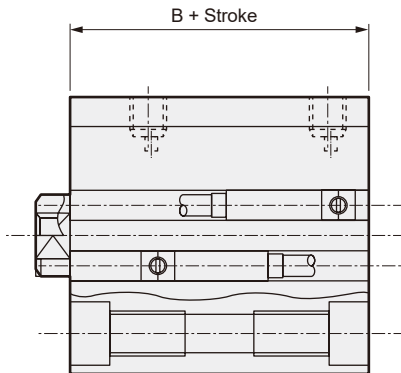
Item	SSD2-G1·G4						
	SSD2-G1L·G4L (With Switch)						
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Operating Pressure MPa	1.0						
Min. Operating Pressure MPa	0.15				0.1		
Proof pressure MPa	1.6						
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)						
Port Size	M5	Rc1/8 *1		Rc1/4		Rc3/8	
Stroke Tolerance mm	+1.0 0						
Operating Piston Speed mm/s	50 to 500				50 to 300		
Cushion	None						
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)						
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

About Intermediate Stroke

● SSD2-G1・G4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-G1-32-38	
	A +2 mm spacer is added to the standard cylinder SSD2-G1-32-40 to make it 38 mm. B + Stroke = 23 + 40 = 63	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø25	131	222	146	237	162	253	178	269	194	285	209	300	225	600	241	332	257	166	272	363	-	-	-	-
ø32	184	298	206	320	228	342	250	364	271	385	293	407	315	429	337	451	359	473	380	494	553	602	661	709
ø40	265	408	292	435	318	461	345	488	372	515	398	541	425	568	451	594	478	621	504	647	722	780	854	912
ø50	-	-	460	654	502	696	544	738	586	780	629	823	671	865	713	907	755	949	797	991	1144	1201	1354	1411
ø63	-	-	658	937	713	992	768	1047	823	1102	878	1157	934	1213	989	1268	1044	1323	1099	1378	1589	1653	1864	1928
ø80	-	-	1180	1593	1267	1680	1353	1765	1440	1853	1526	1939	1613	2026	1700	2113	1787	2200	1873	2286	2650	2719	3082	3151
ø100	-	-	1768	2335	1882	2449	1995	2562	2109	2676	2223	2790	2337	2904	2450	3017	2564	3131	2678	3245	3743	3815	4313	4385

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø25	Push	-	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	-	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	
ø32	Push	-	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	-	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	
ø40	Push	-	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	-	1.58×10 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	
ø50	Push	-	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	-	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	
ø63	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	
ø80	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	
ø100	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	

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø25	ø32	ø40	ø50	ø63	ø80
Mounting bracket						
Flange (FB)	SSD2-FA-25	SSD2-G1-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Double Clevis (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
Bore Size (mm)	ø100					
Mounting bracket						
Flange (FB)	SSD2-FA-100					
Double Clevis (CB)	SSD2-CB-100					

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

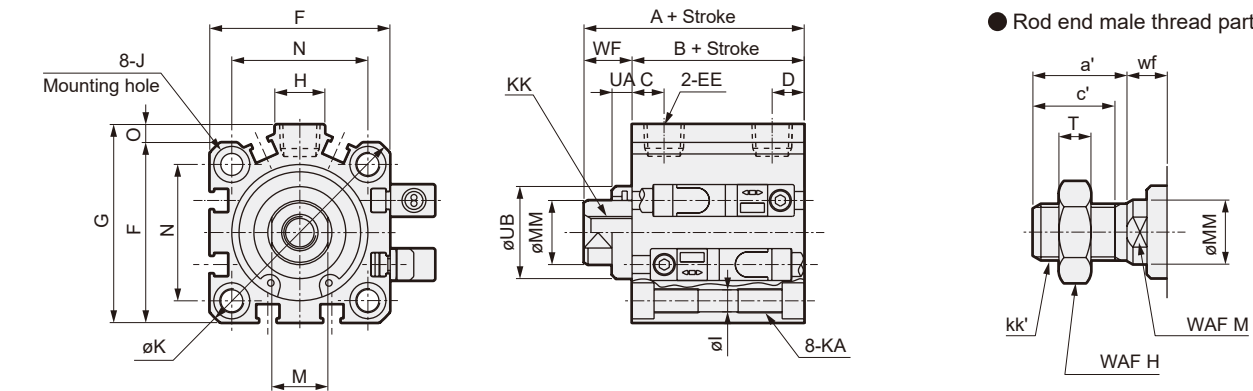
FC□

Cylinder Switch

Ending

Outline Dimension Drawing

● SSD2-G1(L)/G4(L)-25 to 100



● Rod end male thread part

Code	Dimension with switch			Dimension without switch			Common dimension							
	A *1		B *1	A *1, *3		B *3, *5	C *5	D *5	EE *4	F	G	H	I	
	G1	G4		G1	G4									
ø25	47.5	47.5	42.5	37.5	37.5	32.5	11	6	M5	40	-	-	5.5	
ø32	45	50	33	35 (45)	40 (50)	23 (33)	8 (10)	8 (5.5)	Rc1/8	45	49.5	12.5	5.5	
ø40	51.5	56.5	39.5	41.5 (51.5)	46.5 (56.5)	29.5 (39.5)	12 (11.5)	8.5 (8)	Rc1/8	52	57	15	5.5	
ø50	53.5	58.5	40.5	43.5 (53.5)	48.5 (58.5)	30.5 (40.5)	10.5	10.5	Rc1/4	64	71	18	6.9	
ø63	59	64	46	49 (59)	54 (64)	36 (46)	13	11	Rc1/4	77	84	23	8.7	
ø80	68.5	73.5	53.5	58.5 (68.5)	63.5 (73.5)	43.5 (53.5)	16	13	Rc3/8	98	104	31	10.5	
ø100	80	85	63	70 (80)	75 (85)	53 (63)	23	15	Rc3/8	117	123.5	38	10.5	
Code	Common dimension													
Bore Size (mm)	J		K	KA	KK	M	MM	N	O	UA		UB	WF	
										G1	G4		G1	G4
ø25	9 Counterbore depth 5.5		51	M6 depth 11	M6 Depth 12	10	12	28	-	-	-	-	5	5
ø32	9 Counterbore depth 5.5		60	M6 depth 11	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17
ø40	9 Counterbore depth 5.5		69	M6 depth 11	M8 depth 13	14	16	40	5	5	10	28 h9	12	17
ø50	11 Counterbore Depth 6.5		86	M8 depth 13	M10 depth 15	17	20	50	7	5	10	35 h9	13	18
ø63	14 Counterbore depth 9		103	M10 depth 25	M10 depth 15	17	20	60	7	5	10	35 h9	13	18
ø80	17.5 Counterbore depth 11		132	M12 depth 28	M16 depth 21	22	25	77	6	5	10	43 h9	15	20
ø100	17.5 Counterbore depth 11		156	M12 depth 28	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Switches cannot be mounted on the piping port surface of Bore Sizes ø20, ø25.

*3: Dimensions in () for codes A and B are values when exceeding 50 strokes.

*4: For code EE, ø32 without switch, 5 strokes, the port size will be M5.

*5: Dimensions in () for columns C and D are values for 5 strokes without switch.

*6: For dimensions with each switch, refer to P. 300 to 309.

*7: For outline dimension drawings of individual accessories, refer to P. 34.

● Rod end male thread part

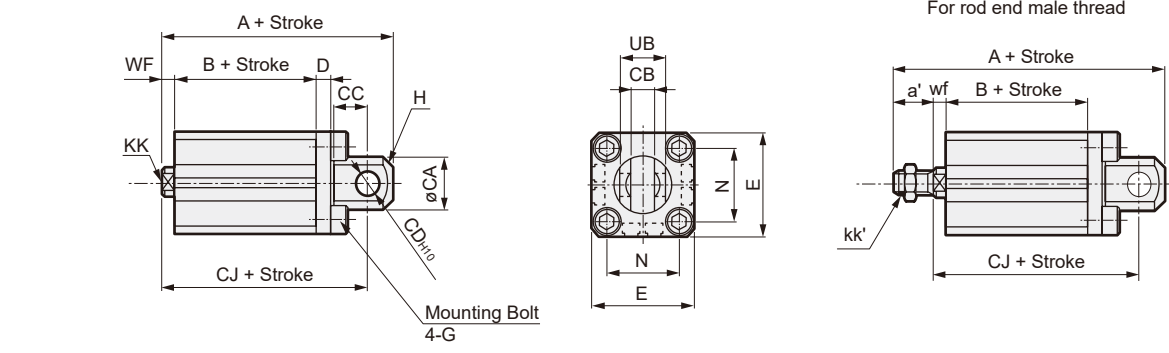
Code	a'	c'	H	kk'	M	MM	T	wf	
								G1	G4
ø25	17.5	15	17	M10×1.25	10	12	6	5	5
ø32	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø40	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø50	28.5	26	27	M18×1.5	17	20	11	10	15
ø63	28.5	26	27	M18×1.5	17	20	11	10	15
ø80	35.5	32.5	32	M22×1.5	22	25	13	13	18
ø100	35.5	32.5	41	M26×1.5	27	30	16	13	18

Double Acting, Single Rod, Coil Scraper Type/Spatter Adhesion Prevention Type

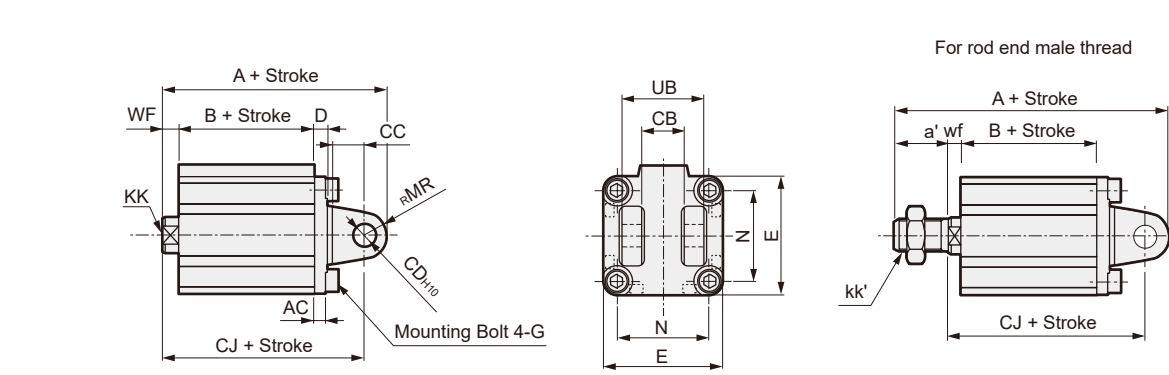
Outline Dimension Drawing

● Double Knuckle Clevis (CB)
SSD2-G1(L)/G4(L)-25 to 100-CB

· ø25



· ø32 to ø100

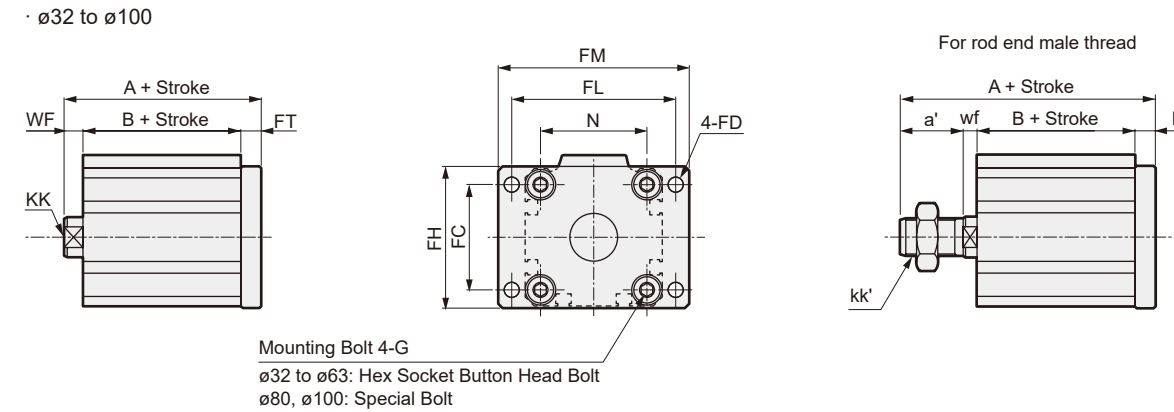
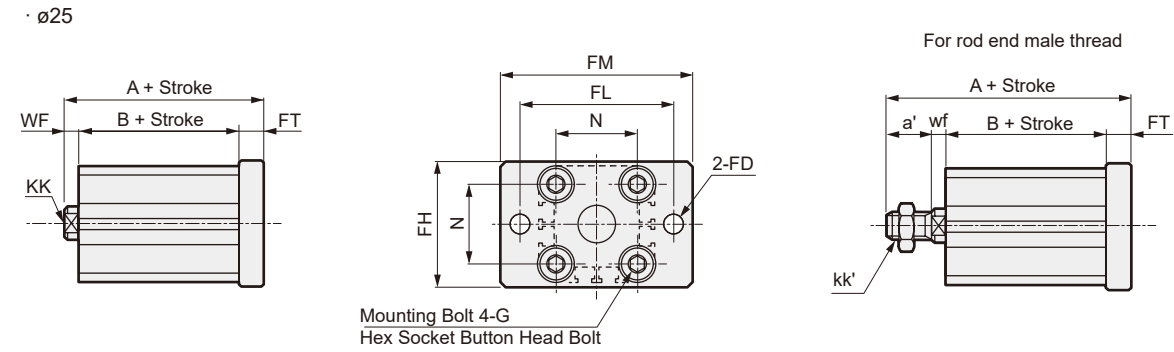


Code	Common dimension													For female thread											
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB	WF	Dimension with switch				Dimension without switch						
															A		B	CJ		A ¹		B ¹	CJ ¹		
															G1	G4		G1	G4	G1	G4		G1	G4	G1
ø25	-	24	10.2	14	10	5	40	M6×16	M6 Depth 12	C2	-	28	20	5	5	77.5	77.5	42.5	67.5	67.5	67.5	67.5	32.5	57.5	57.5
ø32	4.5	-	18.2	14	10	5	45	M6×16	M8 depth 13	C4	10	34	36	12	17	75	80	33	65	70	65 (75)	70 (80)	23 (33)	55 (65)	60 (70)
ø40	5	-	18.2	14	10	6	52	M6×16	M8 depth 13	C5	10	40	36	12	17	83.5	88.5	39.5	73.5	78.5	73.5 (83.5)	78.5 (88.5)	29.5 (39.5)	63.5 (73.5)	68.5 (78.5)
ø50	6	-	22.2	20	14	7	64	M8×20	M10 depth 15	-	14	50	44	13	18	95.5	100.5	40.5	81.5	86.5	85.5 (95.5)	90.5 (100.5)	30.5 (40.5)	71.5 (81.5)	76.5 (86.5)
ø63	7	-	22.2	20	14	8	77	M10×25	M10 depth 15	-	14	60	44	13	18	103	108	46	89	94	93 (103)	98 (108)	36 (46)	79 (89)	84 (94)
ø80	9	-	28.2	27	18	10	98	M12×40	M16 depth 21	-	18	77	56	15	20	124.5	129.5	53.5	106.5	111.5	114.5 (124.5)	119.5 (129.5)	43.5 (53.5)	96.5 (106.5)	101.5 (111.5)
ø100	12	-	32.2	31	22	13	117	M12×40	M20 depth 27	-	22	94	64	17	22	147	152	63	125	130	137 (147)	142 (152)	53 (63)	115 (125)	120 (130)
Code	For male thread																								
Bore Size (mm)	a'	kk'	wf	Dimension with switch						Dimension without switch						Dimension									
				A		B	CJ		A ¹		B ¹	CJ ¹													
				G1	G4		G1	G4	G1	G4		G1	G4	G1	G4										
ø25	17.5	M10×1.25	5	5	95	95	42.5	67.5	67.5	85	85	32.5	57.5	57.5											
ø32	23.5	M14×1.5	10	15	96.5	101.5	33	63	68	86.5 (96.5)	91.5 (101.5)	23 (33)	53 (63)	58 (68)											
ø40	23.5	M14×1.5	10	15	105	110	39.5	71.5	76.5	95 (105)	100 (110)	29.5 (39.5)	61.5 (71.5)	66.5 (76.5)											
ø50	28.5	M18×1.5	10	15	121	126	40.5	78.5	83.5	111 (121)	116 (126)	30.5 (40.5)	68.5 (78.5)	73.5 (83.5)											
ø63	28.5	M18×1.5	10	15	128.5	133.5	46	86	91	118.5 (128.5)	123.5 (133.5)	36 (46)	76 (86)	81 (91)											
ø80	35.5	M22×1.5	13	18	158	163	53.5	104.5	109.5	148 (158)	153 (163)	43.5 (53.5)	94.5 (104.5)	99.5 (109.5)											
ø100	35.5	M26×1.5	13	18	178.5	183.5	63	121	126	168.5 (178.5)	173.5 (183.5)	53 (63)	111 (121)	116 (126)											

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-G1(L)/G4(L)-25 to 100-FB



Code	Common dimension									For female thread							
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF		Dimension with switch			Dimension without switch		
												A		B	A *1		B *1
										G1	G4	G1	G4		G1	G4	
ø25	-	6.6	42	52	64	8	M6×16	M6 Depth 12	28	5	5	55.5	55.5	42.5	45.5	45.5	32.5
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34	12	17	53	58	33	43 (53)	48 (58)	23 (33)
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	12	17	59.5	64.5	39.5	49.5 (59.5)	54.5 (64.5)	29.5 (39.5)
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	13	18	62.5	67.5	40.5	52.5 (62.5)	57.5 (67.5)	30.5 (40.5)
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	13	18	68	73	46	58 (68)	63 (73)	36 (46)
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	15	20	79.5	84.5	53.5	69.5 (79.5)	74.5 (84.5)	43.5 (53.5)
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	17	22	91	96	63	81 (91)	86 (96)	53 (63)

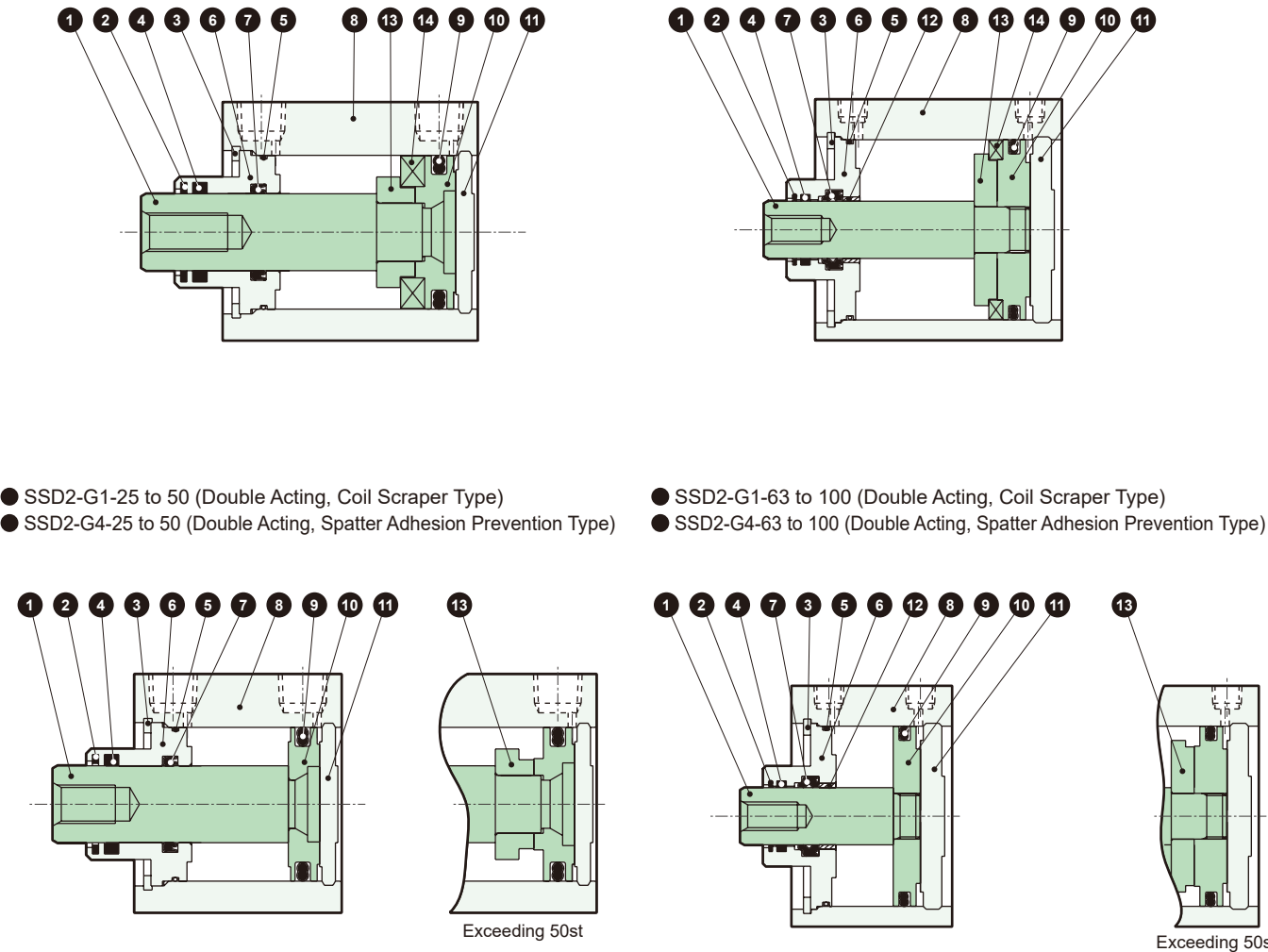
Code	For male thread													
Bore Size (mm)	a'	kk'	wf		Dimension with switch			Dimension without switch						
					A		B	A *1		B *1				
			G1	G4	G1	G4		G1	G4					
ø25	17.5	M10×1.25	5	5	73	73	42.5	63	63	32.5				
ø32	23.5	M14×1.5	10	15	74.5	79.5	33	64.5 (74.5)	69.5 (79.5)	23 (33)				
ø40	23.5	M14×1.5	10	15	81	86	39.5	71 (81)	76 (86)	29.5 (39.5)				
ø50	28.5	M18×1.5	10	15	88	93	40.5	78 (88)	83 (93)	30.5 (40.5)				
ø63	28.5	M18×1.5	10	15	93.5	98.5	46	83.5 (93.5)	88.5 (98.5)	36 (46)				
ø80	35.5	M22×1.5	13	18	113	118	53.5	103 (113)	108 (118)	43.5 (53.5)				
ø100	35.5	M26×1.5	13	18	122.5	127.5	63	112.5 (122.5)	117.5 (127.5)	53 (63)				

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

Internal Structure Diagram/Material

Internal Structure Diagram/Material

- SSD2-G1L-25 to 50 (double acting/coil scraper/with switch)
- SSD2-G4L-25 to 50 (double acting/anti-spatter adherence/with switch)
- SSD2-G1L-63 to 100 (double acting/coil scraper/with switch)
- SSD2-G4L-63 to 100 (double acting/anti-spatter adherence/with switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø25: Stainless steel ø32 to ø100: Steel	Industrial Hard Chrome Plating	8	Cylinder Body	Aluminum Alloy	Hard Anodized
2	Coil scraper	Copper Alloy		9	Piston Packing	Nitrile Rubber	
3	C-type retaining ring	Steel	Zinc phosphate	10	Piston	Aluminum Alloy	Chromate
4	Lube keeper	Special rubber	G4 only	11	Cover	ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
5	Rod metal gasket	Nitrile Rubber		12	Bushing	Bearing Alloy	
6	Rod Metal	Aluminum Alloy	ø25 to ø50: Alumite ø63 to ø100: Chromate	13	Spacer	Aluminum Alloy	Chromate
7	Rod Packing	Nitrile Rubber		14	Magnet	Plastic	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending



Compact Cylinder
Double Acting, Single Rod, High Load, Coil Scraper Type

Compact Cylinder
Double Acting, Single Rod, High Load, Spatter Adhesion Prevention

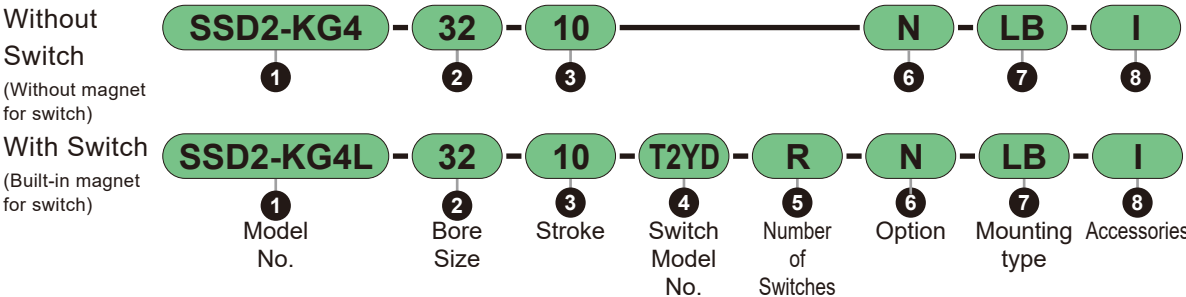
SSD2-KG1 series SSD2-KG4 Series

● Bore Size: ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Model No.

Code	Content
SSD2-KG1	Double Acting, Single Rod, High Load, Coil Scraper Type
SSD2-KG1L	Double Acting, Single Rod, High Load, Coil Scraper Type with Switch
SSD2-KG4	Double Acting, Single Rod, High Load, Spatter Adhesion Prevention Type
SSD2-KG4L	Double Acting, Single Rod, High Load, Spatter Adhesion Prevention Type with Switch

2 Bore Size (mm)

Code	Content
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø25	1 to 50	Every 1 mm
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
		AC	DC	AC	DC	Straight	L-shape	
2-Color AC For Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—	
		—		—		T2YDT□	—	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m T2YD
3 m T2YD 3
5 m T2YD 3

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

SSD2-KG1/KG4 Series

Model No. Notation Method

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod side flange type (Custom product)	
FB	Head Side Flange Type	

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore						
		25	32	40	50	63	80	100
Standard Stroke	5	●	●	●				
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75		●	●	●	●	●	●
100		●	●	●	●	●	●	
Minimum Stroke (mm) *1		1						
Maximum Stroke (mm)		50	100					
Intermediate Stroke *2		Every 1 mm						
Minimum Stroke with Switch		10						

*1: Cannot be manufactured for less than 10 mm with switch.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluororubber packing type (KG1)
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KG1 - - XP5

SSD2-KG4 - - XP5

Switch Single Unit Model No. Notation Method

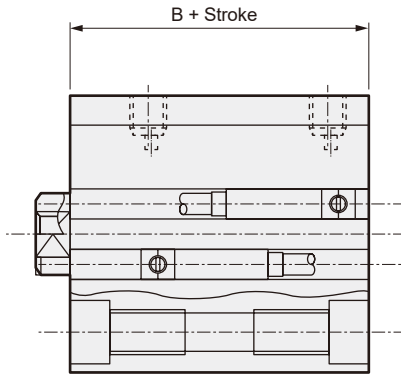
SW - T2YD
4
Switch Model No.

Specifications

Item	SSD2-KG1/KG4 SSD2-KG1L/KG4L (With Switch)						
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Operating Pressure MPa	1.0						
Min. Operating Pressure MPa	0.15				0.1		
Proof pressure MPa	1.6						
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)						
Port Size	M5	Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0						
Operating Piston Speed mm/s	50 to 500				50 to 300		
Cushion	Rubber Cushion						
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)						
Allowable absorbed energy J	0.16	0.40	0.63	0.98	1.56	2.51	3.92

About Intermediate Stroke
● SSD2-KG1·KG4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-KG1-32-38 A +2 mm spacer is added to the standard cylinder SSD2-KG1-32-40 to make it 38 mm. B + Stroke = 43 + 40 = 83	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
ø32	228	342	249	363	270	384	292	406	314	428	336	450	358	472	379	493	401	515	422	536	530	644	637	751
ø40	318	461	345	488	372	515	398	541	424	567	451	594	478	621	504	647	531	674	557	700	690	833	822	965
ø50	-	-	549	743	591	785	634	828	677	871	718	912	760	954	802	996	844	1038	886	1080	1096	1290	1306	1500
ø63	-	-	782	1061	837	1116	892	1171	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1223	1502	1498	1777	1773	2052
ø80	-	-	1382	1795	1469	1882	1555	1968	1642	2055	1729	2142	1816	2229	1902	2315	1989	2402	2075	2488	2508	2921	2940	3353
ø100	-	-	2029	2596	2143	2710	2257	2824	2371	2938	2484	3051	2598	3165	2712	3279	2826	3393	2940	3507	3510	4077	4080	4647

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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
ø40	Push	-	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	-	1.58×10 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
ø50	Push	-	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	-	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
ø63	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
ø80	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
ø100	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

Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket							
Flange (FB)	SSD2-FA-25	SSD2-G1-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

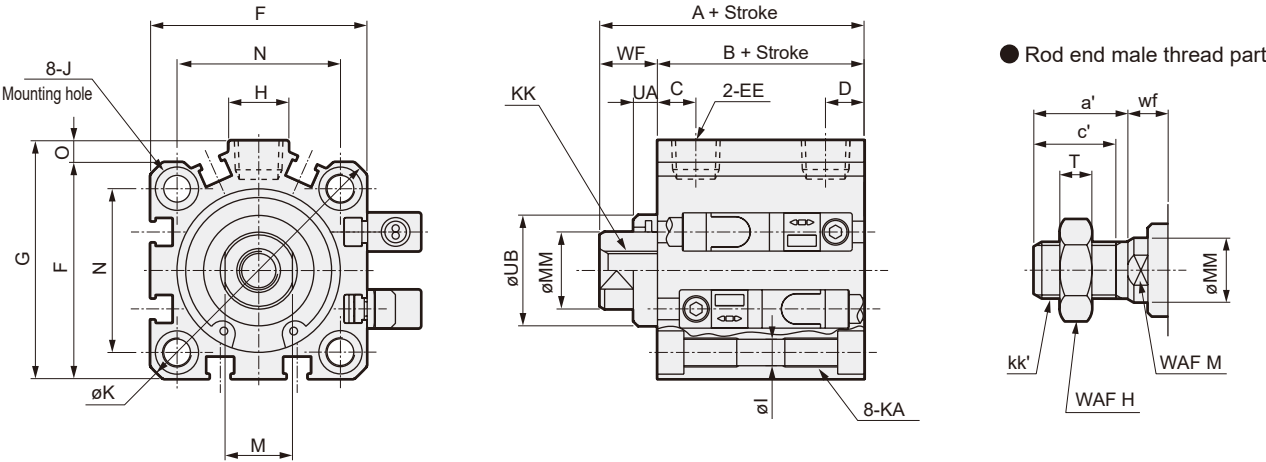
FC□

Cylinder Switch

Ending

Outline Dimension Drawing

● SSD2-KG1(L)-KG4(L)-25 to 100



Code		Dimension with switch			Dimension without switch			Common dimension						
Bore Size (mm)	A *1		B *1	A *1, *3		B *1, *3	C	D	EE *4	F	G	H	I	
	G1	G4		G1	G4									
ø25	52.5	52.5	47.5	42.5	42.5	37.5	11	6	M5	40	-	-	5.5	
ø32	55	60	43	45 (55)	50 (60)	33 (43)	8	8	Rc1/8	45	49.5	12.5	5.5	
ø40	61.5	66.5	49.5	51.5 (61.5)	56.5 (66.5)	39.5 (49.5)	12	8.5	Rc1/8	52	57	15	5.5	
ø50	63.5	68.5	50.5	53.5 (63.5)	58.5 (68.5)	40.5 (50.5)	10.5	10.5	Rc1/4	64	71	18	6.9	
ø63	69	74	56	59 (69)	64 (74)	46 (56)	13	11	Rc1/4	77	84	23	8.7	
ø80	78.5	83.5	63.5	68.5 (78.5)	73.5 (83.5)	53.5 (63.5)	16	13	Rc3/8	98	104	31	10.5	
ø100	90	95	73	80 (90)	85 (95)	63 (73)	23	15	Rc3/8	117	123.5	38	10.5	

Code		Common dimension											
Bore Size (mm)	J	K	KA	KK	M	MM	N	O	UA		UB	WF	
									G1	G4		G1	G4
ø25	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	-	-	-	-	5	5
ø32	9 Counterbore depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17
ø40	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	5	10	28 h9	12	17
ø50	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	5	10	35 h9	13	18
ø63	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	5	10	35 h9	13	18
ø80	17.5 Counterbore depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	5	10	43 h9	15	20
ø100	17.5 Counterbore depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Switches cannot be mounted on the piping port surface of Bore Sizes ø20, ø25.

*3: Dimensions in () for codes A and B are values when exceeding 50 strokes.

*4: For ø32 without switch, 5 strokes, the port size will be M5.

***5: For dimensions with each switch, refer to P. 300 to 309.**

***6: For outline dimension drawings of individual accessories, refer to P. 34.**

● Rod end male thread part

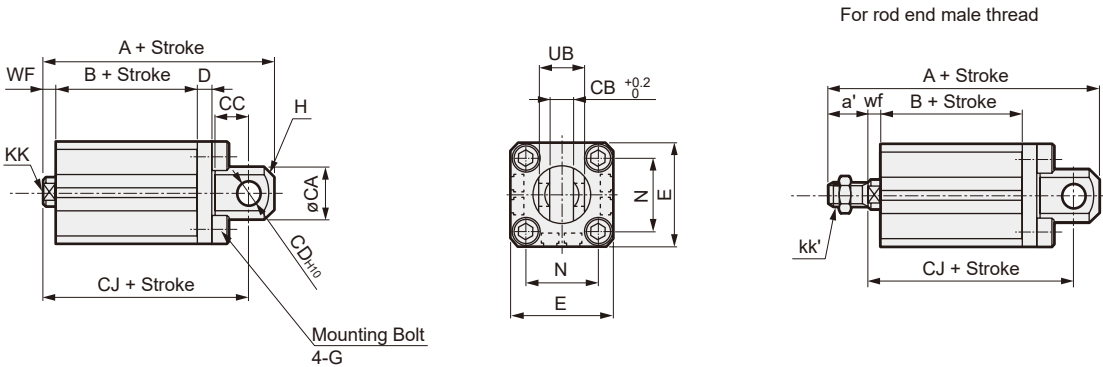
Code	Bore Size (mm)	a'	c'	H	kk'	M	MM	T	wf	
									G1	G4
ø25	ø25	17.5	15	17	M10×1.25	10	12	6	5	5
ø32	ø32	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø40	ø40	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø50	ø50	28.5	26	27	M18×1.5	17	20	11	10	15
ø63	ø63	28.5	26	27	M18×1.5	17	20	11	10	15
ø80	ø80	35.5	32.5	32	M22×1.5	22	25	13	13	18
ø100	ø100	35.5	32.5	41	M26×1.5	27	30	16	13	18

Double Acting, Single Rod, High Load, Coil Scraper Type/Spatter Adhesion Prevention Type

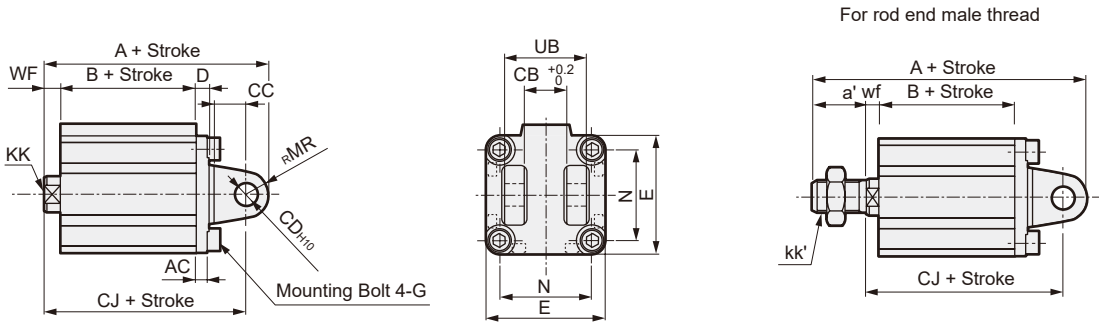
Outline Dimension Drawing

● Double Knuckle Clevis (CB)
SSD2-KG1(L)-KG4(L)-25 to 100-CB

· ø25



· ø32 to ø100



Code	Common dimension														For female thread											
Bore Size (mm)		CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB	WF		Dimension with switch				Dimension without switch						
																A		B	CJ		A ^{*1}		B ^{*1}	CJ ^{*1}		
														G1	G4	G1	G4		G1	G4	G1	G4		G1	G4	
ø25	-	24	10.2	14	10	5	40	M6×16	M6 Depth 12	C5	-	28	20	5	5	82.5	82.5	47.5	72.5	72.5	72.5	72.5	37.5	62.5	62.5	
ø32	4.5	-	18.2	14	10	5	45	M6×16	M8 depth 13	-	10	34	36	12	17	85	90	43	75	80	75 (85)	80 (90)	33 (43)	65 (75)	70 (80)	
ø40	5	-	18.2	14	10	6	52	M6×16	M8 depth 13	-	10	40	36	12	17	93.5	98.5	49.5	83.5	88.5	83.5 (93.5)	88.5 (98.5)	39.5 (49.5)	73.5 (83.5)	78.5 (88.5)	
ø50	6	-	22.2	20	14	7	64	M8×20	M10 depth 15	-	14	50	44	13	18	105.5	110.5	50.5	91.5	96.5	95.5 (105.5)	100.5 (110.5)	40.5 (50.5)	81.5 (91.5)	86.5 (96.5)	
ø63	7	-	22.2	20	14	8	77	M10×25	M10 depth 15	-	14	60	44	13	18	113	118	56	99	104	103 (113)	108 (118)	46 (56)	89 (99)	94 (104)	
ø80	9	-	28.2	27	18	10	98	M12×40	M16 depth 21	-	18	77	56	15	20	134.5	139.5	63.5	116.5	121.5	124.5 (134.5)	129.5 (139.5)	53.5 (63.5)	106.5 (116.5)	111.5 (121.5)	
ø100	12	-	32.2	31	22	13	117	M12×40	M20 depth 27	-	22	94	64	17	22	157	162	73	135	140	147 (157)	152 (162)	63 (73)	125 (135)	130 (140)	

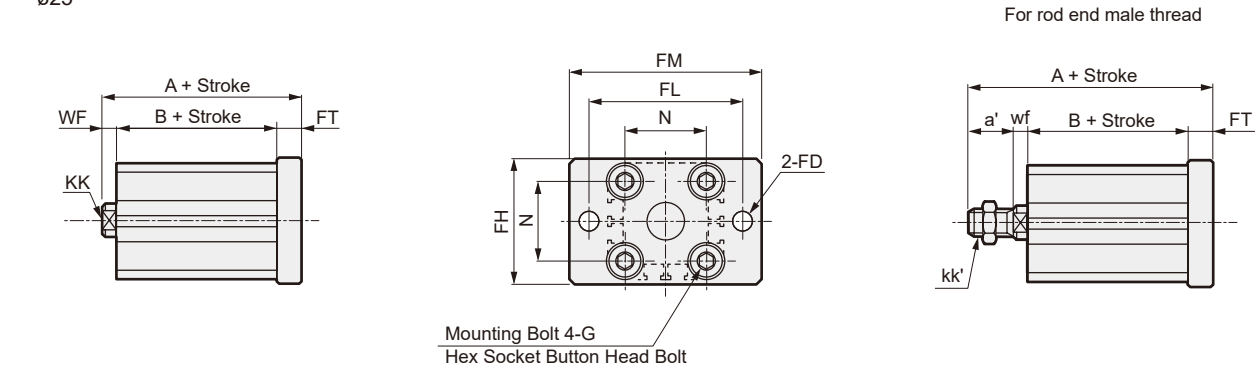
Code	For male thread													
Bore Size (mm)	a'	kk'	wf		Dimension with switch				Dimension without switch					
					A		B	CJ		A ^{*1}		B ^{*1}	CJ ^{*1}	
			G1	G4	G1	G4		G1	G4	G1	G4		G1	G4
ø25	17.5	M10×1.25	5	5	100	100	47.5	72.5	72.5	90	90	37.5	62.5	62.5
ø32	23.5	M14×1.5	10	15	106.5	111.5	43	73	78	96.5 (106.5)	101.5 (111.5)	33 (43)	63 (73)	68 (78)
ø40	23.5	M14×1.5	10	15	115	120	49.5	81.5	86.5	105 (115)	110 (120)	39.5 (49.5)	71.5 (81.5)	76.5 (86.5)
ø50	28.5	M18×1.5	10	15	131	136	50.5	88.5	93.5	121 (131)	126 (136)	40.5 (50.5)	78.5 (88.5)	83.5 (93.5)
ø63	28.5	M18×1.5	10	15	138.5	143.5	56	96	101	128.5 (138.5)	133.5 (143.5)	46 (56)	86 (96)	91 (101)
ø80	35.5	M22×1.5	13	18	168	173	63.5	114.5	119.5	158 (168)	163 (173)	53.5 (63.5)	104.5 (114.5)	109.5 (119.5)
ø100	35.5	M26×1.5	13	18	188.5	193.5	73	131	136	178.5 (188.5)	183.5 (193.5)	63 (73)	121 (131)	126 (136)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

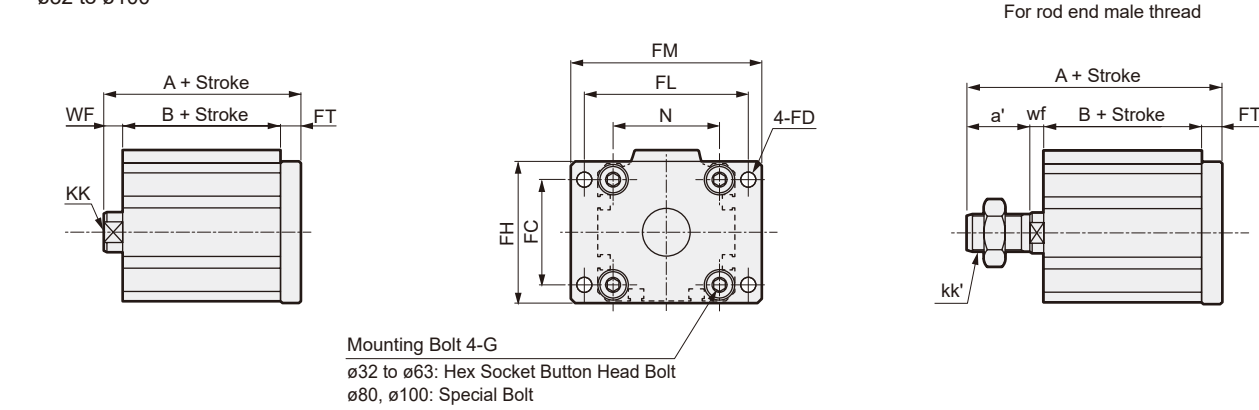
Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-KG1(L)·KG4(L)-20 to 100-FB

· ø25



· ø32 to ø100



Code	Common dimension									For female thread							
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF		Dimension with switch		Dimension without switch			
												A	B	A ^{*1}		B ^{*1}	
										G1	G4	G1	G4	G1	G4		
ø25	-	6.6	42	52	64	8	M6×16	M6 Depth 12	28	5	5	60.5	60.5	47.5	50.5	50.5	37.5
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34	12	17	63	68	43	53 (63)	58 (68)	33 (43)
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	12	17	69.5	74.5	49.5	59.5 (69.5)	64.5 (74.5)	39.5 (49.5)
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	13	18	72.5	77.5	50.5	62.5 (72.5)	67.5 (77.5)	40.5 (50.5)
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	13	18	78	83	56	68 (78)	73 (83)	46 (56)
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	15	20	89.5	94.5	63.5	79.5 (89.5)	84.5 (94.5)	53.5 (63.5)
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	17	22	101	106	73	91 (101)	96 (106)	63 (73)

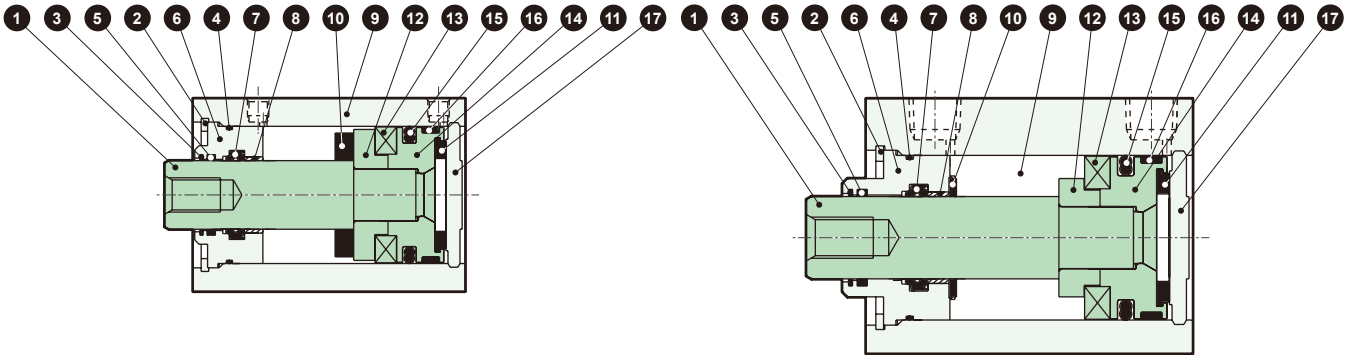
Code	For male thread										
Bore Size (mm)	a'	kk'	wf		Dimension with switch			Dimension without switch			
					A		B	A ^{*1}		B ^{*1}	
			G1	G4	G1	G4		G1	G4		
ø25	17.5	M10×1.25	5	5	78	78	47.5	68	68	37.5	
ø32	23.5	M14×1.5	10	15	84.5	89.5	43	74.5 (84.5)	79.5 (89.5)	33 (43)	
ø40	23.5	M14×1.5	10	15	91	96	49.5	81 (91)	86 (96)	39.5 (49.5)	
ø50	28.5	M18×1.5	10	15	98	103	50.5	88 (98)	93 (103)	40.5 (50.5)	
ø63	28.5	M18×1.5	10	15	103.5	108.5	56	93.5 (103.5)	98.5 (108.5)	46 (56)	
ø80	35.5	M22×1.5	13	18	123	128	63.5	113 (123)	118 (128)	53.5 (63.5)	
ø100	35.5	M26×1.5	13	18	132.5	137.5	73	122.5 (132.5)	128.5 (138.5)	63 (73)	

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

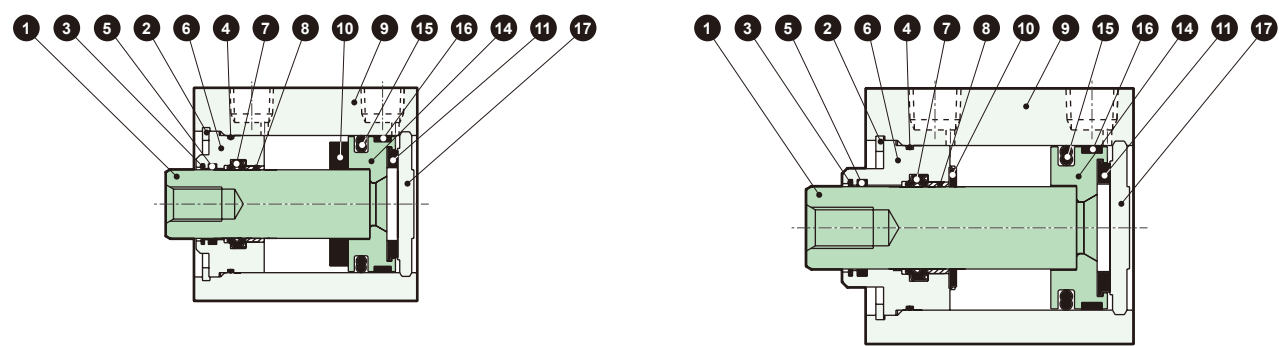
MEMO

Internal Structure Diagram/Material

- SSD2-KG1L-25 (double acting/high load/coil scraper/with switch)
- SSD2-KG4L-25 (double acting/high load/anti-spatter adherence/with switch)
- SSD2-KG1L-32 to 50 (double acting/high load/coil scraper/with switch)
- SSD2-KG4L-32 to 50 (double acting/high load/anti-spatter adherence/with switch)



- SSD2-KG1-25 (Double Acting, High Load Type, Coil Scraper Type)
- SSD2-KG4-25 (Double Acting, High Load Type, Spatter Adhesion Prevention Type)
- SSD2-KG1-32 to 50 (Double Acting, High Load Type, Coil Scraper Type)
- SSD2-KG4-32 to 50 (Double Acting, High Load Type, Spatter Adhesion Prevention Type)



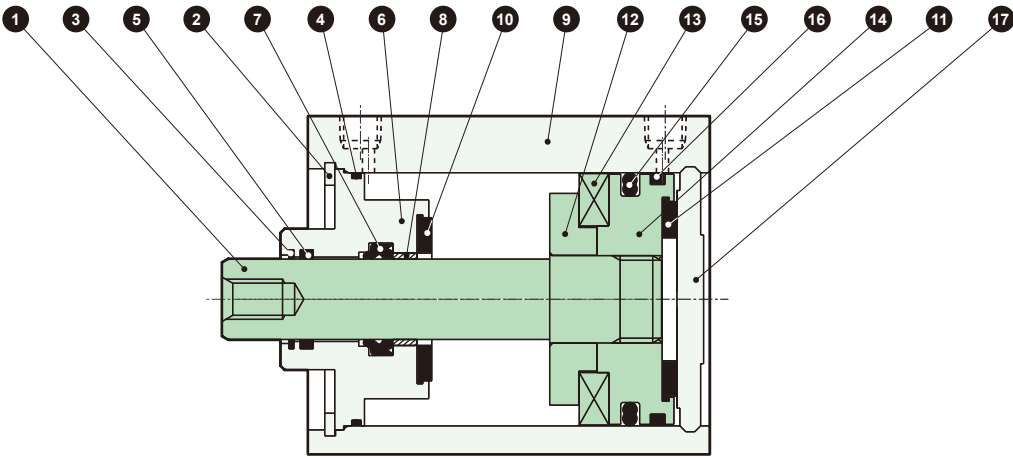
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø25: Stainless steel ø32 to 50: Steel	Industrial Hard Chrome Plating	10	Cushion rubber R	Urethane Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	11	Cushion rubber H	Urethane Rubber	
3	Coil scraper	Copper Alloy		12	Spacer	Aluminum Alloy	ø25, ø32: Chromate
4	Rod metal gasket	Nitrile Rubber		13	Magnet	Plastic	
5	Lube keeper	Special rubber	G4 only	14	Piston	Aluminum Alloy	Chromate
6	Rod Metal	Aluminum Alloy	Alumite	15	Piston Packing	Nitrile Rubber	
7	Rod Packing	Nitrile Rubber		16	Wear Ring	Polyacetal	
8	Bushing	Bearing Alloy		17	Cover	ø25: Stainless steel ø32 to 50: Aluminum alloy	ø32 to ø50: Alumite
9	Cylinder Body	Aluminum Alloy	Hard Anodized				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

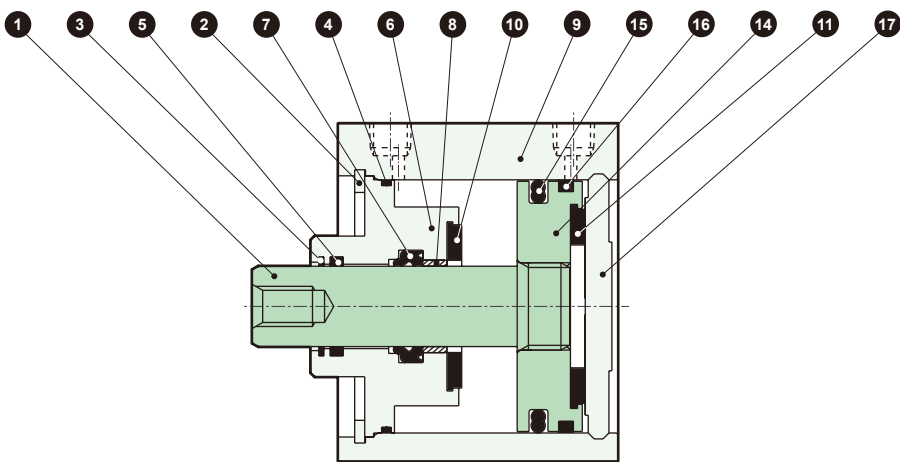
Internal Structure Diagram/Material

Internal Structure Diagram/Material

- SSD2-KG1L-63 to 100 (Double Acting, High Load Type, Coil Scraper Type with Switch)
- SSD2-KG4L-63 to 100 (Double Acting, High Load Type, Spatter Adhesion Prevention Type with Switch)



- SSD2-KG1-63 to 100 (Double Acting, High Load Type, Coil Scraper Type)
- SSD2-KG4-63 to 100 (Double Acting, High Load Type, Spatter Adhesion Prevention Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	10	Cushion rubber R	Urethane Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	11	Cushion rubber H	Urethane Rubber	
3	Coil scraper	Copper Alloy		12	Spacer	Aluminum Alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		13	Magnet	Plastic	
5	Lube keeper	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	
8	Bushing	Bearing Alloy		17	Cover	Aluminum Alloy	Alumite
9	Cylinder Body	Aluminum Alloy	Hard Anodized				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.



Compact Cylinder
Double Acting, Double Rod, Coil Scraper Type

Compact Cylinder
Double Acting, Double Rod, Spatter
Adhesion Prevention Type

SSD2-DG1 Series SSD2-DG4 Series

● Bore Size: ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method

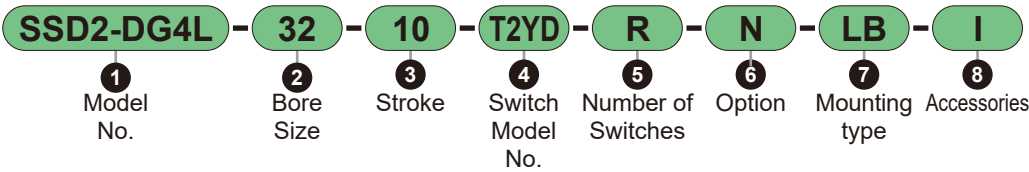
Without
Switch

(Without magnet
for switch)



With Switch

(Built-in magnet
for switch)



1 Model No.

Code	Content
SSD2-DG1	Double Acting, Double Rod, Coil Scraper Type
SSD2-DG1L	Double Acting, Double Rod, Coil Scraper Type with Switch
SSD2-DG4	Double Acting, Double Rod, Spatter Adhesion Prevention Type
SSD2-DG4L	Double Acting, Double Rod, Spatter Adhesion Prevention Type with Switch

2 Bore Size (mm)

Code	Content
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø25	5 to 50	Every 5 mm
ø32 to ø40	5 to 100	
ø50 to ø100	10 to 100	

Note: Refer to Appendix 1 on the following page for details.

4 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Solid State	2-Color AC For Magnetic Field	2-wire	—	24 ± 10%	—	5 to 20	T2YD□	—	
			—		—		T2YDT□	—	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m T2YD
3 m T2YD 3
5 m T2YD 3

SSD2-DG1/DG4 Series

Model No. Notation Method

6 Option

Code	Content	
Blank	Rod end female thread	
N	Rod end male thread	

8 Accessories

Code	Content	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

5 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

7 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
FA	Rod side flange type (Custom product)	

Appendix Table 1

Stroke (mm)		Applicable Bore						
		25	32	40	50	63	80	100
Standard Stroke	5	●	●	●				
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	75		●	●	●	●	●	●
100		●	●	●	●	●	●	
Minimum Stroke (mm) *1		1						
Maximum Stroke (mm)		50	100					
Intermediate Stroke *2 *3		—	Every 5 mm					
Minimum Stroke with Switch		10						

*1: Cannot be manufactured for less than 10 mm with switch.

*2: Intermediate stroke is possible only when exceeding 50 strokes.

*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

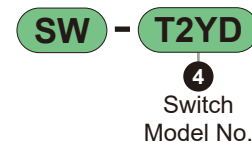
Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-T2	Fluororubber packing type (DG1)
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-DG1 - - XP5

SSD2-DG4 - - XP5

Switch Single Unit Model No. Notation Method



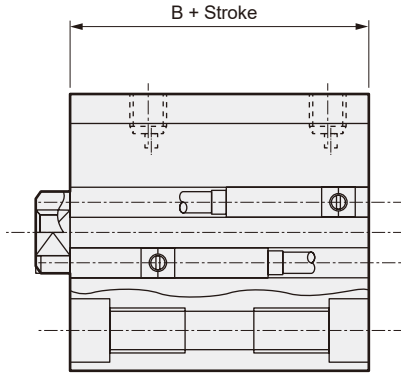
Specifications

Item	SSD2-DG1·DG4 SSD2-DG1L·DG4L (With Switch)						
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type						
Operating Fluid	Compressed Air						
Max. Operating Pressure MPa	1.0						
Min. Operating Pressure MPa	0.2				0.15		
Proof pressure MPa	1.6						
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)						
Port Size	Rc1/8			Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0						
Operating Piston Speed mm/s	50 to 500					50 to 300	
Cushion	None						
Lubrication	Not Required (When lubricating, use Turbine Oil ISO VG32)						
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

About Intermediate Stroke

● SSD2-DG1·DG4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-DG1-32-38 A +2 mm spacer is added to the standard cylinder SSD2-DG1-32-40 to make it 38 mm. B + Stroke = 30.5 + 40 = 70.5	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø25	234	325	249	340	265	356	281	372	297	388	313	403	329	419	344	435	360	461	375	486	-	-	-	-
ø32	308	423	354	468	399	514	446	560	490	605	537	651	584	696	631	741	678	786	725	831	960	1056	1195	1281
ø40	446	589	473	616	499	642	526	669	553	696	579	732	606	754	632	775	659	802	685	828	818	961	950	1093
ø50	-	-	746	940	796	989	846	1041	896	1089	946	1139	996	1189	1046	1239	1098	1291	1149	1343	1407	1603	1664	1863
ø63	-	-	1203	1567	1278	1642	1353	1717	1428	1792	1503	1867	1579	1943	1654	2018	1729	2093	1804	2168	2179	2543	2554	2918
ø80	-	-	2112	2042	2229	2420	2345	2798	2462	2915	2578	3031	2695	3153	2812	3275	2929	3392	3045	3508	3628	4091	4210	4673
ø100	-	-	3153	3775	3322	3924	3490	4072	3659	4256	3828	4440	3997	4604	4165	4767	4334	4931	4503	5095	5348	5915	6193	6735

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø25	Push/Pull	-	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
ø32	Push/Pull	-	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
ø40	Push/Pull	-	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
ø50	Push/Pull	-	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
ø63	Push/Pull	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
ø80	Push/Pull	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
ø100	Push/Pull	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

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

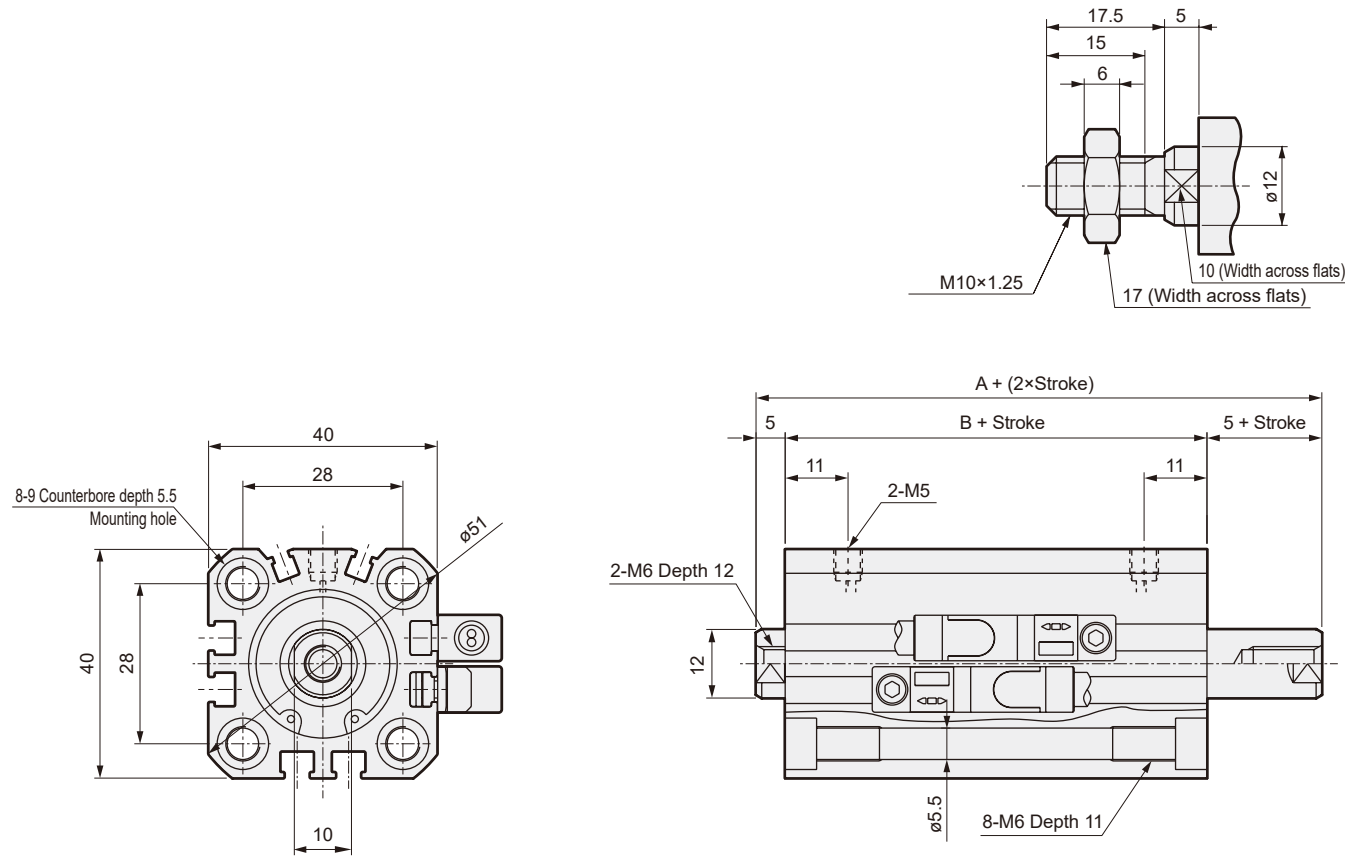
FC□

Cylinder Switch

Ending

Outline Dimension Drawing (Bore size: ø25)

● SSD2-DG1(L)/DG4(L)-25



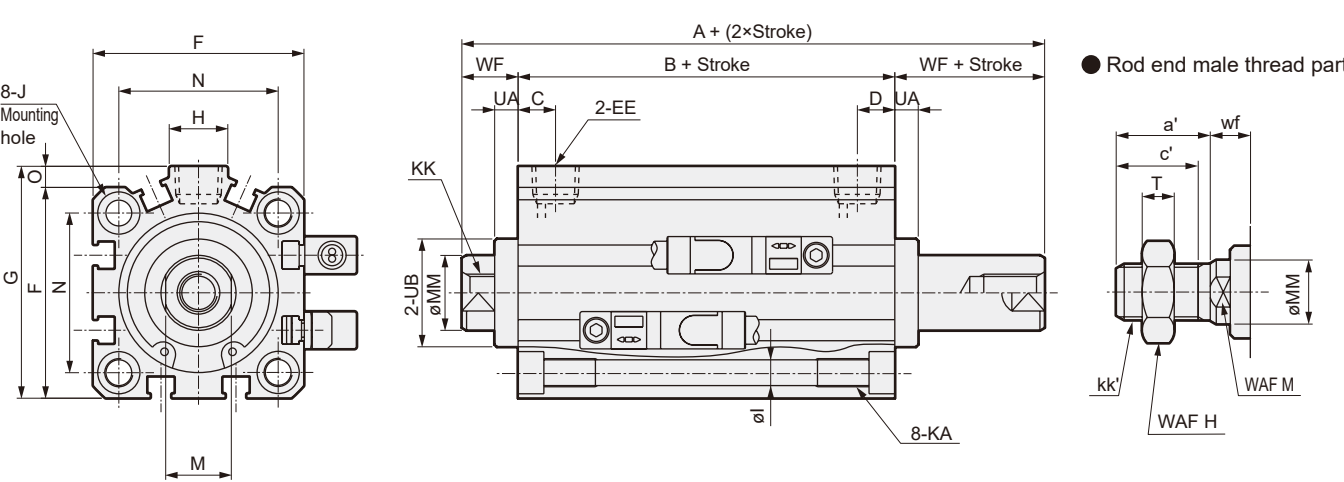
Code	Dimension with switch		Dimension without switch	
Bore Size (mm)	A	B	A	B
	*1	*1	*1	*1
ø25	69	59	59	49

*1: When calculating A + (2xStroke), B + Stroke, 5 + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. Rod protrusion dimensions differ on the left and right.
(Example) For an intermediate stroke of 17 mm, enter the standard stroke of 20 mm for calculation.
*2: Switches cannot be mounted on the piping port surface.
*3: The position of the width across flats for spanner engagement on the left and right is not fixed.
***4: For dimensions with each switch, refer to P. 300 to 309.**
***5: For outline dimension drawings of individual accessories, refer to P. 34.**

Double Acting, Double Rod, Coil Scraper Type/Spatter Adhesion Prevention Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

● SSD2-DG1(L)/DG4(L)-32 to 100



Code	Dimension with switch			Dimension without switch			Common dimension						
Bore Size (mm)	A		B	A		B	C	D	EE	F	G	H	I
	G1	G4	*1	G1	G4	*1, *2							
ø32	64.5	74.5	40.5	54.5 (64.5)	64.5 (74.5)	30.5 (40.5)	8	8	Rc1/8	45	49.5	12.5	5.5
ø40	74	84	50	64 (74)	74 (84)	40 (50)	12	12	Rc1/8	52	57	15	5.5
ø50	76.5	86.5	50.5	66.5 (76.5)	76.5 (86.5)	40.5 (50.5)	10.5	10.5	Rc1/4	64	71	18	6.9
ø63	78	88	52	68 (78)	78 (88)	42 (52)	13	13	Rc1/4	77	84	23	8.7
ø80	91	101	61	81 (91)	91 (101)	51 (61)	16	16	Rc3/8	98	104	31	10.5
ø100	104.5	114.5	70.5	94.5 (104.5)	104.5 (114.5)	60.5 (70.5)	23	23	Rc3/8	117	123.5	38	10.5

Code	Common dimension											
Bore Size (mm)	J	KA	KK	M	MM	N	O	UA		UB	WF	
								G1	G4		G1	G4
ø32	9 Counterbore depth 5.5	M6 depth 11	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17
ø40	9 Counterbore depth 5.5	M6 depth 11	M8 depth 13	14	16	40	5	5	10	28 h9	12	17
ø50	11 Counterbore Depth 6.5	M8 depth 13	M10 depth 15	17	20	50	7	5	10	35 h9	13	18
ø63	14 Counterbore depth 9	M10 depth 25	M10 depth 15	17	20	60	7	5	10	35 h9	13	18
ø80	17 Counterbore depth 11	M12 depth 28	M16 depth 21	22	25	77	6	5	10	43 h9	15	20
ø100	17.5 Counterbore depth 11	M12 depth 28	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22

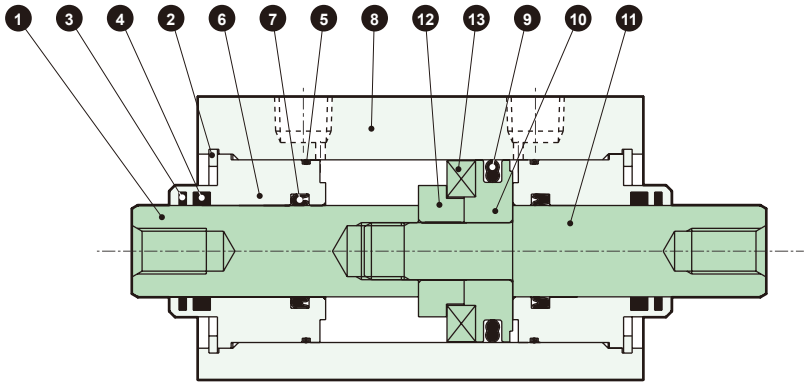
*1: When calculating A + (2xStroke), B + Stroke, WF + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. Rod protrusion dimensions differ on the left and right.
(Example) For an intermediate stroke of 17 mm, enter the standard stroke of 20 mm for calculation.
*2: Dimensions in () for codes A and B are values when exceeding 50 strokes.
*3: The position of the width across flats for spanner engagement on the left and right is not fixed.
***4: For dimensions with each switch, refer to P. 300 to 309.**
***5: For outline dimension drawings of individual accessories, refer to P. 34.**

● Rod end male thread part dimension table

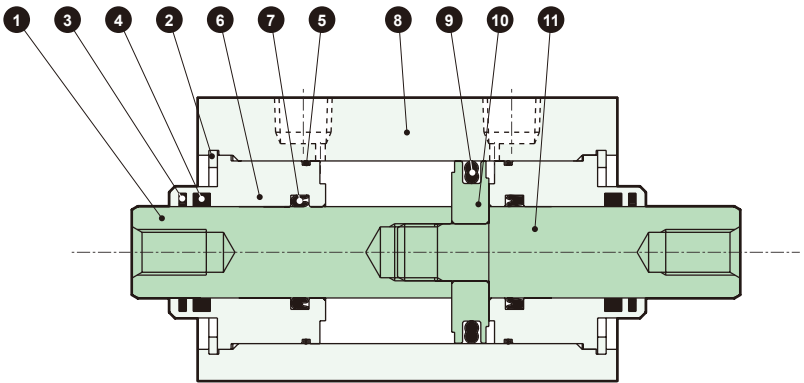
Code	a'	c'	H	kk'	M	MM	T	wf	
Bore Size (mm)								G1	G4
ø32	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø40	23.5	20.5	22	M14×1.5	14	16	8	10	15
ø50	28.5	26	27	M18×1.5	17	20	11	10	15
ø63	28.5	26	27	M18×1.5	17	20	11	10	15
ø80	35.5	32.5	32	M22×1.5	22	25	13	13	18
ø100	35.5	32.5	41	M26×1.5	27	30	16	13	18

Internal Structure Diagram/Material

- SSD2-DG1L-25 to 50 (Double Acting, Double Rod Type, Coil Scraper Type with Switch)
- SSD2-DG4L-25 to 50 (Double Acting, Double Rod Type, Spatter Adhesion Prevention Type with Switch)



- SSD2-DG1-25 to 50 (Double Acting, Double Rod Type, Coil Scraper Type)
- SSD2-DG4-25 to 50 (Double Acting, Double Rod Type, Spatter Adhesion Prevention Type)

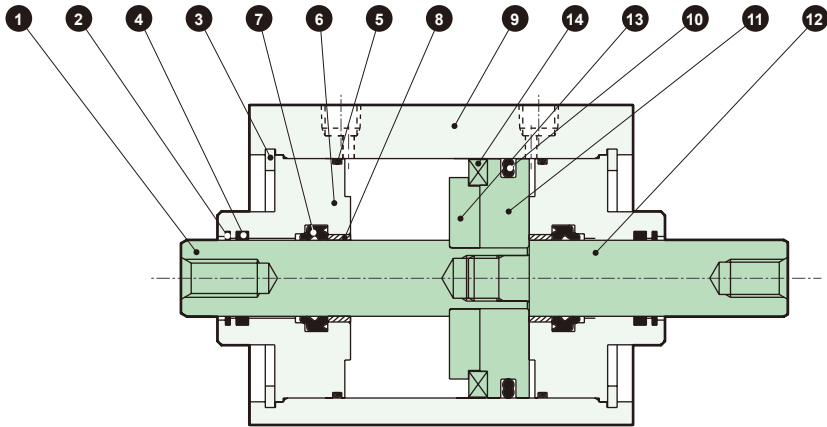


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod A	ø25: Stainless steel ø32 to 50: Steel	Industrial Hard Chrome Plating	8	Cylinder Body	Aluminum Alloy	Hard Anodized
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston Packing	Nitrile Rubber	
3	Coil scraper	Copper Alloy		10	Piston	Aluminum Alloy	Chromate
4	Lube keeper	Special rubber	G4 only	11	Piston Rod B	ø25: Stainless steel ø32 to 50: Steel	Industrial Hard Chrome Plating
5	Rod metal gasket	Nitrile Rubber		12	Spacer	Aluminum Alloy	ø25, ø32: Chromate
6	Rod Metal	Aluminum Alloy	Alumite	13	Magnet	Plastic	
7	Rod Packing	Nitrile Rubber					

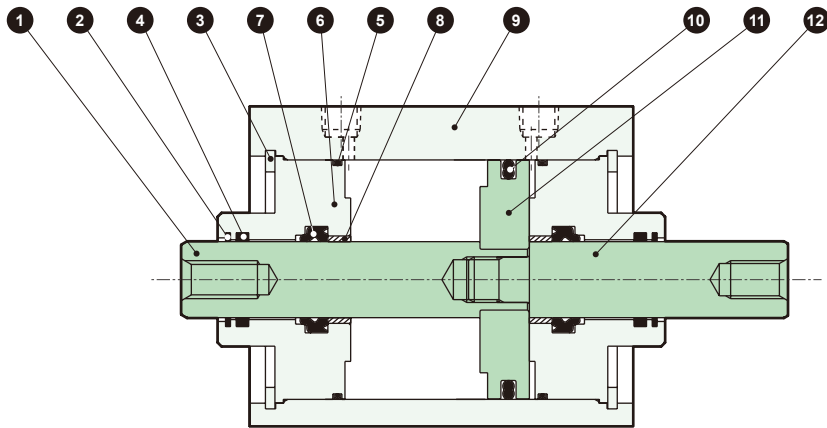
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

Internal Structure Diagram/Material

- SSD2-DG1L-63 to 100 (Double Acting, Double Rod Type, Coil Scraper Type with Switch)
- SSD2-DG4L-63 to 100 (Double Acting, Double Rod Type, Spatter Adhesion Prevention Type with Switch)



- SSD2-DG1-63 to 100 (Double Acting, Double Rod Type, Coil Scraper Type)
- SSD2-DG4-63 to 100 (Double Acting, Double Rod Type, Spatter Adhesion Prevention Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod A	Steel	Industrial Hard Chrome Plating	8	Bushing	Bearing Alloy	
2	Coil scraper	Copper Alloy		9	Cylinder Body	Aluminum Alloy	Hard Anodized
3	C-type retaining ring	Steel	Zinc phosphate	10	Piston Packing	Nitrile Rubber	Chromate
4	Lube keeper	Special rubber	G4 only	11	Piston	Aluminum Alloy	Chromate
5	Rod metal gasket	Nitrile Rubber		12	Piston Rod B	Steel	Industrial Hard Chrome Plating
6	Rod Metal	Aluminum Alloy	Chromate	13	Spacer	Aluminum Alloy	Chromate
7	Rod Packing	Nitrile Rubber		14	Magnet	Plastic	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

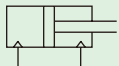


Compact Cylinder
Double Acting, Single Rod, Environmentally Resistant Scraper Type

SSD2-G5 Series

- Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Custom Products



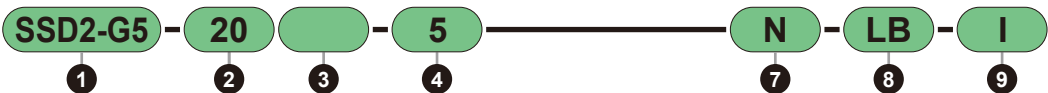
SSD2-G5 Series

Model No. Notation Method

Model No. Notation Method

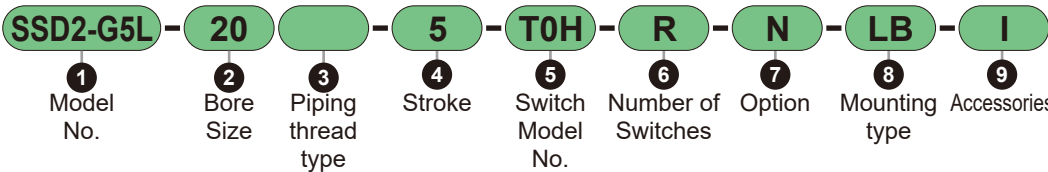
Without Switch

(Without magnet for switch)



With Switch

(Built-in magnet for switch)



1 Model No.

Code	Content
SSD2-G5	Double Acting, Single Rod, Environmentally Resistant Scraper Type (Custom product)
SSD2-G5L	Double Acting, Single Rod, Environmentally Resistant Scraper Type with Switch (Custom order)

2 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Port Thread Type:

Code	Content
Blank	M5 (ø20 to ø25) Rc thread (ø32 to ø100)
NN	NPT thread (Custom product) (ø32 to ø100)
GN	G thread (Custom product) (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø20, ø25	1 to 50	Every 1 mm
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S	●	●							
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH	F3YV	●	●							
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV	●	●							
		2-wire	85 to 265	—	5 to 100	—	T1H	T1V	●	●	●	●	●	●	●	●	
		—	—	10 to 30	—	5 to 20 *2	T2H	T2V	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	100 or less	T3H	T3V	●	●	●	●	●	●	●	●	
		3-wire (PNP)	—	less	—	—	T3PH	T3PV	●	●	●	●	●	●	●	●	
	2-Color	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	
		2-wire	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV	●	●	●	●	●	●	●	●	
		—	—	24 ± 10%	—	—	T2YD	—	●	●	●	●	●	●	●	●	
		—	—	—	—	—	T2YDT	—	●	●	●	●	●	●	●	●	
		2-wire	—	10 to 30	—	5 to 20 *2	T2JH	T2JV	●	●	●	●	●	●	●	●	
Reed	1-Color Flexible Lead Wire Type	—	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	
	1-Color No Indicator Lamp	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●	
	—	—	110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●	
	1-Color	—	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V			●	●	●	●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T8□ switches cannot be mounted on ø20 to ø32.

*4: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.

*5: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*6: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 250, P. 252. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Minimum Stroke (mm) *1		1							
Maximum Stroke (mm)		50		100					
Intermediate Stroke *2		Every 1 mm							

*1: Cannot be manufactured for less than 5 mm with 1-color indicator switch, or less than 10 mm with 2-color indicator type, off-delay type, AC magnetic field type, T1□, T8□ switch. For minimum stroke with switch, refer to P. 246.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

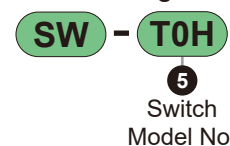
SSD2-G5-.....-XP5

Food Manufacturing Process Compatible Specification (Catalog No. CC-1271AA)

- Food grade lubricant usable in food manufacturing processes

SSD2-G5-.....-FP1

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-G5 SSD2-G5L (With Switch)								
Bore Size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type								
Operating Fluid	Compressed Air								
Maximum Operating Pressure	MPa	1.0							
Min. operating pressure	MPa	0.2					0.15		
Proof Pressure	MPa	1.6							
Ambient Temperature	°C	-10 to 60 (However, no freezing)							
Port Size		M5		Rc1/8 □1		Rc1/4		Rc3/8	
Stroke tolerance	mm	+1.0 0							
Operating piston speed	mm/s	50 to 500					50 to 300		
Cushion		None							
Lubrication		Not required (When lubricating, use turbine oil class 1 ISO VG32)							
Allowable Absorbed Energy J		0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

*1: For ø32 without switch, 5 stroke, the port size will be M5.

With Switch Minimum Stroke (With 2 Switches)

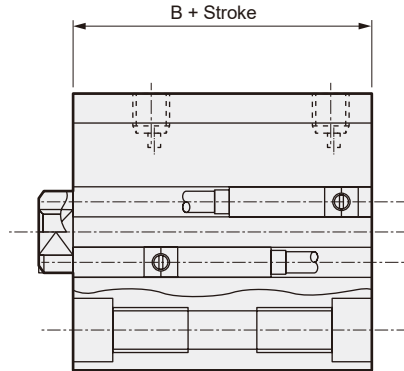
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V
ø20	5	5
ø25		
ø32		
ø40		
ø50		
ø63		
ø80		
ø100		

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

About Intermediate Stroke

● SSD2-G5 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-G5-32-38 A +2 mm spacer is added to the standard cylinder SSD2-G5-32-40 to make it 38 mm. B + Stroke = 33 + 40 = 73	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore Size (mm)	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	Without Switch	With Switch	Without Switch	With Switch
ø20	95	150	107	182	120	195	133	208	145	220	158	233	171	246	184	259	197	272	210	285	-	-	-	-
ø25	131	222	146	237	162	253	178	269	194	285	209	300	225	316	241	332	257	348	272	363	-	-	-	-
ø32	185	299	207	321	229	343	251	365	272	386	294	408	316	430	338	452	360	474	381	495	552	600	662	710
ø40	269	412	296	439	322	465	349	492	376	519	402	545	429	572	455	598	482	625	508	651	726	784	858	916
ø50	-	-	476	670	518	712	560	754	602	796	645	839	687	881	729	923	771	965	813	1007	1160	1217	1370	1427
ø63	-	-	703	982	758	1037	813	1092	868	1147	923	1202	999	1258	1074	1313	1150	1369	1144	1423	1332	1696	1709	1973
ø80	-	-	1240	1653	1327	1740	1413	1826	1500	1908	1586	1990	1673	2082	1760	2173	1847	2265	1933	2346	2701	2754	3136	3211
ø100	-	-	1879	2446	1993	2560	2106	2673	2220	2787	2334	2901	2448	3015	2561	3128	2675	3242	2789	3356	3857	3929	4424	4496

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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
ø40	Push	-	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	-	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
ø50	Push	-	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	-	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
ø63	Push	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	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
ø80	Push	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	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
ø100	Push	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	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

Mounting Bracket Model No. Notation Method

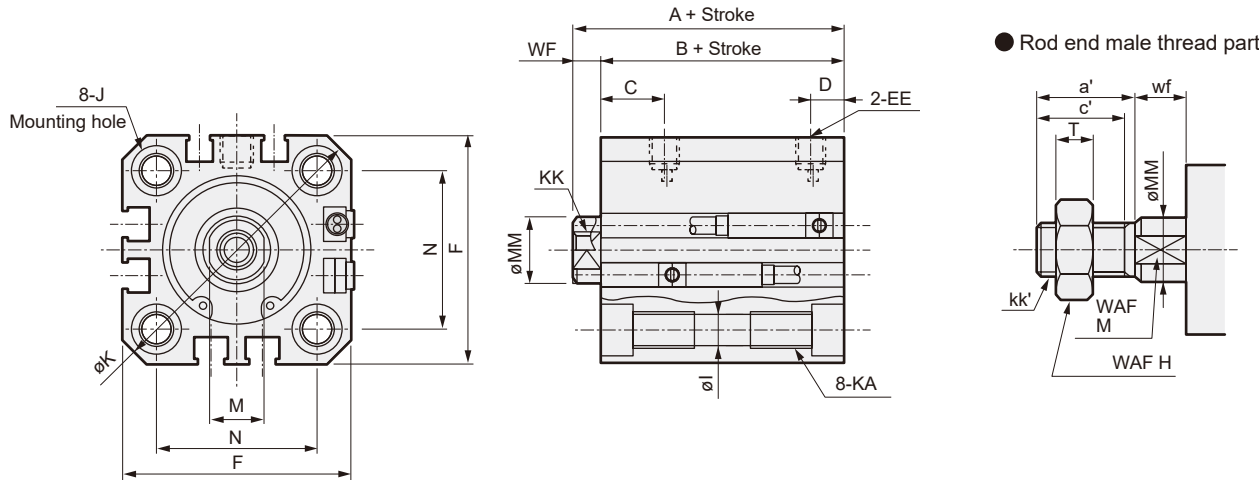
Bore Size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80
Mounting bracket							
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Double Clevis (CB)	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø20, ø25)

● SSD2-G5(L)-20, 25

ø20, ø25



Code	Dimension with switch		Dimension without switch		Common dimension			
	A ^{*1}	B ^{*1}	A ^{*1, *2}	B ^{*1, *2}	C ^{*3}	D ^{*3}	EE ^{*4}	F
ø20	44	39.5	34	29.5	18	5.5	M5	36
ø25	47.5	42.5	37.5	32.5	21	6	M5	40

Code	Common dimension								
	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.

*3: For dimensions with each switch, refer to P. 300 to 309.

*4: For outline dimension drawings with accessories and outline dimension drawings of individual accessories, refer to P. 34.

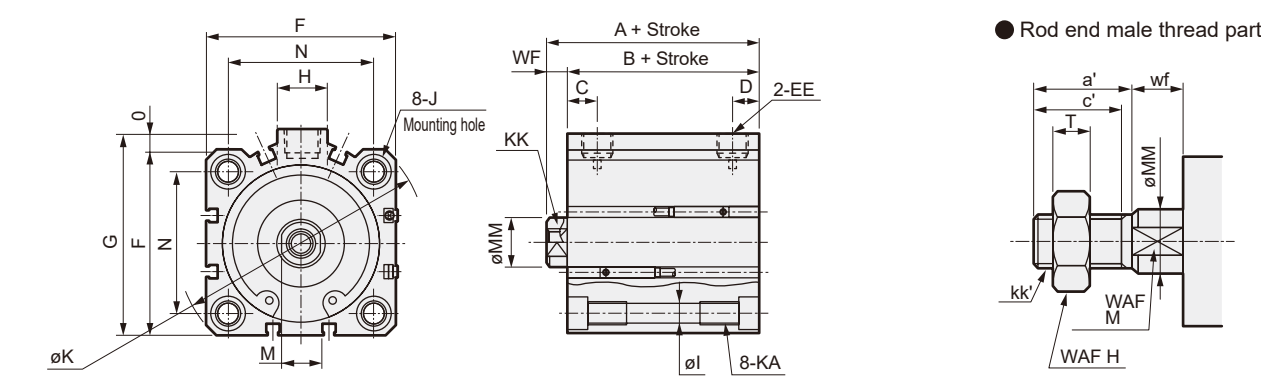
● Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10×1.25	10	12	6	5

Double Acting, Single Rod, Environmentally Resistant Scraper Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

● SSD2-G5(L)-32 to 100



Code	Dimension with switch		Dimension without switch		Common dimension					
	A ^{*1}	B ^{*1}	A ^{*1, *2}	B ^{*1, *2}	C ^{*3}	D ^{*3}	EE ^{*4}	F	G	H
ø32	50	43	40 (50)	33 (43)	18 (20)	8 (5.5)	Rc1/8	45	49.5	12.5
ø40	56.5	49.5	46.5 (56.5)	39.5 (49.5)	22 (21.5)	8.5 (8)	Rc1/8	52	57	15
ø50	58.5	50.5	48.5 (58.5)	40.5 (50.5)	20.5	10.5	Rc1/4	64	71	18
ø63	64	56	54 (64)	46 (56)	23	11	Rc1/4	77	84	23
ø80	73.5	63.5	63.5 (73.5)	53.5 (63.5)	26	13	Rc3/8	98	104	31
ø100	85	73	75 (85)	63 (73)	33	15	Rc3/8	117	123.5	38

Code	Common dimension									
	I	J	K	KA	KK	M	MM	N	O	WF
ø32	5.5	9 Counterbore depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	5.5	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	8.7	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	10.5	17.5 Counterbore depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	10.5	17.5 Counterbore depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Dimensions in () for codes A and B are values when exceeding 50 strokes.

*3: Dimensions in () for columns C and D are values for 5 strokes without switch.

*4: For code EE, ø32 without switch, 5 strokes, the port size will be M5.

*5: For dimensions with each switch, refer to P. 300 to 309.

*6: For outline dimension drawings of individual accessories, refer to P. 34.

● Rod end male thread part

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

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

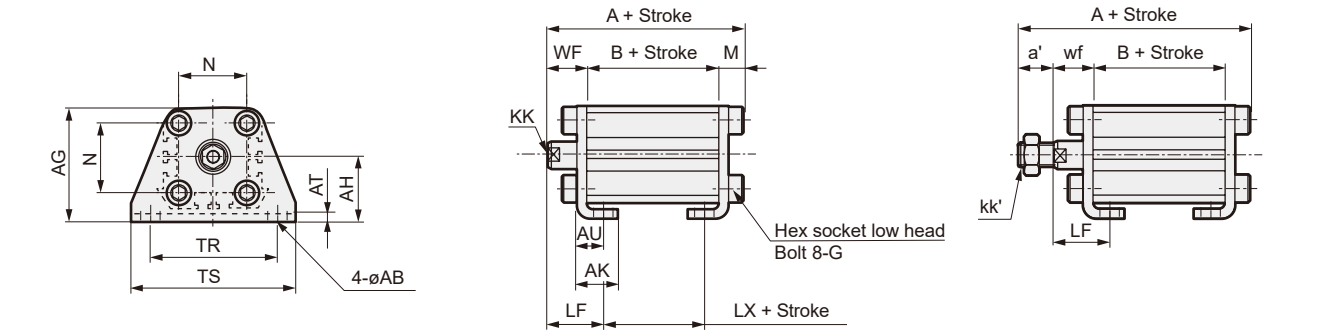
Cylinder Switch

Ending

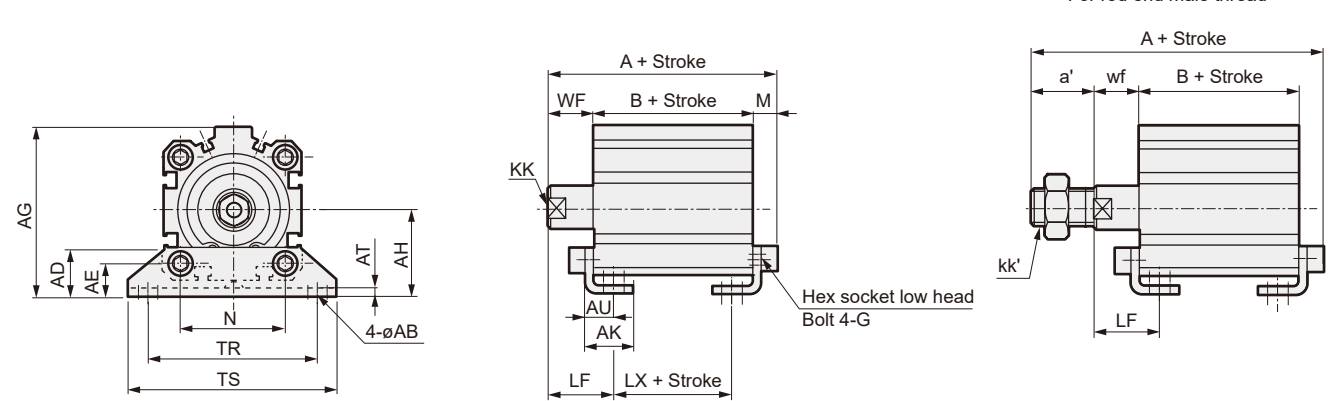
Outline Dimension Drawing

- Axial Foot (LB)
SSD2-G5(L)-20 to 100-LB

· ø20, ø25



· ø32 to ø100



Code	Common dimension																	
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M				
ø20	7	-	-	42	24	15	3.2	9.2	M6×16	-	25.5	48	62	7.2				
ø25	7	-	-	46	26	16.5	3.2	10.7	M6×16	-	28	52	66	7.2				
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2				
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2				
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2				
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2				
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5				
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13				
Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A ¹	B ¹	LX ¹					A	B	LX	A ¹	B ¹	LX ¹
ø20	14.5	20.5	61.2	39.5	27.5	51.2	29.5	17.5	14	-	14.5	20.5	75.2	39.5	27.5	65.2	29.5	17.5
ø25	15	22.5	64.7	42.5	27.5	54.7	32.5	17.5	17.5	-	15	22.5	82.2	42.5	27.5	72.2	32.5	17.5
ø32	17	25	67.2	43	27	57.2 (67.2)	33 (43)	17 (27)	23.5	M14×1.5	15	23	88.7	43	27	78.7 (88.7)	33 (43)	17 (27)
ø40	17	25	73.7	49.5	33.5	63.7 (73.7)	39.5 (49.5)	23.5 (33.5)	23.5	M14×1.5	15	23	95.2	49.5	33.5	85.2 (95.2)	39.5 (49.5)	23.5 (33.5)
ø50	18	29.5	76.7	50.5	27.5	66.7 (76.7)	40.5 (50.5)	17.5 (27.5)	28.5	M18×1.5	15	26.5	102.2	50.5	27.5	92.2 (102.2)	40.5 (50.5)	17.5 (27.5)
ø63	18	31	83.2	56	30	73.2 (83.2)	46 (56)	20 (30)	28.5	M18×1.5	15	28	108.7	56	30	98.7 (108.7)	46 (56)	20 (30)
ø80	20	35	95	63.5	33.5	85 (95)	53.5 (63.5)	23.5 (33.5)	35.5	M22×1.5	18	33	128.5	63.5	33.5	118.5 (128.5)	53.5 (63.5)	23.5 (33.5)
ø100	22	39	108	73	39	98 (108)	63 (73)	29 (39)	35.5	M26×1.5	18	35	139.5	73	39	129.5 (139.5)	63 (73)	29 (39)

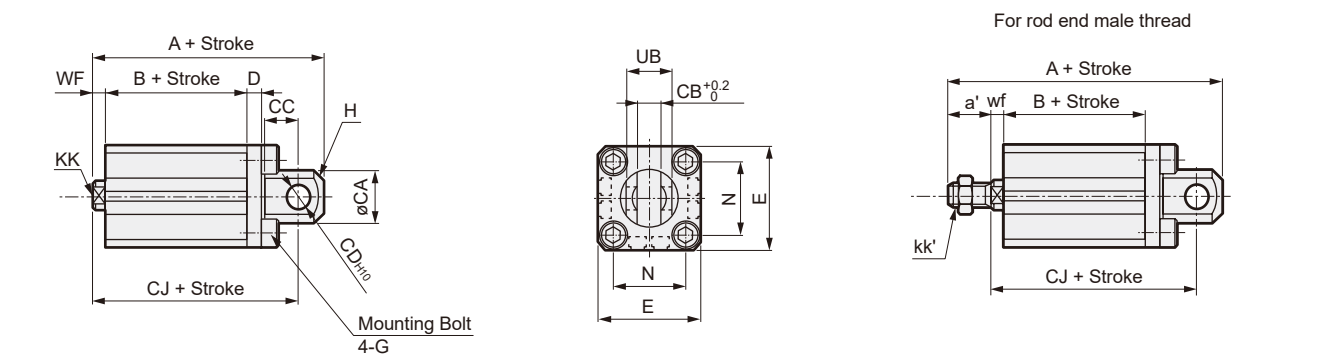
*1: Dimensions in () for codes A, B, LX are values when exceeding 50 strokes.

Double Acting, Single Rod, Environmentally Resistant Scraper Type

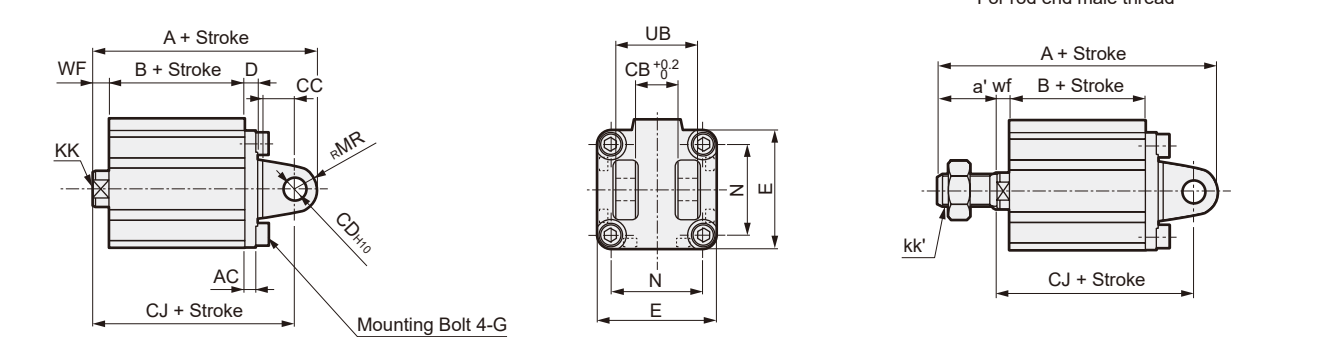
Outline Dimension Drawing

- Double Knuckle Clevis (CB)
SSD2-G5(L)-20 to 100-CB

· ø20, ø25



· ø32 to ø100



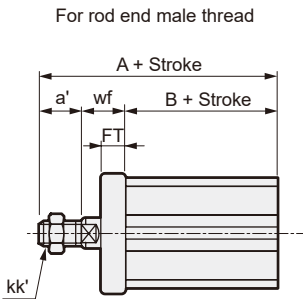
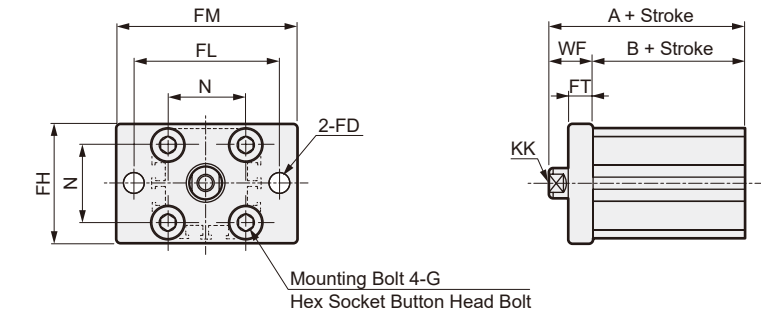
Code	Common dimension															
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB			
	ø20	-	20	8.2	12	8	5	36	M6×16	-	C4	-	25.5	16		
	ø25	-	24	10.2	14	10	5	40	M6×16	-	C5	-	28	20		
	ø32	4.5	-	18.2	14	10	5	45	M6×16	M8 depth 13	-	10	34	36		
	ø40	5	-	18.2	14	10	6	52	M6×16	M8 depth 13	-	10	40	36		
	ø50	6	-	22.2	20	14	7	64	M8×20	M10 depth 15	-	14	50	44		
	ø63	7	-	22.2	20	14	8	77	M10×25	M10 depth 15	-	14	60	44		
	ø80	9	-	28.2	27	18	10	98	M12×40	M16 depth 21	-	18	77	56		
	ø100	12	-	32.2	31	22	13	117	M12×40	M20 depth 27	-	22	94	64		
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A '1	B '1	CJ *1				A	B	CJ	A '1	B '1	CJ '1
ø20	4.5	71	39.5	62	61	29.5	52	14	-	4.5	85	39.5	62	75	29.5	52
ø25	5	77.5	42.5	67.5	67.5	32.5	57.5	17.5	-	5	95	42.5	67.5	85	32.5	57.5
ø32	7	80	43	70	70 (80)	33 (43)	60 (70)	23.5	M14×1.5	5	101.5	43	68	91.5 (101.5)	33 (43)	58 (68)
ø40	7	88.5	49.5	78.5	78.5 (88.5)	39.5 (49.5)	68.5 (78.5)	23.5	M14×1.5	5	110	49.5	76.5	100 (110)	39.5 (49.5)	66.5 (76.5)
ø50	8	100.5	50.5	86.5	90.5 (100.5)	40.5 (50.5)	76.5 (86.5)	28.5	M18×1.5	5	126	50.5	83.5	116 (126)	40.5 (50.5)	73.5 (83.5)
ø63	8	108	56	94	98 (108)	46 (56)	84 (94)	28.5	M18×1.5	5	133.5	56	91	123.5 (133.5)	46 (56)	81 (91)
ø80	10	129.5	63.5	111.5	119.5 (129.5)	53.5 (63.5)	101.5 (111.5)	35.5	M22×1.5	8	163	63.5	109.5	153 (163)	53.5 (63.5)	99.5 (109.5)
ø100	12	152	73	130	142 (152)	63 (73)	120 (130)	35.5	M26×1.5	8	183.5	73	126	173.5 (183.5)	63 (73)	116 (126)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

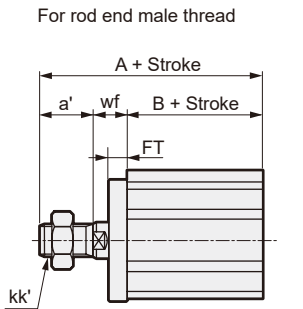
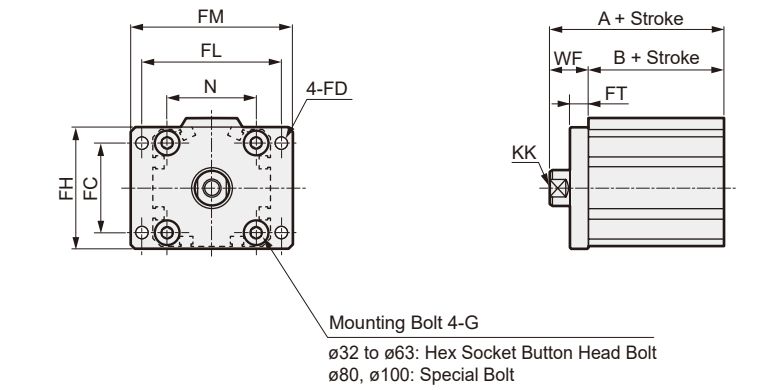
Outline Dimension Drawing

- Rod Side Flange (FA)
SSD2-G5(L)-20 to 100-FA

· ø20, ø25



· ø32 to ø100



Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø20	-	6.6	39	48	60	8	M6×16	-	25.5			
ø25	-	6.6	42	52	64	8	M6×16	-	28			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60			
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77			
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A *1	B *1				A	B	A *1	B *1
ø20	14.5	54	39.5	44	29.5	14	-	14.5	68	39.5	58	29.5
ø25	15	57.5	42.5	47.5	32.5	17.5	-	15	75	42.5	65	32.5
ø32	17	60	43	50 (60)	33 (43)	23.5	M14×1.5	15	81.5	43	71.5 (81.5)	33 (43)
ø40	17	66.5	49.5	56.5 (66.5)	39.5 (49.5)	23.5	M14×1.5	15	88	49.5	78 (88)	39.5 (49.5)
ø50	18	68.5	50.5	58.5 (68.5)	40.5 (50.5)	28.5	M18×1.5	15	94	50.5	84 (94)	40.5 (50.5)
ø63	18	74	56	64 (74)	46 (56)	28.5	M18×1.5	15	99.5	56	89.5 (99.5)	46 (56)
ø80	20	83.5	63.5	73.5 (83.5)	53.5 (63.5)	35.5	M22×1.5	18	117	63.5	107 (117)	53.5 (63.5)
ø100	22	95	73	85 (95)	63 (73)	35.5	M26×1.5	18	126.5	73	116.5 (126.5)	63 (73)

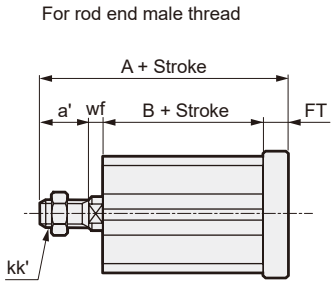
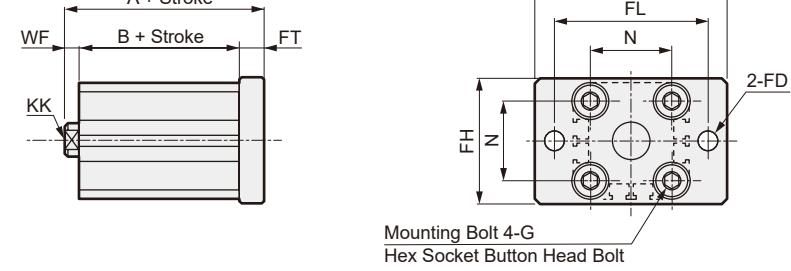
*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

Double Acting, Single Rod, Environmentally Resistant Scraper Type

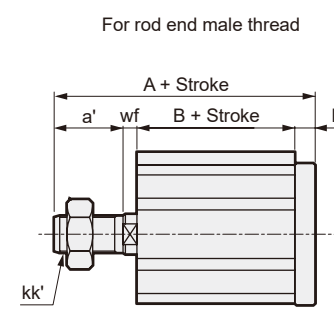
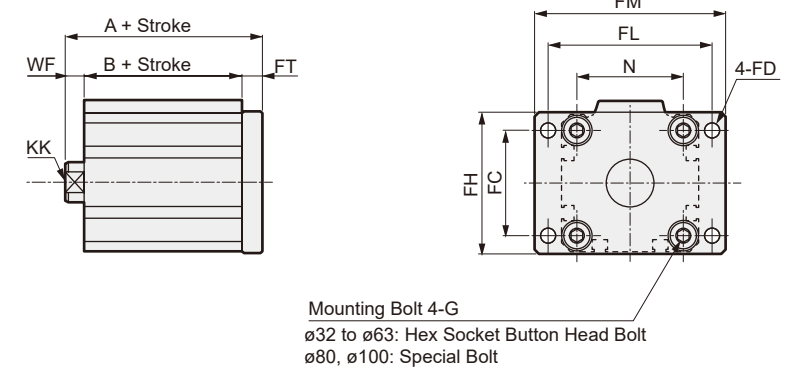
Outline Dimension Drawing

- Head Side Flange (FB)
SSD2-G5(L)-20 to 100-FB

· ø20, ø25



· ø32 to ø100



Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø20	-	6.6	39	48	60	8	M6×16	-	25.5			
ø25	-	6.6	42	52	64	8	M6×16	-	28			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60			
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77			
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A *1	B *1				A	B	A *1	B *1
ø20	4.5	52	39.5	42	29.5	14	-	4.5	66	39.5	56	29.5
ø25	5	55.5	42.5	45.5	32.5	17.5	-	5	73	42.5	63	32.5
ø32	7	58	43	48 (58)	33 (43)	23.5	M14×1.5	5	79.5	43	69.5 (79.5)	33 (43)
ø40	7	64.5	49.5	54.5 (64.5)	39.5 (49.5)	23.5	M14×1.5	5	86	49.5	76 (86)	39.5 (49.5)
ø50	8	67.5	50.5	57.5 (67.5)	40.5 (50.5)	28.5	M18×1.5	5	93	50.5	83 (93)	40.5 (50.5)
ø63	8	73	56	63 (73)	46 (56)	28.5	M18×1.5	5	98.5	56	88.5 (98.5)	46 (56)
ø80	10	84.5	63.5	74.5 (84.5)	53.5 (63.5)	35.5	M22×1.5	8	118	63.5	108 (118)	53.5 (63.5)
ø100	12	96	73	86 (96)	63 (73)	35.5	M26×1.5	8	127.5	73	117.5 (127.5)	63 (73)

*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

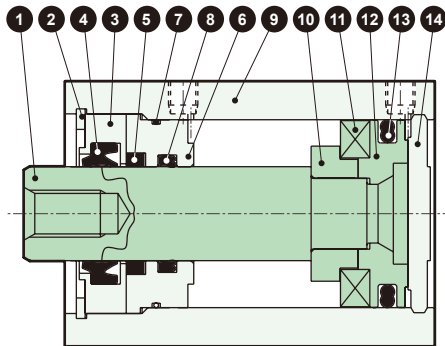
FC□

Cylinder Switch

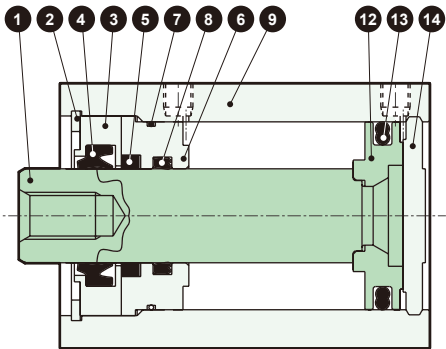
Ending

Internal Structure Diagram/Material (Bore size: ø20, ø25)

● SSD2-G5L-20, 25
(Double Acting, Environmentally Resistant Scraper Type with Switch)



● SSD2-G5-20, 25
(Double Acting, Environmentally Resistant Scraper Type)



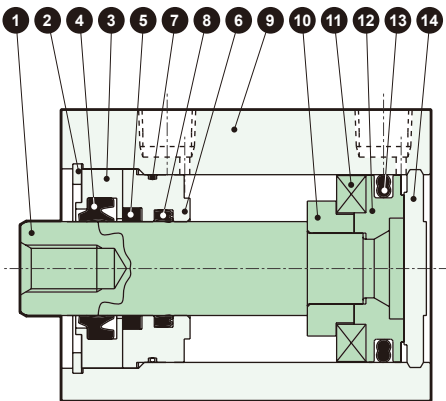
Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Stainless Steel	Industrial Hard Chrome Plating	8	Rod Packing	Nitrile Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	9	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal 1	Special aluminum	Alumite	10	Spacer	Aluminum Alloy	Chromate
4	Scraper	Nitrile Rubber		11	Magnet	Plastic	
5	Lube keeper	Special rubber		12	Piston	Aluminum Alloy	Chromate
6	Rod Metal	Aluminum Alloy	Alumite	13	Piston Packing	Nitrile Rubber	
7	Rod metal gasket	Nitrile Rubber		14	Cover	Stainless Steel	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

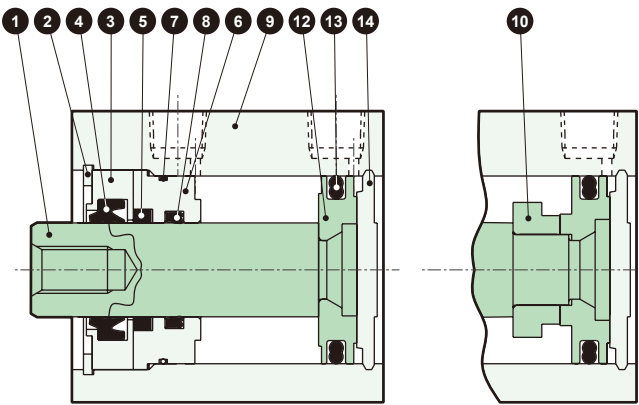
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø32 to ø50)

● SSD2-G5L-32 to 50
(Double Acting, Environmentally Resistant Scraper Type with Switch)



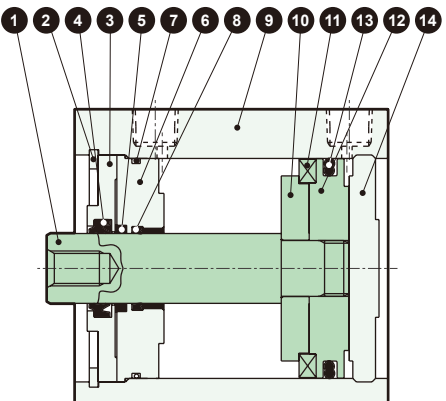
● SSD2-G5-32 to 50
(Double Acting, Environmentally Resistant Scraper Type)



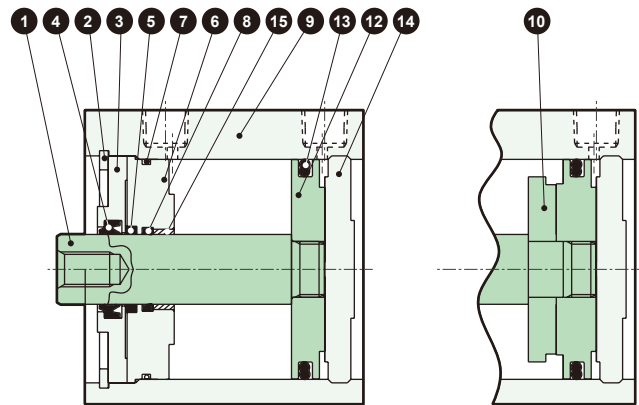
50st or less

Exceeding 50st

● SSD2-G5L-63 to 100
(Double Acting, Environmentally Resistant Scraper Type with Switch)



● SSD2-G5-63 to 100
(Double Acting, Environmentally Resistant Scraper Type)



50st or less

Exceeding 50st

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Rod Packing	Nitrile Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	9	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal 1	Aluminum Alloy	ø32 to ø50: Alumite ø63 to ø100: Chromate	10	Spacer	Aluminum Alloy	Chromate
4	Scraper	Nitrile Rubber		11	Magnet	Plastic	
5	Lube keeper	Special rubber		12	Piston	Aluminum Alloy	Chromate
6	Rod Metal	Aluminum Alloy	ø32 to ø50: Alumite ø63 to ø100: Chromate	13	Piston Packing	Nitrile Rubber	
7	Rod metal gasket	Nitrile Rubber		14	Cover	Aluminum Alloy	Alumite
				15	Bushing	Bearing Alloy	

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

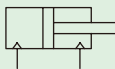


Compact Cylinder Double Acting, Single Rod, High Load,
Environmental Resistant Scraper Type

SSD2-KG5 Series

● Bore size: ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Custom Products



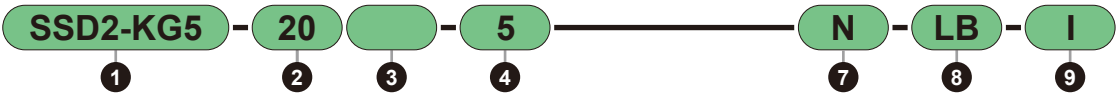
SSD2-KG5 Series

Model No. Notation Method

Model No. Notation Method

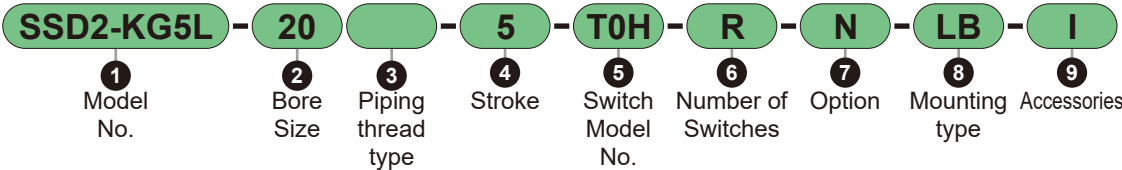
Without
Switch

(Without magnet
for switch)



With Switch

(Built-in magnet
for switch)



1 Model No.

Code	Content
SSD2-KG5	Double Acting, Single Rod, High Load, Environmentally Resistant Scraper Type (Custom product)
SSD2-KG5L	Double Acting, Single Rod, High Load, Environmentally Resistant Scraper Type with Switch (Custom product)

2 Bore Size (mm)

Code	Content
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

3 Port Thread Type:

Code	Content
Blank	M5 (ø20 to ø25) Rc thread (ø32 to ø100)
N	NPT thread (ø32 to ø100)
G	G thread (ø32 to ø100)

4 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø20, ø25	1 to 50	Every 1 mm
ø32 to ø100	1 to 100	

Note: Refer to Appendix 1 on the following page for details.

5 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		Bore Size								
			AC	DC	AC	DC	Straight	L-shape	20	25	32	40	50	63	80	100	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20	-	F2S	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	-	F3S	●	●							
		2-wire	-	10 to 30	-	5 to 20 *2	F2H	F2V	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3H	F3V	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3PH	F3PV	●	●							
		3-wire (PNP)	-	30 or less	-	50 or less	F3YH	F3YV	●	●							
	2-Color	2-wire	-	24 ± 10%	-	5 to 20	F2YH	F2YV	●	●							
		3-wire (NPN)	-	30 or less	-	50 or less	F3YH	F3YV	●	●							
		2-wire	85 to 265	—	5 to 100	—	T1H	T1V	●	●	●	●	●	●	●	●	
			—	10 to 30	—	5 to 20 *2	T2H	T2V	●	●	●	●	●	●	●	●	
			—	30 or less	—	100 or less	T3H	T3V	●	●	●	●	●	●	●	●	
			—	less	—	less	T3PH	T3PV	●	●	●	●	●	●	●	●	
Reed	2-Color Improved Water Resistance	2-wire	—	24 ± 10%	—	5 to 20	T2WH	T2WV	●	●	●	●	●	●	●	●	
		3-wire (NPN)	—	30 or less	—	50 or less	T3WH	T3WV	●	●	●	●	●	●	●	●	
		2-wire	—	24 ± 10%	—	5 to 20	T2WLH	T2WLV	●	●	●	●	●	●	●	●	
			—	30 or less	—	50 or less	T2YD	—	●	●	●	●	●	●	●	●	
	2-Color for AC Magnetic Field	2-wire	—	—	—	—	T2YDT	—	●	●	●	●	●	●	●	●	
		2-wire	—	—	—	—	T2JH	T2JV	●	●	●	●	●	●	●	●	
	1-Color Off-Delay Type	2-wire	—	10 to 30	—	5 to 20 *2	T2JH	T2JV	●	●	●	●	●	●	●	●	
	1-Color Flexible Lead Wire Type	2-wire	—	10 to 30	—	5 to 20 *2	T2HR3	T2VR3	●	●	●	●	●	●	●	●	
	1-Color	2-wire	110	12/24	7 to 20	5 to 50	T0H	T0V	●	●	●	●	●	●	●	●	
			110	5/12/24	20 or less	50 or less	T5H	T5V	●	●	●	●	●	●	●	●	
	1-Color	2-wire	110/220	12/24	7 to 20 / 7 to 10	5 to 50	T8H	T8V			●	●	●	●	●	●	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length, connector specification" table.

*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*3: T8□ switches cannot be mounted on ø20 to ø32.

*4: F-type switches can only be mounted on the piping port surface of ø20, ø25 Bore Sizes.

*5: This does not guarantee the water resistance of the cylinder. When using in a water-resistant environment, use of an improved water resistance cylinder is recommended.

*6: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

6 Number of Switches

Code	Content
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

8 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Content
Blank	Without mounting bracket
LB	Axial Foot Type (Double Side)
CB	Double Clevis Type (Pin and Retaining Ring Attached)
FA	Rod Side Flange Type
FB	Head Side Flange Type

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 262, P. 264. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Option

Code	Content
Blank	Rod end female thread
N	Rod end male thread

9 Accessories

Code	Content
I	Single Knuckle
Y	Double Knuckle (pin and retaining ring included)

*1: 7 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore							
		20	25	32	40	50	63	80	100
Standard Stroke	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Minimum Stroke (mm) *1		1							
Maximum Stroke (mm)		50		100					
Intermediate Stroke *2		Every 1 mm							

*1: Products less than 5 mm with a 1-color indicator switch, and products less than 10 mm with a 2-color indicator type, off-delay type, for AC magnetic field, or with T1□ or T8□ switches cannot be manufactured. For the number of switches attachable and minimum stroke, refer to P. 258.

*2: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

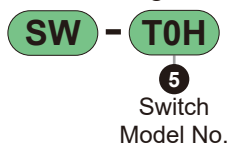
For details, refer to P. 318 to 321.

Code	Content
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KG5-.....-XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-KG5 SSD2-KG5L (With Switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type							
Operating Fluid	Compressed Air							
Max. Operating Pressure MPa	1.0							
Min. Operating Pressure MPa	0.2					0.15		
Proof pressure MPa	1.6							
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)							
Port Size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0							
Operating Piston Speed mm/s	50 to 500					50 to 300		
Cushion	Rubber Cushion							
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

With Switch Minimum Stroke (With 2 Switches)

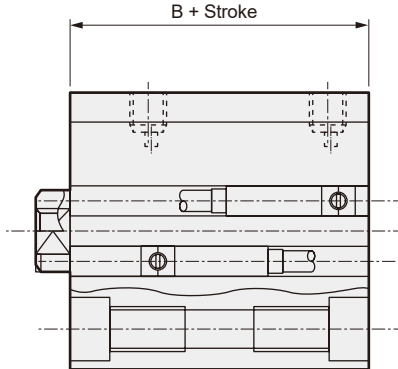
Bore Size (mm)	T0H/V, T5H/V	T2H/V, T3H/V	T2WLH/V
ø20	5	5	20
ø25			15
ø32			
ø40		5	10
ø50			
ø63			
ø80			
ø100			

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

About Intermediate Stroke

● SSD2-KG5 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	20 to 25	1 to 49
	32 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-KG5-32-38 A +2 mm spacer is added to the standard cylinder SSD2-KG5-32-40 to make it 38 mm. B + Stroke = 43 + 40 = 83	



Specifications

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	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	-	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
ø25	Push	-	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	-	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
ø32	Push	-	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	-	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
ø40	Push	-	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	-	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
ø50	Push	-	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	-	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
ø63	Push	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	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
ø80	Push	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	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
ø100	Push	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	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

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm) Bore Size (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW	Without SW	With SW
ø20	107	182	120	195	133	208	145	220	158	233	170	245	182	257	195	270	206	281	220	295	-	-	-	-
ø25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
ø32	230	344	251	365	272	386	294	408	316	430	338	452	360	474	381	495	403	517	424	538	597	646	705	753
ø40	323	466	349	492	376	519	402	545	428	571	455	598	482	625	508	651	535	678	561	704	779	837	911	969
ø50	-	-	560	754	602	796	645	839	688	882	729	923	771	965	813	1007	855	1049	897	1091	1244	1301	1454	1511
ø63	-	-	813	1092	868	1147	923	1202	979	1258	1034	1313	1089	1368	1144	1423	1199	1478	1254	1533	1744	1808	2019	2083
ø80	-	-	1413	1826	1500	1913	1586	1999	1673	2086	1760	2173	1847	2260	1933	2346	2020	2433	2106	2519	2886	2952	3318	3384
ø100	-	-	2106	2673	2220	2787	2334	2901	2448	3015	2561	3128	2675	3242	2789	3356	2903	3470	3017	3584	4082	4154	4652	4724

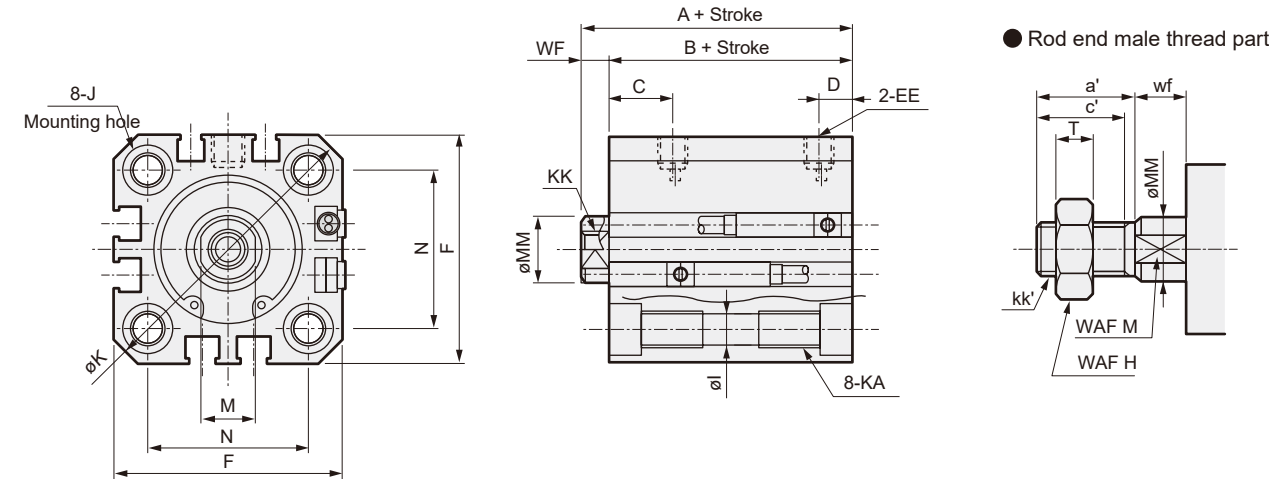
Mounting Bracket Model No. Notation Method

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

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing (Bore size: ø20, ø25)

● SSD2-KG5(L)-20, 25



Code	Dimension with switch		Dimension without switch		Common dimension			
Bore Size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F
ø20	49	44.5	39	34.5	18	5.5	M5	36
ø25	52.5	47.5	42.5	37.5	21	6	M5	40

Code	Common dimension								
Bore Size (mm)	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 Counterbore depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 Counterbore depth 5.5	51	M6 depth 11	M6 Depth 12	10	12	28	5

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: For Bore Sizes ø20, ø25, the piping port surface is for F-type switches only.

*3: For dimensions with each switch, refer to P. 300 to 309.

*4: For outline dimension drawings of individual accessories, refer to P. 34.

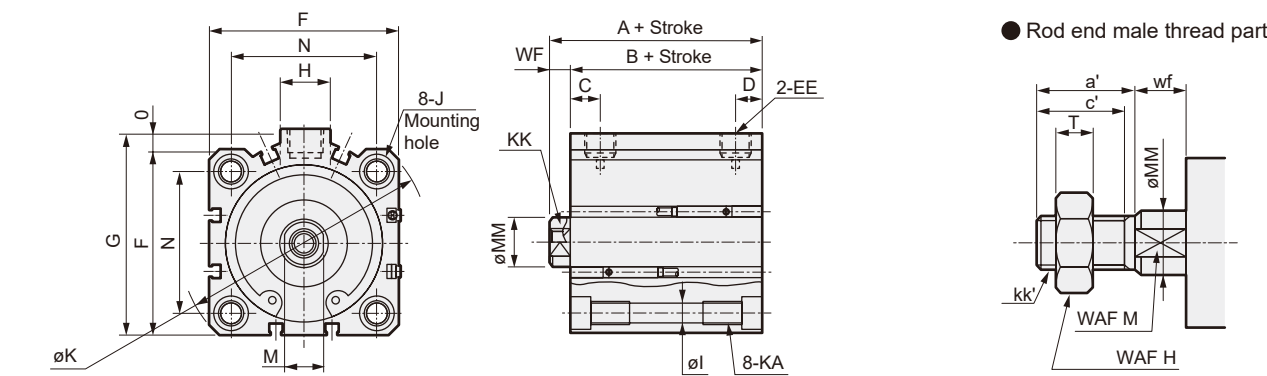
● Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10×1.25	10	12	6	5

Double Acting, Single Rod, High Load, Environmentally Resistant Scraper Type

Outline Dimension Drawing (Bore size: ø32 to ø100)

● SSD2-KG5(L)-32 to 100



Code	Dimension with switch		Dimension without switch		Common dimension					
	A *1, *2	B *1	A *1, *2	B *1, *2	C	D	EE	F	G	H
ø32	60	53	50 (60)	43 (53)	18	8	Rc1/8	45	49.5	12.5
ø40	66.5	59.5	56.5 (66.5)	49.5 (59.5)	22	8.5	Rc1/8	52	57	15
ø50	68.5	60.5	58.5 (68.5)	50.5 (60.5)	20.5	10.5	Rc1/4	64	71	18
ø63	74	66	64 (74)	56 (66)	23	11	Rc1/4	77	84	23
ø80	83.5	73.5	73.5 (83.5)	63.5 (73.5)	26	13	Rc3/8	98	104	31
ø100	95	83	85 (95)	73 (83)	33	15	Rc3/8	117	123.5	38

Code	Common dimension									
	I	J	K	KA	KK	M	MM	N	O	WF
ø32	5.5	9 Counterbore depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
ø40	5.5	9 Counterbore depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
ø50	6.9	11 Counterbore Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
ø63	8.7	14 Counterbore depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
ø80	10.5	17.5 Counterbore depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
ø100	10.5	17.5 Counterbore depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it. (Example) For an intermediate stroke of 7 mm, enter the standard stroke of 10 mm for calculation.

*2: Dimensions in () for codes A and B are values when exceeding 50 strokes.

*3: For dimensions with each switch, refer to P. 300 to 309.

*4: For outline dimension drawings of individual accessories, refer to P. 34.

● Rod end male thread part

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

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

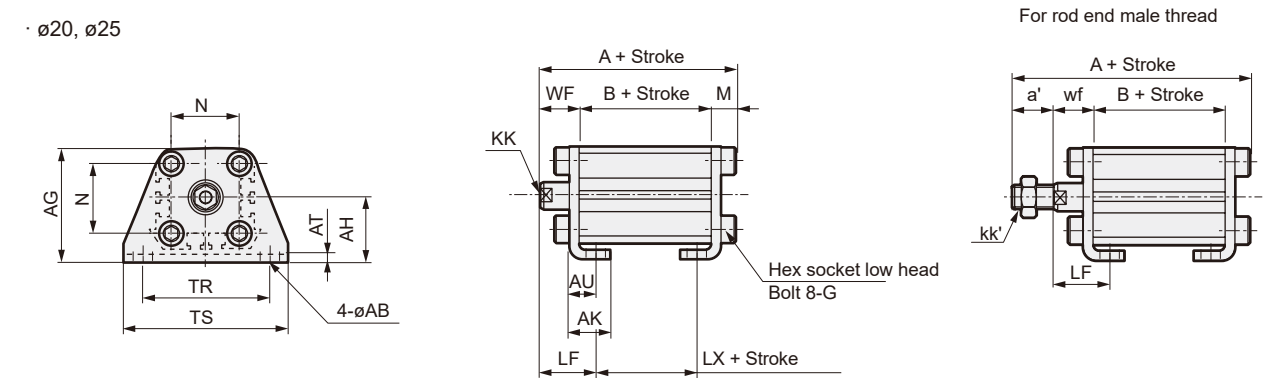
Cylinder Switch

Ending

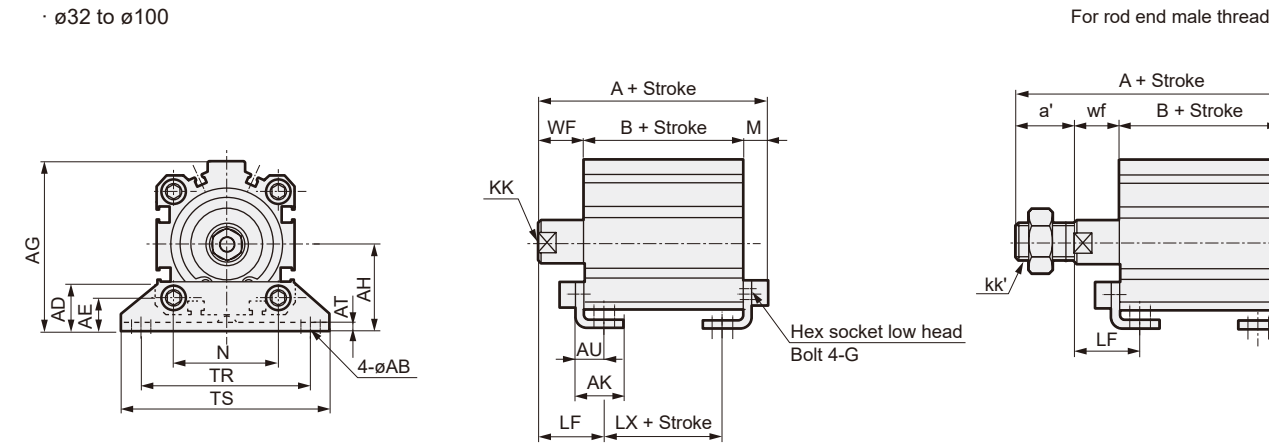
Outline Dimension Drawing (Bore Size: ø20 to ø100)

- Axial Foot (LB)
SSD2-KG5(L)-20 to 100-LB

· ø20, ø25



· ø32 to ø100



Code	Common dimension													
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M
ø20	7	-	-	42	24	15	3.2	9.2	M6×16	-	25.5	48	62	7.2
ø25	7	-	-	46	26	16.5	3.2	10.7	M6×16	-	28	52	66	7.2
ø32	7	18.5	13	57	30	17	3.2	11.2	M6×16	M8 depth 13	34	57	71	7.2
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13

Code	For female thread								For male thread									
Bore Size (mm)	WF	LF	Dimension with switch			Dimension without switch			a'	kk'	wf	LF	Dimension with switch			Dimension without switch		
			A	B	LX	A'1	B'1	LX'1					A	B	LX	A'1	B'1	LX'1
ø20	14.5	20.5	66.2	44.5	32.5	56.2	34.5	22.5	14	-	14.5	20.5	80.2	44.5	32.5	70.2	34.5	22.5
ø25	15	22.5	69.7	47.5	32.5	59.7	37.5	22.5	17.5	-	15	22.5	87.2	47.5	32.5	77.2	37.5	22.5
ø32	17	25	77.2	53	37	67.2 (77.2)	43 (53)	27 (37)	23.5	M14×1.5	15	23	98.7	53	37	88.7 (98.7)	43 (53)	27 (37)
ø40	17	25	83.7	59.5	43.5	73.7 (83.7)	49.5 (59.5)	33.5 (43.5)	23.5	M18××1.5	15	23	105.2	59.5	43.5	95.2 (105.2)	49.5 (59.5)	33.5 (43.5)
ø50	18	29.5	86.7	60.5	37.5	76.7 (86.7)	50.5 (60.5)	27.5 (37.5)	28.5	M18××1.5	15	26.5	112.2	60.5	37.5	102.2 (112.2)	50.5 (60.5)	27.5 (37.5)
ø63	18	31	93.2	66	40	83.2 (93.2)	56 (66)	30 (40)	28.5	M18××1.5	15	28	118.7	66	40	108.7 (118.7)	56 (66)	30 (40)
ø80	20	35	105	73.5	43.5	95 (105)	63.5 (73.5)	33.5 (43.5)	35.5	M18××1.5	18	33	138.5	73.5	43.5	128.5 (138.5)	63.5 (73.5)	33.5 (43.5)
ø100	22	39	118	83	49	108 (118)	73 (83)	39 (49)	35.5	M18××1.5	18	35	149.5	83	49	139.5 (149.5)	73 (83)	39 (49)

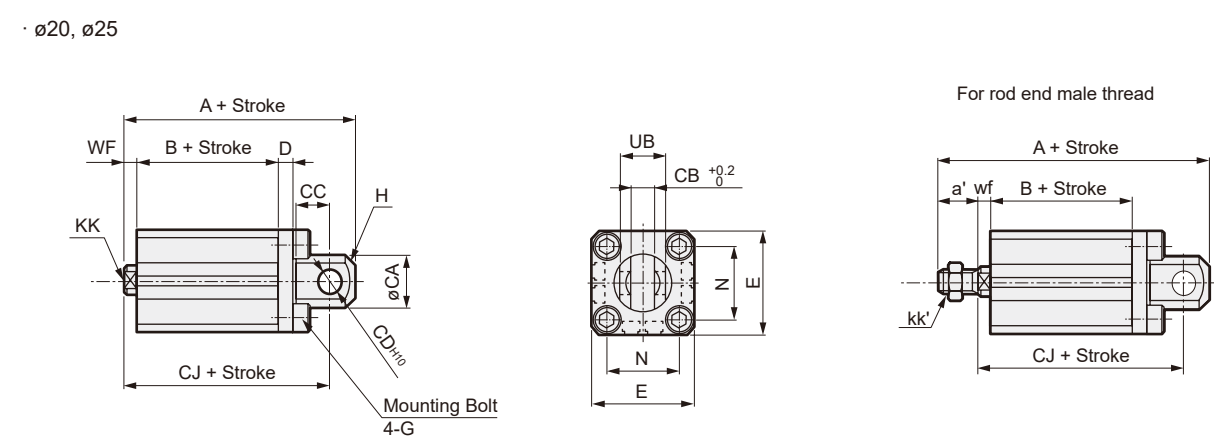
*1: Dimensions in () for codes A, B, LX are values when exceeding 50 strokes.

Double Acting, Single Rod, High Load, Environmentally Resistant Scraper Type

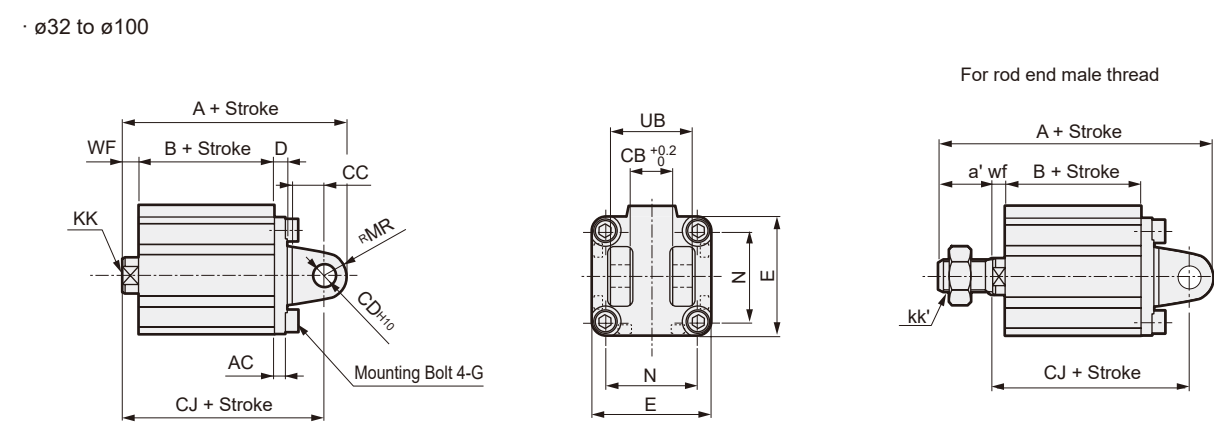
Outline Dimension Drawing (Bore Size: ø20 to ø100)

- Double Knuckle Clevis (CB)
SSD2-KG5(L)-20 to 100-CB

· ø20, ø25



· ø32 to ø100



Code	Common dimension												
Bore Size (mm)	AC	CA	CB	CC	CD	D	E	G	KK	H	MR	N	UB
ø20	-	20	8.2	12	8	5	36	M6×16	-	C4	-	25.5	16
ø25	-	24	10.2	14	10	5	40	M6×16	-	C5	-	28	20
ø32	4.5	-	18.2	14	10	5	45	M6×16	M8 depth 13	-	10	34	36
ø40	5	-	18.2	14	10	6	52	M6×16	M8 depth 13	-	10	40	36
ø50	6	-	22.2	20	14	7	64	M8×20	M10 depth 15	-	14	50	44
ø63	7	-	22.2	20	14	8	77	M10×25	M10 depth 15	-	14	60	44
ø80	9	-	28.2	27	18	10	98	M12×40	M16 depth 21	-	18	77	56
ø100	12	-	32.2	31	22	13	117	M12×40	M20 depth 27	-	22	94	64

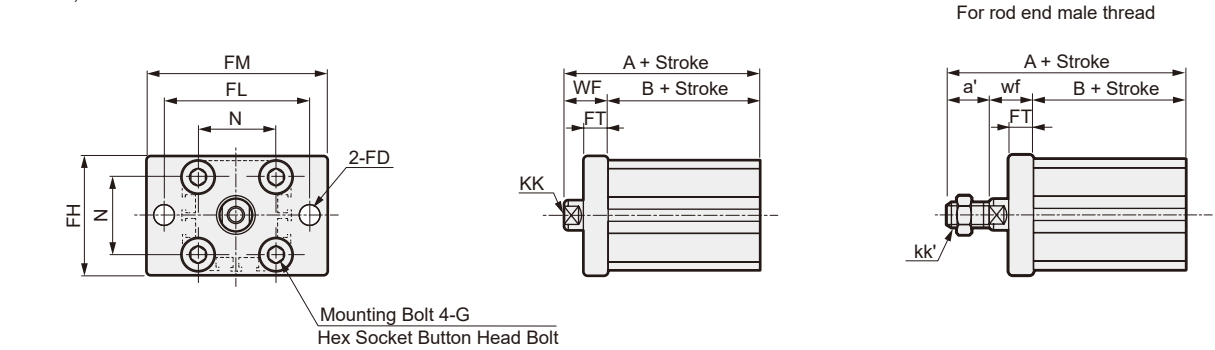
Code	For female thread							For male thread								
Bore Size (mm)	WF	Dimension with switch			Dimension without switch			a'	kk'	wf	Dimension with switch			Dimension without switch		
		A	B	CJ	A'1	B'1	CJ'1				A	B	CJ	A'1	B'1	CJ'1
ø20	4.5	76	44.5	67	66	34.5	57	14	-	4.5	90	44.5	67	80	34.5	57
ø25	5	82.5	47.5	72.5	72.5	37.5	62.5	17.5	-	5	100	47.5	72.5	90	37.5	62.5
ø32	7	90	53	80	80 (90)	43 (53)	70 (80)	23.5	M14×1.5	5	111.5	53	78	101.5 (111.5)	43 (53)	68 (78)
ø40	7	98.5	59.5	88.5	88.5 (98.5)	49.5 (59.5)	78.5 (88.5)	23.5	M14×1.5	5	120	59.5	86.5	110 (120)	49.5 (59.5)	76.5 (86.5)
ø50	8	110.5	60.5	96.5	100.5 (110.5)	50.5 (60.5)	86.5 (96.5)	28.5	M18×1.5	5	136	60.5	93.5	126 (136)	50.5 (60.5)	83.5 (93.5)
ø63	8	118	66	104	108 (118)	56 (66)	94 (104)	28.5	M18×1.5	5	143.5	66	101	133.5 (143.5)	56 (66)	91 (101)
ø80	10	139.5	73.5	121.5	129.5 (139.5)	63.5 (73.5)	111.5 (121.5)	35.5	M22×1.5	8	173	73.5	119.5	163 (173)	63.5 (73.5)	109.5 (119.5)
ø100	12	162	83	140	152 (162)	73 (83)	130 (140)	35.5	M26×1.5	8	193.5	83	136	183.5 (193.5)	73 (83)	126 (136)

*1: Dimensions in () for codes A, B, CJ are values when exceeding 50 strokes.

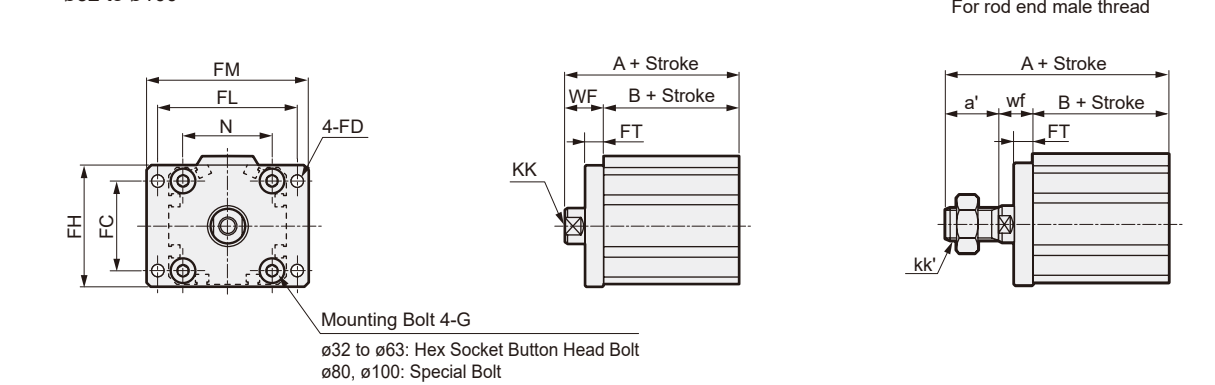
Outline Dimension Drawing (Bore Size: ø20 to ø100)

- Rod Side Flange (FA)
SSD2-KG5(L)-20 to 100-FA

· ø20, ø25



· ø32 to ø100



Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø20	-	6.6	39	48	60	8	M6×16	-	25.5			
ø25	-	6.6	42	52	64	8	M6×16	-	28			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60			
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77			
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A *1	B *1				A	B	A *1	B *1
ø20	14.5	59	44.5	49	34.5	14	-	14.5	73	44.5	63	34.5
ø25	15	62.5	47.5	52.5	37.5	17.5	-	15	80	47.5	70	37.5
ø32	17	70	53	60 (70)	43 (53)	23.5	M14×1.5	15	91.5	53	81.5 (91.5)	43 (53)
ø40	17	76.5	59.5	66.5 (76.5)	49.5 (59.5)	23.5	M14×1.5	15	98	59.5	88 (98)	49.5 (59.5)
ø50	18	78.5	60.5	68.5 (78.5)	50.5 (60.5)	28.5	M18×1.5	15	104	60.5	94 (104)	50.5 (60.5)
ø63	18	84	66	74 (84)	56 (66)	28.5	M18×1.5	15	109.5	66	99.5 (109.5)	56 (66)
ø80	20	93.5	73.5	83.5 (93.5)	63.5 (73.5)	35.5	M22×1.5	18	127	73.5	117 (127)	63.5 (73.5)
ø100	22	105	83	95 (105)	73 (83)	35.5	M26×1.5	18	136.5	83	126.5 (136.5)	73 (83)

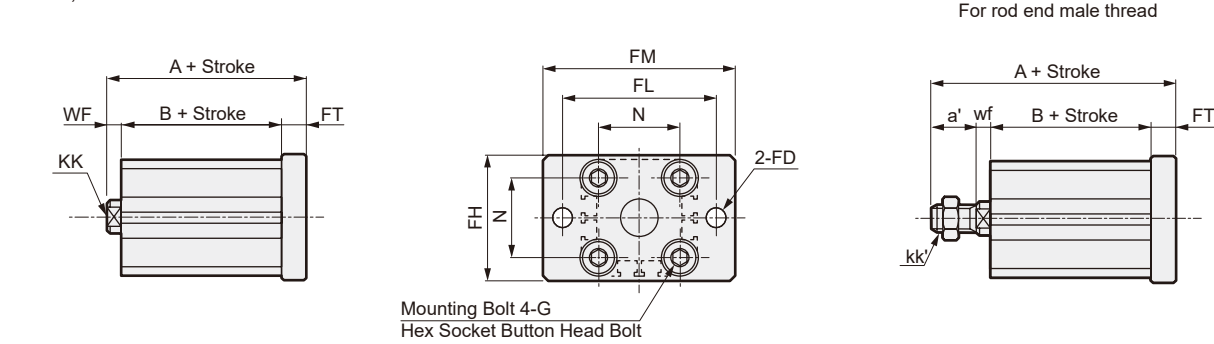
*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

Double Acting, Single Rod, High Load, Environmentally Resistant Scraper Type

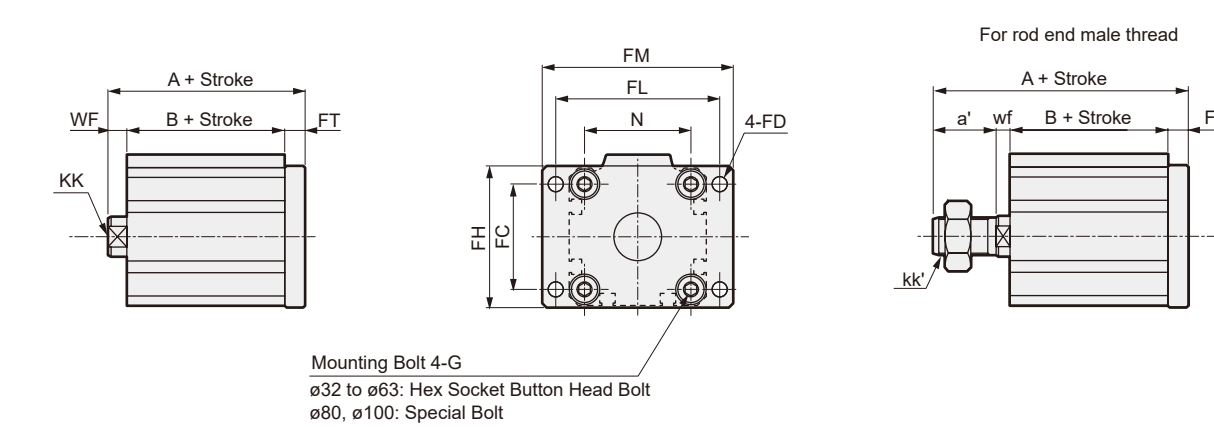
Outline Dimension Drawing (Bore Size: ø20 to ø100)

- Head Side Flange (FB)
SSD2-KG5(L)-20 to 100-FB

· ø20, ø25



· ø32 to ø100

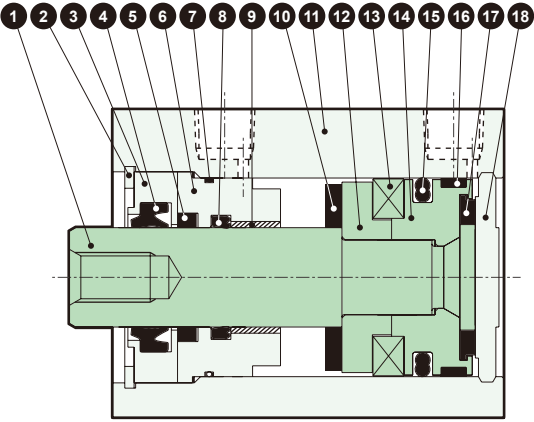


Code	Common dimension											
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N			
ø20	-	6.6	39	48	60	8	M6×16	-	25.5			
ø25	-	6.6	42	52	64	8	M6×16	-	28			
ø32	34	5.5	48	56	65	8	M6×16	M8 depth 13	34			
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40			
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50			
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60			
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77			
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94			
Code	For female thread					For male thread						
Bore Size (mm)	WF	Dimension with switch		Dimension without switch		a'	kk'	wf	Dimension with switch		Dimension without switch	
		A	B	A *1	B *1				A	B	A *1	B *1
ø20	4.5	57	44.5	47	34.5	14	-	4.5	71	44.5	61	34.5
ø25	5	60.5	47.5	50.5	37.5	17.5	-	5	78	47.5	68	37.5
ø32	7	68	53	58 (68)	43 (53)	23.5	M14×1.5	5	89.5	53	79.5 (89.5)	43 (53)
ø40	7	74.5	59.5	64.5 (74.5)	49.5 (59.5)	23.5	M14×1.5	5	96	59.5	86 (96)	49.5 (59.5)
ø50	8	77.5	60.5	67.5 (77.5)	50.5 (60.5)	28.5	M18×1.5	5	103	60.5	93 (103)	50.5 (60.5)
ø63	8	83	66	73 (83)	56 (66)	28.5	M18×1.5	5	108.5	66	98.5 (108.5)	56 (66)
ø80	10	94.5	73.5	84.5 (94.5)	63.5 (73.5)	35.5	M22×1.5	8	128	73.5	118 (128)	63.5 (73.5)
ø100	12	106	83	96 (106)	73 (83)	35.5	M26×1.5	8	137.5	83	127.5 (137.5)	73 (83)

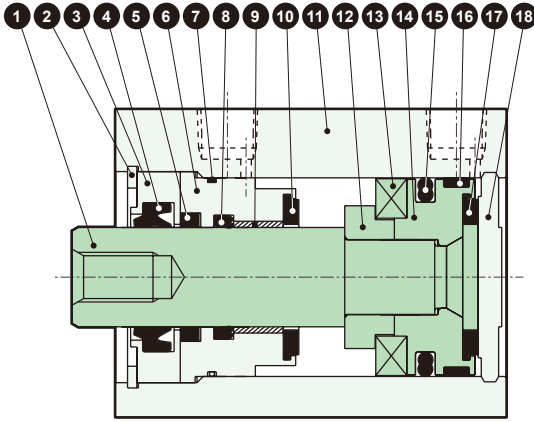
*1: Dimensions in () for codes A and B are values when exceeding 50 strokes.

Internal Structure Diagram/Material (Bore size: ø20 to ø50)

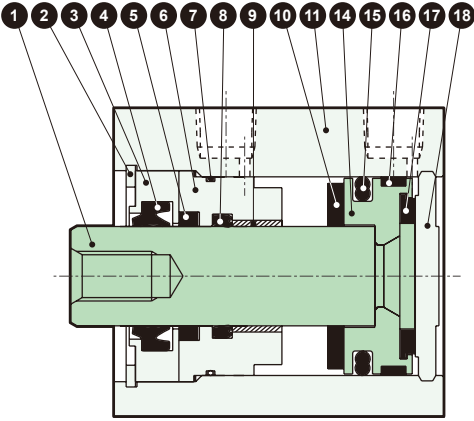
● SSD2-KG5L-20·25
(Double Acting, High Load, Environmentally Resistant Scraper Type with Switch)



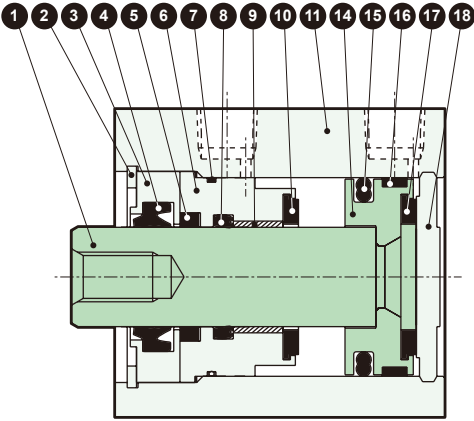
● SSD2-KG5L-32 to 50
(Double Acting, High Load, Environmentally Resistant Scraper Type with Switch)



● SSD2-KG5-20·25
(Double Acting, High Load, Environmentally Resistant Scraper Type)



● SSD2-KG5-32 to 50
(Double Acting, High Load, Environmentally Resistant Scraper Type)

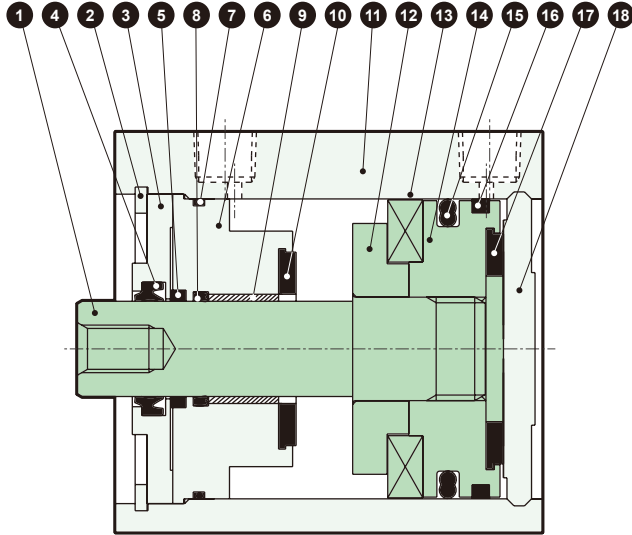


Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	ø20, ø25: Stainless steel ø32 to ø50: Steel	Industrial Hard Chrome Plating	10	Cushion rubber R	Urethane Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	11	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal 1	Aluminum Alloy	Chromate	12	Spacer	Special Resin	
4	Scraper	Nitrile Rubber		13	Magnet	Plastic	
5	Lube keeper	Special rubber		14	Piston	Aluminum Alloy	Chromate
6	Rod metal 2	Aluminum Alloy	Alumite	15	Piston Packing	Nitrile Rubber	
7	Rod metal gasket	Nitrile Rubber		16	Wear Ring	Polyacetal	
8	Rod Packing	Nitrile Rubber		17	Cushion rubber H	Urethane Rubber	
9	Bushing	Bearing Alloy		18	Cover	ø20, ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite

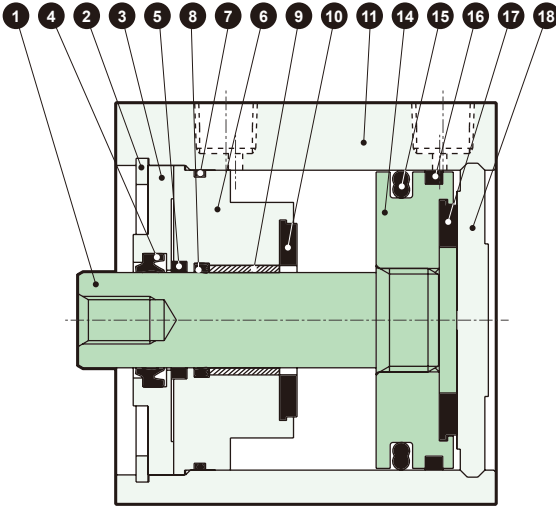
Internal Structure Diagram/Material

Internal Structure Diagram/Material (Bore size: ø63 to ø100)

● SSD2-KG5L-63 to 100 (Double Acting, High Load, Environmentally Resistant Scraper Type with Switch)



● SSD2-KG5-63 to 100 (Double Acting, High Load, Environmentally Resistant Scraper Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	10	Cushion rubber R	Urethane Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	11	Cylinder Body	Aluminum Alloy	Hard Anodized
3	Rod metal 1	Aluminum Alloy	Chromate	12	Spacer	Aluminum Alloy	Chromate
4	Scraper	Nitrile Rubber		13	Magnet	Plastic	
5	Lube keeper	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	
8	Rod Packing	Nitrile Rubber		17	Cushion rubber H	Urethane Rubber	
9	Bushing	Bearing Alloy		18	Cover	Aluminum Alloy	Alumite

For maintenance parts, please visit the CKD Component Product Site
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For maintenance parts, please visit the CKD Component Product Site
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Compact Cylinder
Double Acting, Single Rod with Strong Magnetic Field Resistant Switch

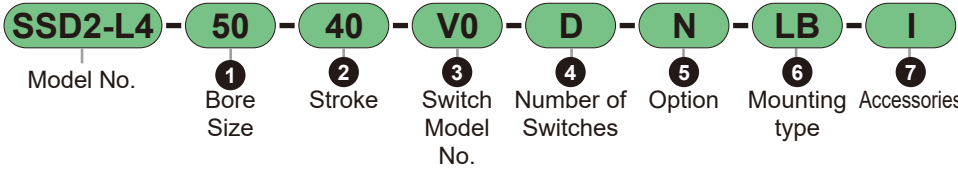
SSD2-L4 Series

● Bore size: ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Contents
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø40 to ø100	20 to 100	Every 1 mm

*1: For details, refer to Appendix Table 1 on the next page.

*2: For the number of switches attachable and minimum stroke, refer to P. 270.

*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

3 Switch Model No.:

For switch details, please refer to P. 869.
Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Reed	1-Color For Compact Strong Magnetic Field	2-wire	110	24	7 to 20	5 to 50	V0	-	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

4 Number of Switches

Code	Contents
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

5 Option

Code	Contents	
Blank	Rod end female thread	
N	Rod end male thread	

6 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Contents	
Blank	Without mounting bracket	
LB	Axial Foot Type (Double Side)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod Side Flange Type	
FB	Head Side Flange Type	

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 273, P. 274. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

7 Accessories

Code	Contents	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: ⑤ Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore				
		40	50	63	80	100
Standard Stroke	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
Min. Stroke (mm)		20				
Maximum Stroke (mm)		100				
Intermediate Stroke *1		Every 1 mm				

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

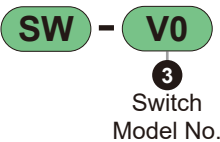
For details, refer to P. 318 to 321.

Code	Contents
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-L4 - - XP5

Switch Single Unit Model No. Notation Method



SSD2-L4 Series

Model No. Notation Method

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Specifications

Item	SSD2-L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0				
Min. Operating Pressure MPa	0.1		0.05		
Proof pressure MPa	1.6				
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0				
Operating Piston Speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)				
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56

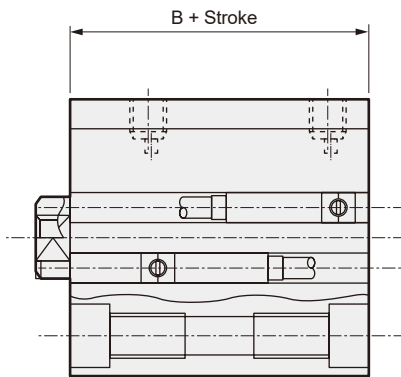
Number of Switches Mounted and Min. Stroke (mm)

Number of Switches	1	2
Switch Model No.	V0	
Bore Size (mm)		
ø40	20	20
ø50		
ø63		
ø80		
ø100		

About Intermediate Stroke

● SSD2-L4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	40 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-L4-40-38 A +2 mm spacer is added to the standard cylinder SSD2-L4-40-40 to make it 38 mm. B + Stroke = 49.5 + 40 = 89.5	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm) Bore Size (mm)	20	25	30	35	40	45	50	75	100
ø40	493	520	546	573	599	626	652	785	917
ø50	757	799	841	883	925	967	1009	1219	1429
ø63	1089	1145	1200	1256	1311	1367	1422	1700	1977
ø80	1822	1909	1996	2083	2170	2257	2344	2779	3214
ø100	2665	2779	2892	3006	3119	3233	3346	3914	4481

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	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
ø50	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
ø63	Push	1.56×10 ²	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	1.40×10 ²	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
ø80	Push	2.51×10 ²	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	2.27×10 ²	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
ø100	Push	3.93×10 ²	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	3.57×10 ²	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

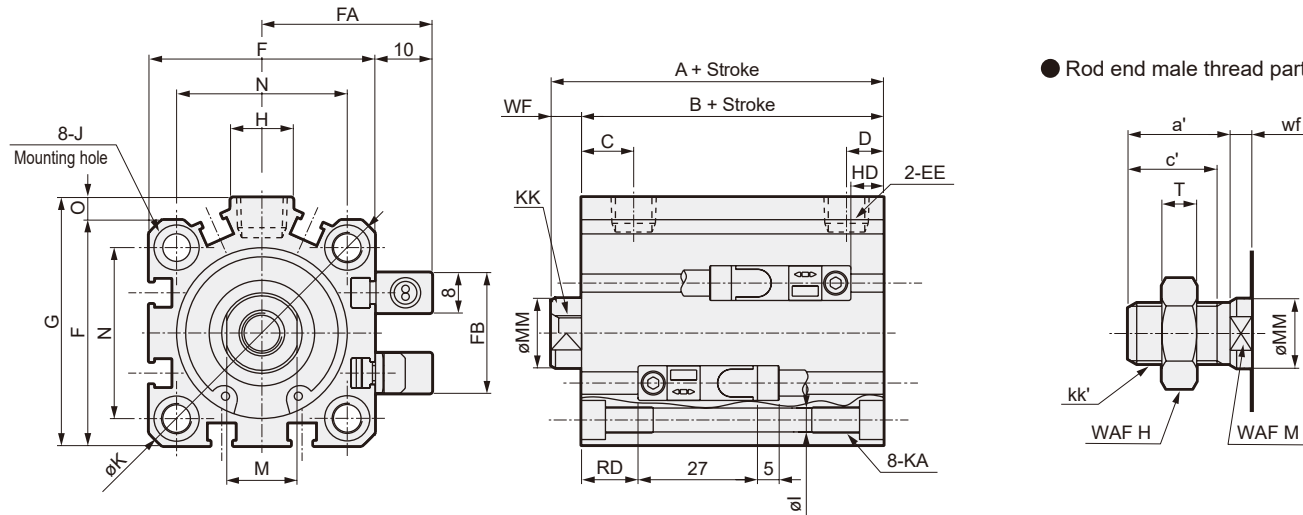
Mounting Bracket Model No. Notation Method

Bore Size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

● SSD2-L4-40 to 100



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore Size (mm)	*1	*1										
ø40	56.5	49.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Counterbore ø9 depth 5.5
ø50	58.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Counterbore ø11 depth 6.5
ø63	64	56	13	11	Rc1/4	77	48.5	32	84	23	8.7	Counterbore ø14 depth 9
ø80	73.5	63.5	16	13	Rc3/8	98	59	32	104	31	10.5	Counterbore ø17.5 depth 11
ø100	85	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Counterbore ø17.5 depth 11

Code	K	KA	KK	M	MM	N	O	WF	HD	RD
Bore Size (mm)										
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	7.5	13
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	8.5	13
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	13.5	13.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	18.5	16
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	24	20

*1: When calculating A + Stroke and B + Stroke dimensions for intermediate strokes, do not enter the intermediate stroke value for the stroke; instead, enter the value of the standard stroke above it.
(Example) For an intermediate stroke of 23 mm, enter the standard stroke of 25 mm for calculation.

*2: For outline dimension drawings of individual accessories, refer to P. 34.

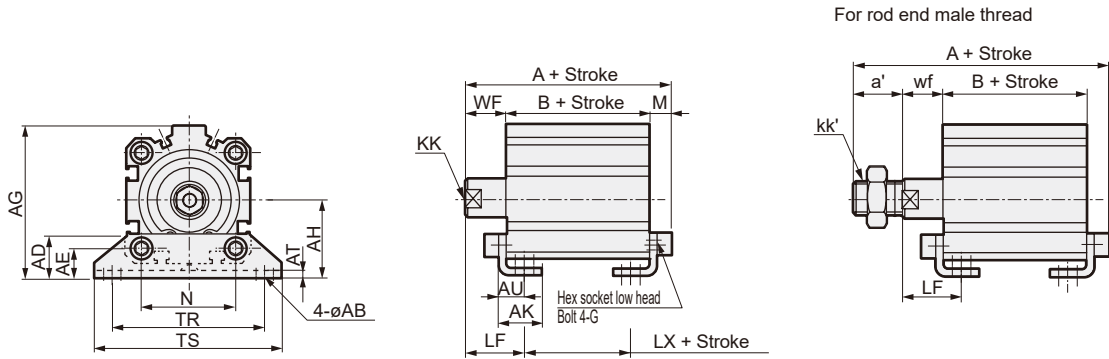
● Rod end male thread part

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

Double Acting, Single Rod Type with Strong Magnetic Field Resistant Switch

Outline Dimension Drawing

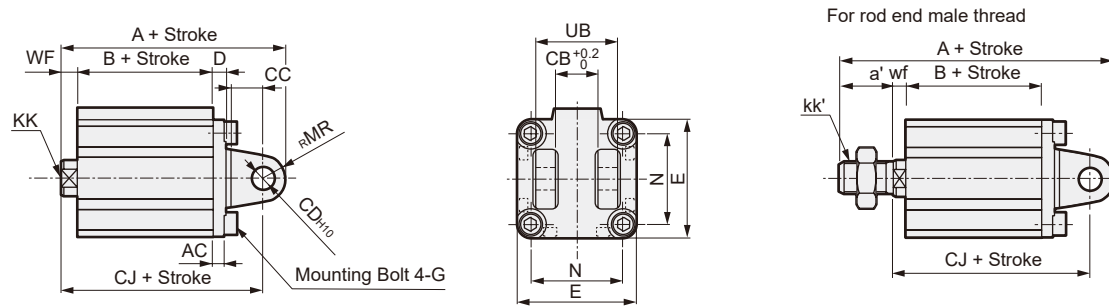
● Axial Foot (LB)
SSD2-L4-40 to 100-LB



Code	Common dimension													
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13

Code	For female thread					For male thread					
Bore Size (mm)	WF	LF	A	B	LX	a'	kk'	wf	LF	A	B
ø40	17	25	73.7	49.5	65.5	23.5	M14×1.5	15	23	95.2	49.5
ø50	18	29.5	76.7	50.5	73.5	28.5	M18×1.5	15	26.5	102.7	50.5
ø63	18	31	83.2	56	82	28.5	M18×1.5	15	28	108.7	56
ø80	20	35	95	63.5	93.5	35.5	M22×1.5	18	33	128.5	63.5
ø100	22	39	108	73	107	35.5	M26×1.5	18	35	139.5	73

● Double Knuckle Clevis (CB)
SSD2-L4-40 to 100-CB

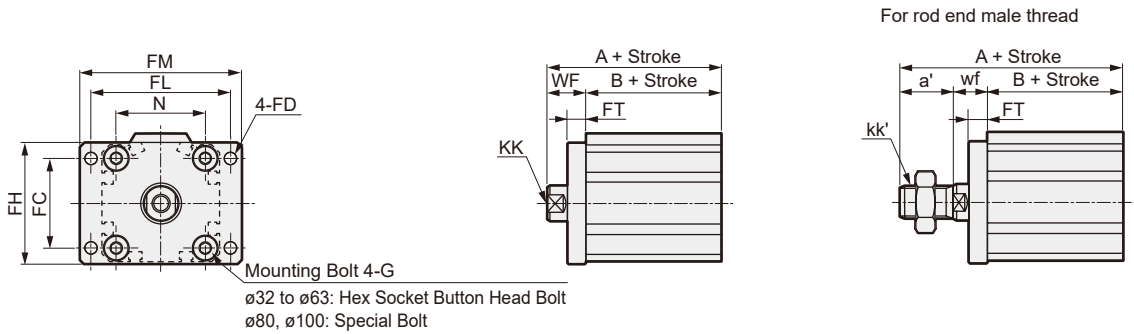


Code	Common dimension										
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64

Code	For female thread				For male thread					
Bore Size (mm)	WF	A	B	CJ	a'	kk'	wf	A	B	CJ
ø40	7	88.5	49.5	78.5	23.5	M14×1.5	5	110	49.5	76.5
ø50	8	100.5	50.5	86.5	28.5	M18×1.5	5	126	50.5	83.5
ø63	8	108	56	94	28.5	M18×1.5	5	133.5	56	91
ø80	10	129.5	63.5	111.5	35.5	M22×1.5	8	163	63.5	109.5
ø100	12	152	73	130	35.5	M26×1.5	8	183.5	73	126

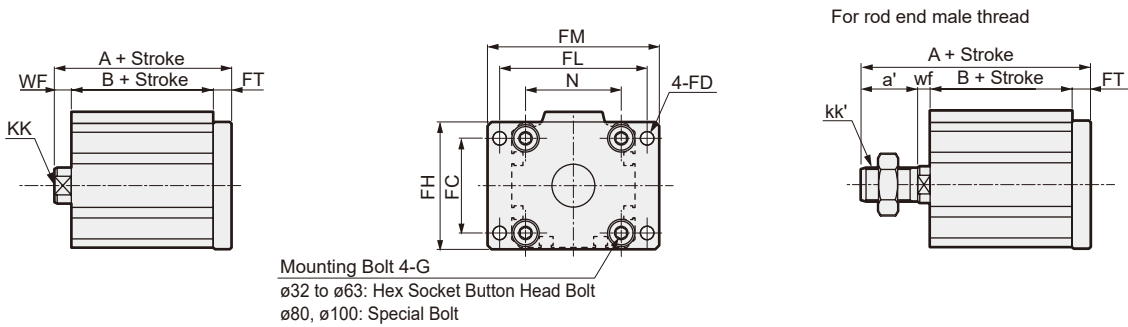
Outline Dimension Drawing

- Rod Side Flange (FA)
SSD2-L4-40 to 100-FA



Code	Common dimension									For female thread			For male thread				
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF	A	B	a'	kk'	wf	A	B
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	17	66.5	49.5	23.5	M14×1.5	15	88	49.5
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	18	68.5	50.5	28.5	M18×1.5	15	94	50.5
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	18	74	56	28.5	M18×1.5	15	99.5	56
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	20	83.5	63.5	35.5	M22×1.5	18	117	63.5
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	22	95	73	35.5	M26×1.5	18	126.5	73

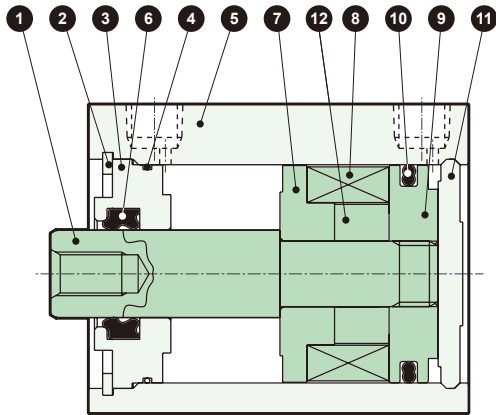
- Head Side Flange (FB)
SSD2-L4-40 to 100-FB



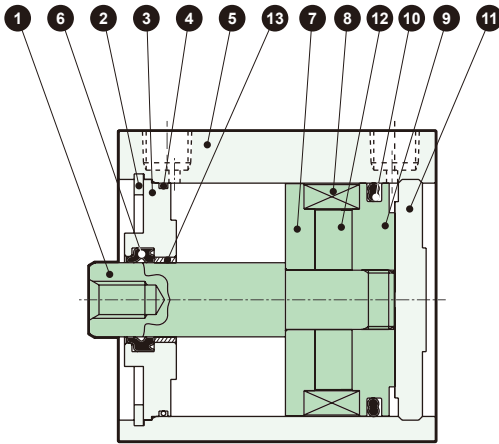
Code	Common dimension									For female thread			For male thread				
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF	A	B	a'	kk'	wf	A	B
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	7	64.5	49.5	23.5	M14×1.5	5	86	49.5
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	8	67.5	50.5	28.5	M18×1.5	5	93	50.5
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	8	73	56	28.5	M18×1.5	5	98.5	56
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	10	84.5	63.5	35.5	M22×1.5	8	118	63.5
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	12	96	73	35.5	M26×1.5	8	127.5	73

Internal Structure Diagram/Material

- SSD2-L4-40, 50 (Double Acting with Strong Magnetic Field Resistant Switch)



- SSD2-L4-63 to 100 (Double Acting with Strong Magnetic Field Resistant Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	7	Spacer	Aluminum Alloy	Chromate
2	C-type retaining ring	Stainless Steel		8	Magnet	Plastic	
3	Rod Metal	Aluminum Alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	9	Piston	Aluminum Alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		10	Piston Packing	Nitrile Rubber	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	11	Cover	Aluminum Alloy	Alumite
6	Rod Packing	Nitrile Rubber		12	Collar	Aluminum Alloy	
				13	Bushing	Bearing Alloy	ø63 to ø100 only

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.



Compact Cylinder
Double Acting, High Load Type with Switch for Strong Magnetic Field

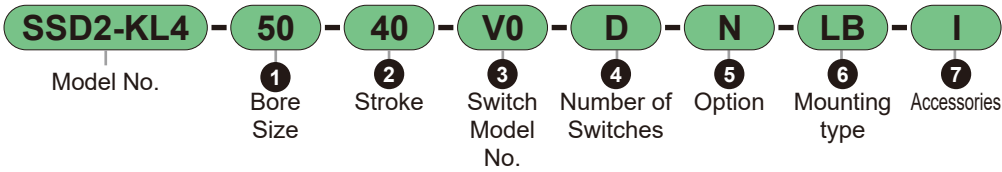
SSD2-KL4 Series

● Bore size: ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



① Bore Size (mm)

Code	Contents
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

② Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø40 to ø100	20 to 100	Every 1 mm

*1: For details, refer to Appendix Table 1 on the next page.

*2: For the number of switches attachable and minimum stroke, refer to P. 278.

*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

③ Switch Model No.:

For switch details, please refer to P. 869.

Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Reed	1-Color For Compact Strong Magnetic Field	2-wire	110	24	7 to 20	5 to 50	V0□	-	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

④ Number of Switches

Code	Contents
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

⑤ Option

Code	Contents	
Blank	Rod end female thread	
N	Rod end male thread	

⑥ Mounting Type

Mounting brackets are included to the product for shipment.

Code	Contents	
Blank	Without mounting bracket	
LB	Axial Foot Type (Double Side)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod Side Flange Type	
FB	Head Side Flange Type	

*1: When LB or FA is selected, the piston rod protrusion dimension WF differs from the standard. Refer to outline dimension drawings on P. 281, P. 282. Also, the model No. specifying the protrusion length will be printed at the end of the model No. on the nameplate included to the main body. For cylinder model Nos. when ordering cylinders and mounting brackets separately, please contact us.

⑦ Accessories

Code	Contents	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: ⑤ Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore				
		40	50	63	80	100
Standard Stroke	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
Min. Stroke (mm)		20				
Maximum Stroke (mm)		100				
Intermediate Stroke *1		Every 1 mm				

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

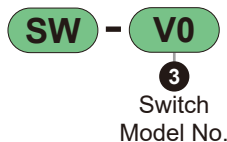
For details, refer to P. 318 to 321.

Code	Contents
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KL4-..... - XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-KL4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0				
Min. Operating Pressure MPa	0.1		0.05		
Proof pressure MPa	1.6				
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0				
Operating Piston Speed mm/s	50 to 500		50 to 300		
Cushion	Rubber Cushion				
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)				
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92

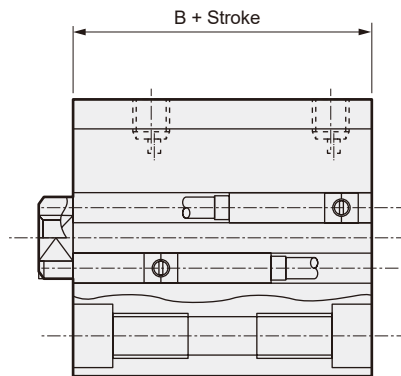
Number of Switches Mounted and Min. Stroke (mm)

Switch Model No.	V0	
Number of Switches	1	2
Bore Size (mm)		
ø40	20	20
ø50		
ø63		
ø80		
ø100		

About Intermediate Stroke

● SSD2-KL4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	40 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-KL4-40-38 A +2 mm spacer is added to the standard cylinder SSD2-KL4-40-40 to make it 38 mm. B + Stroke = 59.5 + 40 = 99.5	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm) Bore Size (mm)	20	25	30	35	40	45	50	75	100
ø40	546	573	599	626	652	679	705	838	970
ø50	841	883	925	967	1009	1051	1093	1303	1513
ø63	1199	1254	1309	1364	1419	1474	1529	1804	2079
ø80	1995	2082	2169	2256	2343	2430	2517	2952	3387
ø100	2893	3007	3120	3234	3347	3461	3574	4142	4709

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	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
ø50	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
ø63	Push	1.56×10 ²	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	1.40×10 ²	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
ø80	Push	2.51×10 ²	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	2.27×10 ²	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
ø100	Push	3.93×10 ²	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	3.57×10 ²	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

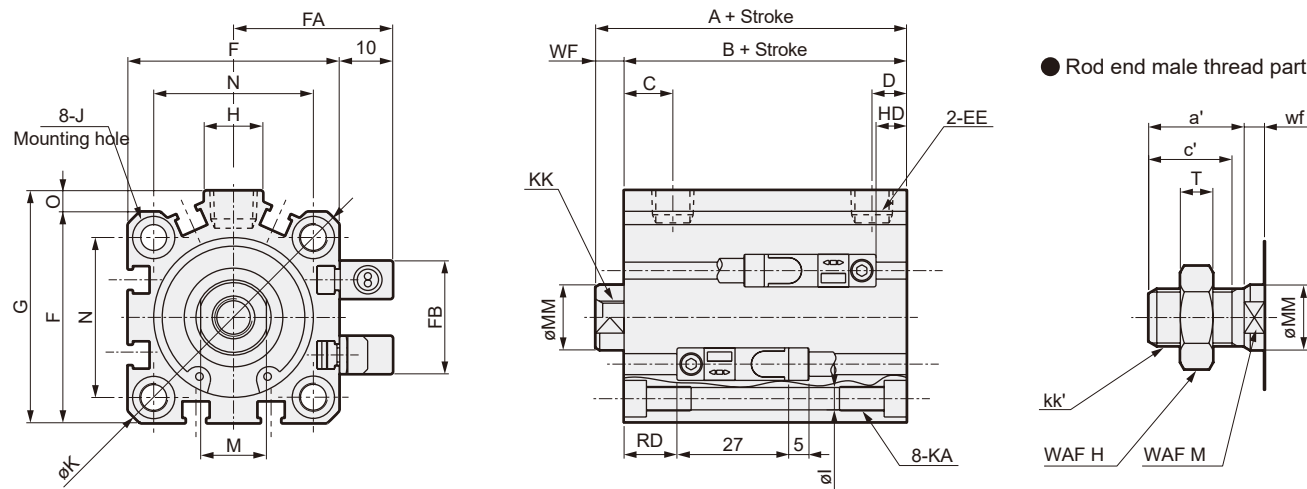
Mounting Bracket Model No. Notation Method

Bore Size (mm) Mounting bracket	ø40	ø50	ø63	ø80	ø100
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

● SSD2-KL4-40 to 100



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore Size (mm)	*1	*1										
ø40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Counterbore ø9 depth 5.5
ø50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Counterbore ø11 depth 6.5
ø63	74	66	13	11	Rc1/4	77	48.5	32	84	23	8.7	Counterbore ø14 depth 9
ø80	83.5	73.5	16	13	Rc3/8	98	59	32	104	31	10.5	Counterbore ø17.5 depth 11
ø100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Counterbore ø17.5 depth 11

Code	K	KA	KK	M	MM	N	O	WF	HD	RD
Bore Size (mm)										
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	12.5	18
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	13.5	18
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	18.5	18.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	23.5	21
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	29	25

*1: A + Stroke and B + Stroke dimensions for intermediate strokes are the same as the standard stroke above them.

*2: For outline dimension drawings of individual accessories, refer to P. 34.

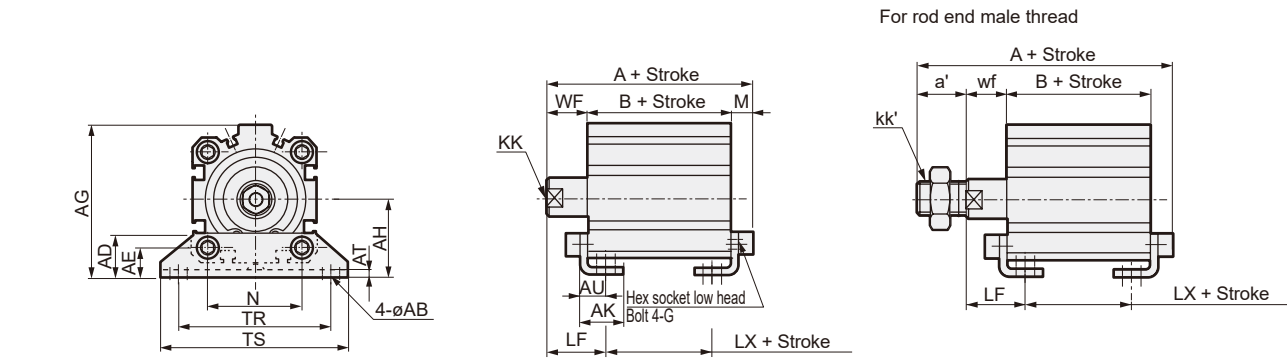
● Rod end male thread part

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

Double Acting, High Load Type with Strong Magnetic Field Resistant Switch

Outline Dimension Drawing

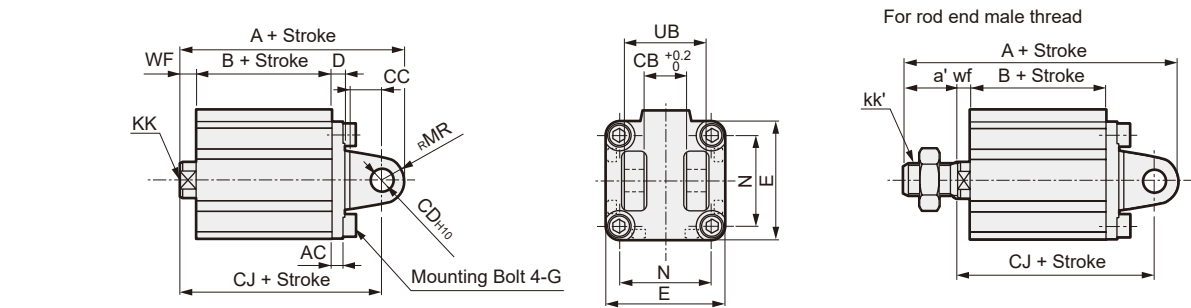
● Axial Foot (LB)
SSD2-KL4-40 to 100-LB



Code	Common dimension													
Bore Size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	KK	N	TR	TS	M
ø40	7	18	13	64	33	18.2	3.2	11.2	M6×16	M8 depth 13	40	64	78	7.2
ø50	9	22	14	78	39	22.7	3.2	14.7	M8×20	M10 depth 15	50	79	95	8.2
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	M10 depth 15	60	95	113	9.2
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	M16 depth 21	77	118	140	11.5
ø100	13	35	24	136	71	35.5	6	23	M12×40	M20 depth 27	94	137	162	13

Code	For female thread					For male thread						
Bore Size (mm)	WF	LF	A	B	LX	a'	kk'	wf	LF	A	B	LX
ø40	17	25	83.7	59.5	43.5	23.5	M14×1.5	15	23	105.2	59.5	43.5
ø50	18	29.5	86.7	60.5	37.5	28.5	M18×1.5	15	26.5	112.2	60.5	37.5
ø63	18	31	93.2	66	40	28.5	M18×1.5	15	28	118.7	66	40
ø80	20	35	105	73.5	43.5	35.5	M22×1.5	18	33	138.5	73.5	43.5
ø100	22	39	118	83	49	35.5	M26×1.5	18	35	149.5	83	49

● Double Knuckle Clevis (CB)
SSD2-KL4-40 to 100-CB

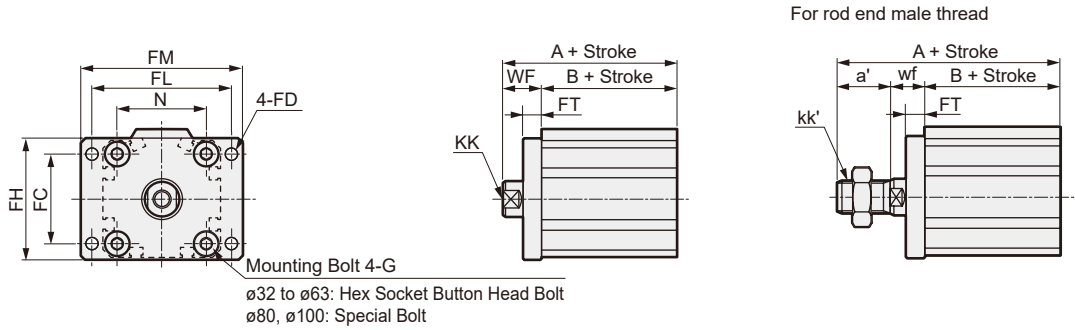


Code	Common dimension										
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64

Code	For female thread				For male thread			
Bore Size (mm)	WF	A	B	CJ	a'	kk'	wf	CJ
ø40	7	98.5	59.5	88.5	23.5	M14×1.5	5	86.5
ø50	8	110.5	60.5	96.5	28.5	M18×1.5	5	93.5
ø63	8	118	66	104	28.5	M18×1.5	5	101
ø80	10	139.5	73.5	121.5	35.5	M22×1.5	8	119.5
ø100	12	162	83	140	35.5	M26×1.5	8	136

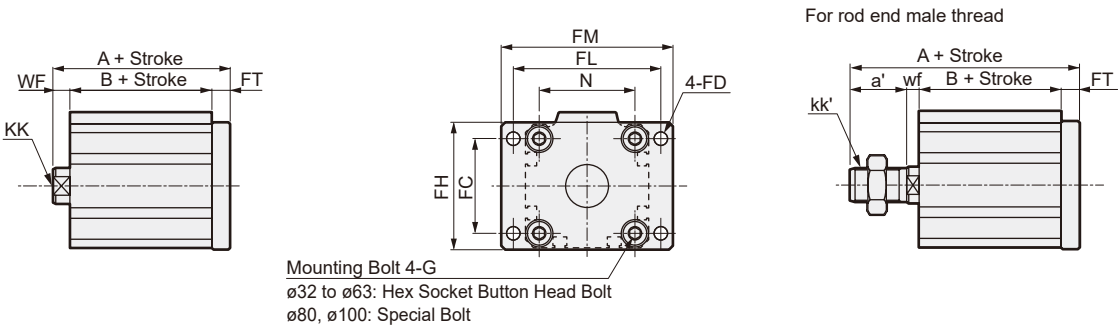
Outline Dimension Drawing

- Rod Side Flange (FA)
SSD2-KL4-40 to 100-FA



Code	Common dimension									For female thread			For male thread					
	FC	FD	FH	FL	FM	FT	G	KK	N	WF	A	B	a'	kk'	wf	A	B	
Bore Size (mm)	ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	17	76.5	59.5	23.5	M14×1.5	15	98	59.5
	ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	18	78.5	60.5	28.5	M18×1.5	15	104	60.5
	ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	18	84	66	28.5	M18×1.5	15	109.5	66
	ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	20	93.5	73.5	35.5	M22×1.5	18	127	73.5
	ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	22	105	83	35.5	M26×1.5	18	136.5	83

- Head Side Flange (FB)
SSD2-KL4-40 to 100-FB

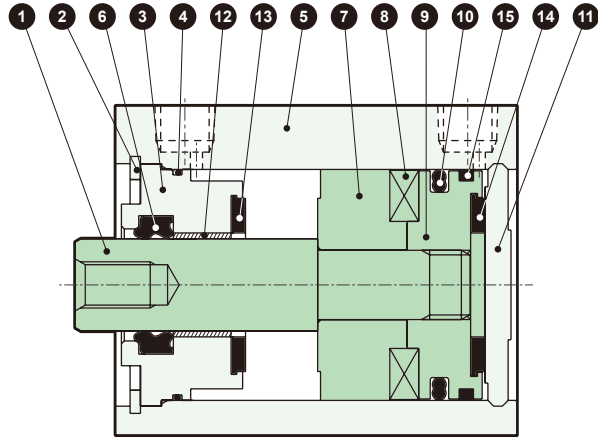


Code	Common dimension									For female thread			For male thread				
	FC	FD	FH	FL	FM	FT	G	KK	N	WF	A	B	a'	kk'	wf	A	B
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	7	74.5	59.5	23.5	M14×1.5	5	96	59.5
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	8	77.5	60.5	28.5	M18×1.5	5	103	60.5
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	8	83	66	28.5	M18×1.5	5	108.5	66
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	10	94.5	73.5	35.5	M22×1.5	8	128	73.5
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	12	106	83	35.5	M26×1.5	8	137.5	83

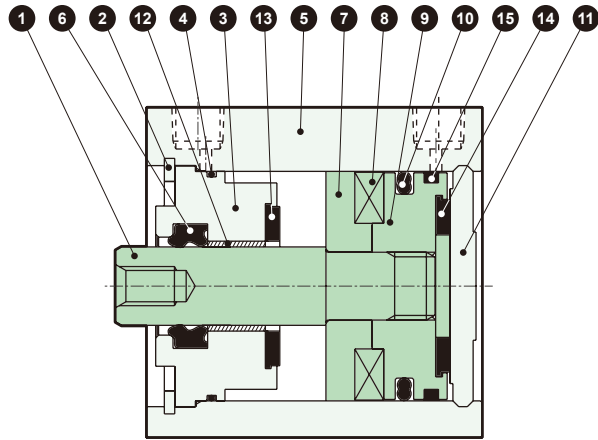
Internal Structure Diagram/Material

Internal Structure Diagram/Material

- SSD2-KL4-40, 50 (Double Acting, High Load Type with Strong Magnetic Field Resistant Switch)



- SSD2-KL4-63 to 100 (Double Acting, High Load Type with Strong Magnetic Field Resistant Switch)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Magnet	Plastic	
2	C-type retaining ring	Steel	Zinc phosphate	9	Piston	Aluminum Alloy	
3	Rod Metal	Aluminum Alloy	ø40, ø50: Alumite	10	Piston Packing	Nitrile Rubber	
			ø63 to ø100: Chromate	11	Cover	Aluminum Alloy	Alumite
4	Rod metal gasket	Nitrile Rubber		12	Bushing	Bearing Alloy	
5	Cylinder Body	Aluminum Alloy	Hard Anodized	13	Cushion rubber (R)	Urethane Rubber	
6	Rod Packing	Nitrile Rubber		14	Cushion rubber (H)	Urethane Rubber	
7	Spacer	ø40, ø50: Special resin	ø63 to ø100: Chromate	15	Wear Ring	Polyacetal	
		ø63 to ø100: Aluminum alloy					

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

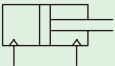


Compact Cylinder Double Acting, Single Rod With Strong Magnetic Field Resistant Switch, Coil Scraper Type

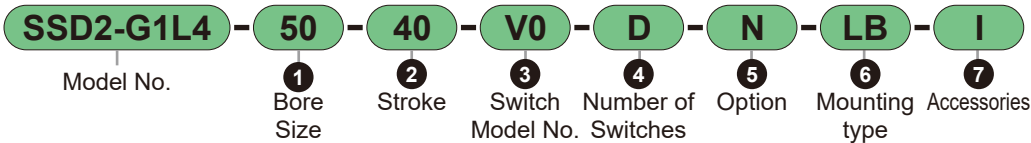
SSD2-G1L4 Series

● Bore size: ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Contents
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø40 to ø100	20 to 100	Every 1 mm

*1: For details, refer to Appendix Table 1 on the next page.

*2: For the number of switches attachable and minimum stroke, refer to P. 286.

*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

3 Switch Model No.:

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Reed	1-Color For Compact Strong Magnetic Field	2-wire	110	24	7 to 20	5 to 50	V0□	-	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

4 Number of Switches

Code	Contents
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

5 Option

Code	Contents	
Blank	Rod end female thread	
N	Rod end male thread	

6 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Contents	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod side flange type (Custom product)	
FB	Head Side Flange Type	

7 Accessories

Code	Contents	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore				
		40	50	63	80	100
Standard Stroke	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
Min. Stroke (mm)		20				
Maximum Stroke (mm)		100				
Intermediate Stroke *1		Every 1 mm				

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

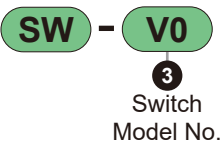
For details, refer to P. 318 to 321.

Code	Contents
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-G1L4 - - XP5

Switch Single Unit Model No. Notation Method



SSD2-G1L4 Series

Model No. Notation Method

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Specifications

Item	SSD2-G1L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0				
Min. Operating Pressure MPa	0.15		0.1		
Proof pressure MPa	1.6				
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0				
Operating Piston Speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)				
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56

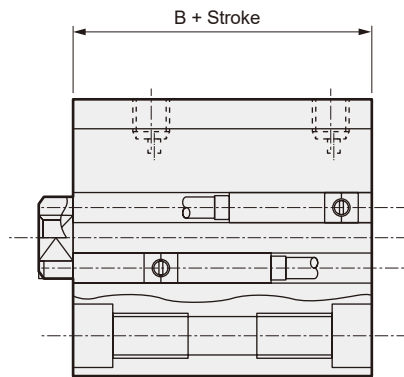
Number of Switches Mounted and Min. Stroke (mm)

Switch Model No.	V0	
Number of Switches	1	2
Bore Size (mm)		
ø40	20	20
ø50		
ø63		
ø80		
ø100		

About Intermediate Stroke

● SSD2-G1L4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	40 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-G1L4-40-38 A +2 mm spacer is added to the standard cylinder SSD2-G1L4-40-40 to make it 38 mm. B + Stroke = 49.5 + 40 = 89.5	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm) Bore Size (mm)	20	25	30	35	40	45	50	75	100
ø40	575	602	628	655	681	708	734	867	999
ø50	876	918	960	1002	1044	1086	1128	1338	1548
ø63	1240	1296	1351	1407	1462	1518	1573	1851	2128
ø80	2074	2161	2248	2335	2422	2509	2596	3031	3466
ø100	3000	3114	3227	3341	3454	3568	3681	4249	4816

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	-	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	-	1.58×10 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
ø50	Push	-	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	-	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
ø63	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
ø80	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
ø100	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

Mounting Bracket Model No. Notation Method

Bore Size (mm) Mounting bracket	ø40	ø50	ø63	ø80	ø100
Flange (FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

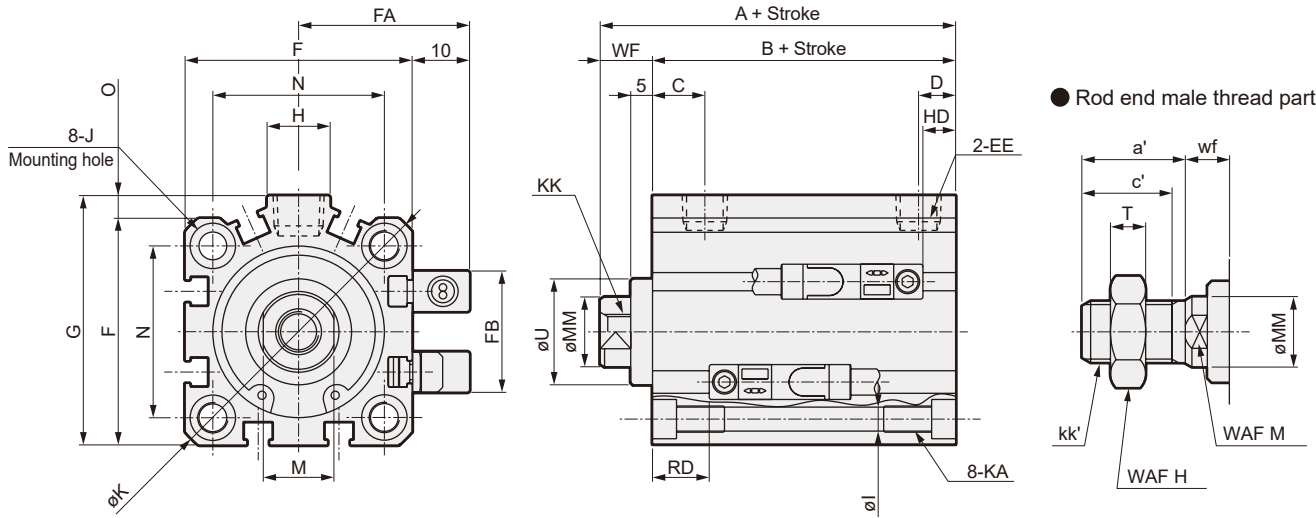
FC□

Cylinder Switch

Ending

Outline Dimension Drawing

● SSD2-G1L4-40 to 100



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore Size (mm)	*1	*1										
ø40	61.5	49.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	9 Counterbore depth 5.5
ø50	63.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	11 Counterbore Depth 6.5
ø63	69	56	13	11	Rc1/4	77	48.5	32	84	23	8.7	14 Counterbore depth 9
ø80	78.5	63.5	16	13	Rc3/8	98	59	32	104	31	10.5	17.5 Counterbore depth 11
ø100	90	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	17.5 Counterbore depth 11

Code	K	KA	KK	M	MM	N	O	U	WF	HD	RD
Bore Size (mm)											
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	28 h9	12	7.5	13
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	35 h9	13	8.5	13
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	35 h9	13	13.5	13.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	43 h9	15	18.5	16
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59 h9	17	24	20

*1: A + Stroke and B + Stroke dimensions for intermediate strokes are the same as the standard stroke above them.

*2: For outline dimension drawings of individual accessories, refer to P. 34.

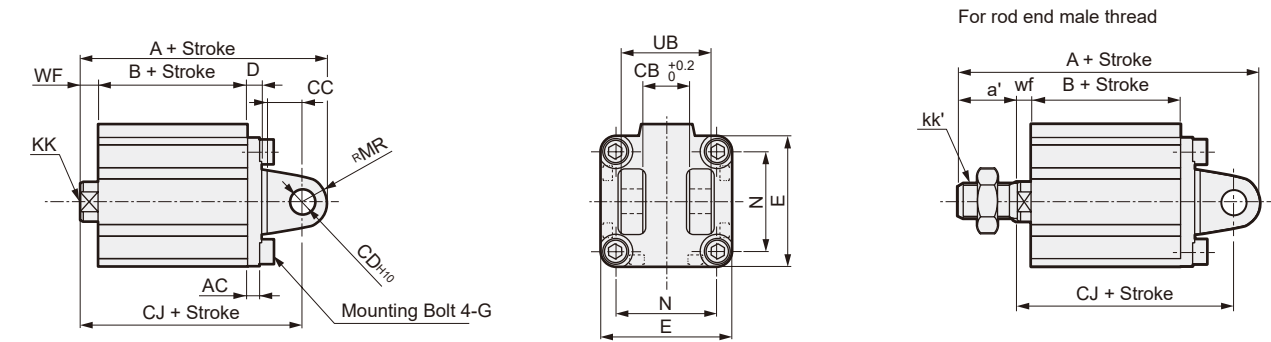
● Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø40	23.5	20.5	22	M14×1.5	14	16	8	10
ø50	28.5	26	27	M18×1.5	17	20	11	10
ø63	28.5	26	27	M18×1.5	17	20	11	10
ø80	35.5	32.5	32	M22×1.5	22	25	13	13
ø100	35.5	32.5	41	M26×1.5	27	30	16	13

Double Acting, Single Rod Type with Strong Magnetic Field Resistant Switch, Coil Scraper Type

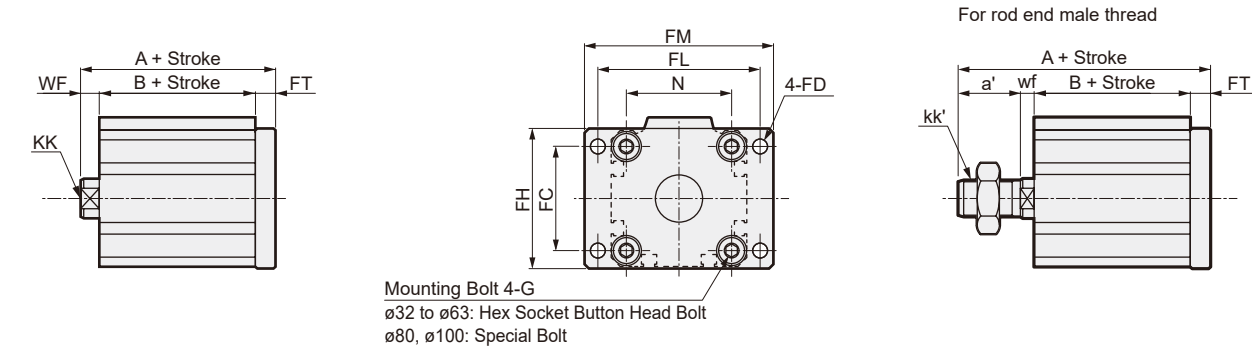
Outline Dimension Drawing

● Double Knuckle Clevis (CB)
SSD2-G1L4-40 to 100-CB



Code	Common dimension											For female thread				For male thread					
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB	WF	A	B	CJ	a'	kk'	wf	A	B	CJ
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	7	93.5	49.5	83.5	23.5	M14×1.5	5	115	49.5	81.5
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	8	105.5	50.5	91.5	28.5	M18×1.5	5	131	50.5	88.5
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	8	113	56	99	28.5	M18×1.5	5	138.5	56	96
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56	10	134.5	63.5	116.5	35.5	M22×1.5	8	168	63.5	114.5
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64	12	157	73	135	35.5	M26×1.5	8	188.5	73	131

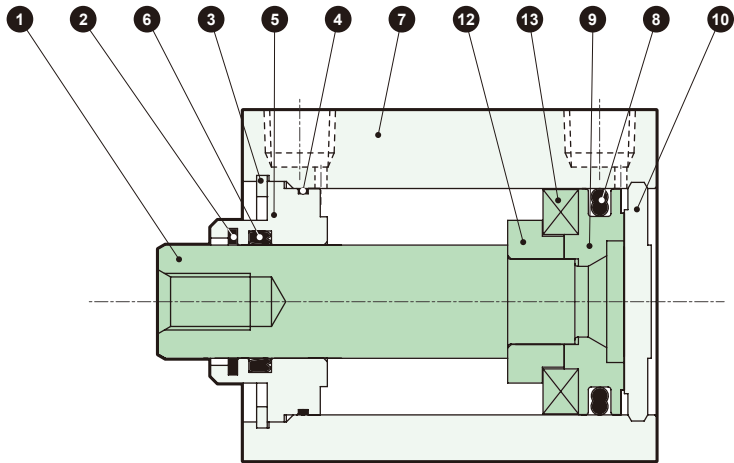
● Head Side Flange (FB)
SSD2-G1L4-40 to 100-FB



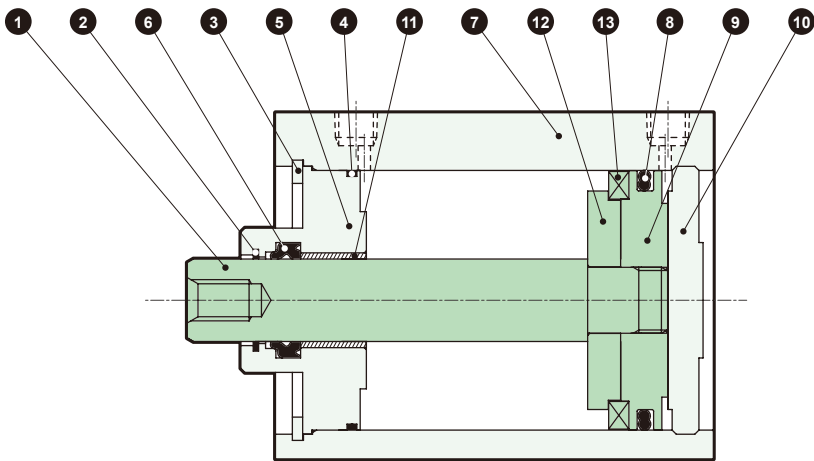
Code	Common dimension									For female thread			For male thread				
Bore Size (mm)	FC	FD	FH	FL	FM	FT	N	G	KK	WF	A	B	a'	kk'	wf	A	B
ø40	40	5.5	54	62	72	8	40	M6×16	M8 depth 13	7	69.5	49.5	23.5	M14×1.5	5	91	49.5
ø50	50	6.6	67	76	89	9	50	M8×20	M10 depth 15	8	72.5	50.5	28.5	M18×1.5	5	98	50.5
ø63	60	9	80	92	108	9	60	M10×25	M10 depth 15	8	78	56	28.5	M18×1.5	5	103.5	56
ø80	77	11	99	116	134	11	77	M12×40	M16 depth 21	10	89.5	63.5	35.5	M22×1.5	8	123	63.5
ø100	94	11	117	136	154	11	94	M12×40	M20 depth 27	12	101	73	35.5	M26×1.5	8	132.5	73

Internal Structure Diagram/Material

● SSD2-G1L4-40, 50 (Double Acting with Strong Magnetic Field Resistant Switch, Coil Scraper Type)



● SSD2-G1L4-63 to 100 (Double Acting with Strong Magnetic Field Resistant Switch, Coil Scraper Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial Hard Chrome Plating	8	Piston Packing	Nitrile Rubber	
2	Coil scraper	Copper Alloy		9	Piston	Aluminum Alloy	Chromate
3	C-type retaining ring	Steel	Zinc phosphate	10	Cover	Aluminum Alloy	Chromate
4	Rod metal gasket	Nitrile Rubber		11	Bushing	Bearing Alloy	
5	Rod Metal	Aluminum Alloy	Chromate	12	Spacer	Aluminum Alloy	
6	Rod Packing	Nitrile Rubber		13	Magnet	Plastic	
7	Cylinder Body	Aluminum Alloy	Hard Anodized				

For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

MEMO

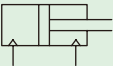


Compact Cylinder Double Acting, High Load Type with Strong Magnetic Field Resistant Switch, Coil Scraper Type

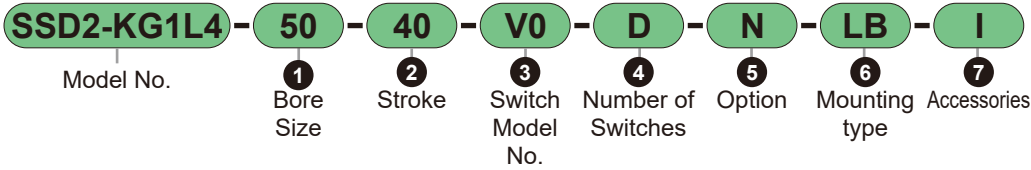
SSD2-KG1L4 Series

● Bore size: ø40, ø50, ø63, ø80, ø100

Circuit Diagram Symbol



Model No. Notation Method



1 Bore Size (mm)

Code	Contents
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

2 Stroke (mm)

Bore Size	Stroke	Intermediate Stroke
ø40 to ø100	20 to 100	Every 1 mm

*1: For details, refer to Appendix Table 1 on the next page.

*2: For the number of switches attachable and minimum stroke, refer to P. 294.

*3: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

3 Switch Model No.:

For switch details, please refer to P. 869. Switches are included to the product and shipped.

Contact	Indicator Lamp Special Function	Wiring (Output)	Load Voltage (V)		Load Current (mA)		Lead wire *1		
			AC	DC	AC	DC	Straight	L-shape	
Reed	1-Color For Compact Strong Magnetic Field	2-wire	110	24	7 to 20	5 to 50	V0	-	

*1: For "□" in the switch model No., enter the code selected from the "**Lead wire length" table.

*2: Switches other than the above switch model Nos. are also available. (Custom products) For details, refer to P. 869.

4 Number of Switches

Code	Contents
R	With 1 pc on rod side
H	With 1 pc on head side
D	With 2 pcs

5 Option

Code	Contents	
Blank	Rod end female thread	
N	Rod end male thread	

6 Mounting Type

Mounting brackets are included to the product for shipment.

Code	Contents	
Blank	Without mounting bracket	
LB	Axial foot type (both sides) (Custom product)	
CB	Double Clevis Type (Pin and Retaining Ring Attached)	
FA	Rod side flange type (Custom product)	
FB	Head Side Flange Type	

7 Accessories

Code	Contents	
I	Single Knuckle	
Y	Double Knuckle (pin and retaining ring included)	

*1: 6 Optionally, N: Available only when rod end male thread is selected.

*2: "I" and "Y" cannot be selected at the same time.

Appendix Table 1

Stroke (mm)		Applicable Bore				
		40	50	63	80	100
Standard Stroke	20	●	●	●	●	●
	25	●	●	●	●	●
	30	●	●	●	●	●
	35	●	●	●	●	●
	40	●	●	●	●	●
	45	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
Minimum Stroke (mm)		20				
Maximum Stroke (mm)		100				
Intermediate Stroke *1		Every 1 mm				

*1: The overall length dimension for intermediate stroke is the same as the standard stroke above it.

*For combination of variations and options, refer to P. 8, 9.

About Custom Product Specifications

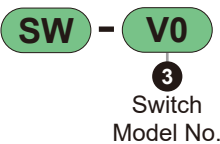
For details, refer to P. 318 to 321.

Code	Contents
-XP5	Knuckle Pin/Clevis Pin Split Pin
-XP7	Knuckle fixed by pin driving
-XP8	Knuckle pin/clevis pin split pin specification, knuckle fixed by pin driving
-A2	With 2 Rod Nuts
Rod End Shape Modification	Refer to Ending 11.

Model No. Example)

SSD2-KG1L4- - XP5

Switch Single Unit Model No. Notation Method



Specifications

Item	SSD2-KG1L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation method	Double Acting Type				
Operating Fluid	Compressed Air				
Max. Operating Pressure MPa	1.0				
Min. Operating Pressure MPa	0.15		0.1		
Proof pressure MPa	1.6				
Ambient Temperature °C	-10 to 60 (Provided that freezing does not occur)				
Port Size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	^{+2.0} ₀				
Operating Piston Speed mm/s	50 to 500		50 to 300		
Cushion	Rubber Cushion				
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)				
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92

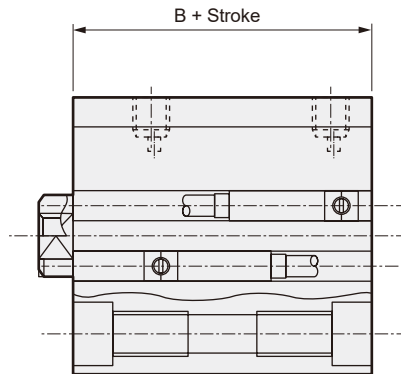
Number of Switches Mounted and Min. Stroke (mm)

Switch Model No.	V0	
Number of Switches	1	2
Bore Size (mm)		
ø40	20	20
ø50		
ø63		
ø80		
ø100		

About Intermediate Stroke

● SSD2-KG1L4 Series

Item	Standard Product	
	Spacer type on standard stroke body	
Model No. indication	Refer to model No. indication method.	
Manufacturing Content	A spacer is provided on the standard stroke body, manufactured in 1 mm stroke increments.	
Stroke Range	Bore Size	Stroke Range
	40 to 100	1 to 99
Model No. Indication Example	Model No.: SSD2-KG1L4-40-38 A +2 mm spacer is added to the standard cylinder SSD2-KG1L4-40-40 to make it 38 mm. B + Stroke = 59.5 + 40 = 99.5	



Specifications

Cylinder Weight Table

(Weight with switch is when 2 cylinder switches are included)

(Unit: g)

Stroke (mm) Bore Size (mm)	20	25	30	35	40	45	50	75	100
ø40	628	655	681	708	734	761	787	920	1052
ø50	960	1002	1044	1086	1128	1170	1212	1422	1632
ø63	1350	1406	1461	1517	1572	1628	1683	1961	2238
ø80	2247	2334	2421	2508	2595	2682	2769	3204	3639
ø100	3228	3342	3455	3569	3682	3796	3909	4477	5044

Theoretical Thrust Table

(Unit: N)

Bore Size (mm)	Operating Direction	Operating Pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
ø40	Push	-	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	-	1.58×10 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	
ø50	Push	-	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	-	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	
ø63	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	
ø80	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	
ø100	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	

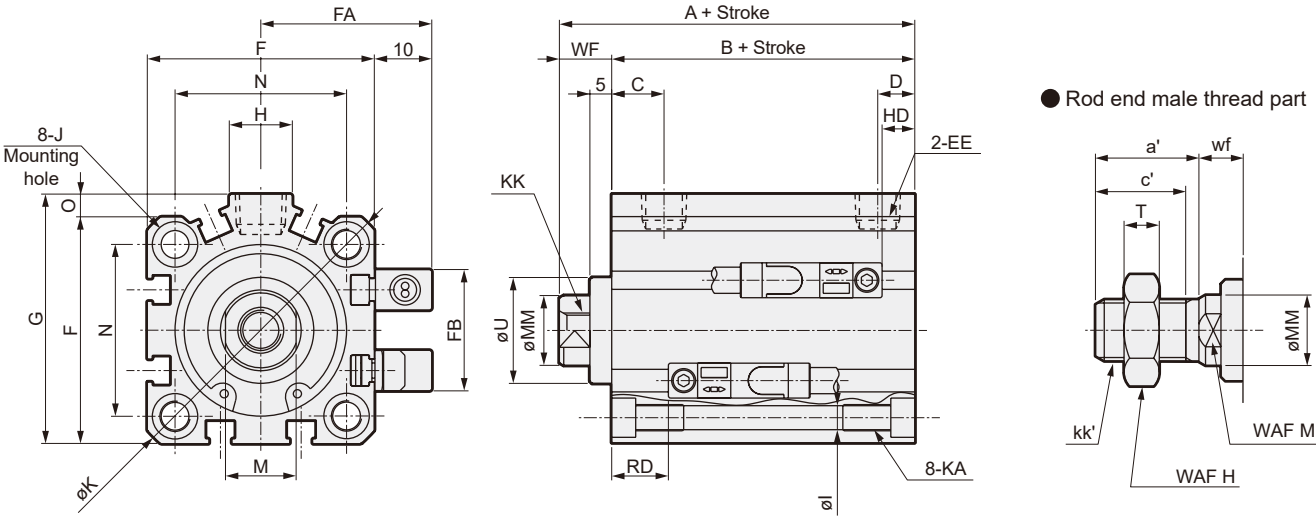
Mounting Bracket Model No. Notation Method

Bore Size (mm) Mounting bracket	ø40	ø50	ø63	ø80	ø100
Flange (FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Double Clevis (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

Note: Foot type mounting brackets are 2 pcs/set.

Outline Dimension Drawing

● SSD2-KG1L4-40 to 100



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J	
Bore Size (mm)	*1	*1											
ø40	71.5	59.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Counterbore ø9 depth 5.5	
ø50	73.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Counterbore ø11 depth 6.5	
ø63	79	66	13	11	Rc1/4	77	48.5	32	84	23	8.7	Counterbore ø14 depth 9	
ø80	88.5	73.5	16	13	Rc3/8	98	59	32	104	31	10.5	Counterbore ø17.5 depth 11	
ø100	100	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Counterbore ø17.5 depth 11	

Code	K	KA	KK	M	MM	N	O	U	WF	HD	RD
Bore Size (mm)											
ø40	69	M6 depth 11	M8 depth 13	14	16	40	5	28 h9	12	12.5	18
ø50	86	M8 depth 13	M10 depth 15	17	20	50	7	35 h9	13	13.5	18
ø63	103	M10 depth 25	M10 depth 15	17	20	60	7	35 h9	13	18.5	18.5
ø80	132	M12 depth 28	M16 depth 21	22	25	77	6	43 h9	15	23.5	21
ø100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59 h9	17	29	25

*1: A + Stroke and B + Stroke dimensions for intermediate strokes are the same as the standard stroke above them.

*2: For outline dimension drawings of individual accessories, refer to P. 34.

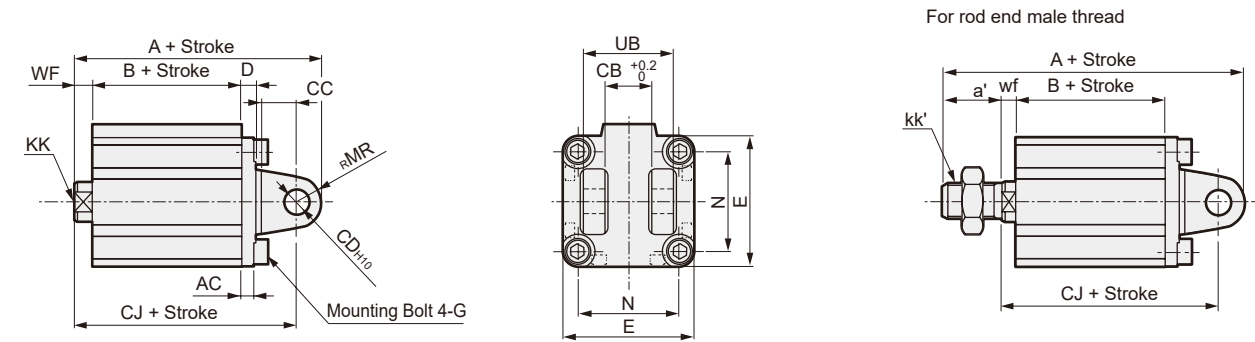
● Rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore Size (mm)								
ø40	23.5	20.5	22	M14×1.5	14	16	8	10
ø50	28.5	26	27	M18×1.5	17	20	11	10
ø63	28.5	26	27	M18×1.5	17	20	11	10
ø80	35.5	32.5	32	M22×1.5	22	25	13	13
ø100	35.5	32.5	41	M26×1.5	27	30	16	13

Double Acting, High Load with Strong Magnetic Field Resistant Switch, Coil Scraper Type

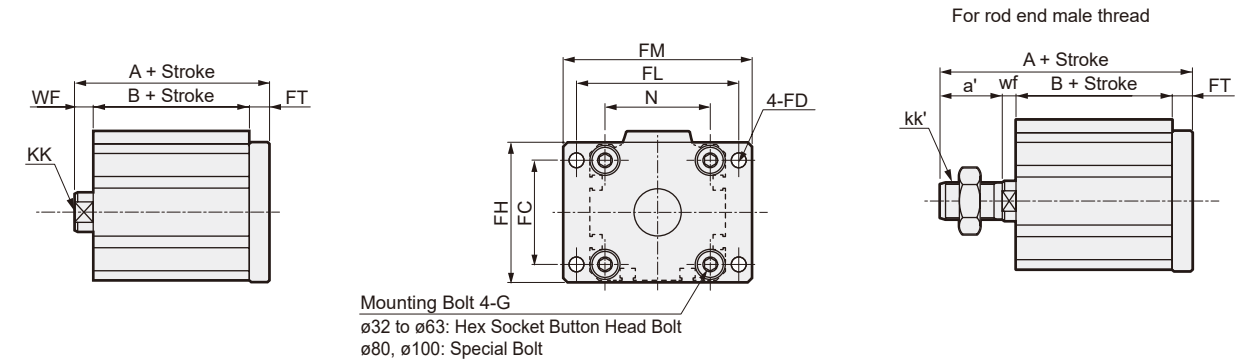
Outline Dimension Drawing

● Double Knuckle Clevis (CB)
SSD2-KG1L4-40 to 100-CB



Code	Common dimension											For female thread				For male thread					
Bore Size (mm)	AC	CB	CC	CD	D	E	G	KK	MR	N	UB	WF	A	B	CJ	a'	kk'	wf	A	B	CJ
ø40	5	18.2	14	10	6	52	M6×16	M8 depth 13	10	40	36	7	103.5	59.5	93.5	23.5	M14×1.5	5	125	59.5	91.5
ø50	6	22.2	20	14	7	64	M8×20	M10 depth 15	14	50	44	8	115.5	60.5	101.5	28.5	M18×1.5	5	141	60.5	98.5
ø63	7	22.2	20	14	8	77	M10×25	M10 depth 15	14	60	44	8	123	66	109	28.5	M18×1.5	5	148.5	66	106
ø80	9	28.2	27	18	10	98	M12×40	M16 depth 21	18	77	56	10	144.5	73.5	126.5	35.5	M22×1.5	8	178	73.5	124.5
ø100	12	32.2	31	22	13	117	M12×40	M20 depth 27	22	94	64	12	167	83	145	35.5	M26×1.5	8	198.5	83	141

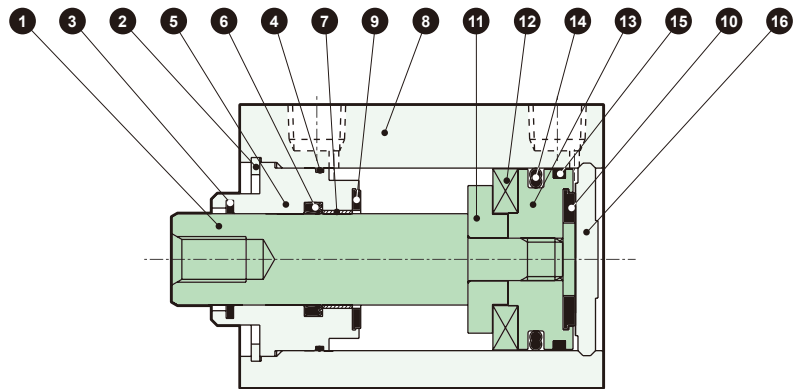
● Head Side Flange (FB)
SSD2-KG1L4-40 to 100-FB



Code	Common dimension											For female thread			For male thread		
Bore Size (mm)	FC	FD	FH	FL	FM	FT	G	KK	N	WF	A	B	a'	kk'	wf	A	B
ø40	40	5.5	54	62	72	8	M6×16	M8 depth 13	40	7	79.5	59.5	23.5	M14×1.5	5	101	59.5
ø50	50	6.6	67	76	89	9	M8×20	M10 depth 15	50	8	82.5	60.5	28.5	M18×1.5	5	108	60.5
ø63	60	9	80	92	108	9	M10×25	M10 depth 15	60	8	88	66	28.5	M18×1.5	5	113.5	66
ø80	77	11	99	116	134	11	M12×40	M16 depth 21	77	10	99.5	73.5	35.5	M22×1.5	8	133	73.5
ø100	94	11	117	136	154	11	M12×40	M20 depth 27	94	12	111	83	35.5	M26×1.5	8	142.5	83

Internal Structure Diagram/Material

● SSD2-KG1L4-40 to 100 (Double Acting, High Load Type with Strong Magnetic Field Resistant Switch, Coil Scraper Type)



Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Piston Rod	Steel	Industrial chrome plating	9	Cushion Rubber R	Urethane Rubber	
2	C-type retaining ring	Steel	Zinc phosphate	10	Cushion rubber H	Urethane Rubber	
3	Coil scraper	Bronze alloy		11	Spacer	Aluminum Alloy	
4	Rod metal gasket	Nitrile Rubber		12	Magnet	Plastic	
5	Rod Metal	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy	ø40, ø50: Alumite ø63 to ø100: Chromate	13	Piston	Aluminum Alloy	Chromate
6	Rod Packing	Nitrile Rubber		14	Piston Packing	Nitrile Rubber	
7	Bushing	Bearing Alloy		15	Wear Ring	Polyacetal	
8	Cylinder Body	Aluminum Alloy	Hard Anodized	16	Cover	Aluminum Alloy	Alumite

MEMO

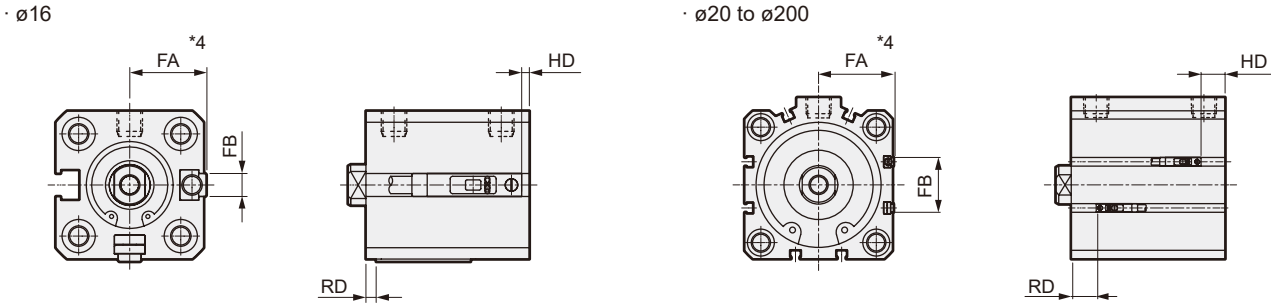
For maintenance parts, please visit the CKD Component Product Site
(<https://www.ckd.co.jp/kiki/en/>) → "model No." → Maintenance Parts.

SSD2-□L T-type Switch Attached Outline Dimension Drawing

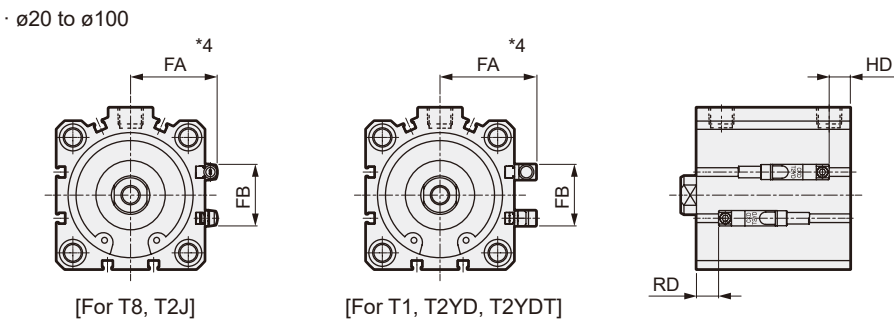
● SSD2-L, SSD2-XL, SSD2-YL, SSD2-OL, SSD2-LF

T0H/V, T5H/V, T3PH/V, T2□R3, TOY, T2WH/V, T3WH/V, T2WLH/V, T8H/V, T2JH/V, T1H/V, T2YD, T2YDT

Space-Saving Type



SSD2



Code Bore Size (mm)	SSD2-L, SSD2-XL, SSD2-YL, SSD2-OL, SSD2-LF																			
	T0, T5, T2, T3, T3P, T2□R3, TOY				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *4	FB	RD *3	HD *3	FA *4	FB	RD *3	HD *3	FA *4	FB	RD	HD	FA *4	FB	RD	HD	FA *4	FB	RD	HD
ø12	13	4.5	1.5 (3)	1.5 (0)	13	4.5	3.5 (5)	3.5 (2)	-	-	-	-	-	-	-	-	-	-	-	-
ø16	15	4.5	4	0	15	4.5	6	1	-	-	-	-	-	-	-	-	-	-	-	-
ø20	18.5	12.5	7.5	3	18.5	12.5	9.5	5	-	-	-	-	24.3	16	6.5	2	29.3	16	6.5	2
ø25	20.5	13.5	9.5	4	20.5	13.5	11.5	6	-	-	-	-	26.3	17	8.5	3	31.3	17	8.5	3
ø32	23	20.5	9.5	4	23	20.5	11.5	6	-	-	-	-	28.8	24	8.5	3.5	33.8	24	8.5	3.5
ø40	26.5	27.5	12	7	26.5	27.5	13.5	8.5	32.3	31	6	1	32.3	31	10.5	5.5	37.3	31	10.5	5.5
ø50	32.5	28.5	12.5	7.5	32.5	28.5	14	9	38.3	32	6.5	1.5	38.3	32	11	6	43.3	32	11	6
ø63	39	28.5	13	12.5	39	28.5	14.5	14	44.8	32	7	6.5	44.8	32	11.5	11	49.8	32	11.5	11
ø80	49.5	28.5	15.5	17.5	49.5	28.5	17	19	55.3	32	9.5	11.5	55.3	32	14	16	60.3	32	14	16
ø100	59	28.5	19.5	23	59	28.5	21	24.5	64.8	32	13.5	17	64.8	32	18	21.5	69.8	32	18	21.5
ø125	71.5	44.5	35	30	71.5	44.5	36.5	31.5	77	48	29	24	77	48	33.5	28.5	82.5	48	33.5	28.5
ø140	79.5	44.5	33.5	31.5	79.5	44.5	35	33	85	48	27.5	27.5	85	48	32	30	90.5	48	32	30
ø160	89.5	48.5	39	34	89.5	48.5	40.5	35.5	95	52	33	28	95	52	37.5	32.5	100.5	52	37.5	32.5
ø180	99	-	43.5	39.5	99	-	45.5	41.5	104.5	-	37.5	33.5	104.5	-	42.5	38.5	110	-	42.5	38.5
ø200	109.5	-	45.5	44.5	109.5	-	47.5	46.5	115	-	39.5	38.5	115	-	44.5	43.5	120.5	-	44.5	43.5

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

*3: () dimensions are for with rubber cushion.

*4: FA dimension is for straight type lead wire.

Code Bore Size (mm)	SSD2-L (Long Stroke)																			
	T0, T5, T2, T3, T3P, T2□R3, TOY				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3
ø12	13	4.5	5	8.5	13	4.5	6.5	10.5	-	-	-	-	-	-	-	-	-	-	-	-
ø16	15	4.5	5	8.5	15	4.5	6.5	10.5	-	-	-	-	-	-	-	-	-	-	-	-
ø20	18.5	12.5	16 (10)	6.5 (12.5)	18.5	12.5	17.5 (12)	8.5 (14)	24.3	16	9.5 (4)	0 (6.5)	24.3	16	14 (8.5)	5.5 (11)	29.3	16	14 (8.5)	5.5 (11)
ø25	20.5	13.5	19.5 (12)	6 (14)	20.5	13.5	21 (14)	8 (15.5)	26.3	17	13 (6)	0 (8)	26.3	17	17.5 (10.5)	5 (12.5)	31.3	17	17.5 (10.5)	5 (12.5)
ø32	23	20.5	18 (10)	9 (16)	23	20.5	19.5 (12)	11 (17.5)	28.8	24	11.5 (4)	2.5 (10)	28.8	24	16 (8.5)	8 (14.5)	33.8	24	16 (8.5)	8 (14.5)
ø40	26.5	27.5	26.5 (16.5)	9.5 (19)	26.5	27.5	28 (18.5)	11 (20.5)	32.3	31	20 (10.5)	3.5 (13)	32.3	31	24.5 (15)	8 (17.5)	37.3	31	24.5 (15)	8 (17.5)
ø50	32.5	28.5	26 (17)	10 (19)	32.5	28.5	27.5 (19)	11.5 (20.5)	38.3	32	19.5 (11)	4 (13)	38.3	32	24.5 (16)	8.5 (17.5)	43.3	32	24.5 (16)	8.5 (17.5)
ø63	39	28.5	20 (14.5)	17.5 (23)	39	28.5	21.5 (16.5)	19 (24.5)	44.8	32	1.5 (.5)	11.5 (17)	44.8	32	18.5 (13.5)	16 (21.5)	49.8	32	18.5 (13.5)	16 (21.5)
ø80	49.5	28.5	24 (18.5)	22.5 (28)	49.5	28.5	25.5 (20.5)	24 (29.5)	55.3	32	17.5 (12.5)	16.5 (22)	55.3	32	22.5 (17.5)	21 (26.5)	60.3	32	22.5 (17.5)	21 (26.5)
ø100	59	28.5	28 (22.5)	28 (33.5)	59	28.5	29.5 (24.5)	29.5 (35)	64.8	32	21.5 (16.5)	22 (27.5)	64.8	32	26.5 (21.5)	26.5 (32)	69.8	32	26.5 (21.5)	26.5 (32)

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: FA dimension is for straight type lead wire.

*3: () dimensions are for when ø20: 100 strokes, ø25 to ø50: 150 strokes, ø63 to ø100 exceeding 200 strokes.

External Dimensions Diagram with Switch

SSD2-□L T-type Switch Attached Outline Dimension Drawing

● SSD2-QL-R, SSD2-QL-H, SSD2-ML, SSD2-GL

Code Bore Size (mm)	SSD2-QL-R															
	T0, T5, T2, T3, T3P, T2□R3, TOY				T2W, T3W, T2WL				T8				T2J			
	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3	FA *2	FB	RD *3	HD *3
ø20	18.5	12.5	32 (37)	4	18.5	12.5	33.5 (38.5)	6.5	20.5	13.5	35 (40)	8.5	26.3	16	30 (35)	3
ø25	20.5	13.5	33.5 (38.5)	6.5	20.5	13.5	35 (40)	8.5	26.3	17	27 (32)	0.5	26.3	17	32 (37)	5.5
ø32	23	20.5	34	5.5	23	20.5	36	7.5	28.8	24	28	0	28.8	24	32.5	4
ø40	26.5	27.5	38	8	26.5	27.5	39.5	10	32.3	31	31.5	2	32.3	31	36.5	7
ø50	32.5	28.5	41	6.5	32.5	28.5	42.5	8.5	38.3	32	34.5	0.5	38.3	32	39.5	5.5
ø63	39	28.5	42	10.5	39	28.5	44	12.5	44.8	32	35.5	4	44.8	32	40.5	9
ø80	49.5	28.5	66 (73.5)	19 (24)	49.5	28.5	68 (75.5)	21 (26)	55.3	32	60 (67.5)	12.5 (17.5)	55.3	32	64.5 (72)	17.5 (22.5)
ø100	59	28.5	70 (77.5)	24.5 (29.5)	59	28.5	72 (79.5)	26.5 (31.5)	64.8	32	64 (71.5)	18 (23)	64.8	32	68.5 (76)	23 (28)

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: FA dimension is for straight type lead wire.

*3: () dimensions are for when ø20, ø25: 25 strokes, ø80, ø100 exceeding 50 strokes.

*4: T8 switches cannot be mounted on the fall prevention mechanism surface.

Code Bore Size (mm)	SSD2-QL-H															
	T0, T5, T2, T3, T3P, T2□R3, TOY				T2W, T3W, T2WL				T8				T2J			
	FA *2	FB	RD *3	HD	FA *2	FB	RD *3	HD	FA *2	FB	RD *3	HD	FA *2	FB	RD *3	HD
ø20	18.5	12.5	8.5 (13.5)	34	18.5	12.5	10.5 (15.5)	35.5	24.3	16	2.5 (7.5)	27.5	24.3	16	7.5 (12.5)	32.5
ø25	20.5	13.5	10 (15)	35.5	20.5	13.5	12 (17)	37.5	26.3	17	3.5 (8.5)	29.5	26.3	17	8.5 (13.5)	34
ø32	23	20.5	9	38	23	20.5	11	40	28.8	24	2.5	32	28.8	24	7.5	36.5
ø40	26.5	27.5	10.5	46	26.5	27.5	12	48	32.3	31	4	40	32.3	31	9	44.5
ø50	32.5	28.5	11	46	32.5	28.5	12.5	48	38.3	32	4.5	40	38.3	32	9	45
ø63	39	28.5	12	46.5	39	28.5	14	48.5	44.8	32	5.5	40	44.8	32	10.5	45
ø80	49.5	28.5	14.5 (19.5)	78	49.5	28.5	16 (21)	80	55.3	32	8 (13)	72	55.3	32	13 (18)	76.5
ø100	59	28.5	28 (33)	84.5	59	28.5	29.6 (34.5)	86.5	64.8	32	21 (26)	78	64.8	32	26 (31)	83

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: FA dimension is for straight type lead wire.

*3: () dimensions are for when ø20, ø25: 25 strokes, ø80, ø100 exceeding 50 strokes.

*4: T8 switches cannot be mounted on the fall prevention mechanism surface.

Code Bore Size (mm)	SSD2-ML															
	T0, T5, T2, T3, T3P, T2□R3, TOY				T2W, T3W, T2WL				T8				T2J			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø12	13	4.5	7.5	0	13	4.5	9	2	-	-	-	-	-	-	-	-
ø16	15	4.5	7	0	15	4.5	8.5	2.5	-	-	-	-	-	-	-	-
ø20	18.5	12.5	11.5	3	18.5	12.5	13	4.5	-	-	-	-	24.3	16	10	1.5
ø25	20.5	13.5	14.5	3	20.5	13.5	16	4.5	-	-	-	-	26.3	17	13	1.5
ø32	23	20.5	19	4.5	23	20.5	20.5	5	-	-	-	-	28.8	24	18	3
ø40	26.5	27.5	12	7	26.5	27.5	13.5	8.5	32.3	31	6	1	32.3	31	10.5	5.5
ø50	32.5	28.5	12.5	7.5	32.5	28.5	14	9	38.3	32	6.5	1.5	38.3	32	11	6
ø63	39	28.5	13	12.5	39	28.5	14.5	14	44.8	32	7	6.5	44.8	32	11.5	11

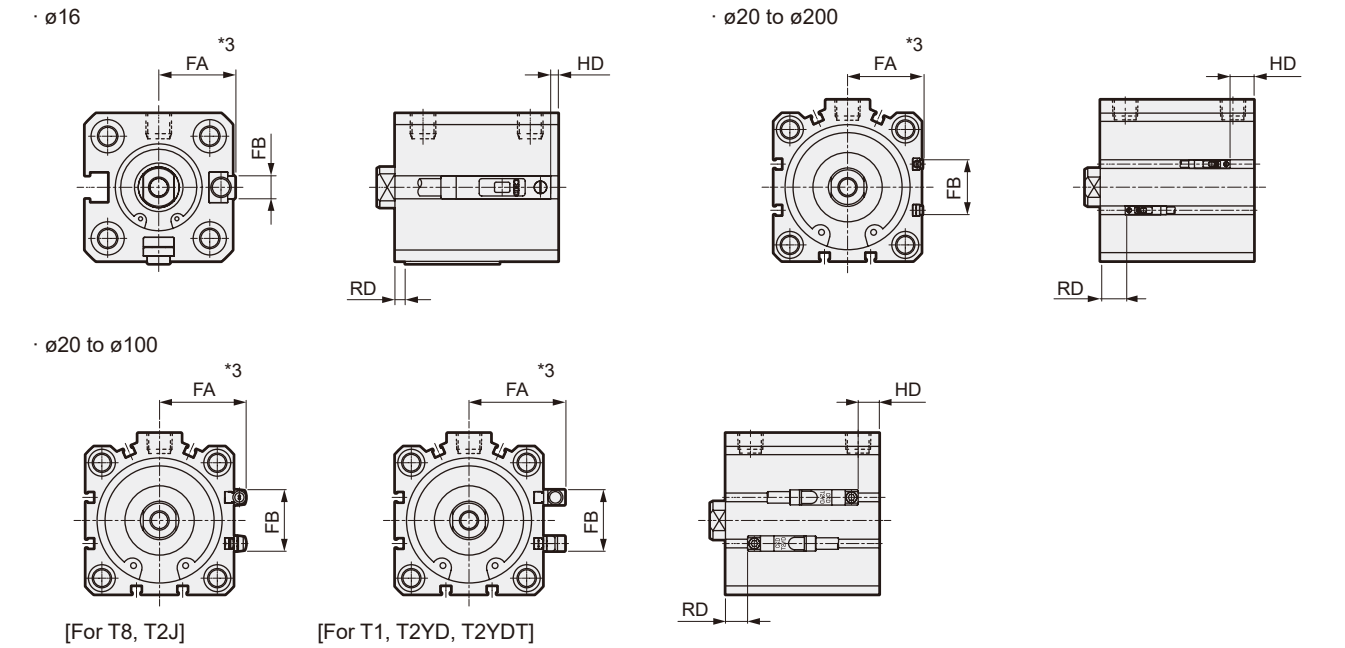
*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

*3: FA dimension is for straight type lead wire.

SSD2-□L T-type Switch Attached Outline Dimension Drawing

● SSD2-G5L, SSD2-KL, SSD2-KL-□C, SSD2-KLF, SSD2-KUL



Code	SSD2-G5L																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø20	18.5	12.5	17.5	3	18.5	12.5	19.5	5	-	-	-	-	24.3	16	16.5	2	29.3	16	16.5	2
ø25	20.5	13.5	19.5	4	20.5	13.5	21.5	6	-	-	-	-	26.3	17	18.5	3	31.3	17	18.5	3
ø32	23	20.5	19.5	4	23	20.5	21.5	6	-	-	-	-	28.8	24	18.5	3	33.8	24	18.5	3
ø40	26.5	27.5	22	7	26.5	27.5	23.5	8.5	32.3	31	15.5	0.5	32.3	31	20.5	5.5	37.3	31	20.5	5.5
ø50	32.5	28.5	22.5	7.5	32.5	28.5	24	9	38.3	32	16	1	38.3	32	21	6	43.3	32	21	6
ø63	39	28.5	23	12.5	39	28.5	24.5	14	44.8	32	16.5	6	44.8	32	21.5	11	49.8	32	21.5	11
ø80	49.5	28.5	25.5	17.5	49.5	28.5	27	19	55.3	32	19	11	55.3	32	24	16	60.3	32	24	16
ø100	59	28.5	29.5	23	59	28.5	31	24.5	64.8	32	23	16.5	64.8	32	28	21.5	69.8	32	28	21.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

Code	SSD2-KL, SSD2-KL-□C, SSD2-KLF, SSD2-KUL																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø12	13	4.5	3.5	4.5	13	4.5	5.5	6.5	-	-	-	-	-	-	-	-	-	-	-	-
ø16	15	4.5	5	3	15	4.5	7	5	-	-	-	-	-	-	-	-	-	-	-	-
ø20	18.5	12.5	9	6.5	18.5	12.5	11	8.5	-	-	-	-	24.3	16	8	5.5	29.3	16	8	5.5
ø25	20.5	13.5	12.5	6	20.5	13.5	14.5	8	-	-	-	-	26.3	17	11.5	5	31.3	17	11.5	5
ø32	23	20.5	15	9	23	20.5	17	11	-	-	-	-	28.8	24	14	8	33.8	24	14	8
ø40	26.5	27.5	19.5	9.5	26.5	27.5	21	11	32.3	31	13.5	3.5	32.3	31	18	8	37.3	31	18	8
ø50	32.5	28.5	20	10	32.5	28.5	21.5	11.5	38.3	32	14	4	38.3	32	18.5	8.5	43.3	32	18.5	8.5
ø63	39	28.5	18	17.5	39	28.5	19.5	19	44.8	32	12	11.5	44.8	32	16.5	16	49.8	32	16.5	16
ø80	49.5	28.5	20.5	22.5	49.5	28.5	22	24	55.3	32	14.5	16.5	55.3	32	19	21	60.3	32	19	21
ø100	59	28.5	24.5	28	59	28.5	26	29.5	64.8	32	18.5	22	64.8	32	23	26.5	69.8	32	23	26.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

External Dimensions Diagram with Switch

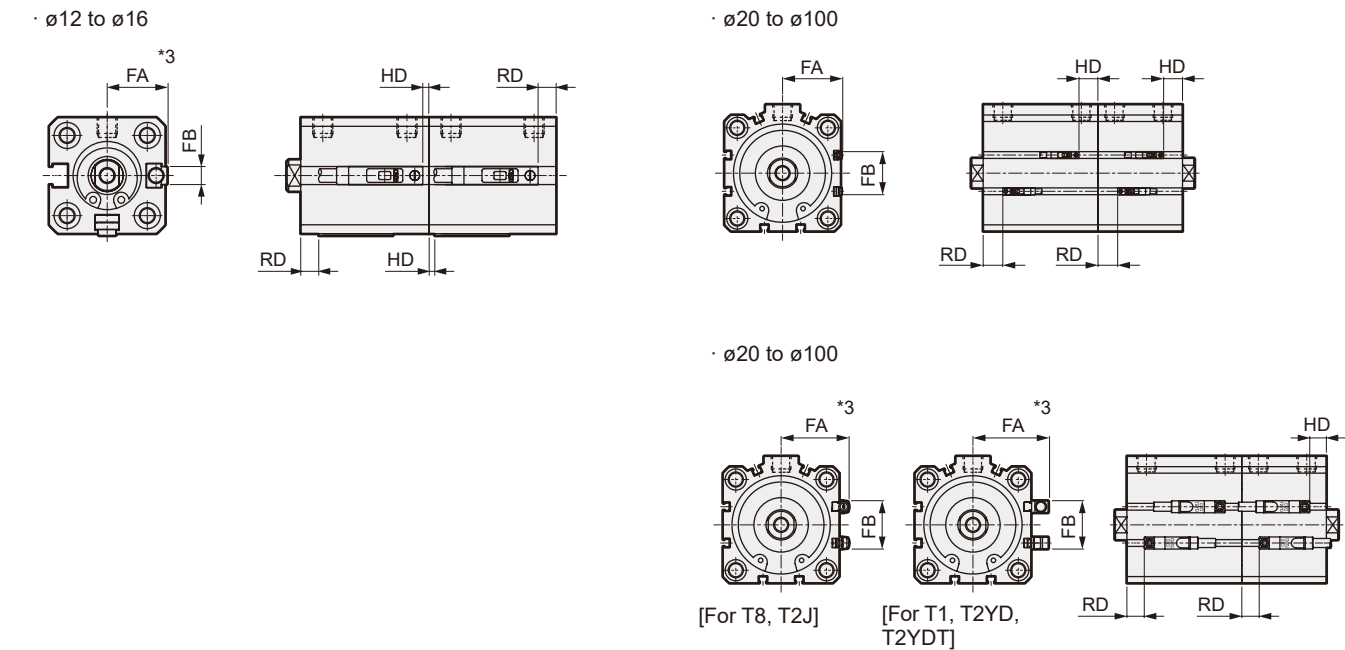
SSD2-KG5L T-type Switch Attached Outline Dimension Drawing

Code	SSD2-KG5L																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø20	18.5	12.5	18.5	6	18.5	12.5	18.5	4.5	-	-	-	-	24.3	16	15.5	1.5	29.3	16	15.5	1.5
ø25	20.5	13.5	22	5.5	20.5	13.5	22	4	-	-	-	-	26.3	17	19	1	31.3	17	19	1
ø32	23	20.5	24	8.5	23	20.5	22.5	7	-	-	-	-	28.8	24	19.5	4	33.8	24	19.5	4
ø40	26.5	27.5	29.5	9.5	26.5	27.5	28	8	32.3	31	20	0	32.3	31	25	5	37.3	31	25	5
ø50	32.5	28.5	30	10	32.5	28.5	28.5	8.5	38.3	32	20.5	0.5	38.3	32	25.5	5.5	43.3	32	25.5	5.5
ø63	39	28.5	28	17.5	39	28.5	26.5	16	44.8	32	18.5	8	44.8	32	23.5	13	49.8	32	23.5	13
ø80	49.5	28.5	30.5	22	49.5	28.5	29	20.5	55.3	32	21	12.5	55.3	32	26	17.5	60.3	32	26	17.5
ø100	59	28.5	34.5	28	59	28.5	33	26.5	64.8	32	25	18.5	64.8	32	30	23.5	69.8	32	30	23.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

SSD2-BL T-type Switch Attached Outline Dimension Drawing

- T0H/V, T5H/V, T3H/V, T3PH/V, T2□R3, TOY, T2WH/V, T3WH/V, T2WLH/V, T8H/V, T2JH/V, T1H/V, T2YD, T2YDT



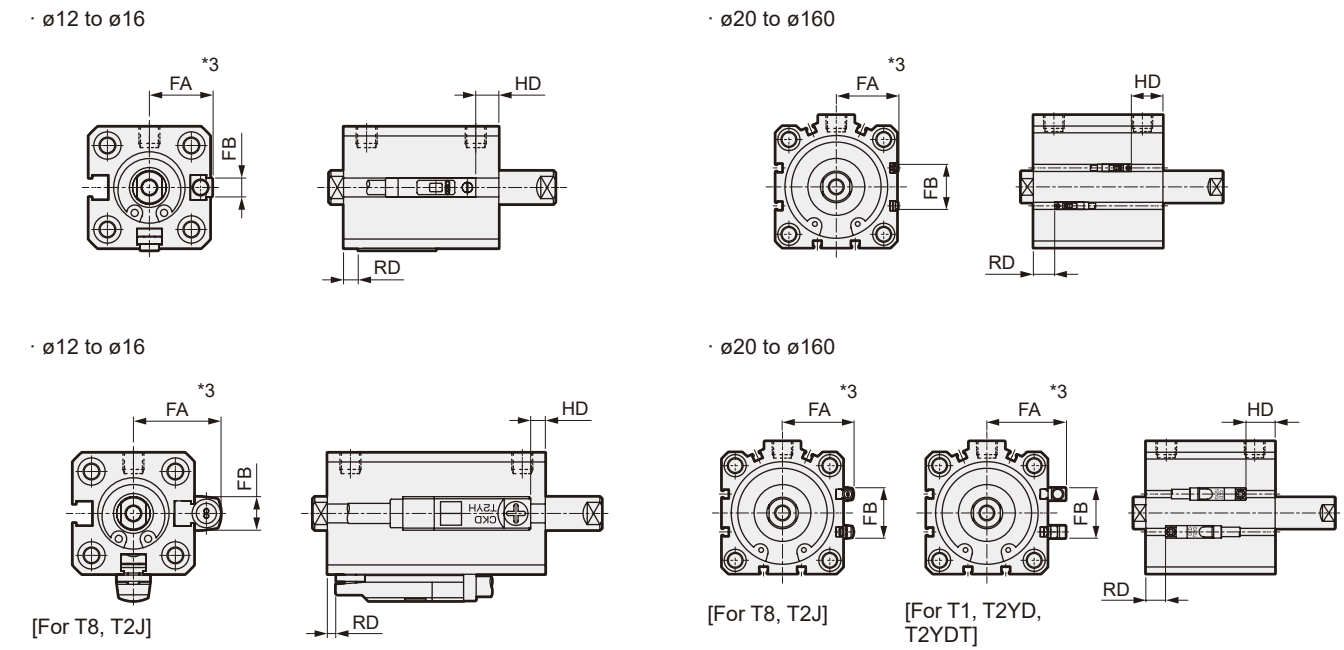
Code	SSD2-BL																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø12	13	4.5	1.5	1.5	13	4.5	3.5	3.5	-	-	-	-	-	-	-	-	-	-	-	-
ø16	15	4.5	4.5	0	15	4.5	6	1	-	-	-	-	-	-	-	-	-	-	-	-
ø20	18.5	12.5	7.5	3	18.5	12.5	9.5	5	-	-	-	-	24.3	16	6.5	2	29.3	16	6.5	2
ø25	20.5	13.5	9.5	4	20.5	13.5	11.5	6	-	-	-	-	26.3	17	8.5	3	31.3	17	8.5	3
ø32	23	20.5	9.5	4	23	20.5	11.5	6	-	-	-	-	28.8	24	8.5	3	33.8	24	8.5	3
ø40	26.5	27.5	12	7	26.5	27.5	13.5	8.5	32.3	31	5.5	0.5	32.3	31	10.5	5.5	37.3	31	10.5	5.5
ø50	32.5	28.5	12.5	7.5	32.5	28.5	14	9	38.3	32	6	1	38.3	32	11	6	43.3	32	11	6
ø63	39	28.5	13	12.5	39	28.5	14.5	14	44.8	32	6.5	6	44.8	32	11.5	11	49.8	32	11.5	11
ø80	49.5	28.5	15.5	17.5	49.5	28.5	17	19	55.3	32	9	11	55.3	32	14	16	60.3	32	14	16
ø100	59	28.5	19.5	23	59	28.5	21	24.5	64.8	32	13	16.5	64.8	32	18	21.5	69.8	32	18	21.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

External Dimensions Diagram with Switch

SSD2-DL, SSD2-DML T-type Switch Attached Outline Dimension Drawing

- T0H/V, T5H/V, T3H/V, T3PH/V, T2□R3, TOY, T2WH/V, T3WH/V, T2WLH/V, T8H/V, T2JH/V, T1H/V, T2YD, T2YDT



Code	SSD2-DL																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø12	13	4.5	3	5.5	13	4.5	4.5	7.5	-	-	-	-	-	-	1.5	4	-	-	-	-
ø16	15	4.5	3.5	5	15	4.5	5.5	6.5	-	-	-	-	-	-	2	3.5	-	-	-	-
ø20	18.5	12.5	7.5	10	18.5	12.5	9.5	11.5	24.3	16	1.5	3.5	24.3	16	6.5	8.5	29.3	16	6.5	8.5
ø25	20.5	13.5	9.5	11	20.5	13.5	11.5	12.5	26.3	17	3.5	4.5	26.3	17	8.5	9.5	31.3	17	8.5	9.5
ø32	23	20.5	10	12	23	20.5	12	13.5	28.8	24	4	5.5	28.8	24	9	10.5	33.8	24	9	10.5
ø40	26.5	27.5	13	18.5	26.5	27.5	15	20	32.3	31	7	12	32.3	31	12	17	37.3	31	12	17
ø50	32.5	28.5	13	19	32.5	28.5	15	20.5	38.3	32	7	12.5	38.3	32	12	17.5	43.3	32	12	17.5
ø63	39	28.5	13.5	20	39	28.5	15.5	21.5	44.8	32	7.5	13.5	44.8	32	12.5	18.5	49.8	32	12.5	18.5
ø80	49.5	28.5	16	26.5	49.5	28.5	18	28	55.3	32	10	20	55.3	32	15	25	60.3	32	15	25
ø100	59	28.5	20	32	59	28.5	22	33.5	64.8	32	14	25.5	64.8	32	19	30.5	69.8	32	19	30.5
ø125	71.5	44.5	35	30	71.5	44.5	36.5	31.5	77	48	29	24	77	48	33.5	28.5	82.5	48	33.5	28.5
ø140	79.5	44.5	33.5	31.5	79.5	44.5	35	33	85	48	27.5	25.5	85	48	32	30	90.5	48	32	30
ø160	89.5	48.5	39	34	89.5	48.5	40.5	35.5	95	52	33	28	95	52	37.5	32.5	100.5	52	37.5	32.5
ø180	99	-	43.5	39.5	99	-	45.5	41.5	104.5	-	37.5	33.5	104.5	-	42.5	38.5	110	-	42.5	38.5
ø200	109.5	-	45.5	44.5	109.5	-	47.5	46.5	115	-	39.5	38.5	115	-	44.5	43.5	120.5	-	44.5	43.5

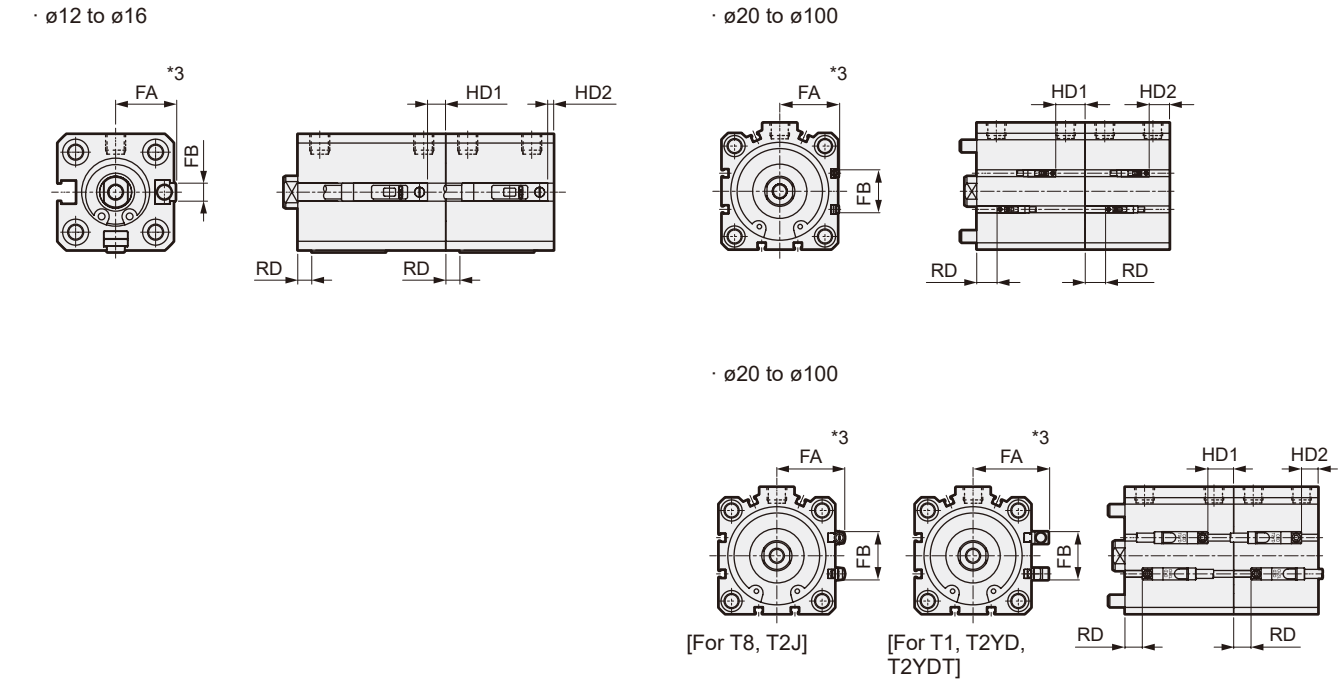
*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

Code	SSD2-DML																			
	T0, T5, T2, T3, T3P, T2□R3, T0Y				T2W, T3W, T2WL				T8				T2J				T1, T2YD, T2YDT			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø12	13	4.5	2.5	10	13	4.5	4	11.5	-	-	-	-	-	-	-	-	-	-	-	-
ø16	15	4.5	2	10	15	4.5	3.5	11.5	-	-	-	-	-	-	-	-	-	-	-	-
ø20	18.5	12.5	6.5	14.5	18.5	12.5	8	16	-	-	-	-	24.3	16	5	13	29.3	16	5	13
ø25	20.5	13.5	9.5	16.5	20.5	13.5	11	18	-	-	-	-	26.3	17	8	15	31.3	17	8	15
ø32	23	20.5	9	20	23	20.5	10.5	21.5	-	-	-	-	28.8	24	7.5	18.5	33.8	24	7.5	18.5
ø40	26.5	27.5	12	16.5	26.5	27.5	13.5	18	32.3	31	5.5	10	32.3	31	10.5	15	37.3	31	10.5	15
ø50	32.5	28.5	12.5	16.5	32.5	28.5	14	18	38.3	32	6	10	38.3	32	11	15	43.3	32	11	15
ø63	39	28.5	13	18	39	28.5	14.5	19.5	44.8	32	6.5	11.5	44.8	32	11.5	16.5	49.8	32	11.5	16.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

SSD2-WL T-type Switch Attached Outline Dimension Drawing

- T0H/V, T5H/V, T3H/V, T3PH/V, T2□R3, TOY, T2WH/V, T3WH/V, T2WLH/V, T8H/V, T2JH/V, T1H/V, T2YD, T2YDT



Code	SSD2-WL														
	T0, T5, T2, T3, T3P, T2□R3, T0Y					T2W, T3W, T2WL					T8				
	FA *3	FB	RD	HD1	HD2	FA *3	FB	RD	HD1	HD2	FA *3	FB	RD	HD1	HD2
ø12	13	4.5	1.5	6.5	1.5	13	4.5	3.5	8.5	3.5	-	-	-	-	-
ø16	15	4.5	3.5	4.5	0	15	4.5	5.5	6.5	1.5	-	-	-	-	-
ø20	18.5	12.5	7.5	9.5	3	18.5	12.5	9.5	11.5	5	-	-	-	-	-
ø25	20.5	13.5	9.5	10.5	4	20.5	13.5	11.5	12.5	6	-	-	-	-	-
ø32	23	20.5	10	11.5	4	23	20.5	12	13.5	6	-	-	-	-	-
ø40	26.5	27.5	13	18	7.5	26.5	27.5	15	20	9.5	32.3	31	6	11.5	1
ø50	32.5	28.5	13	18.5	8.5	32.5	28.5	15	20.5	10.5	38.3	32	6.5	11.5	1.5
ø63	39	28.5	13.5	19.5	13.5	39	28.5	15.5	21.5	15.5	44.8	32	7	12.5	6.5
ø80	49.5	28.5	16	26	18.5	49.5	28.5	18	28	20.5	55.3	32	9.5	19	11.5
ø100	59	28.5	20.5	31.5	24	59	28.5	22.5	33.5	26	64.8	32	13.5	24.5	17

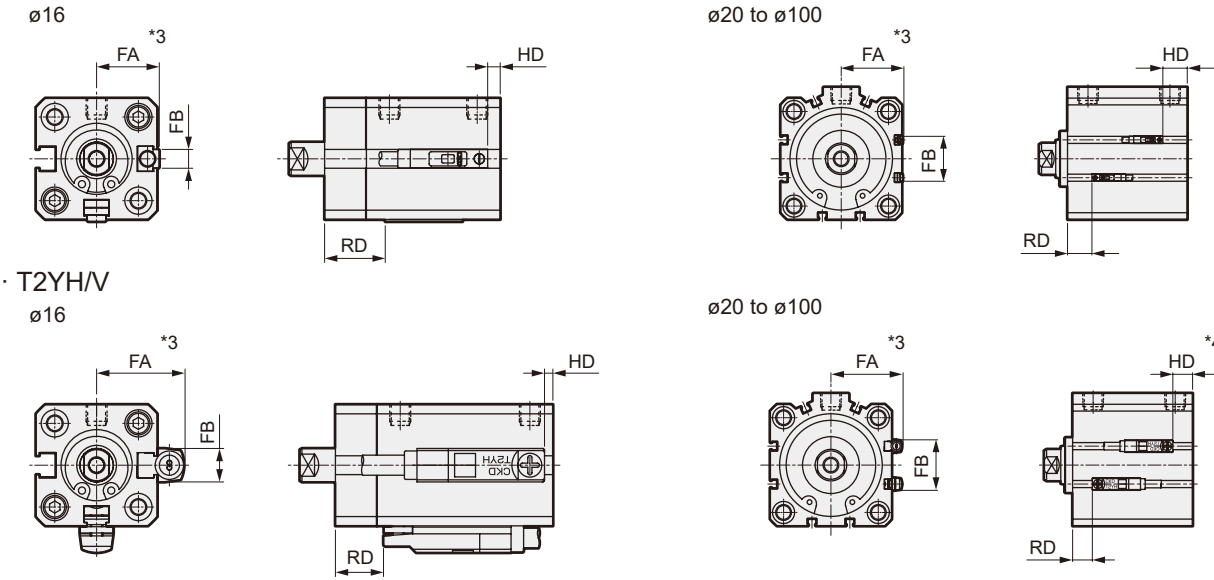
Code	SSD2-WL									
	T2J					T1, T2YD, T2YDT				
	FA *3	FB	RD	HD1	HD2	FA *3	FB	RD	HD1	HD2
ø12	-	-	-	-	-	-	-	-	-	-
ø16	-	-	-	-	-	-	-	-	-	-
ø20	24.3	16	6.5	8.5	2	29.3	16	6.5	8.5	2
ø25	26.3	17	8.5	9.5	3	31.3	17	8.5	9.5	3
ø32	28.8	24	8.5	11	3.5	33.8	24	8.5	11	3.5
ø40	32.3	31	10.5	16	5.5	37.3	31	10.5	16	5.5
ø50	38.3	32	11	16	6	43.3	32	11	16	6
ø63	44.8	32	11.5	17	11	49.8	32	11.5	17	11
ø80	55.3	32	14	23.5	16	60.3	32	14	23.5	16
ø100	64.8	32	18	29	21.5	69.8	32	18	29	21.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

External Dimensions Diagram with Switch

SSD2-□L T-type Switch Attached Outline Dimension Drawing

- SSD2-G2L, G3L, KG2L, KG3L
- T2WLH/V

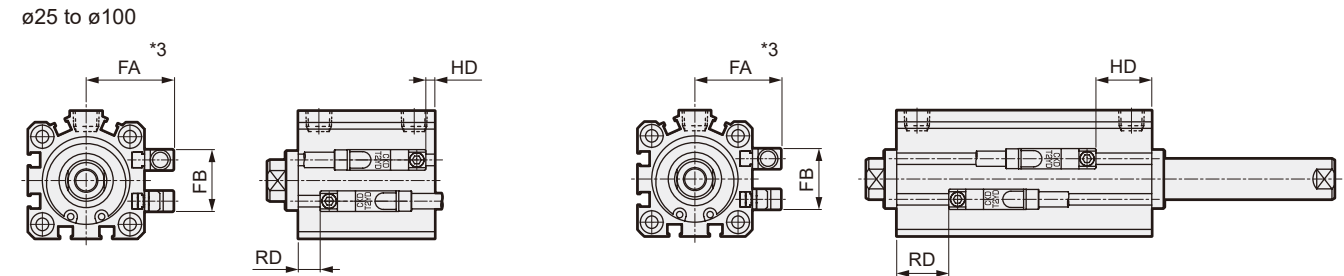


Code	SSD2-G2L, G3L								SSD2-KG2L, KG3L							
	T2WL				T2YLH				T2WL				T2YLH			
	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD	FA *3	FB	RD	HD
ø16	15	4.5	14.5	3	20.8	8	11.5	0	15	4.5	17.5	5.5	20.8	8	14.5	2.5
ø20	18.5	12.5	19.5	5	24.3	16	16.5	2	18.5	12.5	23	7.5	24.3	16	20	4.5
ø25	20.5	13.5	21.5	6	26.3	17	18.5	3	20.5	13.5	25.5	7.5	26.3	17	22.5	4.5
ø32	23	20.5	22	6	28.8	24	19	3	23	20.5	28.5	12.5	28.8	24	25.5	9.5
ø40	26.5	27.5	15	9.5	32.3	31	12	6.5	26.5	27.5	34	13.5	32.3	31	31	10.5
ø50	32.5	28.5	15	10.5	38.3	32	12	7.5	32.5	28.5	34	14.5	38.3	32	31	11.5
ø63	39	28.5	15.5	15.5	44.8	32	12.5	12.5	39	28.5	32	21	44.8	32	29	18
ø80	49.5	28.5	18	20.5	55.3	32	15	17.5	49.5	28.5	34.5	27	55.3	32	31.5	24
ø100	59	28.5	22	26	64.8	32	19	23	59	28.5	38.5	32.5	64.8	32	35.5	29.5

*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

- SSD2-G1L, G4L, KG1L, KG2L
- T2YD, T2YDT, T2YDTU (Custom product)

- SSD2-DG1L, DG4L



Code Bore Size (mm)	SSD2-G1L, G4L				SSD2-KG1L, KG4L				SSD2-DG1L, DG4L			
	T2YD, T2YDT, T2YDTU (Custom product)											
	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ø25	31.5	17	8.5	3	31.5	17	20	2	31.5	17	20	21.5
ø32	33.5	24	8.5	3.5	33.5	24	20.5	4.5	33.5	24	20.5	22
ø40	37	31	10.5	5.5	37	31	23.5	8	37	31	23.5	27.5
ø50	43	32	11	6	43	32	23.5	9	43	32	23.5	27.5
ø63	49.5	32	11.5	11	49.5	32	24	13	49.5	32	24	28.5
ø80	60	32	14	16	60	32	26.5	19	60	32	26.5	35
ø100	69.5	32	18	21.5	69.5	32	30.5	24.5	69.5	32	30.5	40.5

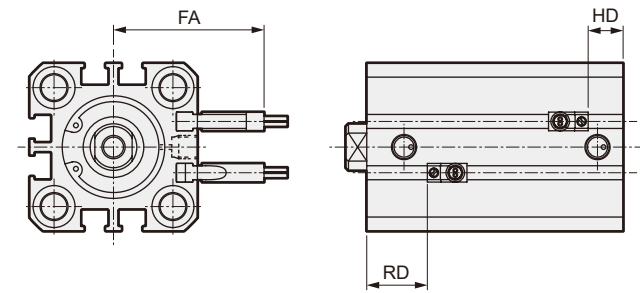
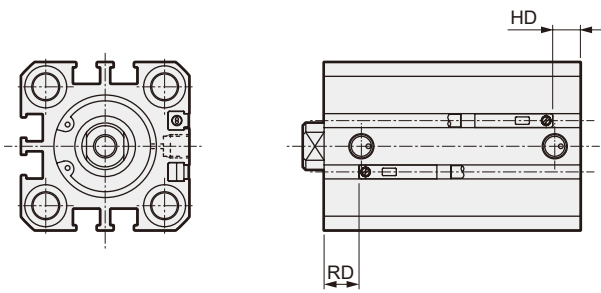
*1: For switch mountability, refer to the model No. indication method for each variation.
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.
*3: FA dimension is for straight type lead wire.

SSD2-□L F-type Switch Attached Outline Dimension Drawing

●SSD2-L, SSD2-XL, SSD2-YL, SSD2-OL, SSD2-LF, SSD2-QL-R, SSD2-QL-H, SSD2-ML, SSD2-GL, SSD2-G5L, SSD2-KL, SSD2-KL□C, SSD2-KLF, SSD2-KUL, SSD2-KG5L

F2, F3, F2Y, F3Y

F2S, F3S



Code	SSD2-L, SSD2-XL, SSD2-YL, SSD2-OL, SSD2-LF				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	12	7.5	31.6	11	6.5
ø25	14	8.5	33.2	13	7.5

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-L (Long Stroke)				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD *3	HD *3	FA	RD *3	HD *3
ø20	20 (14.5)	10 (16.5)	31.6	19 (13.5)	9 (15.5)
ø25	23.5 (16.5)	9.5 (18)	33.2	22.5 (15.5)	8.5 (17)

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

*3: () dimensions are for when ø20: 100 strokes, ø25 exceeding 150 strokes.

Code	SSD2-QL-R				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD *3	HD	FA	RD *3	HD
ø20	36 (41)	8.5	31.6	35 (40)	7.5
ø25	37.5 (42.5)	11	33.2	36.5 (41.5)	10

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

*3: () dimensions are values when exceeding 25 strokes.

Code	SSD2-QL-H				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD *3	HD	FA	RD *3	HD
ø20	13 (18)	38	31.6	12 (17)	37
ø25	14 (19)	40	33.2	13 (18)	39

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

*3: () dimensions are values when exceeding 25 strokes.

Code	SSD2-ML				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	16.5	8	31.6	15.5	7
ø25	19.5	8	33.2	18.5	7

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-GL				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	22	7.5	31.6	21	6.5
ø25	24	8.5	33.2	23	7.5

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-G5L				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	22	7.5	31.6	21	6.5
ø25	24	8.5	33.2	23	7.5

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-KL, SSD2-KL-*C, SSD2-KLF, SSD2-KUL				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	13.5	11	31.6	12.5	10
ø25	17	10.5	33.2	16	9.5

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-KG5L				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	23	10.5	31.6	22	9.5
ø25	26.5	10	33.2	25.5	9

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

External Dimensions Diagram with Switch

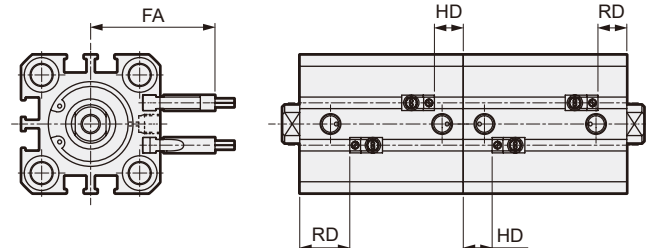
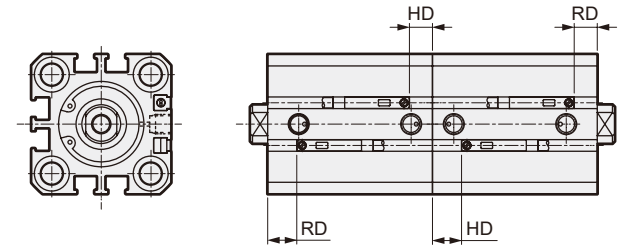
SSD2-BL, SSD2-WL, SSD2-DL, SSD2-DML F-type Switch Attached Outline Dimension Drawing

●SSD2-BL

F2, F3, F2Y, F3Y

F2S, F3S

· ø20, ø25



Code	SSD2-BL				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	12	7.5	31.6	11	6.5
ø25	14	8.5	33.2	13	7.5

*1: For switch mountability, refer to the model No. indication method for each variation.

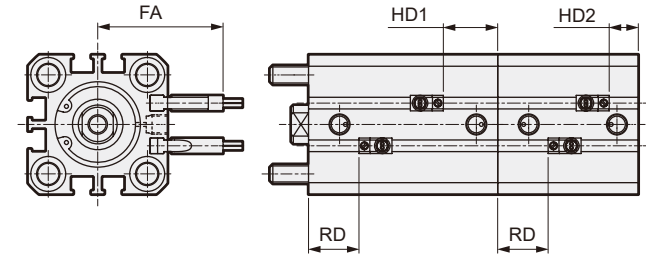
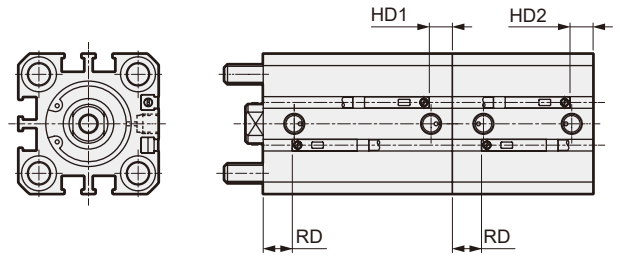
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

●SSD2-WL

F2, F3, F2Y, F3Y

F2S, F3S

· ø20, ø25



Code Bore Size (mm)	SSD2-WL						
	F2, F3, F2Y, F3Y			F2S, F3S			
	RD	HD1	HD2	FA	RD	HD1	HD2
ø20	12	14	7.5	31.6	11	13	6.5
ø25	14	15	8.5	33.2	13	14	7.5

*1: For switch mountability, refer to the model No. indication method for each variation.

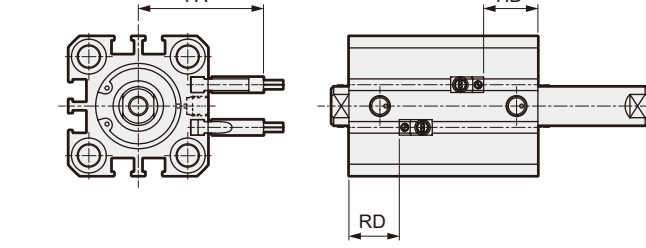
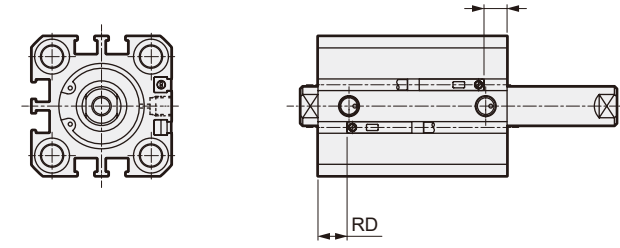
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

●SSD2-DL, SSD2-DML

F2, F3, F2Y, F3Y

F2S, F3S

· ø20, ø25



Code	SSD2-DL				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	12	14	31.6	11	13
ø25	14	15	33.2	13	14

*1: For switch mountability, refer to the model No. indication method for each variation.

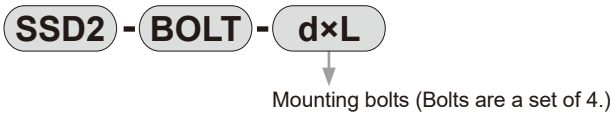
*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Code	SSD2-DML				
	F2, F3, F2Y, F3Y		F2S, F3S		
	RD	HD	FA	RD	HD
ø20	12	19	31.6	11	18
ø25	13	20	33.2	12	19

*1: For switch mountability, refer to the model No. indication method for each variation.

*2: RD/HD dimensions for 5 strokes differ from these dimensions due to individual settings.

Mounting Bolt Model No. Notation Method



How to Read the List



SSD2, SSD2-K (ø12 to ø100)

Bore Size	Stroke	ℓ	d×L			
			SSD2	SSD2-L	SSD2-K	SSD2-KL
ø12 ø16	5	6.5	M3×25	M3×30	M3×30	M3×35
	10		×30	×35	×35	×40
	15		×35	×40	×40	×45
	20		×40	×45	×45	×50
	25		×45	×50	×50	×55
	30		×50	×55	×55	×60
ø20	5	6	M5×25	M5×35	M5×30	M5×40
	10		×30	×40	×35	×45
	15		×35	×45	×40	×50
	20		×40	×50	×45	×55
	25		×45	×55	×50	×60
	30		×50	×60	×55	×65
	35		×55	×65	×60	×70
	40		×60	×70	×65	×75
	45		×65	×75	×70	×80
ø25	5	8	M5×30	M5×40	M5×35	M5×45
	10		×35	×45	×40	×50
	15		×40	×50	×45	×55
	20		×45	×55	×50	×60
	25		×50	×60	×55	×65
	30		×55	×65	×60	×70
	35		×60	×70	×65	×75
	40		×65	×75	×70	×80
	45		×70	×80	×75	×85
ø32	5	7.5 12.5	M5×30	M5×40	M5×45	M5×55
	10		×35	×45	×50	×60
	15		×40	×50	×55	×65
	20		×45	×55	×60	×70
	25		×50	×60	×65	×75
	30		×55	×65	×70	×80
	35		×60	×70	×75	×85
	40		×65	×75	×80	×90
	45		×70	×80	×85	×95
ø40	5	6	M5×35	M5×45	M5×45	M5×55
	10		×40	×50	×50	×60
	15		×45	×55	×55	×65
	20		×50	×60	×60	×70
	25		×55	×65	×65	×75
	30		×60	×70	×70	×80
	35		×65	×75	×75	×85
	40		×70	×80	×80	×90
	45		×75	×85	×85	×95
ø40	50	×80	×90	×90	×100	
	75	×115	×115	×125	×125	
	100	×135	×135	×150	×150	

● SSD2-Q(L)

Bore Size	Stroke	ℓ	d×L	
			SSD-2-Q(L)-H	SSD-2-Q(L)R
ø20	10	14.5 (11)	M5×80	M5×70
	15		×85	×75
	20		×90	×80
	25	14.5	×95	×85
	50		×125	×125
	75		×150	×150
	100		×175	×175
ø25	10	11.5 13.5	M5×80	M5×75
	15		×85	×80
	20		×90	×85
	25	11.5	×95	×90
	50		×125	×125
	75		×150	×150
	100		×175	×175
ø32	10	15 12.5	M5×85	M5×75
	15		×90	×80
	20		×95	×85
	25		×100	×90
	50		×125	×115
	75		×150	×140
	100		×175	×165
ø40	10	10.5 (11)	M5×90	M5×80
	15		×95	×85
	20		×100	×90
	25		×105	×95
	50		×130	×120
	75		×155	×145
	100		×180	×170
ø50	10	11	M6×90	M6×80
	15		×95	×85
	20		×100	×90
	25		×105	×95
	50		×130	×120
	75		×155	×145
	100		×180	×170
ø63	10	17 18	M8×95	M8×90
	15		×100	×95
	20		×105	×100
	25		×110	×105
	50		×135	×130
	75		×160	×155
	100		×185	×180
ø80	25	15	M10×140	M10×130
	50	12.5	×165	×155
	75	15	×195	×195
	100		×220	×220
ø100	25	15.5	M10×150	M10×140
	50	13	×175	×165
	75	15.5	×205	×205
	100		×230	×230

Note: Values in () are for SSD2-Q(L)-R.

Mounting Bolt

● SSD2-D

Bore Size	Stroke	ℓ	d×L	
			SSD2-D	SSD2-DL
ø12 ø16	5	6.5	M3×30	M3×35
	10		×35	×40
	15		×40	×45
	20		×45	×50
	25		×50	×55
	30		×55	×60
ø20	5	9.5	M5×35	M5×45
	10		×40	×50
	15		×45	×55
	20		×50	×60
	25		×55	×65
	30		×60	×70
	35		×65	×75
	40		×70	×80
ø25	45	11.5	×75	×85
	50		×80	×90
	5		M5×40	M5×50
	10		×45	×55
	15		×50	×60
	20		×55	×65
	25		×60	×70
	30		×65	×75
ø32	35	10	×70	×80
	40		×75	×85
	45		×80	×90
	50		×85	×95
	5		M5×40	M5×50
	10		×45	×55
	15		×50	×60
	20		×55	×65
ø40	25	10.5	×60	×70
	30		×65	×75
	35		×70	×80
	40		×75	×85
	45		×80	×90
	50		×85	×95
	75		×120	×120
	100		×145	×145
ø50	5	11	M5×50	M5×60
	10		×55	×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
ø63	45	11	×90	×100
	50		×95	×105
	75		×130	×130
	100		×155	×155
ø80	10	11	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100
ø100	50	11	×95	×105
	75		×130	×130
	100		×155	×155
ø125 ø140	5	10.5	M5×50	M5×60
	10		×55	×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
ø160	45	24.2	×90	×100
	50		×95	×105
	75		×130	×130
	100		×155	×155
ø180	10	36	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100
ø200	50	39	×95	×105
	75		×130	×130
	100		×155	×155
ø250	10	39	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100

Bore Size	Stroke	ℓ	d×L	
			SSD2-D	SSD2-DL
ø63	10	12	M8×50	M8×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	75		×125	×125
ø80	100		×150	×150
	10	16	M10×65	M10×75
	15		×70	×80
	20		×75	×85
	25		×80	×90
	30		×85	×95
	35		×90	×100
	40		×95	×105
	45		×100	×110
	50		×105	×115
ø100	75		×140	×140
	100		×165	×165
	10	16.5	M10×75	M10×85
	15		×80	×90
	20		×85	×95
	25		×90	×100
	30		×95	×105
	35		×100	×110
	40		×105	×115
	45		×110	×120
ø125 ø140	50		×115	×125
	75		×150	×150
	100		×175	×175
	10	20	M12×100	M12×100
	20		×110	×110
	30		×120	×120
	40		×130	×130
	50		×140	×140
	75		×165	×165
	100		×190	×190
ø160	10	24.2	M14×110	M14×110
	20		×120	×120
	30		×130	×130
	40		×140	×140
	50		×150	×150
	75		×175	×175
	100		×200	×200
ø180	10	36	M18×125	M18×125
	20		×135	×135
	30		×145	×145
	40		×155	×155
	50		×165	×165
	75		×190	×190
	100		×215	×215
ø200	10	39	M18×135	M18×135
	20		×145	×145
	30		×155	×155
	40		×165	×165
	50		×175	×175
	75		×200	×200
	100		×225	×225

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

● SSD2-G1, G4

Bore Size	Stroke	ℓ	d×L	
			SSD2-G1, G4	SSD2-G1L, G4L
ø32	5	7.5	M5×30	M5×40
	10		×35	×45
	15		×40	×50
	20		×45	×55
	25		×50	×60
	30		×55	×65
	35		×60	×70
	40		×65	×75
	45		×70	×80
	50		×75	×85
	75		×110	×120
	100		×135	×145
ø40	5	6	M5×35	M5×45
	10		×40	×50
	15		×45	×55
	20		×50	×60
	25		×55	×65
	30		×60	×70
	35		×65	×75
	40		×70	×80
	45		×75	×85
	50		×80	×90
	75		×115	×125
	100		×140	×150
ø50	10	11	M6×45	M6×55
	15		×50	×60
	20		×55	×65
	25		×60	×70
	30		×65	×75
	35		×70	×80
	40		×75	×85
	45		×80	×90
	50		×85	×95
	75		×120	×130
	100		×145	×155
ø63	10	13	M8×50	M8×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	75		×125	×135
	100		×150	×160
ø80	10	17.5	M10×60	M10×70
	15		×65	×75
	20		×70	×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170
ø100	10	18	M10×70	M10×80
	15		×75	×85
	20		×80	×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
	40		×100	×110
	45		×105	×115
	50		×110	×120
	75		×145	×155
	100		×170	×180

● SSD2-G5

Bore Size	Stroke	ℓ	d×L	
			SSD2-G5	SSD2-G5L
ø32	5	7.5	M5×40	M5×50
	10		×45	×55
	15		×50	×60
	20		×55	×65
	25		×60	×70
	30		×65	×75
	35		×70	×80
	40		×75	×85
	45		×80	×90
	50		×85	×95
	75		×115	×130
	100		×140	×155
ø40	5	6	M5×45	M5×55
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	75		×125	×135
	100		×150	×160
ø50	10	11	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100
	50		×95	×105
	75		×130	×140
	100		×155	×165
ø63	10	13	M8×60	M8×70
	15		×65	×75
	20		×70	×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170
ø80	10	17.5	M10×70	M10×80
	15		×75	×85
	20		×80	×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
	40		×100	×110
	45		×105	×115
	50		×110	×120
	75		×145	×155
	100		×170	×180
ø100	10	18	M10×80	M10×90
	15		×85	×95
	20		×90	×100
	25		×95	×105
	30		×100	×110
	35		×105	×115
	40		×110	×120
	45		×115	×125
	50		×120	×130
	75		×155	×165
	100		×180	×190

● SSD2-G, G2, G3

Bore Size	Stroke	ℓ	d×L	
			SSD2-G, G2, G3	SSD2-GL, G2L, G3L
ø20	5	6	M5×25	M5×35
	10		×35	×45
	15		×40	×50
	20		×45	×55
	25		×50	×60
	30		×55	×65
	35		×60	×70
	40		×65	×75
	45		×70	×80
	50		×75	×85
ø25	5	8	M5×30	M5×40
	10		×35	×45
	15		×40	×50
	20		×45	×55
	25		×50	×60
	30		×55	×65
	35		×60	×70
	40		×65	×75
	45		×70	×80
	50		×75	×85
ø32	5	7.5	M5×30	M5×40
	10		×35	×45
	15		×40	×50
	20		×45	×55
	25		×50	×60
	30		×55	×65
	35		×60	×70
	40		×65	×75
	45		×70	×80
	50		×75	×85
ø40	5	6	M5×35	M5×45
	10		×40	×50
	15		×45	×55
	20		×50	×60
	25		×55	×65
	30		×60	×70
	35		×65	×75
	40		×70	×80
	45		×75	×85
	50		×80	×90
ø50	10	11	M6×45	M6×55
	15		×50	×60
	20		×55	×65
	25		×60	×70
	30		×65	×75
	35		×70	×80
	40		×75	×85
	45		×80	×90
	50		×85	×95
	75		×120	×130
	100		×145	×155
ø63	10	13	M8×50	M8×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	75		×125	×135
	100		×150	×160
ø80	10	17.5	M10×60	M10×70
	15		×65	×75
	20		×70	×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170

Mounting Bolt

ø80	30	17.5	×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
ø100	100	18	×160	×170
	10		M10×70	M10×80
	15		×75	×85
	20		×80	×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
	40		×100	×110
	45		×105	×115
	50		×110	×120
	75		×145	×155
	100		×170	×180

● SSD2-T1L

Bore Size	Stroke	ℓ	d×L
			SSD2-T1L
ø32	5	7.5	M5×40
	10		×45
	15		×50
	20		×55
	25		×60
	30		×65
	35		×70
	40		×75
	45		×80
	50		×85
	75		×120
	100		×145
ø40	5	6	M5×45
	10		×50
	15		×55
	20		×60
	25		×65
	30		×70
	35		×75
	40		×80
	45		×85
	50		×90
	75		×125
	100		×150
ø50	10	11	M6×55
	15		×60
	20		×65
	25		×70
	30		×75
	35		×80
	40		×85
	45		×90
	50		×95
	75		×130
	100		×155
	ø63		10
15		×65	
20		×70	
25		×75	
30		×80	
35		×85	
40		×90	
45		×95	
50		×100	
75		×135	
100		×160	

SSD2-K-□C

Bore Size	Stroke	ℓ	d×L	
			SSD2-K-□C	SSD2-KL-□C
ø20	5	6	M5×30	M5×40
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×150	×160
ø25	5	8	M5×35	M5×45
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×150	×160
ø32	5	7.5	M5×45	M5×55
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×125	×135
ø40	5	6	M5×45	M5×55
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×125	×135
ø50	10	11	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100
	50		×95	×105
	75		×130	×140
	100		×155	×165
ø63	10	13	M8×60	M8×70
	15		×65	×75
	20		×70	×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170
ø80	10	17.5	M10×70	M10×80
	15		×75	×85
	20		×80	×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
	40		×100	×110
	45		×105	×115
	50		×110	×120
	75		×145	×155
	100		×170	×180
ø100	10	18	M10×80	M10×90
	15		×85	×95
	20		×90	×100
	25		×95	×105
	30		×100	×110
	35		×105	×115
	40		×110	×120
	45		×115	×125
	50		×120	×130
	75		×155	×165
	100		×180	×190

SSD2-KU

Bore Size	Stroke	ℓ	d×L	
			SSD2-KU	SSD2-KUL
ø20	5	6	M5×30	M5×40
	10		×35	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×150	×160
ø25	5	8	M5×35	M5×45
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×150	×160
ø32	5	7.5	M5×45	M5×55
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×125	×135
ø40	5	6	M5×45	M5×55
	10		×50	×60
	15		×55	×65
	20		×60	×70
	25		×65	×75
	30		×70	×80
	35		×75	×85
	40		×80	×90
	45		×85	×95
	50		×90	×100
	100		×125	×135
ø50	10	11	M6×55	M6×65
	15		×60	×70
	20		×65	×75
	25		×70	×80
	30		×75	×85
	35		×80	×90
	40		×85	×95
	45		×90	×100
	50		×95	×105
	75		×130	×140
	100		×155	×165
ø63	10	13	M8×60	M8×70
	15		×65	×75
	20		×70	×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170
ø80	10	17.5	M10×70	M10×80
	15		×75	×85
	20		×80	×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
	40		×100	×110
	45		×105	×115
	50		×110	×120
	75		×145	×155
	100		×170	×180
ø100	10	18	M10×80	M10×90
	15		×85	×95
	20		×90	×100
	25		×95	×105
	30		×100	×110
	35		×105	×115
	40		×110	×120
	45		×115	×125
	50		×120	×130
	75		×155	×165
	100		×180	×190

SSD2-L4, KL4, G1L4, KG1L4

Bore Size	Stroke	ℓ	d×L	
			SSD2-L4, G1L4	SSD2-KL4, KG1L4
ø40	20	6	M5×70	M5×80
	25		×75	×85
	30		×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×125	×135
	100		×150	×160
	20		M6×75	M6×85
	25		×80	×90
ø50	30	11	×85	×95
	35		×90	×100
	40		×95	×105
	45		×100	×110
	50		×105	×115
	75		×130	×140
	100		×155	×165
	20		M8×80	M8×90
	25		×85	×95
	30		×90	×100
	35		×95	×105
ø63	40	13	×100	×110
	45		×105	×115
	50		×110	×120
	75		×135	×145
	100		×160	×170
	20		M10×90	M10×100
	25		×95	×105
	30		×100	×110
	35		×105	×115
	40		×110	×120
	45		×115	×125
ø80	50	17.5	×120	×130
	75		×145	×155
	100		×170	×180
	20		M10×100	M10×110
	25		×105	×115
	30		×110	×120
	35		×115	×125
	40		×120	×130
	45		×125	×135
	50		×130	×140
	75		×155	×165
ø100	100	18	×180	×190

Space-Saving Type

SSD2

SSG

SSD

CAT

MDC2

SMG

MSD

FC□

Cylinder Switch

Ending

Knuckle pin/Clevis pin cotter pin (-XP5)

Content: The retaining rings for knuckle pins and clevis pins will be split pins.

Model No. Notation Method

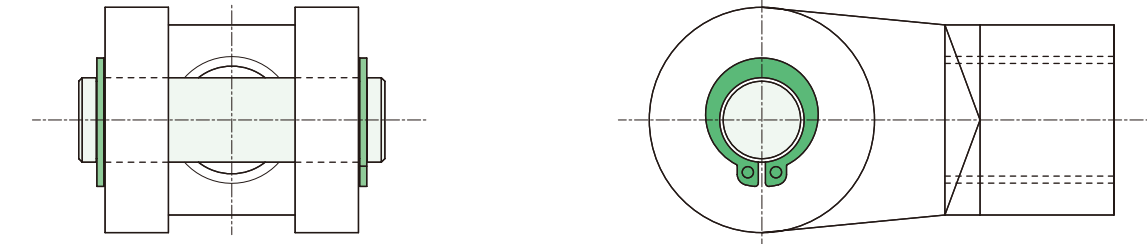
SSD2 - 40 - 100 - N - Y - XP5

Model No.
See SSD2 model No. indication method.

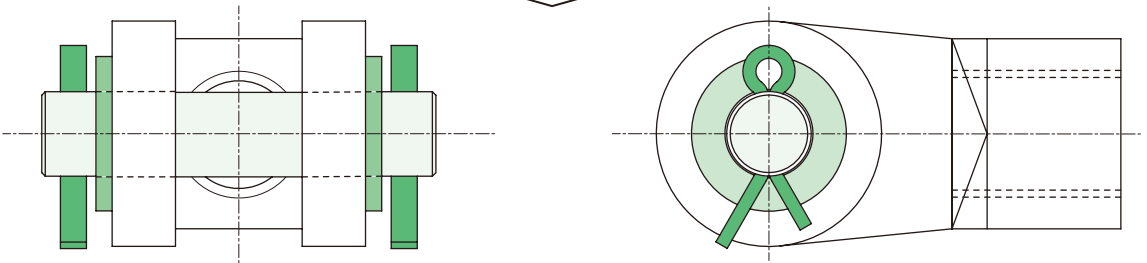
*Since the piston rod end shape is standard female thread, be sure to enter the "N" symbol.

Outline Dimension Drawing

Retaining ring



Cotter pin



Pin Diameter	Split Pin Size
12	ø4×20
14	ø4×20
20	ø4×25
25	ø4×30
28	ø5×35
32	ø5×40
40	ø5×50
50	ø5×60

Knuckle fixed by pin driving (-XP7)

Content: Also, drive a spring pin into the knuckle to prevent loosening.

Model No. Notation Method

SSD2 - 40 - 100 - N - Y - XP7

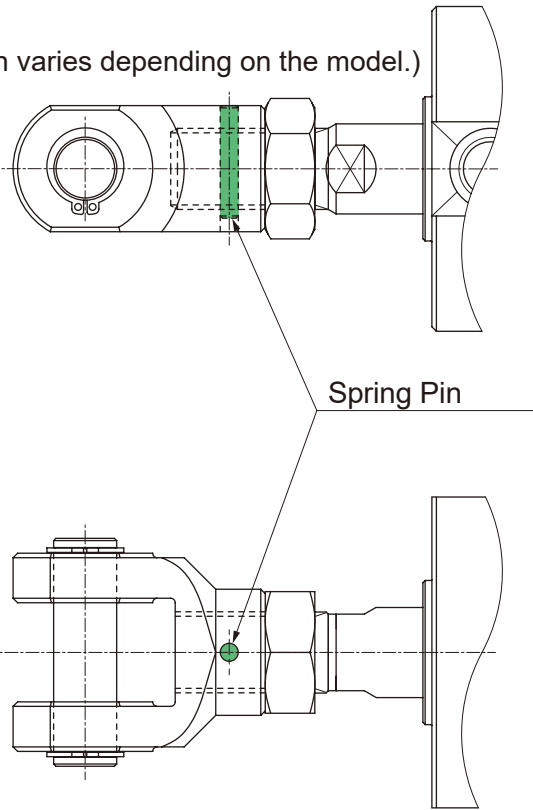
Model No.
See SSD2 model No. indication method.

*Since the piston rod end shape is standard female thread, be sure to enter the "N" symbol.

Outline Dimension Drawing

Same as with Knuckle specification.

(Spring pin driving direction varies depending on the model.)



Knuckle pin/Clevis pin cotter pin specification, Knuckle fixed by pin driving (-XP8)

Content: The retaining rings for knuckle pins and clevis pins will be split pins. Also, drive a spring pin into the knuckle to prevent loosening. (XP5 + XP7)

Model No. Notation Method

SSD2 - 40 - 100 - N - Y - XP8

Model No.

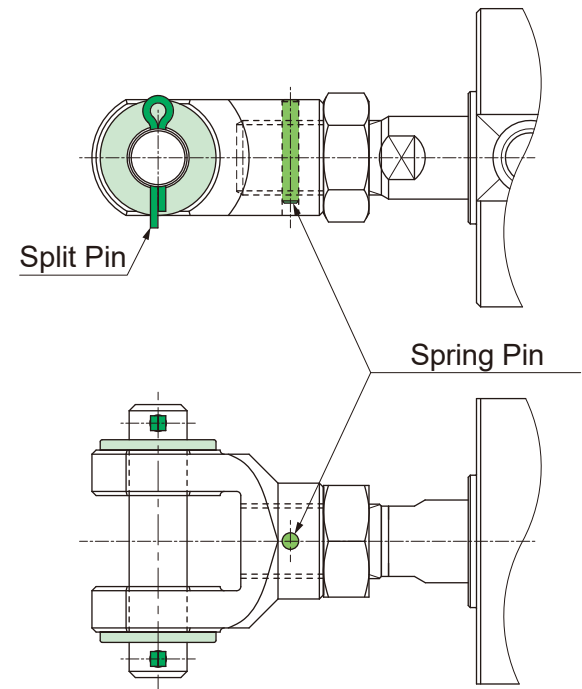
See SSD2 model No. indication method.

*Since the piston rod end shape is standard female thread, be sure to enter the "N" symbol.

Outline Dimension Drawing

Mounting dimensions are the same as with Knuckle specification.

Combination of XP5 (P. 318) and XP7 (P. 319).



Fluororubber packing type (-T2)

Content: Change the rod packing, piston packing and O-rings to FKM. (Cushion packing is not changed)

Model No. Notation Method

SSD2 - T2 - 40 - 100

Model No.

See SSD2 model No. indication method.

Outline Dimension Drawing

Same as standard type.

With 2 rod nuts (-A2)

Content: Shipped with 2 rod nuts, same as standard.

Model No. Notation Method

SSD2 - 40 - 100 - NA2

Model No.

See SSD2 model No. indication method.

*Since the piston rod end shape is standard female thread, be sure to enter the "N" symbol.

Outline Dimension Drawing

Same as standard type except that 2 rod nuts are included.



To Use This Product Safely

Be sure to read this before use. For general cylinder information, see Opening Section P. 41, and for cylinder switches, see P. 924.

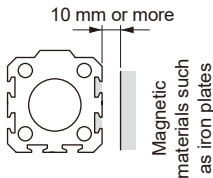
Individual Precautions: Compact Cylinder SSD2 Series

During Design / Selection

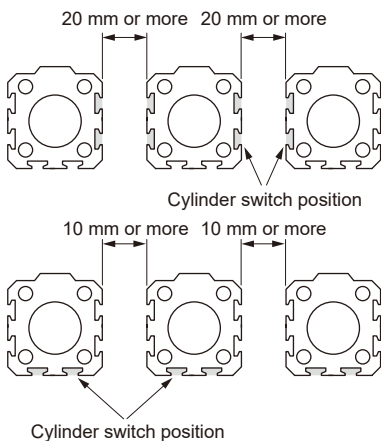
1. Common

Caution

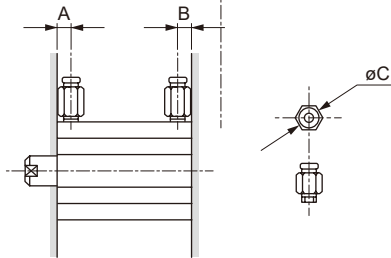
- If there is a magnetic material such as an iron plate near the cylinder switch, it may cause malfunction. Maintain a distance of 10 mm or more from the cylinder surface. (Common to all bore sizes)



- If cylinders are adjacent, it may cause cylinder switch malfunction. Maintain the following distance from the cylinder surface. (Common to all bore sizes)



- There are restrictions on usable piping fittings. Refer to the following and use accordingly.



Item Bore Size (mm)	Port Size	Port position dimension		Usable Fittings	Fitting outer diameter øC	Unusable Fittings
		A	B			
ø12	M5	5.5	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS4-M5 GWL4-M5 GWL6-M5	ø11 or less	GWS6-M5
ø16						
ø20		8	5.5			
ø25		11	6			
ø32	Rc1/8	8	8	SC3W-6-4, 6, 8 GWS4-6 GWS6-6 GWS8-6 GWL4-6 GWL6-6	ø15 or less	GWS10-6 GWL8-6 GWL10-6
ø40		12	8.5			
ø50	Rc1/4	10.5	10.5	SC3W-8-6, 8, 10 GWS4-8 GWS6-8 GWS10-8 GWL4 to 12-8	ø21 or less	GWS12-8
ø63		13	11			
ø80	Rc3/8	16	13	SC3W-10-6, 8, 10 GWS6-10 GWS8-10 GWS10-10 GWL6 to 12-10	ø21 or less	-
ø100		23	15			

2. Single Acting Type SSD2-X, SSD2-Y

Caution

- Do not leave single-acting cylinders pressurized. If left pressurized, the piston rod may not return by spring load when the pressure is released. If it is necessary to use the product while pressurized, use a double-acting type.

3. With Heat Resistant Cylinder Switch SSD2-T1L

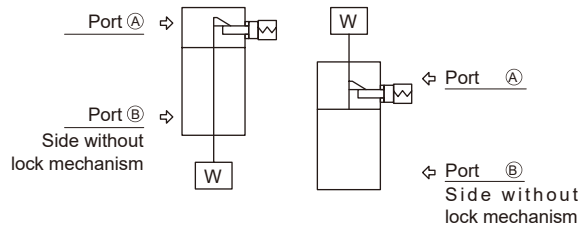
Warning

- Cylinder
In an environment with an ambient temperature of 150°C, external leakage will gradually occur after about 500,000 cycles. Please be careful.
- Heat Resistant Cylinder Switch
The lamp uses an LED. Continuous use at high temperatures will gradually reduce visibility. Even if the LED goes out, the switch output has a separate circuit configuration from the LED, so the switch output will operate normally.

4. Fall Prevention Type SSD2-Q

Warning

- In a locked state, if pressure is supplied to a port (A) from a state where both ports are unpressurized, the lock may not release, or the lock may suddenly release and the piston rod may fly out, which is very dangerous. When releasing the lock mechanism, always supply pressure to the (B) port and release it from a state where no load is applied to the lock mechanism.



- When using a quick exhaust valve to increase the lowering speed, the cylinder body may start moving before the lock pin operates, and normal release may not be possible. Do not use a quick exhaust valve with a drop prevention type cylinder.

- Do not use 3-position valves.
Do not use in combination with 3-position valves (especially closed-center metal seal type). If pressure is sealed in the port on the side with the lock mechanism, the lock will not engage. Also, even if locked once, air leaking from the valve may enter the cylinder, and the lock may be released over time.

Caution

- The cylinder load factor should be 50% or less. If the load factor is high, the lock may not be released, or it may lead to damage to the lock part.
- If back pressure is applied to the lock mechanism side, the lock may disengage. Use a single valve or an individual exhaust type manifold.
- Do not use multiple cylinders synchronized. Do not use a method where two or more fall prevention type cylinders are synchronized to move one workpiece. The lock of one of the cylinders may become unremovable.

- Supply pressure equal to or greater than the minimum operating pressure to the port on the side with the lock mechanism.

- If the piping on the side with the lock mechanism is thin and long, or if the speed controller is far from the cylinder port, the exhaust speed may be slow, and it may take time for the lock to engage. Please be careful. Also, clogging of the silencer included to the valve's EXH. port will lead to similar results.

- When using a quick exhaust valve to increase the lowering speed, the cylinder body may start moving before the lock pin operates, and normal release may not be possible. Do not use a quick exhaust valve with a drop prevention type cylinder.

- Do not use multiple cylinders synchronized. Do not use a method where two or more fall prevention type cylinders are synchronized to move one workpiece. The lock of one of the cylinders may become unremovable.

- Use the speed controller with meter-out control. Lock may not be released with meter-in control.

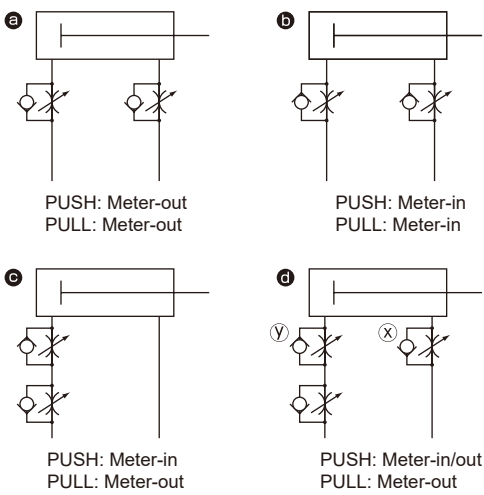
- On the side with the lock, always use at the cylinder's stroke end. If the cylinder piston has not reached the stroke end, the lock may not engage, or it may not be possible to release the lock.

5. Creep Speed Type SSD2-F, SSD2-KF

Caution

- Use without lubrication. Lubrication may change characteristics.
- Install the speed controller near the cylinder. If installed far from the cylinder, the speed will become unstable. Use SC-M3/M5, SC3W, SCD-M3/M5, SC3U series speed controllers.
- Generally, the higher the air pressure and the lower the load factor, the more stable the speed. Use with a load factor of 50% or less.

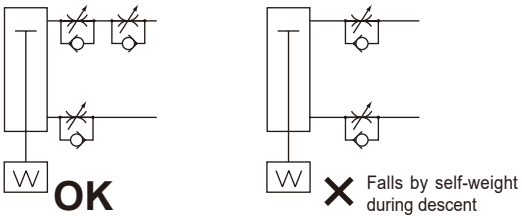
Speed control is stable with a meter-out circuit. When driving a single-rod cylinder at creep speed in the PUSH direction, if the load resistance is small, a flying-out phenomenon may occur at the start of operation. As countermeasures, use circuits ②, ③, or ④. Circuit ④ is the most stable.



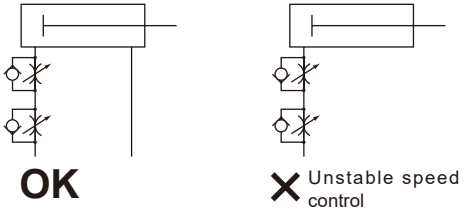
④ Method for adjusting PUSH operation speed of circuit:
1. Speed setting with x speed controller
2. Throttle with y speed controller until projection stops.
3. Reconfirmation of speed

(*1) Comparing ②, ③, and ④, circuit d provides the most stable operation.

(*2) For vertical mounting, it will fall by its own weight in a meter-in circuit, so combine it with a meter-out circuit.



(*3) For series connection of speed controllers, use the circuit shown in the figure below.



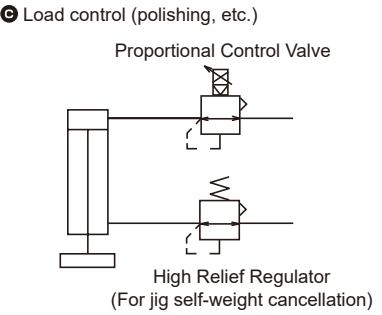
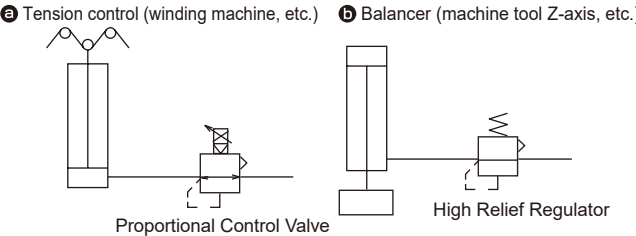
(Guideline for lurching occurrence)
Lurching occurs in the following cases:
• Thrust > Resistance
*Resistance: Thrust due to residual pressure on exhaust side (For creep speed type, intake pressure = residual pressure)
For horizontal use: Frictional force due to load
For vertical use: Dead weight of the load

Do not apply lateral load to the cylinder. Operation becomes unstable when lateral load is applied.

Avoid use in locations with vibration. Operation becomes unstable due to the influence of vibration.

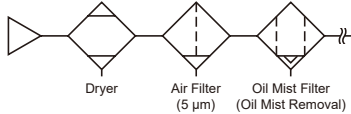
6. Low Friction Type SSD2-KU

Warning
Durability varies depending on operating conditions and model characteristics. Also, this cylinder has internal leakage. For leakage amount, check the specifications (P. 126).
Caution
Install a speed controller on the cylinder. Install a speed controller on the cylinder. Use within the operating piston speed range of each cylinder. When used with a balancer, etc., it may be better not to install a speed controller to improve supply/exhaust efficiency. Depending on the application, circuits ② to ⑤ below are recommended.



*To improve supply/exhaust characteristics, maximize piping volume as much as possible.

- Do not lubricate. It will cause characteristics to fluctuate.
- Do not apply lateral load to the cylinder. Operation becomes unstable when lateral load is applied.
- Poor quality air adversely affects characteristics and durability. Use clean air with the piping below.



Install the speed controller near the cylinder. If installed far from the cylinder, the speed will become unstable.

Generally, the higher the air pressure and the lower the load factor, the more stable the speed. Use with a load factor of 50% or less.

Super compact cylinder high load type has a built-in rubber cushion. The high load type allowable energy value graph below shows the kinetic energy that can be absorbed by the cushion. If the kinetic energy exceeds this value, consider a separate shock absorber.

Bore Size mm	Allowable Absorption Energy (J)	
	SSD2-K	SSD2-KU
ø12	0.04	-
ø16	0.09	-
ø20	0.16	
ø25	0.16	
ø32	0.40	
ø40	0.63	
ø50	0.98	
ø63	1.56	
ø80	2.51	
ø100	3.92	

$$\text{Kinetic energy (J)} = \frac{1}{2} \times \text{Weight (kg)} \times [\text{Speed (m/s)}]^2$$

(Note) Regarding the calculation method of kinetic energy

The average speed of the cylinder is calculated by $V_a = \frac{L}{t}$.

V_a : Average speed (m/s)
 L : Cylinder stroke (m)
 t : Operating Time (s)

On the other hand, the cylinder speed just before the stroke end is calculated by the following simple formula.

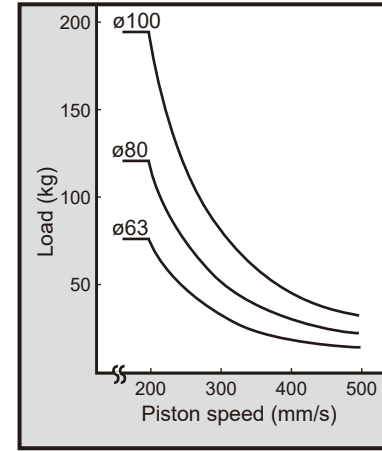
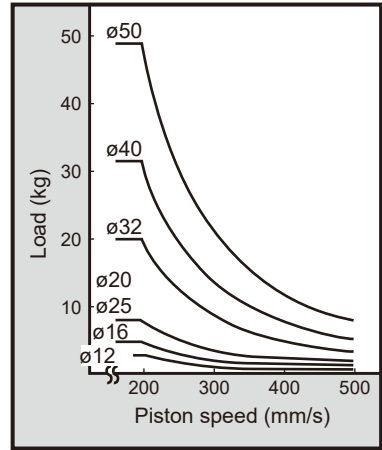
$$V_m = \frac{L}{t} \times (1 + 1.5 \times \frac{\omega}{100})$$

V_m : Speed immediately prior to stroke end (m/s)
 ω : Cylinder load factor (%)

For calculating kinetic energy, use this V_m value as the speed.

The following is a graph showing the relationship between piston speed and load for the allowable energy value of the Compact Cylinder High Load Type.

High Load Type Allowable Energy Value Graph



Note: The range to the lower left of the curve is usable. The upper right range requires an external cushion.

Avoid use in environments with steam, high humidity, or alkaline atmospheres.

7. Non-rotating Type SSD2-M, DM

Caution
Do not use in a way that applies rotational torque to the piston rod. The non-rotating bushing will deform and the service life will be significantly reduced.

Always use with the load on the piston rod applied in the axial direction of the piston rod.

8. Cutting Oil Resistant Type SSD2-G2/G3, SSD2-KG2/KG3

Caution
Do not apply eccentric load to the piston rod. This may reduce the life of scrapers and bearings.

If there is no splashing of cutting oil or water on the piston rod, use the G or G1 series. Please note that if there is no scattering of cutting oil or water with G2 and G3 series, the lubrication of the piston rod will be cut off and the service life will be reduced.

Install a speed controller on the cylinder. Install a speed controller on the cylinder. Use within the operating piston speed range of each cylinder.

9. Spatter Adhesion Prevention Type SSD2-G4 / SSD2-KG4 / SSD2-DG4

Warning
This cylinder series has improved durability in spatter scattering atmospheres compared to general type cylinders. However, please note that durability may be inferior to general type cylinders when used in other atmospheres.

During Use

1. Common

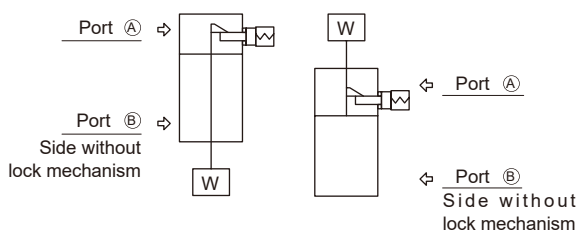
Warning

- Install and remove rod metal using appropriate pliers (C-type retaining ring installation tool).
- Even when using appropriate pliers (C-type retaining ring installation tool), the retaining ring may come off the tip of the pliers (C-type retaining ring installation tool) and fly off, potentially causing injury to personnel and damage to surrounding equipment. Be careful. Also, when installing, confirm that it is securely in the retaining ring groove before supplying air.

2. Fall Prevention Type SSD2-Q

Warning

- During equipment maintenance, for safety, please take separate measures to prevent the load from falling due to its own weight.
- In a locked state, if pressure is supplied to a port ① from a state where both ports are unpressurized, the lock may not release, or the lock may suddenly release and the piston rod may fly out, which is very dangerous. When releasing the lock mechanism, always supply pressure to the ② port and release it from a state where no load is applied to the lock mechanism.

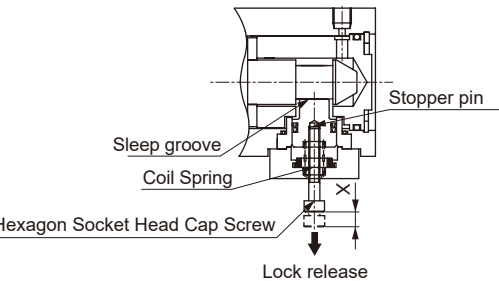


- When stopping with external shock absorbing equipment (shock absorber, etc.), adjust so that there is no bounce. If there is bounce, the sleeve and stopper piston will make impact contact, leading to damage of the lock mechanism. Also, please perform periodic inspections once or twice a year to check for damage to the holding part due to this phenomenon.

Caution

- Since the lock mechanism works at the stroke end, if an external stopper is applied in the middle of the stroke, the lock mechanism will not work and there is a risk of falling. When setting the load, always confirm that the lock mechanism works.

- After manual operation of the lock mechanism, return the lock mechanism to its original state. Also, do not perform manual operations other than during adjustment, as it is dangerous.
- Release the lock when mounting or adjusting the cylinder. If installation work, etc. is performed while the lock is engaged, the lock part may be damaged.
- Manual operation non-locking release method
Screw the hex socket bolt into the stopper piston, and if you pull the bolt with a force of 20 N or more by X mm, the stopper piston will move and the lock will be released. (When mounted horizontally with no load or when the opposite port is pressurized) Also, when you release your hand, the built-in spring returns the stopper piston to its original position, and if it enters the piston rod groove, the piston will be locked.



Hex Socket Bolt Dimensions and Movement Amount Unit: mm

Bore Size	Dimension	Movement amount X
ø20	M3×20	3
ø25	M3×20	3
ø32	M3×20	3
ø40	M3×20	3
ø50	M4×30	3
ø63	M4×30	3
ø80	M4×30	3.5
ø100	M4×30	3.5

3. Creep Speed Type SSD2-F · SSD2-KF

Caution

- Adjust alignment, etc., so that no lateral load is applied to the cylinder. Also, adjust and install so that there is no twisting with respect to the sliding guide.
 - Fluctuations in load or resistance will make operation unstable.
 - Guides with a large difference between static and dynamic friction will have unstable operation.

4. Low Friction Type SSD2-KU

Caution

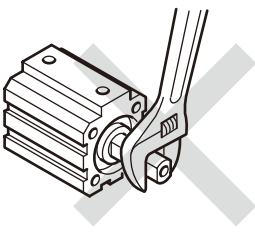
- Adjust alignment, etc., so that no lateral load is applied to the cylinder. Also, adjust and install so that there is no twisting with respect to the sliding guide.
 - Fluctuations in load or resistance will make operation unstable.
 - For long strokes, the speed becomes unstable due to the self-weight of the piston rod. Please install and use a guide.
 - Guides with a large difference between static and dynamic friction will have unstable operation.
- Do not disassemble this product. If disassembled, performance may no longer be maintained. Furthermore, only consumable parts are not provided for this product.
- Since the U series uses fluorine-based grease, smoking cigarettes, etc. with it adhered to your hands may generate harmful gases and cause harm to the human body. Please be careful.

5. Tandem Type SSD2-W

- Remove the nut included to the tip of the main body's through-bolt (rod side) before mounting. This nut is for fixing Cylinder 1 and Cylinder 2. It is not for mounting.

6. Non-rotating Type SSD2-M, DM

- When fixing a workpiece to the end of the piston rod, retract the piston rod to the stroke end, place a wrench on the part of the rod parallel section that extends outward, and tighten, taking care that the tightening torque is not applied to the cylinder body.



7. Double Rod, Non-rotating Type SSD2-DM

- Please do not apply torque in opposite directions to the piston rods on both sides of the cylinder. If torque is applied, the fastening parts of internal components may loosen, potentially leading to unforeseen situations. Also, when attaching or detaching a load, fix the flats on the piston rod of the side where the load is included, and ensure that no torque is applied to the non-rotating guide part.

For precautions regarding mounting, installation, adjustment, use, and maintenance, please see "Precautions for Use" in this catalog and the CKD Components Product website (<https://www.ckd.co.jp/kiki/en/>) -> "Model No." -> [Instruction Manual](#).