

SSD2

Compact cylinder

Space saving structure

Overview

Space saving series with a wide range of stroke lengths and switch mounting surface options compared with conventional models. A widely varied series of space-saving cylinders, suitable for everything from general environments to specific applications.

Features

Cylinder switch grooves provided on four surfaces

A cylinder switch can be mounted on the same surface as the piping port, which improves visibility and maintenance efficiency.

($\phi 20$ to $\phi 100$)

End thread options

Rod ends can be selected from two options: female thread (standard) and male thread (option).

All bore sizes,

T switch mountable

The T switch used in many CKD products can be mounted on cylinders of all bore sizes.

The use of a unified switch helps to reduce stock quantity.

$\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63$
 $\phi 80/\phi 100/\phi 125/\phi 140/\phi 160/\phi 180/\phi 200$



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SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVPIN2

SSD2

SSG

SSD

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FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

Wide application from general environment to specific use SSD2 Series

Substantial series for specific use

Coolant resistant G2/G3 Series

NBR(G2) and FKM(G3) packings are available for various cutting oils.



High temperature environments up to 150°C

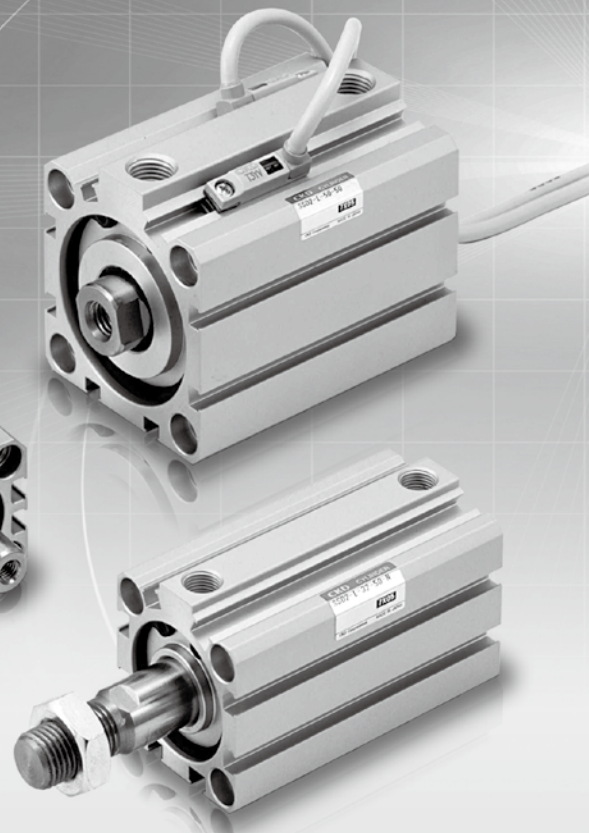
T1/T1L (with switch) Series

FKM packing and fluorine grease are suitable for use under high temperature environments.



Rechargeable battery manufacturing process P4 Series

Available for restriction of copper related materials, dust countermeasures and longer lifespan with ultra dry air during the rechargeable battery manufacturing process.



RoHS CKD

RoHS-Compatible

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

Welding environments G1/G4 Series

Available from spot welding (G1) to arc welding (G4).

Dust environments G/G5 Series

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

Clean room specification P71/P7 Series

Vacuuming (P71) or exhaust treatment (P7) is available for applications with use from the center of the workpiece.

P5 Series with material restriction (copper, silicon, and halogen) is also available.

Other variations

Rubber-air cushioned c

Reduce the impact noise and force at stroke end.

Suitable for impact reduction in operation and noise reduction in facilities.

Noise reduction

Fine speed F

The special sliding structure greatly reduces adherence and stick-slip of packing, and makes it possible to operate at ultra low speed of 1 mm/s. It is ideal to prevent cylinders from popping out, to push fragile workpieces slowly and to control pushing pressure.

Slow
1mm/s

COMPACT CYLINDER **SSD2 Series**
CKD

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SCP*3
 CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS2
 CKV2
 CAV2/
 COVPIN2
 SSD2
 SSG
 SSD
 CAT
 MDC2
 MVC
 SMG
 MSD/
 MSDG
 FC*
 STK
 SRL3
 SRG3
 SRM3
 SRT3
 MRL2
 MRG2
 SM-25
 ShkAbs
 FJ
 FK
 Spd
 Contr
 Ending

Variation and option combination selection table

SSD2 (φ100 or less)

● : Standard ◎ : Option ○ : Available (custom order product) △ : Available depending on conditions (Consult with CKD) × : Not available

Category	Code	Variation												
		Double acting basic	High load	Single acting push	Single acting pull	Double acting double rod	Back to back	Two-stage	With position locking	Rotation-stop	Heat resistant 150°C	Fluoro rubber packing		
	Blank	None	K	X	Y	D	B	W	Q	M	T1	T2		
	Double acting basic	Blank									○	○		
	High load	K		×	×	△	○	△	△	○	×	○		
	Single acting push	X			×	△	○	×	×	△	×	△		
	Single acting pull	Y				△	○	×	×	△	×	△		
	Double acting double rod	D						×	×	△	○	○		
	Back to back	B							×	○	○	○		
	Two-stage	W								×	○	○		
	With position locking	Q									△	△		
	Rotation-stop	M									×	×		
	Heat resistant (150°C)	T1										×		
	Fluoro rubber packing	T2												
	Low speed	O												
	Low friction	KU												
	With rubber scraper	G												
	With metal scraper	G1												
	With coolant proof scraper (for general use)	G2												
	With coolant proof scraper (for chlorine fluid)	G3												
	Anti-spatter adherence	G4												
	With cylinder switch	L												
	With cylinder switch (for strong magnetic field proof)	L4												
	With cylinder switch (for heat resistance)	T1L												
	Fine speed	F												
	NPT(φ32 to φ100)	N												
	G(φ32 to φ100)	G												
	Piston rod material stainless steel (including C ring)	M												
	Piston rod end male thread	N												
	Clean-room specifications/copper and PTFE free (exhaust port)	P5												
	Clean-room specifications/copper and PTFE free (vacuum treatment)	P51												
	Copper and PTFE free	P6												
	Clean-room specifications (exhaust port)	P7												
	Clean-room specifications (vacuum treatment)	P71												
	Specify piston rod end form	N**												
	Specified rod nut quantity (male thread only)	A()												
	Cylinder switch	Listed separately	◎	◎	◎	◎	◎	◎	◎	◎	×	◎		
	Rod eye (male thread only)	I	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	Rod clevis (male thread only)	Y	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
	Mounting bracket LB with bolt	LB	◎	◎	◎	◎	△	△	◎	◎	◎	◎		
	Mounting bracket CB with bolt/pin	CB	◎	◎	◎	◎	×	×	△	◎	◎	◎		
	Mounting bracket FA with bolt	FA	◎	◎	◎	◎	△	△	◎	◎	◎	◎		
	Mounting bracket FB with bolt	FB	◎	◎	◎	◎	×	×	△	◎	◎	◎		
	Mounting bolt	Listed separately	◎	◎	◎	◎	×	×	◎	◎	◎	◎		

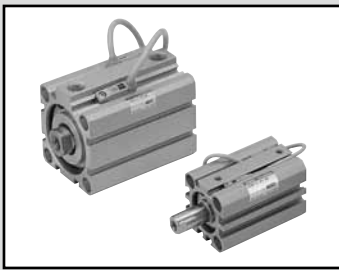
Caution

*1. Only φ12 to φ25 are P6 as standard. φ32 to φ63 are not available.

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

*3. Piston rod and C ring of female thread of "P5", "P51", "P7" and "P71" are stainless steel. M code is not required. For stainless steel male thread rod nut, combination with M is required.

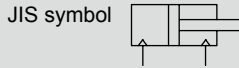
*4. P6 specifications even without code.



Compact cylinder double acting/single rod

SSD2 Series

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



Specifications

Descriptions	SSD2 SSD2-L (with switch)											
	Bore size	mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting											
Working fluid	Compressed air											
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure	MPa	0.1 (≈ 15 psi, 1 bar)						0.05 (≈ 7.3 psi, 0.5 bar)				
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature	$^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size		M5				Rc1/8 *1		Rc1/4		Rc3/8		
Stroke tolerance	mm	With rubber cushion					+2.0 0					
		Without cushion					+1.0 0					
Working piston speed	mm/s	50 to 500						50 to 300				
Cushion		With or without cushion can be selected										
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)										
Allowable absorbed energy	J	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92	
		0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

Stroke length

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

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

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

Min. stroke length with switch (2 switches)

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

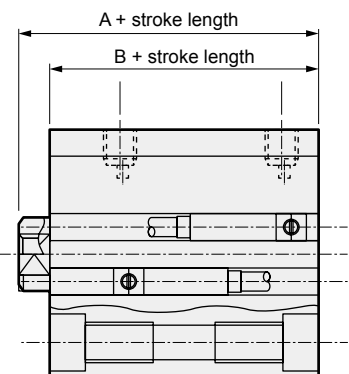
1 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2 Series

Descriptions	Standard products		Optional products	
	Standard stroke length body with spacer		Dedicated unit (-S)	
Model No.	Refer to How to order.		Add "-S" option code to the model No.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.		Dedicated units of the required stroke length are available.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12/16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Example of model No.	Model No.: SSD2-32-38 A +2 mm spacer is added to the SSD2-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63 mm.		Model No.: SSD2-32-41 Dedicated units for 41 mm stroke length are available. B + stroke length is 64 mm.	



Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire			Proximity 2-wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection			For programmable controller			
Output method	-	-			NPN output	PNP output	NPN output	NPN output	-			-				
Pwr. supp. V.	-	-			10 to 28 VDC				-			-				
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)			100mA or less		50mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)	Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA			1 mA or less				
Weight	g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272					

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

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

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

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

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

(Unit: g)

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

Theoretical thrust table

(Unit: N)

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

SSD2 Series

How to order

Without switch (without magnet for switch)

SSD2 - 12 - 5 - N - LB - I

With switch (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Cushion

E Stroke length

F Switch model No.

*1

*2

*3

*8

*9

G Switch quantity

H Option

*4

⚠ Precautions for model No. selection

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

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

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

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

*5 : The mounting bracket is attached at shipment.

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

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

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

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

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

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

[Example of model No.]

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

Model: Compact cylinder, standard

- B** Bore size : φ12 mm
- C** Port thread : Rc thread
- D** Cushion : No cushion
- E** Stroke length : 10mm
- F** Switch model No. : Reed switch T0H, lead wire length 1 m
- G** Switch quantity : 1 on rod side
- H** Option : Rod end male thread
- I** Mounting bracket : Axial foot
- J** Accessory : Rod eye

I Mounting bracket

*5

*6

J Accessory

*7

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

[Stroke length table]

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

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

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

How to order switch

SW - T0H

Switch model No.

(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	φ63	φ80	φ100				
Mounting bracket							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis bracket (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

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

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

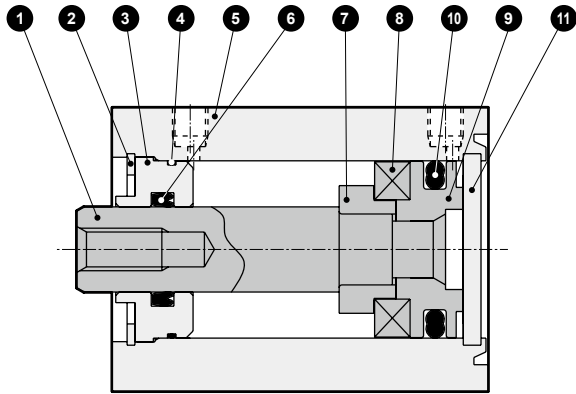
- Design compatible with rechargeable battery manufacturing process

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

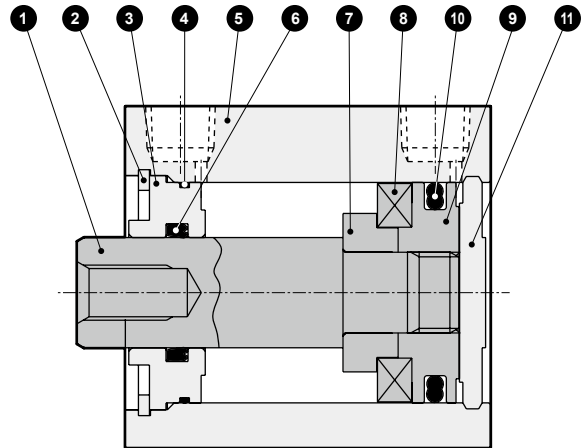
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

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

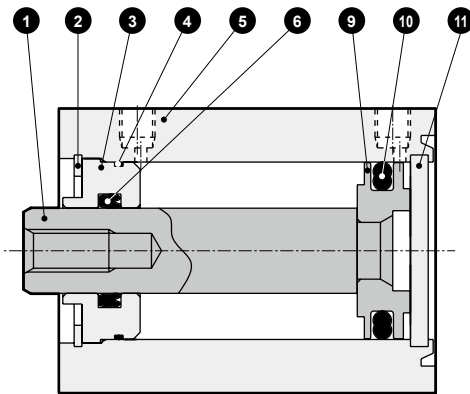
● SSD2-L-12 to 25 (double acting/with switch)



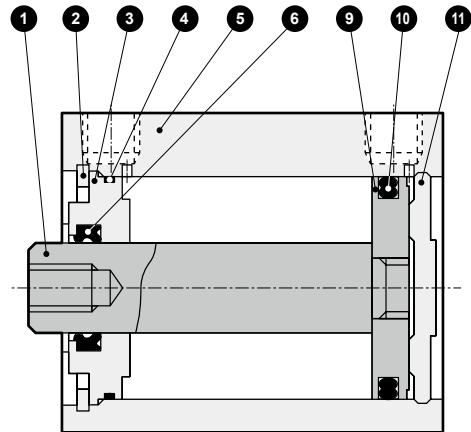
● SSD2-L-32 to 50 (double acting/with switch)



● SSD2-12 to 25 (double acting)



● SSD2-32 to 50 (double acting)



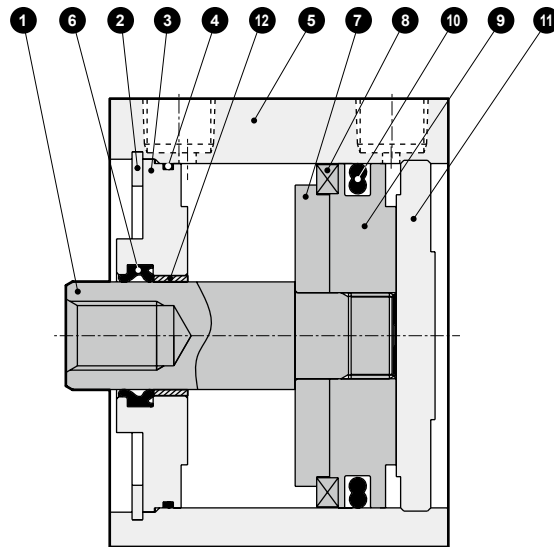
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	Aluminum alloy	φ12 to φ32: Chromate
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9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

Repair parts list

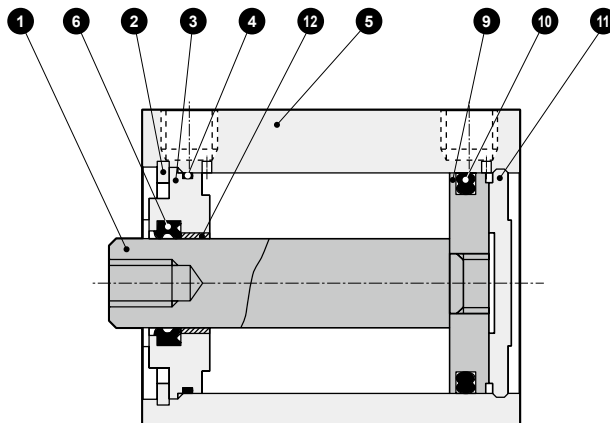
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-12K	4 6 10
φ16	SSD2-16K	
φ20	SSD2-20K	
φ25	SSD2-25K	
φ32	SSD2-32K	
φ40	SSD2-40K	
φ50	SSD2-50K	

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

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



● SSD2-63 to 100 (double acting)



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

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

Repair parts list

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

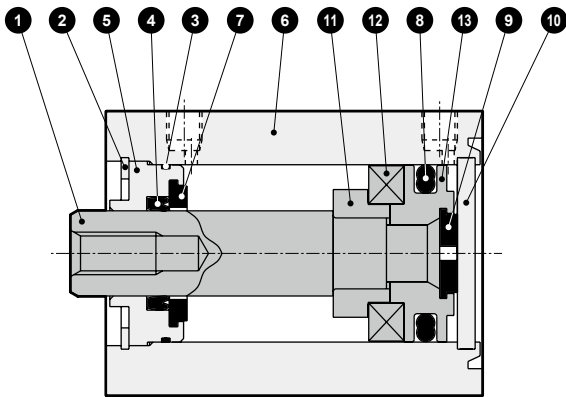
FK

Spd
Contr

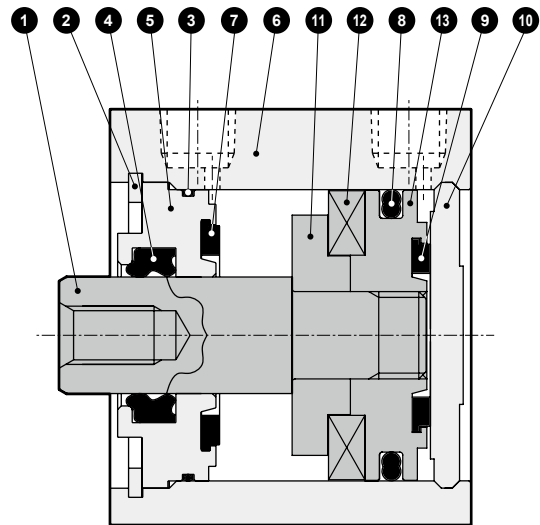
Ending

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

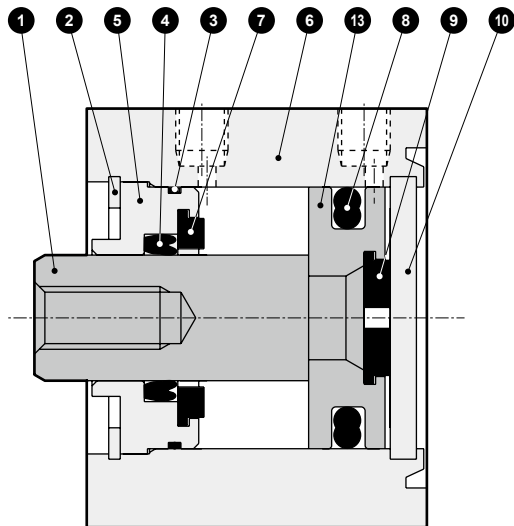
● SSD2-L-12D to 32D (double acting/with switch)



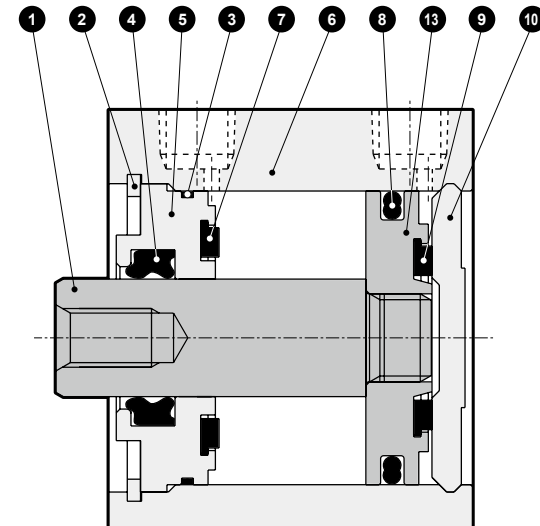
● SSD2-L-40D to 50D (double acting/with switch)



● SSD2-12D to 32D (double acting)



● SSD2-40D, 50D (double acting)



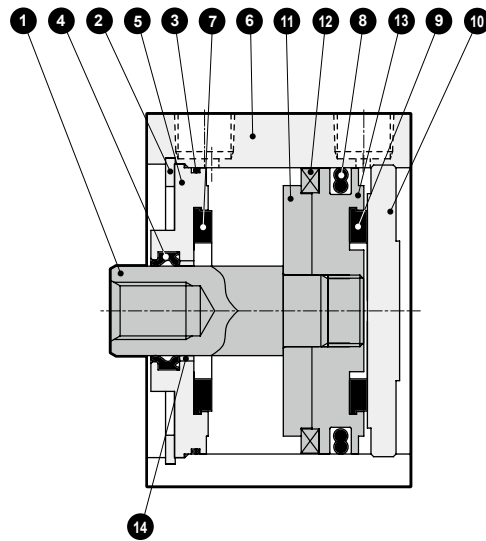
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	8	Piston packing	Nitrile rubber	
2	C type snap ring	Steel	Zinc phosphate	9	Cushion rubber (H)	Urethane rubber	
3	Rod metal gasket	Nitrile rubber		10	Cover	φ12 to φ25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
4	Rod packing	Nitrile rubber		11	Spacer	Aluminum alloy	φ12 to φ32: Chromate
5	Rod metal	Aluminum alloy	Alumite	12	Magnet	Plastic	
6	Body	Aluminum alloy	Hard alumite	13	Piston	Aluminum alloy	Chromate
7	Cushion rubber (R)	Urethane rubber					

Repair parts list

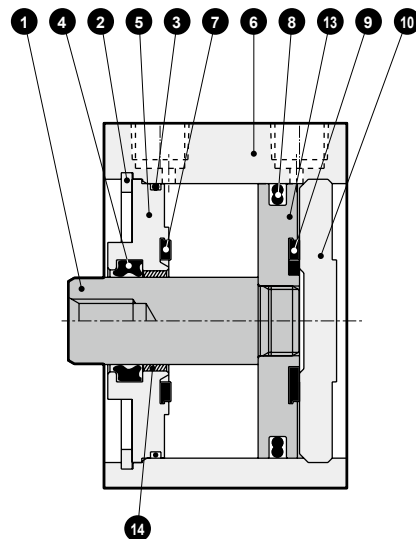
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-12DK	3 4 7 8 9
φ16	SSD2-16DK	
φ20	SSD2-20DK	
φ25	SSD2-25DK	
φ32	SSD2-32DK	
φ40	SSD2-40DK	
φ50	SSD2-50DK	

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

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



● SSD2-63D to 100D (double acting)



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

Repair parts list

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

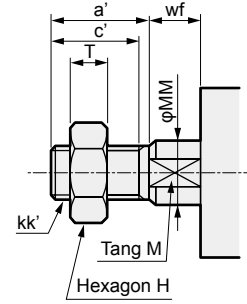
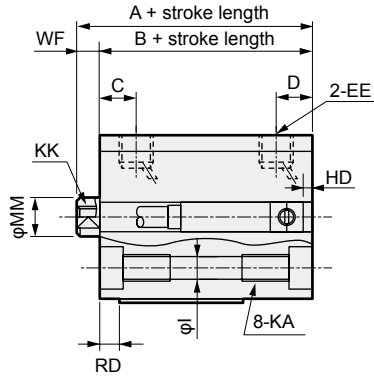
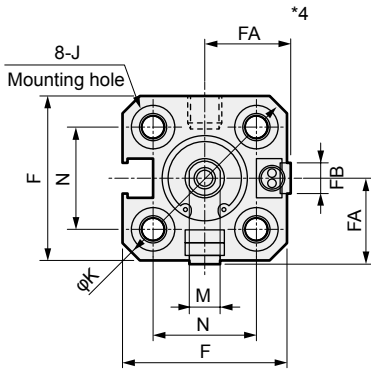
Ending

Dimensions

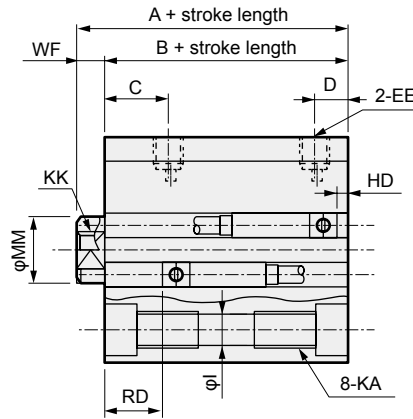
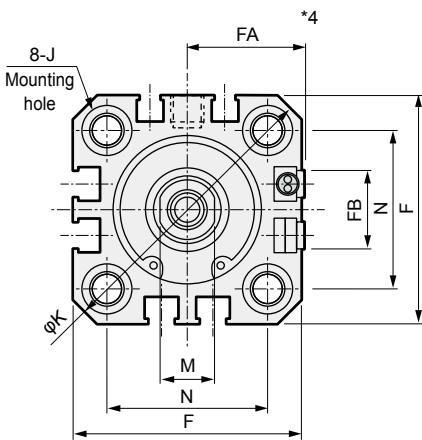


● SSD2-L-12 to 25 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)
 $\phi 12/\phi 16$

● Rod end male thread



$\phi 20/\phi 25$



Code		Common dimensions with switch															
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF
$\phi 12$	25.5	22	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
$\phi 16$	25.5	22	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
$\phi 20$	34	29.5	8	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
$\phi 25$	37.5	32.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed TOH/TOV, T5H/T5V *6				Proximity T2H/T2V, T3H/T3V *6		Proximity T2WH/T2WV, T3WH/T3WV *6		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			Proximity F2S/F3S					
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD					
$\phi 12$	1.5(0)	1.5(3)	1.5(0)	1.5(3)	3.5(2)	3.5(5)											
$\phi 16$	0	4	0	4.5	1	6											
$\phi 20$	3	7.5	3	7.5	5	9.5	7.5	12	6.5	11							
$\phi 25$	4	9.5	4	9.5	6	11.5	8.5	14	7.5	13							

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

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

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

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

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

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

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

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

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

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

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

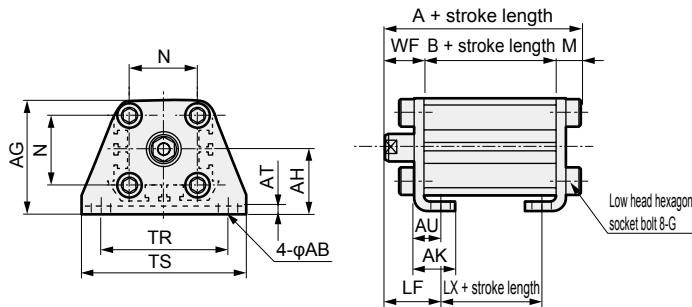
● Rod end male thread

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

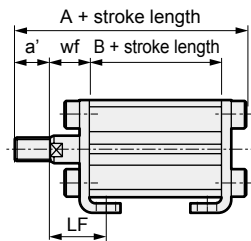
Dimensions with mounting bracket



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



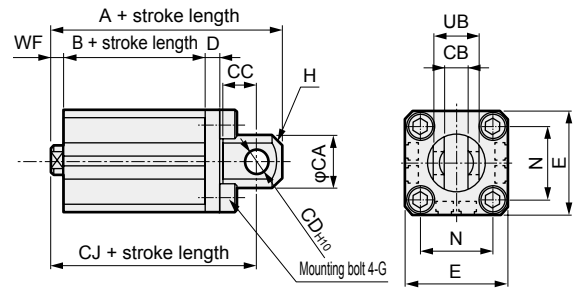
Rod end male thread



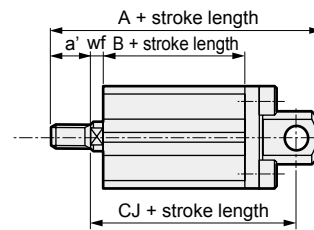
Code	Common dimensions						Female thread				
	Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Male thread										
	Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B
φ12	13.5	19.5	40.3	22	10	10.5	13.5	19.5	50.8	22	10
φ16	13.5	19.5	40.3	22	10	12	13.5	19.5	52.3	22	10
φ20	14.5	20.5	51.2	29.5	17.5	14	14.5	20.5	65.2	29.5	17.5
φ25	15	22.5	54.7	32.5	17.5	17.5	15	22.5	72.2	32.5	17.5

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



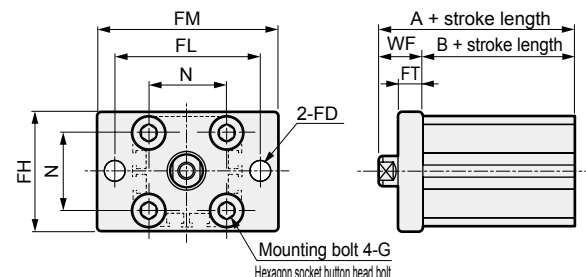
Rod end male thread



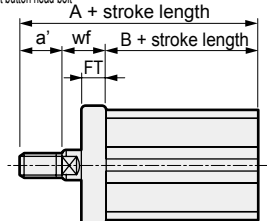
Code	Common dimensions									
	Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{-0.1} _{-0.3}
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{-0.1} _{-0.4}
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{-0.1} _{-0.3}
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{-0.1} _{-0.3}

Code	Female thread			Male thread					
	Bore size (mm)	WF	A	B	CJ	a'	wf	A	B
φ12	3.5	45.5	22	39.5	10.5	3.5	56	22	39.5
φ16	3.5	46.5	22	40.5	12	3.5	58.5	22	40.5
φ20	4.5	61	29.5	52	14	4.5	75	29.5	52
φ25	5	67.5	32.5	57.5	17.5	5	85	32.5	57.5

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



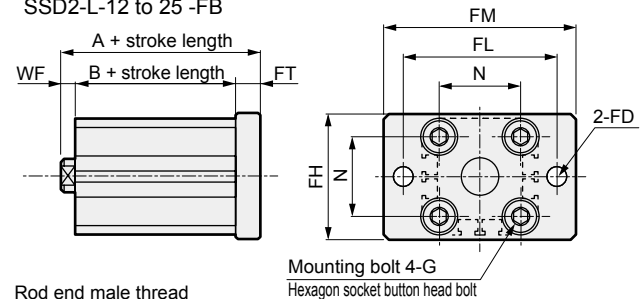
Rod end male thread



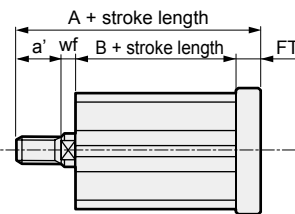
Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread			Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A
φ12	13.5	35.5	22	10.5	13.5	46	22
φ16	13.5	35.5	22	12	13.5	47.5	22
φ20	14.5	44	29.5	14	14.5	58	29.5
φ25	15	47.5	32.5	17.5	15	65	32.5

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



Rod end male thread



Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread			Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A
φ12	3.5	31	22	10.5	3.5	41.5	22
φ16	3.5	31	22	12	3.5	43	22
φ20	4.5	42	29.5	14	4.5	56	29.5
φ25	5	45.5	32.5	17.5	5	63	32.5

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

SSD2 Series

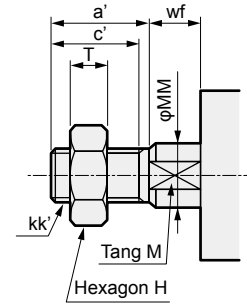
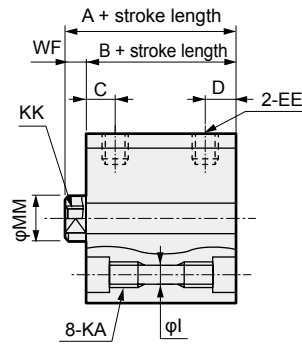
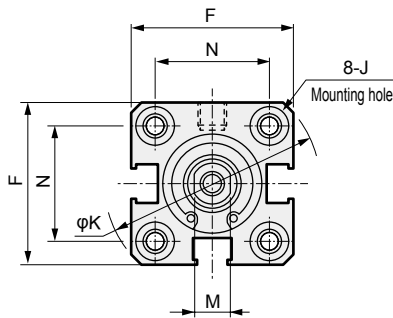
Dimensions



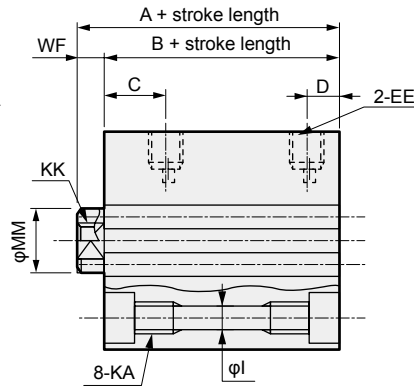
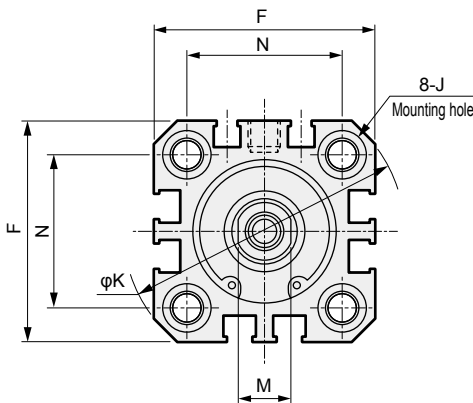
● SSD2-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Dimensions without switch and common dimensions															
	Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
SRG3	φ12	20.5	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
SRM3	φ16	20.5	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRT3	φ20	24	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
SRL3	φ25	27.5	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Rod end male thread

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

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

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

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

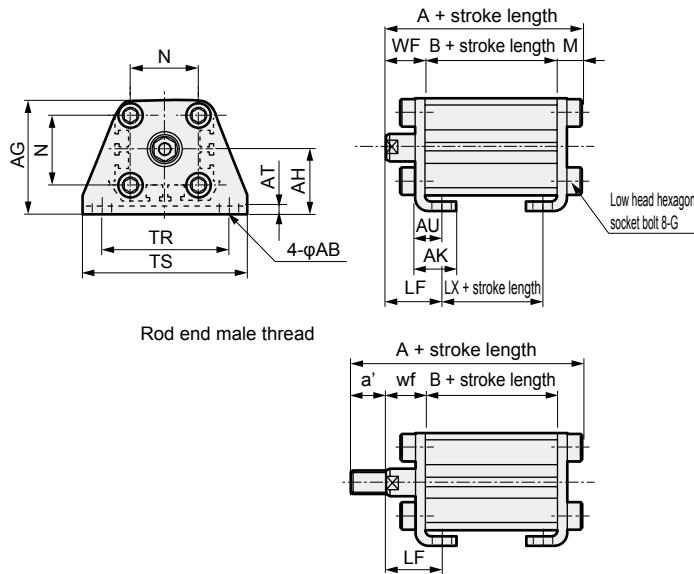
When you have selected "S" (dedicated unit for custom stroke length), apply the custom stroke length of 7 mm.

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

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

Dimensions with mounting bracket

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

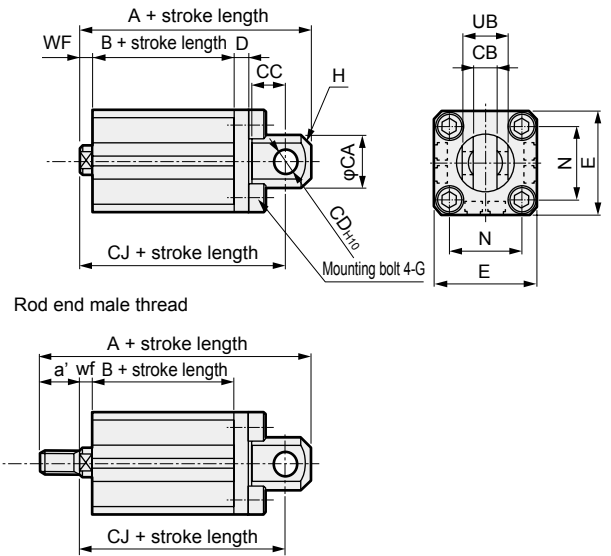


Rod end male thread

Code	Common dimensions										Female thread		
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M		
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8		
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8		
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2		
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2		

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	35.3	17	5	10.5	13.5	19.5	45.8	17	5
φ16	13.5	19.5	35.3	17	5	12	13.5	19.5	47.3	17	5
φ20	14.5	20.5	41.2	19.5	7.5	14	14.5	20.5	55.2	19.5	7.5
φ25	15	22.5	44.7	22.5	7.5	17.5	15	22.5	62.2	22.5	7.5

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

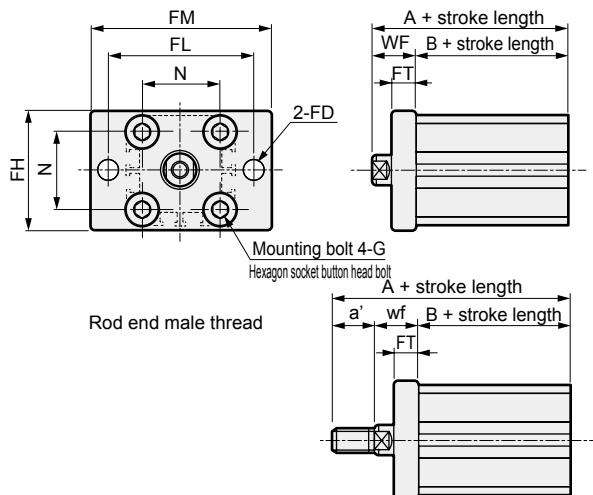


Rod end male thread

Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2}	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3}	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

Code	Female thread					Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ	
φ12	3.5	40.5	17	34.5	10.5	3.5	51	17	34.5	
φ16	3.5	41.5	17	35.5	12	3.5	53.5	17	35.5	
φ20	4.5	51	19.5	42	14	4.5	65	19.5	42	
φ25	5	57.5	22.5	47.5	17.5	5	75	22.5	47.5	

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

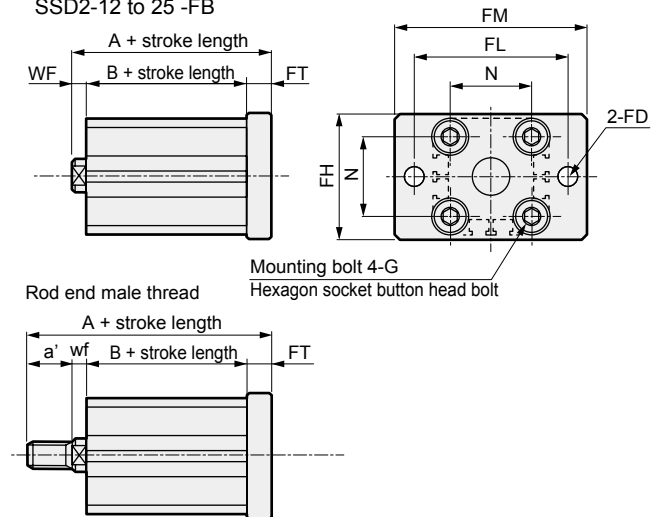


Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	13.5	30.5	17	10.5	13.5	41	17
φ16	13.5	30.5	17	12	13.5	42.5	17
φ20	14.5	34	19.5	14	14.5	48	19.5
φ25	15	37.5	22.5	17.5	15	55	22.5

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



Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	3.5	26	17	10.5	3.5	36.5	17
φ16	3.5	26	17	12	3.5	38	17
φ20	4.5	32	19.5	14	4.5	46	19.5
φ25	5	35.5	22.5	17.5	5	53	22.5

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

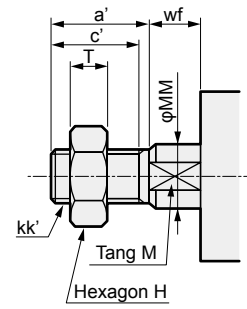
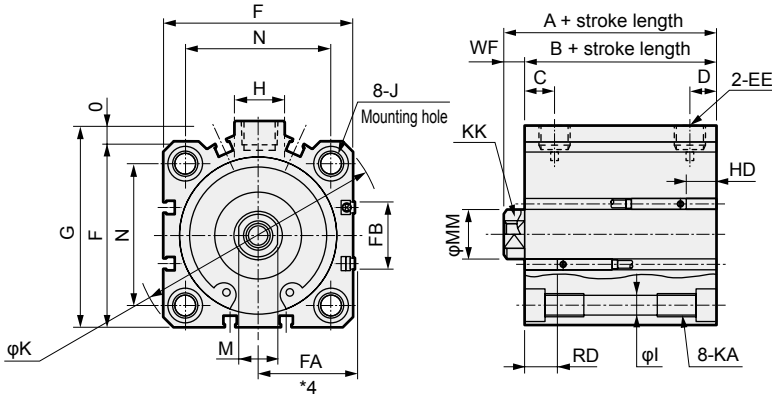
SSD2 Series

Dimensions

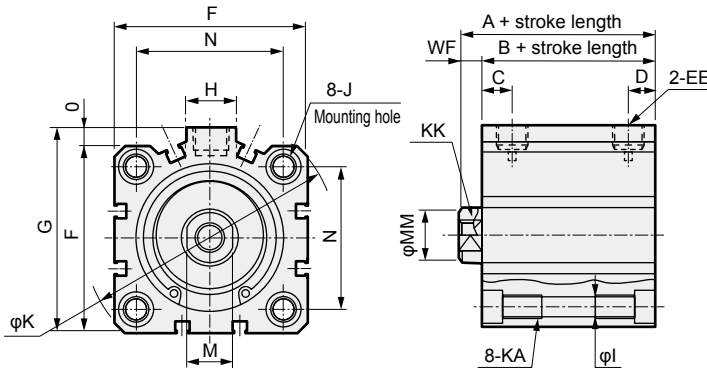


● SSD2-L-32 to 100 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread



● SSD2-32 to 100 (without switch)



Code	Without switch		Common dimensions with switch																			
	A ^{*1, *6}	B ^{*1, *6}	A ^{*1}	B ^{*1}	C ^{*8}	D ^{*8}	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
φ32	30(40)	23(33)	40	33	8(10)	8(5.5)	Rc1/8 ^{*7}	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
φ40	36.5(46.5)	29.5(39.5)	46.5	39.5	12(11.5)	8.5(8)	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
φ50	38.5(48.5)	30.5(40.5)	48.5	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
φ63	44(54)	36(46)	54	46	13	11	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
φ80	53.5(63.5)	43.5(53.5)	63.5	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
φ100	65(75)	53(63)	75	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12
Switch dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V						Proximity T2WH/T2WV, T3WH/T3WV									
	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}		HD		RD											
φ32	4		9.5		4		9.5		6		11.5											
φ40	7		12		7		12		8.5		13.5											
φ50	7.5		12.5		7.5		12.5		9		14											
φ63	12.5		13		12.5		13		14		14.5											
φ80	17.5		15.5		17.5		15.5		19		17											
φ100	23		19.5		23		19.5		24.5		21											

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

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

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

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

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

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

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

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

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

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

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

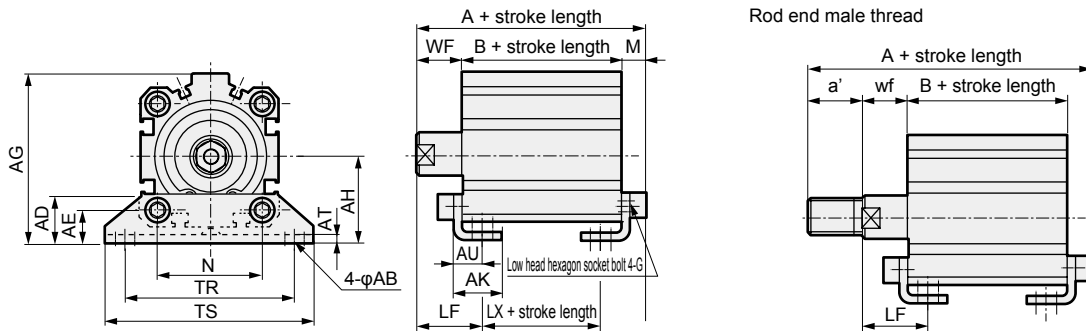
*8 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

● Rod end male thread

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

Dimensions

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

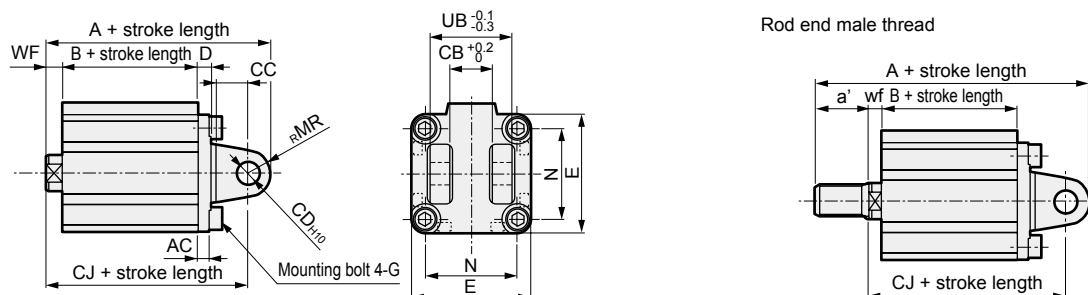


Code	Common dimensions											Female thread						Without switch			With switch		
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	A	B	LX	A	B	LX		
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2	17	25	47.2(57.2)	23(33)	7(17)	57.2	33	17		
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	17	25	53.7(63.7)	29.5(39.5)	13.5(23.5)	63.7	39.5	23.5		
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	18	29.5	56.7(66.7)	30.5(40.5)	7.5(17.5)	66.7	40.5	17.5		
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	18	31	63.2(73.2)	36(46)	10(20)	73.2	46	20		
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	20	35	75(85)	43.5(53.5)	13.5(23.5)	85	53.5	23.5		
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	22	39	88(98)	53(63)	19(29)	98	63	29		

Code	Male thread								
	a'	wf	LF	Without switch			With switch		
Bore size (mm)				A	B	LX	A	B	LX
φ32	23.5	15	23	68.7(78.7)	23(33)	7(17)	78.7	33	17
φ40	23.5	15	23	75.2(85.2)	29.5(39.5)	13.5(23.5)	85.2	39.5	23.5
φ50	28.5	15	26.5	82.2(92.2)	30.5(40.5)	7.5(17.5)	92.2	40.5	17.5
φ63	28.5	15	28	88.7(98.7)	36(46)	10(20)	98.7	46	20
φ80	35.5	18	33	108.5(118.5)	43.5(53.5)	13.5(23.5)	118.5	53.5	23.5
φ100	35.5	18	35	119.5(129.5)	53(63)	19(29)	129.5	63	29

* Dimensions in () are for stroke lengths of more than 50 mm.

- Clevis bracket (CB)
SSD2-(L)-32 to 100 -CB



Code	Common dimensions											Female thread						Male thread								
	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	Without switch			With switch			a' wf		Without switch			With switch			
Bore size (mm)												A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ	
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36	7	60(70)	23(33)	50	70	33	60	23.5	5	81.5(91.5)	23(33)	48	91.5	33	58	
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	68.5(78.5)	29.5(39.5)	58.5	78.5	39.5	68.5	23.5	5	90(100)	29.5(39.5)	56.5	100	39.5	66.5	
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	80.5(90.5)	30.5(40.5)	66.5	90.5	40.5	76.5	28.5	5	106(116)	30.5(40.5)	63.5	116	40.5	73.5	
φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	88(98)	36(46)	74	98	46	84	28.5	5	113.5(123.5)	36(46)	71	123.5	46	81	
φ80	9	28.2	27	18	10	98	M12×40	18	77	56	10	109.5(119.5)	43.5(53.5)	91.5	119.5	53.5	101.5	35.5	8	143(153)	43.5(53.5)	89.5	153	53.5	99.5	
φ100	12	32.2	31	22	13	117	M12×40	22	94	64	12	132(142)	53(63)	110	142	63	120	35.5	8	163.5(173.5)	53(63)	106	173.5	63	116	

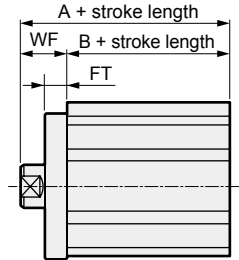
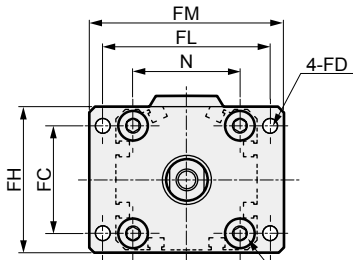
* Dimensions in () are for stroke lengths of more than 50 mm.

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

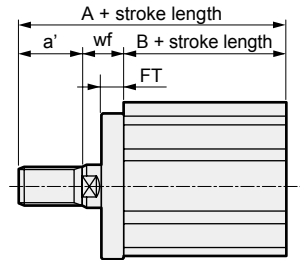
Dimensions



- Rod side flange (FA)
SSD2-(L)-32 to 100 -FA



Rod end male thread

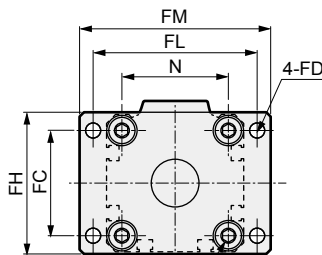
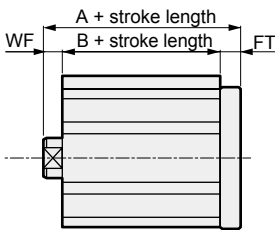


Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt

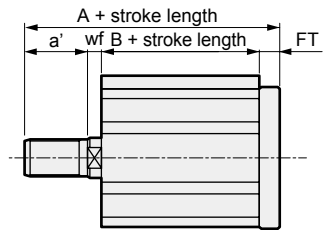
Code	Common dimensions								Female thread				Male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
SSG	φ32	34	5.5	48	56	65	8	34	M6×16	17	40(50)	23(33)	50	33	23.5	15	61.5(71.5)	23(33)	71.5	33
	φ40	40	5.5	54	62	72	8	40	M6×16	17	46.5(56.5)	29.5(39.5)	56.5	39.5	23.5	15	68(78)	29.5(39.5)	78	39.5
SSD	φ50	50	6.6	67	76	89	9	50	M8×20	18	48.5(58.5)	30.5(40.5)	58.5	40.5	28.5	15	74(84)	30.5(40.5)	84	40.5
	φ63	60	9	80	92	108	9	60	M10×25	18	54(64)	36(46)	64	46	28.5	15	79.5(89.5)	36(46)	89.5	46
CAT	φ80	77	11	99	116	134	11	77	M12×40	20	63.5(73.5)	43.5(53.5)	73.5	53.5	35.5	18	97(107)	43.5(53.5)	107	53.5
	φ100	94	11	117	136	154	11	94	M12×40	22	75(85)	53(63)	85	63	35.5	18	106.5(116.5)	53(63)	116.5	63

* Dimensions in () are for stroke lengths of more than 50 mm.

- Head side flange (FB)
SSD2-(L)-32 to 100 -FB



Rod end male thread



Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt

Code	Common dimensions								Female thread				Male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
SM-25	φ32	34	5.5	48	56	65	8	34	M6×16	7	38(48)	23(33)	48	33	23.5	5	59.5(69.5)	23(33)	69.5	33
	φ40	40	5.5	54	62	72	8	40	M6×16	7	44.5(54.5)	29.5(39.5)	54.5	39.5	23.5	5	66(76)	29.5(39.5)	76	39.5
ShkAbs	φ50	50	6.6	67	76	89	9	50	M8×20	8	47.5(57.5)	30.5(40.5)	57.5	40.5	28.5	5	73(83)	30.5(40.5)	83	40.5
	φ63	60	9	80	92	108	9	60	M10×25	8	53(63)	36(46)	63	46	28.5	5	78.5(88.5)	36(46)	88.5	46
FJ	φ80	77	11	99	116	134	11	77	M12×40	10	64.5(74.5)	43.5(53.5)	74.5	53.5	35.5	8	98(108)	43.5(53.5)	108	53.5
	φ100	94	11	117	136	154	11	94	M12×40	12	76(86)	53(63)	86	63	35.5	8	107.5(117.5)	53(63)	117.5	63

* Dimensions in () are for stroke lengths of more than 50 mm.

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

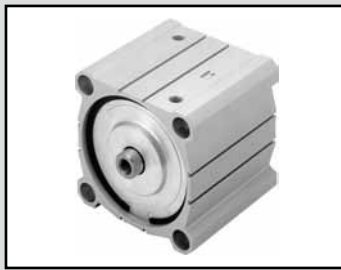
ShkAbs

FJ

FK

Spd
Contr

Ending

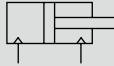


Compact cylinder double acting/single rod (large bore size)

SSD2 Series

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

JIS symbol



Specifications

Descriptions	SSD2 SSD2-L (with switch)				
	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Bore size mm	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)			0.7 (≈ 100 psi, 7 bar)	
Min. working pressure MPa	0.05 (≈ 7.3 psi, 0.5 bar)				
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)			1.05 (≈ 150 psi, 10.5 bar)	
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)				
Port size	Rc3/8			Rc1/2	
Stroke tolerance mm	$^{+2.0}$ 0				
Working piston speed mm/s	50 to 300			20 to 300	
Cushion	With rubber cushion (standard)				
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy J	With rubber cushion Without cushion	6.52	6.52	7.78	12.4

Stroke length

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

*1: For the type with switch, refer to the table of switch mounting quantity and minimum stroke length.

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

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\phi 125$	5	5	40	55	70
$\phi 140$	5	5	40	55	70
$\phi 160$	5	5	40	55	70
$\phi 180$	5	5	40	55	70
$\phi 200$	5	5	40	55	70

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

Switch specifications

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire					
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller				
Output method	-		NPN output	PNP output	NPN output	NPN output	-		-							
Pwr. supp. V.	-		10 to 28 VDC				-		-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)	Red/green LED (Lit when ON)				
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272				

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

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

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

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

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

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	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
φ140	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
φ160	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
φ180	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
φ200	17.23	17.31	17.69	17.77	18.16	18.24	18.62	18.70	19.08	19.16	20.23	20.31	21.39	21.47

Stroke length (mm)	125		150		175		200		250		300	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	7.63	7.73	8.30	8.40	8.96	9.06	9.62	9.72	10.95	11.05	12.27	12.37
φ140	9.86	9.97	10.63	10.74	11.39	11.50	12.15	12.26	13.68	13.79	15.20	15.31
φ160	13.01	13.13	13.96	14.08	14.91	15.03	15.86	15.98	17.76	17.88	19.66	19.78
φ180	17.59	17.67	18.59	18.67	19.60	19.68	20.60	20.68	22.60	22.68	24.61	24.69
φ200	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ125	Push	1.23 × 10 ³	1.84 × 10 ³	2.45 × 10 ³	3.68 × 10 ³	4.91 × 10 ³	6.14 × 10 ³	7.36 × 10 ³	8.59 × 10 ³	9.82 × 10 ³	1.10 × 10 ⁴	1.23 × 10 ⁴
	Pull	1.13 × 10 ³	1.70 × 10 ³	2.26 × 10 ³	3.39 × 10 ³	4.52 × 10 ³	5.65 × 10 ³	6.79 × 10 ³	7.92 × 10 ³	9.05 × 10 ³	1.02 × 10 ⁴	1.13 × 10 ⁴
φ140	Push	1.54 × 10 ³	2.31 × 10 ³	3.08 × 10 ³	4.62 × 10 ³	6.16 × 10 ³	7.70 × 10 ³	9.24 × 10 ³	1.08 × 10 ⁴	1.23 × 10 ⁴	1.39 × 10 ⁴	1.54 × 10 ⁴
	Pull	1.44 × 10 ³	2.16 × 10 ³	2.89 × 10 ³	4.33 × 10 ³	5.77 × 10 ³	7.22 × 10 ³	8.66 × 10 ³	1.01 × 10 ⁴	1.15 × 10 ⁴	1.30 × 10 ⁴	1.44 × 10 ⁴
φ160	Push	2.01 × 10 ³	3.02 × 10 ³	4.02 × 10 ³	6.03 × 10 ³	8.04 × 10 ³	1.01 × 10 ⁴	1.21 × 10 ⁴	1.41 × 10 ⁴	1.61 × 10 ⁴	1.81 × 10 ⁴	2.01 × 10 ⁴
	Pull	1.88 × 10 ³	2.83 × 10 ³	3.77 × 10 ³	5.65 × 10 ³	7.54 × 10 ³	9.42 × 10 ³	1.13 × 10 ⁴	1.32 × 10 ⁴	1.51 × 10 ⁴	1.70 × 10 ⁴	1.88 × 10 ⁴
φ180	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	2.04 × 10 ⁴	2.29 × 10 ⁴	2.54 × 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	1.91 × 10 ⁴	2.15 × 10 ⁴	2.39 × 10 ⁴
φ200	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 ⁴	2.20 × 10 ⁴	2.51 × 10 ⁴	2.83 × 10 ⁴	3.14 × 10 ⁴
	Pull	3.02 × 10 ³	4.52 × 10 ³	6.03 × 10 ³	9.05 × 10 ³	1.21 × 10 ⁴	1.51 × 10 ⁴	1.81 × 10 ⁴	2.11 × 10 ⁴	2.41 × 10 ⁴	2.71 × 10 ⁴	3.02 × 10 ⁴

SSD2 (Large bore size) Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.
*1

F Switch quantity

G Option

⚠ Precautions for model No. selection

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

[Example of model No.]

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

Model: Compact cylinder, standard

- B** Bore size : 125 mm
- C** Port thread : Rc thread
- D** Stroke length : 50mm
- E** Switch model No. : Reed T0H switch
· Lead wire length 1 m
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread

Code	Content					
A Model No.						
SSD2	Double acting/single rod					
SSD2-L	Double acting/single rod/with switch					
B Bore size (mm)						
125	φ125					
140	φ140					
160	φ160					
180	φ180					
200	φ200					
C Port thread						
Blank	Rc thread					
NN	NPT thread (φ125 to φ160) (custom order product)					
GN	G thread (φ125 to φ160) (custom order product)					
D Stroke length (mm)						
Refer to the stroke length table on the following page.						
E Switch model No.						
Lead wire	Lead wire	Contact	Voltage		Display	Lead Line
			AC	DC		
Straight	L-shaped	Reed	●	●	1-color display	2-wire
			●	●	Without indicator lamp	
			●	●	1-color display	
			●	●	1-color display	
			●	●		
		Proximity	●	●	1-color display (custom order)	2-wire
			●	●		3-wire
			●	●	2-color display	2-wire
			●	●		3-wire
			●	●	1-color display off-delay	2-wire
●	●	2-color display for AC magnetic field	2-wire			
●	●					
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
G Option						
Blank	Rod end female thread					
N	Rod end male thread					
P4	Specifications for rechargeable battery					
P40						

[Stroke length table]

Stroke length (mm)	Applicable bore size				
	φ125	φ140	φ160	φ180	φ200
10	●	●	●	●	●
20	●	●	●	●	●
30	●	●	●	●	●
40	●	●	●	●	●
50	●	●	●	●	●
75	●	●	●	●	●
100	●	●	●	●	●
125	●	●	●	●	●
150	●	●	●	●	●
175	●	●	●	●	●
200	●	●	●	●	●
250	●	●	●	●	●
300	●	●	●	●	●
Min. stroke length (mm) *1	1				
Max. stroke length (mm)	300				
Custom stroke length *2	In 1 mm increments				

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

Refer to page 752 for the number of installed switches and the min. stroke length.

*2: Total length dimension with custom stroke length is handled as custom stroke dedicated length.

How to order switch

SW - **T0H**



Switch model No.

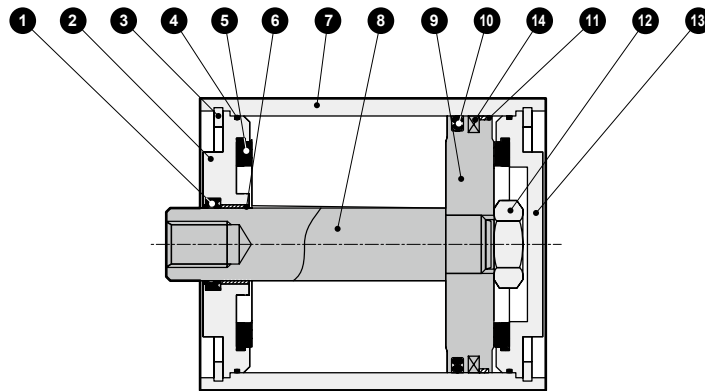
(Item ⑤ on the previous page)

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

SSD2 (Large bore size) Series

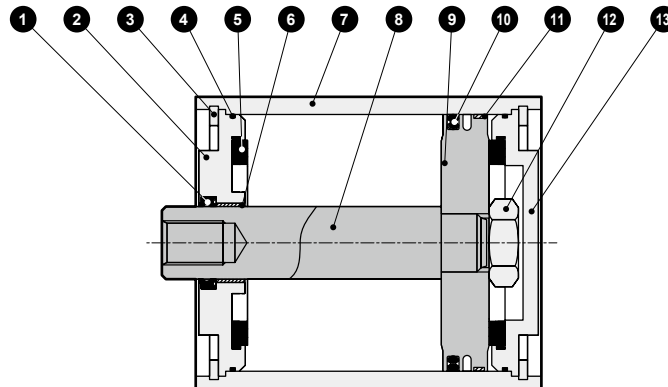
SCP*3 Internal structure and parts list (φ125 to φ160) (with cushion)

● SSD2-L-125 to 160 (double acting/single rod/with switch)



SSD2

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



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

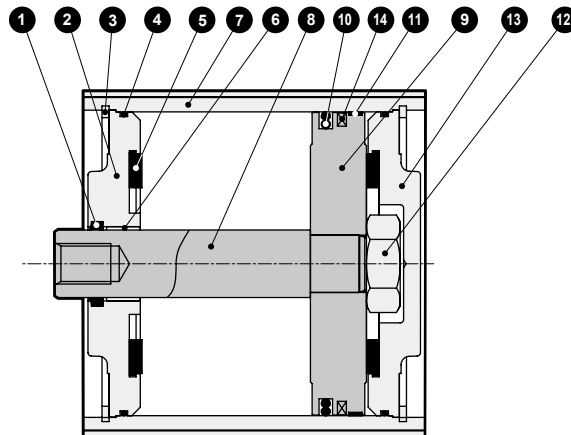
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ125	SSD2-125K	1 4 5 10 11
φ140	SSD2-140K	
φ160	SSD2-160K	

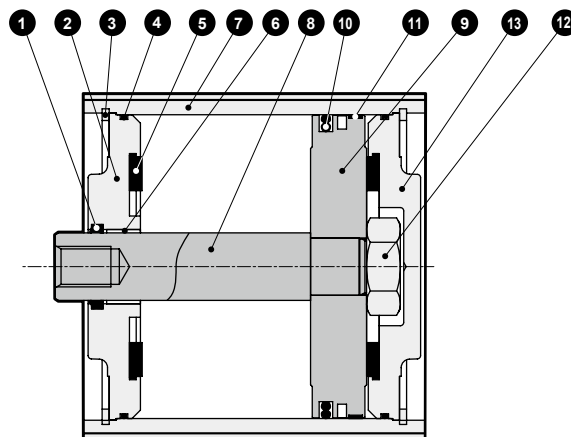
*1: Specify the kit No. when placing an order.

Internal structure and parts list (φ180, φ200)

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



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



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod packing	Nitrile rubber		9	Piston	Aluminum alloy	
2	Rod metal	Cast iron	Paint	10	Piston packing	Nitrile rubber	
3	C type snap ring	Steel	Zinc phosphate	11	Wear ring	Polyacetal resin	
4	Gasket	Nitrile rubber		12	Hexagon nut	Steel	Zinc chromate
5	Cushion rubber	Urethane rubber		13	Cover	Cast iron	Paint
6	Bush	Oiles drymet		14	Magnet	Rubber	With switch only
7	Body	Aluminum alloy	Hard alumite				
8	Piston rod	Steel	Industrial chrome plating				

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ180	SSD2-180K	1 4 5 10 11
φ200	SSD2-200K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

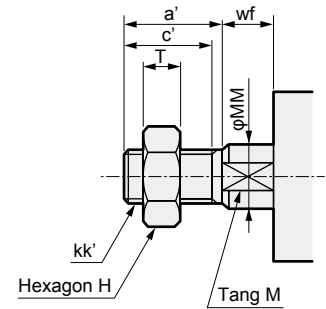
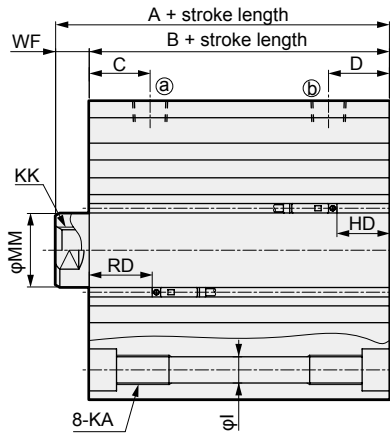
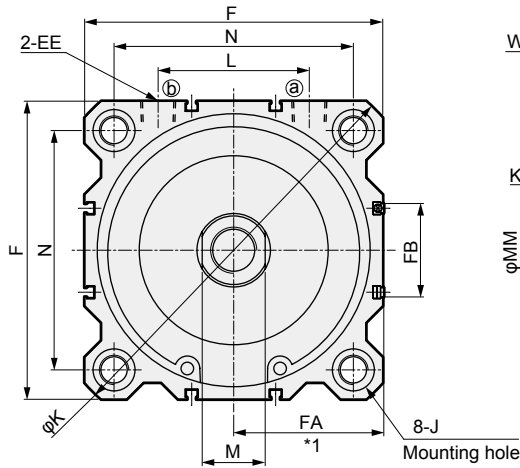
SSD2 (Large bore size) Series

Dimensions (φ125 to φ160)



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

● Rod end male thread



Code	Common dimensions with switch															
Bore size (mm)	A	B	C	D	EE	F	I	J	K	KA	KK	L	M	MM	N	WF
φ125	99	83	29	29	Rc3/8	142	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30	72	30	35	114	16
φ140	99	83	27.5	27.5	Rc3/8	158	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30	80	30	35	128	16
φ160	108	91	30	30	Rc3/8	178	14.7	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33	90	36	40	144	17

Code	T0H/V, T2H/V, T3H/V, T5/V				T2YH/V, T3YH/V, T2JH/V				T1H/V, T2YD				T2WH/V, T3WH/V				T8H/V			
Bore size (mm)	HD	RD	FA *1	FB	HD	RD	FA *1	FB	HD	RD	FA *1	FB	HD	RD	FA *1	FB	HD	RD	FA *1	FB
φ125	30	35	71.5 (75)	44.5	28.5	33.5	77 (80)	48	28.5	33.5	82.5 (85.5)	48	31.5	36.5	71.5 (75)	44.5	24	29	77 (80)	48
φ140	31.5	33.5	79.5 (83)	44.5	30	32	85 (88)	48	30	32	90.5 (93.5)	48	33	35	79.5 (83)	44.5	25.5	27.5	85 (88)	48
φ160	34	39	89.5 (93)	48.5	32.5	37.5	95 (98)	52	32.5	37.5	100.5 (103.5)	52	35.5	40.5	89.5 (93)	48.5	28	33	95 (98)	52

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

Dimensions of rod end male thread

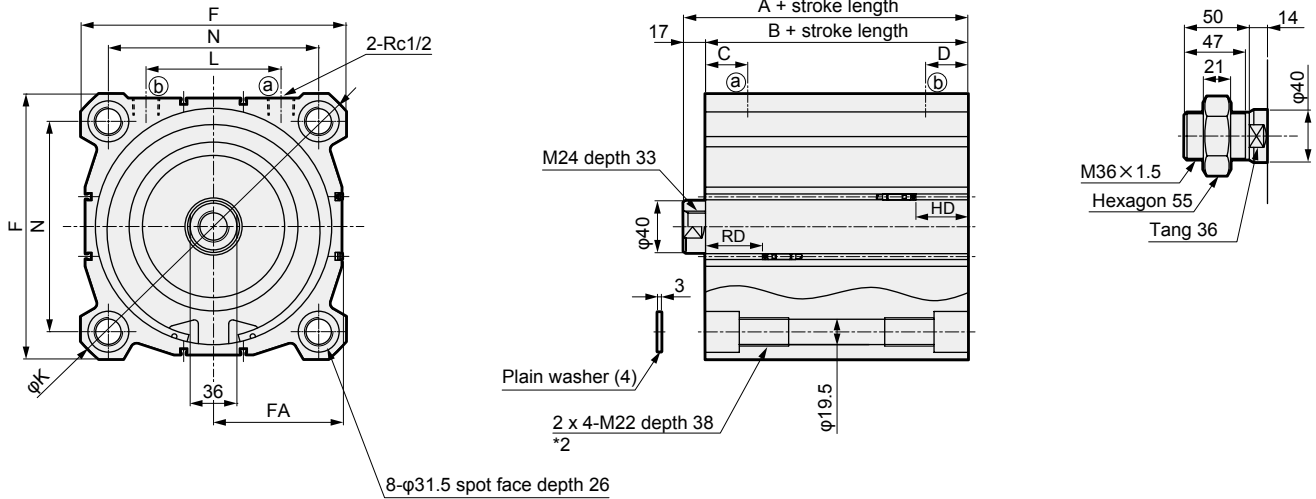
Code	a'	c'	H	kk'	M	MM	T	wf
φ125	45	42	46	M30×1.5	30	35	18	13
φ140	45	42	46	M30×1.5	30	35	18	13
φ160	50	47	55	M36×1.5	36	40	21	14

Dimensions (φ180, φ200)



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

● Rod end male thread



Code	A	B	C	D	F	K	L	N							
Bore size (mm)															
φ180	119	102	32.5	32.5	204	270	104	162							
φ200	126	109	33.5	33.5	226	300	110	182							
Code	T0H/V, T2H/V, T3H/V, T5H/V			T2YH/V, T3YH/V, T2JH/V			T1H/V, T2YD			T2WH/V, T3WH/V			T8H/V		
Bore size (mm)	HD	RD	FA ^{*1}	HD	RD	FA ^{*1}	HD	RD	FA ^{*1}	HD	RD	FA ^{*1}	HD	RD	FA ^{*1}
φ180	39.5	43.5	99 (102.5)	38.5	42.5	104.5 (107.5)	38.5	42.5	110 (113)	41.5	45.5	99 (102.5)	33.5	37.5	104.5 (107.5)
φ200	44.5	45.5	109.5 (113)	43.5	44.5	115 (118)	43.5	44.5	120.5 (123.5)	46.5	47.5	109.5 (113)	38.5	39.5	115 (118)

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

*2: 2×4-M22 through hole for 20 mm or less stroke length.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Compact cylinder, double acting/single rod/high load

SSD2-K Series

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



Specifications

Descriptions	SSD2-K SSD2-KL (with switch)											
	mm		$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size	mm		$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting											
Working fluid	Compressed air											
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure	MPa	0.1 (≈ 15 psi, 1 bar)						0.05 (≈ 7.3 psi, 0.5 bar)				
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature	$^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size		M5				Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance	mm	+2.0						0				
Working piston speed	mm/s	50 to 500							50 to 300			
Cushion		Rubber cushion										
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)										
Allowable absorbed energy	J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

Stroke length

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

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

Min. stroke length with switch (1 or 2 switches)

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

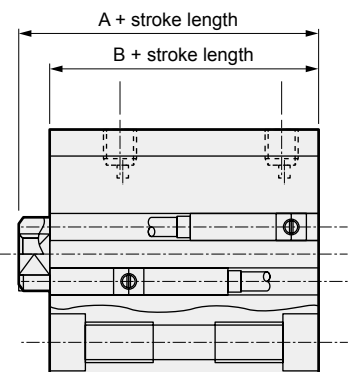
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-K Series

Descriptions	Standard products		Optional products	
	Standard stroke length body with spacer		Dedicated unit (-S)	
Model No.	Refer to How to order.		Add "-S" option code to the model No.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.		Dedicated units of the required stroke length are available.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12/16	1 to 29	12, 16	6 to 29
	20 to 25	1 to 49	20, 25	6 to 49
	32 to 100	1 to 99	32 to 100	11 to 99
Example of model No.	Model No.: SSD2-K-32-41 A +4 mm spacer is added to the SSD2-K-32-45 standard cylinder to create 41 mm stroke length. B + stroke length is 88 mm.		Model No.: SSD2-K-32-41 Dedicated units for 41 mm stroke length are available. B + stroke length is 74mm.	



Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire									
	T1H/T1V		T2H/T2V T2JH/T2JV		T2YH/ T2YV		T2WH/ T2WV		T3H/T3V		T3PH/T3PV (custom)		T3YH/ T3YV		T3WH/ T3WV		T0H/T0V	T5H/T5V		T8H/T8V		T2YD		
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		For programmable controller							
Output method	-		-				NPN output		PNP output		NPN output		NPN output		-									
Pwr. supp. V.	-		-				10 to 28 VDC				-													
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less				12/24 VDC		100/110 VAC		5/12/24 VDC		100/110 VAC		12/24 VDC		110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA		5 to 20 mA (*1)				100 mA or less		50 mA or less		5 to 50 mA		7 to 20 mA		50 mA or less		20 mA or less		5 to 50 mA		7 to 20 mA		7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)		LED (Lit when ON)		Red/green LED (Lit when ON)		Red/green LED (Lit when ON)		LED (Lit when ON)		Yellow LED (Lit when ON)		Red/green LED (Lit when ON)		Red/green LED (Lit when ON)		LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less				10 µA or less				0 mA				1 mA or less									
Weight g	1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

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

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

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

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

Theoretical thrust table

(Unit: N)

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

SSD2-K Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1
*2
*3
*8
*9

E Switch quantity

F Option

*4

G Mounting bracket
*5 *6

⚠ Precautions for model No. selection

- *1 : The T2YD* switch cannot be mounted on the φ12 and φ16 bore sizes.
- *2 : The T8* switch cannot be mounted on φ12 and φ16.
- *3 : The F switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.
- *4 : Piston rod of φ12 to φ25 is stainless steel as standard. C type snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *5 : The mounting bracket is attached at shipment.
- *6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 767, 769, 773 and 774. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *7 : "I" and "Y" cannot be selected together.
- *8 : The F switch with L type lead wire on φ20 models cannot be selected on stroke lengths 10 mm or under.
- *9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10 : Refer to pages 734 and 735 for combinations of variations/options.
- *11 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder, high load

- A Bore size : φ12 mm
- B Port thread : Rc thread
- C Stroke length : 10mm
- D Switch model No. : Reed T0H switch
· Lead wire 1 m

- E Switch quantity : 1 on rod side
- F Option : Rod end male thread

H Accessory
*7

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

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

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

D Switch model No.		Lead wire	Voltage	Display	Bore size														
Lead wire	Lead wire				12	16	20	25	32	40	50	63	80	100					
Straight	L-shaped	AC	DC																
F2S*		●		1-color display	2-wire			●	●										
F3S*		●			3-wire			●	●										
F2H*	F2V*	●			2-wire			●	●										
F3H*	F3V*	●		3-wire			●	●											
F3PH*	F3PV*	●		1 color display (PNP output) (custom)	3-wire			●	●										
F2YH*	F2YV*	●			2-wire			●	●										
F3YH*	F3YV*	●		2-color display	3-wire			●	●										
T0H*	T0V*	●	●		1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	●	●	Without indicator lamp		2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	●	●	1-color display		2-wire					●	●	●	●	●	●	●	●	●
T1H*	T1V*	●		1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*	●			3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	●		1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	●			2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	●			3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	●		2-color display	2-wire			●	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	●			3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	●		2-color display	2-wire			●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	●			AC magnetic field	2-wire			●	●	●	●	●	●	●	●	●	●	●
T2YDT*	-	●		1-color display off-delay	2-wire			●	●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	●			2-wire			●	●	●	●	●	●	●	●	●	●	●	●

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

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

F Option		Bore size (φ)									
		12	16	20	25	32	40	50	63	80	100
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●
M *4	Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free	Standard	●	●	●	●	●	●	●	●	●
S	Dedicated unit for custom stroke length	●	●	●	●	●	●	●	●	●	●
P4	Specifications for rechargeable battery	●	●	●	●	●	●	●	●	●	●
P40		●	●	●	●	●	●	●	●	●	●

G Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

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

[Stroke length table]

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

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

Refer to page 760 for the min. stroke length with switch.

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

How to order switch

SW - T0H

Switch model No.
(Item ⑩ on the previous page)

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	
φ12		44	86	53	95	61	103	70	112	78	121	87	129	-	-	-	-	-	-	-	-	-	-	-
φ16		59	104	69	114	80	125	91	136	102	147	113	158	-	-	-	-	-	-	-	-	-	-	-
φ20		75	150	88	163	101	176	113	188	126	201	138	213	151	226	163	238	176	251	188	263	-	-	-
φ25		102	193	118	209	134	225	150	241	165	256	182	273	198	289	214	305	230	321	246	337	-	-	-
φ32		167	281	188	302	209	323	231	345	253	367	275	389	297	411	318	432	340	454	361	475	534	583	642
φ40		236	379	263	406	290	433	316	459	342	485	369	512	396	539	422	565	449	592	475	618	702	751	834
φ50		-	-	425	619	467	661	510	704	553	747	594	788	636	830	678	872	720	914	762	956	1109	1166	1319
φ63		-	-	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1003	1282	1058	1337	1548	1612	1823
φ80		-	-	1101	1514	1188	1601	1274	1687	1361	1774	1448	1861	1535	1948	1621	2034	1708	2121	1794	2207	2574	2640	3006
φ100		-	-	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	2457	3024	2571	3138	3636	3708	4206

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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

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

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

- Design compatible with rechargeable battery manufacturing process

SSD2-K-----P4*

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

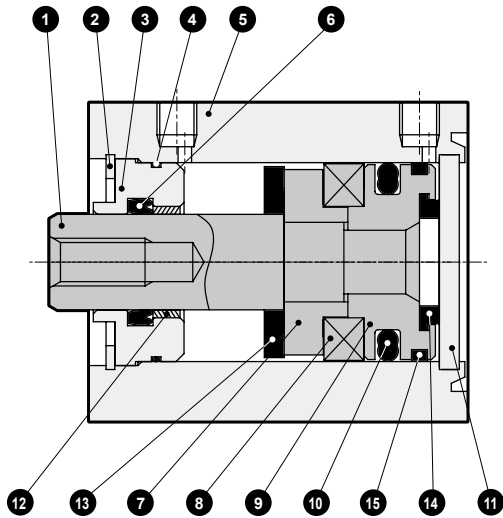
Spd
Contr

Ending

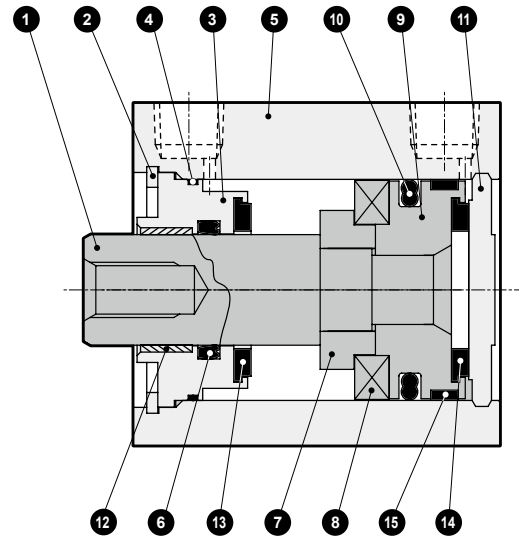
SSD2-K Series

Internal structure and parts list

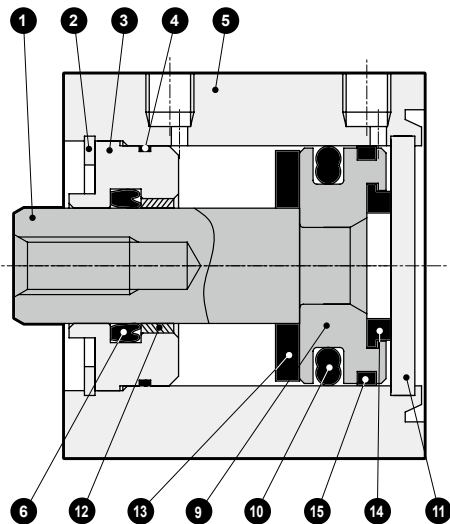
● SSD2-KL-12 to 25 (double acting/single rod/with switch)



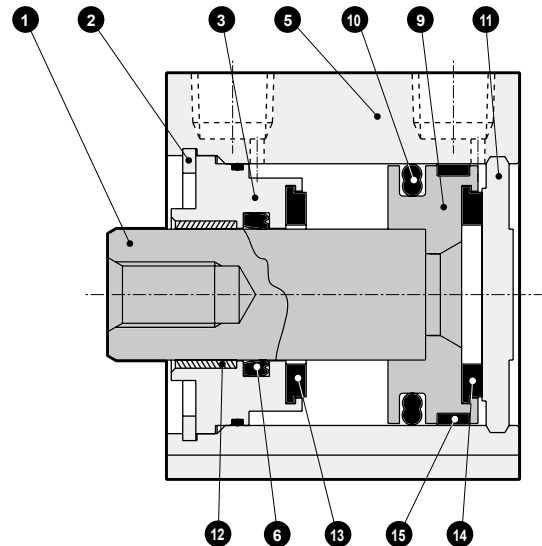
● SSD2-KL-32 (double acting/single rod high load/with switch)



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



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



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

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

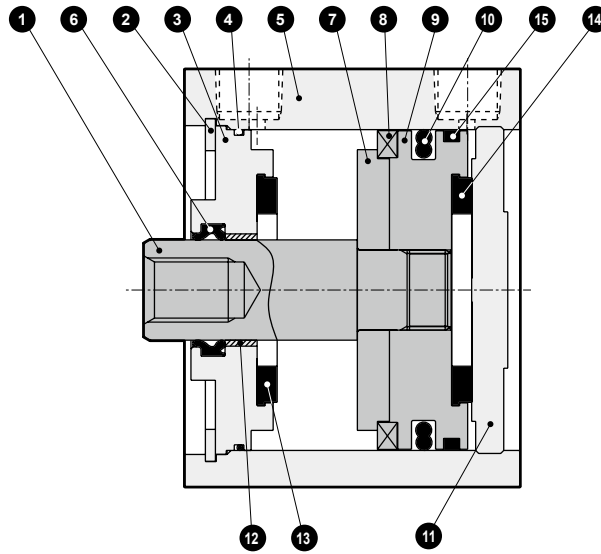
*2: Chromate-coated for φ32.

Repair parts list

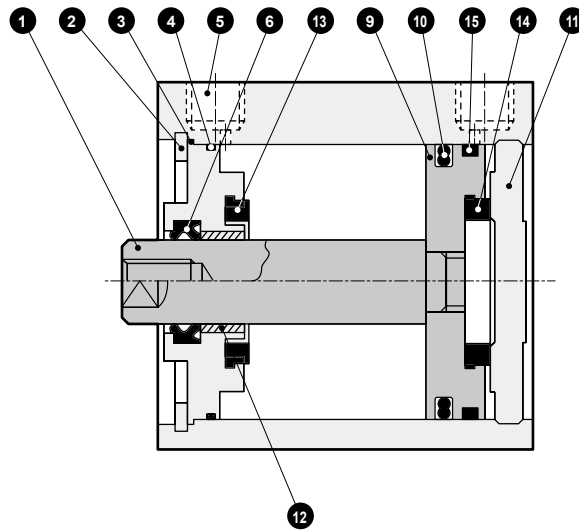
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-K-12K	
φ16	SSD2-K-16K	
φ20	SSD2-K-20K	
φ25	SSD2-K-25K	
φ32	SSD2-K-32K	

Internal structure and parts list

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



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



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

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

*2: Chromate-coated for φ40 and φ50.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD2-K-40K	<div style="display: flex; flex-wrap: wrap; justify-content: center; gap: 10px;"> 4 6 10 13 14 15 </div>
φ50	SSD2-K-50K	
φ63	SSD2-K-63K	
φ80	SSD2-K-80K	
φ100	SSD2-K-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

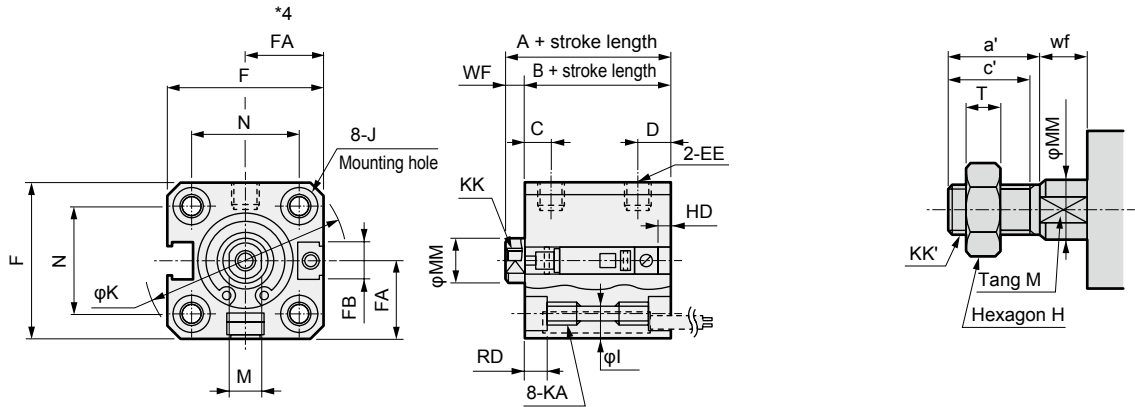
SSD2-K Series

Dimensions

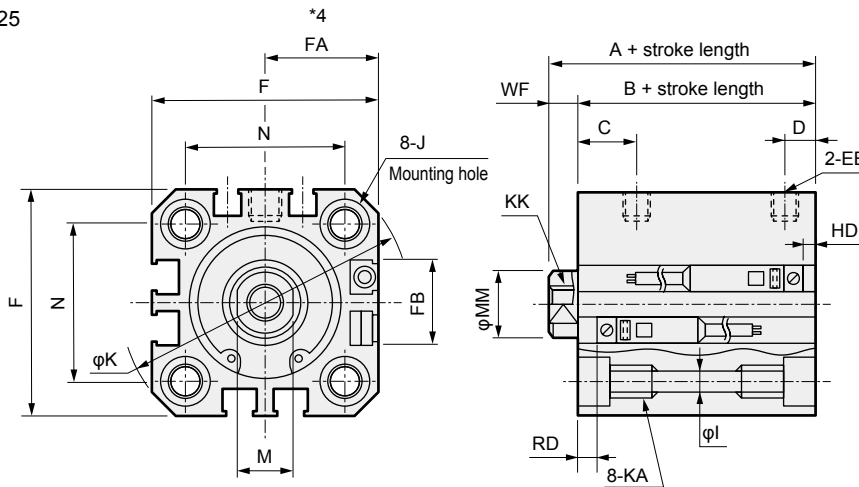


● SSD2-KL-12 to 25 (with switch)
 $\phi 12/\phi 16$

● Rod end male thread



$\phi 20/\phi 25$



· Precautions regarding the switch mounting groove
 *1: Only F switch is available for the $\phi 20$ or $\phi 25$ piping port surface.

Code	Common dimensions with switch																		
	Bore size (mm)		A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*3}	FB	I	J	K	KA	KK	M	MM	N	WF
STK	$\phi 12$		30.5	27	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	$\phi 16$		30.5	27	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRL3	$\phi 20$		39	34.5	8	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	$\phi 25$		42.5	37.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V				Proximity T2WH/T2WV, T3WH T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			Proximity F2S/F3S							
	Bore size (mm)		HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD					
SRG3	$\phi 12$		4.5	3.5	4.5	3.5	6.5	5.5											
	$\phi 16$		3	5	3	5	5	7											
SRM3	$\phi 20$		6.5	9	6.5	9	8.5	11	11	13.5	10	12.5							
	$\phi 25$		6	12.5	6	12.5	8	14.5	10.5	17	9.5	16							

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

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

· For $\phi 16$: A + stroke length = 40.5 B + stroke length = 37

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

· For $\phi 16$: A + stroke length = 37.5 B + stroke length = 34

2: Refer to page 1029 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1 and T8* switches.

3: Refer to page 1029 for protruding dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1 and T8* switches.

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

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

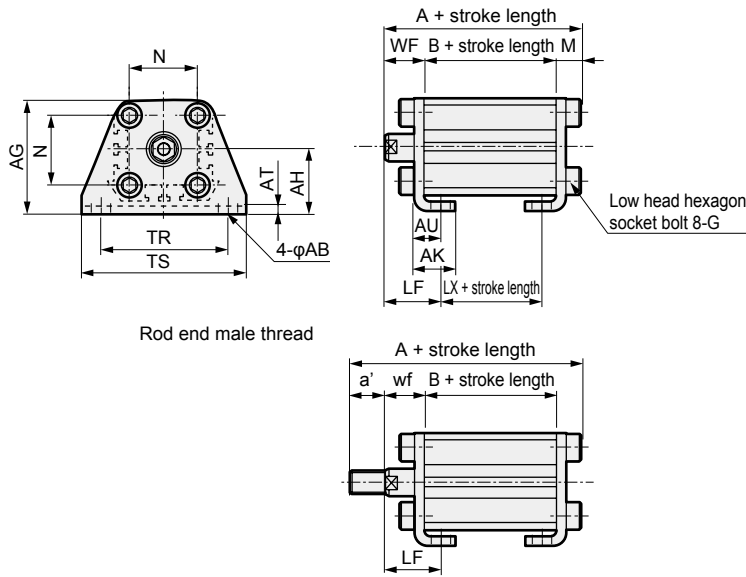
● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf	
FK	Bore size (mm)								
Spd Contr	$\phi 12$	10.5	9	8	M5	5	6	3.2	3.5
	$\phi 16$	12	10	10	M6	6	8	3.6	3.5
Ending	$\phi 20$	14	12	13	M8	8	10	5	4.5
	$\phi 25$	17.5	15	17	M10 X 1.25	10	12	6	5

Dimensions with mounting bracket



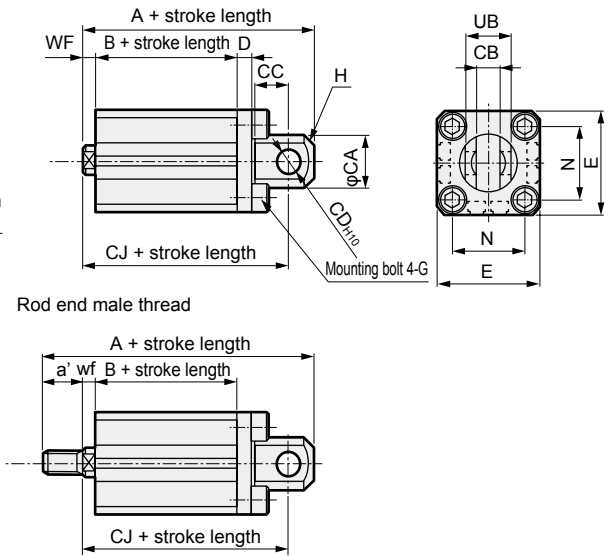
- Axial foot (LB) with switch
SSD2-KL-12 to 25 -LB



Code	Common dimensions						Female thread				
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	45.3	27	15	10.5	13.5	19.5	55.8	27	15
φ16	13.5	19.5	45.3	27	15	12	13.5	19.5	57.3	27	15
φ20	14.5	20.5	56.2	34.5	22.5	14	14.5	20.5	70.2	34.5	22.5
φ25	15	22.5	59.7	37.5	22.5	17.5	15	22.5	77.2	37.5	22.5

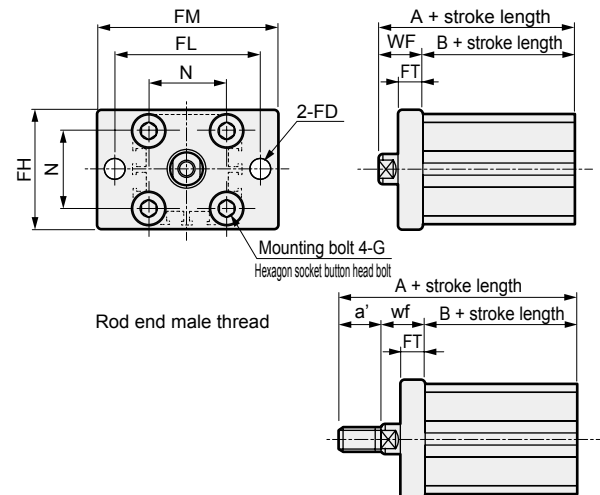
- Clevis bracket (CB) with switch
SSD2-KL-12 to 25 -CB



Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2}	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3}	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

Code	Female thread					Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ	
φ12	3.5	50.5	27	44.5	10.5	3.5	61	27	44.5	
φ16	3.5	51.5	27	45.5	12	3.5	63.5	27	45.5	
φ20	4.5	66	34.5	57	14	4.5	80	34.5	57	
φ25	5	72.5	37.5	62.5	17.5	5	90	37.5	62.5	

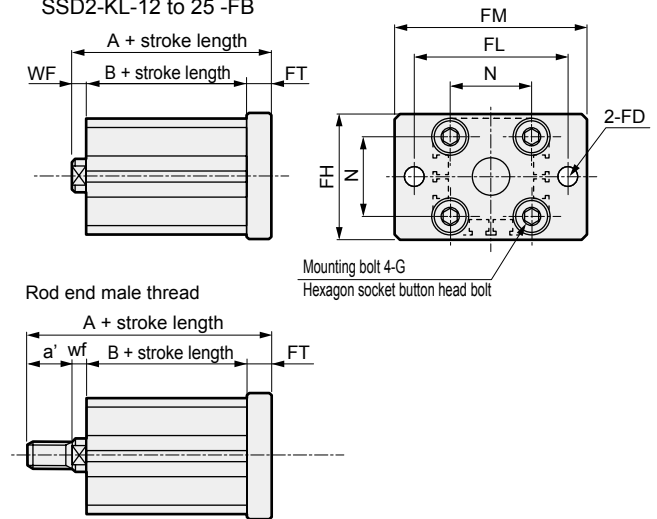
- Rod side flange (FA) with switch
SSD2-KL-12 to 25 -FA



Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	13.5	40.5	27	10.5	13.5	51	27
φ16	13.5	40.5	27	12	13.5	52.5	27
φ20	14.5	49	34.5	14	14.5	63	34.5
φ25	15	52.5	37.5	17.5	15	70	37.5

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



Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	3.5	36	27	10.5	3.5	46.5	27
φ16	3.5	36	27	12	3.5	48	27
φ20	4.5	47	34.5	14	4.5	61	34.5
φ25	5	50.5	37.5	17.5	5	68	37.5

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

SSD2-K Series

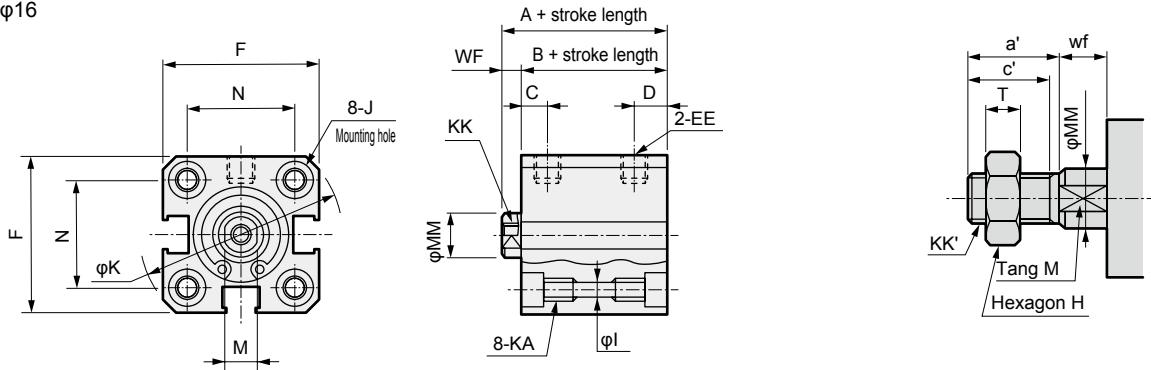
Dimensions



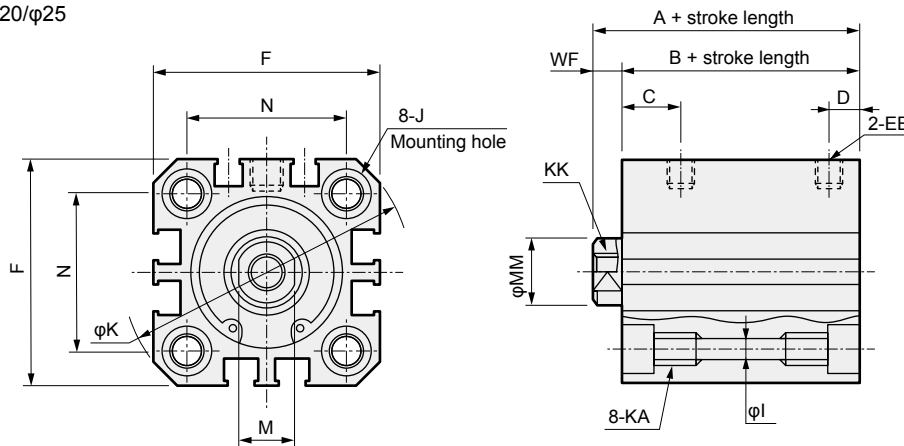
● SSD2-K-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Dimensions without switch and common dimensions															
	Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
SRG3	φ12	25.5	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
SRM3	φ16	25.5	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRT3	φ20	29	24.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
SRL3	φ25	32.5	27.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

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

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

· For φ16: A + stroke length = 35.5 B + stroke length = 32

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

· For φ16: A + stroke length = 32.5 B + stroke length = 29

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

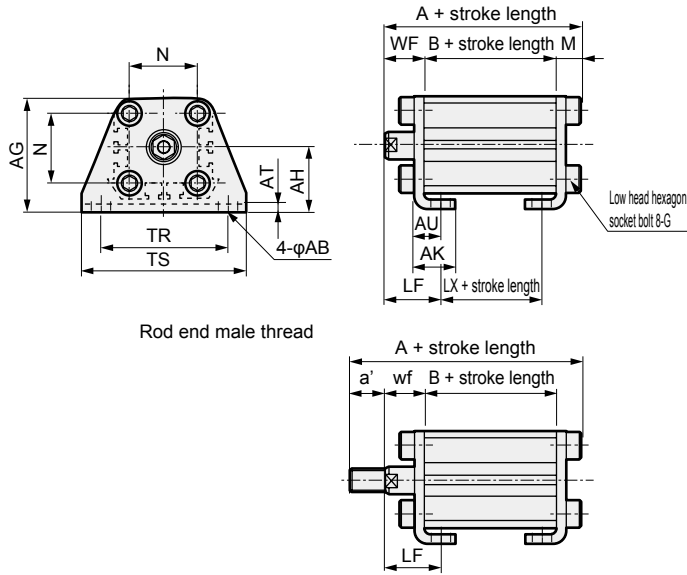
● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
FJ	φ12	10.5	9	8	M5	5	6	3.5
FK	φ16	12	10	10	M6	6	8	3.5
Spd Contr	φ20	14	12	13	M8	8	10	4.5
Ending	φ25	17.5	15	17	M10×1.25	10	12	5

Dimensions with mounting bracket

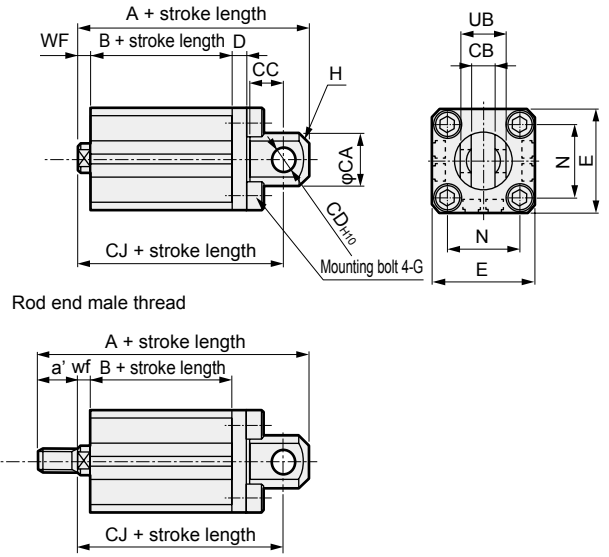


- Axial foot (LB) without switch
SSD2-K-12 to 25 -LB



Rod end male thread

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



Rod end male thread

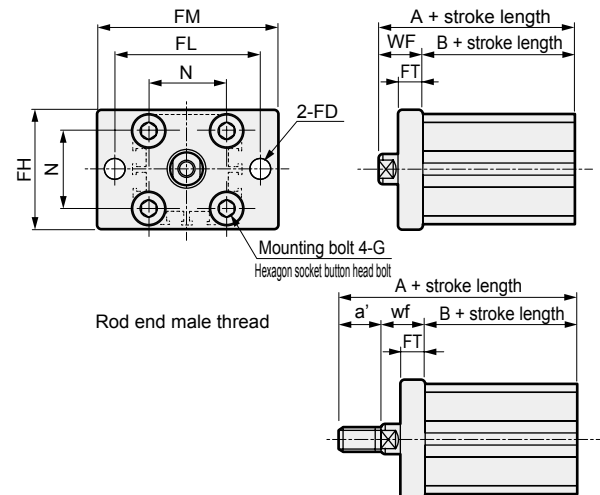
Code	Common dimensions											Female thread				
	Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M				
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8					
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8					
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2					
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2					

Code	Male thread										
	Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B
φ12	13.5	19.5	40.3	22	10	10.5	13.5	19.5	50.8	22	10
φ16	13.5	19.5	40.3	22	10	12	13.5	19.5	52.3	22	10
φ20	14.5	20.5	46.2	24.5	12.5	14	14.5	20.5	60.2	24.5	12.5
φ25	15	22.5	49.7	27.5	12.5	17.5	15	22.5	67.2	27.5	12.5

Code	Common dimensions										Female thread				Male thread			
	Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB							
φ12	12	5.2 ^{+0.2}	7	5	4	25	M4×12	C1.5	15.5	10 ^{-0.1} _{0.3}								
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{-0.1} _{0.4}								
φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5	16 ^{-0.1} _{0.5}								
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{-0.1} _{0.5}								

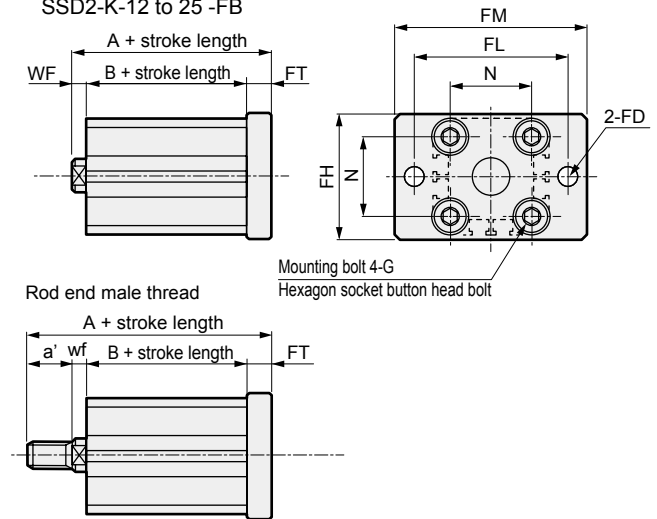
Code	Female thread				Male thread				
	Bore size (mm)	WF	A	B	CJ	a'	wf	A	B
φ12	3.5	45.5	22	39.5	10.5	3.5	56	22	39.5
φ16	3.5	46.5	22	40.5	12	3.5	58.5	22	40.5
φ20	4.5	56	24.5	47	14	4.5	70	24.5	47
φ25	5	62.5	27.5	52.5	17.5	5	80	27.5	52.5

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



Rod end male thread

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



Rod end male thread

Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	13.5	35.5	22	10.5	13.5	46	22	
φ16	13.5	35.5	22	12	13.5	47.5	22	
φ20	14.5	39	24.5	14	14.5	53	24.5	
φ25	15	42.5	27.5	17.5	15	60	27.5	

Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	3.5	31	22	10.5	3.5	41.5	22	
φ16	3.5	31	22	12	3.5	43	22	
φ20	4.5	37	24.5	14	4.5	51	24.5	
φ25	5	40.5	27.5	17.5	5	58	27.5	

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

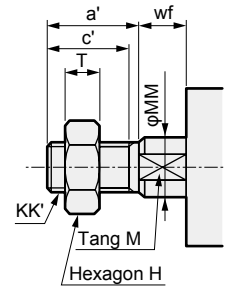
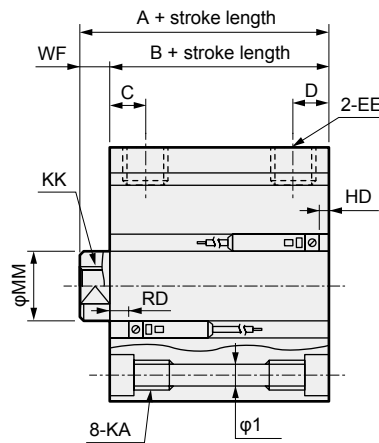
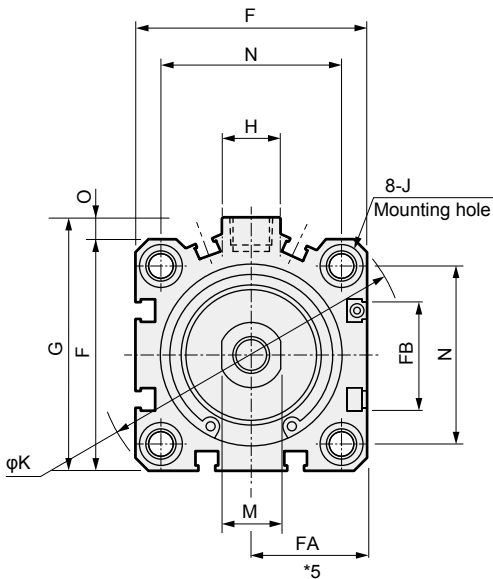
SSD2-K Series

Dimensions



● SSD2-KL-32 to 100 (with switch)

● Rod end male thread



Code	Common dimensions with switch																			
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*5}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
φ32	50	43	8	8	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
φ40	56.5	49.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
φ50	58.5	50.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
φ63	64	56	13	11	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
φ80	73.5	63.5	16	13	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
φ100	85	73	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
	HD	RD	HD	RD	HD	RD
φ32	9	15	9	15	11	17
φ40	9.5	19.5	9.5	19.5	11	21
φ50	10	20	10	20	11.5	21.5
φ63	17.5	18	17.5	18	19	19.5
φ80	22	20.5	22.5	20.5	24	22
φ100	28	24.5	28	24.5	29.5	26

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

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

· For φ40: A + stroke length = 60 B + stroke length = 53

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

· For φ40: A + stroke length = 57 B + stroke length = 50

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

3 : Refer to page 1029 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1 and T8* switches.

4 : Refer to page 1029 for protruding dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1 and T8* switches.

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

*6 : For dimensions with accessories and of individual accessories, refer to pages 1030 to 1033.

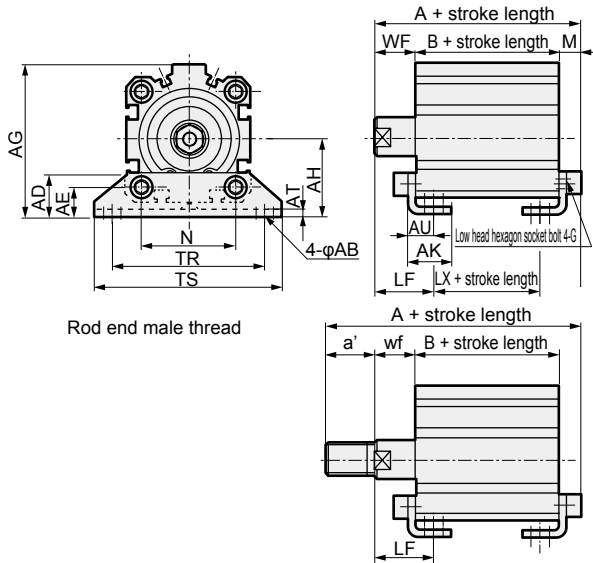
● Dimensions of rod end male thread part

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

Dimensions with mounting bracket



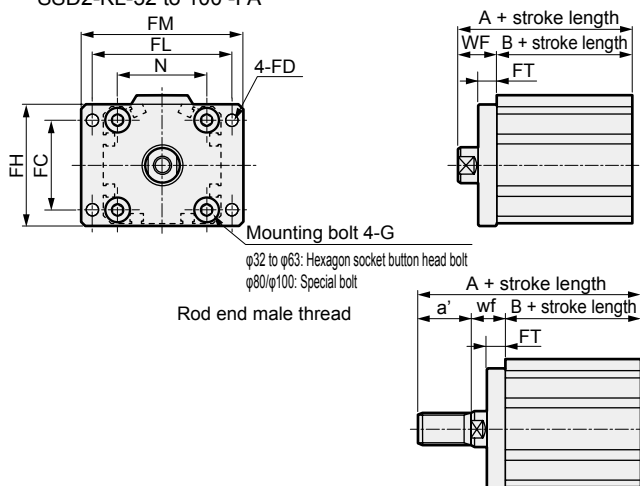
- Axial foot (LB) with switch
SSD2-KL-32 to 100 -LB



Code	Common dimensions											Female thread			
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS		
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71			
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78			
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95			
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113			
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140			
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162			

Code	Male thread											
	Bore size (mm)	M	WF	LF	A	B	LX	a'	wf	LF	A	B
φ32	7.2	17	25	67.2	43	27	23.5	15	23	88.7	43	27
φ40	7.2	17	25	73.7	49.5	33.5	23.5	15	23	95.2	49.5	33.5
φ50	8.2	18	29.5	76.7	50.5	27.5	28.5	15	26.5	102.2	50.5	27.5
φ63	9.2	18	31	83.2	56	30	28.5	15	28	108.7	56	30
φ80	11.5	20	35	95	63.5	33.5	35.5	18	33	128.5	63.5	33.5
φ100	13	22	39	108	73	39	35.5	18	35	139.5	73	39

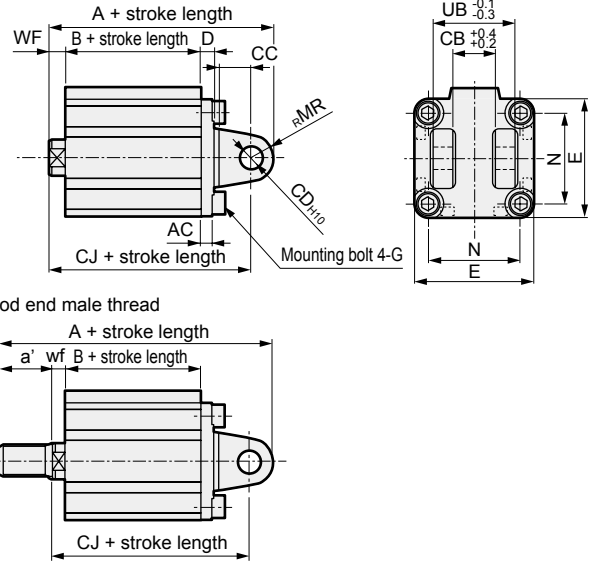
- Rod side flange (FA)
SSD2-KL-32 to 100 -FA



Code	Common dimensions							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20
φ63	60	9	80	92	108	9	60	M10×25
φ80	77	11	99	116	134	11	77	M12×40
φ100	94	11	117	136	154	11	94	M12×40

Code	Female thread				Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A	B
φ32	17	60	43	23.5	15	81.5	43	
φ40	17	66.5	49.5	23.5	15	88	49.5	
φ50	18	68.5	50.5	28.5	15	94	50.5	
φ63	18	74	56	28.5	15	99.5	56	
φ80	20	83.5	63.5	35.5	18	117	63.5	
φ100	22	95	73	35.5	18	126.5	73	

- Clevis bracket (CB) with switch
SSD2-KL-32 to 100 -CB

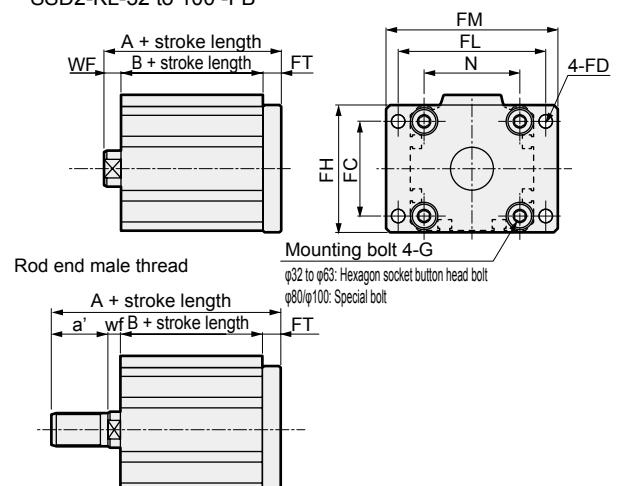


Code	Common dimensions									
	Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36
φ40	5	18.2	14	10	6	52	M6×16	10	40	36
φ50	6	22.2	20	14	7	64	M8×20	14	50	44
φ63	7	22.2	20	14	8	77	M10×25	14	60	44
φ80	9	28.2	27	18	10	98	M12×40	18	77	56
φ100	12	32.2	31	22	13	117	M12×40	22	94	64

Code	Female thread					Male thread				
	Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
φ32	7	80	43	70	23.5	5	101.5	43	68	
φ40	7	88.5	49.5	78.5	23.5	5	110	49.5	76.5	
φ50	8	100.5	50.5	86.5	28.5	5	126	50.5	83.5	
φ63	8	108	56	94	28.5	5	133.5	56	91	
φ80	10	129.5	63.5	111.5	35.5	8	163	63.5	109.5	
φ100	12	152	73	130	35.5	8	183.5	73	126	

* A pin and a snap ring are attached.

- Head side flange (FB)
SSD2-KL-32 to 100 -FB



Code	Common dimensions							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20
φ63	60	9	80	92	108	9	60	M10×25
φ80	77	11	99	116	134	11	77	M12×40
φ100	94	11	117	136	154	11	94	M12×40

Code	Female thread				Male thread			
	Bore size (mm)	WF	A	B	a'	wf	A	B
φ32	7	58	43	23.5	5	79.5	43	
φ40	7	64.5	49.5	23.5	5	86	49.5	
φ50	8	67.5	50.5	28.5	5	93	50.5	
φ63	8	73	56	28.5	5	98.5	56	
φ80	10	84.5	63.5	35.5	8	118	63.5	
φ100	12	96	73	35.5	8	127.5	73	

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

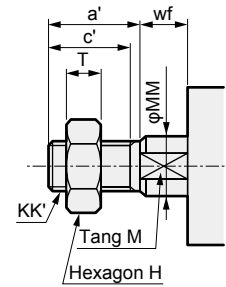
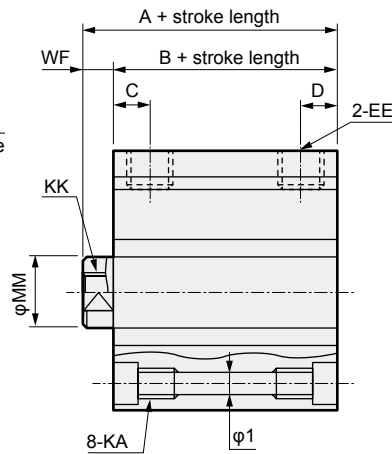
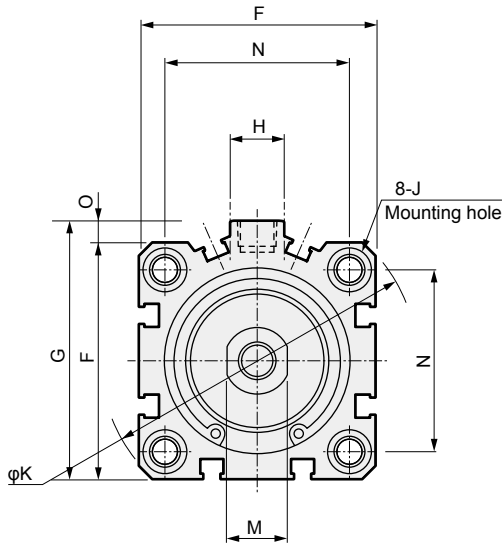
SSD2-K Series

Dimensions



● SSD2-K-32 to 100 (without switch)

● Rod end male thread



Code	Dimensions without switch and common dimensions												
Bore size (mm)	A ^{*1, *3}	B ^{*1, *3}	C	D	EE	F	G	H	I	J	K	KA	KK
φ32	40(50)	33(43)	8	8	Rc1/8	45	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
φ40	46.5(56.5)	39.5(49.5)	12	8.5	Rc1/8	52	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	48.5(58.5)	40.5(50.5)	10.5	10.5	Rc1/4	64	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	54(64)	46(56)	13	11	Rc1/4	77	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	63.5(73.5)	53.5(63.5)	16	13	Rc3/8	98	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	75(85)	63(73)	23	15	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code	Dimensions without switch and common dimensions				
Bore size (mm)	M	MM	N	O	WF
φ32	14	16	34	4.5	7
φ40	14	16	40	5	7
φ50	17	20	50	7	8
φ63	17	20	60	7	8
φ80	22	25	77	6	10
φ100	27	30	94	6.5	12

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

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

· For φ40: A + stroke length = 50 B + stroke length = 43

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

· For φ40: A + stroke length = 47 B + stroke length = 40

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

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

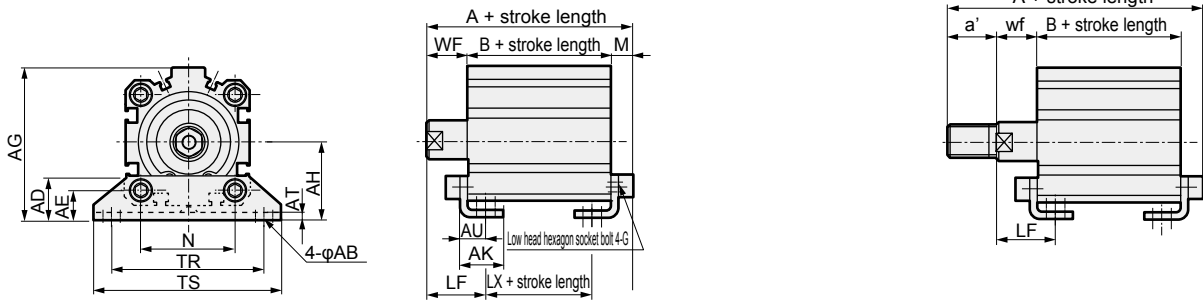
● Dimensions of rod end male thread part

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

Dimensions with mounting bracket



- Axial foot (LB) without switch
SSD2-K-32 to 100 -LB

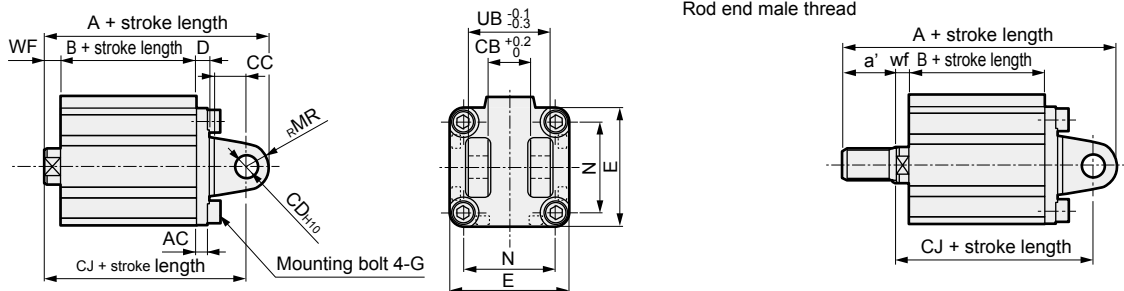


Code	Common dimensions													Female thread			
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	A	B
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2	17	25	57.2(67.2)	33(43)
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	17	25	63.7(73.7)	39.5(49.5)
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	18	29.5	66.7(76.7)	40.5(50.5)
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	18	31	73.2(83.2)	46(56)
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	20	35	85(95)	53.5(63.5)
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	22	39	98(108)	63(73)

Code	Male thread						
	LX	a'	wf	LF	A	B	LX
φ32	17(27)	23.5	15	23	78.7(88.7)	33(43)	17(27)
φ40	23.5(33.5)	23.5	15	23	85.2(95.2)	39.5(49.5)	23.5(33.5)
φ50	17.5(27.5)	28.5	15	26.5	92.2(102.2)	40.5(50.5)	17.5(27.5)
φ63	20(30)	28.5	15	28	98.7(108.7)	46(56)	20(30)
φ80	23.5(33.5)	35.5	18	33	118.5(128.5)	53.5(63.5)	23.5(33.5)
φ100	29(39)	35.5	18	35	129.5(139.5)	63(73)	29(39)

* Dimensions in () are for stroke lengths of more than 50 mm.

- Clevis bracket (CB) without switch
SSD2-K-32 to 100 -CB



Code	Common dimensions										Female thread				Male thread				
	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	A	B	CJ	a'	wf	A	B	CJ
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36	7	70	33	60	23.5	5	91.5	33	58
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	78.5	39.5	68.5	23.5	5	100	39.5	66.5
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	90.5	40.5	76.5	28.5	5	116	40.5	73.5
φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	98	46	84	28.5	5	123.5	46	81
φ80	9	28.2	27	18	10	98	M12×40	18	77	56	10	119.5	53.5	101.5	35.5	8	153	53.5	99.5
φ100	12	32.2	31	22	13	117	M12×40	22	94	64	12	142	63	120	35.5	8	173.5	63	116

* A pin and a snap ring are attached.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd

Contr

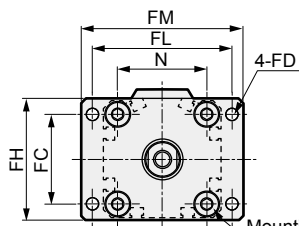
Ending

SSD2-K Series

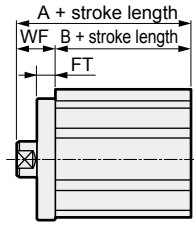


Dimensions with mounting bracket

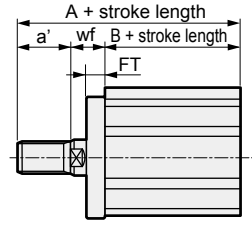
- Rod side flange (FA) without switch
SSD2-K-32 to 100 -FA



Mounting bolt 4-G
 $\phi 32$ to $\phi 63$: Hexagon socket button head bolt
 $\phi 80/\phi 100$: Special bolt



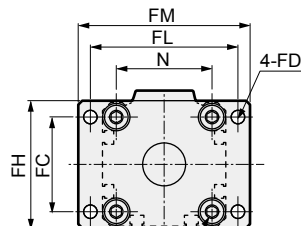
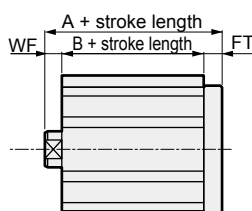
Rod end male thread



Code	Common dimensions								Female thread			Male thread				
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
SSD	$\phi 32$	34	5.5	48	56	65	8	34	M6×16	17	50(60)	33(43)	23.5	15	71.5(81.59)	33(43)
SSG	$\phi 40$	40	5.5	54	62	72	8	40	M6×16	17	56.5(66.5)	39.5(49.5)	23.5	15	78(88)	39.5(49.5)
SSD	$\phi 50$	50	6.6	67	76	89	9	50	M8×20	18	58.5(68.5)	40.5(50.5)	28.5	15	84(94)	40.5(50.5)
SSD	$\phi 63$	60	9	80	92	108	9	60	M10×25	18	64(74)	46(56)	28.5	15	89.5(99.5)	46(56)
CAT	$\phi 80$	77	11	99	116	134	11	77	M12×40	20	73.5(83.5)	53.5(63.5)	35.5	18	107(117)	53.5(63.5)
CAT	$\phi 100$	94	11	117	136	154	11	94	M12×40	22	85(95)	63(73)	35.5	18	116.5(126.5)	63(73)

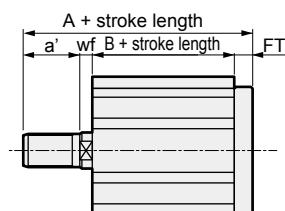
* Dimensions in () are for stroke lengths of more than 50 mm.

- Head side flange (FB) without switch
SSD2-K-32 to 100 -FB



Mounting bolt 4-G
 $\phi 32$ to $\phi 63$: Hexagon socket button head bolt
 $\phi 80/\phi 100$: Special bolt

Rod end male thread



Code	Common dimensions								Female thread			Male thread				
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
MRG2	$\phi 32$	34	5.5	48	56	65	8	34	M6×16	7	48	33	23.5	5	69.5	33
SM-25	$\phi 40$	40	5.5	54	62	72	8	40	M6×16	7	54.5	39.5	23.5	5	76	39.5
ShkAbs	$\phi 50$	50	6.6	67	76	89	9	50	M8×20	8	57.5	40.5	28.5	5	83	40.5
ShkAbs	$\phi 63$	60	9	80	92	108	9	60	M10×25	8	63	46	28.5	5	88.5	46
FJ	$\phi 80$	77	11	99	116	134	11	77	M12×40	10	74.5	53.5	35.5	8	108	53.5
FJ	$\phi 100$	94	11	117	136	154	11	94	M12×40	12	86	63	35.5	8	117.5	63

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

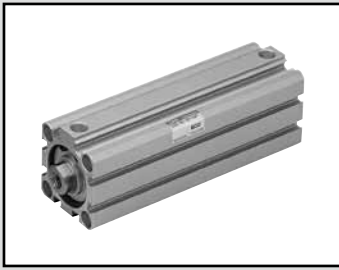
ShkAbs

FJ

FK

Spd
Contr

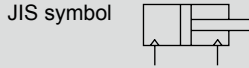
Ending



Compact cylinder double acting/single rod/long stroke length

SSD2 Series (long stroke length)

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



Specifications

Descriptions	SSD2										
	SSD2-L (with switch)										
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)							0.05 (≈ 7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc1/8			Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0										
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	Rubber cushion										
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)										
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

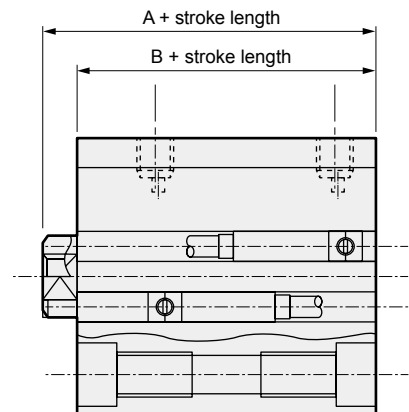
Stroke length

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

Custom stroke length

● SSD2 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	31 to 99
	20	51 to 199
	25	51 to 299
Example of model No.	32 to 100	101 to 299
	Model No.: SSD2-32-121 A +4 mm spacer is added to the SSD2-32-125 standard cylinder to create 121 mm stroke length. B + stroke length is 170.5mm.	



Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire					
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller				
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-		-		10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)	Red/green LED (Lit when ON)				
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272				

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

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

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

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

Theoretical thrust table

(Unit: N)

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

SSD2 (Long stroke length) Series

How to order

Without switch (without magnet for switch)

SSD2 - **12** - **100** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*2

*3

*8

E Switch quantity

F Option

*4

G Mounting bracket

*5

*6

⚠ Precautions for model No. selection

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

2 : The T8 switch cannot be mounted on φ12 and φ16.

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

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

*5 : The mounting bracket is attached at shipment.

*6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 783 and 785. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

*10 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder, long stroke length

A Bore size : φ12 mm

B Port thread : Rc thread

C Stroke length : 100mm

D Switch model No. : Reed T0H switch
· Lead wire 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

H Accessory

*7

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

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

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

D Switch model No.		Contact	Voltage	Display	Lead wire	Bore size														
Lead wire Straight	Lead wire L-shaped					AC	DC	12	16	20	25	32	40	50	63	80	100			
F2S*	F2V*	Proximity	●	1-color display	2-wire			●												
F3S*	F3V*				3-wire			●												
F2H*	F2V*	Proximity	●	1-color display (PNP output) (custom)	2-wire			●												
F3H*	F3V*				3-wire			●												
F3PH*	F3PV*	Proximity	●	2-color display	2-wire			●												
F2YH*	F2YV*				3-wire			●												
F3YH*	F3YV*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T0H*	T0V*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	●	Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	●	1-color display (PNP output) (custom)	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2VW*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3VW*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	●	AC magnetic field	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YDT*	-				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Reed	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-				3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *10

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

F Option		Bore size (φ)									
Option	Content	12	16	20	25	32	40	50	63	80	100
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●
M *4	Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free	Standard	●	●	●	●	●	●	●	●	●
P4	Specifications for	●	●	●	●	●	●	●	●	●	●
P40	rechargeable battery	●	●	●	●	●	●	●	●	●	●

G Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

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

[Stroke length table]

Stroke length (mm)	Applicable bore size									
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
35	●	●								
40	●	●								
45	●	●								
50	●	●								
75	●	●	●	●						
100	●	●	●	●						
125			●	●	●	●	●	●	●	●
150			●	●	●	●	●	●	●	●
175			●	●	●	●	●	●	●	●
200			●	●	●	●	●	●	●	●
250				●	●	●	●	●	●	●
300				●	●	●	●	●	●	●
Max. stroke length (mm)	100	200	300							
Custom stroke length *1	In 1 mm increments									

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

How to order switch

SW - T0H

Switch model No.
(Item ⑩ on the previous page)

Cylinder weight table

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

(Unit: g)

Stroke length (mm)	35		40		45		50		75		100		125		150		175		200		250		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	144	146	153	155	161	163	170	172	212	214	255	257	-	-	-	-	-	-	-	-	-	-	-	-
φ16	179	180	190	191	201	202	212	213	267	268	322	323	-	-	-	-	-	-	-	-	-	-	-	-
φ20	-	-	-	-	-	-	-	-	321	326	383	388	446	451	508	513	571	576	633	638	-	-	-	-
φ25	-	-	-	-	-	-	-	-	412	417	492	497	572	577	652	657	732	737	812	817	972	977	1132	1137
φ32	-	-	-	-	-	-	-	-	-	-	-	-	790	799	897	905	1003	1012	1111	1119	1326	1334	1541	1549
φ40	-	-	-	-	-	-	-	-	-	-	-	-	1000	1016	1133	1148	1265	1281	1398	1413	1663	1678	1928	1943
φ50	-	-	-	-	-	-	-	-	-	-	-	-	1553	1571	1779	1796	2004	2022	2217	2234	2642	2659	3067	3084
φ63	-	-	-	-	-	-	-	-	-	-	-	-	2138	2162	2413	2437	2688	2712	2963	2987	3512	3536	4062	4086
φ80	-	-	-	-	-	-	-	-	-	-	-	-	3478	3505	3911	3937	4343	4370	4776	4802	5640	5666	6505	6531
φ100	-	-	-	-	-	-	-	-	-	-	-	-	4816	4848	5386	5418	5956	5988	6526	6558	7667	7699	8807	8839

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

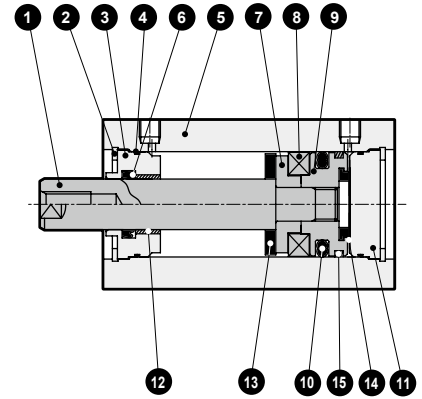
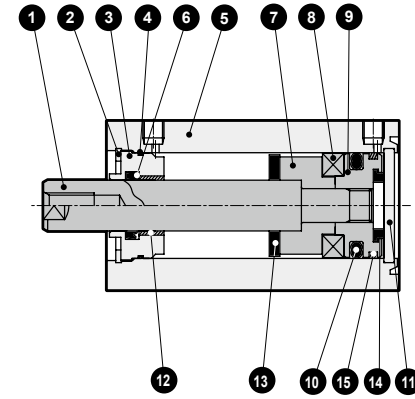
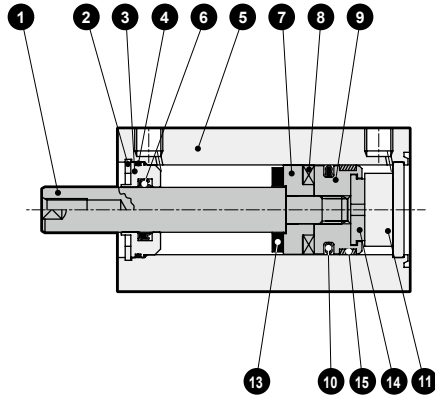
SSD2 (Long stroke length) Series

Internal structure and parts list

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

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

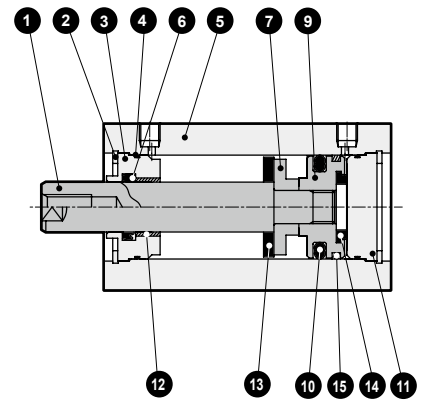
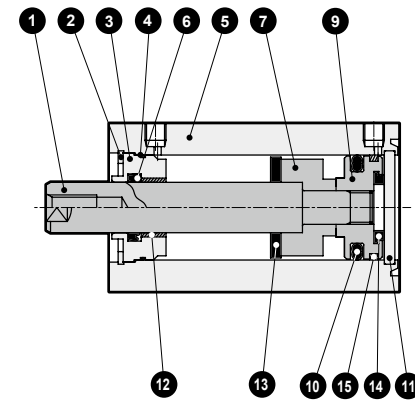
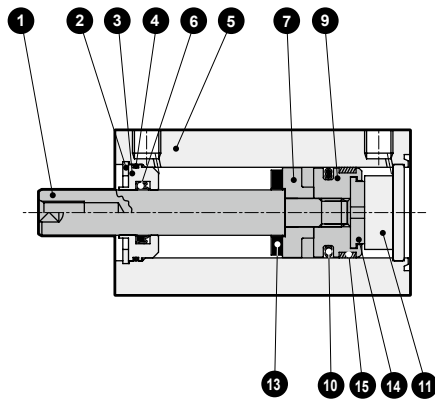
φ20: Over 100 to 200 mm stroke length
φ25: Over 150 to 300 mm stroke length
φ32 to φ50: Over 150 to 300 mm stroke length
φ63 to φ100: Over 200 to 300 mm stroke length



● SSD2 (long stroke length) -12, 16
(double acting/single rod)

● SSD2 (long stroke length) -20 to 100
(double acting/single rod)

φ20: Over 100 to 200 mm stroke length
φ25: Over 150 to 300 mm stroke length
φ32 to φ50: Over 150 to 300 mm stroke length
φ63 to φ100: Over 200 to 300 mm stroke length



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to 25: Stainless steel φ32 to 100: Steel	φ16 to 100 Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Special aluminum	Chromate	11	Cover	φ12 to 25: Stainless steel φ32 to 100: Aluminum alloy	φ32 to 100: Alumite (*1)
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	φ20 to 100 (*2)
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber (R)	Urethane rubber	
6	Rod packing	Nitrile rubber		14	Cushion rubber (H)	Urethane rubber	
7	Spacer	Aluminum alloy	φ12 to φ32: Chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic					

*1: For φ20 with more than 100 mm stroke length and φ25 with more than 150 mm stroke length, the standard cover material is aluminum alloy with chromate coating noted in remarks.

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

Repair parts list

Same as SSD2-K Series (double acting/high load). Refer to pages 764 and 765.

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SSD2 (Long stroke length) Series

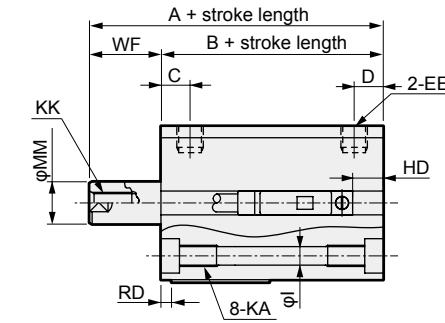
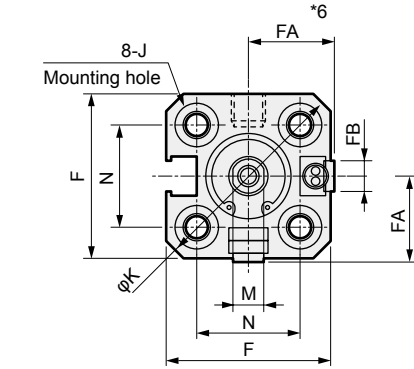
Dimensions



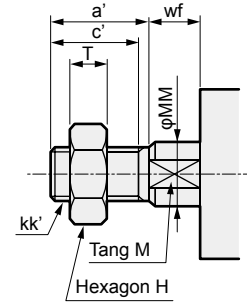
● SSD2 (long stroke length) -(L)-12 to 25

* The dimensions are common for types with and without switches.

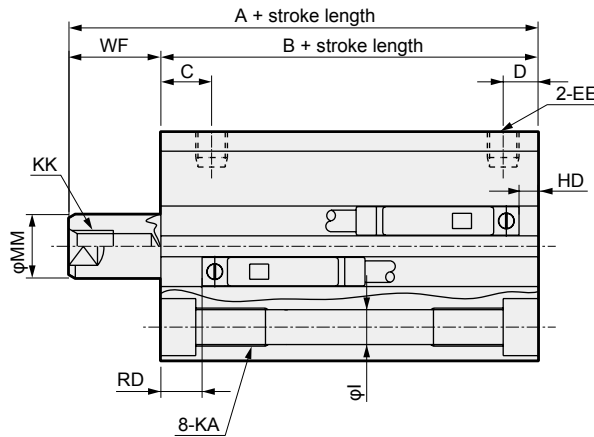
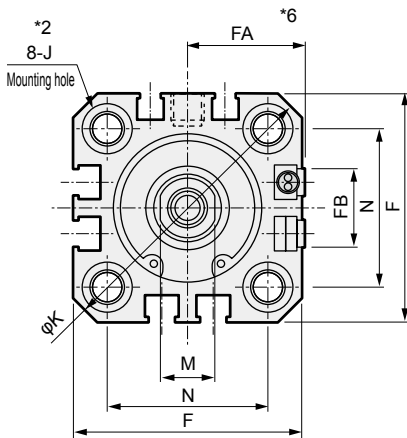
φ12/φ16



● Rod end male thread



φ20/φ25



· Precautions regarding the switch mounting groove

*1: Only F switch is available for the φ20 or φ25 piping port surface.

Code	Common dimensions with switch																
	A ^{*1}	B ^{*1}	C	D ^{*3}	EE	F	FA ^{*6}	FB	I	J ^{*2}	K	KA	KK	M	MM	N	WF
φ12	45.5	32	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	13.5
φ16	45.5	32	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	13.5
φ20	55.5	41	8	5.5(8)	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	14.5
φ25	59	44	11	6(11)	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	15

Switch dimensions	Reed T0H/T0V, T5H/T5V *3		Proximity T2H/T2V, T3H/T3V *3		Proximity T2WH/T2WV, T3WH/T3WV *3		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV *3			Proximity F2S/F3S	
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	
φ12	8.5	5	8.5	5	10.5	6.5					
φ16	8.5	5	8.5	5	10.5	6.5					
φ20	6(12.5)	16(10)	6(12.5)	16(10)	7.5(14)	17.5(12)	10(16.5)	20(14.5)	9(15.5)	19(13.5)	
φ25	5.5(14)	19.5(12)	5.5(14)	19.5(12)	7(15.5)	21(14)	9.5(18)	23.5(16.5)	8.5(17)	22.5(15.5)	

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

(Example) If the custom stroke length is 70 mm, apply the standard stroke length 75 mm.

*2 : No spot facing J for φ20 with more than 100 mm stroke length and φ25 with more than 150 mm stroke length.

*3 : Values in () are for φ20 with more than 100 mm stroke length and φ25 with more than 150 mm stroke length.

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

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

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

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

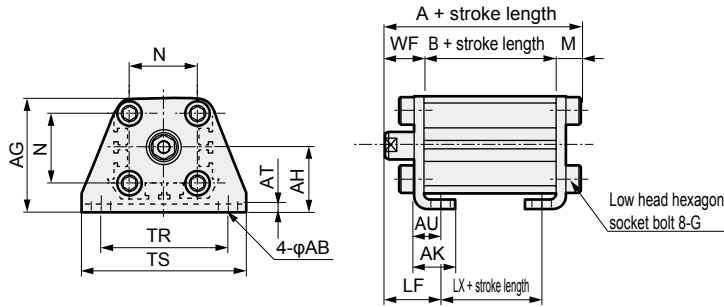
● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
φ12	10.5	9	8	M5	5	6	3.2	13.5
φ16	12	10	10	M6	6	8	3.6	13.5
φ20	14	12	13	M8	8	10	5	14.5
φ25	17.5	15	17	M10×1.25	10	12	6	15

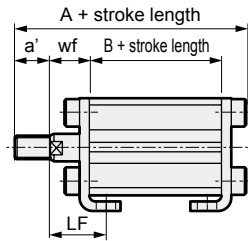
Dimensions with mounting bracket



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



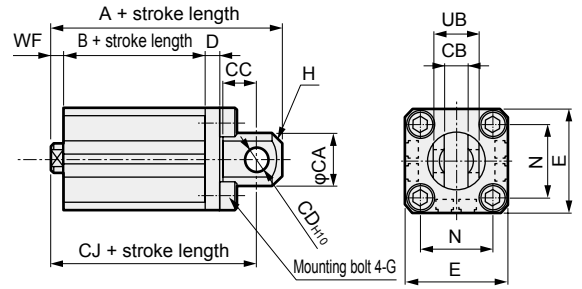
Rod end male thread



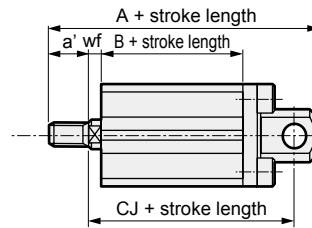
Code	Common dimensions						Female thread				
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Male thread			Without/with switch		
Bore size (mm)	WF	LF	LX	a'	wf	LF
φ12	13.5	19.5	50.3	32	20	10.5
φ16	13.5	19.5	50.3	32	20	12
φ20	14.5	20.5	62.7	41	29	14
φ25	15	22.5	66.2	44	29	17.5

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



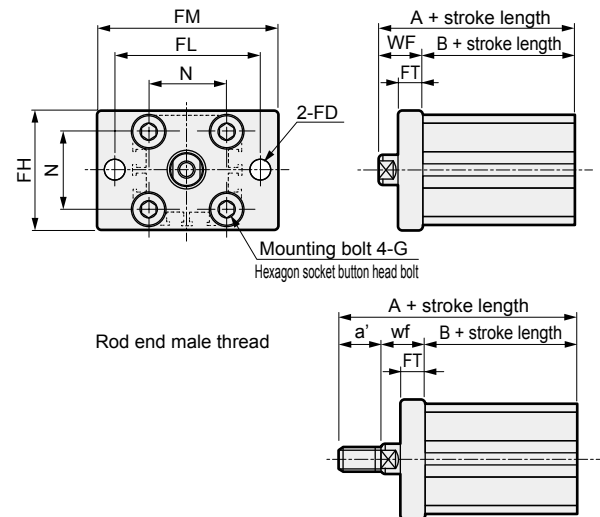
Rod end male thread



Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

Code	Female thread			Male thread		
Bore size (mm)	WF	Without/with switch	Without/with switch	Without/with switch	Without/with switch	Without/with switch
		A	B	CJ	a'	wf
φ12	13.5	65.5	32	59.5	10.5	13.5
φ16	13.5	66.5	32	60.5	12	13.5
φ20	14.5	82.5	41	73.5	14	14.5
φ25	15	89	44	79	17.5	15

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

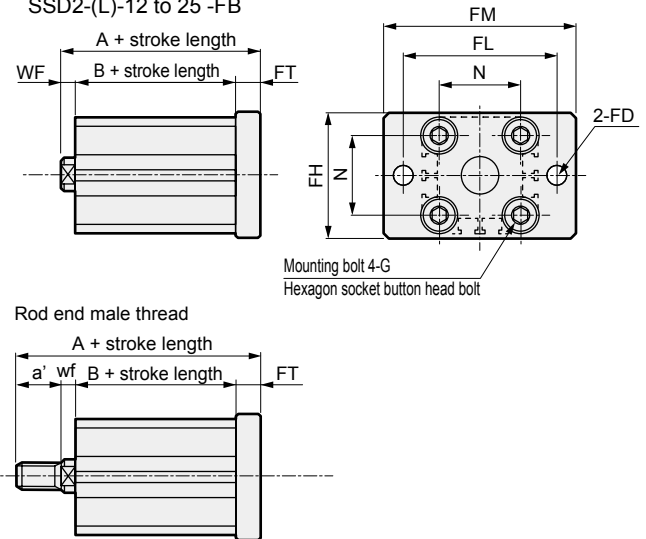


Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread			Male thread		
Bore size (mm)	WF	Without/with switch	Without/with switch	Without/with switch	Without/with switch	Without/with switch
		A	B	a'	wf	LX
φ12	13.5	45.5	32	10.5	13.5	56
φ16	13.5	45.5	32	12	13.5	57.5
φ20	14.5	55.5	41	14	14.5	69.5
φ25	15	59	44	17.5	15	76.5

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



Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread			Male thread		
Bore size (mm)	WF	Without/with switch	Without/with switch	Without/with switch	Without/with switch	Without/with switch
		A	B	a'	wf	LX
φ12	13.5	51	32	10.5	13.5	61.5
φ16	13.5	51	32	12	13.5	63
φ20	14.5	63.5	41	14	14.5	77.5
φ25	15	67	44	17.5	15	84.5

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

SSD2 (Long stroke length) Series

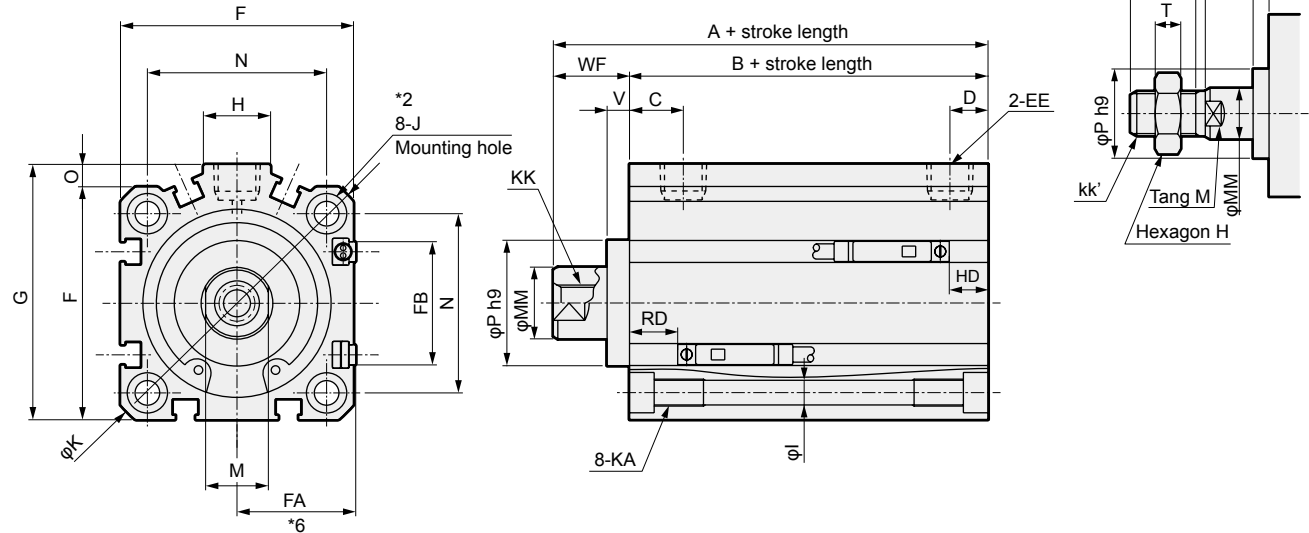
Dimensions



● SSD2 (long stroke length) -(L)-32 to 100

● Rod end male thread

* The dimensions are common for types with and without switches.



Code	Common dimensions with switch																					
	A ^{*1}	B ^{*1}	C	D ^{*3}	EE	F	FA ^{*6}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	P	V	WF
φ32	62.5	45.5	8	8	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	22	5	17
φ40	72	55	12	8.5(12)	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	28	5	17
φ50	73.5	55.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	35	5	18
φ63	75	57	13	11(13)	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 6.5	103	M10 depth 25	M10 depth 15	17	20	60	7	35	5	18
φ80	86	66	16	13(16)	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	43	5	20
φ100	97.5	75.5	23	15(23)	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59	5	22

Switch dimensions	Reed T0H/T0V, T5H/T5V *3		Proximity T2H/T2V, T3H/T3V *3		Proximity T2WH/T2WV, T3WH/T3WV *3	
	HD	RD	HD	RD	HD	RD
φ32	8.5(16)	18(10)	8.5(16)	18(10)	10(17.5)	19.5(12)
φ40	9.5(19)	26.5(16.5)	9.5(19)	26.5(16.5)	11(20.5)	28(18.5)
φ50	10(19)	26(17)	10(19)	26(17)	11.5(20.5)	27.5(19)
φ63	17.5(23)	20(14.5)	17.5(23)	20(14.5)	19(24.5)	21.5(16.5)
φ80	22.5(28)	24(18.5)	22.5(28)	24(18.5)	24(29.5)	25.5(20.5)
φ100	28(33.5)	28(22.5)	28(33.5)	28(22.5)	29.5(35)	29.5(24.5)

- *1 : To calculate A + stroke length or B + stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 121 mm, apply the standard stroke length 125 mm.
- *2 : No spot facing J for φ32 to φ50 with more than 150 mm stroke length and φ63 to φ100 with more than 200 mm stroke length.
- *3 : Values in () are for φ32 to φ50 with more than 150 mm stroke length and φ63 to φ100 with more than 200 mm stroke length.
- *4 : Refer to page 1028 for HD and RD dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1* and T8* switches.
- *5 : Refer to page 1028 for protruding dimensions of the 2-color display, off-delay, AC magnetic field tolerant, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the radial lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1030 to 1033.

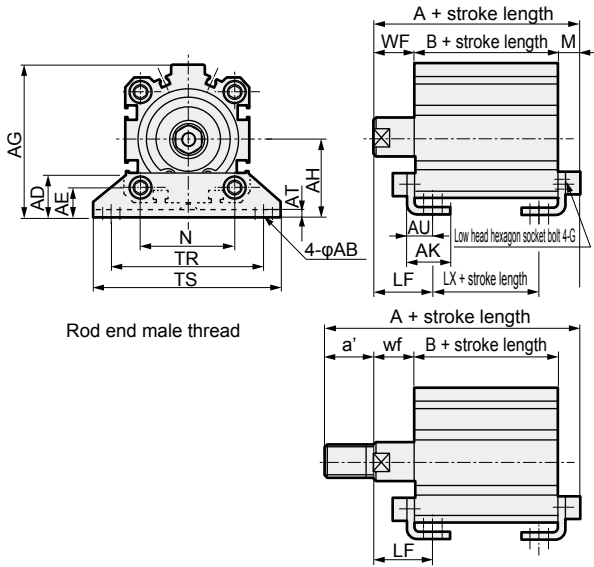
● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	15
φ40	23.5	20.5	22	M14×1.5	14	16	8	15
φ50	28.5	26	27	M18×1.5	17	20	11	15
φ63	28.5	26	27	M18×1.5	17	20	11	15
φ80	35.5	32.5	32	M22×1.5	22	25	13	18
φ100	35.5	32.5	41	M26×1.5	27	30	16	18

Dimensions with mounting bracket



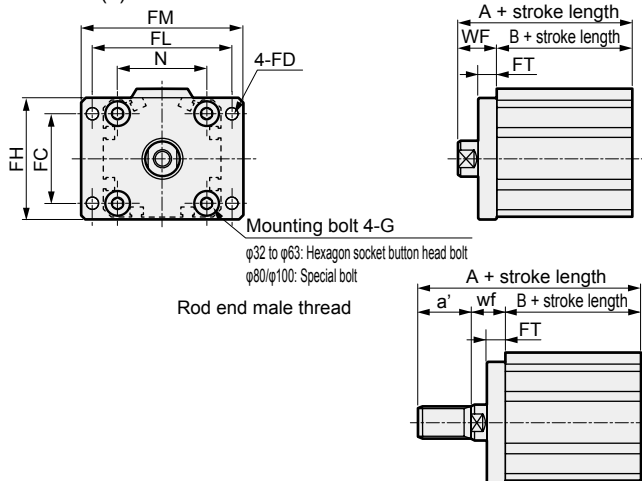
- Axial foot (LB)
SSD2-(L)-32 to 100 -LB



Code		Common dimensions										Female thread				
Bore size (mm)		AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS			
φ32		7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71			
φ40		7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78			
φ50		9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95			
φ63		11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113			
φ80		13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140			
φ100		13	35	24	136	71	35.5	6	23	M12×40	94	137	162			

Code		Male thread											
Bore size (mm)		M	WF	LF	Without/with switch			a'	wf	LF	Without/with switch		
					A	B	LX				A	B	LX
φ32		7.2	17	25	69.7	45.5	29.5	23.5	15	23	91.2	45.5	29.5
φ40		7.2	17	25	79.2	55	39	23.5	15	23	100.7	55	39
φ50		8.2	18	29.5	81.7	55.5	32.5	28.5	15	26.5	107.2	55.5	32.5
φ63		9.2	18	31	84.2	57	31	28.5	15	28	109.7	57	31
φ80		11.5	20	35	97.5	66	36	35.5	18	33	131	66	36
φ100		13	22	39	110.5	75.5	41.5	35.5	18	35	142	75.5	41.5

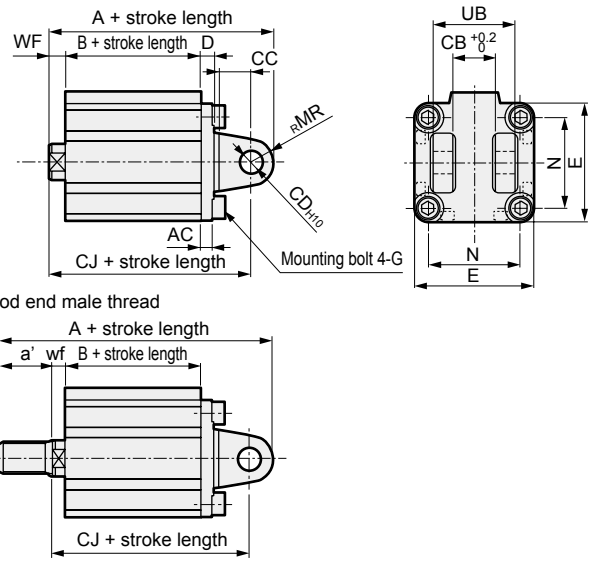
- Rod side flange (FA)
SSD2-(L)-32 to 100 -FA



Code		Common dimensions							
Bore size (mm)		FC	FD	FH	FL	FM	FT	N	G
φ32		34	5.5	48	56	65	8	34	M6×16
φ40		40	5.5	54	62	72	8	40	M6×16
φ50		50	6.6	67	76	89	9	50	M8×20
φ63		60	9	80	92	108	9	60	M10×25
φ80		77	11	99	116	134	11	77	M12×40
φ100		94	11	117	136	154	11	94	M12×40

Code		Female thread				Male thread			
Bore size (mm)		WF	Without/with switch		a'	wf	Without/with switch		
			A	B			A	B	
φ32		17	62.5	45.5	23.5	15	84	45.5	
φ40		17	72	55	23.5	15	93.5	55	
φ50		18	73.5	55.5	28.5	15	99	55.5	
φ63		18	75	57	28.5	15	100.5	57	
φ80		20	86	66	35.5	18	119.5	66	
φ100		22	97.5	75.5	35.5	18	129	75.5	

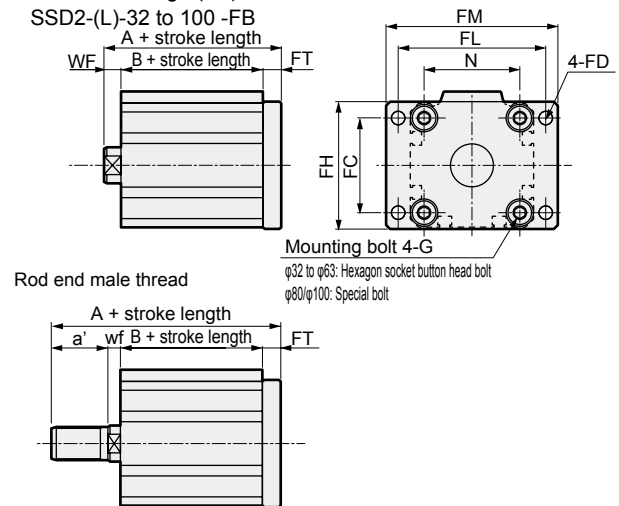
- Clevis bracket (CB)
SSD2-(L)-32 to 100 -CB



Code		Common dimensions									
Bore size (mm)		AC	CB	CC	CD	D	E	G	MR	N	UB
φ32		4.5	18.2	14	10	5	45	M6×16	10	34	36
φ40		5	18.2	14	10	6	52	M6×16	10	40	36
φ50		6	22.2	20	14	7	64	M8×20	14	50	44
φ63		7	22.2	20	14	8	77	M10×25	14	60	44
φ80		9	28.2	27	18	10	98	M12×40	18	77	56
φ100		12	32.2	31	22	13	117	M12×40	22	94	64

Code		Female thread				Male thread			
Bore size (mm)		WF	Without/with switch		a'	wf	Without/with switch		
			A	B			A	B	
φ32		17	92.5	45.5	82.5	23.5	15	114	45.5
φ40		17	104	55	94	23.5	15	125.5	55
φ50		18	115.5	55.5	101.5	28.5	15	141	55.5
φ63		18	119	57	105	28.5	15	144.5	57
φ80		20	142	66	124	35.5	18	175.5	66
φ100		22	164.5	75.5	142.5	35.5	18	196	75.5

- Head side flange (FB)
SSD2-(L)-32 to 100 -FB



Code		Common dimensions							
Bore size (mm)		FC	FD	FH	FL	FM	FT	N	G
φ32		34	5.5	48	56	65	8	34	M6×16
φ40		40	5.5	54	62	72	8	40	M6×16
φ50		50	6.6	67	76	89	9	50	M8×20
φ63		60	9	80	92	108	9	60	M10×25
φ80		77	11	99	116	134	11	77	M12×40
φ100		94	11	117	136	154	11	94	M12×40

Code		Female thread				Male thread			
Bore size (mm)		WF	Without/with switch		a'	wf	Without/with switch		
			A	B			A	B	
φ32		17	70.5	45.5	23.5	15	92	45.5	
φ40		17	80	55	23.5	15	101.5	55	
φ50		18	82.5	55.5	28.5	15	108	55.5	
φ63		18	84	57	28.5	15	109.5	57	
φ80		20	97	66	35.5	18	130.5	66	
φ100		22	108.5	75.5	35.5	18	140	75.5	

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

Compact cylinder single acting/push

SSD2-X Series

Single acting/pull/with switch

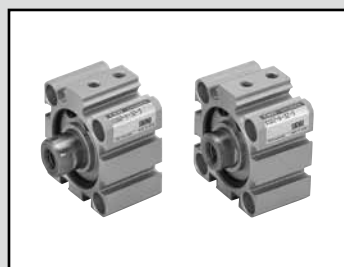
SSD2-Y Series

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

JIS symbol SSD2-X



SSD2-Y



Specifications

Descriptions	SSD2-X SSD2-XL (with switch)				SSD2-Y SSD2-YL (with switch)			
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	
Actuation	SSD2-X, XL: single acting/push, SSD2-Y, YL: single acting/pull							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.2 (≈ 29 psi, 2 bar)	0.17 (≈ 25 psi, 1.7 bar)	0.12 (≈ 17 psi, 1.2 bar)					
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5			Rc1/8 *2		Rc1/4		
Stroke tolerance mm	+1.0 0							
Working piston speed mm/s	50 to 500							
Cushion	None							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	

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

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

Stroke length

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

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

Min. stroke length with switch (1 or 2 switches)

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

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

*2: 5 mm stroke length is available only for the type with 1 on rod side.

SSD2-X/SSD2-Y spring load

(Unit: N)

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

Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller			
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-						
Pwr. supp. V.	-		-		10 to 28 VDC				-						
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less	50 mA or less			5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:18	3 m:49	5 m:80		1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272	

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

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

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

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

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

(Unit: g)

Stroke length (mm)	5		10		20	
	Without switch	With switch	Without switch	With switch	Without switch	With switch
Bore size (mm)						
φ12	40	80	49	89	-	-
φ16	52	92	64	104	-	-
φ20	74	114	89	129	-	-
φ25	107	147	127	167	-	-
φ32	155	195	183	223	-	-
φ40	249	289	285	325	-	-
φ50	-	-	459	499	572	612

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ²	1.13 × 10 ²
	Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³

SSD2-X Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Model No. B Bore size

C Port thread

D Stroke length

E Switch model No.
*1
*2
*3
*8
*9

F Switch quantity

G Option *4

Precautions for model No. selection

- *1 : The T2YD* switch cannot be mounted on the φ12 and φ16 bore sizes.
- *2 : The T8* switch cannot be mounted on the φ12 to φ32 bore sizes.
- *3 : The F switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.
- *4 : Piston rod of φ12 to φ25 is stainless steel as standard. C snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *5 : The mounting bracket is attached at shipment.
- *6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 793, 795, 797 and 799. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *7 : "I" and "Y" cannot be selected together.
- *8 : The F switch with L lead wire cannot be selected on φ20 models.
- *9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10: Refer to pages 734 and 735 for combinations of variations/options.
- *11 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder

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

H Mounting bracket
*5
*6

I Accessory
*7

Code	Content
A Model No.	
SSD2-X	Single acting/push
SSD2-XL	Single acting/push/with switch
SSD2-Y	Single acting/pull
SSD2-YL	Single acting/pull/with switch

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

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

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

E Switch model No.		Lead wire		Contact	Voltage		Display	Lead wire	Bore size									
Straight	L-shaped	AC	DC		12	16			20	25	32	40	50					
F2S*			●	Proximity	●	1-color display	2-wire			●	●							
F3S*			●					2-wire			●	●						
F2H*	F2V*		●						3-wire			●	●					
F3H*	F3V*		●					3-wire				●	●					
F3PH*	F3PV*		●	Proximity	●	1 color display (PNP output) (custom)	3-wire				●	●						
F2YH*	F2YV*		●					2-wire			●	●						
F3YH*	F3YV*		●						3-wire			●	●					
T0H*	T0V*	●	●	Reed	●	1-color display	2-wire	●		●	●	●	●	●	●	●		
T5H*	T5V*	●	●					Without indicator lamp	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	●	●						1-color display								●	●
T1H*	T1V*	●	●	Proximity	●	1-color display	2-wire				●	●	●	●	●	●		
T2H*	T2V*	●	●					2-wire	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	●	●						3-wire	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	●	●					3-wire		●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	●	●	Proximity	●	2-color display	2-wire		●	●	●	●	●	●	●	●		
T2YH*	T2YV*	●	●					3-wire	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	●	●						3-wire	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	●	●					3-wire		●	●	●	●	●	●	●	●	●
T2YD*	-	●	●	Reed	●	2-color display	2-wire				●	●	●	●	●	●		
T2YDT*	-	●	●					AC magnetic field			●	●	●	●	●	●	●	●
T2JH*	T2JV*	●	●	Proximity	●	1-color display off-delay	2-wire				●	●	●	●	●	●		

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

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

G Option		Bore size (mm)						
		12	16	20	25	32	40	50
Blank	Rod end female thread	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●
P6	Copper and PTFE free specifications	Supported as standard						
M *4	Piston rod material (stainless steel)	●	●	●	●	●	●	●
P4	Specifications for rechargeable battery	●	●	●	●	●	●	●
P40	(Custom order)	●	●	●	●	●	●	●

H Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

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

How to order switch

SW - **T0H**



Switch model No.

(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

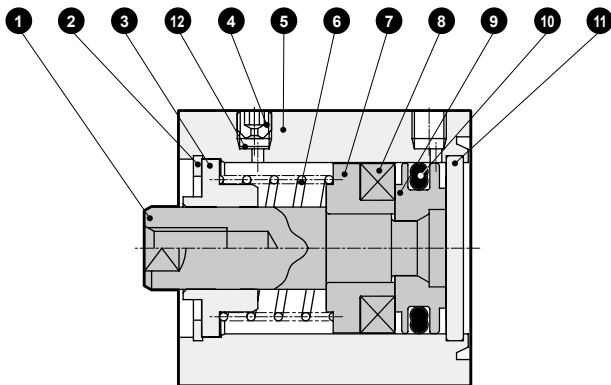
Spd
Contr

Ending

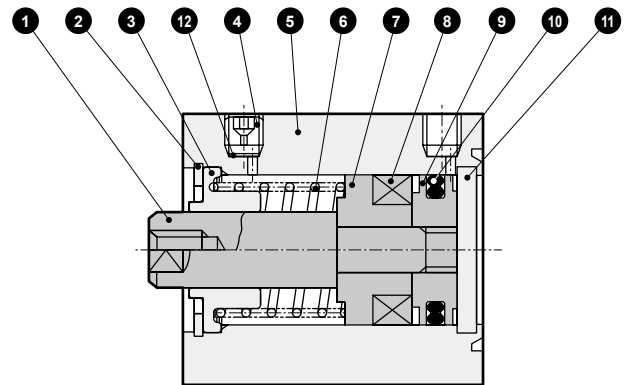
SSD2-X Series

Internal structure and parts list

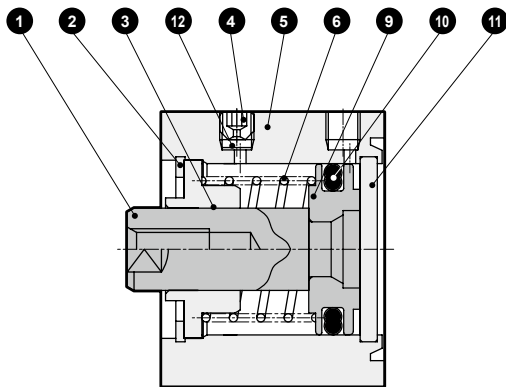
● SSD2-XL-12 to 32 (single acting/push/with switch)



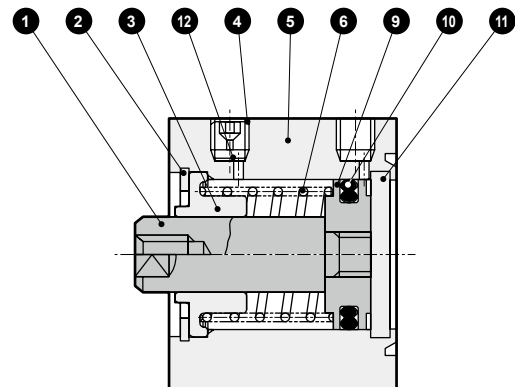
● SSD2-XL-40, 50 (single acting/push/with switch)



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



● SSD2-X-40, 50 (single acting/push)



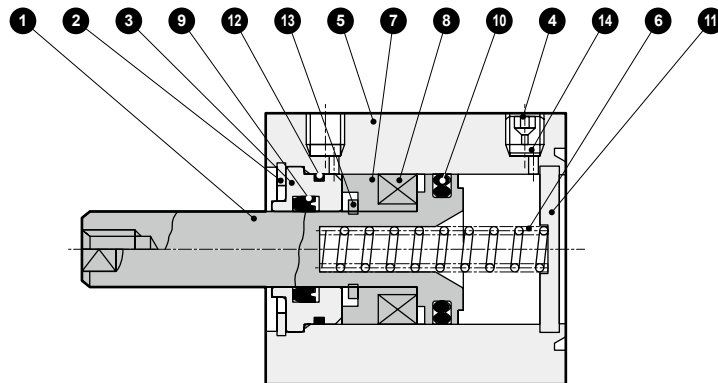
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy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

Repair parts list

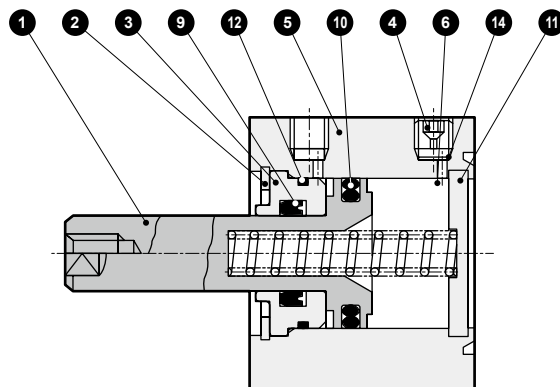
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-X-12K	10
φ16	SSD2-X-16K	
φ20	SSD2-X-20K	
φ25	SSD2-X-25K	
φ32	SSD2-X-32K	
φ40	SSD2-X-40K	
φ50	SSD2-X-50K	

Internal structure and parts list

● SSD2-YL (single acting/pull/with switch)



● SSD2-Y (single acting/pull)



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

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-Y-12K	9 10 12
φ16	SSD2-Y-16K	
φ20	SSD2-Y-20K	
φ25	SSD2-Y-25K	
φ32	SSD2-Y-32K	
φ40	SSD2-Y-40K	
φ50	SSD2-Y-50K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

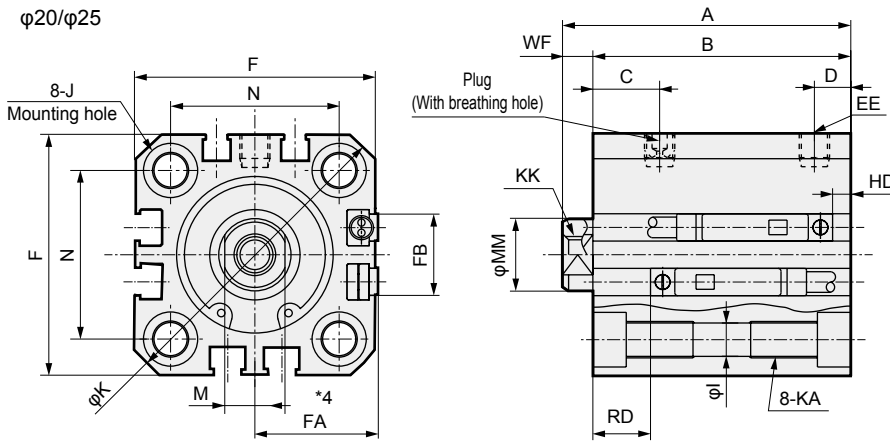
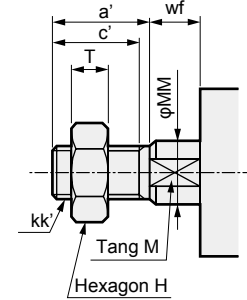
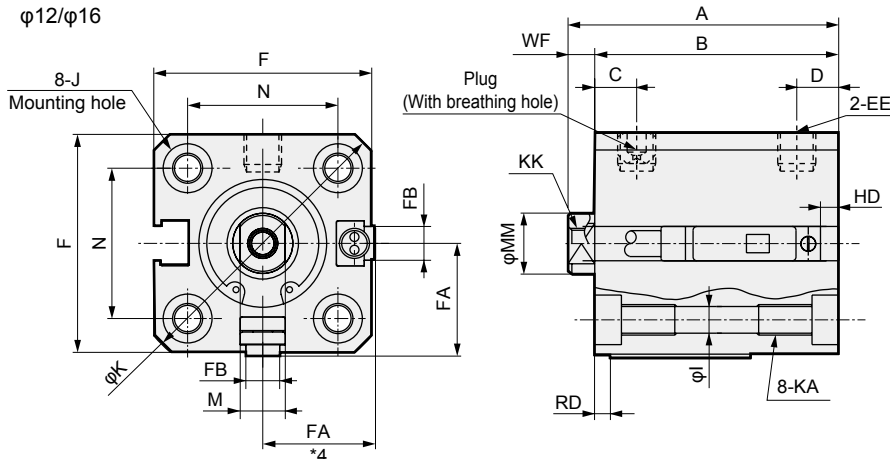
SSD2-X Series

Dimensions



● SSD2-XL-12 to 25 (with switch)

● Rod end male thread



Code		Common dimensions with switch																	
Bore size (mm)		A	B	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF	
STK	φ12	5	30.5	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10	35.5	32															
SRL3	φ16	5	30.5	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10	35.5	32															
SRG3	φ20	5	39	34.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	44	39.5															
SRM3	φ25	5	42.5	37.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	47.5	42.5															
Switch dimensions	Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			Proximity F2S/F3S								
		HD	RD	HD	RD	HD	RD	HD	RD	HD	RD								
	φ12	0	3	0	3	2	5												
	φ16	0	4	0	4.5	1	6												
	φ20	3	7.5	3	7.5	5	9.5	7.5	12	6.5	11								
	φ25	4	9.5	4	9.5	6	11.5	8.5	14	7.5	13								

*1 : Only F switch is available for the φ20 or φ25 piping port surface.

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

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

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

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

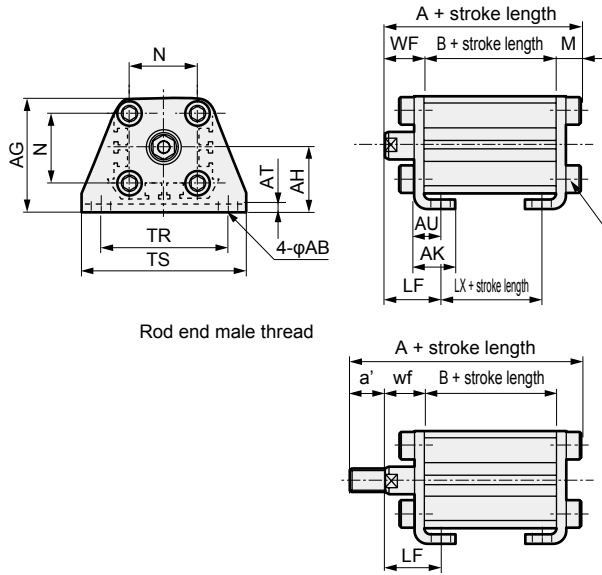
● Rod end male thread

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

Dimensions with mounting bracket

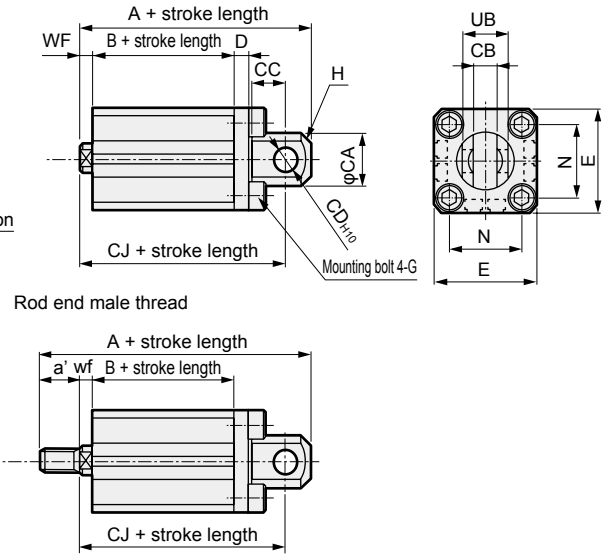


- Axial foot (LB) with switch
SSD2-XL-12 to 25 -LB



Rod end male thread

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



Rod end male thread

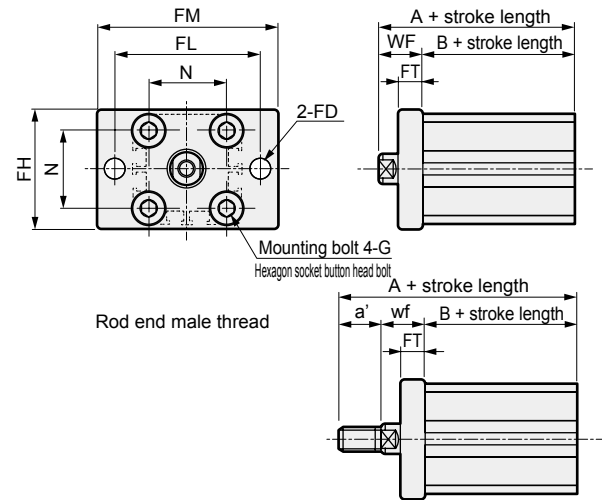
Code	Common dimensions										Female thread		
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M		
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8		
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8		
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2		
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2		

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	40.3	22	10	10.5	13.5	19.5	50.8	22	10
φ16	13.5	19.5	40.3	22	10	12	13.5	19.5	52.3	22	10
φ20	14.5	20.5	51.2	29.5	17.5	14	14.5	20.5	65.2	29.5	17.5
φ25	15	22.5	54.7	32.5	17.5	17.5	15	22.5	72.2	32.5	17.5

Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2}	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3}	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

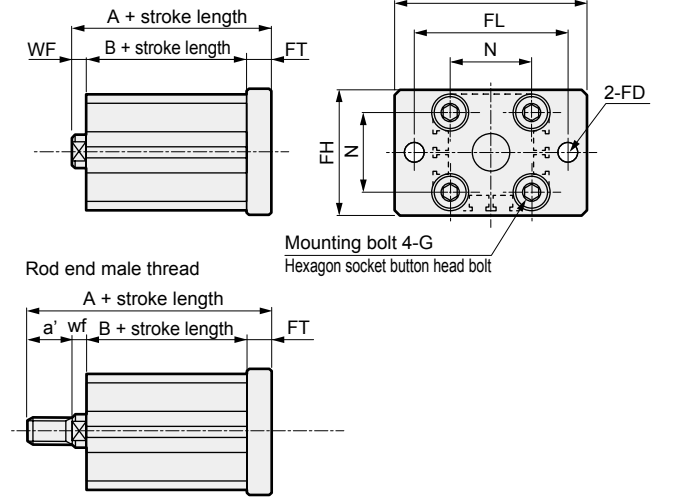
Code	Female thread					Male thread				
Bore size (mm)	WF	With switch			a'	wf	With switch			
		A	B	CJ			A	B	CJ	
φ12	3.5	45.5	22	39.5	10.5	3.5	56	22	39.5	
φ16	3.5	46.5	22	40.5	12	3.5	58.5	22	40.5	
φ20	4.5	61	29.5	52	14	4.5	75	29.5	52	
φ25	5	67.5	32.5	57.5	17.5	5	85	32.5	57.5	

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



Rod end male thread

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



Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	With switch		a'	wf	With switch	
		A	B			A	B
φ12	13.5	35.5	22	10.5	13.5	46	22
φ16	13.5	35.5	22	12	13.5	47.5	22
φ20	14.5	44	29.5	14	14.5	58	29.5
φ25	15	47.5	32.5	17.5	15	65	32.5

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	With switch		a'	wf	With switch	
		A	B			A	B
φ12	3.5	31	22	10.5	3.5	41.5	22
φ16	3.5	31	22	12	3.5	43	22
φ20	4.5	42	29.5	14	4.5	56	29.5
φ25	5	45.5	32.5	17.5	5	63	32.5

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

SSD2-X Series

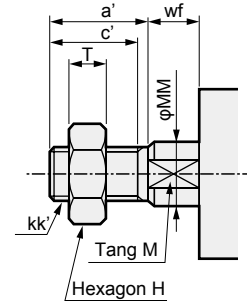
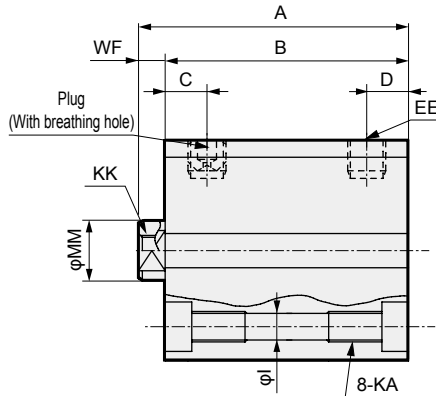
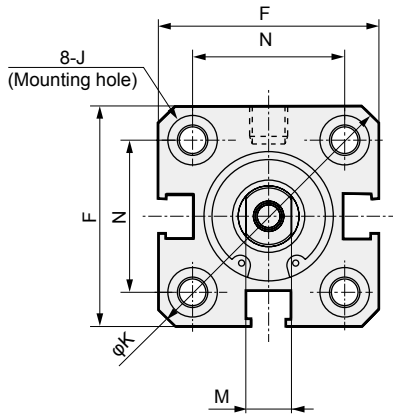
Dimensions



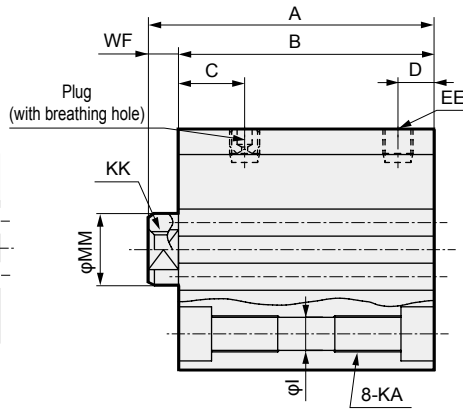
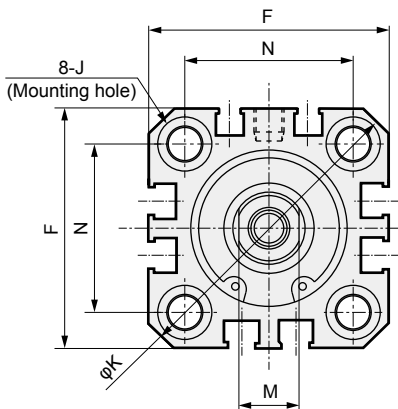
● SSD2-X-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code		Dimensions without switch and common dimensions														
Bore size (mm)		A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke length 5	25.5	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	Stroke length 10	30.5	27													
φ16	Stroke length 5	25.5	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
	Stroke length 10	30.5	27													
φ20	Stroke length 5	29	24.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	Stroke length 10	34	29.5													
φ25	Stroke length 5	32.5	27.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
	Stroke length 10	37.5	32.5													

● Dimensions of rod end male thread part

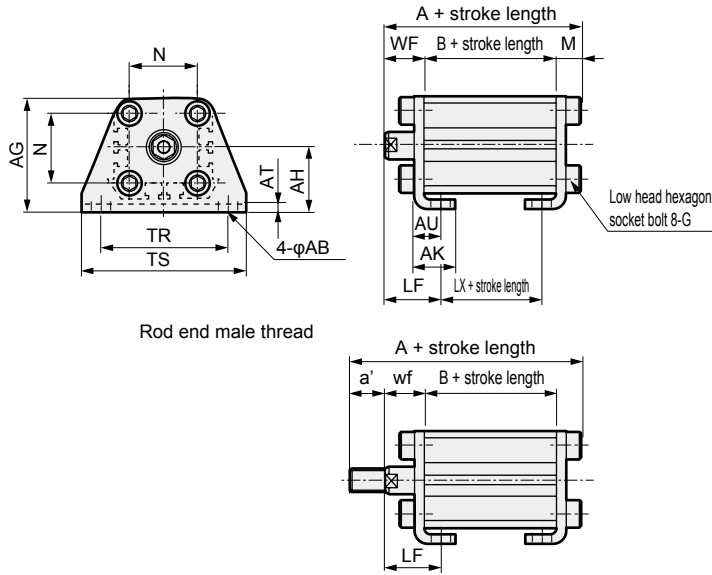
Code	a'	c'	H	kk'	M	MM	T	wf
φ12	10.5	9	8	M5	5	6	3.2	3.5
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

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

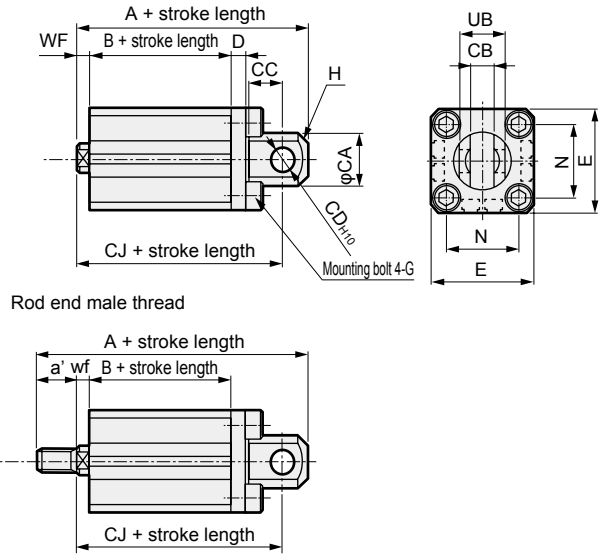
Dimensions with mounting bracket



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



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



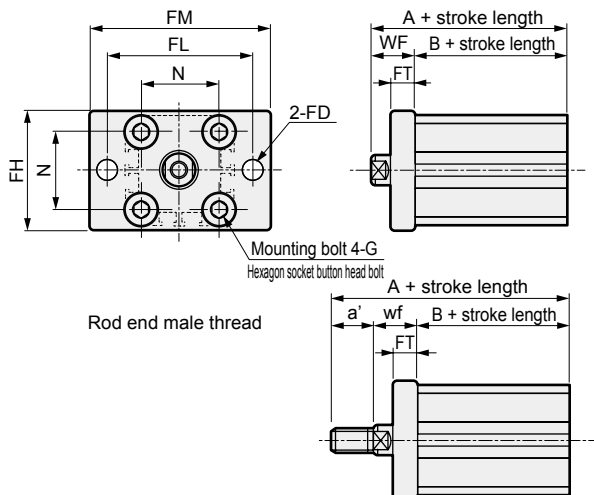
Code	Common dimensions										Female thread		
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M		
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8		
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8		
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2		
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2		

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	35.3	17	5	10.5	13.5	19.5	45.8	17	5
φ16	13.5	19.5	35.3	17	5	12	13.5	19.5	47.3	17	5
φ20	14.5	20.5	41.2	19.5	7.5	14	14.5	20.5	55.2	19.5	7.5
φ25	15	22.5	44.7	22.5	7.5	17.5	15	22.5	62.2	22.5	7.5

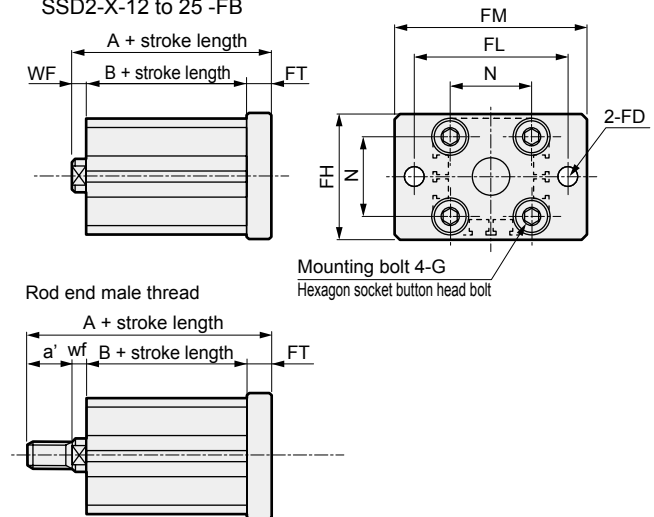
Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} ₀
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} ₀
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} ₀
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} ₀

Code	Female thread					Male thread				
Bore size (mm)	WF	Without switch			a'	wf	Without switch			
		A	B	CJ			A	B	CJ	
φ12	3.5	40.5	17	34.5	10.5	3.5	51	17	34.5	
φ16	3.5	41.5	17	35.5	12	3.5	53.5	17	35.5	
φ20	4.5	51	19.5	42	14	4.5	65	19.5	42	
φ25	5	57.5	22.5	47.5	17.5	5	75	22.5	47.5	

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



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



Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	Without switch		a'	wf	Without switch	
		A	B			A	B
φ12	13.5	30.5	17	10.5	13.5	41	17
φ16	13.5	30.5	17	12	13.5	42.5	17
φ20	14.5	34	19.5	14	14.5	48	19.5
φ25	15	37.5	22.5	17.5	15	55	22.5

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	Without switch		a'	wf	Without switch	
		A	B			A	B
φ12	3.5	26	17	10.5	3.5	36.5	17
φ16	3.5	26	17	12	3.5	38	17
φ20	4.5	32	19.5	14	4.5	46	19.5
φ25	5	35.5	22.5	17.5	5	53	22.5

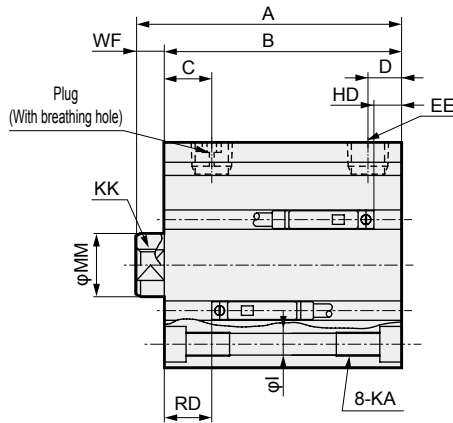
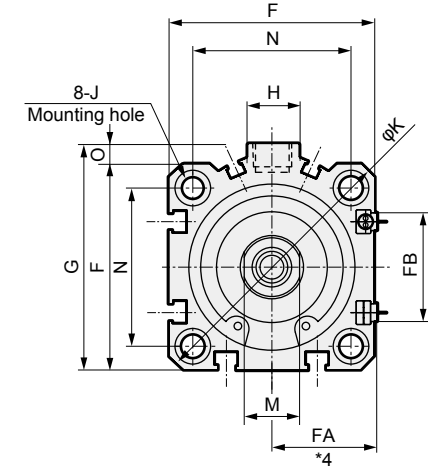
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

SSD2-X Series

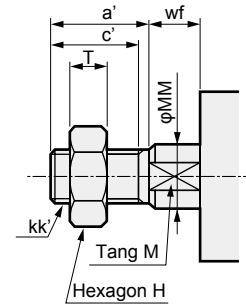
Dimensions



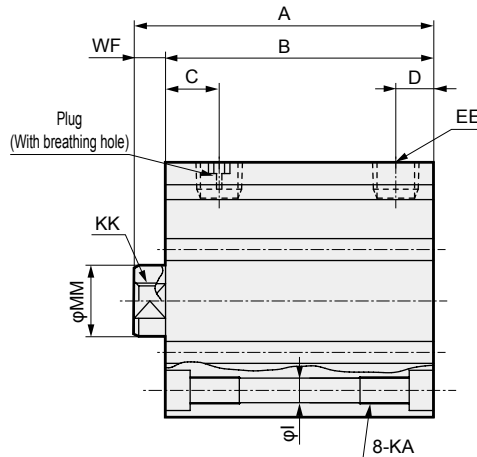
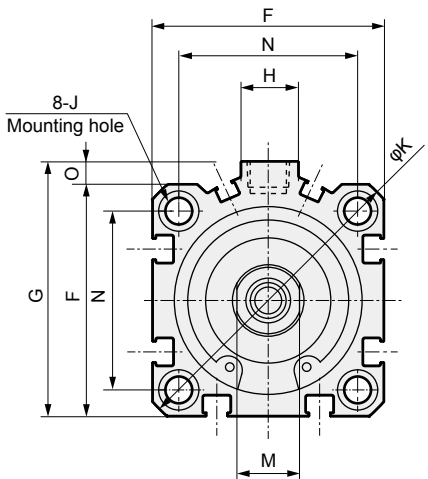
● SSD2-XL-32 to 50 (with switch)



● Rod end male thread



● SSD2-X-32 to 50 (without switch)



Code		Without switch		Common dimensions with switch																					
Bore size (mm)		A	B	A	B	C ^{*7}	D ^{*7}	EE ^{*6}	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF		
SRL3	φ32	Stroke length	5	35	28	45	38	8	8	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
		Stroke length	10	40	33	50	43	(10)	(5.5)																
SRG3	φ40	Stroke length	5	41.5	34.5	51.5	44.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
		Stroke length	10	46.5	39.5	56.5	49.5	(11.5)	(8)																
SRM3	φ50	Stroke length	10	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
		Stroke length	20	58.5	50.5	68.5	60.5																		
SRT3	Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V					Proximity T2WH/T2WV, T3WH/T3WV													
MRL2	Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}		HD		RD		HD		RD									
MRG2	φ32	4		9.5		4		9.5		6		11.5		8.5		13.5									
	φ40	7		12		7		12		9		14		8.5		13.5									
	φ50	7.5		12.5		7.5		12.5		9		14		8.5		13.5									

- *1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Dimensions in () of FA are for the radial lead wire.
- *5 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *6 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.
- *7 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

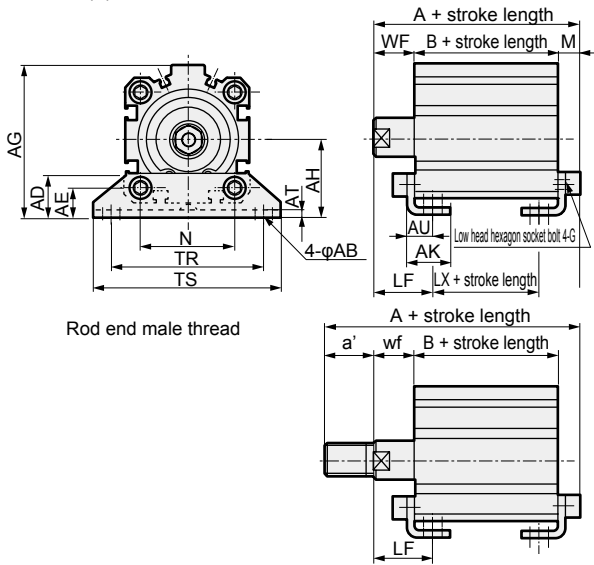
● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf	
Spd Contr	φ32	23.5	20.5	22	M14×1.5	14	16	8	5
	φ40	23.5	20.5	22	M14×1.5	14	16	8	5
Ending	φ50	28.5	26	27	M18×1.5	17	20	11	5

Dimensions with mounting bracket



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



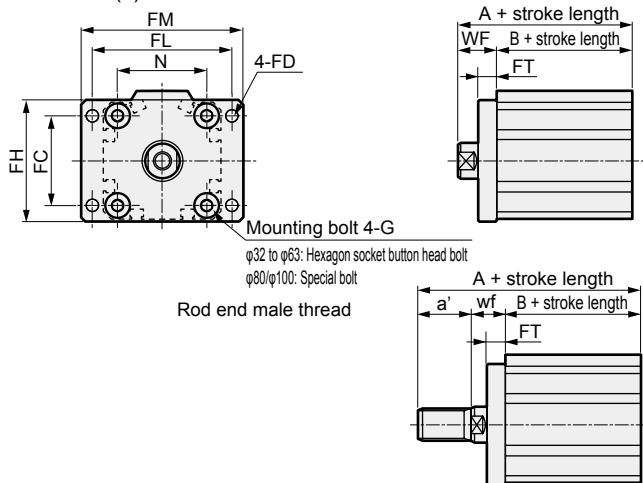
Code	Common dimensions								Female thread			
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	

Code	Common dimensions									
Bore size (mm)	TS	M	WF	LF	Without switch			With switch		
					A	B	LX	A	B	LX
φ32	71	7.2	17	25	47.2(57.2)	23(33)	7(17)	57.2	33	17
φ40	78	7.2	17	25	53.7(63.7)	29.5(39.5)	13.5(23.5)	63.7	39.5	23.5
φ50	95	8.2	18	29.5	56.7(66.7)	30.5(40.5)	7.5(17.5)	66.7	40.5	17.5

Code	Common dimensions									
Bore size (mm)	a'	wf	LF	Without switch			With switch			
				A	B	LX	A	B	LX	
φ32	23.5	15	23	68.7(78.7)	23(33)	7(17)	78.7	33	17	
φ40	23.5	15	23	75.2(85.2)	29.5(39.5)	13.5(23.5)	85.2	39.5	23.5	
φ50	28.5	15	26.5	82.2(92.2)	30.5(40.5)	7.5(17.5)	92.2	40.5	17.5	

* Dimensions in () are for stroke lengths of more than 50 mm.

- Rod side flange (FA)
SSD2-X(L)-32 to 50 -FA



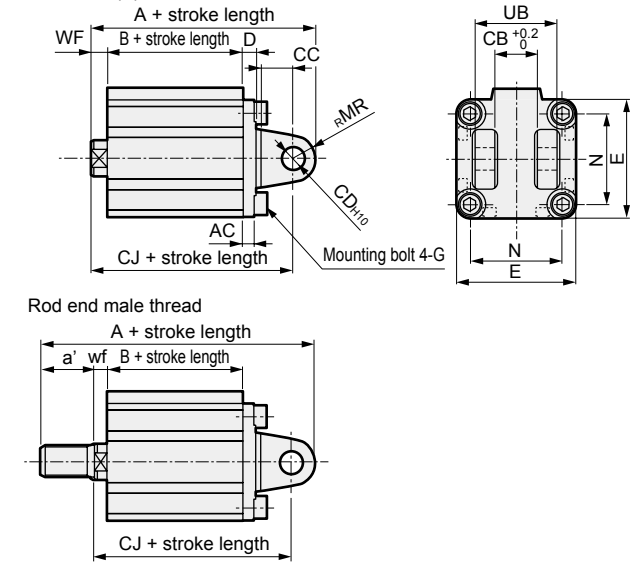
Code	Common dimensions							
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20

Code	Female thread					
Bore size (mm)	WF	Without switch		With switch		
		A	B	A	B	
φ32	17	40(50)	23(33)	50	33	
φ40	17	46.5(56.5)	29.5(39.5)	56.5	39.5	
φ50	18	48.5(58.5)	30.5(40.5)	58.5	40.5	

Code	Male thread					
Bore size (mm)	a'	wf	Without switch		With switch	
			A	B	A	B
φ32	23.5	15	61.5(71.5)	23(33)	71.5	33
φ40	23.5	15	68(78)	29.5(39.5)	78	39.5
φ50	28.5	15	74(84)	30.5(40.5)	84	40.5

* Dimensions in () are for stroke lengths of more than 50 mm.

- Clevis bracket (CB)
SSD2-X(L)-32 to 50 -CB

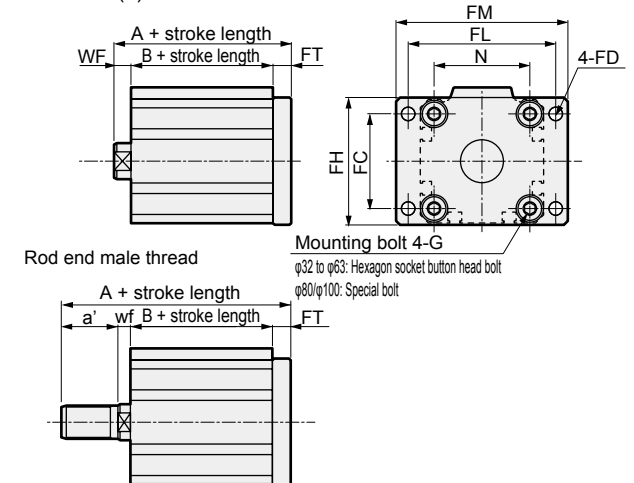


Code	Common dimensions										
Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N	UB	
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36	
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	

Code	Female thread						
Bore size (mm)	WF	Without switch		With switch			
		A	B	CJ	A	B	CJ
φ32	7	60	23	50	70	33	60
φ40	7	68.5	29.5	58.5	78.5	39.5	68.5
φ50	8	80.5	30.5	66.5	90.5	40.5	76.5

Code	Male thread							
Bore size (mm)	a'	wf	Without switch		With switch			
			A	B	CJ	A	B	CJ
φ32	23.5	5	81.5	23	48	91.5	33	58
φ40	23.5	5	90	29.5	56.5	100	39.5	66.5
φ50	28.5	5	106	30.5	63.5	116	40.5	73.5

- Head side flange (FB)
SSD2-X(L)-32 to 50 -FB



Code	Common dimensions							
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20

Code	Female thread				
Bore size (mm)	WF	Without switch		With switch	
		A	B	A	B
φ32	7	38	23	48	33
φ40	7	44.5	29.5	54.5	39.5
φ50	8	47.5	30.5	57.5	40.5

Code	Male thread					
Bore size (mm)	a'	wf	Without switch		With switch	
			A	B	A	B
φ32	23.5	5	59.5	23	69.5	33
φ40	23.5	5	66	29.5	76	39.5
φ50	28.5	5	73	30.5	83	40.5

* Dimensions in () are for stroke lengths of more than 50 mm.

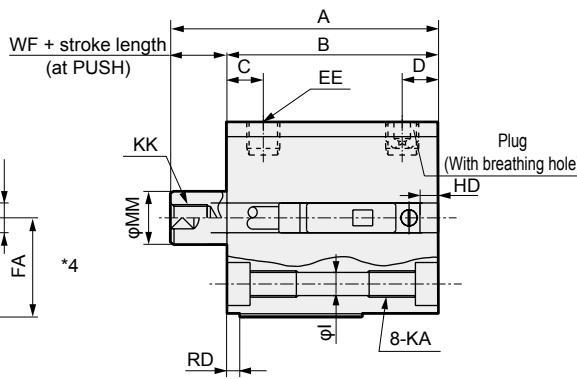
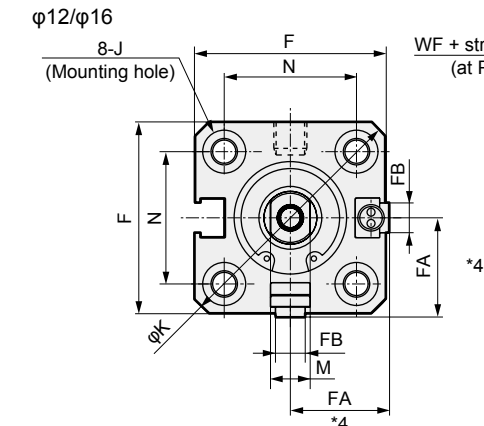
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

SSD2-Y Series

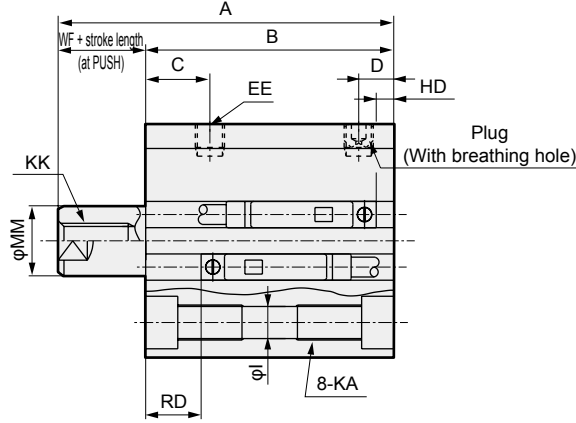
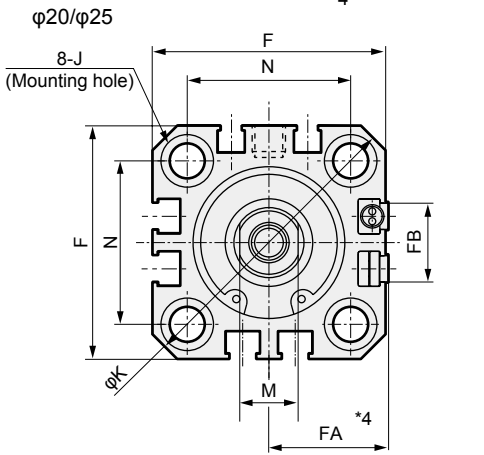
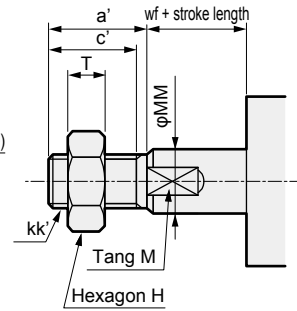
Dimensions



● SSD2-YL-12 to 25 (with switch)



● Rod end male thread



Code		Common dimensions with switch																	
Bore size (mm)		A	B	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF	
STK	φ12	Stroke length 5	35.5	27	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 Depth 7	M3 Depth 6	5	6	15.5	3.5
		Stroke length 10	45.5	32															
SRL3	φ16	Stroke length 5	35.5	27	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 Depth 7	M4 Depth 8	6	8	20	3.5
		Stroke length 10	45.5	32															
SRG3	φ20	Stroke length 5	44	34.5	8	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face Depth 5.5	47	M6 Depth 11	M5 Depth 7	8	10	25.5	4.5
		Stroke length 10	54	39.5															
SRM3	φ25	Stroke length 5	47.5	37.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face Depth 5.5	51	M6 Depth 11	M6 Depth 12	10	12	28	5
		Stroke length 10	57.5	42.5															
Switch dimensions	Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S									
		HD	RD	HD	RD	HD	RD	HD	RD	HD	RD								
MRL2	φ12	1.5	1.5	1.5	1.5	3.5	3.5												
	φ16	0	4	0	4.5	1	6												
	φ20	3	7.5	3	7.5	5	9.5	7.5	12	6.5	11								
SM-25	φ25	4	9.5	4	9.5	6	11.5	8.5	14	7.5	13								

*1 : Only F switch is available for the φ20 or φ25 piping port surface.

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

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

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

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

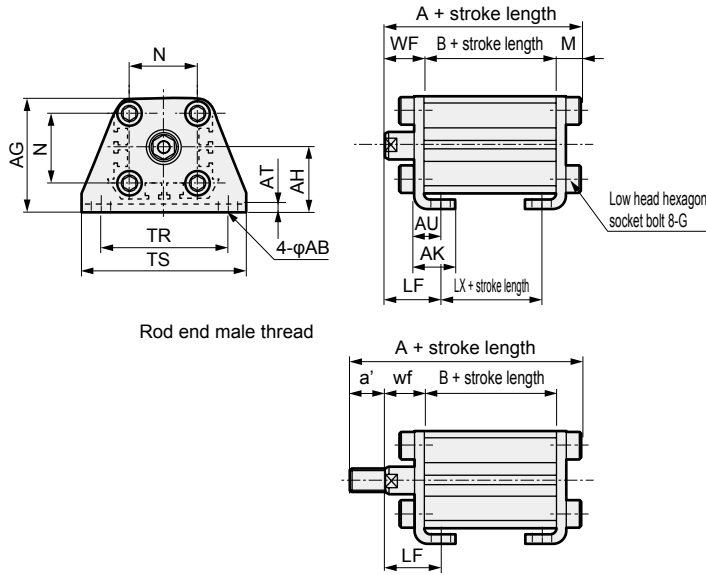
● Rod end male thread

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

Dimensions with mounting bracket



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

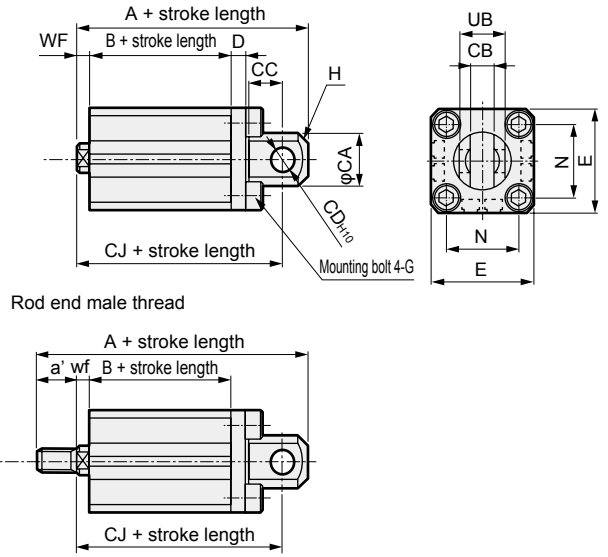


Rod end male thread

Code	Common dimensions										Female thread			
	Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M		
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8			
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8			
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2			
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2			

Code	Male thread										
	Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B
φ12	13.5	19.5	40.3	22	10	10.5	13.5	19.5	50.8	22	10
φ16	13.5	19.5	40.3	22	10	12	13.5	19.5	52.3	22	10
φ20	14.5	20.5	51.2	29.5	17.5	14	14.5	20.5	65.2	29.5	17.5
φ25	15	22.5	54.7	32.5	17.5	17.5	15	22.5	72.2	32.5	17.5

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

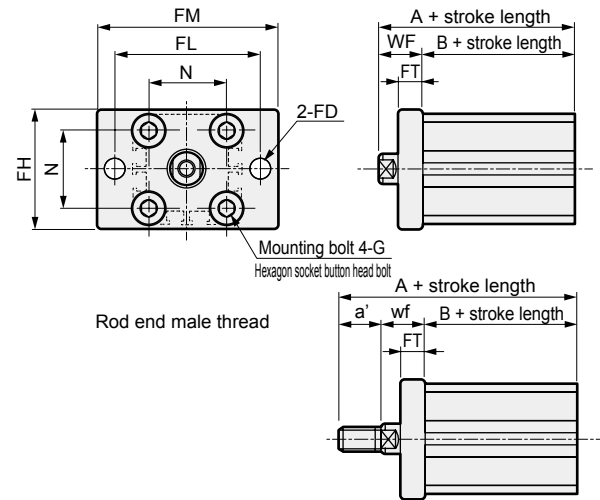


Rod end male thread

Code	Common dimensions									
	Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.1}
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.1}
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.1}
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.1}

Code	Female thread					Male thread				
	Bore size (mm)	WF	With switch			a'	wf	With switch		
			A	B	CJ			A	B	CJ
φ12	3.5	45.5	22	39.5	10.5	3.5	56	22	39.5	
φ16	3.5	46.5	22	40.5	12	3.5	58.5	22	40.5	
φ20	4.5	61	29.5	52	14	4.5	75	29.5	52	
φ25	5	67.5	32.5	57.5	17.5	5	85	32.5	57.5	

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

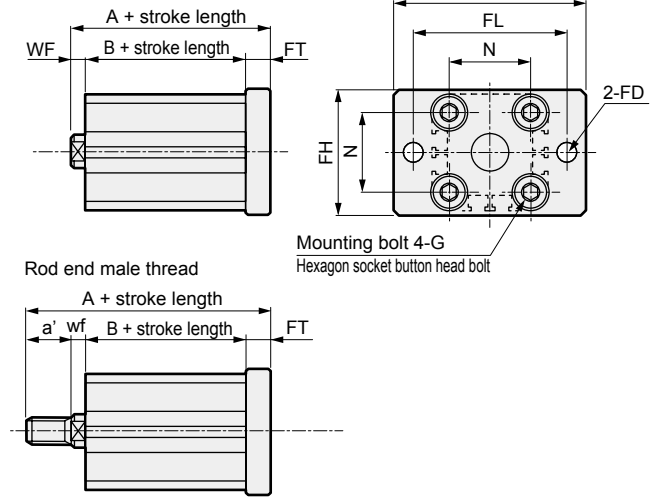


Rod end male thread

Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread			
	Bore size (mm)	WF	With switch		a'	wf	With switch	
			A	B			A	B
φ12	13.5	35.5	22	10.5	13.5	46	22	
φ16	13.5	35.5	22	12	13.5	47.5	22	
φ20	14.5	44	29.5	14	14.5	58	29.5	
φ25	15	47.5	32.5	17.5	15	65	32.5	

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



Rod end male thread

Code	Common dimensions						
	Bore size (mm)	FD	FH	FL	FM	FT	N
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread				
	Bore size (mm)	WF	With switch			a'	wf	With switch	
			A	B	CJ			A	B
φ12	3.5	31	22	10.5	3.5	41.5	22		
φ16	3.5	31	22	12	3.5	43	22		
φ20	4.5	42	29.5	14	4.5	46	29.5		
φ25	5	45.5	32.5	17.5	5	63	32.5		

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

SSD2-Y Series

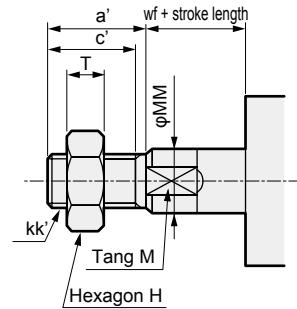
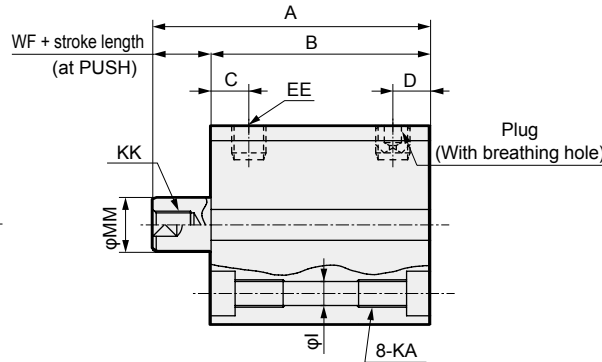
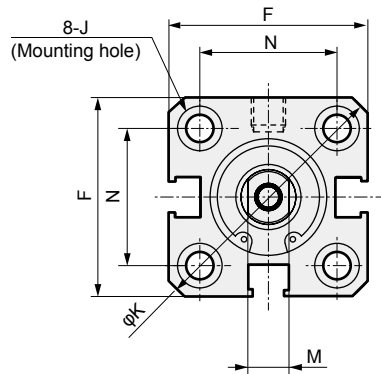
Dimensions



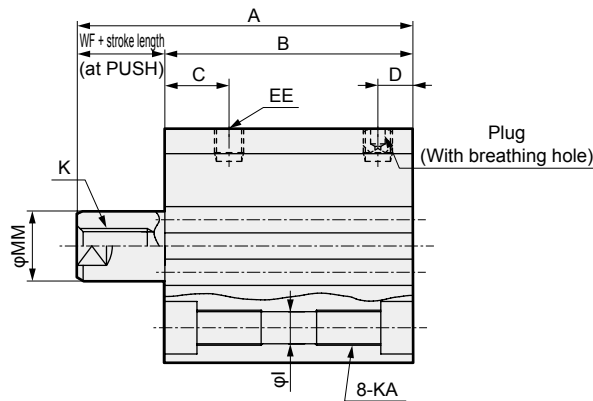
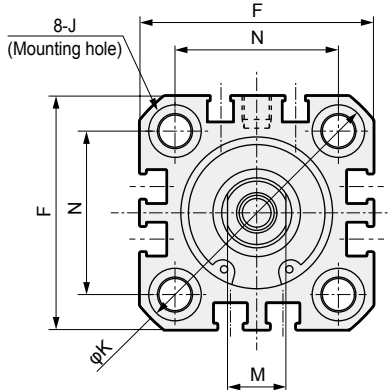
● SSD2-Y-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code		Without switch														
Bore size (mm)		A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
φ12	Stroke length 5	30.5	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	Stroke length 10	40.5	27													3.5
φ16	Stroke length 5	30.5	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
	Stroke length 10	40.5	27													3.5
φ20	Stroke length 5	34	24.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	Stroke length 10	44	29.5													4.5
φ25	Stroke length 5	37.5	27.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
	Stroke length 10	47.5	32.5													5

● Dimensions of rod end male thread part

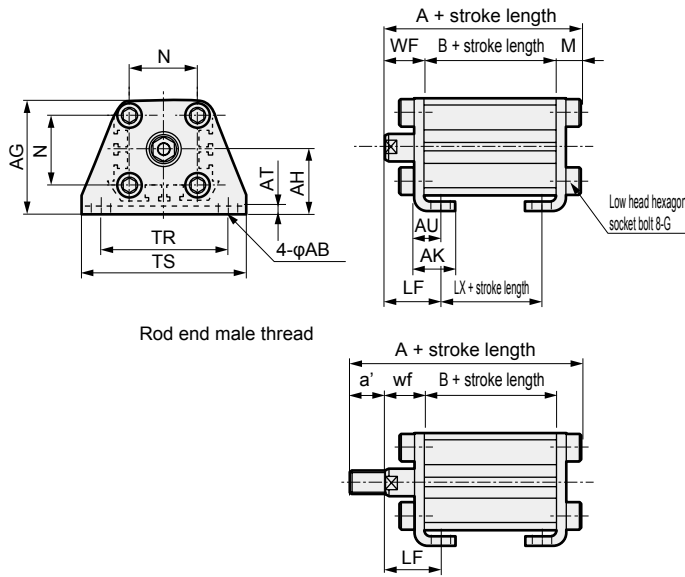
Code	a'	c'	H	kk'	M	MM	T	wf
φ12	10.5	9	8	M5	5	6	3.2	3.5
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

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

Dimensions with mounting bracket



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

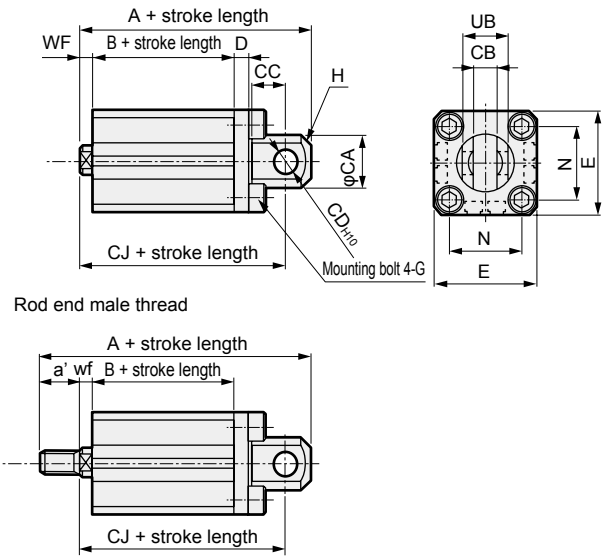


Rod end male thread

Code	Common dimensions										Female thread			
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M			
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8			
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8			
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2			
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2			

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	35.3	17	5	10.5	13.5	19.5	45.8	17	5
φ16	13.5	19.5	35.3	17	5	12	13.5	19.5	47.3	17	5
φ20	14.5	20.5	41.2	19.5	7.5	14	14.5	20.5	55.2	19.5	7.5
φ25	15	22.5	44.7	22.5	7.5	17.5	15	22.5	62.2	22.5	7.5

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

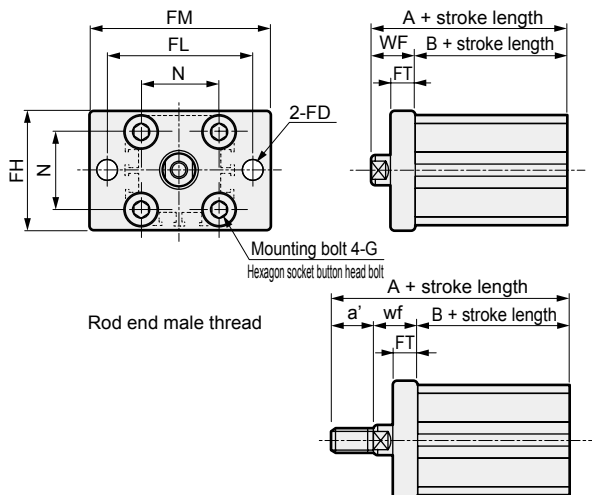


Rod end male thread

Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} ₀
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} ₀
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} ₀
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} ₀

Code	Female thread					Male thread				
Bore size (mm)	WF	Without switch			a'	wf	Without switch			
		A	B	CJ			A	B	CJ	
φ12	3.5	40.5	17	34.5	10.5	3.5	51	17	34.5	
φ16	3.5	41.5	17	35.5	12	3.5	53.5	17	35.5	
φ20	4.5	51	19.5	42	14	4.5	65	19.5	42	
φ25	5	57.5	22.5	47.5	17.5	5	75	22.5	47.5	

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

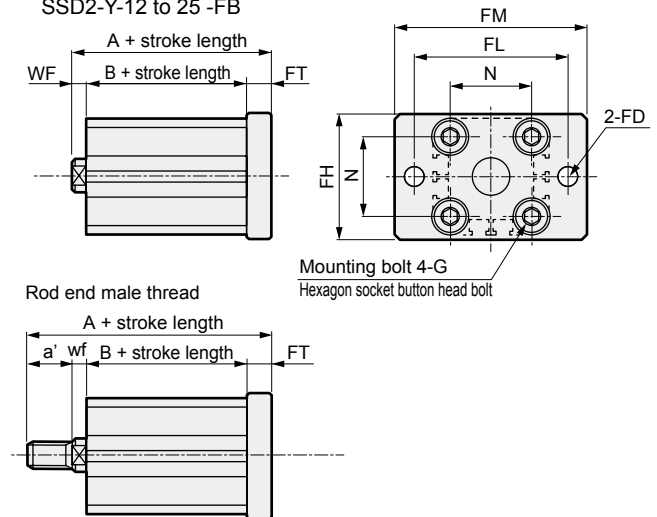


Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	Without switch		a'	wf	Without switch	
		A	B			A	B
φ12	13.5	30.5	17	10.5	13.5	41	17
φ16	13.5	30.5	17	12	13.5	42.5	17
φ20	14.5	34	19.5	14	14.5	48	19.5
φ25	15	37.5	22.5	17.5	15	55	22.5

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



Rod end male thread

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	Without switch		a'	wf	Without switch	
		A	B			A	B
φ12	3.5	26	17	10.5	3.5	36.5	17
φ16	3.5	26	17	12	3.5	38	17
φ20	4.5	32	19.5	14	4.5	46	19.5
φ25	5	35.5	22.5	17.5	5	53	22.5

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

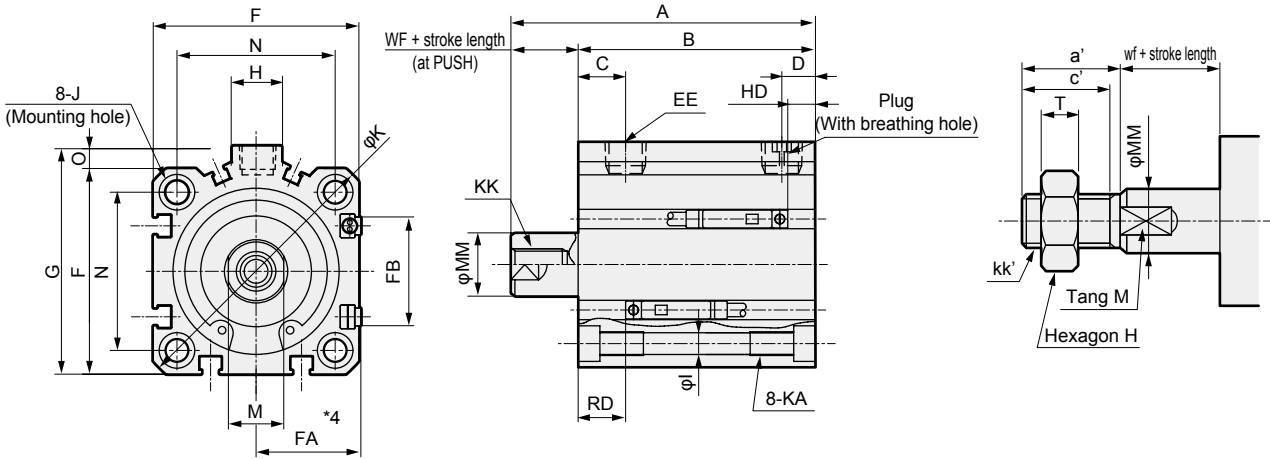
SSD2-Y Series

Dimensions

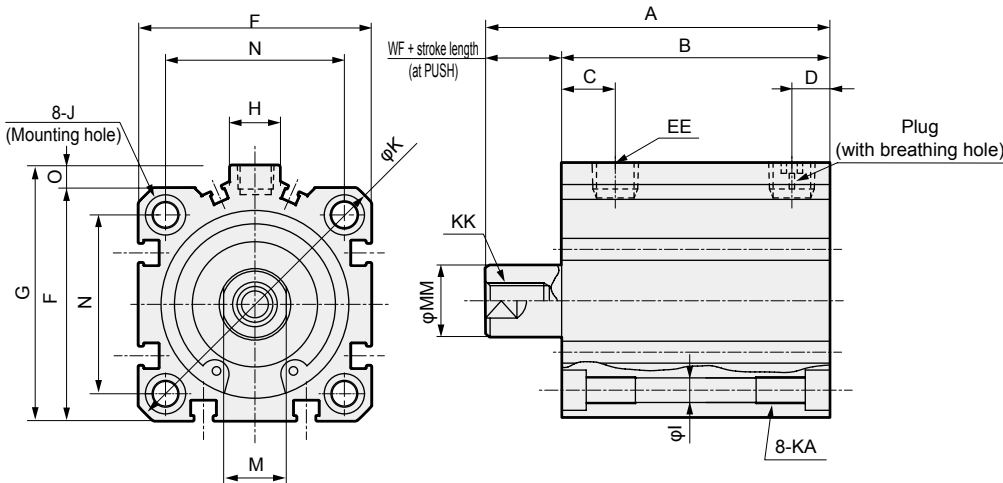


● SSD2-YL-32 to 50 (with switch)

● Rod end male thread



● SSD2-Y-32 to 50 (without switch)

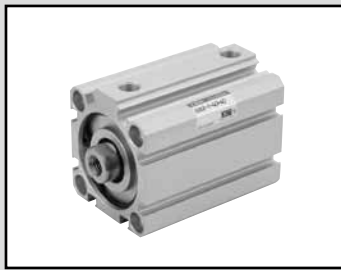


Code		Without switch		Common dimensions with switch																				
Bore size (mm)		A	B	A	B	C ^{*2}	D ^{*6}	EE ^{*5}	F	FA ^{*3}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF	
φ32	Stroke length	5	40	28	50	38	8	8	Rc1/8	45	23	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 Depth 11	M8 Depth 13	14	16	34	4.5	7
	Stroke length	10	50	33	60	43	(10)	(5.5)			(26.5)													
φ40	Stroke length	5	46.5	34.5	56.5	44.5	12	8.5	Rc1/8	52	26.5	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 Depth 11	M8 Depth 13	14	16	40	5	7
	Stroke length	10	56.5	39.5	66.5	49.5	(11.5)	(18)			(30)													
φ50	Stroke length	10	58.5	40.5	68.5	50.5	10.5	10.5	Rc1/4	64	32.5	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 Depth 13	M10 Depth 15	17	20	50	7	8
	Stroke length	20	78.5	50.5	88.5	60.5					(36)													
Switch dimensions		Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V				Proximity T2WH/T2WV, T3WH/T3WV														
Bore size (mm)		HD ^{*1}		RD ^{*1}		HD ^{*1}		RD ^{*1}		HD		RD												
φ32		4		9.5		4		9.5		6		11.5												
φ40		7		12		7		12		8.5		13.5												
φ50		7.5		12.5		7.5		12.5		9		14												

*1 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
 2 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.
 *3 : Dimensions in () of FA are for the radial lead wire.
 *4 : For dimensions of individual accessories, refer to pages 1030 to 1033.
 *5 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.
 *6 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5

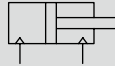


Compact cylinder double acting/heat resistant

SSD2-T1 Series

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

JIS symbol



Specifications

Descriptions	SSD2-T1										
	Bore size	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)										
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature $^{\circ}\text{C}$	5 (41°F) to 150 (302°F)										
Port size	M5					Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+1.0}$ ₀										
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	None										
Lubrication	Not available										
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

*1: The $\phi 32$ bore size with a 5 mm stroke has a port size of M5.

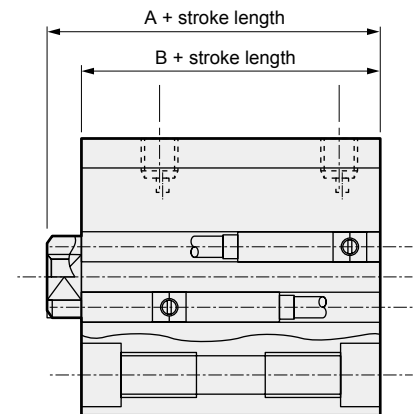
Stroke length

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

Custom stroke length

● SSD2-T1 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-T32-38 A +2 mm spacer is added to the SSD2-T32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63 mm.	

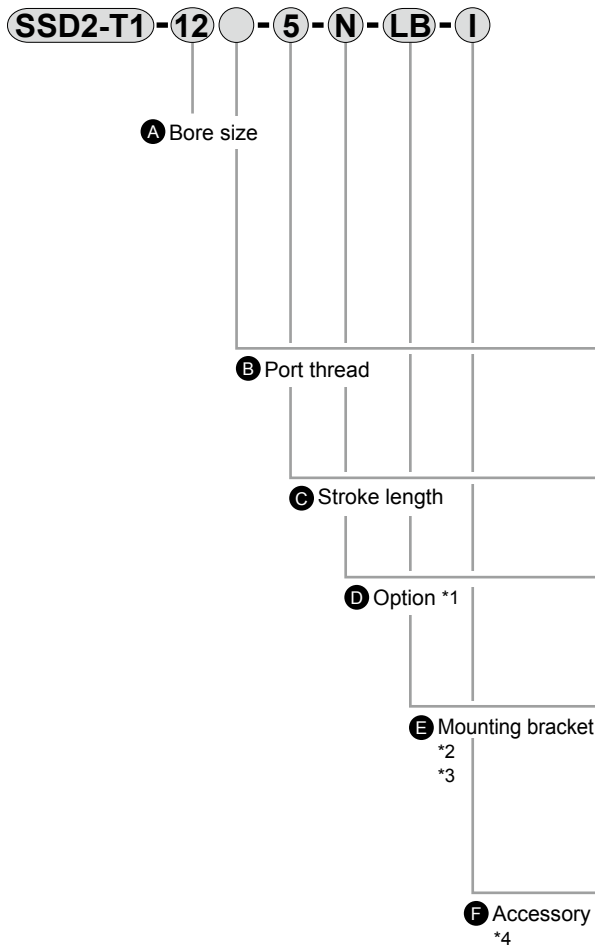


Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5	10	15	20	25	30	35	40	45	50	75	100
Bore size (mm)												
$\phi 12$	36	44	53	61	70	72	-	-	-	-	-	-
$\phi 16$	48	59	69	80	91	102	-	-	-	-	-	-
$\phi 20$	63	75	88	101	113	126	139	152	165	203	-	-
$\phi 25$	87	102	118	134	150	165	181	197	213	228	-	-
$\phi 32$	122	144	166	188	209	231	253	275	297	318	494	604
$\phi 40$	183	210	236	263	290	316	342	369	395	472	646	776
$\phi 50$	-	341	383	425	467	510	552	594	636	678	1025	1235
$\phi 63$	-	507	562	617	672	727	782	838	893	948	1438	1713
$\phi 80$	-	928	1015	1101	1188	1274	1361	1448	1535	1621	2401	2833
$\phi 100$	-	1433	1547	1660	1774	1888	2002	2115	2229	2343	3406	3973

How to order



Code	Content
A Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
B Port thread	
Blank	Rc thread
NN	NPT thread (φ32 and over) (custom order product)
GN	G thread (φ32 and over) (custom order product)
C Stroke length (mm)	
Refer to the stroke length table below.	
D Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
E Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange
F Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

⚠ Precautions for model No. selection

- *1: Piston rod of φ12 to φ25 is stainless steel as standard. C snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *2: The mounting bracket is attached at shipment.
- *3: The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 745, 747, 749 and 750. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *4: "I" and "Y" cannot be selected together.
- *5: Refer to pages 734 and 735 for combinations of variations/options.

[Example of model No.]

SSD2-T1-12-5-N

Model: Compact cylinder, heat resistant

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

[Stroke length table]

Stroke length (mm)	Applicable bore size									
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
5	●	●	●	●	●	●				
10	●	●	●	●	●	●	●	●	●	●
15	●	●	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●	●	●	●
35			●	●	●	●	●	●	●	●
40			●	●	●	●	●	●	●	●
45			●	●	●	●	●	●	●	●
50			●	●	●	●	●	●	●	●
75					●	●	●	●	●	●
100					●	●	●	●	●	●
Min. stroke length (mm)	1									
Max. stroke length (mm)	30		50		100					
Custom stroke length *1	In 1 mm increments									

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

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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

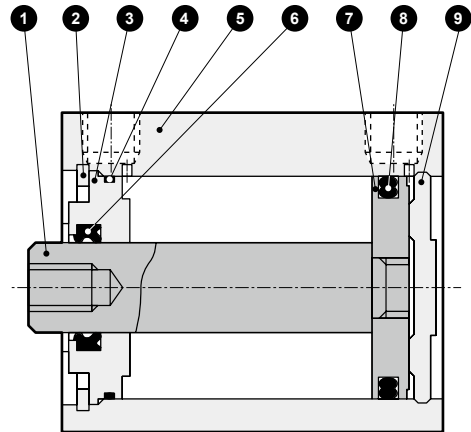
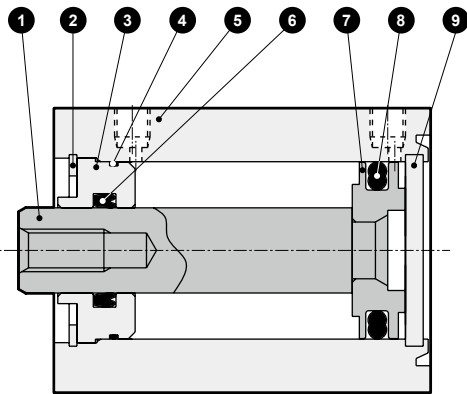
*1: The foot mounting bracket is provided as 2 pcs./set.

SSD2-T1 Series

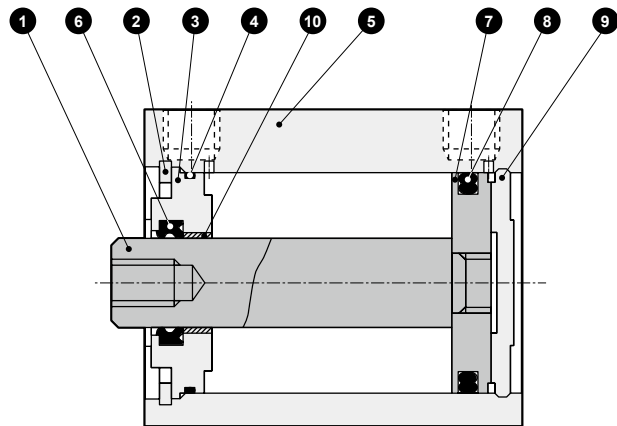
Internal structure and parts list

● SSD2-T1-12 to 25

● SSD2-T1-32 to 50



● SSD2-T1-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ100: Steel	φ16 to φ100: Industrial chrome plating	7	Piston	Aluminum alloy	Chromate
2	C snap ring	Steel	Zinc phosphate	8	Piston packing	Fluoro rubber	
3	Rod metal	φ12 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ12 to φ50: Alumite φ63 to φ100: Chromate	9	Cover	φ12 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100: Alumite
4	Rod metal gasket	Fluoro rubber		10	Bush	Oiles drymet	
5	Body	Aluminum alloy	Hard alumite				
6	Rod packing	Fluoro rubber					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-T-12K	4 6 8
φ16	SSD2-T-16K	
φ20	SSD2-T-20K	
φ25	SSD2-T-25K	
φ32	SSD2-T-32K	
φ40	SSD2-T-40K	
φ50	SSD2-T-50K	
φ63	SSD2-T-63K	
φ80	SSD2-T-80K	
φ100	SSD2-T-100K	

Dimensions

Same as double acting/single rod. Refer to pages 744 to 750.

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

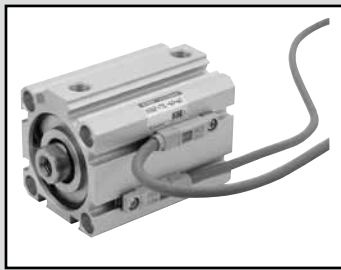
ShkAbs

FJ

FK

Spd
Contr

Ending

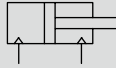


Compact cylinder double acting/with heat resistant cylinder switch

SSD2-T1L Series

- Bore size: $\phi 16/\phi 20/\phi 25/\phi 32/\phi 40$
 $\phi 50/\phi 63$

JIS symbol



Specifications

1 MPa \approx 145.0 psi, 1 MPa = 10 bar

Descriptions	SSD2-T1L							
	mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size	mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation		Double acting						
Working fluid		Compressed air						
Max. working pressure	MPa	1.0 (\approx 150 psi, 10 bar)						
Min. working pressure	MPa	0.1 (\approx 15 psi, 1 bar)						0.05
Proof pressure	MPa	1.6 (\approx 230 psi, 16 bar)						
Ambient temperature	$^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$) to 150 (302 $^{\circ}\text{F}$) (*1)						
Port size		M5			Rc1/8		Rc1/4	
Stroke tolerance	mm	$^{+1.0}_0$						
Working piston speed	mm/s	50 to 500						50 to 300
Cushion		None						
Lubrication	(*2)	-						

*1: At an ambient temperature of 150 $^{\circ}\text{C}$, external leakage will occur gradually after approximately 500,000 uses.

*2: Periodically apply additional heat-resistant grease.

Stroke length

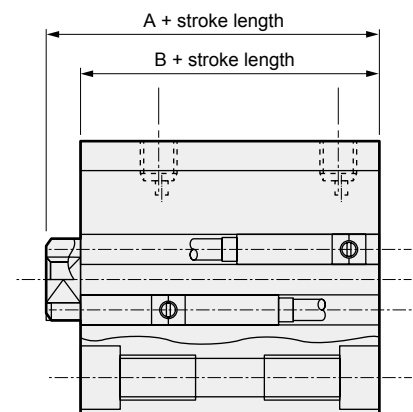
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	
			With 1 switch	With 2 switches
$\phi 16$	10/15/20/25/30	30	10	20
$\phi 20$	15/20/25/30/	50	15	25
$\phi 25$	35/40/45/50			
$\phi 32$	15/20/25/30/35/ 40/45/50/70/100	100	15	20
$\phi 40$				
$\phi 50$				
$\phi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

Note: The custom stroke length is available in 1 mm increments. (Less than 7 mm is not available.) However, the total length is the same as that of the next longer standard stroke length.

Custom stroke length

● SSD2-T1L Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 63	1 to 99
Example of model No.	Model No.: SSD2-T1L-32-38 A +2 mm spacer is added to the SSD2-T1L-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 73 mm.	



Cylinder switch specifications

Descriptions	Reed 2-wire	
	ETOH, ETOV	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less	
Leakage current	0mA	
Indicator lamp	LED (Lit when ON) (Note)	
Lead wire	Heat-resistant fluorine-insulated sheathed wire 1 m (0.5SQ (100/0.08) annealed copper wire x 2C)	
Insulation resistance	100 MΩ and over with 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Max. shock resistance	294 m/s ²	
Ambient temperature	-10 to 150°C	
Degree of protection	IEC standards IP67, JIS C0920 (water-tight)	
Weight	g 40	

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ16	71	127	82	127	92	137	103	148	114	159	125	170	-	-	-	-	-	-	-	-	-	-	-	-
φ20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
φ25	87	178	102	193	118	209	134	225	150	241	165	256	181	272	197	288	213	304	228	319	-	-	-	-
φ32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
φ40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
φ50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
φ63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³

SSD2-T1L Series

How to order

SSD2-T1L-16-10-ET0H-D-N-LB-I

Double acting/heat resistant with compact heat resistant switch

A Bore size

B Port thread

C Stroke length

D Switch model No.

E Switch quantity

F Option *1

G Mounting bracket

*2

*3

H Accessory

*4

Code	Content			
A Bore size (mm)				
16	φ16			
20	φ20			
25	φ25			
32	φ32			
40	φ40			
50	φ50			
63	φ63			
B Port thread				
Blank	Rc thread			
NN	NPT thread (φ32 and over) (custom order product)			
GN	G thread (φ32 and over) (custom order product)			
C Stroke length (mm)				
Refer to the stroke length table on the following page.				
D Switch model No.				
ET0H	Reed	AC/DC	2-wire	Axial lead wire
ET0V				Radial lead wire
E Switch quantity				
R	1 on rod side			
H	1 on head side			
D	2			
F Option				
Blank	Rod end female thread			
N	Rod end male thread			
M	Piston rod material (stainless steel)			
G Mounting bracket				
Blank	Without mounting bracket			
LB	Axial foot			
CB	Clevis bracket (pin and snap ring attached)			
FA	Rod side flange			
FB	Head side flange			
H Accessory (available when rod end male thread "N" is selected)				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			

⚠ Precautions for model No. selection

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

*2 : The mounting bracket is attached at shipment.

*3 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 814 and 815. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

[Example of model No.]

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

Model: Compact cylinder with heat resistant cylinder switch

- A** Bore size : φ16 mm
- B** Port thread : Rc thread
- C** Stroke length : 10mm
- D** Switch model No. : Reed switch ET0H, lead wire length 1 m
- E** Switch quantity : 2 pcs. included
- F** Option : Rod end male thread

[Stroke length table]

Stroke length (mm)	Applicable bore size						
	φ16	φ20	φ25	φ32	φ40	φ50	φ63
10	●						
15	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●
35		●	●	●	●	●	●
40		●	●	●	●	●	●
45		●	●	●	●	●	●
50		●	●	●	●	●	●
70				●	●	●	●
100				●	●	●	●
Min. stroke length (mm)	10(20)	15(25)	15(20)	15(20)			
Max. stroke length (mm)	30	50		100			
Custom stroke length *2	In 1 mm increments						

*1: The value in () is for types with two switches.

Refer to page 808 for the min. stroke length with switch.

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

How to order switch

SW - ET0H

Switch model No.
(Item ⑩ on the previous page)

How to order mounting bracket

Bore size (mm)	φ16	φ20	φ25	φ32	φ40	φ50	φ63
Mounting bracket							
Foot (LB)	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63
Flange (FA/FB)	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63
Clevis bracket (CB)	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

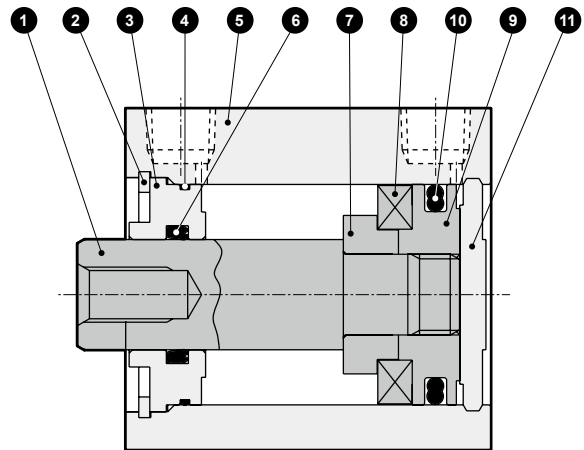
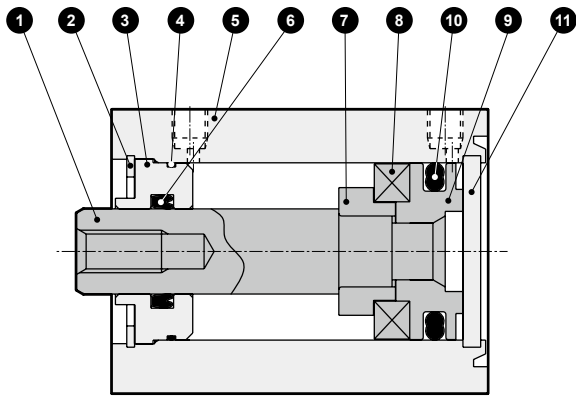
Ending

SSD2-T1L Series

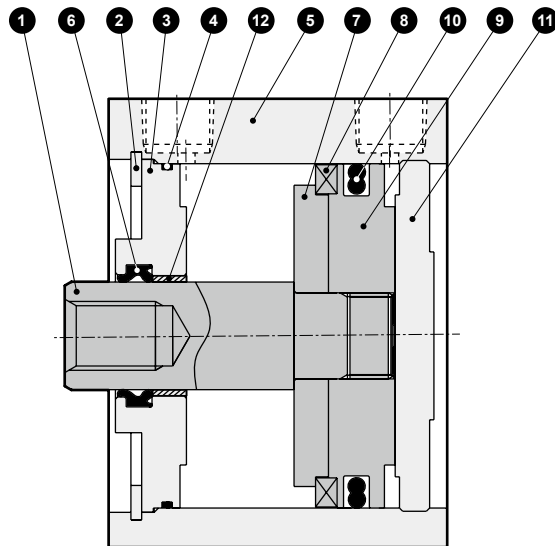
Internal structure and parts list

● SSD2-T1L-16 to 25

● SSD2-T1L-32 to 50



● SSD2-T1L-63



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ16 to φ25: Stainless steel φ32 to φ63: Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	φ32: Chromate
2	C snap ring	Steel	Zinc phosphate	8	Magnet	Special alloy	
3	Rod metal	φ16 to φ50: Special aluminum φ63: Aluminum alloy	φ16 to φ50: Alumite φ63: Chromate	9	Piston	φ16 to φ32: Aluminum alloy φ40 to φ63: Stainless steel	φ32: Chromate
4	Rod metal gasket	Fluoro rubber		10	Piston packing	Fluoro rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	φ16 to φ25: Stainless steel φ32 to φ63: Aluminum alloy	φ32 to φ100: Alumite
6	Rod packing	Fluoro rubber		12	Bush	Oiles drymet	

Fluorine grease is used.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ16	SSD2-T-16K	4 6 10
φ20	SSD2-T-20K	
φ25	SSD2-T-25K	
φ32	SSD2-T-32K	
φ40	SSD2-T-40K	
φ50	SSD2-T-50K	
φ63	SSD2-T-63K	

SSD2-T1L Series

Double acting/with heat resistant cylinder switch

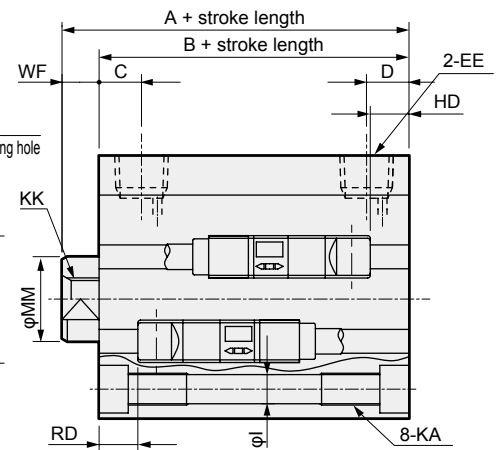
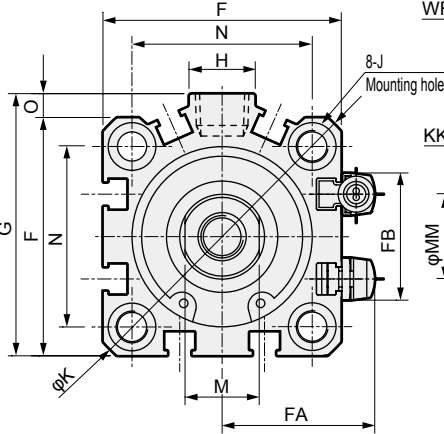
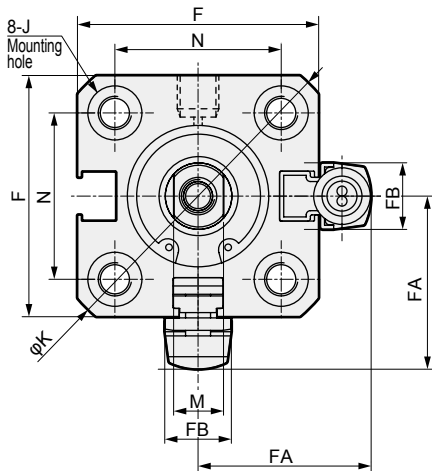
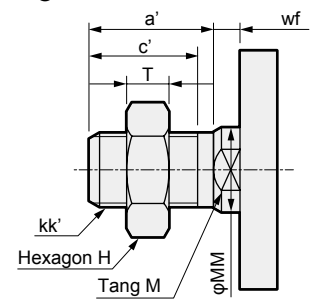
Dimensions

● SSD2-T1L-16 to 63

● Rod end male thread

· φ16

· φ20 to φ63



Code	Common dimensions with switch																			
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF
φ16	35.5	32	5.5	5.5	M5	29	21	8	-	-	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	-	3.5
φ20	34	29.5	8	5.5	M5	36	24.5	16	-	-	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	-	4.5
φ25	37.5	32.5	11	6	M5	40	26.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	-	5
φ32	40	33	8	8	Rc1/8	45	29	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
φ40	46.5	39.5	12	8.5	Rc1/8	52	32.5	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
φ50	48.5	40.5	10.5	10.5	Rc1/4	64	38.5	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
φ63	54	46	13	11	Rc1/4	77	45	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8

Switch dimensions		Reed ET0H/ET0V	
Bore size (mm)	HD	RD	
φ16	0.5	0	
φ20	0	0	
φ25	0	0.5	
φ32	0.5	2	
φ40	1.5	7	
φ50	1.5	6	
φ63	5.5	5.5	

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

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

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

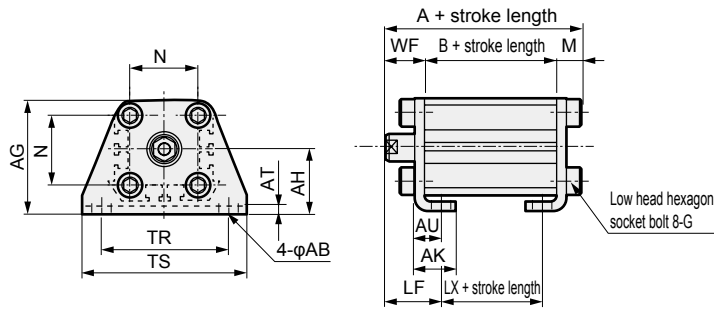
Spd
Contr

Ending

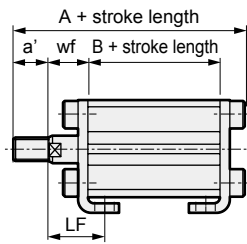
SSD2-T1L Series

Dimensions with mounting bracket

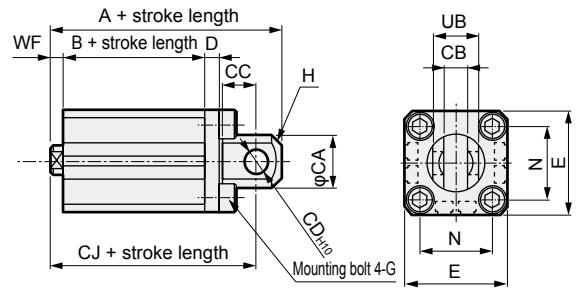
- Axial foot (LB) with switch
SSD2-T1L-16 to 25 -LB



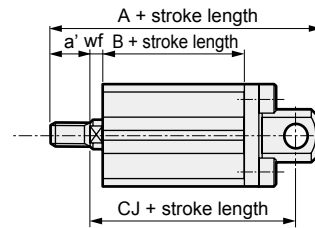
Rod end male thread



- Clevis bracket (CB) with switch
SSD2-T1L-16 to 25 -CB



Rod end male thread



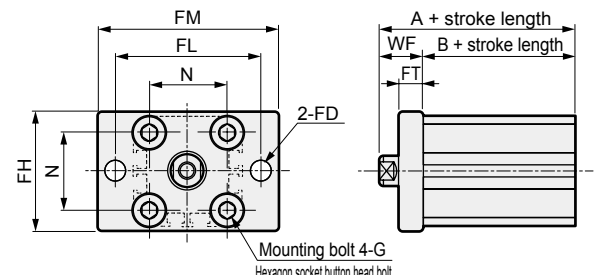
Code	Common dimensions					Female thread					
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Male thread										
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ16	13.5	19.5	50.3	32	20	12	13.5	19.5	62.3	32	20
φ20	14.5	20.5	51.2	29.5	17.5	14	14.5	20.5	65.2	29.5	17.5
φ25	15	22.5	54.7	32.5	17.5	15	15	22.5	72.2	32.5	17.5

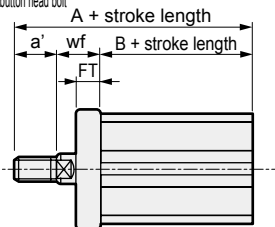
Code	Common dimensions									
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ16	15	6.6 ^{+0.3}	8	5	5	29	M4×12	C2	20	12 ^{-0.1}
φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5	16 ^{-0.1}
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{-0.1}

Code	Female thread					Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ	
φ16	3.5	56.5	32	50.5	12	3.5	68.5	32	50.5	
φ20	4.5	61	29.5	52	14	4.5	75	29.5	52	
φ25	5	67.5	32.5	57.5	17.5	5	85	32.5	57.5	

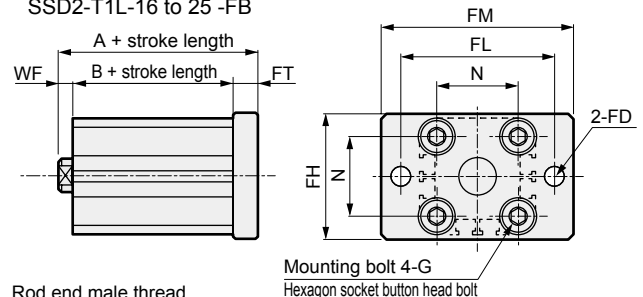
- Rod side flange (FA) with switch
SSD2-T1L-16 to 25 -FA



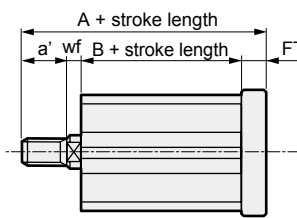
Rod end male thread



- Head side flange (FB) with switch
SSD2-T1L-16 to 25 -FB



Rod end male thread



Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

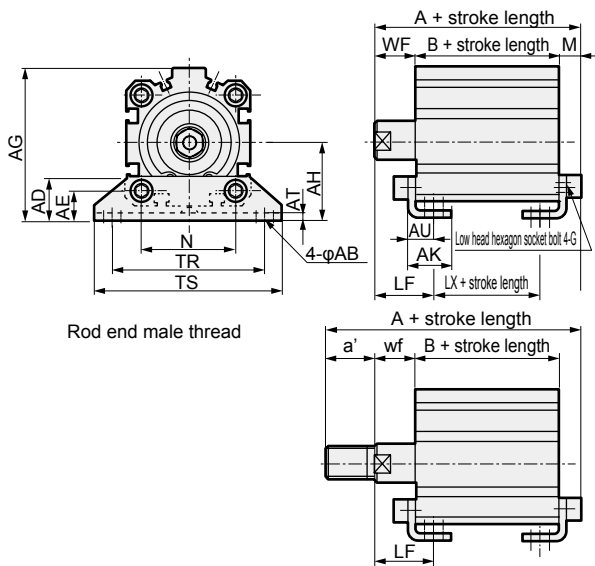
Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ16	13.5	45.5	32	12	13.5	57.5	32
φ20	14.5	44	29.5	14	14.5	58	29.5
φ25	15	47.5	32.5	17.5	15	65	32.5

Code	Common dimensions						
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ16	3.5	41	32	12	3.5	53	32
φ20	4.5	42	29.5	14	4.5	56	29.5
φ25	5	45.5	32.5	17.5	5	63	32.5

Dimensions with mounting bracket

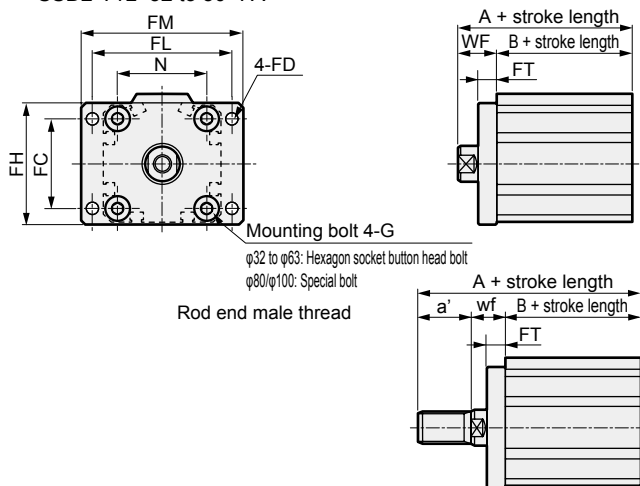
- Axial foot (LB)
SSD2-T1L -32 to 63 -LB



Code	Common dimensions											Female thread			
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS			
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71			
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78			
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95			
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113			
Code	Male thread														
Bore size (mm)	M	WF	LF	A	B	LX	a'	wf	LF	A	B	LX			
φ32	7.2	17	25	57.2	33	17	23.5	15	23	78.7	33	17			
φ40	7.2	17	25	63.7	39.5	23.5	23.5	15	23	85.2	39.5	23.5			
φ50	8.2	18	29.5	66.7	40.5	17.5	28.5	15	26.5	92.2	40.5	17.5			
φ63	9.2	18	31	73.2	46	20	28.5	15	28	98.7	46	20			

* Dimensions in () are for stroke lengths of more than 50 mm.

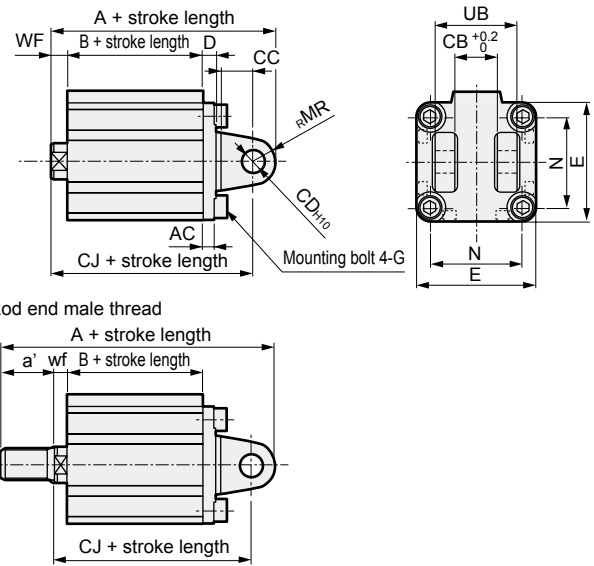
- Rod side flange (FA)
SSD2-T1L -32 to 50 -FA



Code	Common dimensions							
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20
φ63	60	9	80	92	108	9	60	M10×25
Code	Female thread				Male thread			
Bore size (mm)	WF	A	B	a'	wf	A	B	
φ32	17	50	33	23.5	15	71.5	33	
φ40	17	56.5	39.5	23.5	15	78	39.5	
φ50	18	58.5	40.5	28.5	15	84	40.5	
φ63	18	64	46	28.5	15	89.5	46	

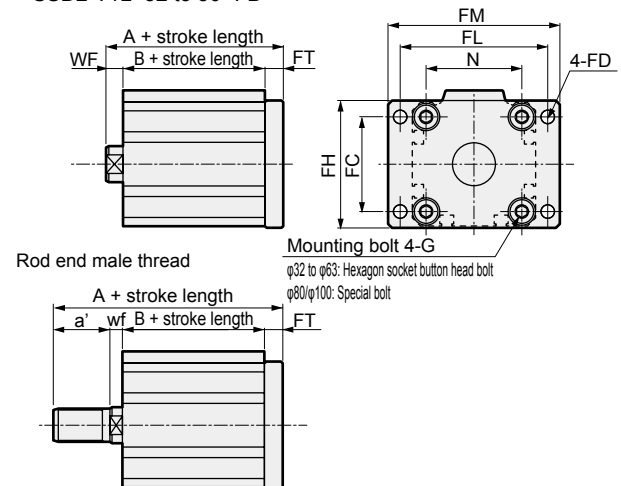
* Dimensions in () are for stroke lengths of more than 50 mm.

- Clevis bracket (CB)
SSD2-T1L -32 to 63 -CB



Code	Common dimensions									
Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N	UB
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36
φ40	5	18.2	14	10	6	52	M6×16	10	40	36
φ50	6	22.2	20	14	7	64	M8×20	14	50	44
φ63	7	22.2	20	14	8	77	M10×25	14	60	44
Code	Female thread					Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ	
φ32	7	70	33	60	23.5	5	91.5	33	58	
φ40	7	78.5	39.5	68.5	23.5	5	100	39.5	66.5	
φ50	8	90.5	40.5	76.5	28.5	5	116	40.5	73.5	
φ63	8	98	46	84	28.5	5	123.5	46	81	

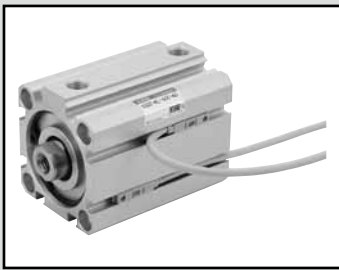
- Head side flange (FB)
SSD2-T1L -32 to 50 -FB



Code	Common dimensions							
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20
φ63	60	9	80	92	108	9	60	M10×25
Code	Female thread				Male thread			
Bore size (mm)	WF	A	B	a'	wf	A	B	
φ32	7	48	33	23.5	5	69.5	33	
φ40	7	54.5	39.5	23.5	5	76	39.5	
φ50	8	57.5	40.5	28.5	5	83	40.5	
φ63	8	63	46	28.5	5	88.5	46	

* Dimensions in () are for stroke lengths of more than 50 mm.

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

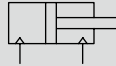


Compact cylinder high load/rubber-air cushioned

SSD2-K-*C Series

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

JIS symbol



Specifications

Descriptions	SSD-K-*C SSD-KL-*C (with switch)							
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.25 (≈ 36 psi, 2.5 bar)				0.2 (≈ 29 psi, 2 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	Rc1/8				Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+2.0}_0$							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	Rubber-air cushion							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

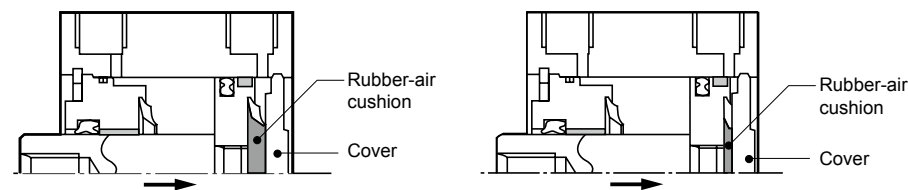
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

Custom stroke length

● SSD2-K-*C Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-K-32C-38 A +2 mm spacer is added to the SSD2-K-32C-40 standard cylinder to create 38 mm stroke length. B + stroke length is 73 mm.	

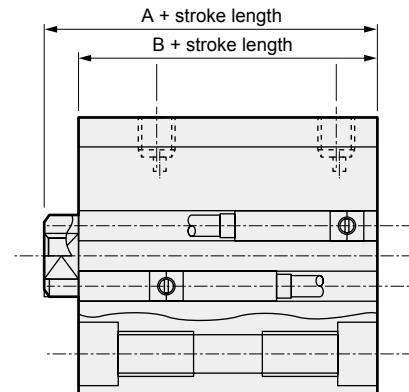
Rubber-air cushion mechanism



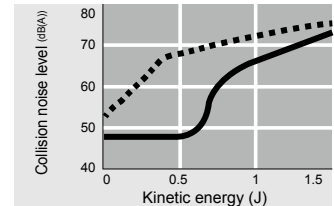
When pulled

An airtight space is created in the ■ area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates.

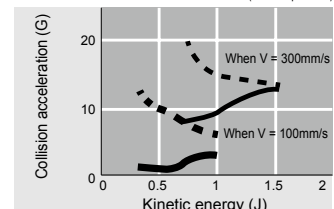
At the end of the stroke, energy generated by compression distortion of the rubber cushion is also added.



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



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



--- Cylinder with rubber cushion
— Cylinder with rubber-air cushion

Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire	Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire		
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	For programmable controller		
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-		
Pwr. supp. V.	-	-				10 to 28 VDC				-				-		
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)	Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272			

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

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

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

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

Theoretical thrust table

(Unit: N)

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

[Stroke length table]

Stroke length (mm)	Applicable bore size								
	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
	100			●	●	●	●	●	●
Min. stroke length (mm) *1	5				10				
Max. stroke length (mm)	50			100					
Custom stroke length *2	In 1 mm increments								

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

Refer to page 816 for the number of installed switches and the min. stroke length.

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

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80
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
Clevis bracket (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)	φ100						
Mounting bracket							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis bracket (CB)	SSD2-CB-100						

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

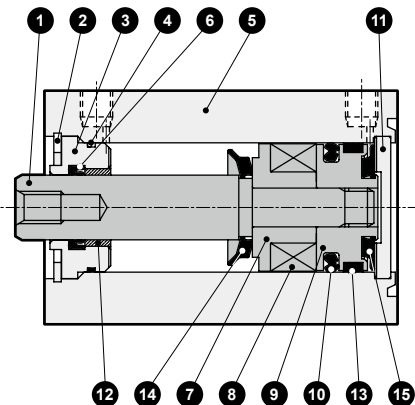
Spd
Contr

Ending

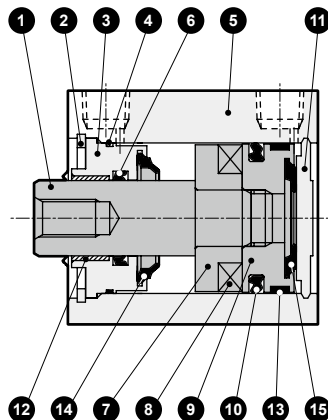
SSD2-K-*C Series

Internal structure and parts list

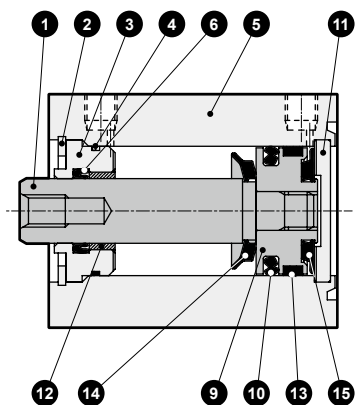
● SSD2-KL-20C, 25C
(double acting/single rod high load/rubber-air cushioned/with switch)



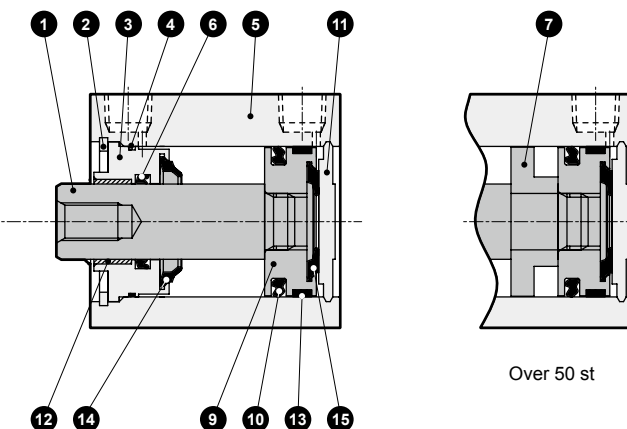
● SSD2-KL-32C to 100C
(double acting/single rod high load/rubber-air cushioned/with switch)



● SSD2-K-20C, 25C
(double acting/single rod high load/rubber-air cushioned)



● SSD2-K-32C to 100C
(double acting/single rod high load/rubber-air cushioned)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20 to φ25: Stainless steel φ32 to φ100: steel	Industrial chrome plating	8	Magnet	Plastic	
2	C snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	φ20 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ20 to φ50: Alumite φ63 to φ100: Chromate	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	φ20 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100: Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oiles drymet	
6	Rod packing	Nitrile rubber		13	Wear ring	Polyacetal resin	
7	Spacer	Aluminum alloy	Chromate	14	Rubber air cushion (R)	Special rubber	
				15	Rubber air cushion (H)	Special rubber	

Repair parts list



Bore size (mm)	Kit No.	Repair parts No.
φ20	SSD2-K-20CK	4 6 10 13 14 15
φ25	SSD2-K-25CK	
φ32	SSD2-K-32CK	
φ40	SSD2-K-40CK	
φ50	SSD2-K-50CK	
φ63	SSD2-K-63CK	
φ80	SSD2-K-80CK	
φ100	SSD2-K-100CK	

Dimensions

Same as SSD2-K Series (double acting/high load). Refer to pages 766 to 774.

Technical data

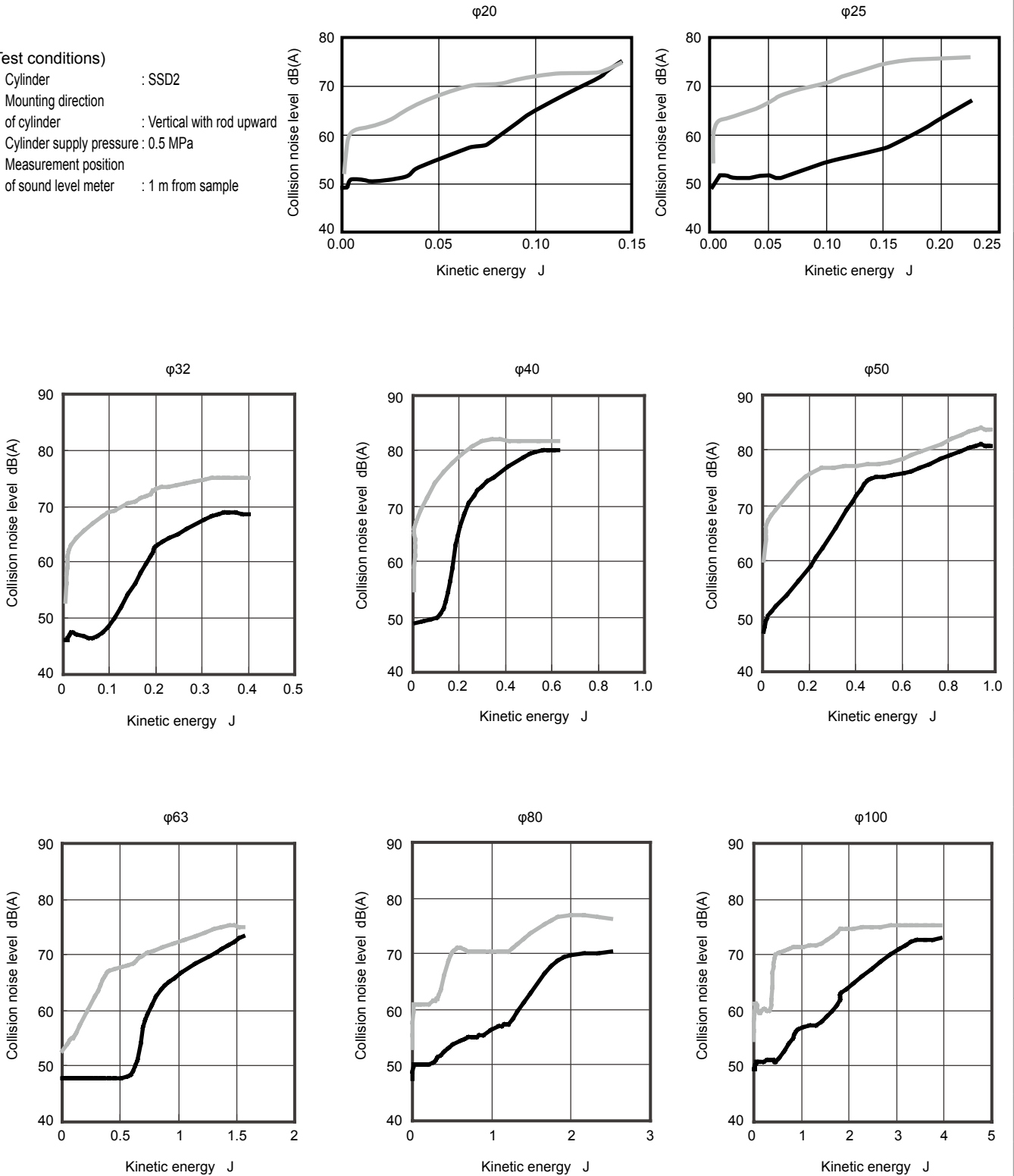
[Comparison of collision noise level]

Standard rubber cushion : 
 Rubber-air cushion : 

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

(Test conditions)



Cylinder : SSD2
 Mounting direction of cylinder : Vertical with rod upward
 Cylinder supply pressure : 0.5 MPa
 Measurement position of sound level meter : 1 m from sample

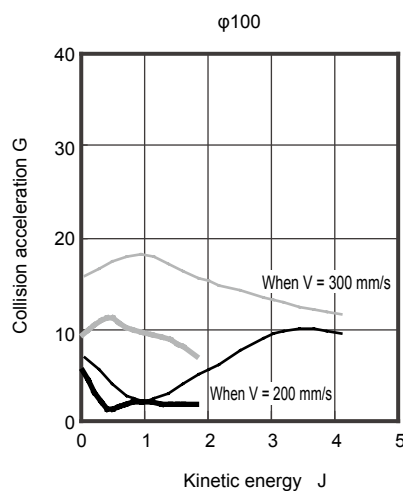
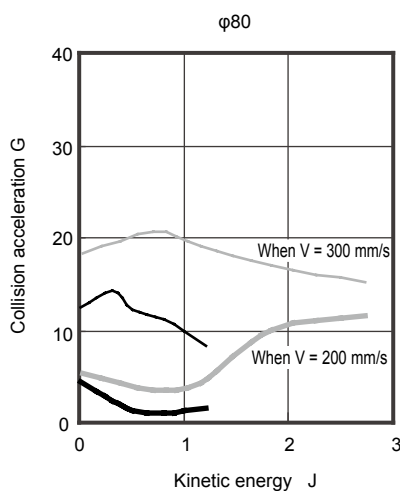
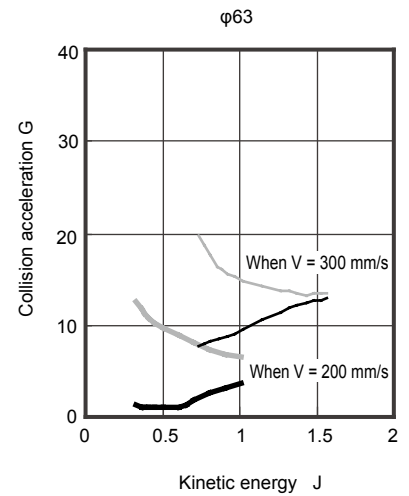
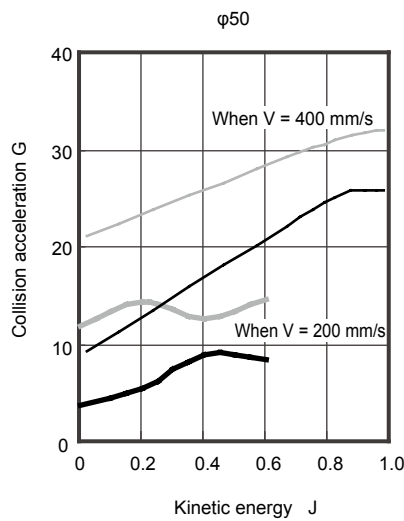
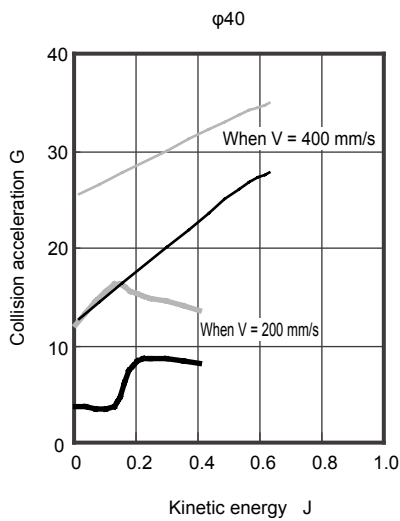
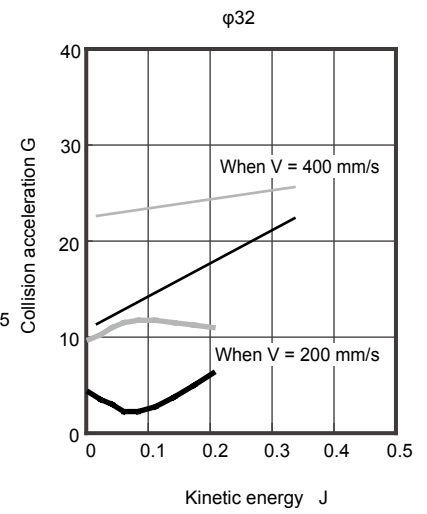
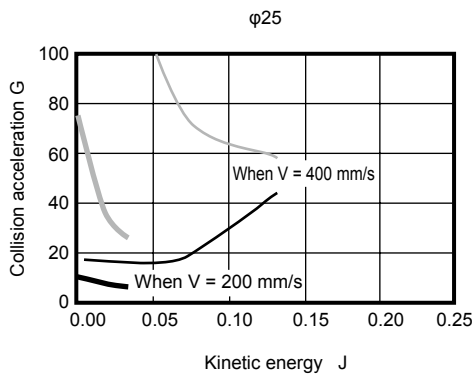
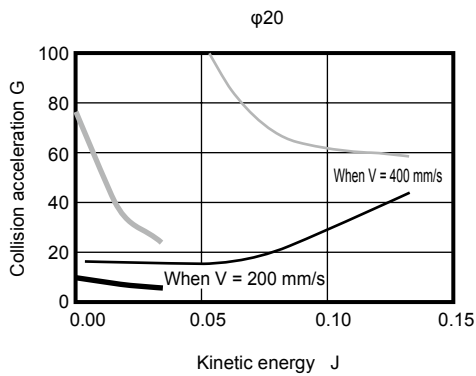


- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

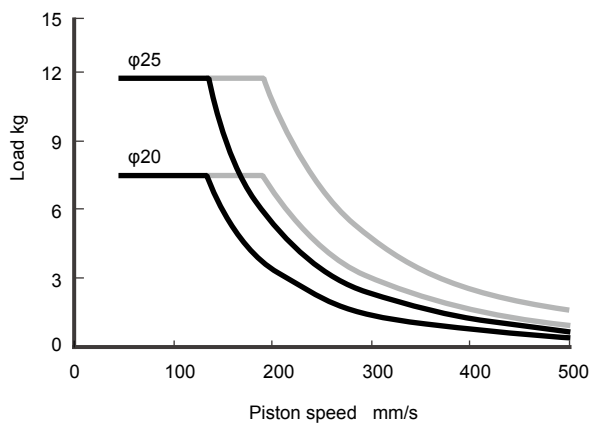
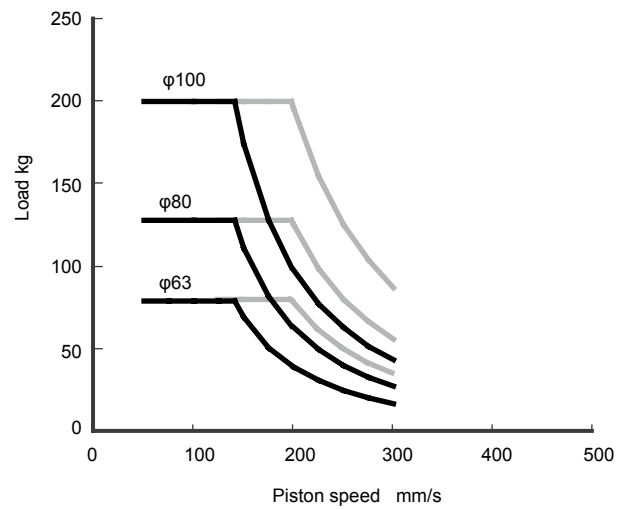
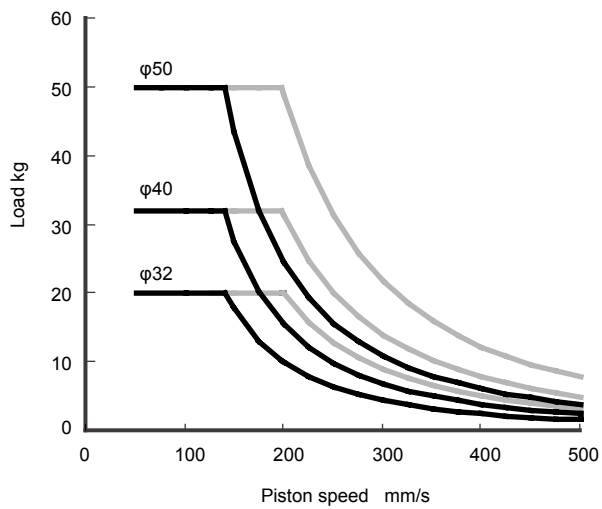
Technical data

[Comparison of collision acceleration]

Standard rubber cushion : 
 Rubber-air cushion : 

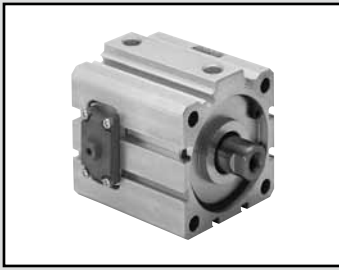


[Allowable energy value]



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

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



Compact cylinder double acting/with position locking

SSD2-Q Series

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

JIS symbol



Specifications

Descriptions	SSD2-Q							
	SSD2-QL (with switch)							
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting/position locking							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)							
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+2.5}$ 0							
Working piston speed mm/s	50 to 500					50 to 300		
Cushion	Rubber cushion							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Position locking mechanism	Rod side or head side							
Holding force N	Max. thrust $\times 0.7$							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

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

⚠ Be sure to read the Safety precautions for the position locking on pages 1042 to 1047 before use.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 20$	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
$\phi 25$	Push	49.1	73.6	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2	3.93×10^2	4.42×10^2	4.91×10^2
	Pull	37.8	56.7	75.6	1.13×10^2	1.51×10^2	1.89×10^2	2.27×10^2	2.64×10^2	3.02×10^2	3.40×10^2	3.78×10^2
$\phi 32$	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
$\phi 40$	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
$\phi 50$	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
$\phi 63$	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
$\phi 80$	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
$\phi 100$	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

Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire	
	T1H/T1V	T2H/T2V	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	For programmable controller		
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-		-		10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA						1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

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

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

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

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

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

● With rod side position locking

(Unit: g)

Stroke length (mm)	10		15		20		25		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ20	201	242	213	254	226	267	238	279	330	370	392	433	455	495
φ25	274	315	290	331	306	347	322	363	439	480	519	560	599	640
φ32	430	474	451	495	473	517	494	538	602	646	709	753	817	861
φ40	632	681	658	708	685	734	711	761	844	893	976	1026	1109	1158
φ50	1096	1147	1138	1189	1180	1231	1222	1273	1432	1483	1642	1693	1852	1903
φ63	1609	1663	1664	1718	1719	1773	1774	1828	2049	2103	2324	2378	2599	2653
φ80	-	-	-	-	-	-	3822	3882	4255	4315	4904	4964	5336	5396
φ100	-	-	-	-	-	-	5769	5835	6339	6405	7194	7260	7764	7830

● With head side position locking

(Unit: g)

Stroke length (mm)	10		15		20		25		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ20	217	258	230	270	242	283	255	295	330	370	392	433	455	495
φ25	295	336	311	352	327	368	343	384	439	480	519	560	599	640
φ32	462	506	484	528	505	549	527	571	634	678	742	786	849	893
φ40	688	737	714	763	741	790	767	816	900	949	1032	1081	1165	1214
φ50	1180	1231	1222	1273	1264	1315	1306	1357	1516	1567	1726	1777	1936	1987
φ63	1675	1729	1730	1784	1785	1839	1840	1894	2115	2169	2390	2444	2665	2719
φ80	-	-	-	-	-	-	3952	4012	4385	4445	4904	4964	5336	5396
φ100	-	-	-	-	-	-	5940	6006	6510	6576	7194	7260	7764	7830

SSD2-Q Series

How to order

● Without switch (without magnet for switch)

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

● With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke length

D Position locking mechanism

E Switch model No.

*1

*6

F Switch quantity

G Option

*2

⚠ Precautions for model No. selection

*1 : The F switch can only be mounted on the piping port surface of bore sizes $\phi 20$ and $\phi 25$.

*2 : Only non-locking manual override unless "M0" or "M1" of **G** option is selected. A release bolt is not attached.

*3 : The mounting bracket is attached at shipment.

*4 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 831, 832, 834 and 835. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

*8 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder, position locking

A Bore size : $\phi 20$ mm

B Port thread : Rc thread

C Stroke length : 10mm

D Position locking mechanism : With rod side position locking

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

F Switch quantity : 1 on rod side

G Option : Rod end male thread

H Mounting bracket : Axial foot

I Accessory : Rod eye

H Mounting bracket

*3

*4

I Accessory

*5

How to order switch

SW - **T0H**

Switch model No. (Item **E** above)

Code	Content
A Bore size (mm)	
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

B Port thread	
Blank	Rc thread
NN	NPT thread ($\phi 32$ and over) (custom order product)
GN	G thread ($\phi 32$ and over) (custom order product)

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

D Position locking mechanism	
R	With rod side position locking
H	With head side position locking

E Switch model No.																
Lead wire	Lead wire	Contact	Voltage		Display	Bore size										
			AC	DC		Lead wire	20	25	32	40	50	63	80	100		
Straight	L-shaped	Proximity	●	●	1-color display	2-wire	●	●								
							3-wire	●	●							
2-wire	●	●														
3-wire	●	●														
3-wire	●	●				1 color display (PNP output) (custom)	●	●								
2-wire	●	●				2-color display	●	●								
3-wire	●	●			●		●									
Reed	●	●	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
							Without indicator lamp	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
							1-color display (PNP output) (custom)	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
							3-wire	●	●	●	●	●	●	●	●	●
2-wire	●	●	●	●		●	●	●	●	●	●	●	●			
3-wire	●	●	●	●		●	●	●	●	●	●	●	●			
Proximity	●	●	●	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
							for AC magnetic field	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●
								●	●	●	●	●	●	●	●	●

* Lead wire length

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

F Switch quantity

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

G Option

Blank	Rod end female thread
N	Rod end male thread
M0	Non-locking manual override (with release bolt)
M1	Locking manual override
P4	Specifications for rechargeable battery (custom order)
P40	

H Mounting bracket

Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

I Accessory (available when rod end male thread "N" is selected)

I	Rod eye
Y	Rod clevis (pin and snap ring attached)

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Standard stroke length	10	●	●	●	●	●	●		
	15	●	●	●	●	●	●		
	20	●	●	●	●	●	●		
	25	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75	●	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●	●
Min. stroke length (mm)		10						25	
Max. stroke length (mm)		100							

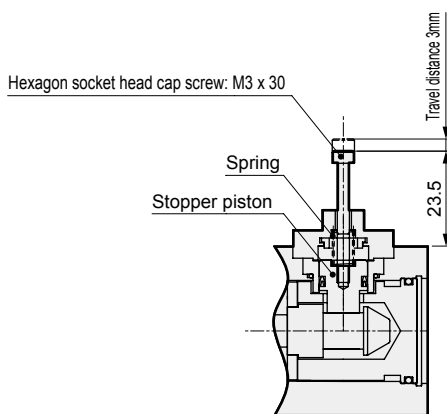
How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80
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
Clevis bracket (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)	φ100						
Mounting bracket							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis bracket (CB)	SSD2-CB-100						

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

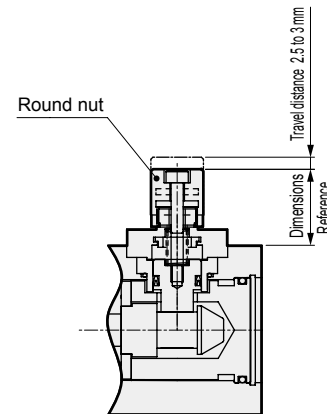
[Explanation of manual override]

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



By screwing the hexagon socket head cap screw (M3 x 30) into the stopper piston and pulling the bolt with force of 20 N or more, the stopper piston moves and the lock is released. (Perform when horizontally installed with no load or when the opposite side port is pressurized)
When you release the bolt, the stopper piston is returned to the original position and engaged in the groove, and the piston is locked.

● Locking manual override (option code: M1)



By rotating the round nut leftward (counterclockwise), the stopper piston moves and the lock is released. Locking the round nut by rotating it to the right (clockwise) causes the stopper piston to return. When it fits into the lock groove, the piston is locked. Screw in the round nut fully, since the cylinder may be damaged if the stopper piston is not securely locked in the groove.

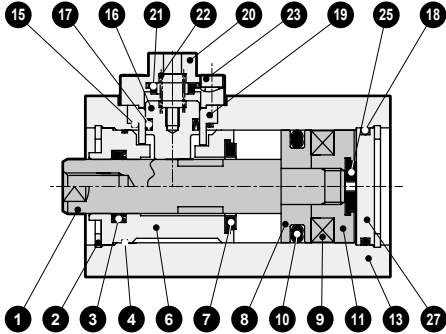
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SSD2-Q Series

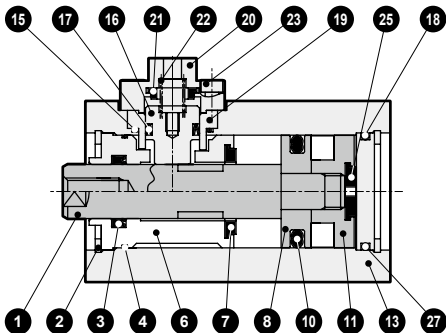
Internal structure and parts list (φ20 to φ50)

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK

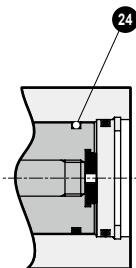
● SSD2-QL-20 to 50-R
(double acting/single rod/with switch/rod side position locking)



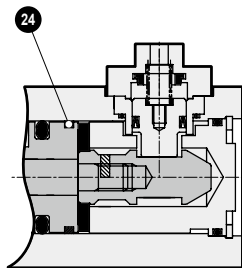
● SSD2-Q-20 to 50-R
(double acting/single rod/rod side position locking)



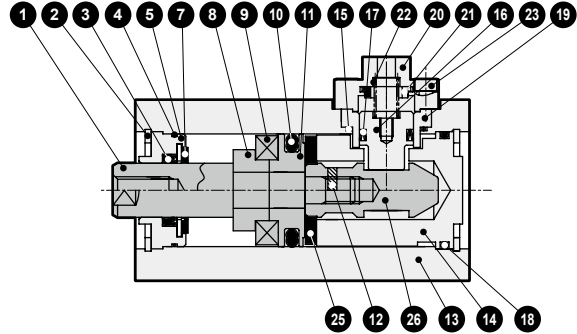
● φ20, φ25: 50 stroke length and over



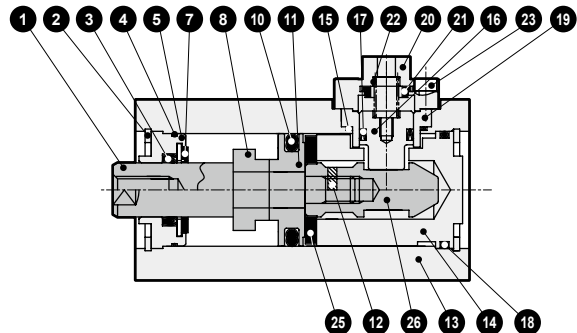
● φ20, φ25: 50 stroke length and over



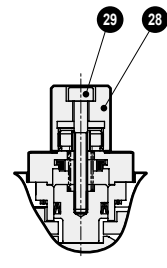
● SSD2-QL-20 to 50-H
(double acting/single rod/with switch/head side position locking)



● SSD2-Q-20 to 50-H
(double acting/single rod/head side position locking)



● Locking manual override



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20 to φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating	16	Stopper piston	Steel	Nitriding
2	C snap 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	φ20 to φ30, φ50: Aluminum alloy φ40: Alloy steel	Alumite Chromate
5	Rod metal	Special aluminum	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
8	Spacer	Aluminum alloy	φ20 to φ32: Chromate	23	Hexagon socket head cap screw	Steel	
9	Magnet	Plastic		24	Wear ring	Polyacetal resin (only for φ20 and φ25 with 50 mm stroke length and over)	
10	Piston packing	Nitrile rubber		25	Cushion rubber (H)	Urethane rubber	
11	Piston	Aluminum alloy	Chromate	26	Sleeve	Steel	Nitriding
12	Spring pin	Steel	Black finish	27	Cover	Aluminum alloy	Chromate
13	Body	Aluminum alloy	Hard alumite	28	Round nut	Aluminum alloy	
14	Head cover	Aluminum alloy	Chromate	29	Hexagon socket head cap screw	Steel	
15	O-ring	Nitrile rubber					

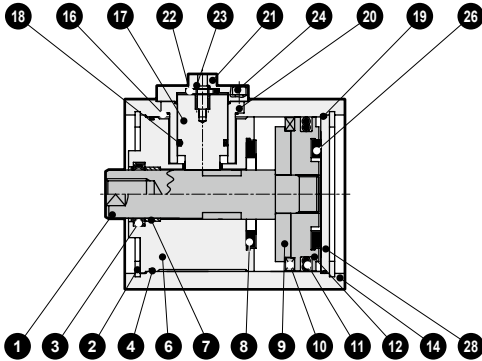
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ20	SSD2-Q-20K	
φ25	SSD2-Q-25K	
φ32	SSD2-Q-32K	3 4 7 10 15
φ40	SSD2-Q-40K	17 18 21 24 25
φ50	SSD2-Q-50K	

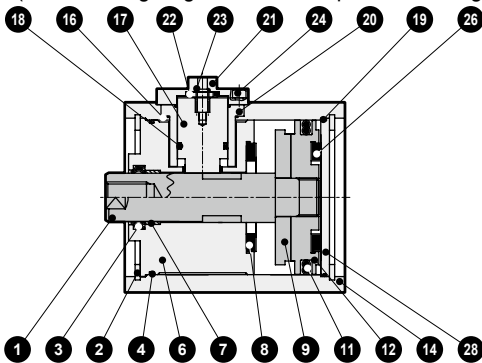
*1: 24 is included only with φ20 and φ25.

Internal structure and parts list (φ63 to φ100)

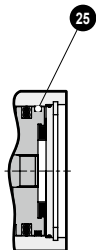
- SSD2-QL-63 to 100-R (double acting/single rod/with switch/rod side position locking)



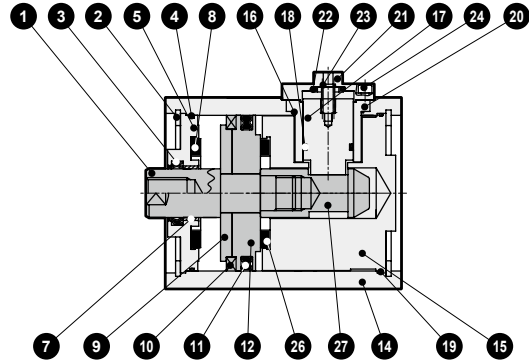
- SSD2-Q-63 to 100-R (double acting/single rod/rod side position locking)



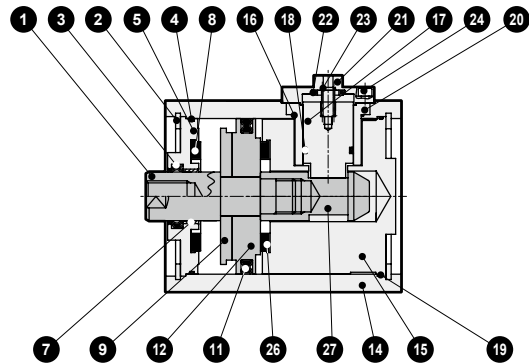
- φ80, φ100: 75 stroke length and over



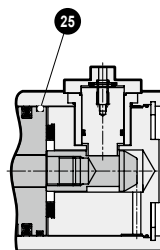
- SSD2-QL-63 to 100-H (double acting/single rod/with switch/head side position locking)



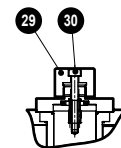
- SSD2-Q-63 to 100-H (double acting/single rod/head side position locking)



- φ80, φ100: 75 stroke length and over



- Locking manual override



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	17	Stopper piston	Steel	Nitriding
2	C snap 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	φ80: Aluminum alloy φ63, φ100: Alloy steel	Alumite Chromate
5	Rod metal	Special aluminum	Alumite	21	Stopper cover	Aluminum alloy	Chromate
6	Rod cover	Aluminum alloy	Alumite	22	Cushion rubber	Urethane rubber	
7	Bush	Oiles drymet		23	Coil spring	Piano wire	Electrodeposition
8	Cushion rubber (R)	Urethane rubber		24	Hexagon socket head cap screw	Steel	
9	Spacer	Aluminum alloy		25	Wear ring	Polycetal resin (only for φ80 and φ100 with 75 mm stroke length and over)	
10	Magnet	Plastic		26	Cushion rubber (H)	Urethane rubber	
11	Piston packing	Nitrile rubber		27	Sleeve	Steel	Nitriding
12	Piston	Aluminum alloy	Chromate	28	Cover	Aluminum alloy	Chromate
13	Spring pin	Steel	Black finish	29	Round nut	Aluminum alloy	
14	Body	Aluminum alloy	Hard alumite	30	Hexagon socket head cap screw	Steel	
15	Head cover	Aluminum alloy	Chromate				
16	O-ring	Nitrile rubber					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD2-Q-63K	3 4 8 11 16
φ80	SSD2-Q-80K	3 4 8 11 16
φ100	SSD2-Q-100K	3 4 8 11 16

*1: 25 is included only with φ80 and φ100.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

SSD2-Q Series

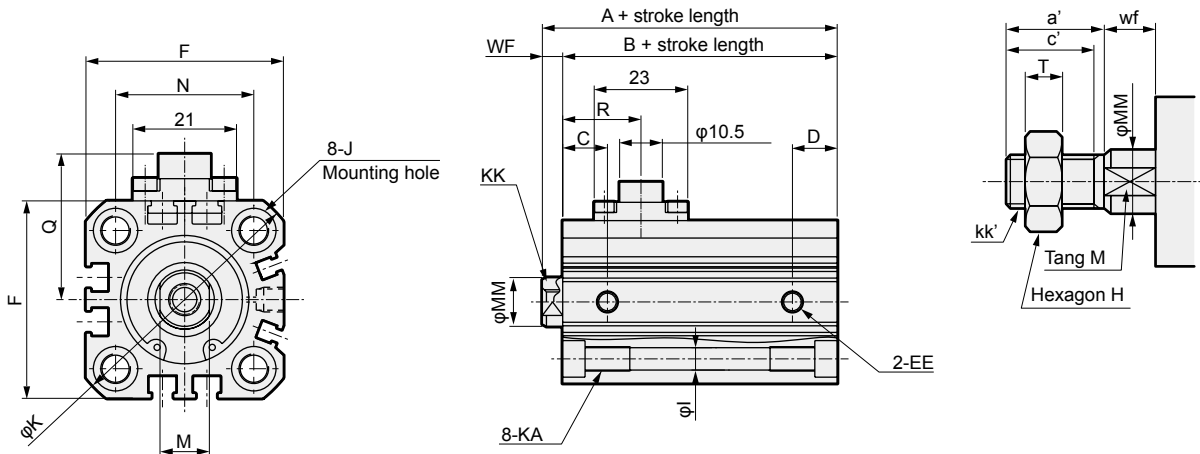


Dimensions (φ20, φ25)

● SSD2-Q(L)-20 to 25-R

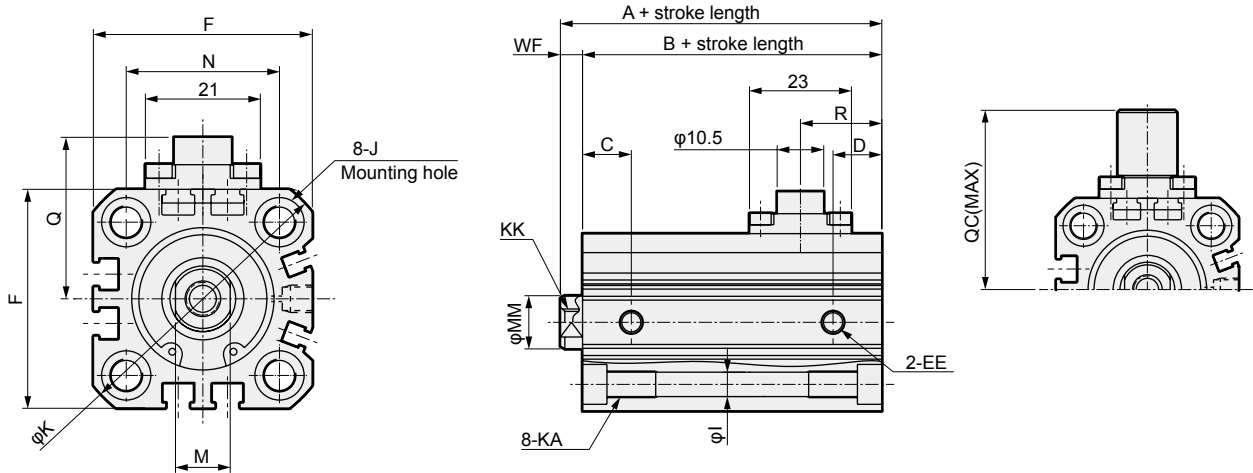
● Rod end male thread

* The dimensions are common for types with and without switches.



● SSD2-Q(L)-20 to 25-H

* The dimensions are common for types with and without switches.



● Precautions regarding the switch mounting groove

*1: Only F switch is available for the φ20 or φ25 piping port surface.

Code	Common dimensions												
	EE	F	I	J	K	KA	KK	M	MM	N	WF ^{*1}	Q	QC
φ20	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5(14.5)	28.5	40
φ25	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5(15)	29.5	41
Code	With rod side position locking mechanism						With head side position locking mechanism						
	A ^{*1}	B ^{*1}	C	D	R	A ^{*1}	B ^{*1}	C	D	R			
φ20	59(80.5)	54.5(66)	9.5	8	18.6	65.5(80.5)	61(66)	9.5	8	17.3			
φ25	62.5(84)	57.5(69)	12	8.5	19.3	69(84)	64(69)	12	8.5	18.4			

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf ^{*1}
φ20	14	12	13	M8	8	10	5	4.5(14.5)
φ25	17.5	15	17	M10×1.25	10	12	6	5(15)

*1 : Dimensions in () are for stroke lengths of more than 25 mm.

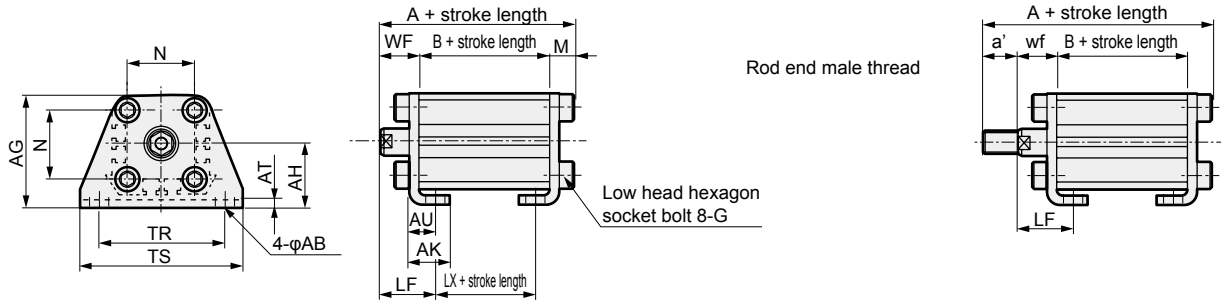
*2: Refer to pages 836 and 837 for switch mounting position.

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

Dimensions with mounting bracket



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



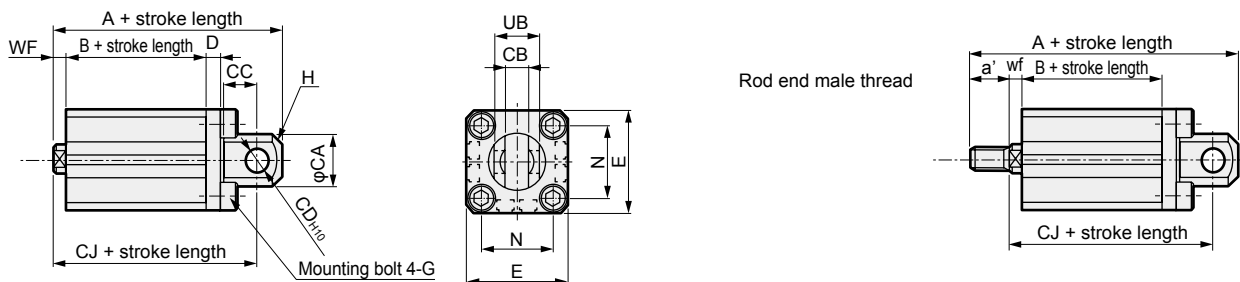
Code	Common dimensions						Female thread					SSD2-Q-R (female thread)					
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without/with switch			
	A	B	LX														
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2	14.5	20.5	76.2(87.7)	54.5(66)	42.5(54)	
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2	15	22.5	79.7(91.2)	57.5(69)	42.5(54)	

Code	SSD2-Q-R (male thread)						SSD2-Q-H (female thread)					
Bore size (mm)	a'	wf	LF	Without/with switch			WF	LF	Without/with switch			
				A	B	LX			A	B	LX	
φ20	14	14.5	20.5	90.2(101.7)	54.5(66)	42.5(54)	14.5	20.5	82.7(87.7)	61(66)	49(54)	
φ25	17.5	15	22.5	97.2(108.7)	57.5(69)	42.5(54)	15	22.5	86.2(91.2)	64(69)	49(54)	

Code	SSD2-Q-H (male thread)					
Bore size (mm)	a'	wf	LF	Without/with switch		
				A	B	LX
φ20	14	14.5	20.5	96.7(101.7)	61(66)	49(54)
φ25	17.5	15	22.5	103.7(108.7)	64(69)	49(54)

* Dimensions in () are for φ20 and φ25 with more than 25 mm stroke length and φ80 and φ100 with more than 50 mm stroke length.

- Clevis bracket (CB)
SSD2-Q(L)-20, 25 -CB



Code	Common dimensions										SSD2-Q-R (female thread)			
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB	WF	A	B	CJ
	φ20	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	25.5				
φ25	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	28	20 ^{-0.1} _{-0.3}	5(15)	92.5(114)	57.5(69)	82.5(104)

Code	SSD2-Q-R (male thread)					SSD2-Q-H (female thread)				
Bore size (mm)	a'	wf	A	B	CJ	WF	A	B	CJ	
										φ20
φ25	17.5	5(15)	110(131.5)	57.5(69)	82.5(104)	5(15)	99(114)	64(69)	89(104)	

Code	SSD2-Q-H (male thread)				
Bore size (mm)	a'	wf	A	B	CJ
φ25	17.5	5(15)	116.5(131.5)	64(69)	89(104)

*1: Dimensions in () are for more than 25 mm stroke length.

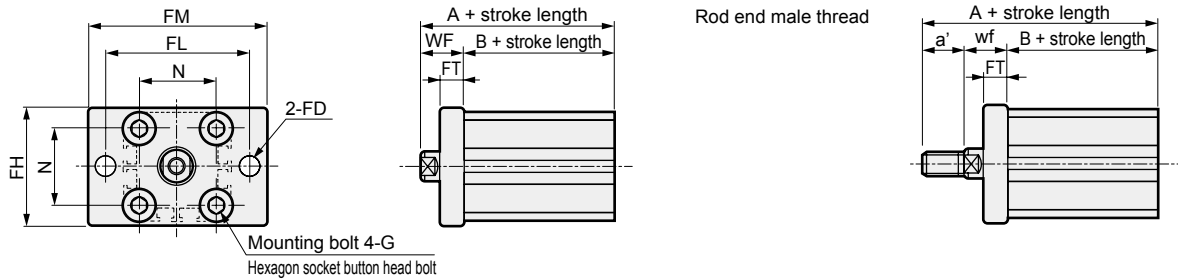
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SSD2-Q Series



Dimensions with mounting bracket

- Rod side flange (FA)
SSD2-Q(L)-20, 25 -FA

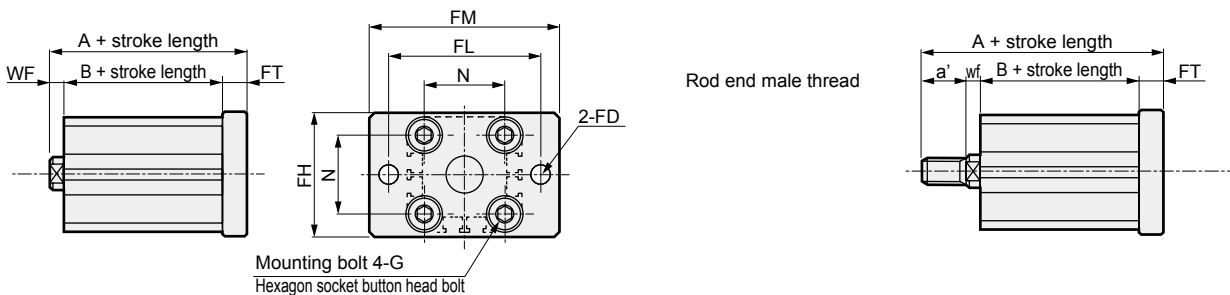


Code	Common dimensions							SSD2-Q-R (female thread)			SSD2-Q-R (male thread)			
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF	Without/with switch		a'	wf	Without/with switch	
							A		B	A			B	
φ20	6.6	39	48	60	8	25.5	M6×16	14.5	69(80.5)	54.5(66)	14	14.5	83(94.5)	54.5(66)
φ25	6.6	42	52	64	8	28	M6×16	15	72.5(84)	57.5(69)	17.5	15	90(101.5)	57.5(69)

Code	SSD2-Q-H (female thread)			SSD2-Q-H (male thread)			
Bore size (mm)	WF	Without/with switch		a'	wf	Without/with switch	
		A	B			A	B
φ20	14.5	75.5(80.5)	61(66)	14	14.5	89.5(94.5)	61(66)
φ25	15	79(84)	64(69)	17.5	15	96.5(101.5)	64(69)

* Dimensions in () are for φ20 and φ25 with more than 25 mm stroke length and φ80 and φ100 with more than 50 mm stroke length.

- Head side flange (FB)
SSD2-Q(L)-20, 25 -FB



Code	Common dimensions							SSD2-Q-R (female thread)			SSD2-Q-R (male thread)			
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
	φ20	6.6	39	48	60	8	25.5		M6×16	4.5(14.5)			67(88.5)	54.5(66)
φ25	6.6	42	52	64	8	28	M6×16	5(15)	70.5(92)	57.5(69)	53	22.5(15)	88(109.5)	57.5(69)

Code	SSD2-Q-H (female thread)			SSD2-Q-H (male thread)			
Bore size (mm)	WF	A	B	a'	wf	A	B
φ25	5(15)	77(92)	64(69)	53	22.5(15)	94.5(109.5)	64(69)

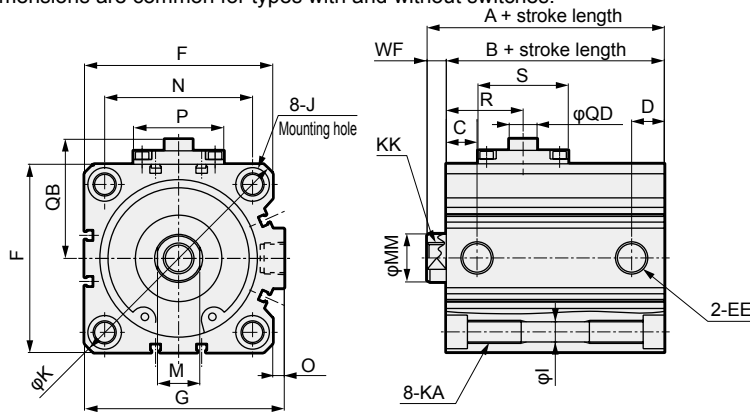
*1: Dimensions in () are for more than 25 mm stroke length.

Dimensions (φ32 to φ100)

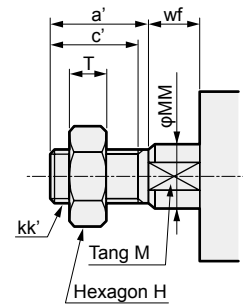


● SSD2-Q(L)-32 to 100-R

* The dimensions are common for types with and without switches.

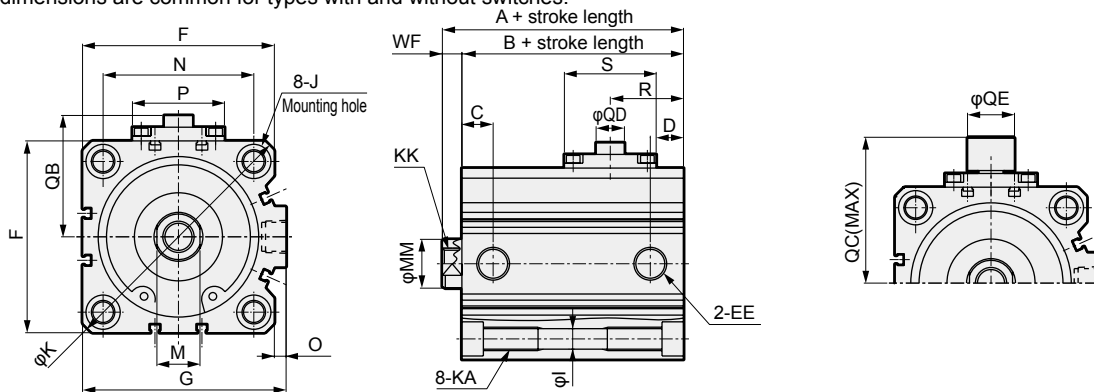


● Rod end male thread



● SSD2-Q(L)-32 to 100-H

* The dimensions are common for types with and without switches.



Code	Common dimensions										
Bore size (mm)	EE	F	G	I	J	K	KA	KK	M	MM	N
φ32	Rc1/8	45	49.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34
φ40	Rc1/8	52	57	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40
φ50	Rc1/4	64	71	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50
φ63	Rc1/4	77	84	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60
φ80	Rc3/8	98	104	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77
φ100	Rc3/8	117	123.5	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94

Code	Common dimensions							
Bore size (mm)	O	P	S	QB	QC	QD	QE	WF ^{*1}
φ32	4.5	22	30.5	33.5	46.3	10.5	13	7
φ40	5	22	30.5	37	49.8	10.5	13	7
φ50	7	40.5	23	44	56.3	10.5	13	8
φ63	7	40.5	23	50.5	62.8	10.5	13	8
φ80	6	47	47	62	77.5	14.5	24	10(20)
φ100	6.5	47	47	71.5	87	14.5	24	12(22)

Code	With rod side position locking mechanism					With head side position locking mechanism				
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	R	A ^{*1}	B ^{*1}	C	D	R
φ32	65	58	11	9	19.2	72.5	65.5	11	9	20.9
φ40	71.5	64.5	14	11	21.7	82	75	14	14	23.9
φ50	73.5	65.5	15	12.5	24.7	83.5	75.5	15	12.5	29.8
φ63	79	71	19	16	26.2	85	77	15	16	25.5
φ80	113.5(136)	103.5(116)	18	17	40	121(136)	111(116)	18	17	37.5
φ100	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

Code	a'	c'	H	kk'	M	MM	T	wf ^{*1}
Bore size (mm)								
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8(18)
φ100	35.5	32.5	41	M26×1.5	27	30	16	8(18)

*1 : Dimensions in () are for stroke lengths of more than 50 mm.

*2: Refer to pages 836 and 837 for switch mounting position.

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

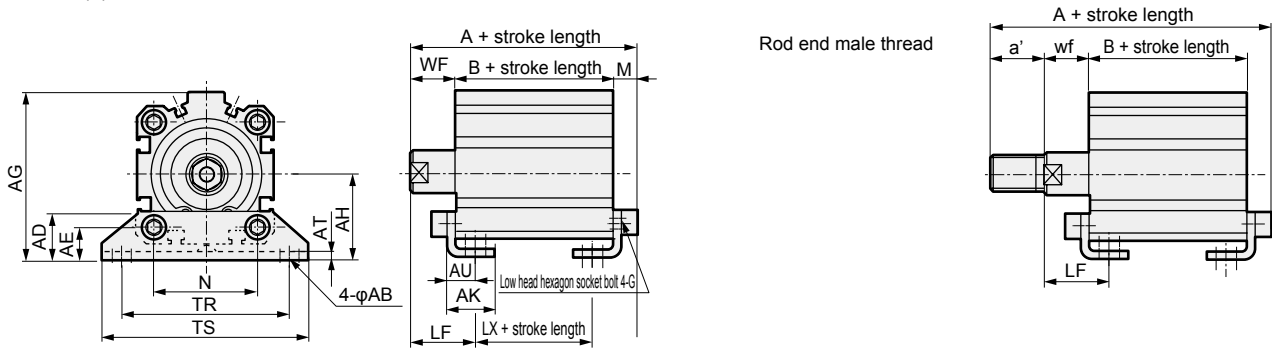
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

SSD2-Q Series



Dimensions with mounting bracket

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

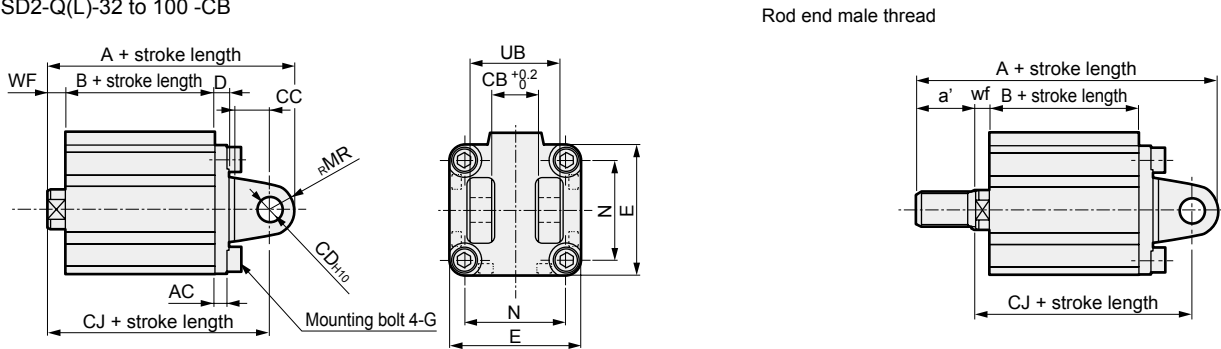


Code	Common dimensions						Female thread						SSD2-Q-R (female thread)						
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without/with switch		
																	A	B	LX
SSD2	φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2	17	25	82.2	58	42
	φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	17	25	88.7	64.5	48.5
	φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	18	29.5	91.7	65.5	42.5
SSG	φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	18	31	98.2	71	45
	φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	20	35	135(147.5)	103.5(116)	73.5(86)
SSD	φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	22	39	148(160.5)	113(125.5)	79(91.5)

Code	SSD2-Q-R (male thread)			SSD2-Q-H (female thread)			SSD2-Q-H (male thread)											
	Bore size (mm)	a'	wf	LF	Without/with switch			WF	LF	Without/with switch			a'	wf	LF	Without/with switch		
				A	B	LX			A	B	LX				A	B	LX	
CAT	φ32	23.5	15	23	103.7	58	42	17	25	89.7	65.5	49.5	23.5	15	23	111.2	65.5	49.5
MDC2	φ40	23.5	15	23	110.2	64.5	48.5	17	25	99.2	75	59	23.5	15	23	120.7	75	59
	φ50	28.5	15	26.5	117.2	65.5	42.5	18	29.5	101.7	75.5	52.5	28.5	15	26.5	127.2	75.5	52.5
MVC	φ63	28.5	15	28	123.7	71	45	18	31	104.2	77	51	28.5	15	28	129.7	77	51
	φ80	35.5	18	33	168.5(181)	103.5(116)	73.5(86)	20	35	142.5(147.5)	111(116)	81(86)	35.5	18	33	176(181)	111(116)	81(86)
SMG	φ100	35.5	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	18	35	187(192)	120.5(125.5)	86.5(91.5)

* Dimensions in () are for φ20 and φ25 with more than 25 mm stroke length and φ80 and φ100 with more than 50 mm stroke length.

- Clevis bracket (CB)
SSD2-Q(L)-32 to 100 -CB



Code	Common dimensions											SSD2-Q-R (female thread)			
	Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	A	B	CJ
MRL2	φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36	7	95	58	85
MRG2	φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	103.5	64.5	93.5
SM-25	φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	115.5	65.5	101.5
	φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	123	71	109
ShkAbs	φ80	9	28.2	27	18	10	98	M12×40	18	77	56	10(20)	169.5(192)	103.5(116)	151.5(174)
	φ100	12	32.2	31	22	13	117	M12×40	22	94	64	12(22)	192(214.5)	113(125.5)	170(192.5)

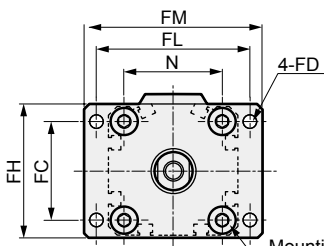
Code	SSD2-Q-R (male thread)			SSD2-Q-H (female thread)			SSD2-Q-H (male thread)								
	Bore size (mm)	a'	wf	A	B	CJ	WF	A	B	CJ	a'	wf	A	B	CJ
FJ	φ32	23.5	5	116.5	58	83	7	102.5	65.5	92.5	23.5	5	124	65.5	90.5
FK	φ40	23.5	5	125	64.5	91.5	7	114	75	104	23.5	5	135.5	74.5	102
Spd Contr	φ50	28.5	5	141	65.5	98.5	8	125.5	75.5	111.5	28.5	5	151	71.5	108.5
	φ63	28.5	5	148.5	71	106	8	129	77	115	28.5	5	154.5	77	112
	φ80	35.5	8(18)	203(225.5)	103.5(116)	149.5(172)	10(20)	177(192)	111(116)	159(174)	35.5	8(18)	210.5(225.5)	111(116)	157(172)
Ending	φ100	35.5	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	8(18)	231(246)	120.5(125.5)	173.5(188.5)

*1: Dimensions in () of φ80 and φ100 are for more than 50 mm stroke length.

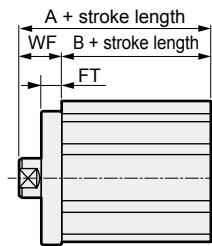
Dimensions with mounting bracket



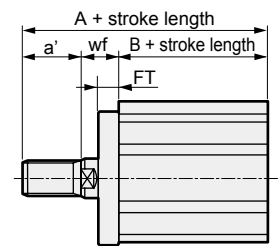
- Rod side flange (FA)
SSD2-Q(L)-32 to 100 -FA



Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt



Rod end male thread

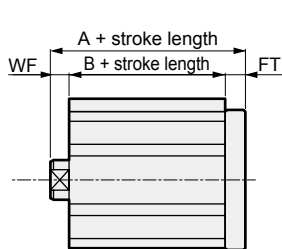


Code	Common dimensions								SSD2-Q-R (female thread)		SSD2-Q-R (male thread)					
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without/with switch		a'	wf	Without/with switch	
											A	B			A	B
φ32	34	5.5	48	56	65	8	34	M6×16	17	75	58	23.5	15	96.5	58	
φ40	40	5.5	54	62	72	8	40	M6×16	17	81.5	64.5	23.5	15	103	64.5	
φ50	50	6.6	67	76	89	9	50	M8×20	18	83.5	65.5	28.5	15	109	65.5	
φ63	60	9	80	92	108	9	60	M10×25	18	89	71	28.5	15	114.5	71	
φ80	77	11	99	116	134	11	77	M12×40	20	123.5(136)	103.5(116)	35.5	18	157(169.5)	103.5(116)	
φ100	94	11	117	136	154	11	94	M12×40	22	135(147.5)	113(125.5)	35.5	18	166.5(179)	113(125.5)	

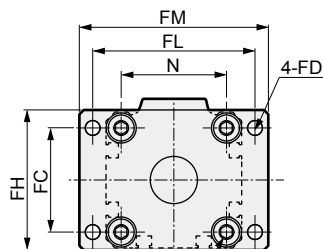
Code	SSD2-Q-H (female thread)				SSD2-Q-H (male thread)			
	Bore size (mm)	WF	Without/with switch		a'	wf	Without/with switch	
			A	B			A	B
φ32	17	82.5	65.5	23.5	15	104	65.5	
φ40	17	92	75	23.5	15	113.5	75	
φ50	18	93.5	75.5	28.5	15	119	75.5	
φ63	18	95	77	28.5	15	120.5	77	
φ80	20	131(136)	111(116)	35.5	18	164.5(169.5)	111(116)	
φ100	22	142.5(147.5)	120.5(125.5)	35.5	18	174(179)	120.5(125.5)	

* Dimensions in () are for φ20 and φ25 with more than 25 mm stroke length and φ80 and φ100 with more than 50 mm stroke length.

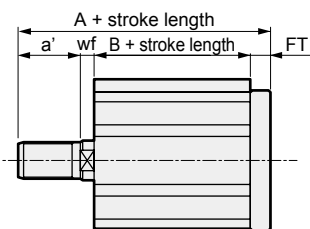
- Head side flange (FB)
SSD2-Q(L)-32 to 100 -FB



Rod end male thread



Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt



Code	Common dimensions								SSD2-Q-R (female thread)			SSD2-Q-R (male thread)				
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	7	79.5	64.5	66	29.5	101	64.5	
φ50	50	6.6	67	76	89	9	50	M8×20	8	82.5	65.5	73	30.5	108	65.5	
φ63	60	9	80	92	108	9	60	M10×25	8	88	71	78.5	36	113.5	71	
φ80	77	11	99	116	134	11	77	M12×40	10(20)	124.5(147)	103.5(116)	98	43.5(18)	158(180.5)	103.5(116)	
φ100	94	11	117	136	154	11	94	M12×40	12(22)	136(158.5)	113(125.5)	107.5	53(18)	167.5(190)	113(125.5)	

Code	SSD2-Q-H (female thread)				SSD2-Q-H (male thread)			
	Bore size (mm)	WF	A	B	a'	wf	A	B
φ40	7	90	75	66	29.5	111.5	74.5	
φ50	8	92.5	75.5	73	30.5	118	71.5	
φ63	8	94	77	78.5	36	119.5	77	
φ80	10(20)	132(147)	111(116)	98	43.5(18)	165.5(180.5)	111(116)	
φ100	12(22)	143.5(158.5)	120.5(125.5)	107.5	53(18)	175(190)	120.5(125.5)	

*1: Dimensions in () of φ80 and φ100 are for more than 50 mm stroke length.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

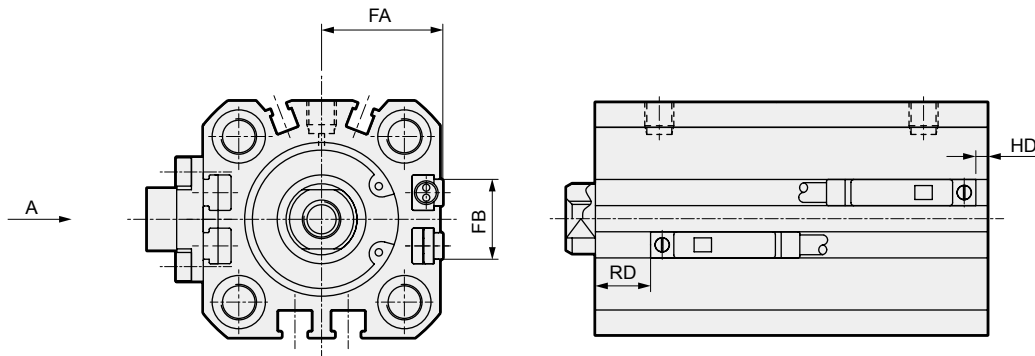
Ending

SSD2-Q Series

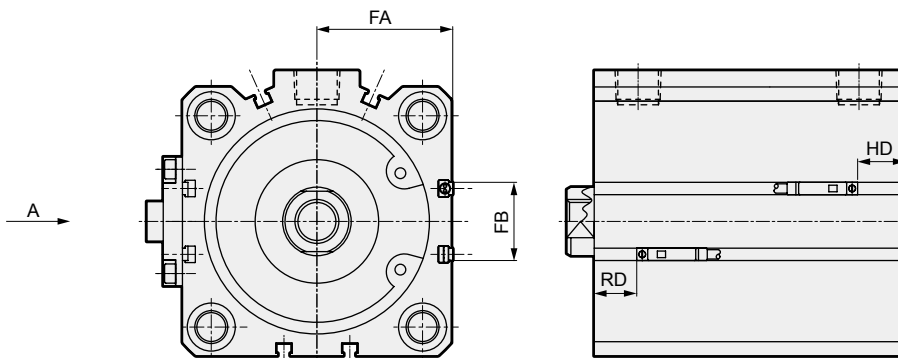
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Dimensions (with the 1-color display, 2-color display, off-delay, strong magnetic field proof, T1* or T8* switch)

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



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



Code	Common dimensions		T0H/T0V, T5H/T5V		T2H/T2V, T3H/T3V		T2WH/T2WV, T3WH/T3WV			F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			F2S/F3S		
	FA	FB	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	
φ20	18.5	12.5	4	32 37	4	32 37	6	33.5 38.5	8.5	36 41	7.5	35 40			
φ25	20.5	13.5	6.5	33.5 38.5	6.5	33.5 38.5	8.5	35 40	11	37.5 42.5	10	36.5 41.5			
φ32	23	20.5	5.5	34	5.5	34	7.5	36							
φ40	26.5	27.5	8	38	8	38	10	39.5							
φ50	32.5	28.5	6.5	41	6.5	41	8.5	42.5							
φ63	39	28.5	10.5	42	10.5	42	12.5	44							
φ80	49.5	28.5	19 24	66 73.5	19 24	66 73.5	21 26	68 75.5							
φ100	59	28.5	24.5 29.5	70 77.5	24.5 29.5	70 77.5	26.5 31.5	72 79.5							
Code	T2YH/T2YV, T3YH/T3YV, T2JH/T2JV				T2YD, T2YDT, T1H/T1V				T8H/T8V ^{*1}						
Bore size (mm)	FA	FB	HD	RD	FA	FB	HD	RD	FA	FB	HD	RD			
φ20	24.3	16	3	30 35	29.3	16	3	30 35	24.3	16	0	25.5 30.5			
φ25	26.3	17	5.5	32 37	31.3	17	5.5	32 37	26.3	17	0.5	27 32			
φ32	28.8	24	4	32.5	33.8	24	4	32.5	28.8	24	0	28			
φ40	32.3	31	7	36.5	37.3	31	7	36.5	32.3	31	2	31.5			
φ50	38.3	32	5.5	39.5	43.3	32	5.5	39.5	38.3	32	0.5	34.5			
φ63	44.8	32	9	40.5	49.8	32	9	40.5	44.8	32	4	35.5			
φ80	55.3	32	17.5 22.5	64.5 72	60.3	32	17.5 22.5	64.5 72	55.3	32	12.5 17.5	60 67.5			
φ100	64.8	32	23 28	68.5 76	69.8	32	23 28	68.5 76	64.8	32	18 23	64 71.5			

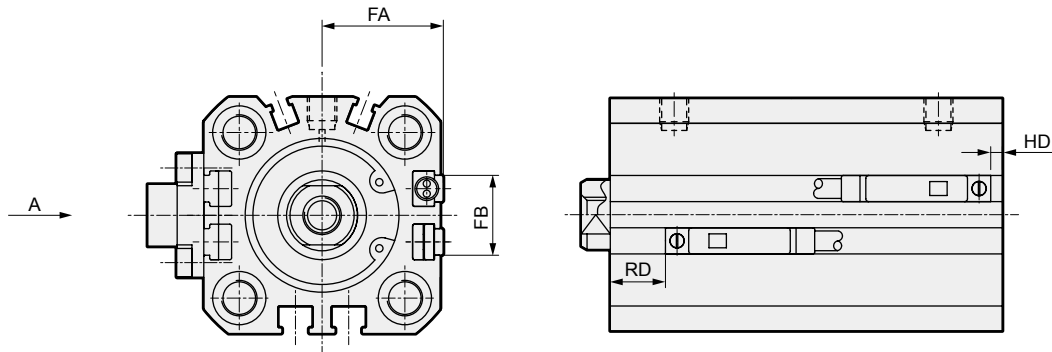
*1: T8 switch cannot be mounted on side A (the side with position locking mechanism).

*2: Only F switch is available for the φ20 or φ25 piping port surface.

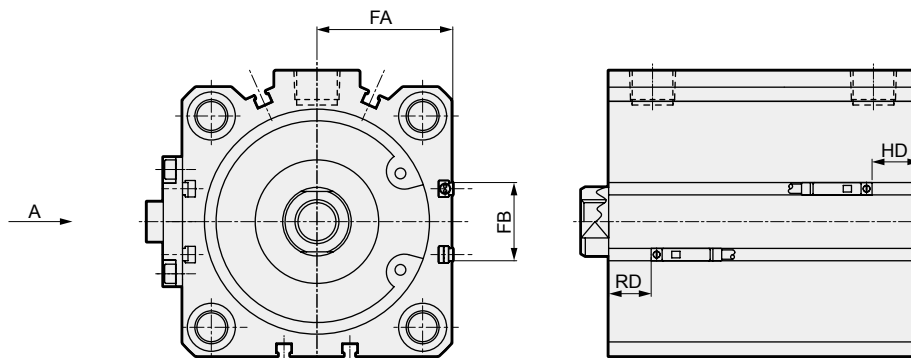
*3: In fields with two values, the left value is for 25 mm stroke length or less and the right for more than 25 mm stroke length in φ20 and φ25, and the left for 80 mm stroke length or less and the right for more than 50 mm stroke length in φ80 and φ100.

Dimensions (with the 1-color display, 2-color display, off-delay, AC magnetic field proof, T1* or T8* switch)

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



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



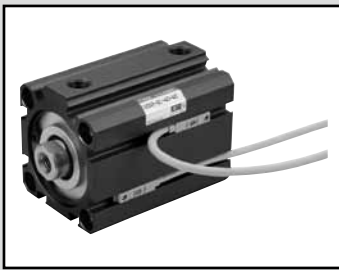
Code	Common dimensions		T0H/T0V, T5H/T5V			T2H/T2V, T3H/T3V			T2WH/T2WV, T3WH/T3WV			F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			F2S/F3S		
	FA	FB	HD	RD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD		
φ20	18.5	12.5	34	8.5	13.5	34	8.5	13.5	35.5	10.5	15.5	38	13	18	37	12	17
φ25	20.5	13.5	35.5	10	15	35.5	10	15	37.5	12	17	40	14	19	39	13	18
φ32	23	20.5	38	9		38	9		40	11							
φ40	26.5	27.5	46	10.5		46	10.5		48	12							
φ50	32.5	28.5	46	11		46	11		48	12.5							
φ63	39	28.5	46.5	12		46.5	12		48.5	14							
φ80	49.5	28.5	78	14.5	19.5	78	14.5	19.5	80	16	21						
φ100	59	28.5	84.5	28	33	84.5	28	33	86.5	29.5	34.5						
Code	T2YH/T2YV, T3YH/T3YV, T2JH/T2JV					T2YD, T2YDT, T1H/T1V					T8H/T8V *1						
	FA	FB	HD	RD	RD	FA	FB	HD	RD	RD	FA	FB	HD	RD	RD		
φ20	24.3	16	32.5	7.5	12.5	29.3	16	32.5	7.5	12.5	24.3	16	27.5	2.5	7.5		
φ25	26.3	17	34	8.5	13.5	31.3	17	34	8.5	13.5	26.3	17	29.5	3.5	8.5		
φ32	28.8	24	36.5	7.5		33.8	24	36.5	7.5		28.8	24	32	2.5			
φ40	32.3	31	44.5	9		37.3	31	44.5	9		32.3	31	40	4			
φ50	38.3	32	45	9		43.3	32	45	9		38.3	32	40	4.5			
φ63	44.8	32	45	10.5		49.8	32	45	10.5		44.8	32	40	5.5			
φ80	55.3	32	76.5	13	18	60.3	32	76.5	13	18	55.3	32	72	8	13		
φ100	64.8	32	83	26	31	69.8	32	83	26	31	64.8	32	78	21	26		

*1: T8 switch cannot be mounted on side A (the side with position locking mechanism).

*2: Only F switch is available for the φ20 or φ25 piping port surface.

*3: In fields with two values, the left value is for 25 mm stroke length or less and the right for more than 25 mm stroke length in φ20 and φ25, and the left for 50 mm stroke length or less and the right for more than 50 mm stroke length in φ80 and φ100.

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

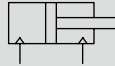


Compact cylinder double acting/fine speed

SSD2-F/SSD2-KF Series

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

JIS symbol



Specifications

1 MPa = 10 bar

Descriptions	SSD2-F SSD2-LF (with switch)										SSD2-KF SSD2-KLF (with switch)												
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$			
Bore size mm																							
Actuation	Double acting																						
Working fluid	Compressed air																						
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)																						
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)					0.05 (≈ 7.3 psi)					0.1 (≈ 15 psi, 1 bar)					0.05 (≈ 7.3 psi)							
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)																						
Ambient temperature $^{\circ}\text{C}$	5 (41 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$)																						
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												
Working piston speed mm/s	1 to 200																						
Cushion	None										Rubber cushion												
Lubrication	Not available																						
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92			

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

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

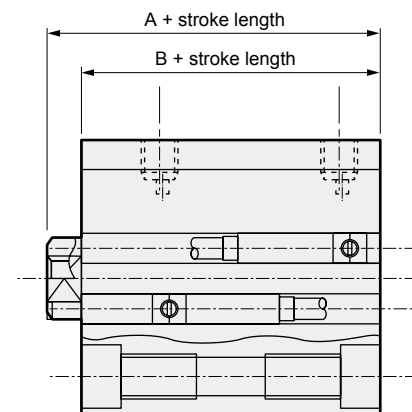
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-F Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-F-32-38 A +2 mm spacer is added to the SSD2-F-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63 mm.	



SSD2-F/SSD2-KF Series

Specifications

Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire				
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller			
Output method	-		NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-		10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less	50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA					1 mA or less		
Weight	g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272				

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

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

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

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

Theoretical thrust table

(Unit: N)

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

Dimensions

Same as SSD2 Series (double acting/single rod) and SSD2-K Series (double acting/high load). Refer to pages 744 to 750 and 766 to 774.

[Stroke length table]

● SSD2-F/SSD2-KF

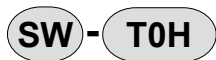
Stroke length (mm)		Applicable bore size									
		12	16	20	25	32	40	50	63	80	100
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●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

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

Refer to page 838 for the min. stroke length with switch.

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

How to order switch



Switch model No.

(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	φ63	φ80	φ100				
Mounting bracket							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis bracket (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

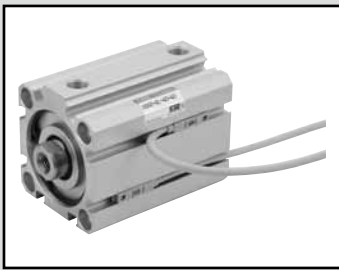
ShkAbs

FJ

FK

Spd
Contr

Ending

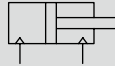


Compact cylinder double acting/low speed

SSD2-O Series

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

JIS symbol



Specifications

Descriptions	SSD2-O SSD2-OL (with switch)										
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)							0.05 (≈ 7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc1/8 *1		Rc1/4		Rc3/8		
Stroke tolerance mm	$^{+1.0}_0$										
Working piston speed mm/s	10 to 200										
Cushion	None										
Lubrication	Not available										
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

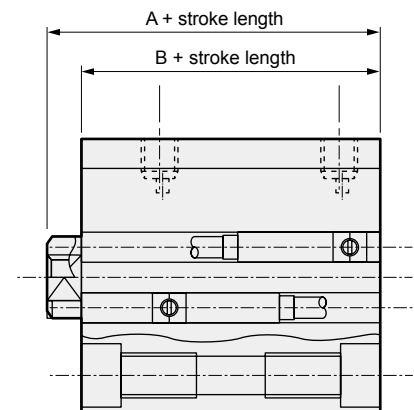
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-O Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-O-32-38 A +2 mm spacer is added to the SSD2-O-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63mm.	



Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire					
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection				For programmable controller			
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-				-			
Pwr. supp. V.	-		-		10 to 28 VDC				-				-			
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less				50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

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

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

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

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

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

(Unit: g)

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

Theoretical thrust table

(Unit: N)

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

SSD2-O Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.

*1

*2

*3

*8

*10

F Switch quantity

G Option

*4

⚠ Precautions for model No. selection

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

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

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

*4 : Piston rod of φ12 to φ25 is stainless steel as standard. C snap ring is stainless steel instead of steel.

The rod end male thread nut is stainless steel.

*5 : The mounting bracket is attached at shipment.

*6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard.

Refer to the dimensions on pages 745, 747, 749 and 750. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

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

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

[Example of model No.]

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

Model: Compact cylinder double acting/low speed

B Bore size : φ12 mm

C Port thread : Rc thread

D Stroke length : 10mm

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

F Switch quantity : 1 on rod side

G Option : Rod end male thread

H Mounting bracket : Axial foot

I Accessory : Rod eye

H Mounting bracket

*5

*6

I Accessory

*7

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

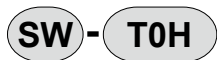
[Stroke length table]

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

1: Less than 5 mm for 1-color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 842 for the min. stroke length with switch.

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

How to order switch



Switch model No.
(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)							
Mounting bracket	φ63	φ80	φ100				
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA/FB)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				
Clevis bracket (CB)	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100				

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

Dimensions

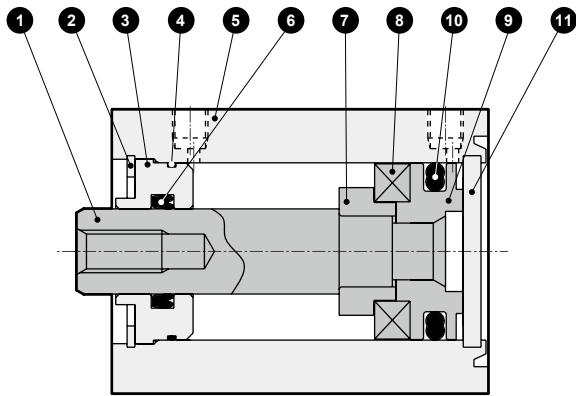
Same as SSD2 Series (double acting/single rod). Refer to pages 744 to 750.

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

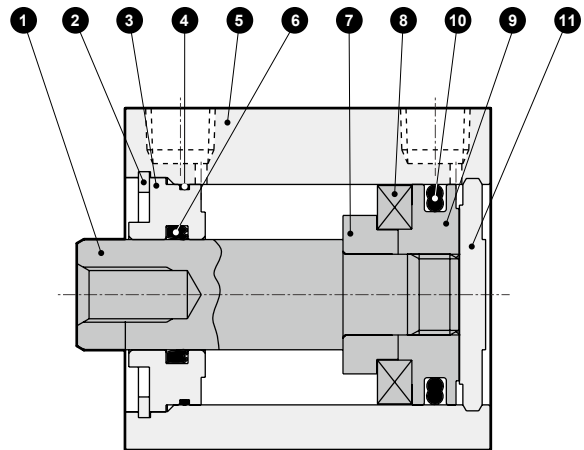
SSD2-O Series

Internal structure and parts list (φ12 to 50)

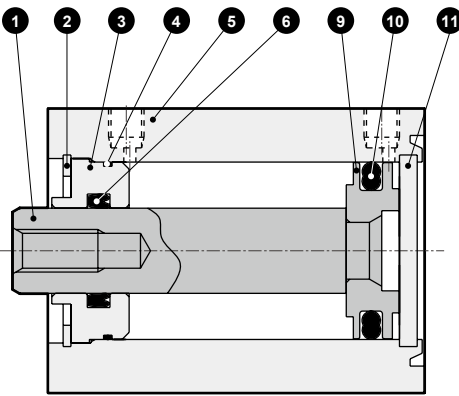
● SSD2-O-L-12 to 25 (double acting/with switch)



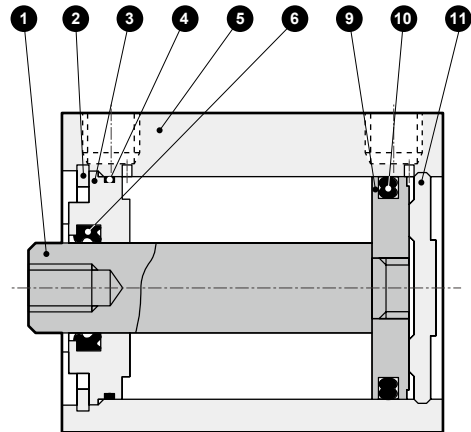
● SSD2-O-L-32 to 50 (double acting/with switch)



● SSD2-O-12 to 25 (double acting)



● SSD2-O-32 to 50 (double acting)



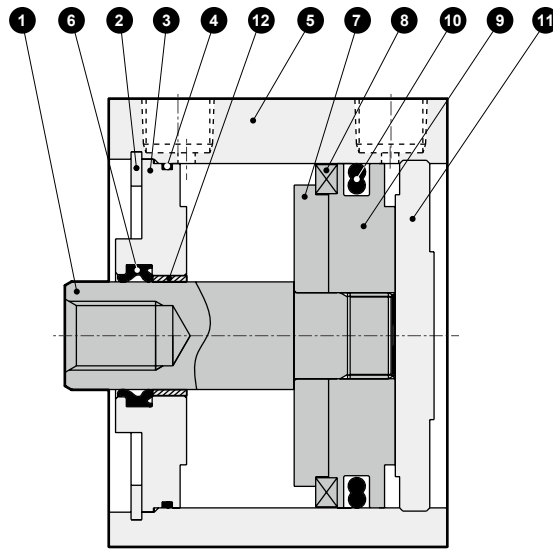
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	Aluminum alloy	φ12 to φ32: Chromate
2	C snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston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

Repair parts list

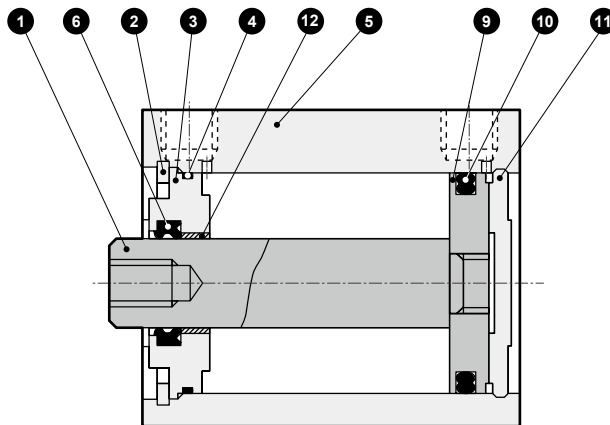
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-O-12K	4 6 10
φ16	SSD2-O-16K	
φ20	SSD2-O-20K	
φ25	SSD2-O-25K	
φ32	SSD2-O-32K	
φ40	SSD2-O-40K	
φ50	SSD2-O-50K	

Internal structure and parts list (φ63 to φ100)

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



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



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

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

Repair parts list

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

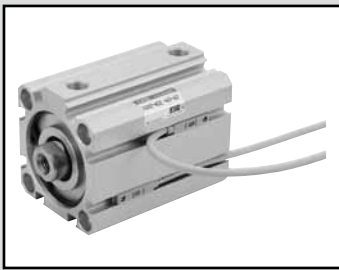
ShkAbs

FJ

FK

Spd
Contr

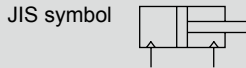
Ending



Compact cylinder double acting/high load/low friction

SSD2-KU Series

- Bore size: $\phi 20/\phi 25/\phi 32/\phi 40$
 $\phi 50/\phi 63/\phi 80/\phi 100$



Specifications

Descriptions	SSD2-KU SSD2-KUL (with switch)									
	Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure	MPa	0.7 (≈ 100 psi, 7 bar)								
Min. working pressure	MPa	0.03 (≈ 4.4 psi, 0.3 bar)								
Proof pressure	MPa	1.0 (≈ 150 psi, 10 bar)								
Ambient temperature	$^{\circ}\text{C}$	5 (41°F) to 60 (140°F)								
Port size		M5			Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	+2.0 0								
Working piston speed	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		

Stroke length

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

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

Min. stroke length with switch (1 or 2 switches)

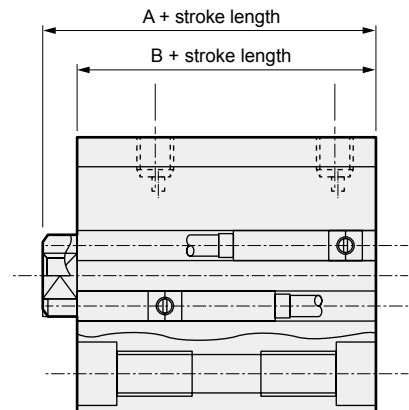
Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
$\phi 20$	5	5
$\phi 25$		
$\phi 32$		
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

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

Custom stroke length

● SSD2-KU Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-KU-32-41 A +4 mm spacer is added to the SSD2-KU-32-45 standard cylinder to create 41 mm stroke length. B + stroke length is 78mm.	



Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire				
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V	T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		For programmable controller			
Output method	-		NPN output	PNP output	NPN output	NPN output	-		-						
Pwr. supp. V.	-		10 to 28 VDC				-				-				
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less	50 mA or less			5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp	LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less			
Weight	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272			

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

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

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

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

Theoretical thrust table

(Unit: N)

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

SSD2-KU Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke length

D Switch model No.

*1

*6

*8

E Switch quantity

F Option

*2

G Mounting bracket

*3

*4

⚠ Precautions for model No. selection

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

*2 : Piston rod of φ20 and φ25 is stainless steel as standard. C snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.

*3 : The mounting bracket is attached at shipment.

*4 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 767, 769, 771 and 773. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

*6 : The F switch with L lead wire on φ20 models cannot be selected on stroke lengths 10 mm or under.

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

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

*9 : 5 m lead wire for the F switch is a custom order product.

[Example of model No.]

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

Model: Compact cylinder, high load/low friction

A Bore size : φ20 mm

B Port thread : Rc thread

C Stroke length : 10mm

D Switch model No. : Reed T0H switch
· Lead wire 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

H Accessory

*5

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

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

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

D Switch model No.																
Lead wire	Lead wire	Contact	Voltage		Display	Lead wire	Bore size									
			AC	DC			20	25	32	40	50	63	80	100		
Straight	L-shaped	Proximity	●	●	1-color display	2-wire	●	●								
							3-wire	●	●							
2-wire	●	●														
3-wire	●	●														
1 color display (PNP output) (custom)		3-wire	●	●												
2-color display		2-wire	●	●												
3-wire		3-wire	●	●												
T0H*	T0V*	Reed	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	
							Without indicator lamp	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	
T8H*	T8V*						●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	
T2H*	T2V*						●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	●	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	
T3PH*	T3PV*						●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	Proximity	●	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	
T2YH*	T2YV*						●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	●	●	2-color display	3-wire	●	●	●	●	●	●	●	●	●	
T3YH*	T3YV*						●	●	●	●	●	●	●	●	●	●
T2YD*	-	Proximity	●	●	2-color display for AC magnetic field	2-wire	●	●	●	●	●	●	●	●	●	
T2YDT*	-						●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Proximity	●	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *9

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

F Option	
Blank	Rod end female thread
N	Rod end male thread
M *2	Piston rod material (stainless steel)

G Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

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

[Stroke length table]

Stroke length (mm)	Applicable bore size								
	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm)	5								
Max. stroke length (mm)	50			100					
Custom stroke length *2	In 1 mm increments								

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

Refer to page 848 for the min. stroke length with switch.

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

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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

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

Dimensions

Same as SSD2-K Series (double acting/high load). Refer to pages 766 to 774.

Technical data

Refer to SCM-U Series on page 290 for technical data regarding sliding resistance values. SSD2-KU Series shows a similar trend to the data of "SCM-U Series".

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

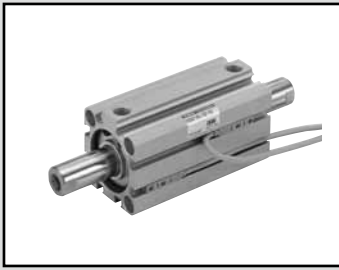
ShkAbs

FJ

FK

Spd
Contr

Ending

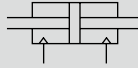


Compact cylinder double acting/double rod

SSD2-D Series

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

JIS symbol



Specifications

Descriptions	SSD2-D SSD2-DL (with switch)										
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)										
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)							0.1 (≈ 15 psi, 1 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)										
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc1/8 *1		Rc1/4		Rc3/8		
Stroke tolerance mm	With rubber cushion				+2.0 0		Without cushion		+1.0 0		
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	With or without cushion can be selected										
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)										
Allowable absorbed energy J	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92	
	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

Stroke length

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

Min. stroke length with switch (1 or 2 switches)

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

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

Switch specifications (F switch)

● 1-color/2-color display

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

Switch specifications (T switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire	
	T1H/T1V	T2H/T2V	T2YH/T2YV	T2WH/T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/T3YV	T3WH/T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	For programmable controller		
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-		-		10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)	Red/green LED (Lit when ON)			
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272			

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

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

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-
φ16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-
φ20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-
φ25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-
φ32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012
φ40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490
φ50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270
φ63	-	-	902	1266	977	1341	1052	1416	1127	1491	1202	1566	1278	1642	1353	1717	1428	1792	1503	1867	2218	2242	2593	2617
φ80	-	-	1608	1538	1725	1916	1841	2294	1958	2411	2074	2527	2191	2649	2308	2771	2425	2888	2541	3004	3560	3587	4143	4169
φ100	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push/Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push/Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push/Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push/Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push/Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push/Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push/Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push/Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push/Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push/Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2-D Series

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Cushion

E Stroke length

F Switch model No.

*1, *2

*3, *8

*9

G Switch quantity

H Option *4

Precautions for model No. selection

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

2 : The T8 switch cannot be mounted on φ12 and φ16.

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

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

*5 : The mounting bracket is attached at shipment.

*6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 861, 863 and 865. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

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

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

[Example of model No.]

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

Model: Compact cylinder double acting/double rod

B Bore size : φ12 mm

C Port thread : Rc thread

D Cushion : No cushion

E Stroke length : 5mm

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

G Switch quantity : 1 on rod side

H Option : Rod end male thread

I Mounting bracket : Axial foot

J Accessory : Rod eye

How to order switch

SW - T0H

Switch model No. (Item F above)

I Mounting bracket
*5
*6

J Accessory
*7

Code	Content
A Model No.	
SSD2-D	Double acting/double rod
SSD2-DL	Double acting/double rod/with switch

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

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

D Cushion	
Blank	Without cushion
D	With rubber cushion

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

F Switch model No.		Voltage	Display	Lead wire	Bore size															
Lead wire Straight	Lead wire L-shaped				AC	DC	12	16	20	25	32	40	50	63	80	100				
F2S*		Proximity	●	1-color display	2-wire	●	●													
F3S*					3-wire	●	●													
F2H* F2V*					2-wire	●	●													
F3H* F3V*					3-wire	●	●													
F3PH* F3PV*					3-wire	●	1 color display (PNP output) (custom)	●	●											
F2YH* F2YV*					2-wire	●	2-color display	●	●											
F3YH* F3YV*		3-wire	●	2-color display	●	●														
T0H* T0V*		Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●			
T5H* T5V*					2-wire	●	Without indicator lamp	●	●	●	●	●	●	●	●	●	●	●	●	
T8H* T8V*					2-wire	●	1-color display	●	●	●	●	●	●	●	●	●	●	●	●	●
T1H* T1V*		Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●			
T2H* T2V*					2-wire	●	1-color display	●	●	●	●	●	●	●	●	●	●	●	●	
T3H* T3V*					3-wire	●	1-color display (PNP output) (custom)	●	●	●	●	●	●	●	●	●	●	●	●	
T3PH* T3PV*					3-wire	●	1-color display (PNP output) (custom)	●	●	●	●	●	●	●	●	●	●	●	●	●
T2WH* T2WV*					2-wire	●	2-color display	●	●	●	●	●	●	●	●	●	●	●	●	●
T2YH* T2YV*					2-wire	●	2-color display	●	●	●	●	●	●	●	●	●	●	●	●	●
T3WH* T3WV*		3-wire	●	2-color display	●	●	●	●	●	●	●	●	●	●	●	●	●			
T3YH* T3YV*		3-wire	●	2-color display	●	●	●	●	●	●	●	●	●	●	●	●	●			
T2YD*		2-wire	●	2-color display	●	●	●	●	●	●	●	●	●	●	●	●	●			
T2YDT*		2-wire	●	AC magnetic field	●	●	●	●	●	●	●	●	●	●	●	●	●			
T2JH* T2JV*		2-wire	●	1-color display off-delay	●	●	●	●	●	●	●	●	●	●	●	●	●			

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *11

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

H Option		Bore size (mm)											
		12	16	20	25	32	40	50	63	80	100		
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●		
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●		
P6	Copper and PTFE free specifications	Supported as standard									●	●	●
M *4	Piston rod material (stainless steel)	●	●	●	●	●	●	●	●	●	●		
P4	Specifications for rechargeable battery	●	●	●	●	●	●	●	●	●	●		
P40	Specifications for rechargeable battery (Custom order)	●	●	●	●	●	●	●	●	●	●		

I Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
FA	Rod side flange

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

[Stroke length table]

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

1: Less than 5 mm for color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 852 for the min. stroke length with switch.

*2: Available only for more than 50 mm stroke length.

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Bore size (mm)	φ63	φ80	φ100				
Mounting bracket							
Foot (LB)	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100				
Flange (FA)	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100				

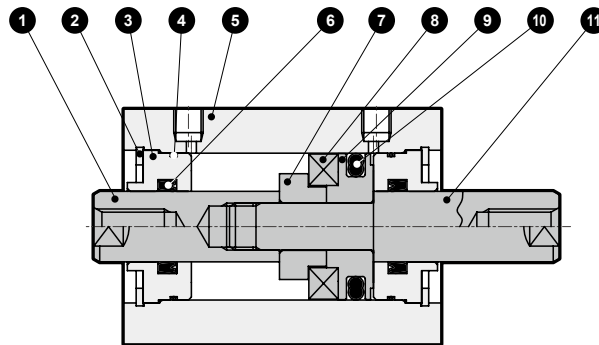
*1: The foot mounting bracket is provided as 2 pcs./set.

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

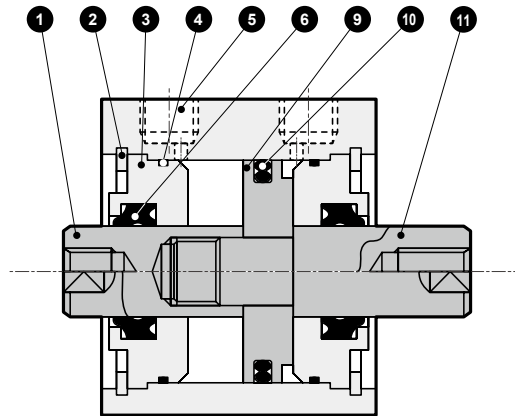
SSD2-D Series

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

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



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



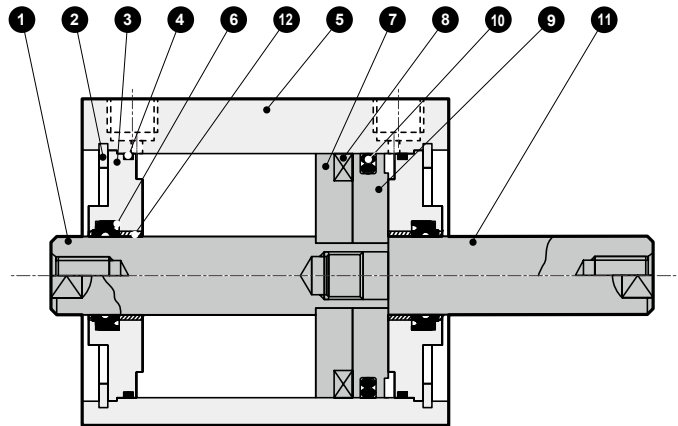
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod [Ⓐ]	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	7	Spacer	φ12, φ20, φ32, φ40: Aluminum alloy φ16, φ25, φ50: Special resin	φ12, 20, 32, 40: Chromate
2	C snap ring	Steel	Zinc phosphate	8	Magnet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

Repair parts list

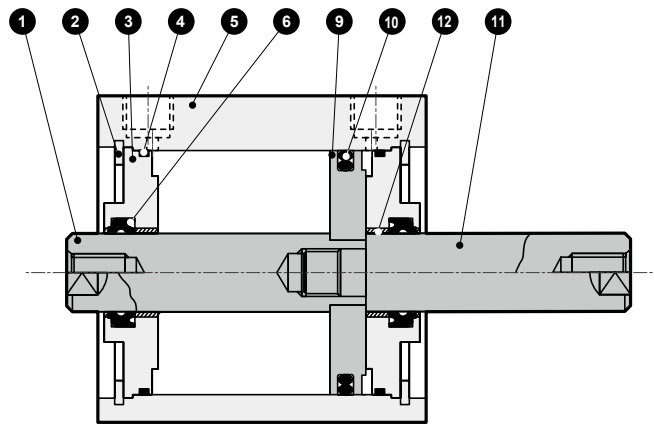
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-D-12K	4 6 10
φ16	SSD2-D-16K	
φ20	SSD2-D-20K	
φ25	SSD2-D-25K	
φ32	SSD2-D-32K	
φ40	SSD2-D-40K	
φ50	SSD2-D-50K	

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

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



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



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

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

Repair parts list

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

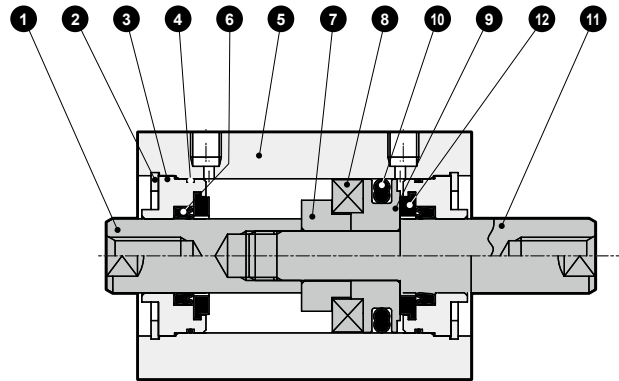
Ending

SSD2-D Series

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

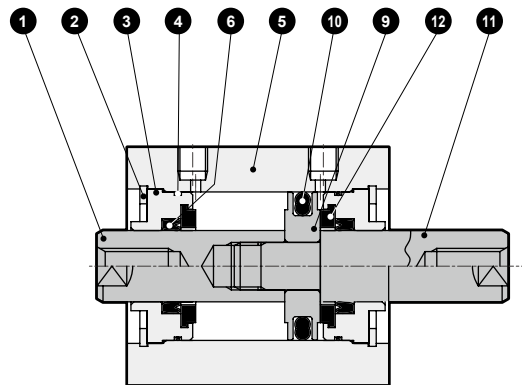
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2

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



SSD2

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



- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

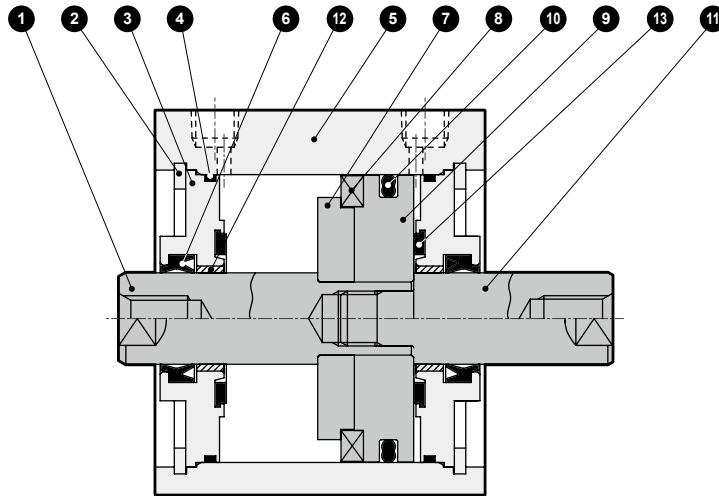
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod [Ⓐ]	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50: Industrial chrome plating	8	Magnet	Plastic	
2	C snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing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

Repair parts list

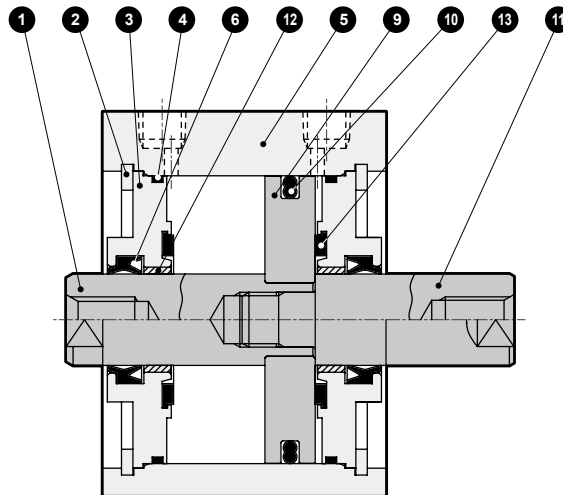
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-D-12DK	4 6 10 12
φ16	SSD2-D-16DK	
φ20	SSD2-D-20DK	
φ25	SSD2-D-25DK	
φ32	SSD2-D-32DK	
φ40	SSD2-D-40DK	
φ50	SSD2-D-50DK	

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

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



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



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod [Ⓐ]	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Aluminum alloy	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Piston rod [Ⓑ]	Steel	Industrial chrome plating
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oiles drymet	*1
6	Rod packing	Nitrile rubber		13	Cushion rubber	Urethane rubber	
7	Spacer	Aluminum alloy	Chromate				

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

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ63	SSD2-D-63DK	
φ80	SSD2-D-80DK	4 6 10 13
φ100	SSD2-D-100DK	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

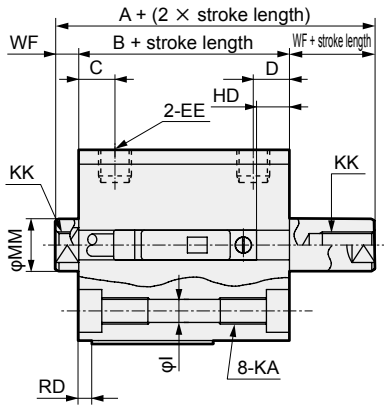
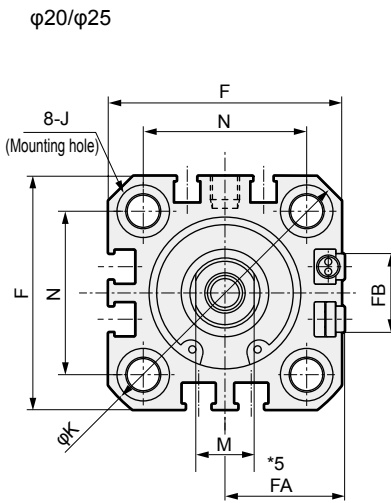
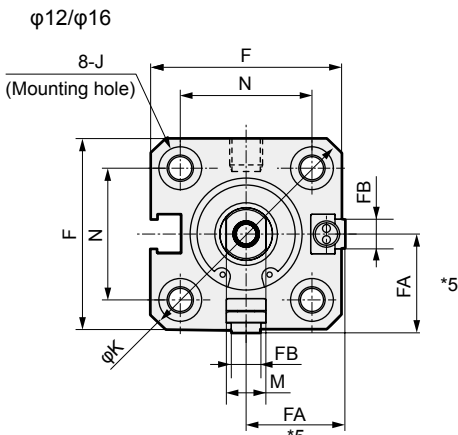
Ending

SSD2-D Series

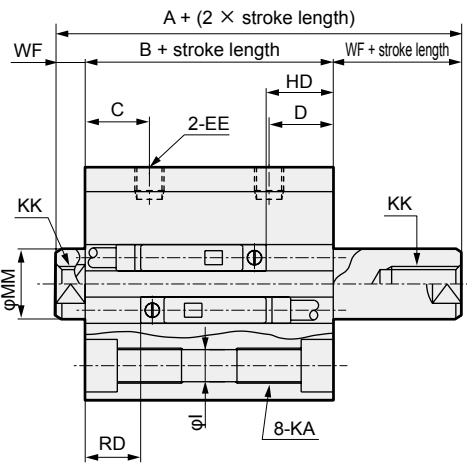
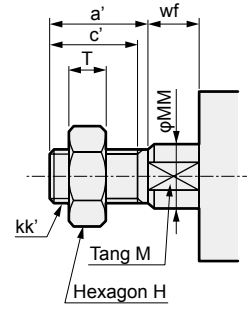
Dimensions



● SSD2-DL-12 to 25 (with switch)



● Rod end male thread



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

Code	Common dimensions with switch																
	A	B	C	D	EE	F	FA ^{*5}	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	34	27	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	34	27	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
φ20	45	36	8	8	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	49	39	11	11	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V ^{*6}		Proximity T2H/T2V, T3H/T3V ^{*6}		Proximity T2WH/T2WV, T3WH/T3WV ^{*6}		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S								
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD							
φ12	5.5	3	5.5	3	7.5	4.5											
φ16	5	2	5	2	6.5	3.5											
φ20	10	7.5	10	7.5	11.5	9.5	14	12	13	11							
φ25	11.5	9.5	11.5	9.5	11.5	11	15	13	14	12							

*1 : Only F switch is available for the φ20 or φ25 piping port surface.

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

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

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

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

*6 : The RD side can be identified with a mark on the port surface of the body.

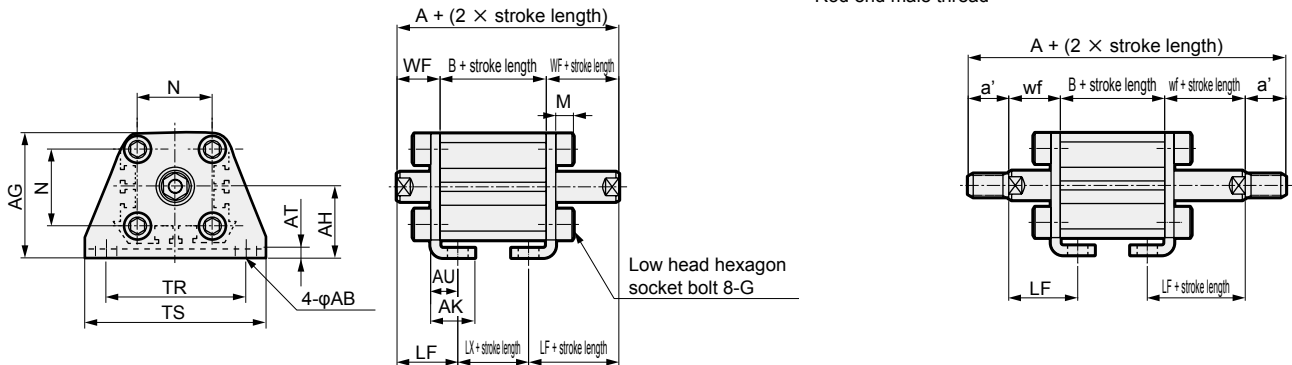
● Dimensions of rod end male thread part

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

Dimensions with mounting bracket



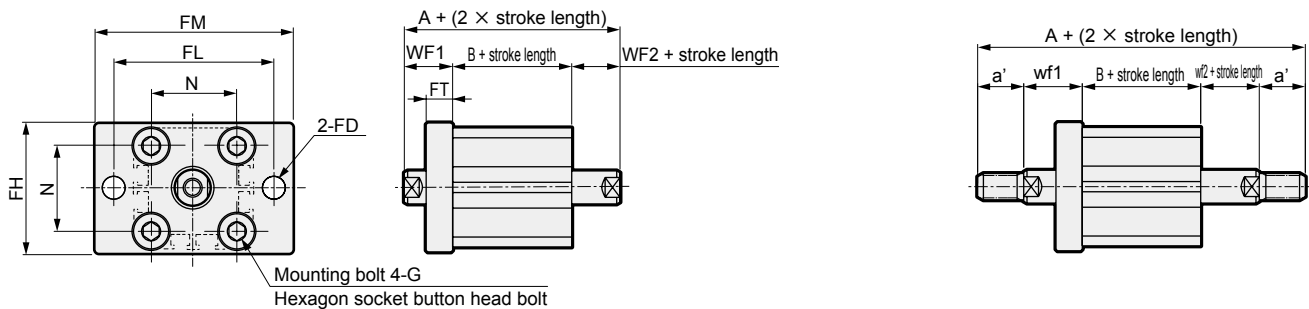
- Axial foot (LB) with switch
SSD2-DL-12 to 25 -LB



Code	Common dimensions										
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Female thread					Male thread					
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	54	27	15	10.5	13.5	19.5	75	27	15
φ16	13.5	19.5	54	27	15	12	13.5	19.5	78	27	15
φ20	14.5	20.5	65	36	24	14	14.5	20.5	93	36	24
φ25	15	22.5	69	39	24	17.5	15	22.5	104	39	24

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



Code	Common dimensions							Female thread				Male thread				
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF1	WF2	A	B	a'	wf1	wf2	A	B
φ12	4.5	25	45	55	5.5	15.5	M4×12	13.5	3.5	44	27	11	13.5	3.5	65	27
φ16	4.5	30	45	55	5.5	20	M4×12	13.5	3.5	44	27	12	13.5	3.5	68	27
φ20	6.6	39	48	60	8	25.5	M6×16	14.5	4.5	55	36	14	14.5	4.5	83	36
φ25	6.6	42	52	64	8	28	M6×16	15	5	59	39	18	15	5	94	39

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

SSD2-D Series

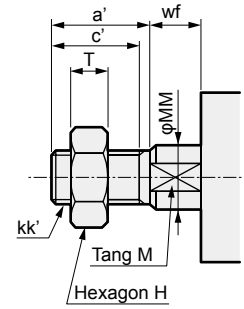
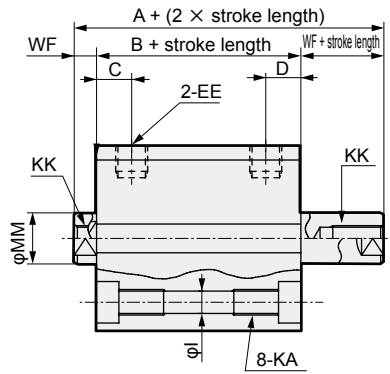
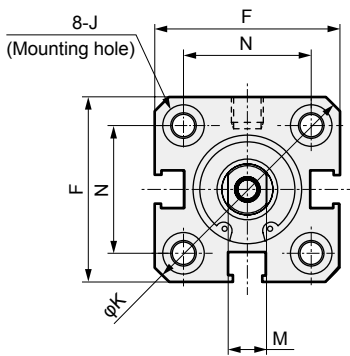
Dimensions



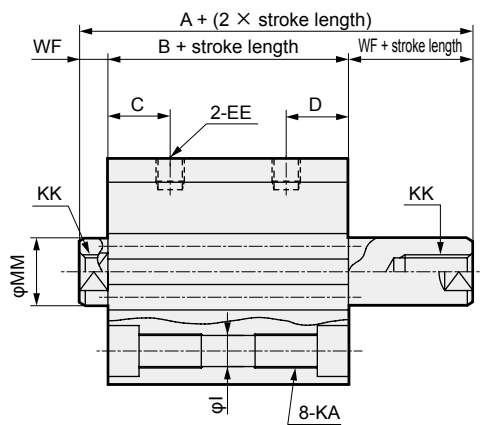
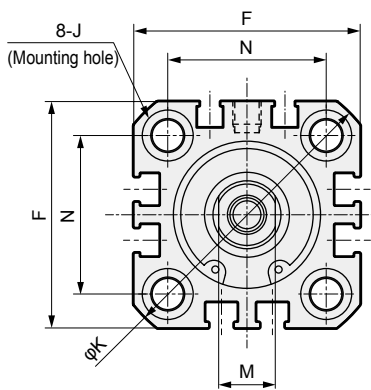
● SSD2-D-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



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

Code	Dimensions without switch and common dimensions															
	Bore size (mm)	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
SRL3	φ12	29	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	φ16	29	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRG3	φ20	35	26	8	8	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	φ25	39	29	11	11	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Dimensions of rod end male thread part

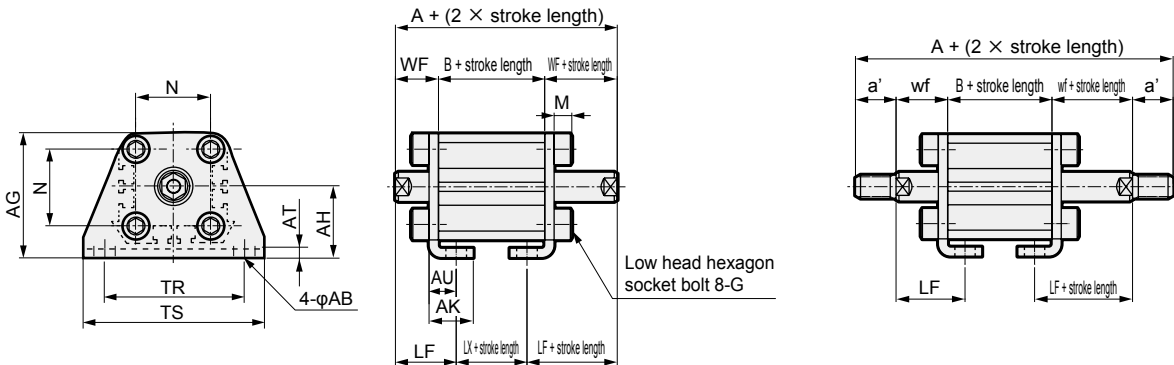
Code	a'	c'	H	kk'	M	MM	T	wf
SRT3								
MRL2	φ12	10.5	9	8	M5	5	3.2	3.5
	φ16	12	10	10	M6	6	3.6	3.5
MRG2	φ20	14	12	13	M8	8	5	4.5
	φ25	17.5	15	17	M10×1.25	10	6	5

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

Dimensions with mounting bracket



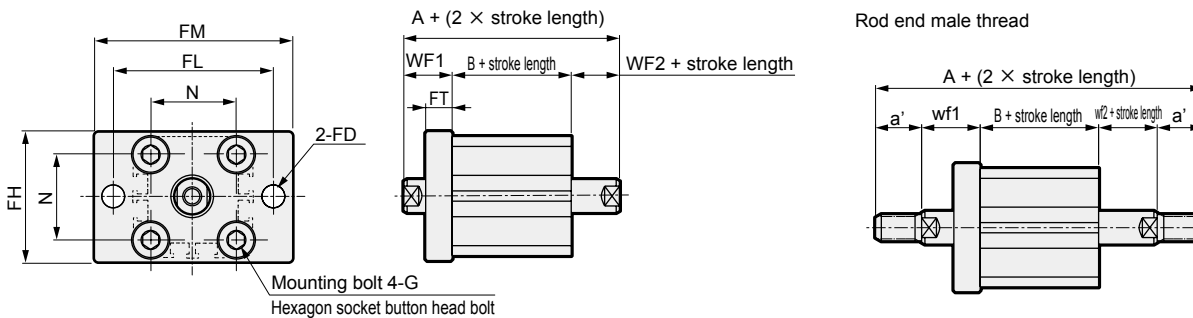
- Axial foot (LB) without switch
SSD2-D-12 to 25 -LB



Code	Common dimensions										
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Female thread					Male thread					
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	49	22	10	10.5	13.5	19.5	70	22	10
φ16	13.5	19.5	49	22	10	12	13.5	19.5	73	22	10
φ20	14.5	20.5	55	26	14	14	14.5	20.5	83	26	14
φ25	15	22.5	59	29	14	17.5	15	22.5	94	29	14

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



Code	Common dimensions							Female thread				Male thread				
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF1	WF2	A	B	a'	wf1	wf2	A	B
φ12	4.5	25	45	55	5.5	15.5	M4×12	13.5	3.5	39	22	11	13.5	3.5	60	22
φ16	4.5	30	45	55	5.5	20	M4×12	13.5	3.5	39	22	12	13.5	3.5	63	22
φ20	6.6	39	48	60	8	25.5	M6×16	14.5	4.5	45	26	14	14.5	4.5	73	26
φ25	6.6	42	52	64	8	28	M6×16	15	5	49	29	18	15	5	84	29

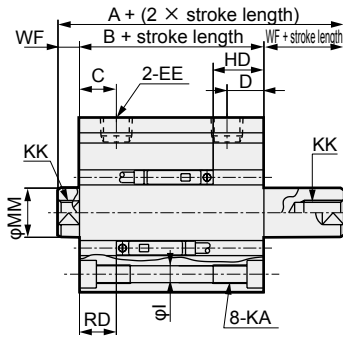
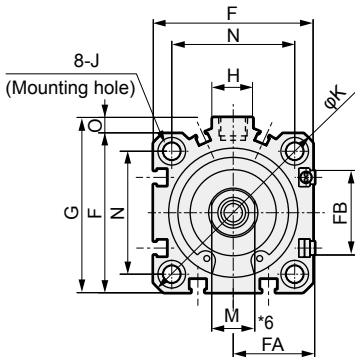
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

SSD2-D Series

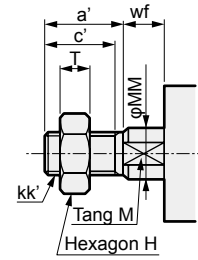
Dimensions



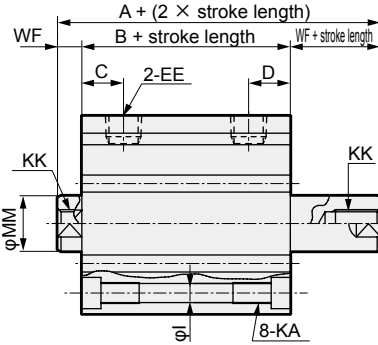
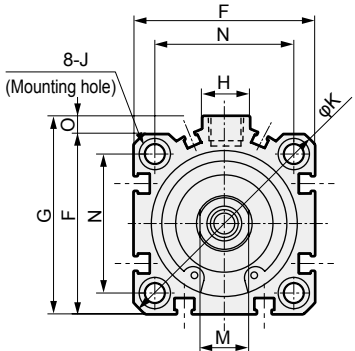
● SSD2-DL-32 to 100 (with switch)



● Rod end male thread



● SSD2-D-32 to 100 (without switch)



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

Code	Without switch		Common dimensions with switch														
	A ^{*2, *8}	B ^{*3, *8}	A ^{*2}	B ^{*3}	C ^{*10}	D ^{*10}	EE ^{*9}	F	FA ^{*6}	FB	G	H	I	J	K	KA	KK
φ32	44.5(54.5)	30.5(40.5)	54.5	40.5	8(10)	8(5.5)	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
φ40	54(64)	40(50)	64	50	12(11.4)	12(7.8)	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	56.5(66.5)	40.5(50.5)	66.5	50.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	58(68)	42(52)	68	52	13	13	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	71(81)	51(61)	81	61	16	16	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	84.5(94.5)	60.5(70.5)	94.5	70.5	23	23	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code	Common dimensions with switch					Switch dimensions					
	M	MM	N	O	WF	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
Bore size (mm)	M	MM	N	O	WF	HD ^{*4}	RD ^{*4}	HD ^{*4}	RD ^{*4}	HD	RD
φ32	14	16	34	4.5	7	11	9	11	9	12.5	10.5
φ40	14	16	40	5	7	16.5	12	16.5	12	18	13.5
φ50	17	20	50	7	8	16.5	12.5	16.5	12.5	18	14
φ63	17	20	60	7	8	18	13	18	13	19.5	14.5
φ80	22	25	77	6	10	23	15.5	23	15.5	24.5	17
φ100	27	30	94	6.5	12	28.5	19.5	28.5	19.5	30	21

- *1 : Custom stroke length is available only for more than 50 mm stroke lengths.
- *2 : To calculate A + (2 x stroke length) when using a custom stroke length, apply "A + next longer standard stroke length + custom stroke length". (Example) If the custom stroke length is 70 mm, apply "A + standard stroke length 75 mm + custom stroke length 70 mm".
- *3 : To calculate B + stroke length when using custom stroke length, apply the next longer standard stroke length instead of the custom stroke length. (Example) If the custom stroke length is 70 mm, apply the standard stroke length 75 mm.
- *4 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *5 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the radial lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *8 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.
- *9 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.
- *10 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.
- *11 : The RD side can be identified with a mark on the port surface of the body.

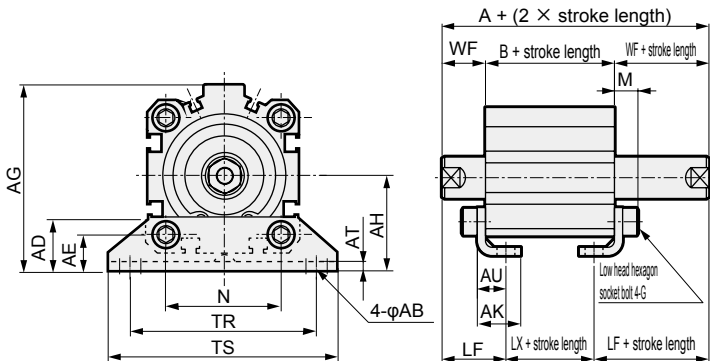
● Dimensions of rod end male thread part

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

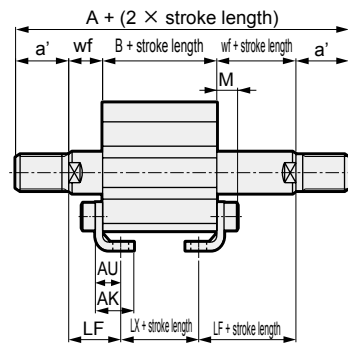
Dimensions with mounting bracket



- Axial foot (LB)
SSD2-D(L)-32 to 100 -LB



Rod end male thread

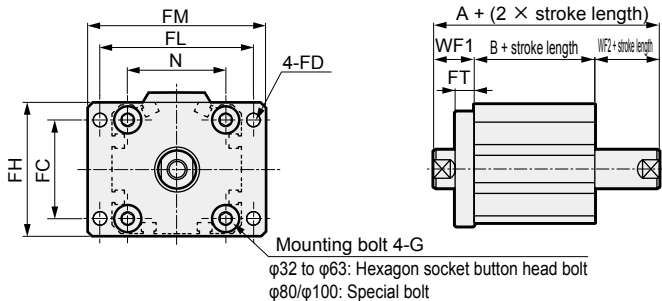


Code		Common dimensions											
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13

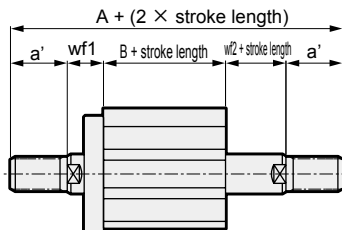
Code		Female thread						Male thread									
Bore size (mm)	WF	LF	Without switch			With switch			a'	wf	LF	Without switch			With switch		
			A	B	LX	A	B	LX				A	B	LX	A	B	LX
φ32	17	25	64.5(74.5)	30.5(40.5)	14.5(24.5)	74.5	40.5	24.5	23.5	15	23	107.5(117.5)	30.5(40.5)	14.5(24.5)	117.5	40.5	24.5
φ40	17	25	74(84)	40(50)	24(34)	84	50	34	23.5	15	23	117(127)	40(50)	24(34)	127	50	34
φ50	18	29.5	76.5(86.5)	40.5(50.5)	17.5(27.5)	86.5	50.5	27.5	28.5	15	26.5	127.5(137.5)	40.5(50.5)	17.5(27.5)	137.5	50.5	27.5
φ63	18	31	78(88)	42(52)	16(26)	88	52	26	28.5	15	28	129(139)	42(52)	16(26)	139	52	26
φ80	20	35	91(101)	51(61)	21(31)	101	61	31	35.5	18	33	158(168)	51(61)	21(31)	168	61	31
φ100	22	39	104.5(114.5)	60.5(70.5)	26.5(36.5)	115	70.5	36.5	35.5	18	35	167.5(177.5)	60.5(70.5)	26.5(36.5)	177.5	70.5	36.5

* Dimensions in () are for stroke lengths of more than 50 mm.

- Rod side flange (FA)
SSD2-D(L)-32 to 100 -FA



Rod end male thread



Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt

Code		Common dimensions							Female thread						Male thread						
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF1	WF2	Without switch		With switch		a'	wf1	wf2	Without switch		With switch	
											A	B	A	B				A	B	A	B
φ32	34	5.5	48	56	65	8	34	M6×16	17	7	54.5(64.5)	30.5(40.5)	64.5	40.5	24	15	5	97.5(107.5)	30.5(40.5)	107.5	40.5
φ40	40	5.5	54	62	72	8	40	M6×16	17	7	64(74)	40(50)	74	50	24	15	5	107(117)	40(50)	117	50
φ50	50	6.6	67	76	89	9	50	M8×20	18	8	66.5(76.5)	40.5(50.5)	76.5	50.5	29	15	5	117.5(127.5)	40.5(50.5)	127.5	50.5
φ63	60	9	80	92	108	9	60	M10×25	18	8	68(78)	42(52)	78	52	29	15	5	119(129)	42(52)	129	52
φ80	77	11	99	116	134	11	77	M12×40	20	10	81(91)	51(61)	91	61	36	18	8	148(158)	51(61)	158	61
φ100	94	11	117	136	154	11	94	M12×40	22	12	94.5(104.5)	60.5(70.5)	104.5	70.5	36	18	8	157.5(167.5)	60.5(70.5)	167.5	70.5

* Dimensions in () are for stroke lengths of more than 50 mm.

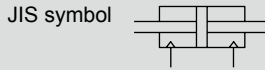
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending



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

SSD2-D Series

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



Specifications

Descriptions	SSD2-D SSD2-DL (with switch)					
	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$	
Bore size mm	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$	$\phi 200$	
Actuation	Double acting/double rod					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)			0.7 (≈ 100 psi, 7 bar)		
Min. working pressure MPa	0.05 (≈ 7.3 psi, 0.5 bar)					
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)			1.05 (≈ 150 psi, 10.5 bar)		
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)					
Port size	Rc3/8			Rc1/2		
Stroke tolerance mm	+2.0 0					
Working piston speed mm/s	50 to 300			20 to 300		
Cushion	With rubber cushion (standard)					
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	6.52	6.52	7.78	12.4		

Stroke length

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

*1: Total length dimension with custom stroke length is handled as custom stroke dedicated length.

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

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

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\phi 125$	10	10	40	55	70
$\phi 140$	10	10	40	55	70
$\phi 160$	10	10	40	55	70
$\phi 180$	10	10	40	55	70
$\phi 200$	10	10	40	55	70

Switch specifications

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD				
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		For programmable controller	
Output method	-		-				NPN output	PNP output	NPN output	NPN output	-		-		-		-	
Pwr. supp. V.	-		-				10 to 28 VDC				-		-		-		-	
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*1)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)				
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less				10 µA or less				0 mA				1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272				

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

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

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

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

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

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	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
φ140	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
φ160	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
φ180	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
φ200	16.09	16.27	16.65	16.83	17.21	17.39	17.77	17.95	18.33	18.51	19.73	19.91	21.13	21.31

Stroke length (mm)	125		150		175		200		250		300	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	8.55	8.65	9.40	9.50	10.25	10.35	11.10	11.20	12.80	12.90	14.50	14.60
φ140	11.02	11.13	11.87	11.98	12.72	12.83	13.57	13.68	15.27	15.38	16.97	17.08
φ160	14.61	14.73	15.81	15.93	17.01	17.13	18.21	18.33	20.61	20.73	23.01	23.13
φ180	18.85	19.00	20.10	20.25	21.35	21.50	22.59	22.74	25.09	25.24	27.58	27.73
φ200	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ125	Push/Pull	1.13 × 10 ³	1.70 × 10 ³	2.26 × 10 ³	3.39 × 10 ³	4.52 × 10 ³	5.65 × 10 ³	6.79 × 10 ³	7.92 × 10 ³	9.05 × 10 ³	1.02 × 10 ⁴	1.13 × 10 ⁴
φ140	Push/Pull	1.44 × 10 ³	2.16 × 10 ³	2.89 × 10 ³	4.33 × 10 ³	5.77 × 10 ³	7.22 × 10 ³	8.66 × 10 ³	1.01 × 10 ⁴	1.15 × 10 ⁴	1.30 × 10 ⁴	1.44 × 10 ⁴
φ160	Push/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
φ180	Push/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	1.91 × 10 ⁴	2.15 × 10 ⁴	2.39 × 10 ⁴
φ200	Push/Pull	3.02 × 10 ³	4.52 × 10 ³	6.03 × 10 ³	9.05 × 10 ³	1.21 × 10 ⁴	1.51 × 10 ⁴	1.81 × 10 ⁴	2.11 × 10 ⁴	2.41 × 10 ⁴	2.71 × 10 ⁴	3.02 × 10 ⁴

SSD2-D (Large bore size) Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke length

D Switch model No.
*1

E Switch quantity

F Option

⚠ Precautions for model No. selection

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

[Example of model No.]

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

Model: Compact cylinder double acting/double rod

- A** Bore size : 125 mm
- B** Port thread : Rc thread
- C** Stroke length : 50 mm
- D** Switch model No. : Reed T0H switch
: Lead wire length 1 m
- E** Switch quantity : 1 on rod side
- F** Option : Rod end male thread

How to order switch

SW - **T0H**

Switch model No.
(Item **D** above)

Code	Descriptions					
A Bore size (mm)						
125	φ125					
140	φ140					
160	φ160					
180	φ180					
200	φ200					
B Port thread						
Blank	Rc thread					
NN	NPT thread (φ125 to φ160) (custom order product)					
GN	G thread (φ125 to φ160) (custom order product)					
C Stroke length (mm)						
Refer to the stroke length table on the following page.						
D Switch model No.						
Lead wire Straight	Lead wire L-shaped	Contact	Voltage		Display	Lead Line
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color display (custom order)	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*		●			
T2JH*	T2JV*		●	1-color display off-delay	2-wire	
T2YD*	-		●	2-color display AC magnetic field	2-wire	
T2YDT*	-		●			
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
E Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
F Option						
Blank	Rod end female thread					
N	Rod end male thread					
P4	Specifications for rechargeable battery (custom order)					
P40						

[Stroke length table]

Stroke length (mm)		Applicable bore size				
		φ125	φ140	φ160	φ180	φ200
Standard stroke length	10	●	●	●	●	●
	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	75	●	●	●	●	●
	100	●	●	●	●	●
	125	●	●	●	●	●
	150	●	●	●	●	●
	175	●	●	●	●	●
	200	●	●	●	●	●
	250	●	●	●	●	●
300	●	●	●	●	●	
Min. stroke length (mm) *1		10				
Max. stroke length (mm)		300				
Custom stroke length *2		In 1 mm increments				

*1: Refer to page 866 for the number of installed switches and the min. stroke length.

*2: Total length dimension with custom stroke length is handled as custom stroke dedicated length.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

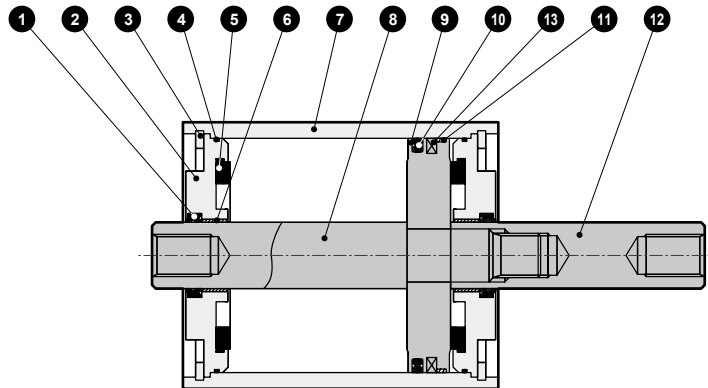
Ending

SSD2-D (Large bore size) Series

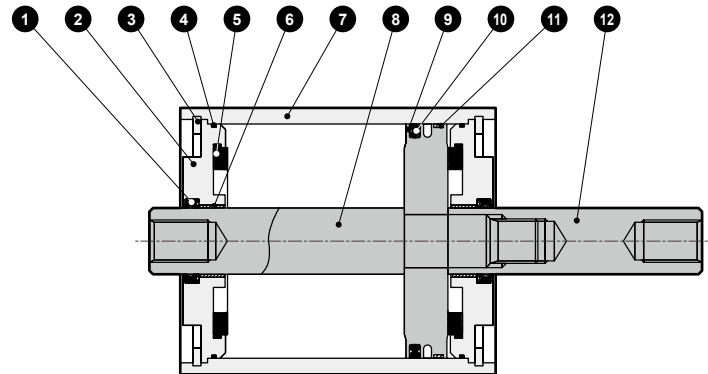
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list (φ125 to 160)

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



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



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

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ125	SSD2-D-125K	1 4 5 10 11
φ140	SSD2-D-140K	
φ160	SSD2-D-160K	

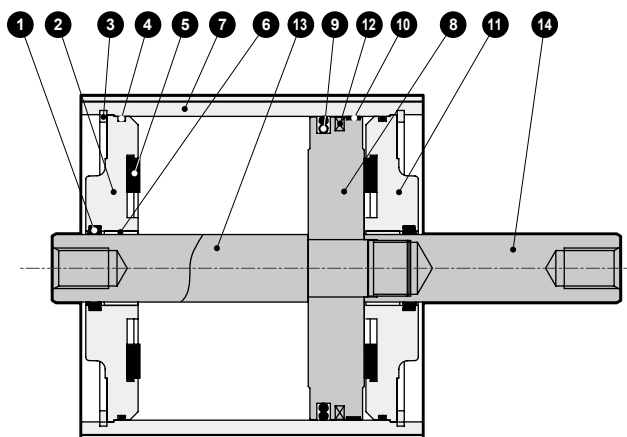
*1: Specify the kit No. when placing an order.

SSD2-D (Large bore size) Series

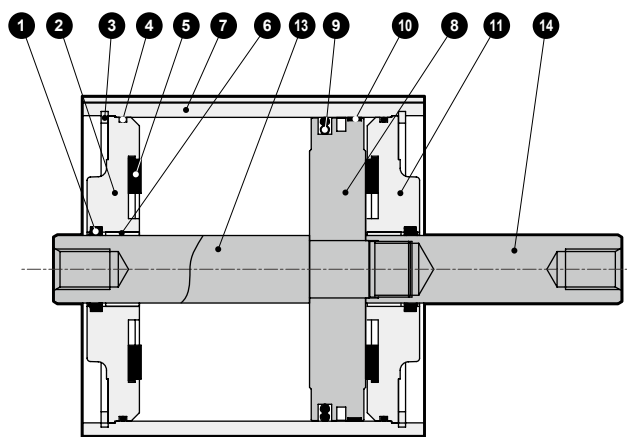
Internal structure and parts list

Internal structure and parts list (φ180, φ200)

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



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



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Rod packing	Nitrile rubber		8	Piston	Aluminum alloy	
2	Rod metal	Cast iron	Paint	9	Piston packing	Nitrile rubber	
3	C type snap ring	Steel	Zinc phosphate	10	Wear ring	Polyacetal resin	
4	Gasket	Nitrile rubber		11	Cover	Cast iron	Paint
5	Cushion rubber	Urethane rubber		12	Magnet	Rubber	With switch only
6	Bush	Oiles drymet		13	Piston rod A	Steel	Industrial chrome plating
7	Body	Aluminum alloy	Hard alumite	14	Piston rod B	Steel	Industrial chrome plating

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ180	SSD2-D-180K	1 4 5 9 10
φ200	SSD2-D-200K	

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

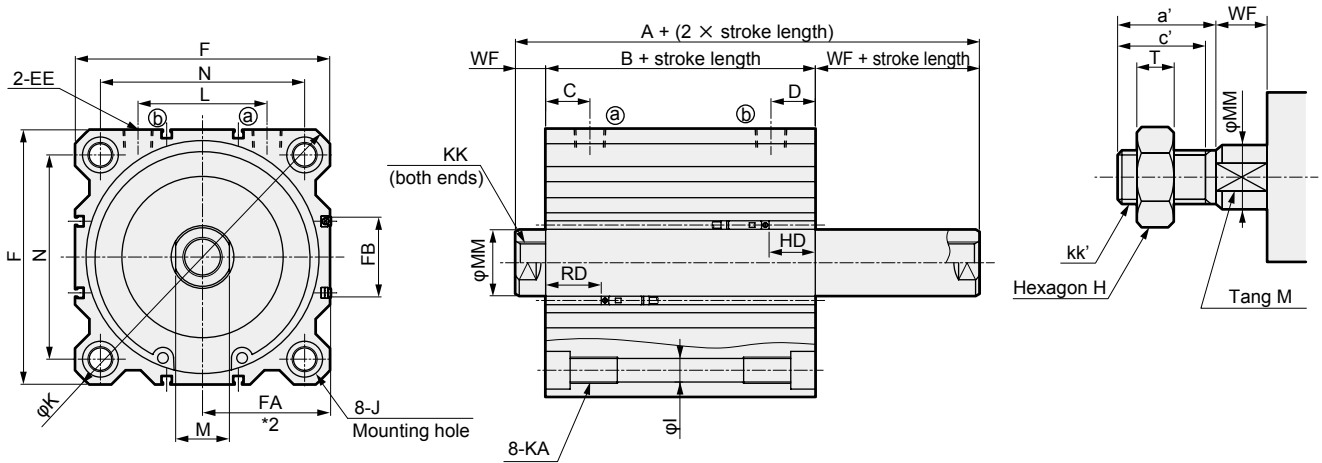
SSD2-D (Large bore size) Series

Dimensions (φ125 to φ160)



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

● Rod end male thread



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

Code	Common dimensions with switch															
Bore size (mm)	A	B	C	D	EE	F	I	J	K	KA	KK (*1)	L	M	MM	N	WF
φ125	115	83	29	29	Rc3/8	142	12.5	20 spot face depth 13	190	M14 depth 25	M22 x 2.5 depth 30 (22.5)	72	30	35	114	16
φ140	115	83	27.5	27.5	Rc3/8	158	12.5	20 spot face depth 13	210	M14 depth 25	M22 x 2.5 depth 30 (22.5)	80	30	35	128	16
φ160	125	91	30	30	Rc3/8	178	14.7	23 spot face depth 15.2	238	M16 depth 28	M24 x 3 depth 33 (24)	90	36	40	144	17

Code	T0H/V, T2H/V, T3H/V, T5/V				T2YH/V, T3YH/V, T2JH/V				T1H/V, T2YD			
Bore size (mm)	HD	RD	FA ^{*2}	FB	HD	RD	FA ^{*2}	FB	HD	RD	FA ^{*2}	FB
φ125	30	35	71.5(75)	44.5	28.5	33.5	77(80)	48	28.5	33.5	82.5(85.5)	48
φ140	31.5	33.5	79.5(83)	44.5	30	32	85(88)	48	30	32	90.5(93.5)	48
φ160	34	39	89.5(93)	48.5	32.5	37.5	95(98)	52	32.5	37.5	100.5(103.5)	52

Code	T2WH/V, T3WH/V				T8H/V			
Bore size (mm)	HD	RD	FA ^{*2}	FB	HD	RD	FA ^{*2}	FB
φ125	31.5	36.5	71.5(75)	44.5	24	29	77(80)	48
φ140	33	35	79.5(83)	44.5	25.5	27.5	85(88)	48
φ160	35.5	40.5	89.5(93)	48.5	28	33	95(98)	52

*1: Values in () for KK dimensions indicate effective thread length on one side with 10 mm stroke length.

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

*3: The RD side can be identified by a mark on the port surface of the body.

Dimensions of rod end male thread

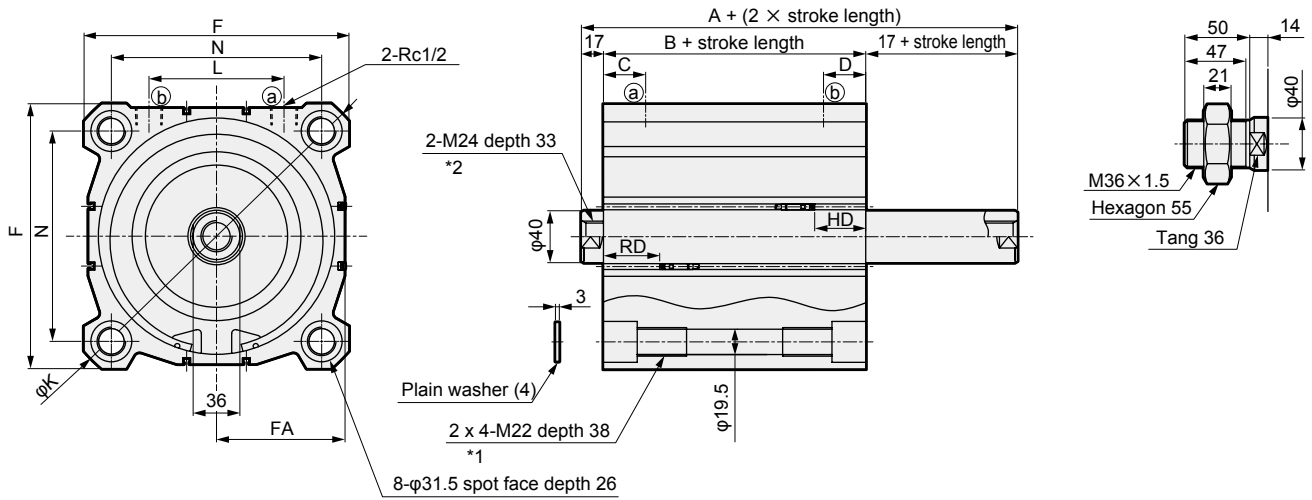
Code	a'	c'	H	kk'	M	MM	T	wf
φ125	45	42	46	M30×1.5	30	35	18	13
φ140	45	42	46	M30×1.5	30	35	18	13
φ160	50	47	55	M36×1.5	36	40	21	14

Dimensions (φ180 to φ200)



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

● Rod end male thread



*1: 2 × 4-M22 through hole for 20 mm or less stroke length.

*2: 2-M24 depth 27 (φ180) and 2-M24 depth 29 (φ200) for 10 mm stroke length.

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

Code	A	B	C	D	F	K	L	N
Bore size (mm)								
φ180	136	102	32.5	32.5	204	270	104	162
φ200	143	109	33.5	33.5	226	300	110	182

Code	T0H/V, T2H/V, T3H/V, T5H/V			T2YH/V, T3YH/V, T2JH/V			T1H/V, T2YD		
Bore size (mm)	HD	RD	FA	HD	RD	FA	HD	RD	FA
φ180	39.5	43.5	99(102.5)	38.5	42.5	104.5(107.5)	38.5	42.5	110(113)
φ200	44.5	45.5	109.5(113)	43.5	44.5	115(118)	43.5	44.5	120.5(123.5)

Code	T2WH/V, T3WH/V			T8H/V		
Bore size (mm)	HD	RD	FA	HD	RD	FA
φ180	41.5	45.5	99(102.5)	33.5	37.5	104.5(107.5)
φ200	46.5	47.5	109.5(113)	38.5	39.5	115(118)

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

*2: The RD side can be identified by a mark on the port surface of the body.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

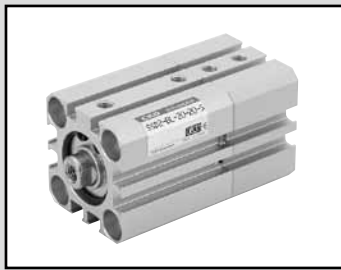
ShkAbs

FJ

FK

Spd Contr

Ending

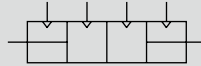


Compact cylinder double acting/back to back

SSD2-B Series

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

JIS symbol



Specifications

Descriptions	SSD2-B SSD2-BL (with switch)										
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Actuation	Double acting/back to back										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈230 psi, 16 bar)										
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc1/8 *1			Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = \begin{matrix} +1.0 \\ 0 \end{matrix}$					$S_2 = \begin{matrix} +1.0 \\ 0 \end{matrix}$					
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	None										
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)										
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5/10/15/20	30	1
φ16	25/30		
φ20	5/10/15/20/25	50	
φ25	30/35/40/45/50		
φ32	5/10/15/20/25/30/	100	
φ40	35/40/45/50/75/100		
φ50	10/15/20/25		
φ63	30/35/40/45/50		
φ80	75/100		
φ100			

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

Min. stroke length with switch (2 switches)

Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
φ12	10(5)	5
φ16		
φ20	5	
φ25		
φ32		
φ40		
φ50		
φ63		
φ80		
φ100		

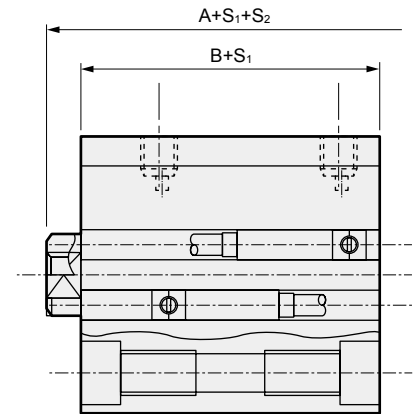
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-B Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-B-32-38-50 A +2 mm spacer is added to the SSD2-B-32-40 standard cylinder to create 38 mm stroke length. B + S ₁ dimension is 63 mm.	



Switch specifications (F type switch)

● 1-color/2-color display

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

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire	Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire		
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	Dedicated for programmable controller		
Output method	-	-				NPN output	PNP output	NPN output	NPN output	-				-		
Pwr. supp. V.	-	-				10 to 28 VDC				-				-		
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)	Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18	3 m:49	5 m:80	1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272			

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

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

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

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

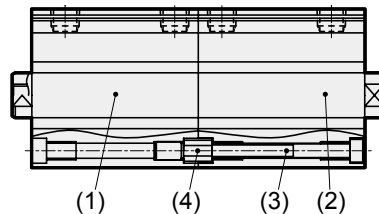
Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.) (Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-	-	-	-	-	-	-	-	-
φ16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-	-	-	-	-	-	-	-	-
φ20	63	118	75	150	88	163	101	176	113	188	126	201	139	214	152	227	165	240	203	278	-	-	-	-
φ25	87	178	102	193	118	209	134	225	160	241	165	256	181	272	197	288	213	304	228	319	494	542	604	652
φ32	122	236	144	258	166	280	188	302	209	323	231	345	253	367	275	389	297	411	318	432	494	542	604	652
φ40	183	326	210	353	236	379	263	406	290	433	316	459	342	485	369	512	395	538	472	565	646	695	776	825
φ50	-	-	341	535	383	577	425	619	467	661	510	704	552	746	594	788	636	830	678	872	1025	1082	1235	1292
φ63	-	-	507	786	562	841	617	896	672	951	727	1006	782	1061	838	1117	893	1172	948	1227	1438	1502	1713	1777
φ80	-	-	928	1341	1015	1428	1101	1514	1188	1601	1274	1887	1361	1774	1448	1861	1535	1948	1621	2034	2401	2467	2833	2899
φ100	-	-	1433	2000	1547	2114	1660	2227	1774	2341	1888	2455	2002	2569	2115	2682	2229	2796	2343	2910	3406	3478	3973	4045

Hexagon socket head cap screw weight (Unit: g)

Stroke length (mm)	Cylinder 2 stroke length													Connector
Bore size (mm)	5	10	15	20	25	30	35	40	45	50	75	100		
φ12	3.2	4	4.8	5.6	6.4	7.2	-	-	-	-	-	-	5.6	
φ16	3.2	2.4	2.4	2.4	2.4	2.4	-	-	-	-	-	-	5.6	
φ20	8	11	14	16	19	22	25	28	30	33	-	-	14	
φ25	8	11	14	16	19	22	25	28	30	33	-	-	14	
φ32	8	11	14	16	19	22	25	28	30	33	47	61	14	
φ40	8	11	14	16	19	22	25	28	30	33	47	61	14	
φ50	-	16.7	20.6	24.5	28.5	32.4	36.3	40.3	44.2	48.1	67.8	87.5	28.8	
φ63	-	40.8	47.2	53.6	60	66.4	72.8	79.2	85.6	92	124	156	60	
φ80	-	60	72	84	96	108	120	132	144	156	216	276	116	
φ100	-	60	72	84	96	108	120	132	144	156	216	276	116	

- (1) Cylinder 1
- (2) Cylinder 2
- (3) Hexagon socket head cap screw
- (4) Connector



Total cylinder weight

Total weight = weight of cylinder 1 + weight of cylinder 2 + (hexagon socket head cap screw + connector).

[Example: Total weight of SSD-B-25-30-N-10-N]

Weight of φ25 with 30 mm stroke length: ... (1)

Weight of φ25 with 10 mm stroke length: ... (2)

Weight of hexagon socket head cap screw for φ25 cylinder 2 with 10 mm stroke length + weight of connector: ... (3)

Total weight = (1) + (2) + (3) = 165 g + 102 g + 11 g + 14 g = 292 g

Theoretical thrust table

(Unit: N)

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

[Stroke length table]

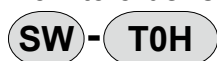
Stroke length (mm)	Applicable bore size										
	12	16	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●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

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

Refer to page 874 for the min. stroke length with switch.

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

How to order switch



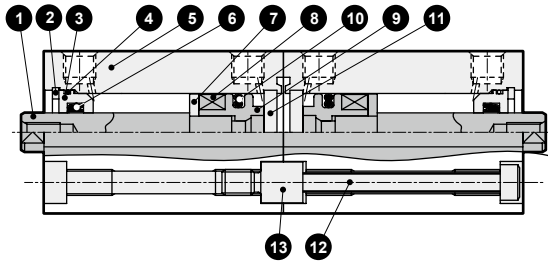
Switch model No.
(Item ⑤ on the previous page)

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

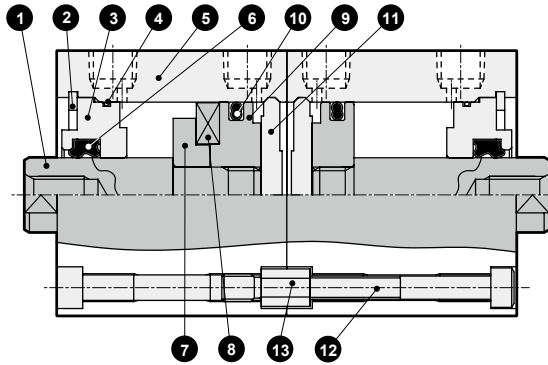
SSD2-B Series

Internal structure and parts list

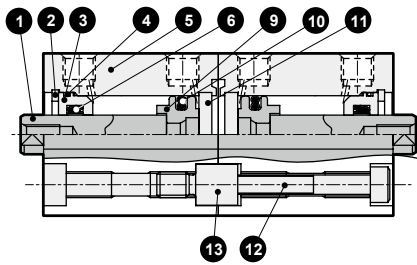
● SSD2-BL-12 to 25 (double acting/back to back/with switch)



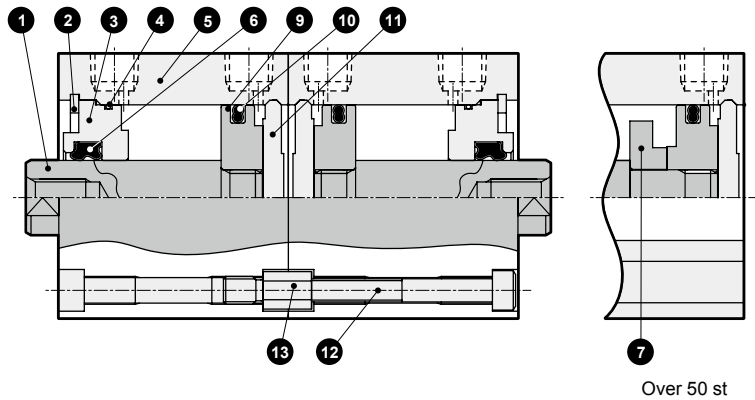
● SSD2-BL-32 to 50 (double acting/back to back/with switch)



● SSD2-B-12 to 25 (double acting/back to back)



● SSD2-B-32 to 50 (double acting/back to back)



Over 50 st

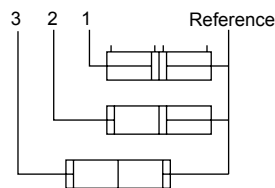
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ12 to φ25: Stainless steel φ32 to φ50: Steel	φ16 to φ50 Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	φ12 to 25: Stainless steel φ32 to φ50: Aluminum alloy	φ32 to φ50: Alumite
5	Body	Aluminum alloy	Hard alumite	12	Hexagon socket head cap screw	Steel	Black finish
6	Rod packing	Nitrile rubber		13	Connector	Steel	Zinc chromate
7	Spacer	Aluminum alloy	Chromate				

Repair parts list

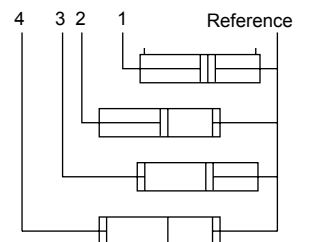
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-B-12K	4 6 10
φ16	SSD2-B-16K	
φ20	SSD2-B-20K	
φ25	SSD2-B-25K	
φ32	SSD2-B-32K	
φ40	SSD2-B-40K	
φ50	SSD2-B-50K	

SSD2-B application examples

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

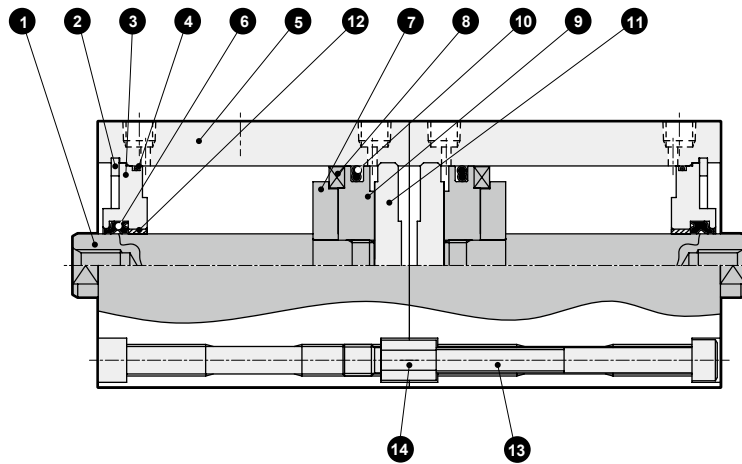


When different stroke lengths are combined, 4 positions are possible.

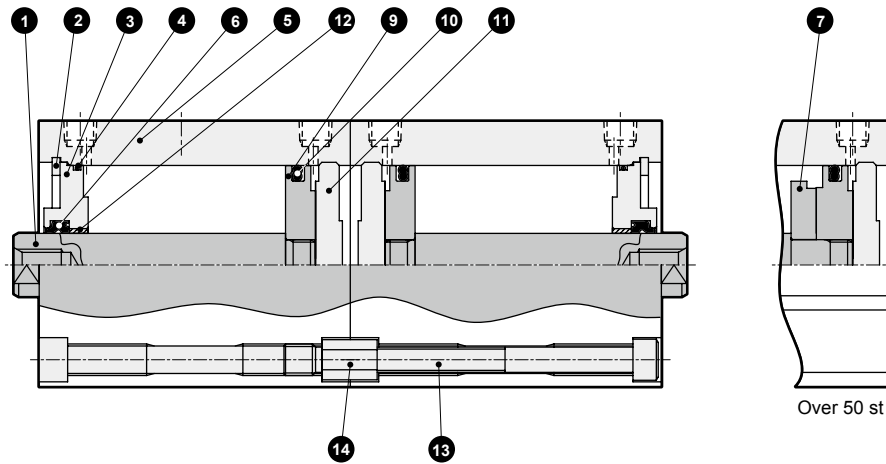


Internal structure and parts list

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



- SSD2-B-63 to 100 (double acting/back to back)



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

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

Repair parts list

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

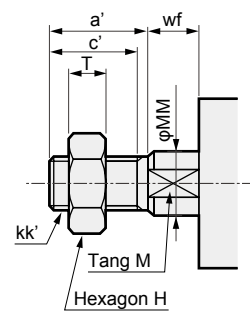
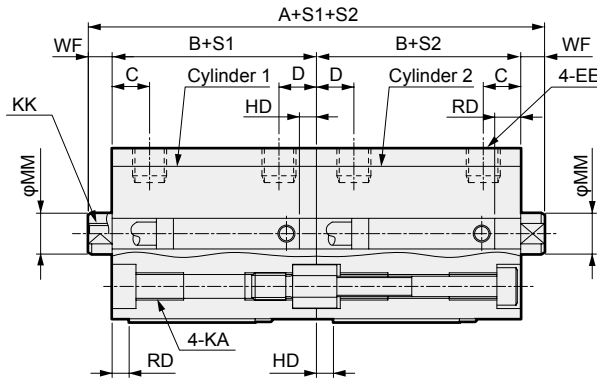
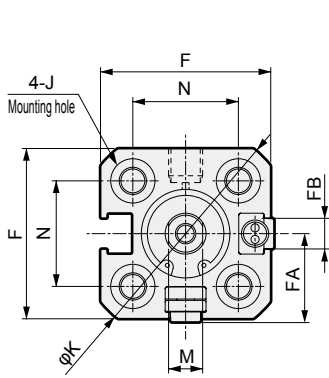
Ending

SSD2-B Series

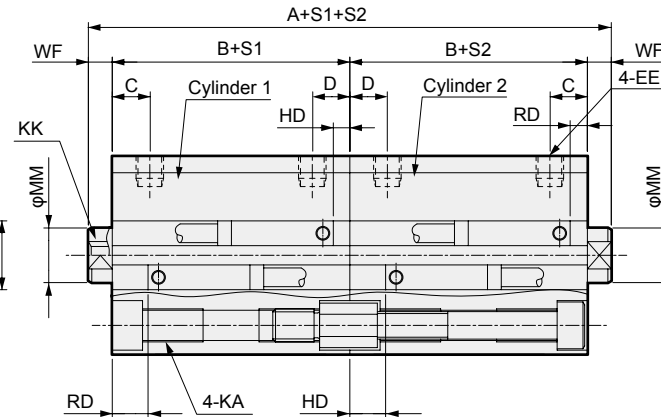
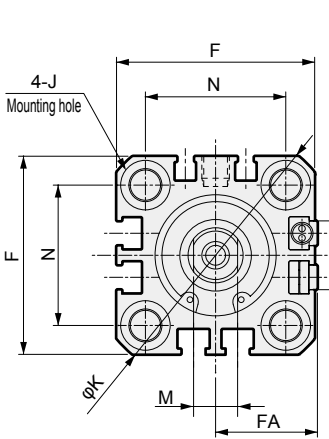
Dimensions

● SSD2-BL-12/16 (with switch)

● Rod end male thread



● SSD2-BL-25, 32 (with switch)



Code		Common dimensions with switch														
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB	J	K	KA	KK	M	MM	N	WF
φ12	51	22	5.5	5.5	M5	25	13(16.5)	4.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	51	22	5.5	5.5	M5	29	15(18.5)	4.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
φ20	68	29.5	8	5.5	M5	36	18.5(22)	12.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	75	32.5	11	6	M5	40	20.5(24)	13.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V *6		Proximity T2H/T2V, T3H/T3V *6		Proximity T2WH/T2WV, T3WH/T3WV *6		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S							
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD						
φ12	1.5	1.5	1.5	1.5	3.5	3.5										
φ16	0	4	0	4.5	1	6										
φ20	3	7.5	3	7.5	5	9.5	7.5	12	6.5	11						
φ25	4	9.5	4	9.5	6	11.5	8.5	14	7.5	13						

*1 : To calculate A + S1 + S2, B + S1 or B + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length.
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

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

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

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

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

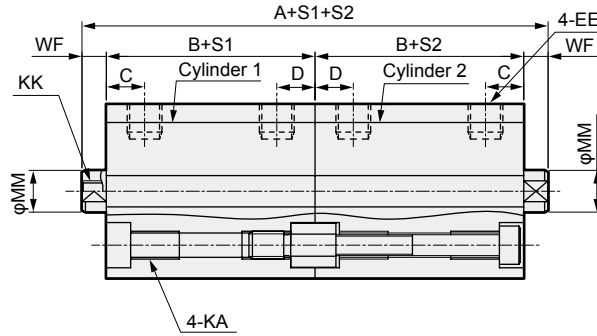
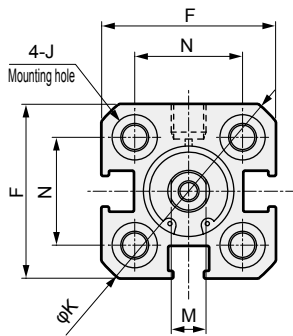
*6 : Only F type switch is available for the φ20 or φ25 piping port surface.

● Rod end male thread

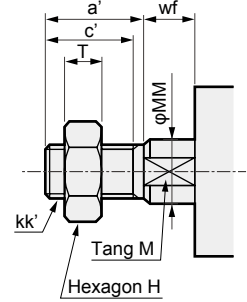
Code	a'	c'	H	kk'	M	MM	T	wf
φ12	10.5	9	8	M5	5	6	3.2	3.5
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions

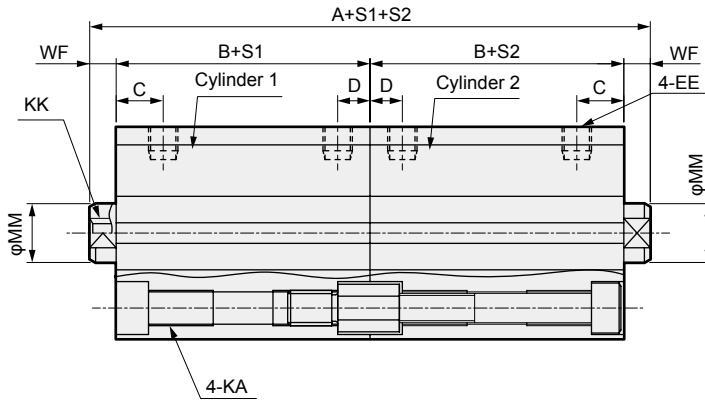
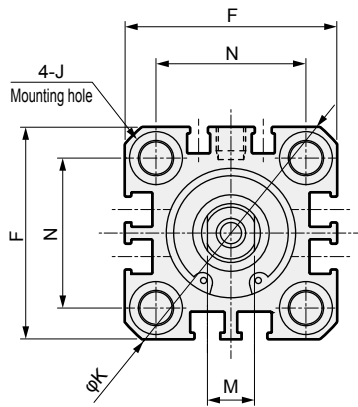
● SSD2-B-12/16 (without switch)



● Rod end male thread



● SSD2-B-20, 25 (without switch)



Code	Dimensions without switch and common dimensions													
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	J	K	KA	KK	M	MM	N	WF
φ12	41	17	5.5	5.5	M5	25	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	41	17	5.5	5.5	M5	29	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
φ20	48	19.5	8	5.5	M5	36	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	55	22.5	11	6	M5	40	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ12	10.5	9	8	M5	5	6	3.2	3.5
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

*1 : To calculate A + S1 + S2, B + S1 or B + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length.

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

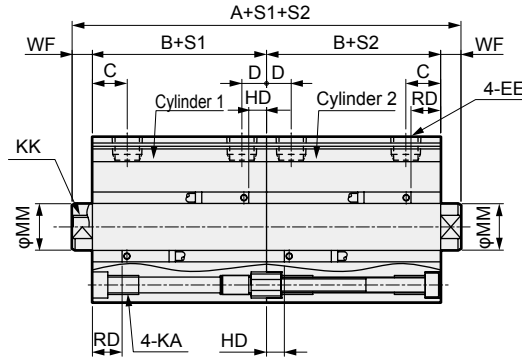
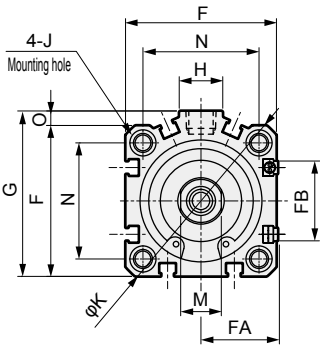
*2: For dimensions of individual accessories, refer to pages 1030 to 1033.

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

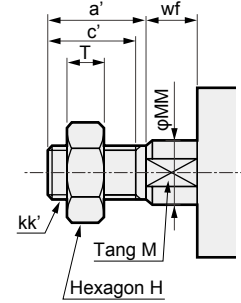
SSD2-B Series

Dimensions

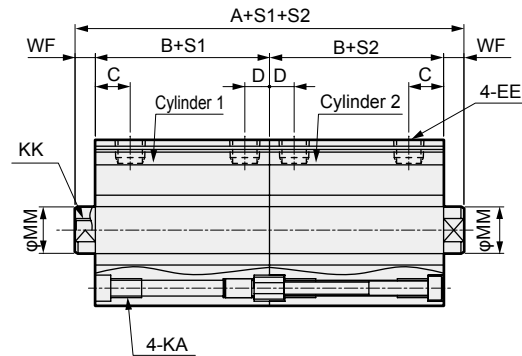
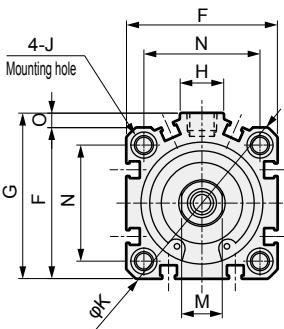
● SSD2-BL-32 to 100 (with switch)



● Rod end male thread



● SSD2-B-32 to 100 (without switch)



Code	Without switch		Common dimensions with switch												
	A ^{*1, *6}	B ^{*1, *6}	A ^{*1}	B ^{*1}	C ^{*8}	D ^{*8}	EE	F	FA ^{*4}	FB	G	H	J		K
φ32	60(80)	23(33)	80	33	8(10)	8(5.5)	Rc1/8 ^{*7}	45	23(26.5)	20.5	49.5	12.5	9 spot face depth 5.5		60
φ40	73(93)	29.5(39.5)	93	39.5	12(11.5)	8.5(8)	Rc1/8	52	26.5(30)	27.5	57	15	9 spot face depth 5.5		69
φ50	77(97)	30.5(40.5)	97	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	11 spot face depth 6.5		86
φ63	88(108)	36(46)	108	46	13	11	Rc1/4	77	39(42.5)	28.5	84	23	14 spot face depth 9		103
φ80	107(127)	43.5(53.5)	127	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	31	17.5 spot face depth 11		132
φ100	130(150)	53(63)	150	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	17.5 spot face depth 11		156

Code	Common dimensions with switch							Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
	KA	KK	M	MM	N	O	WF	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}	HD	RD
φ32	M6 depth 11	M8 depth 13	14	16	34	4.5	7	4	9.5	4	9.5	6	11.5
φ40	M6 depth 11	M8 depth 13	14	16	40	5	7	7	12	7	12	8.5	13.5
φ50	M8 depth 13	M10 depth 15	17	20	50	7	8	7.5	12.5	7.5	12.5	9	14
φ63	M10 depth 25	M10 depth 15	17	20	60	7	8	12.5	13	12.5	13	14	14.5
φ80	M12 depth 28	M16 depth 21	22	25	77	6	10	17.5	15.5	17.5	15.5	19	17
φ100	M12 depth 28	M20 depth 27	27	30	94	6.5	12	23	19.5	23	19.5	24.5	21

*1 : To calculate A + S1 + S2, B + S1 or B + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

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

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

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

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

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

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

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

● Rod end male thread

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

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

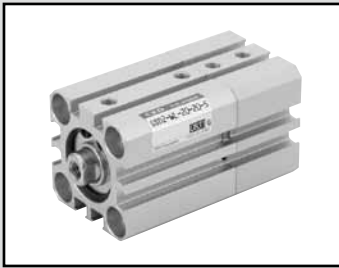
ShkAbs

FJ

FK

Spd
Contr

Ending



Compact cylinder double acting/two-stage

SSD2-W Series

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



Specifications

Descriptions	SSD2-W SSD2-WL (with switch)										
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Bore size mm	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Actuation	Double acting/two-stage										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈150 psi, 10 bar) (*1)										
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)							0.1 (≈15 psi, 1 bar)			
Proof pressure MPa	1.6 (≈230 psi, 16 bar)										
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc1/8 (*2)			Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = \begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$					$S_2 = \begin{smallmatrix} 0 \\ -1.5 \end{smallmatrix}$					
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	None										
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)										
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

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

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
φ12	5/10/15/20	30	1
φ16	25/30		
φ20	5/10/15/20/25	50	
φ25			
φ32			
φ40	10/15/20/25	50	
φ50			
φ63			
φ80	30/35/40/45/50	50	
φ100	30/35/40/45/50		

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

*2: When using the type with switch, refer to the table on the right.

Min. stroke length with switch (2 switches)

Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
φ12	10(5)	5
φ16		
φ20		
φ25		
φ32		
φ40		
φ50		
φ63		
φ80		
φ100		

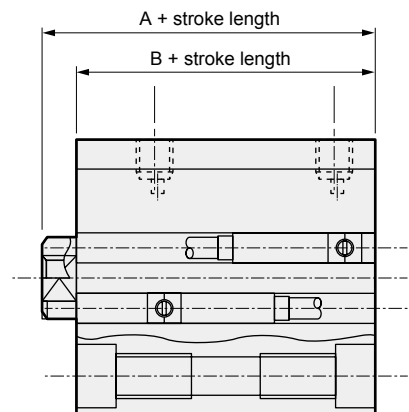
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-W Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-W-32-38 A +2 mm spacer is added to the SSD2-W-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63mm.	



Switch specifications (F type switch)

- 1-color/2-color display

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

Switch specifications (T type switch)

- 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire	Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD				
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay	Dedicated for programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-				10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*1)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less				10 µA or less				0 mA					1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

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

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

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	37	87	45	87	54	96	62	104	71	113	73	115	-	-	-	-	-	-	-	-	-	-	-	-
φ16	49	105	60	105	70	115	81	126	92	137	103	148	-	-	-	-	-	-	-	-	-	-	-	-
φ20	65	120	77	152	90	165	103	178	115	190	128	203	141	216	154	229	167	242	205	280	-	-	-	-
φ25	90	181	105	196	121	212	137	228	163	244	168	259	184	275	200	291	216	307	231	322	-	-	-	-
φ32	126	240	148	262	170	284	192	306	213	327	235	349	257	371	279	393	301	415	322	436	494	542	604	652
φ40	189	332	216	359	242	385	269	412	296	439	322	465	348	491	375	518	401	544	478	571	646	695	776	825
φ50	-	-	354	548	396	590	438	632	480	674	523	717	565	759	607	801	649	843	691	885	1038	1095	1248	1305
φ63	-	-	543	822	598	877	653	932	708	987	763	1042	818	1097	874	1153	929	1208	984	1263	1474	1538	1749	1813
φ80	-	-	1002	1415	1089	1502	1175	1588	1262	1675	1348	1961	1435	1848	1522	1935	1609	2022	1695	2108	2475	2541	2907	2973
φ100	-	-	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

Total weight = weight of cylinder 1 + weight of cylinder 2.

[Example: Total weight of SSD-W-25-30-N-10-N]

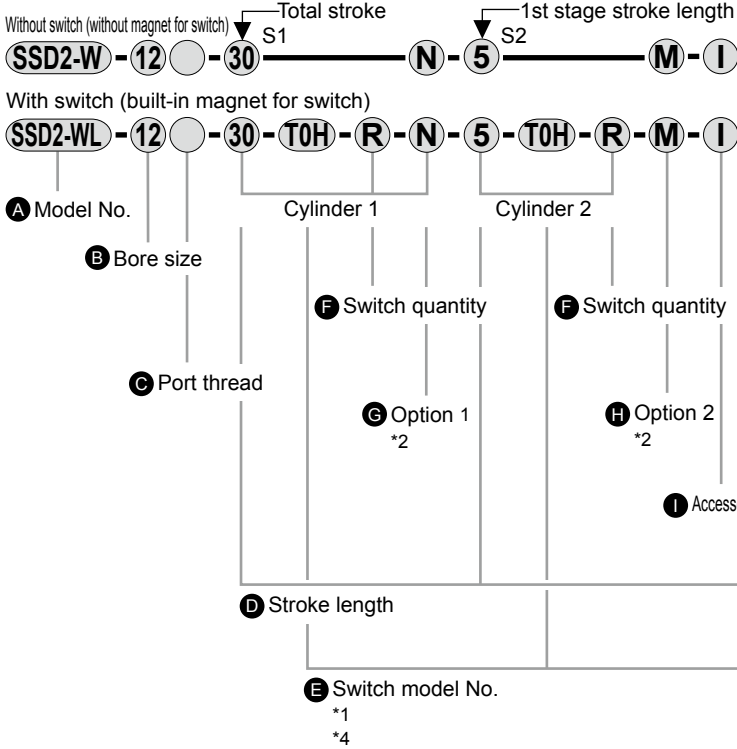
Weight of φ25 with 30 mm stroke length:···(1)

Weight of φ25 with 10 mm stroke length:···(2)

Total weight = (1) + (2) = 168 g + 105 g = 273 g

SSD2-W Series

How to order



Precautions for model No. selection

- *1 : Strong magnetic field proof switch cannot be installed on $\phi 12$ and $\phi 16$. In addition, T8* switch cannot be installed on $\phi 12$ to $\phi 32$.
- *2 : Piston rod of $\phi 12$ to $\phi 25$ is stainless steel as standard. C type snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *3 : Refer to pages 734 and 735 for combinations of variations/options.
- *4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *5 : 5 m lead wire for the F type switch is a custom order product.

[Example of model No.]

SSD2-WL-12-30-T0H-R-N-5-T0H-R-I

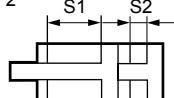
Model: Compact cylinder two-stage

- B** Bore size : $\phi 12$ mm
- C** Port thread : Rc thread
- D** Total stroke length S1 : 30 mm
- E** Switch model No. : Reed switch T0H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- G** Option 1 : Rod end male thread
- D** 1st stage stroke length S2 : 5 mm
- 2nd stage stroke length : 25 mm
- E** Switch model No. : Reed switch T0H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- I** Accessory : Rod eye

Cylinder 1

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

Cylinder 2



Code	Content
A Model No.	
SSD2-W	Double acting/two-stage
SSD2-WL	Double acting/two-stage/with switch

B Bore size (mm)	
12	$\phi 12$
16	$\phi 16$
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

C Port thread	
Blank	Rc thread
NN	NPT thread ($\phi 32$ and over) (custom order product)
GN	G thread ($\phi 32$ and over) (custom order product)

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

E Switch model No.		Voltage		Display	Lead wire	Bore size																
Lead wire	Contact	AC	DC			12	16	20	25	32	40	50	63	80	100							
Straight	L-shaped	Proximity	●	●	1-color display	2-wire		●	●													
						3-wire		●	●													
						2-wire		●	●													
3-wire			●	●																		
Proximity	●		●	●	1-color display (PNP output) (custom)	3-wire		●	●													
						2-wire		●	●													
		3-wire					●	●														
Reed	●	●	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
					2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
					2-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
					3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	2-color display	2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●		
					3-wire	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
					2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	2-color display (AC magnetic field)	2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●		
					2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
					2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Proximity	●	●	●	1-color display off-delay	2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●		
					2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
					2-wire		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

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

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

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

H Option 2 ^{*2}	
M	Piston rod material (stainless steel)

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

[Stroke length table]

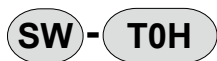
Stroke length (mm)	Applicable bore size										
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	
Standard stroke length	5	●	●	●	●	●	●				
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●	●
Min. stroke length (mm)	1										
Max. stroke length (mm)	30			50							
Custom stroke length *1	In 1 mm increments										

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

Refer to page 886 for the number of installed switches and the min. stroke length.

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

How to order switch



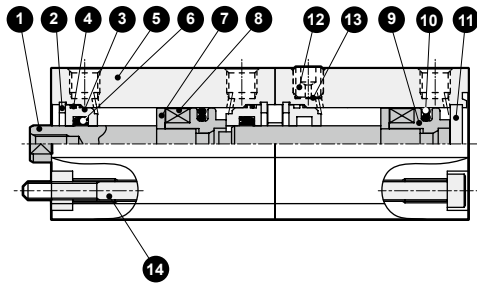
Switch model No.
(Item ⑤ on the previous page)

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

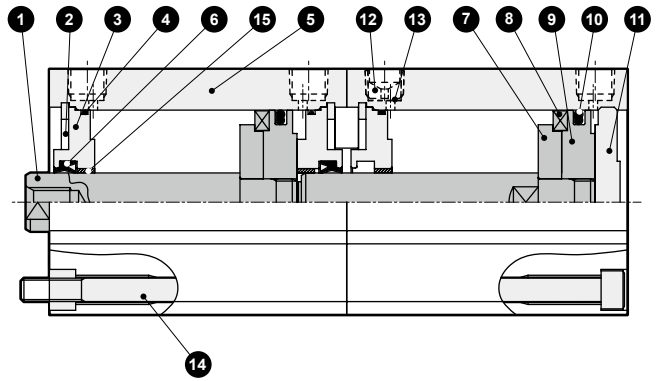
SSD2-W Series

Internal structure and parts list

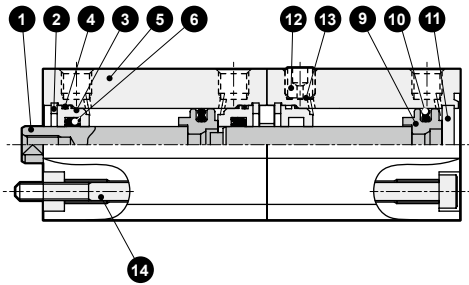
● SSD2-WL-12 to 50 (double acting/two-stage/with switch)



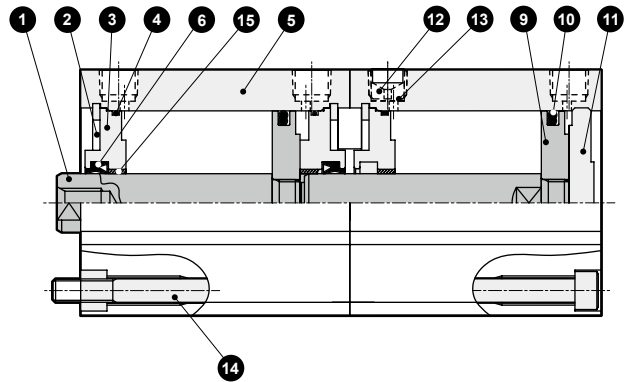
● SSD2-WL-63 to 100 (double acting/two-stage/with switch)



● SSD2-W-12 to 50 (double acting/two-stage)



● SSD2-W-63 to 100 (double acting/two-stage)



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

No.	Part name	Material	Remarks
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	φ12 to 25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100 Alumite
12	Plug	Stainless steel	
13	Stainless steel mesh	Stainless steel	
14	Hexagon socket head cap screw	Steel	Black finish
15	Bush	Oiles drymet	

Repair parts list

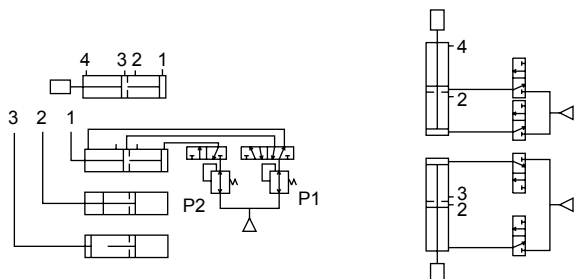
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-W-12K	4 6 10
φ16	SSD2-W-16K	
φ20	SSD2-W-20K	
φ25	SSD2-W-25K	
φ32	SSD2-W-32K	
φ40	SSD2-W-40K	
φ50	SSD2-W-50K	
φ63	SSD2-W-63K	
φ80	SSD2-W-80K	
φ100	SSD2-W-100K	

SSD2-W application examples

Pressure setting: P2 > P1

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

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

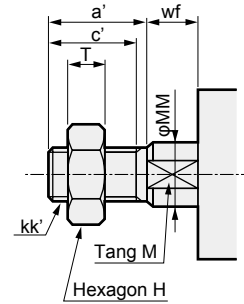
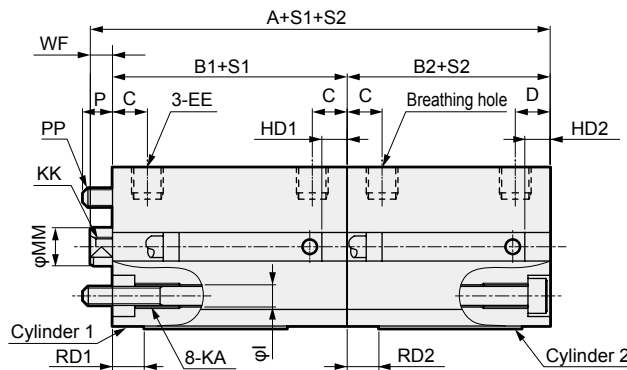
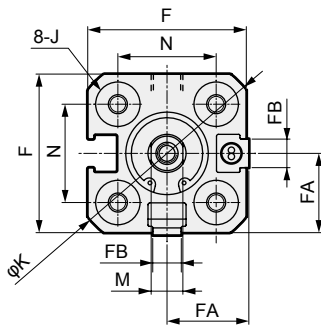


Dimensions

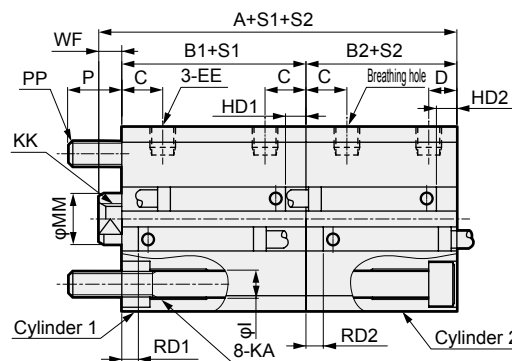
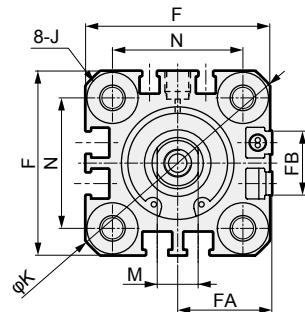
● SSD2-WL-12 to 25 (with switch T0H/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Common dimensions with switch																			
Bore size (mm)	A	B1	B2	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF	P	PP
φ12	52.5	27	22	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	4.5	M3
φ16	52.5	27	22	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	4.5	M3
φ20	70	36	29.5	8	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	10	M5
φ25	76.5	39	32.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5	9	M5
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V					Proximity T2WH/T2WV, T3WH/T3WV									
Bore size (mm)	RD1, RD2		HD1	HD2		RD1, RD2		HD1	HD2		RD1, RD2		HD1	HD2						
φ12	1.5		6.5	1.5		1.5		6.5	1.5		3.5		8.5	3.5						
φ16	3.5		4.5	0		3.5		4.5	0		5.5		6.5	1.5						
φ20	7.5		9.5	3		7.5		9.5	3		9.5		11.5	5						
φ25	9.5		10.5	4		9.5		10.5	4		11.5		12.5	6						
Switch dimensions	Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV					Proximity F2S/F3S														
Bore size (mm)	RD1, RD2		HD1	HD2		RD1, RD2		HD1	HD2											
φ12	/		/	/		/		/	/											
φ16	/		/	/		/		/	/											
φ20	12		14	7.5		11		13	6.5											
φ25	14		15	8.5		13		14	7.5											

*1 : To calculate A + S1 + S2, B1 + S1 or B2 + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length.

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

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

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

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

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

*6 : Only F type switch is available for the φ20 or φ25 piping port surface.

● Rod end male thread

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

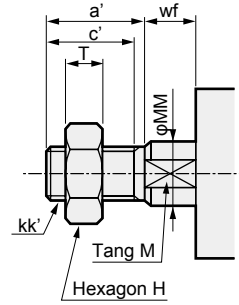
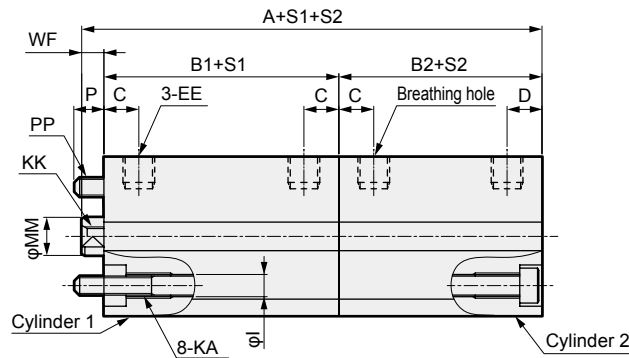
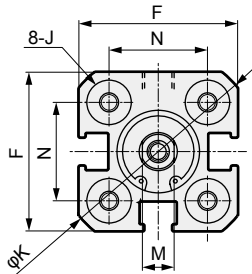
SSD2-W Series

Dimensions

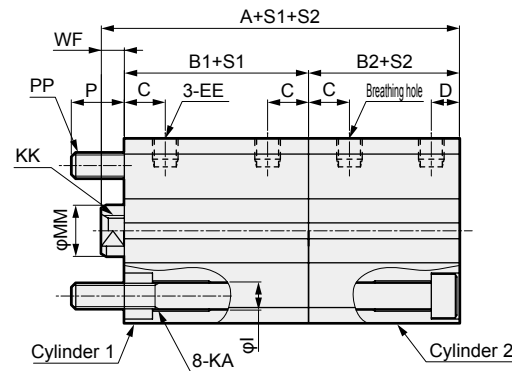
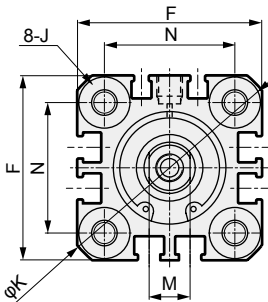
● SSD2-W-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Dimensions without switch and common dimensions																	
	A	B1	B2	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF	P	PP
φ12	42.5	22	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	4.5	M3
φ16	42.5	22	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	4.5	M3
φ20	50	26	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	10	M5
φ25	56.5	29	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5	9	M5

● Rod end male thread

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

*1 : To calculate A + S1 + S2, B1 + S1 or B2 + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length.

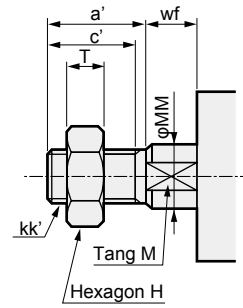
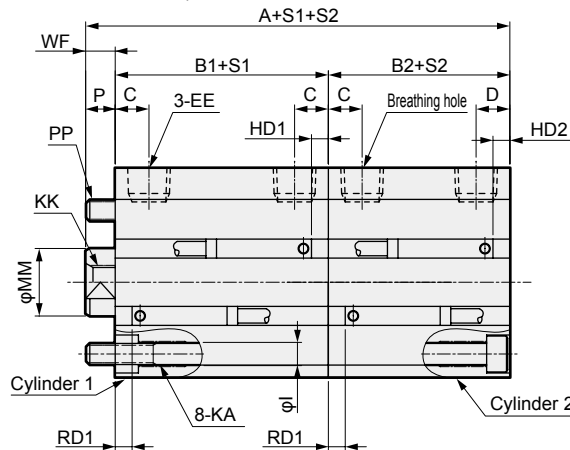
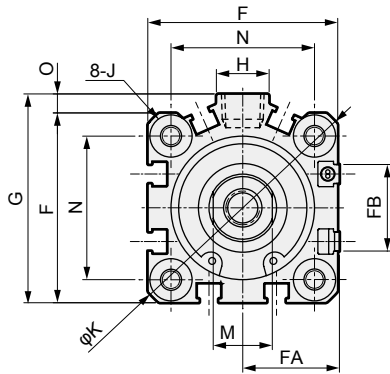
(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

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

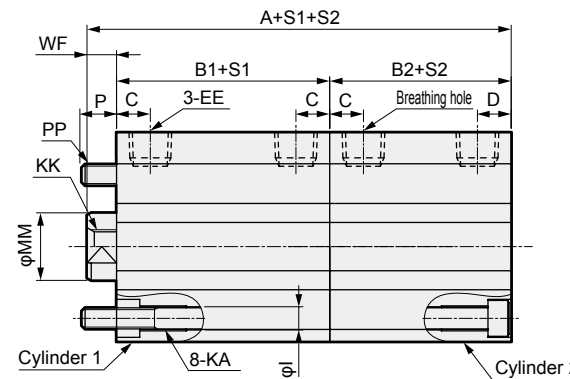
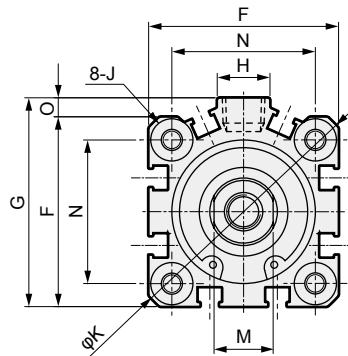
Dimensions

● SSD2-WL-32 to 100 (with switch T0H/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread



● SSD2-WL-32 to 100 (without switch)



Code	Without switch			Common dimensions with switch																						
	A	B1	B2	A	B1	B2	C ^{*8}	D ^{*8}	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	M	MM	N	O	WF	P	PP
φ32	60.5	30.5	23	80.5	40.5	33	8(11)	8(5.5)	Rc1/8 ^{†7}	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	7	M5
φ40	76.5	40	29.5	96.5	50	39.5	12(11.5)	8.5(8)	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7	6	M5
φ50	79	40.5	30.5	99	50.5	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 5.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8	10.5	M6
φ63	86	42	36	106	52	46	13	11	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8	11	M8
φ80	104.5	51	43.5	124.5	61	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10	11.5	M10
φ100	125.5	60.5	53	145.5	70.5	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	12.5	M10
Switch dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V						Proximity T2WH/T2WV, T3WH/T3WV													
	RD1, RD2	HD1	HD2	RD1, RD2	HD1	HD2	RD1, RD2	HD1	HD2	RD1, RD2	HD1	HD2														
φ32	10	11.5	4	10	11.5	4	10	11.5	4	12	13.5	6														
φ40	13	18	7.5	13	18	7.5	13	18	7.5	15	20	9.5														
φ50	13	18.5	8.5	13	18.5	8.5	13	18.5	8.5	15	20.5	10.5														
φ63	13.5	19.5	13.5	13.5	19.5	13.5	13.5	19.5	13.5	15.5	21.5	15.5														
φ80	16	26	18.5	16	26	18.5	16	26	18.5	18	28	20.5														
φ100	20.5	31.5	24	20.5	31.5	24	20.5	31.5	24	22.5	33.5	26														

*1 : To calculate A + S1 + S2, B1 + S1 or B2 + S2 when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

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

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

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

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

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

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

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

● Rod end male thread

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2

COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

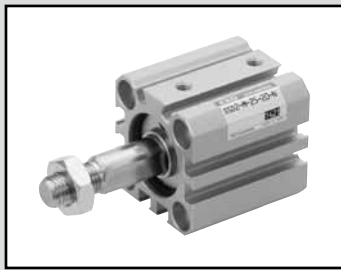
ShkAbs

FJ

FK

Spd Contr

Ending



Compact cylinder double acting/rotation-stop

SSD2-M Series

- Bore size: $\phi 12/\phi 16/\phi 20/\phi 25$
 $\phi 32/\phi 40/\phi 50/\phi 63$



Specifications

1 MPa = 10 bar

Descriptions	SSD2-M SSD2-ML (with switch)							
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)							0.05 (≈ 7.3 psi)
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5				Rc1/8 *1		Rc1/4	
Stroke tolerance mm	+1.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Non-rotating accuracy (*2)	$\pm 1^{\circ}$		$\pm 0.7^{\circ}$			$\pm 0.8^{\circ}$		
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

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

*2: Initial value at the pull end.

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

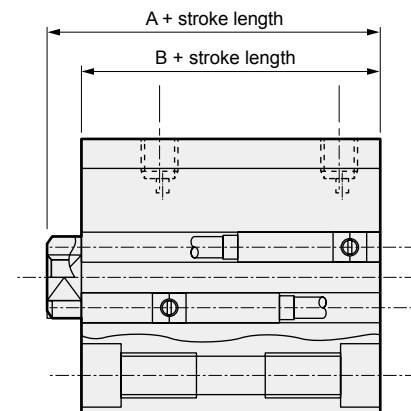
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2-M Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 63	1 to 99
Example of model No.	Model No.: SSD2-M-32-38 A +2 mm spacer is added to the SSD2-M-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 72 mm.	



Switch specifications (F type switch)

● 1-color/2-color display

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

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire		
	T1H/T1V	T2H/T2V	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		Dedicated for programmable controller		
Output method	-				NPN output	PNP output	NPN output	NPN output	-		-		-				
Pwr. supp. V.	-				10 to 28 VDC				-				-				
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*1)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less				10 µA or less				0 mA				1 mA or less			
Weight	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272		

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

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

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ12	44	94	52	94	61	103	69	11	78	120	80	122	-	-	-	-	-	-	-	-	-	-	-	-
φ16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-	-	-	-	-	-	-	-	-
φ20	76	131	88	163	101	176	114	189	126	201	139	214	152	227	165	240	178	253	191	266	-	-	-	-
φ25	102	193	117	208	133	224	149	240	165	256	180	271	196	287	212	303	228	319	243	334	-	-	-	-
φ32	166	280	188	302	210	324	232	346	253	367	275	389	297	411	319	433	341	455	362	476	575	583	682	691
φ40	-	-	210	353	237	380	263	406	290	433	317	460	343	486	370	513	396	539	423	566	683	698	815	831
φ50	-	-	341	535	383	577	425	619	467	661	509	703	552	746	594	788	636	830	678	872	1065	1082	1275	1292
φ63	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02 × 10 ²	1.13 × 10 ²
	Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³

SSD2-M Series

How to order

Without switch (without magnet for switch)

SSD2-M - **12** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD2-ML - **12** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.

*1
*2
*3
*8
*9

F Switch quantity

G Option *4

⚠ Precautions for model No. selection

- *1 : The T2YD* switch cannot be mounted on the φ12 and φ16 bore sizes.
- *2 : The T8* switch cannot be mounted on the φ12 to φ32 bore sizes.
- *3 : The F type switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.
- *4 : Piston rod of φ12 to φ25 is stainless steel as standard. C type snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *5 : The mounting bracket is attached at shipment.
- *6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 901, 903, 905 and 906. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *7 : "I" and "Y" cannot be selected together.
- *8 : The F type switch with L type lead wire on φ20 models cannot be selected on stroke lengths 10 mm or under.
- *9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10: Refer to pages 734 and 735 for combinations of variations/options.
- *11 : 5 m lead wire for the F type switch is a custom order product.

[Example of model No.]

SSD2-ML-12-5-T0H-R-N-LB-I

Model: Compact cylinder rotation-stop

- B** Bore size : φ12 mm
- C** Port thread : Rc thread
- D** Stroke length : 5 mm
- E** Switch model No. : Reed T0H switch
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread
- H** Mounting bracket : Axial foot
- I** Accessory : Rod eye

H Mounting bracket

*5
*6

I Accessory

*7

Code	Content																
A Model No.																	
SSD2-M	Double acting/rotation-stop																
SSD2-ML	Double acting/rotation-stop/with switch																
B Bore size (mm)																	
12	φ12																
16	φ16																
20	φ20																
25	φ25																
32	φ32																
40	φ40																
50	φ50																
63	φ63																
C Port thread																	
Blank	Rc thread																
NN	NPT thread (φ32 and over) (custom order product)																
GN	G thread (φ32 and over) (custom order product)																
D Stroke length (mm)																	
Refer to the stroke length table on the following page.																	
E Switch model No.																	
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire	Bore size											
						12	16	20	25	32	40	50	63				
Straight	L-shaped	Proximity	AC	1-color display	2-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								
			Reed	DC	1-color display	2-wire	●	●	●	●	●	●	●	●	●		
							●	●	●	●	●	●	●	●	●		
							●	●	●	●	●	●	●	●	●	●	
							●	●	●	●	●	●	●	●	●	●	
							●	●	●	●	●	●	●	●	●	●	
							●	●	●	●	●	●	●	●	●	●	
		Proximity	AC	1-color display (PNP output) (custom)	3-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								
		Proximity	DC	2-color display	2-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								
		Proximity	DC	2-color display	3-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								
		Proximity	AC	AC magnetic field	2-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								
		Proximity	DC	1-color display off-delay	2-wire			●	●								
								●	●								
								●	●								
								●	●								
								●	●								
								●	●								

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *11

F Switch quantity

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

G Option

Blank	Rod end female thread
N	Rod end male thread
M *4	Piston rod material (stainless steel) (custom order (φ32 to φ63))

H Mounting bracket

Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

I Accessory (available when rod end male thread "N" is selected)

I	Rod eye
Y	Rod clevis (pin and snap ring attached)

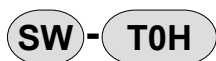
[Stroke length table]

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

1: Less than 5 mm for 1-color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 894 for the min. stroke length with switch.

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

How to order switch



Switch model No.
(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA/FB)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Clevis bracket (CB)	SSD2-CB-12	SSD2-CB-16	SSD2-CB-20	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50
Bore size (mm)	φ63						
Mounting bracket							
Foot (LB)	SSD2-LB-63						
Flange (FA/FB)	SSD2-FA-63						
Clevis bracket (CB)	SSD2-CB-63						

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

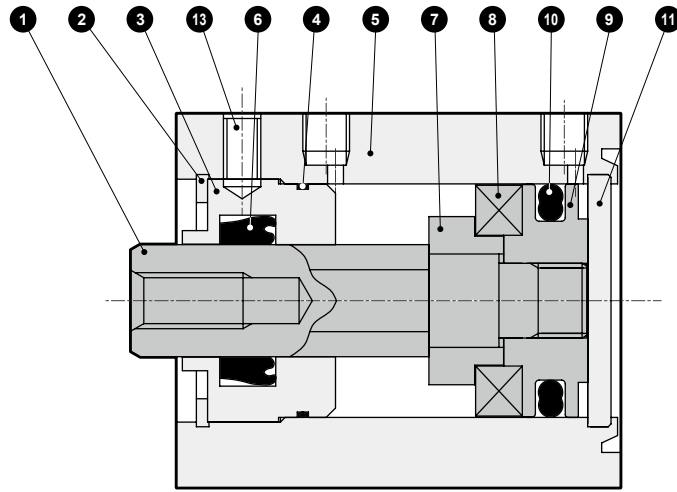
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SSD2-M Series

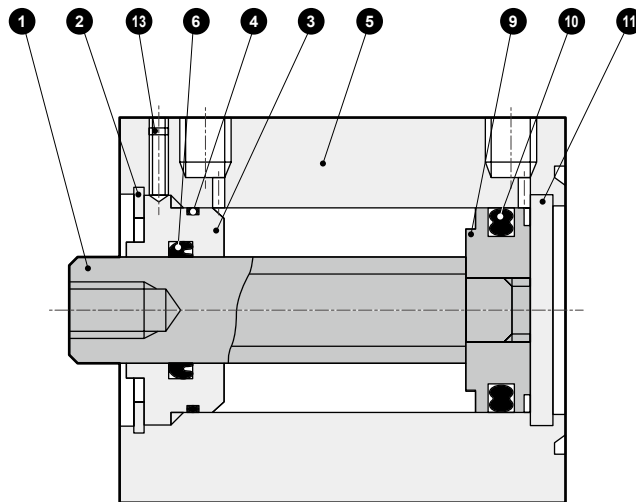
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list (φ12 to φ25)

● SSD2-ML-12 to 25 (double acting/rotation-stop/with switch)



● SSD2-M-12 to 25 (double acting/rotation-stop)



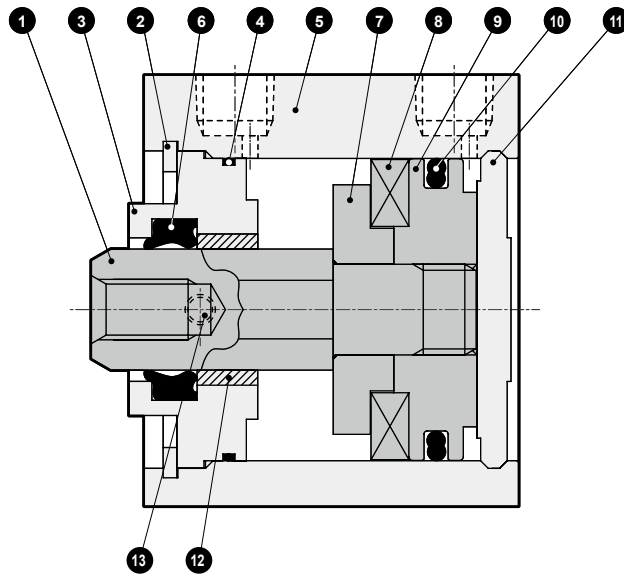
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	Stainless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

Repair parts list

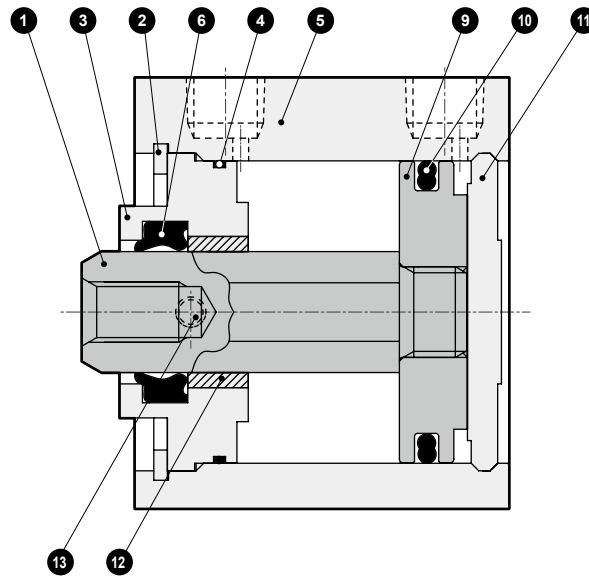
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-M-12K	4 6 10
φ16	SSD2-M-16K	
φ20	SSD2-M-20K	
φ25	SSD2-M-25K	

Internal structure and parts list (φ32 to φ63)

- SSD2-ML-32 to 63 (double acting/rotation-stop/with switch)



- SSD2-M-32 to 63 (double acting/rotation-stop)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	φ32 to φ50: Special aluminum φ63: Aluminum alloy	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oil impregnated bearing alloy	
6	Rod packing	Nitrile rubber		13	Hexagon socket set screw	Steel	
7	Spacer	Aluminum alloy	Chromate				

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ32	SSD2-M-32K	4 6 10
φ40	SSD2-M-40K	
φ50	SSD2-M-50K	
φ63	SSD2-M-63K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SSD2-M Series

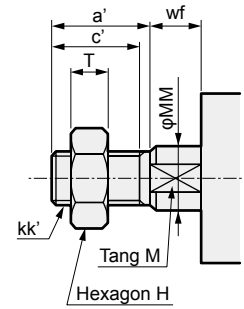
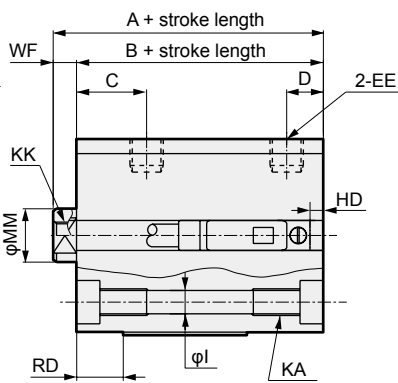
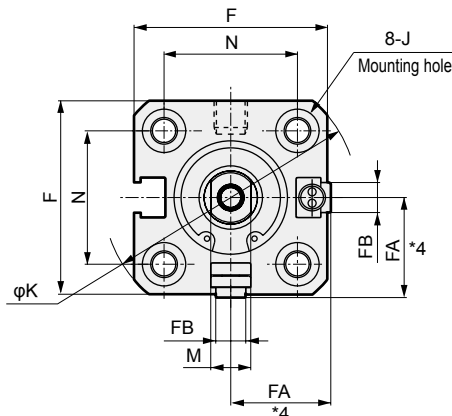
Dimensions



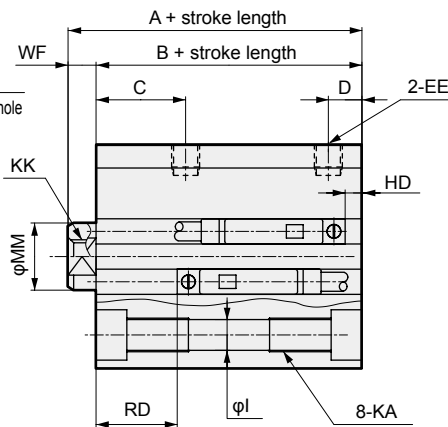
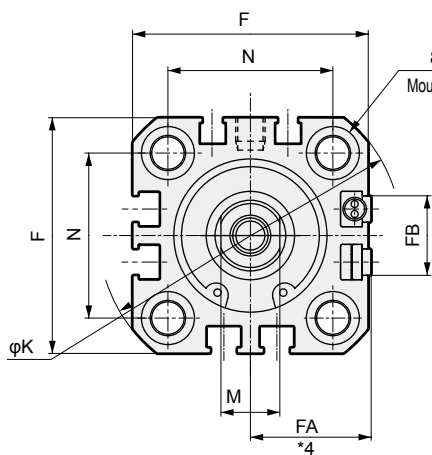
● SSD2-ML-12 to 25 (with switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Common dimensions with switch																	
	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	M	MM	N	WF	
STK	φ12	30.5	27	10.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	φ16	30.5	27	10.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRL3	φ20	39	34.5	13	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	φ25	42.5	37.5	16	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
SRG3	Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV			Proximity F2S/F3S							
	Bore size (mm)	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD					
SRM3	φ12	0	7.5	0	7.5	2	9.5											
	φ16	0	7	0	7	2.5	9.5											
SRT3	φ20	3	11.5	3	11.5	5	13	7.5	15.5	6.5	14.5							
	φ25	3	14.5	3	14.5	6	16	8.5	18.5	7.5	17.5							

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

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

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

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

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

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

*6 : Only F type switch is available for the φ20 or φ25 piping port surface.

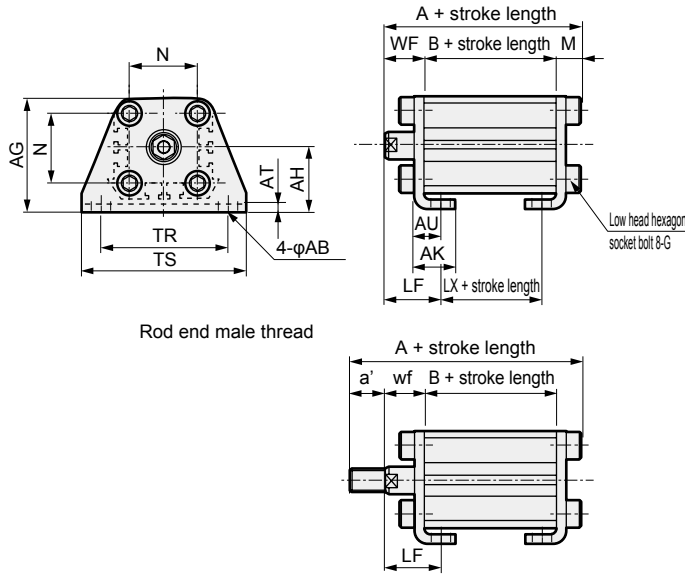
● Dimensions of rod end male thread part

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

Dimensions with mounting bracket



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

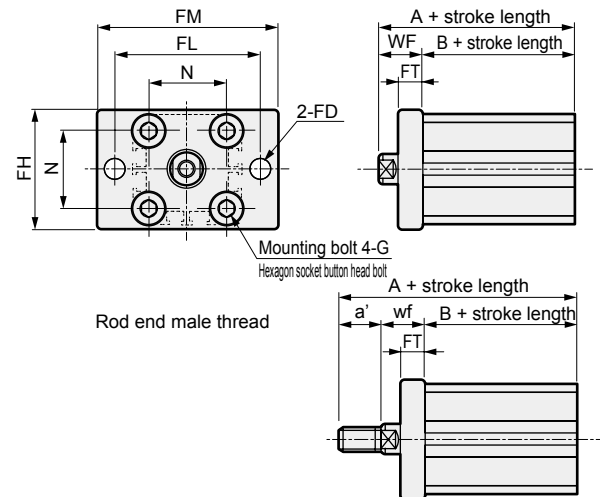


Rod end male thread

Code		Common dimensions						Female thread				
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M	
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8	
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8	
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2	
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2	

Code		Male thread									
Bore size (mm)	WF	LF	A	B	LX	a'	WF	LF	A	B	LX
φ12	13.5	19.5	45.3	27	15	10.5	13.5	19.5	55.8	27	15
φ16	13.5	19.5	45.3	27	15	12	13.5	19.5	57.3	27	15
φ20	14.5	20.5	56.2	34.5	22.5	14	14.5	20.5	70.2	34.5	22.5
φ25	15	22.5	59.7	37.5	22.5	17.5	15	22.5	77.2	37.5	22.5

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

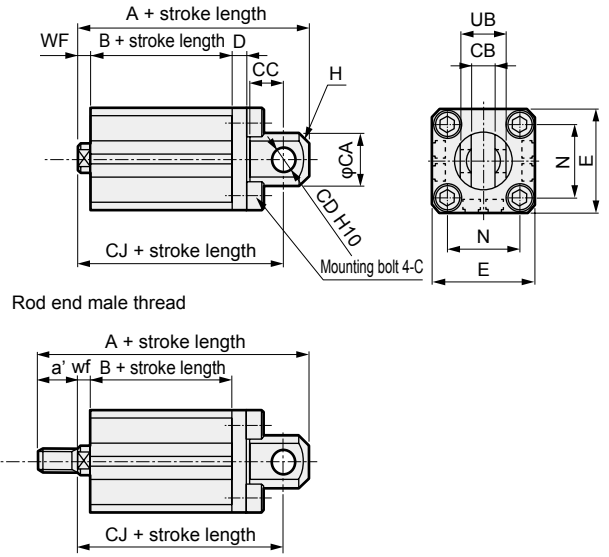


Rod end male thread

Code		Common dimensions					
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code		Female thread			Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	13.5	40.5	27	10.5	13.5	51	27
φ16	13.5	40.5	27	12	13.5	52.5	27
φ20	14.5	49	34.5	14	14.5	63	34.5
φ25	15	52.5	37.5	17.5	15	70	37.5

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

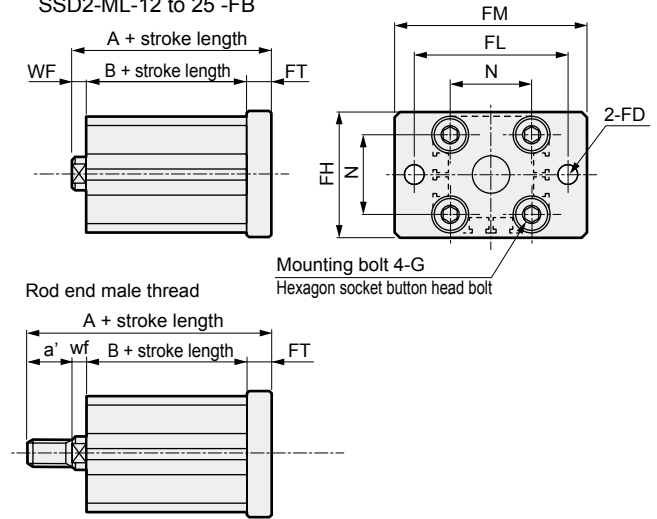


Rod end male thread

Code		Common dimensions								
Bore size (mm)	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

Code		Female thread			Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
φ12	3.5	50.5	27	44.5	10.5	8.5	61	27	44.5
φ16	3.5	51.5	27	45.5	12	8.5	63.5	27	45.5
φ20	4.5	66	34.5	57	14	9.5	80	34.5	57
φ25	5	72.5	37.5	62.5	17.5	10	90	37.5	62.5

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



Rod end male thread

Code		Common dimensions					
Bore size (mm)	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code		Female thread			Male thread		
Bore size (mm)	WF	A	B	a'	wf	A	B
φ12	3.5	36	27	10.5	8.5	46.5	27
φ16	3.5	36	27	12	8.5	48	27
φ20	4.5	47	34.5	14	9.5	61	34.5
φ25	5	50.5	37.5	17.5	10	68	37.5

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

SSD2-M Series

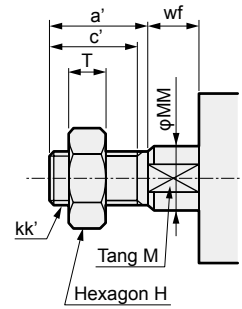
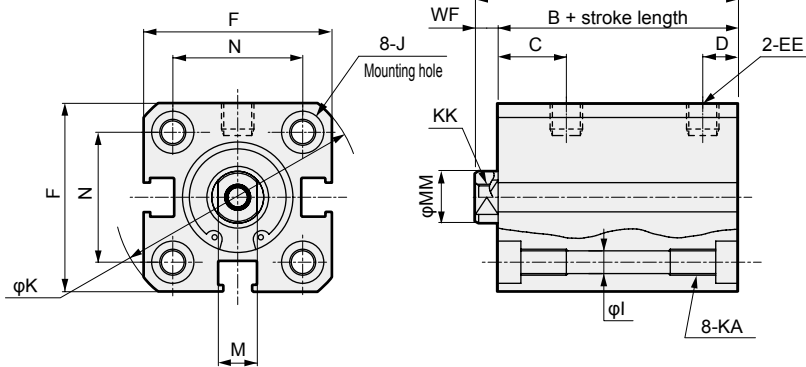
Dimensions



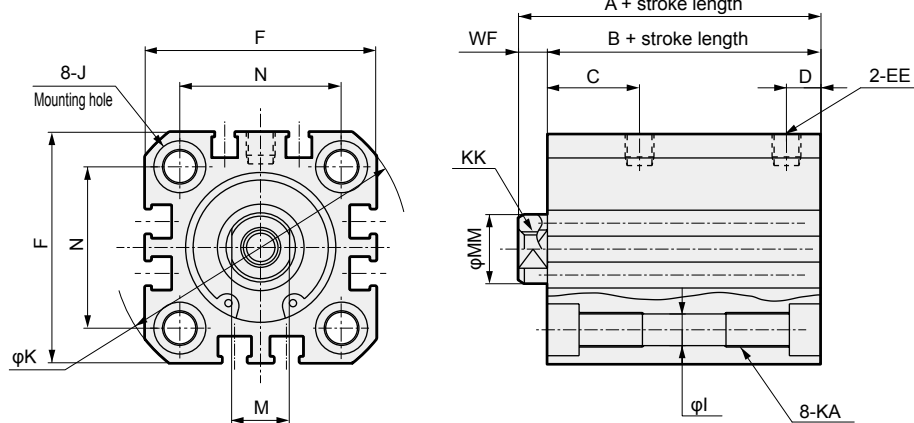
● SSD2-M-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



Code	Without switch															
	Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
SRL3	φ12	25.5	22	10.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
	φ16	25.5	22	10.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
SRG3	φ20	29	24.5	13	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
	φ25	32.5	27.5	16	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

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

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

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

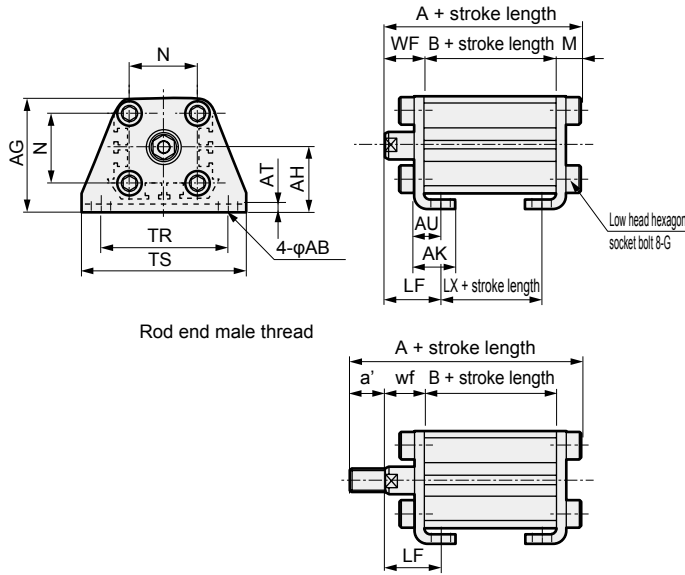
● Dimensions of rod end male thread part

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

Dimensions with mounting bracket



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

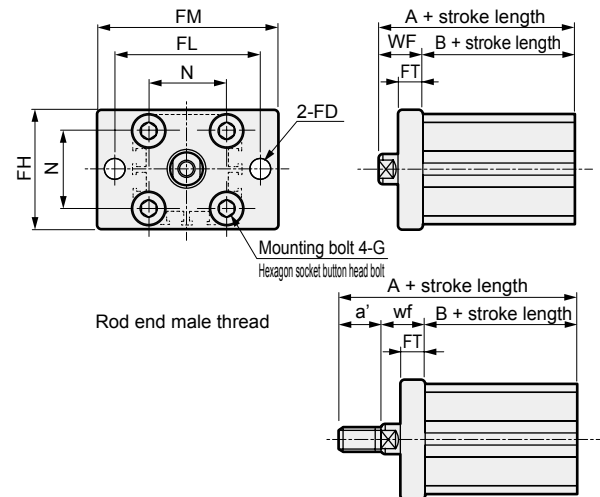


Rod end male thread

Code	Common dimensions						Female thread				
	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Male thread					
	WF	LF	A	B	LX	a'
φ12	13.5	19.5	40.3	22	10	10.5
φ16	13.5	19.5	40.3	22	10	12
φ20	14.5	20.5	46.2	24.5	12.5	14
φ25	15	22.5	49.7	27.5	12.5	15

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

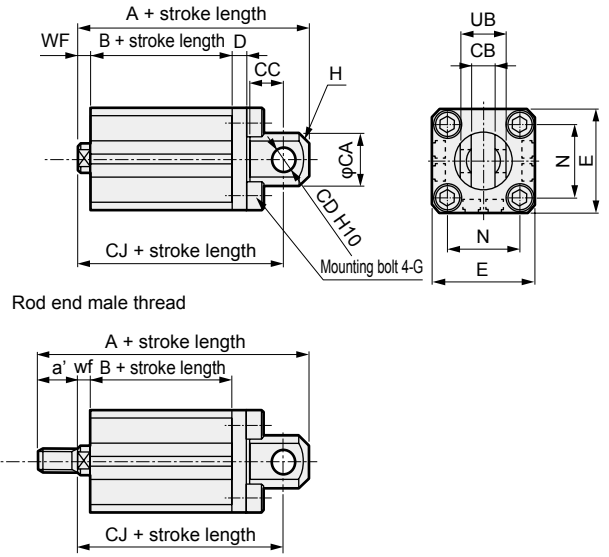


Rod end male thread

Code	Common dimensions						
	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
	WF	A	B	a'	wf	A	B
φ12	13.5	35.5	22	10.5	13.5	46	22
φ16	13.5	35.5	22	12	13.5	47.5	22
φ20	14.5	39	24.5	14	14.5	53	24.5
φ25	15	42.5	27.5	17.5	15	60	27.5

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

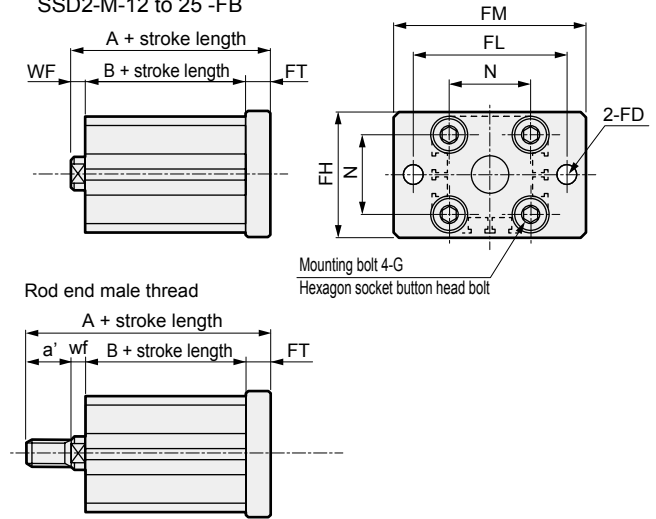


Rod end male thread

Code	Common dimensions									
	CA	CB	CC	CD	D	E	G	H	N	UB
φ12	12	5.2 ^{+0.2} ₀	7	5	4	25	M4×12	C1.5	15.5	10 ^{+0.1} _{-0.3}
φ16	15	6.6 ^{+0.3} ₀	8	5	5	29	M4×12	C2	20	12 ^{+0.1} _{-0.4}
φ20	20	8.2 ^{+0.2} ₀	12	8	5	36	M6×16	C4	25.5	16 ^{+0.1} _{-0.3}
φ25	24	10.2 ^{+0.2} ₀	14	10	5	40	M6×16	C5	28	20 ^{+0.1} _{-0.3}

Code	Female thread					Male thread			
	WF	A	B	C, J	a'	wf	A	B	C, J
φ12	3.5	45.5	22	39.5	10.5	8.5	56	22	39.5
φ16	3.5	46.5	22	40.5	12	8.5	58.5	22	40.5
φ20	4.5	56	24.5	47	14	9.5	70	24.5	47
φ25	5	62.5	27.5	52.5	17.5	10	80	27.5	52.5

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



Rod end male thread

Code	Common dimensions						
	FD	FH	FL	FM	FT	N	G
φ12	4.5	25	45	55	5.5	15.5	M4×12
φ16	4.5	30	45	55	5.5	20	M4×12
φ20	6.6	39	48	60	8	25.5	M6×16
φ25	6.6	42	52	64	8	28	M6×16

Code	Female thread				Male thread		
	WF	A	B	a'	wf	A	B
φ12	3.5	31	22	10.5	8.5	41.5	22
φ16	3.5	31	22	12	8.5	43	22
φ20	4.5	37	24.5	14	9.5	51	24.5
φ25	5	40.5	27.5	17.5	10	58	27.5

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd

Contr

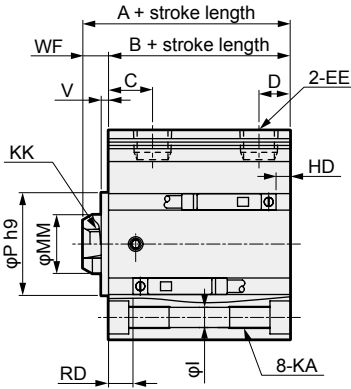
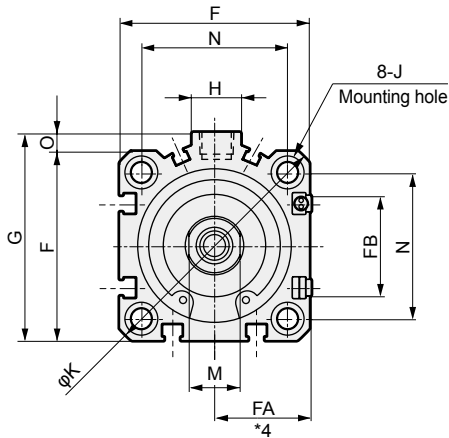
Ending

SSD2-M Series

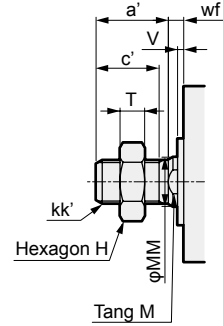
Dimensions



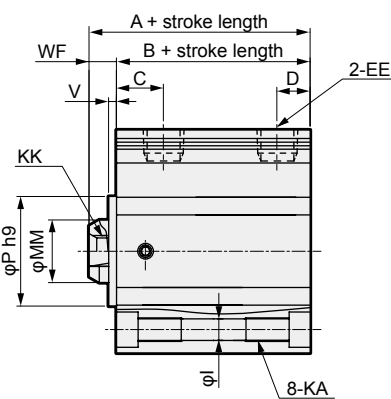
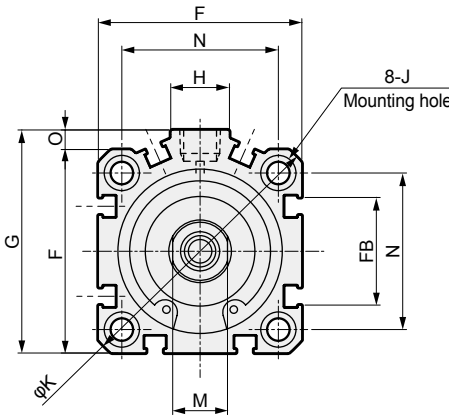
● SSD2-ML-32 to 63 (with switch)



● Rod end male thread



● SSD2-M-32 to 63 (without switch)



Code	Without switch		Common dimensions with switch													
	A ^{*1/6}	B ^{*1/6}	A ^{*1}	B ^{*1}	C ^{*8}	D ^{*8}	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA
φ32	39(49)	32(42)	49	42	18(20)	8(5.5)	Rc1/8 ^{*7}	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
φ40	36.5(46.5)	29.5(39.5)	46.5	39.5	12(11.5)	8.5(8)	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
φ50	38.5(48.5)	30.5(40.5)	48.5	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
φ63	44(54)	36(46)	54	46	13	11	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25

Code	Common dimensions with switch								Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
	KK	M	MM	N	O	P	V	WF	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}	HD	RD
φ32	M8 depth 13	14	16	34	4.5	21	2	7	4.5	19	4.5	19	5	20.5
φ40	M8 depth 13	14	16	40	5	28	2	7	7	12	7	12	8.5	13.5
φ50	M10 depth 15	18	20	50	7	35	2	8	7.5	12.5	7.5	12.5	9	14
φ63	M10 depth 15	18	20	60	7	35	2	8	12.5	13	12.5	13	14	14.5

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

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

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

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

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

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

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

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

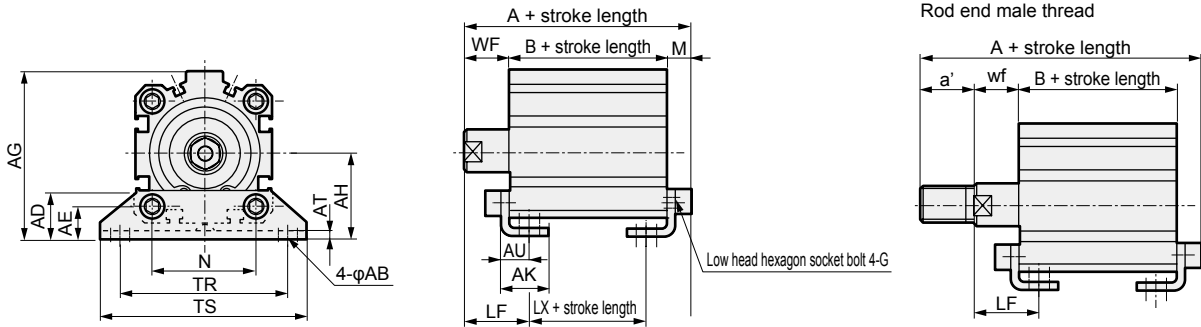
● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14 × 1.5	14	16	8	5
φ40	23.5	20.5	22	M14 × 1.5	14	16	8	5
φ50	28.5	26	27	M18 × 1.5	18	20	11	5
φ63	28.5	26	27	M18 × 1.5	18	20	11	5

Dimensions with mounting bracket



- Axial foot (LB)
SSD2-M(L)-32 to 63 -LB



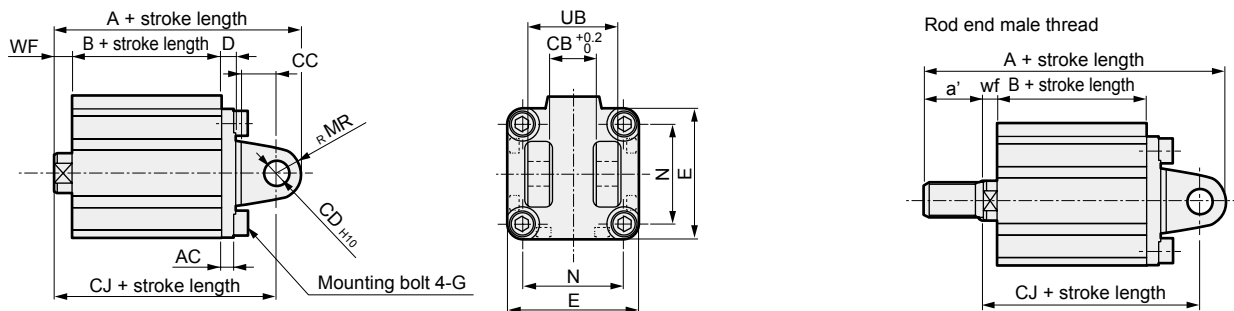
Code	Common dimensions													Female thread					
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	A	B	LX	
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2	17	25	56.2(66.2)	32(42)	16(26)	
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	17	25	53.7(63.7)	29.5(39.5)	13.5(23.5)	
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	18	29.5	56.7(66.7)	30.5(40.5)	7.5(17.5)	
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	18	31	63.2(73.2)	36(46)	10(20)	

Code	Female thread			Male thread			Without switch						With switch		
	With switch			a'	WF	LF	Without switch			With switch					
	A	B	LX				A	B	LX	A	B	LX			
φ32	66.2	42	26	23.5	15	23	77.7(87.7)	32(42)	16(26)	87.7	42	26			
φ40	63.7	39.5	23.5	23.5	15	23	75.2(85.2)	29.5(39.5)	13.5(23.5)	85.2	39.5	23.5			
φ50	66.7	40.5	17.5	28.5	15	26.5	82.2(92.2)	30.5(40.5)	7.5(17.5)	92.2	40.5	17.5			
φ63	73.2	46	20	28.5	15	28	88.7(98.7)	36(46)	10(20)	98.7	46	20			

* Dimensions in () are for stroke lengths of more than 50 mm.

* A pin and a snap ring are attached.

- Clevis bracket (CB)
SSD2-M(L)-32 to 63 -CB



Code	Common dimensions										Female thread						Male thread								
	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	Without switch			With switch			a'	wf	Without switch			With switch		
	A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ										
φ32	4.5	18.2	14	10	5	45	M6×16	10	34	36	7	69	32	59	79	42	69	23.5	14	90.5	32	57	100.5	42	67
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	68.5	29.5	58.5	78.5	39.5	68.5	23.5	5	90	29.5	56.5	100	39.5	66.5
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	80.5	30.5	66.5	90.5	40.5	76.5	28.5	5	106	30.5	63.5	116	40.5	73.5
φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	88	36	74	98	46	84	28.5	5	113.5	36	71	123.5	46	81

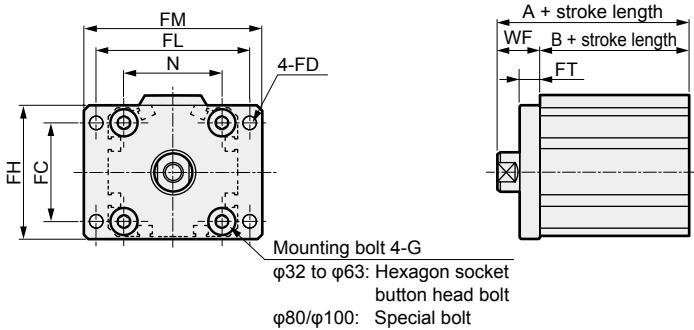
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SSD2-M Series

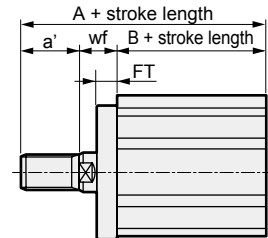


Dimensions with mounting bracket

- Rod side flange (FA)
SSD2-M(L)-32 to 63 -FA



Rod end male thread

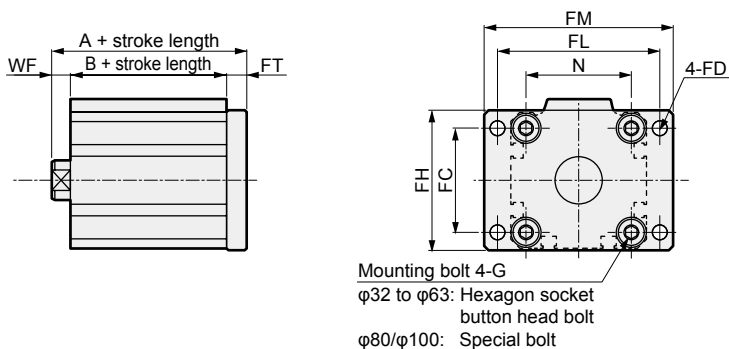


Code	Bore size (mm)	Common dimensions							Female thread					
		FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch	
											A	B	A	B
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	17		49(59)	32(42)	59	42
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	17		46.5(56.5)	29.5(39.5)	56.5	39.5
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	18		48.5(58.5)	30.5(40.5)	58.5	40.5
$\phi 63$	60	9	80	92	108	9	60	M10×25	18		54(64)	36(46)	64	46

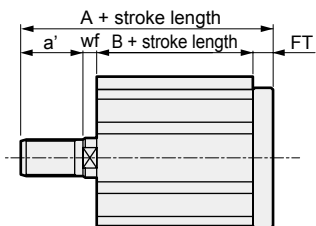
Code	Bore size (mm)	Male thread		Without switch				With switch			
		a'	wf	A		B		A		B	
				Without switch	With switch	Without switch	With switch	Without switch	With switch		
$\phi 32$	23.5	15	70.5(80.5)	32(42)	80.5	42					
$\phi 40$	23.5	15	68(78)	29.5(39.5)	78	39.5					
$\phi 50$	28.5	15	74(84)	30.5(40.5)	84	40.5					
$\phi 63$	28.5	15	79.5(89.5)	36(46)	89.5	46					

* Dimensions in () are for stroke lengths of more than 50 mm.

- Head side flange (FB)
SSD2-M(L)-32 to 63 -FB



Rod end male thread



Code	Bore size (mm)	Common dimensions							Female thread				Male thread							
		FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	7	47	32	57	42	23.5	14	68.5	32	78.5	42	
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	7	44.5	29.5	54.5	39.5	23.5	5	66	29.5	76	39.5	
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	8	47.5	30.5	57.5	40.5	28.5	5	73	30.5	83	40.5	
$\phi 63$	60	9	80	92	108	9	60	M10×25	8	53	36	63	46	28.5	5	78.5	36	88.5	46	

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

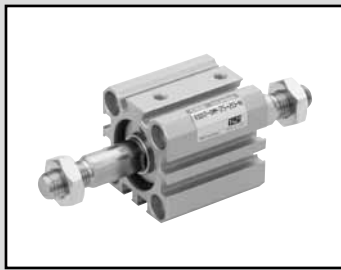
ShkAbs

FJ

FK

Spd
Contr

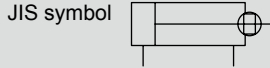
Ending



Compact cylinder double acting/double rod/rotation-stop

SSD2-DM Series

- Bore size: $\phi 12/\phi 16/\phi 20/\phi 25$
 $\phi 32/\phi 40/\phi 50/\phi 63$



Specifications

1 MPa = 10 bar

Descriptions	SSD2-DM SSD2-DML (with switch)							
	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Bore size mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)							0.1 (≈ 15 psi)
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5				Rc1/8 *1		Rc1/4	
Stroke tolerance mm	+1.0 0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Non-rotating accuracy (*2)	$\pm 1^{\circ}$		$\pm 0.7^{\circ}$			$\pm 0.8^{\circ}$		
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

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

*2: Initial value at the pull end.

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

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

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

Switch specifications (F type switch)

- 1-color/2-color display

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

Switch specifications (T type switch)

- 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire		Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T2WH/ T2WV	T3H/T3V	T3PH/T3PV (custom)	T3YH/T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		Dedicated for programmable controller		
Output method	-			NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-			10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)			100 mA or less	50 mA or less			5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272		

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

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

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100		
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	
φ12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-	-	-	-	-	-	-	-	-	-
φ16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-	-	-	-	-	-	-	-	-	-
φ20	131	187	143	222	161	238	179	254	196	269	214	285	232	301	249	316	267	332	284	347	-	-	-	-	-
φ25	147	238	162	253	178	269	194	285	210	301	226	316	242	332	257	348	275	364	288	379	-	-	-	-	-
φ32	184	299	230	344	275	390	322	436	366	481	413	527	459	573	469	612	485	628	522	665	776	785	1004	1012	
φ40	283	426	310	453	336	479	363	506	390	533	416	569	443	601	507	617	553	663	601	707	1317	1333	1475	1490	
φ50	-	-	508	702	558	751	608	803	658	851	708	901	758	950	808	1001	835	1033	911	1105	2007	2025	2252	2270	
φ63	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push/Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push/Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push/Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push/Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push/Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push/Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push/Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push/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

SSD2-DM Series

How to order

Without switch (without magnet for switch)

SSD2-DM - 12 - 5 - N - LB - I

With switch (built-in magnet for switch)

SSD2-DML - 12 - 5 - T0H - R - N - LB - I

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.

*1

*2

*3

*8

*9

F Switch quantity

G Option *4

⚠ Precautions for model No. selection

- *1 : The T2YD* switch cannot be mounted on the φ12 and φ16 bore sizes.
- *2 : The T8* switch cannot be mounted on the φ12 to φ32 bore sizes.
- *3 : The F type switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.
- *4 : Piston rod of φ12 to φ25 is stainless steel as standard. C type snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *5 : The mounting bracket is attached at shipment.
- *6 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on pages 915, 917 and 919. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *7 : "I" and "Y" cannot be selected together.
- *8 : The F type switch with L type lead wire on φ20 models cannot be selected on stroke lengths 10 mm or under.
- *9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10: Refer to pages 734 and 735 for combinations of variations/options.
- *11 : 5 m lead wire for the F type switch is a custom order product.

[Example of model No.]

SSD2-DML-12-5-T0H-R-N-LB-I

Model: Compact cylinder rotation-stop

- B** Bore size : φ12 mm
- C** Port thread : Rc thread
- D** Stroke length : 5 mm
- E** Switch model No. : Reed T0H switch
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread
- H** Mounting bracket : Axial foot
- I** Accessory : Rod eye

H Mounting bracket

*5

*6

I Accessory

*7

Code	Content														
A Model No.															
SSD2-DM	Double acting/double rod/rotation-stop														
SSD2-DML	Double acting/double rod/rotation-stop/with switch														
B Bore size (mm)															
12	φ12														
16	φ16														
20	φ20														
25	φ25														
32	φ32														
40	φ40														
50	φ50														
63	φ63														
C Port thread															
Blank	Rc thread														
NN	NPT thread (φ32 and over) (custom order product)														
GN	G thread (φ32 and over) (custom order product)														
D Stroke length (mm)															
Refer to the stroke length table on the following page.															
E Switch model No.															
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire	Bore size									
						AC	DC	12	16	20	25	32	40	50	63
Straight	L-shaped	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
						●	●	●	●	●	●	●	●	●	●
F2S*	F3S*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
						●	●	●	●	●	●	●	●	●	●
F2H*	F2V*	Proximity	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●
F3H*	F3V*					●	●	●	●	●	●	●	●	●	●
F3PH*	F3PV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
F2YH*	F2YV*					●	●	●	●	●	●	●	●	●	●
F3YH*	F3YV*	Proximity	●	2-color display	3-wire	●	●	●	●	●	●	●	●	●	●
T0H*	T0V*					●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	●	Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*					●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*					●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*					●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*					●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	●	2-color display	3-wire	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*					●	●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	●	2-color display for AC magnetic field	2-wire	●	●	●	●	●	●	●	●	●	●
T2YDT*	-					●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Reed	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●
						●	●	●	●	●	●	●	●	●	●

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *11

F Switch quantity

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

G Option

Blank	Rod end female thread
N	Rod end male thread
M *4	Piston rod material (stainless steel) (custom order (φ32 to φ63))

H Mounting bracket

Blank	Without mounting bracket
LB	Axial foot
FA	Rod side flange

I Accessory (available when rod end male thread "N" is selected)

I	Rod eye
Y	Rod clevis (pin and snap ring attached)

[Stroke length table]

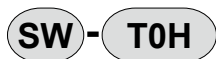
Stroke length (mm)	Applicable bore size								
	12	16	20	25	32	40	50	63	
Standard stroke length	5	●	●	●	●	●	●		
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●
	40			●	●	●	●	●	●
	45			●	●	●	●	●	●
	50			●	●	●	●	●	●
	75					●	●	●	●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

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

Refer to page 908 for the min. stroke length with switch.

*2: Available only for more than 50 mm stroke length.

How to order switch



Switch model No.
(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ12	φ16	φ20	φ25	φ32	φ40	φ50
Mounting bracket							
Foot (LB)	SSD2-LB-12	SSD2-LB-16	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50
Flange (FA)	SSD2-FA-12	SSD2-FA-16	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50
Bore size (mm)	φ63						
Mounting bracket							
Foot (LB)	SSD2-LB-63						
Flange (FA)	SSD2-FA-63						

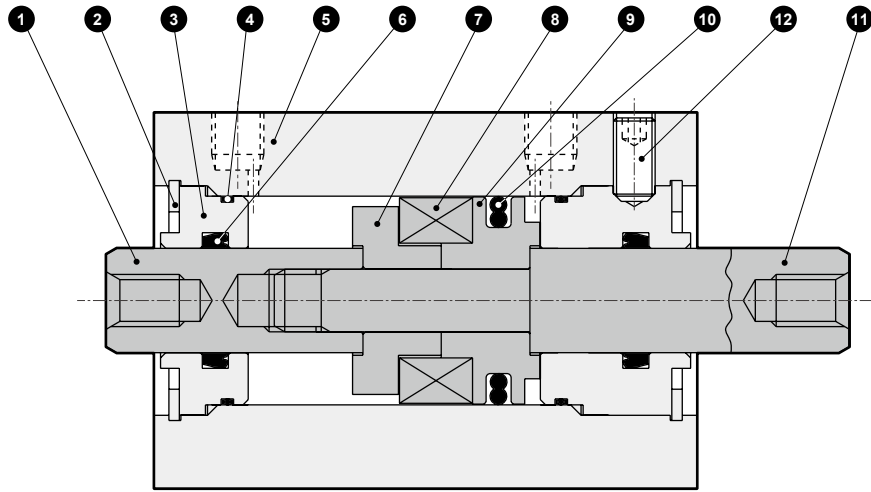
*1: The foot mounting bracket is provided as 2 pcs./set.

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

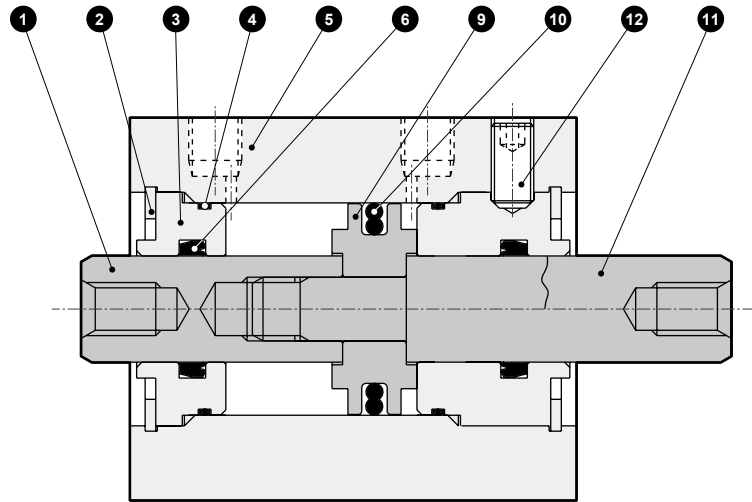
SSD2-DM Series

Internal structure and parts list (φ12 to φ25)

● SSD2-DML-12 to 25 (double acting/double rod/rotation-stop/with switch)



● SSD2-DM-12 to 25 (double acting/double rod/rotation-stop)



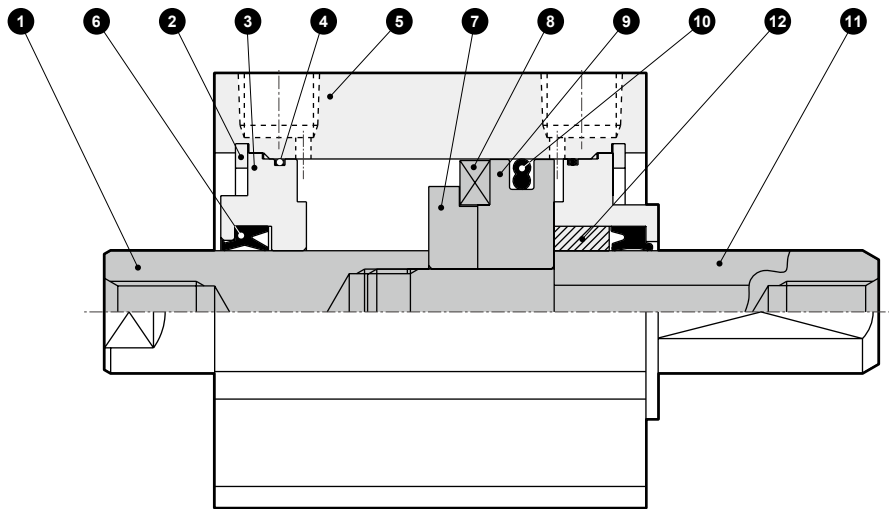
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Stainless steel	Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile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

Repair parts list

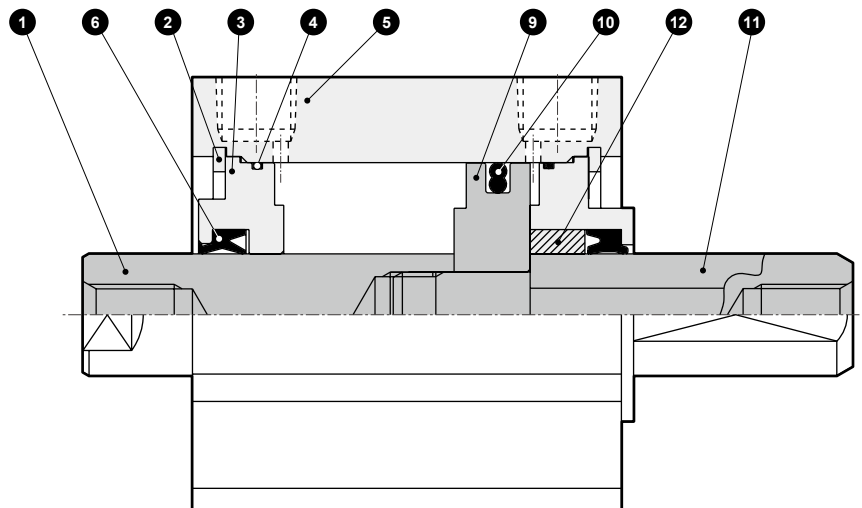
Bore size (mm)	Kit No.	Repair parts No.
φ12	SSD2-DM-12K	4 6 10
φ16	SSD2-DM-16K	
φ20	SSD2-DM-20K	
φ25	SSD2-DM-25K	

Internal structure and parts list (φ32 to φ63)

- SSD2-DML-32 to 63 (double acting/double rod/rotation-stop/with switch)



- SSD2-DM-32 to 63 (double acting/double rod/rotation-stop)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	φ32: Chromate
2	C type snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Piston rod B	Steel	Industrial chrome plating
6	Rod packing	Nitrile rubber		12	Bush	Oil impregnated bearing alloy	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ32	SSD2-DM-32K	4 6 10
φ40	SSD2-DM-40K	
φ50	SSD2-DM-50K	
φ63	SSD2-DM-63K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

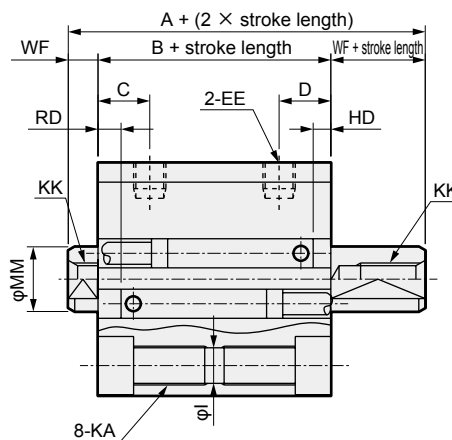
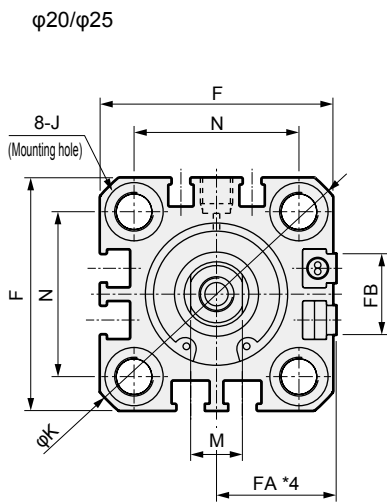
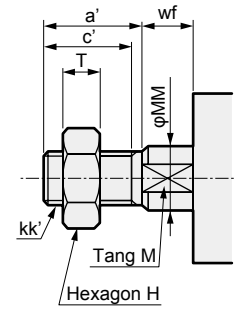
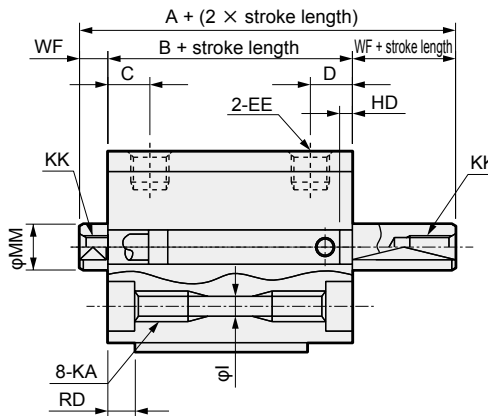
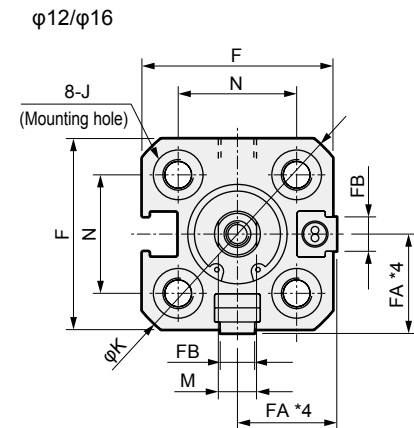
Ending

SSD2-DM Series

Dimensions

● SSD2-DML-12 to 25 (with switch)

● Rod end male thread



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

Code	Common dimensions with switch																
	A	B	C	D	EE	F	FA *4	FB	I	J	K	KA	KK	M	MM	N	WF
φ12	39	32	5.5	10.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	39	32	5.5	10.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
φ20	50	41	8	13	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	54	44	11	16	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V *6		Proximity T2H/T2V, T3H/T3V *6		Proximity T2WH/T2WV, T3WH/T3WV *6		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S								
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD							
φ12	10	2.5	10	2.5	11.5	4											
φ16	10	2	10	2	11.5	3.5											
φ20	14.5	6.5	14.5	6.5	16	8	19	12	18	11							
φ25	16.5	9.5	16.5	9.5	18	11	20	13	19	12							

*1 : Only F type switch is available for the φ20 or φ25 piping port surface.

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

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

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

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

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

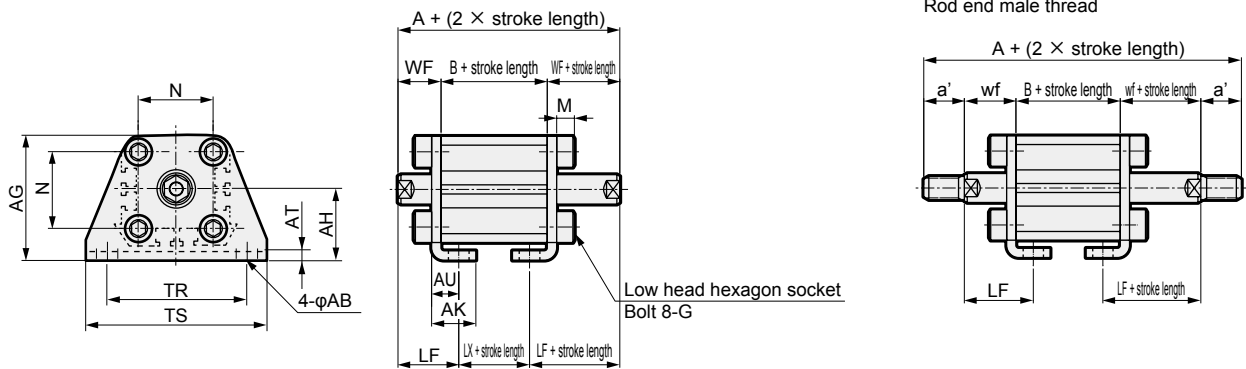
*7 : The RD side can be identified with a mark on the port surface of the body.

● Dimensions of rod end male thread part

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

Dimensions with mounting bracket

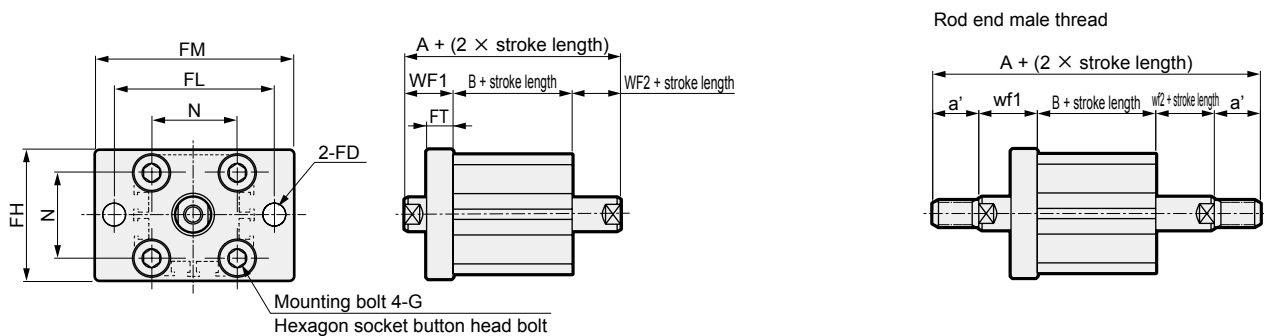
- Axial foot (LB) with switch
SSD2-DML-12 to 25 -LB



Code	Common dimensions										
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Female thread					Male thread					
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	59	32	15	10.5	13.5	19.5	80	32	15
φ16	13.5	19.5	59	32	15	12	13.5	19.5	83	32	15
φ20	14.5	20.5	70	41	19	14	14.5	20.5	98	41	19
φ25	15	22.5	74	44	19	17.5	15	22.5	109	44	19

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



Code	Common dimensions							Female thread				Male thread				
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF1	WF2	A	B	a'	wf1	wf2	A	B
φ12	4.5	25	45	55	5.5	15.5	M4×12	13.5	3.5	49	32	10.5	13.5	3.5	70	32
φ16	4.5	30	45	55	5.5	20	M4×12	13.5	3.5	49	32	12	13.5	3.5	73	32
φ20	6.6	39	48	60	8	25.5	M6×16	14.5	4.5	60	41	14	14.5	4.5	88	41
φ25	6.6	42	52	64	8	28	M6×16	15	5	64	44	17.5	15	5	99	44

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

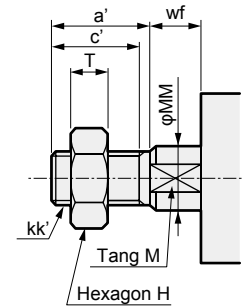
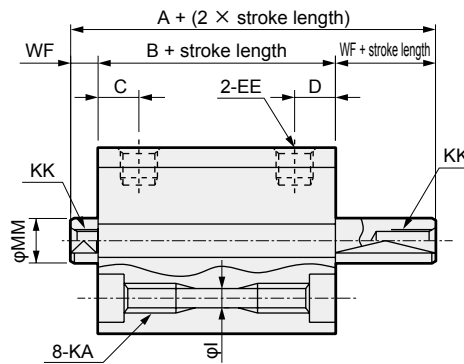
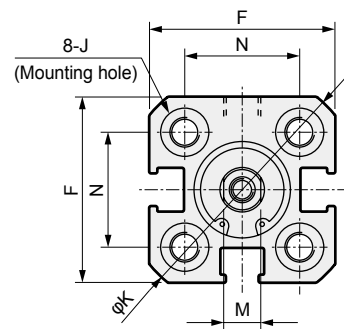
SSD2-DM Series

Dimensions

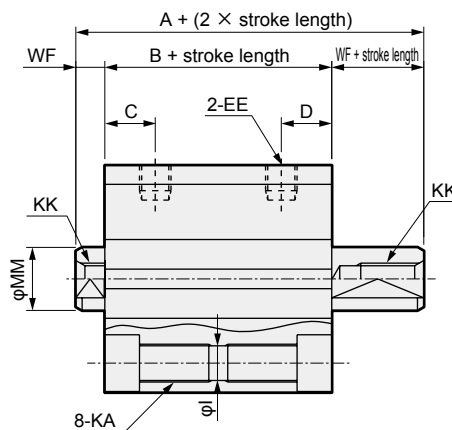
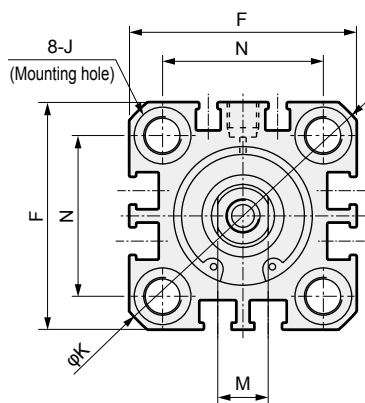
● SSD2-DM-12 to 25 (without switch)

● Rod end male thread

φ12/φ16



φ20/φ25



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

Code	Dimensions without switch and common dimensions														
	A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
φ12	34	27	5.5	10.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
φ16	34	27	5.5	10.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
φ20	40	31	8	13	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	44	34	11	16	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

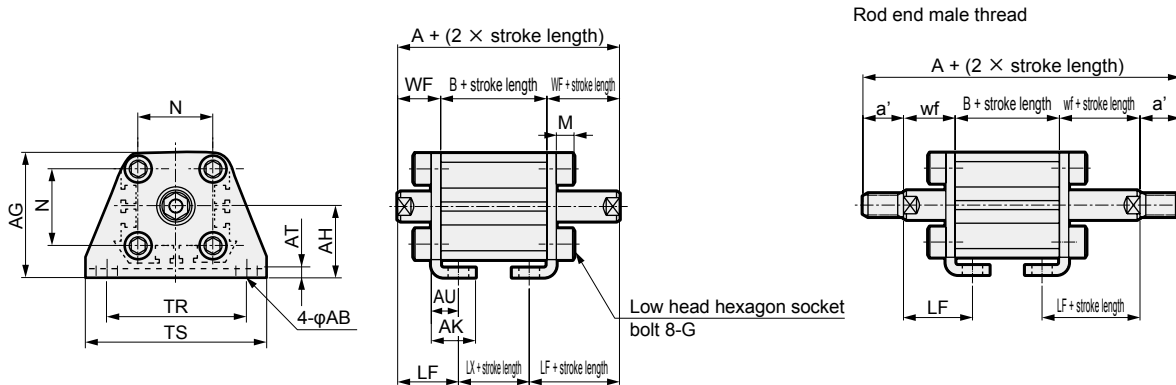
● Dimensions of rod end male thread part

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

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

Dimensions with mounting bracket

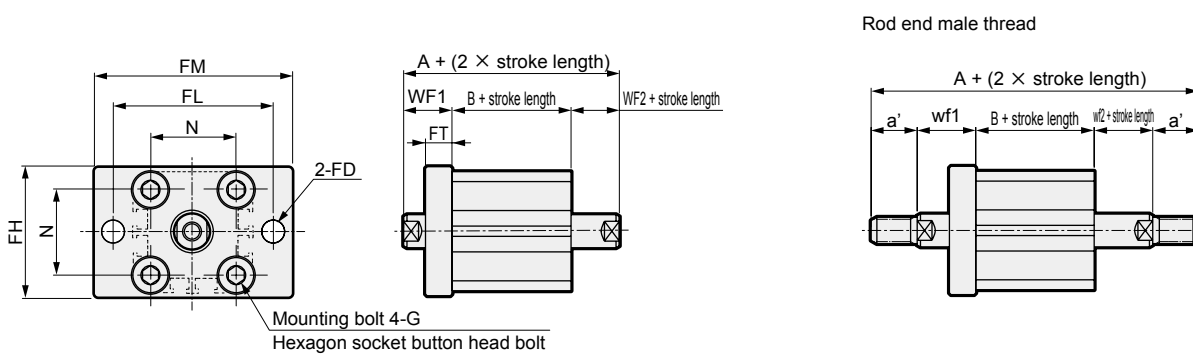
- Axial foot (LB) without switch
SSD2-DM-12 to 25 -LB



Code	Common dimensions										
Bore size (mm)	AB	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ12	5	29.5	17	12.5	2	8	M4×10	15.5	34	44	4.8
φ16	5	33.5	19	13	2	8	M4×10	20	38	48	4.8
φ20	7	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2
φ25	7	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2

Code	Female thread					Male thread					
Bore size (mm)	WF	LF	A	B	LX	a'	wf	LF	A	B	LX
φ12	13.5	19.5	54	27	15	10.5	13.5	19.5	75	27	15
φ16	13.5	19.5	54	27	15	12	13.5	19.5	78	27	15
φ20	14.5	20.5	60	31	19	14	14.5	20.5	88	31	19
φ25	15	22.5	64	34	19	17.5	15	22.5	99	34	19

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



Code	Common dimensions							Female thread				Male thread				
Bore size (mm)	FD	FH	FL	FM	FT	N	G	WF1	WF2	A	B	a'	wf1	wf2	A	B
φ12	4.5	25	45	55	5.5	15.5	M4×12	13.5	3.5	44	27	10.5	13.5	3.5	65	27
φ16	4.5	30	45	55	5.5	20	M4×12	13.5	3.5	44	27	12	13.5	3.5	68	27
φ20	6.6	39	48	60	8	25.5	M6×16	14.5	4.5	50	31	14	14.5	4.5	78	31
φ25	6.6	42	52	64	8	28	M6×16	15	5	54	34	17.5	15	5	89	34

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

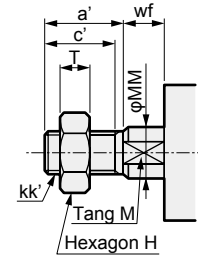
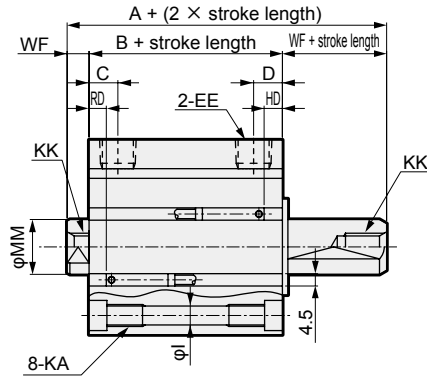
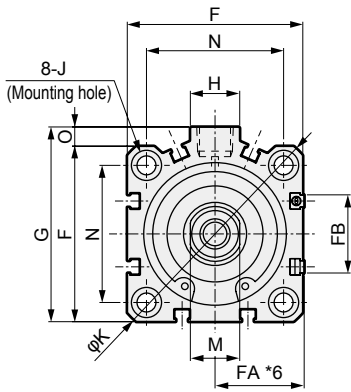
SSD2-DM Series

Dimensions

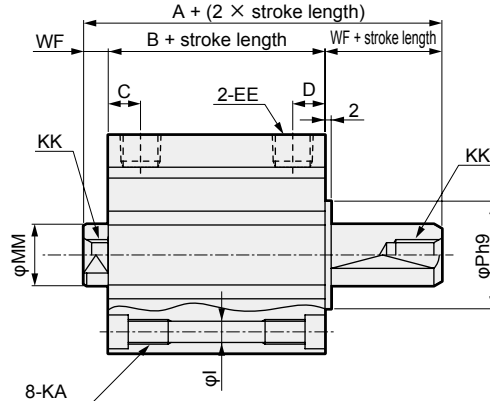
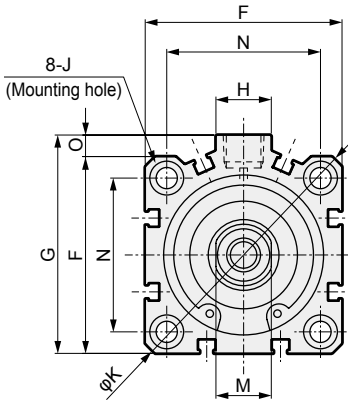


● SSD2-DML-32 to 63 (with switch)

● Rod end male thread



● SSD2-DM-32 to 63 (without switch)



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

Code	Without switch		Common dimensions with switch														
	A ^{*2,*8}	B ^{*3,*8}	A ^{*2}	B ^{*3}	C ^{*10}	D ^{*10}	EE ^{*9}	F	FA ^{*6}	FB	G	H	I	J	K	KA	KK
φ32	53.5(63.5)	39.5(49.5)	63.5	49.5	8(5.5)	18(20)	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
φ40	54(64)	40(50)	64	50	12	12	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	56.5(66.5)	40.5(50.5)	66.5	50.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	58(68)	42(52)	68	52	13	13	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15

Code	Common dimensions with switch						Switch dimensions					
	M	MM	N	O	P	WF	HD ^{*4}	RD ^{*4}	HD ^{*4}	RD ^{*4}	HD	RD
φ32	14	16	34	4.5	21	7	20	9	20	9	21.5	10.5
φ40	14	16	40	5	28	7	16.5	12	16.5	12	18	13.5
φ50	17	20	50	7	35	8	16.5	12.5	16.5	12.5	18	14
φ63	17	20	60	7	35	8	18	13	18	13	19.5	14.5

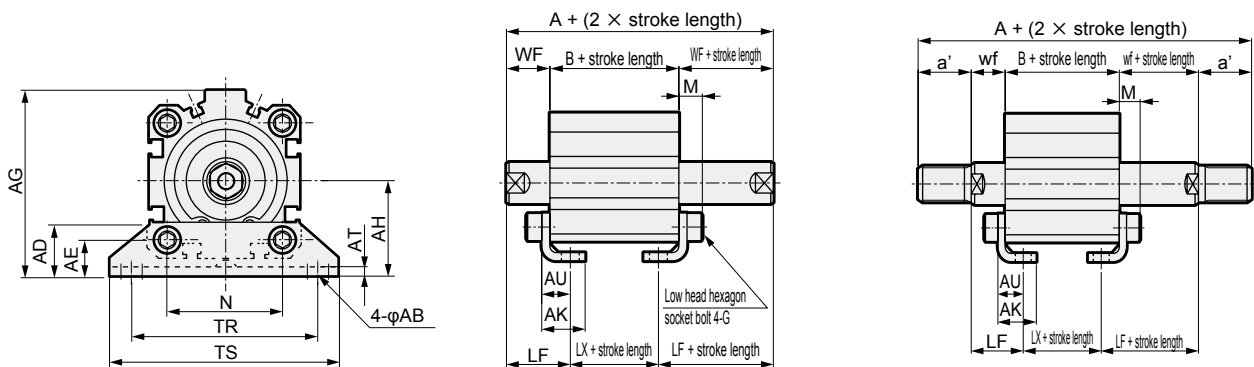
- *1 : Custom stroke length is available only for more than 50 mm stroke lengths.
- *2 : To calculate A + (2 x stroke length) when using a custom stroke length, apply "A + next longer standard stroke length + custom stroke length". (Example) If the custom stroke length is 70 mm, apply "A + standard stroke length 75 mm + custom stroke length 70 mm".
- *3 : To calculate B + stroke length when using custom stroke length, apply the next longer standard stroke length instead of the custom stroke length. (Example) If the custom stroke length is 70 mm, apply the standard stroke length 75 mm.
- *4 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *5 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the radial lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *8 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.
- *9 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.
- *10 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.
- *11 : The RD side can be identified with a mark on the port surface of the body.

● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5

Dimensions with mounting bracket

- Axial foot (LB)
SSD2-DM(L)-32 to 63-LB

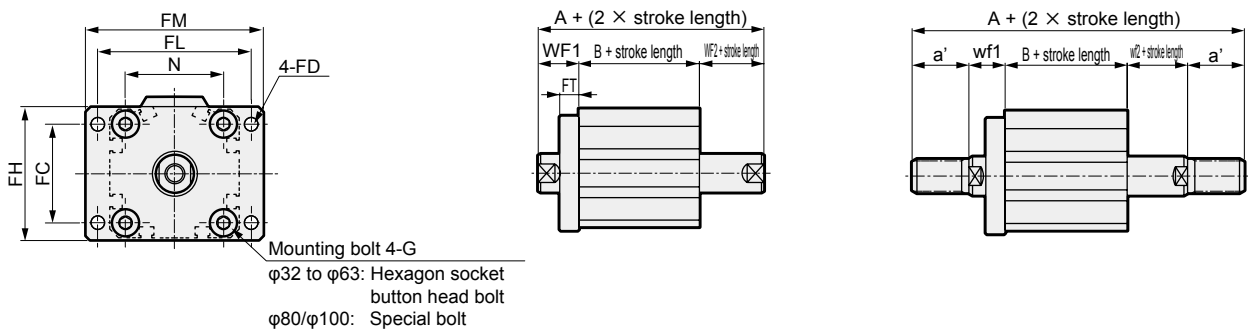


Code	Common dimensions												
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2

Code	Female thread						Male thread										
	WF	LF	Without switch			With switch			a'	wf	LF	Without switch			With switch		
A			B	LX	A	B	LX	A				B	LX	A	B	LX	
φ32	17	25	64.5(74.5)	30.5(40.5)	14.5(24.5)	74.5	40.5	24.5	23.5	15	23	107.5(117.5)	30.5(40.5)	14.5(24.5)	117.5	40.5	24.5
φ40	17	25	74(84)	40(50)	24(34)	84	50	34	23.5	15	23	117(127)	40(50)	24(34)	127	50	34
φ50	18	29.5	76.5(86.5)	40.5(50.5)	17.5(27.5)	86.5	50.5	27.5	28.5	15	26.5	127.5(137.5)	40.5(50.5)	17.5(27.5)	137.5	50.5	27.5
φ63	18	31	78(88)	42(52)	16(26)	88	52	26	28.5	15	28	129(139)	42(52)	16(26)	139	52	26

* Dimensions in () are for stroke lengths of more than 50 mm.

- Rod side flange (FA)
SSD2-DM(L)-32 to 63-FA

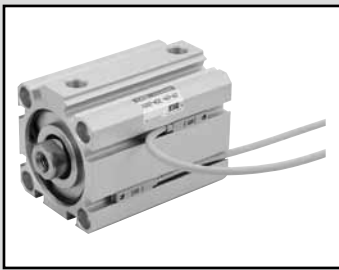


Code	Common dimensions							
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G
φ32	34	5.5	48	56	65	8	34	M6×16
φ40	40	5.5	54	62	72	8	40	M6×16
φ50	50	6.6	67	76	89	9	50	M8×20
φ63	60	9	80	92	108	9	60	M10×25

Code	Female thread						Male thread						
	WF1	WF2	Without switch		With switch		a'	wf1	wf2	Without switch		With switch	
A			B	A	B	A				B	A	B	
φ32	17	7	54.5(64.5)	30.5(40.5)	64.5	40.5	23.5	15	5	97.5(107.5)	30.5(40.5)	107.5	40.5
φ40	17	7	64(74)	40(50)	74	50	23.5	15	5	107(117)	40(50)	117	50
φ50	18	8	66.5(76.5)	40.5(50.5)	76.5	50.5	28.5	15	5	117.5(127.5)	40.5(50.5)	127.5	50.5
φ63	18	8	68(78)	42(52)	78	52	28.5	15	5	119(129)	42(52)	129	52

* Dimensions in () are for stroke lengths of more than 50 mm.

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



Compact cylinder double acting/single rod/rubber scraper

SSD2-G Series

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



Specifications

Descriptions	SSD2-G SSD2-GL (with switch)							
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)				0.1 (≈ 15 psi, 1 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5		Rc1/8 *1		Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+1.0}$ 0							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	None							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

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

Stroke length

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

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

Min. stroke length with switch (2 switches)

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

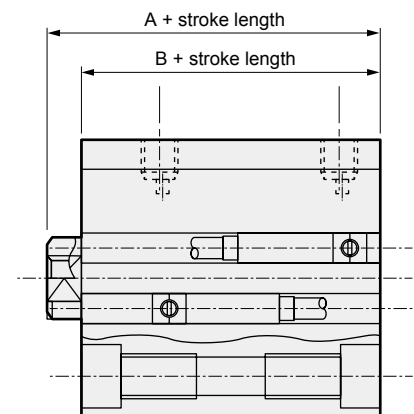
1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

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

Custom stroke length

● SSD2 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-G-32-38 A +2 mm spacer is added to the SSD2-G-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63 mm.	



Switch specifications (F type switch)

● 1-color/2-color display

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

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire	
	T1H/T1V	T2H/T2V T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		Dedicated for programmable controller	
Output method	-		NPN output				PNP output				-		-			
Pwr. supp. V.	-		10 to 28 VDC				-				-				-	
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272			

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

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

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

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

Cylinder weight table

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
φ25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
φ32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
φ40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
φ50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
φ63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
φ80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
φ100	-	-	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	Working pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²	
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²	
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²	
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²	
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²	
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²	
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³	
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³	
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³	
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³	
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³	
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³	
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³	
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³	
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³	
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³	

SSD2-G Series

How to order

Without switch (without magnet for switch)

SSD2-G - **32** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD2-GL - **32** - **10** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Stroke length

D Switch model No.

*1
*2
*5
*6

E Switch quantity

F Option

G Mounting bracket
*3
*8

⚠ Precautions for model No. selection

- *1 : The T8* switch cannot be mounted on the φ20 to φ32 bore sizes.
- *2 : The F type switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.
- *3 : The mounting bracket is attached at shipment.
- *4 : "I" and "Y" cannot be selected together.
- *5 : The F type switch with L type lead wire on φ20 models cannot be selected on stroke lengths of 15 mm or under.
- *6 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *7 : 5 m lead wire for the F type switch is a custom order product.
- *8 : The structure of bore sizes φ20 to φ32 does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Assembly before shipment is available as a custom order.

[Example of model No.]

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

Model: Compact cylinder rubber scraper

- B** Bore size : φ20 mm
- C** Stroke length : 10 mm
- D** Switch model No.: Reed T0H switch/
Lead wire length 1 m
- E** Switch quantity : 1 on rod side
- F** Option : Rod end male thread
- G** Mounting bracket: Axial foot
- H** Accessory : Rod eye

H Accessory
*4

Code	Content
A Model No.	
SSD2-G	Double acting/single rod/rubber scraper
SSD2-GL	Double acting/single rod/rubber scraper/with switch

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

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

Lead wire		Contact	Voltage AC DC	Display	Lead wire	Bore size									
Straight	L-shaped					20	25	32	40	50	63	80	100		
F2S*		Proximity	●	1-color display	2-wire	●	●								
F3S*					3-wire	●	●								
F2H*	F2V*	Proximity	●	1-color display (PNP output) (custom)	2-wire	●	●								
F3H*	F3V*				3-wire	●	●								
F3PH*	F3PV*	Proximity	●	2-color display	3-wire	●	●								
F2YH*	F2YV*				2-wire	●	●								
F3YH*	F3YV*	Reed	●	1-color display	3-wire	●	●								
T0H*	T0V*				2-wire	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	●	Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*				2-wire	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*				3-wire	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Proximity	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*				2-wire	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*				3-wire	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	●	2-color display	3-wire	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*				2-wire	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Reed	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●
T2YDT*	-				2-wire	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Reed	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option) ^{*7}

E Switch quantity

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

F Option

Blank	Rod end female thread
N	Rod end male thread

G Mounting bracket

Blank	Without mounting bracket
LB	Axial foot (custom order product)
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange (custom order product)
FB	Head side flange

H Accessory (available when rod end male thread "N" is selected)

I	Rod eye
Y	Rod clevis (pin and snap ring attached)

[Stroke length table]

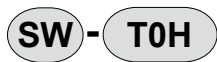
Stroke length (mm)	Applicable bore size								
	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●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

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

Refer to page 920 for the min. stroke length with switch.

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

How to order switch



Switch model No.
(Item ① on the previous page)

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80
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
Clevis bracket (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)	φ100						
Mounting bracket							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis bracket (CB)	SSD2-CB-100						

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

*2: The structure of bore sizes φ20 to φ32 does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Contact CKD for details.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

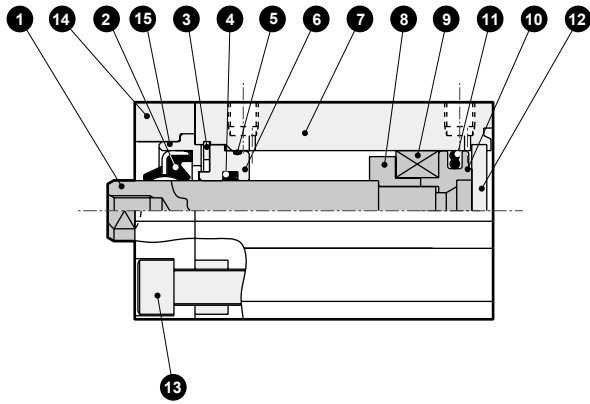
Spd
Contr

Ending

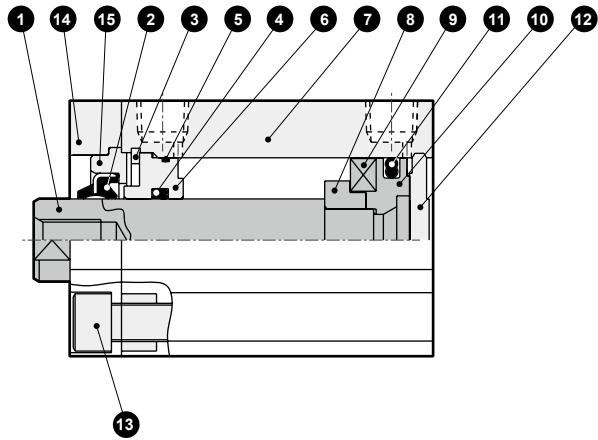
SSD2-G Series

Internal structure and parts list

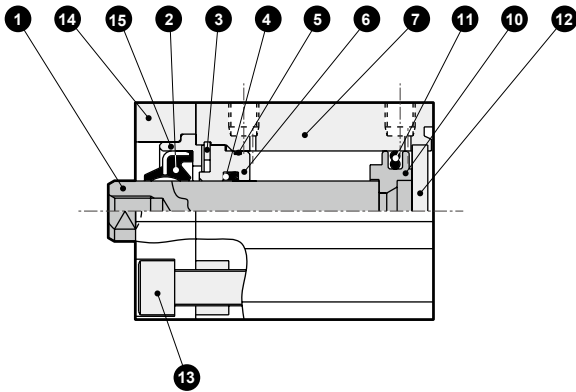
● SSD2-GL-20, 25 (double acting/single rod/rubber scraper/ with switch)



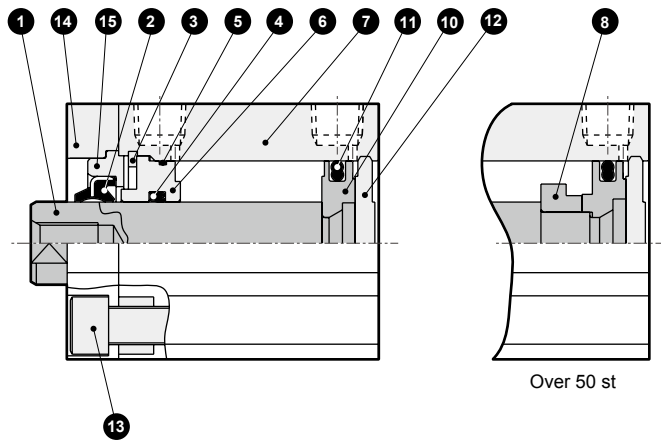
● SSD2-GL-32 (double acting/single rod/rubber scraper/ with switch)



● SSD2-G-20, 25 (double acting/single rod/rubber scraper)



● SSD2-G-32 (double acting/single rod/rubber scraper)



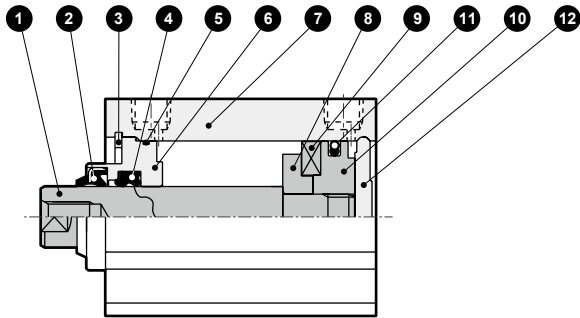
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20, φ25: Stainless steel φ32: Steel	Industrial chrome plating	9	Magnet	Plastic	
2	Scraper	Nitrile rubber		10	Piston	Aluminum alloy	Chromate
3	C type snap ring	Stainless steel		11	Piston packing	Nitrile rubber	
4	Rod packing	Nitrile rubber		12	Cover	φ20 to φ25: Stainless steel φ32: Aluminum alloy	φ32: Alumite
5	Rod metal gasket	Nitrile rubber		13	Hexagon socket head cap screw	Stainless steel	
6	Rod metal	Special aluminum	Alumite	14	Adaptor (A)	Aluminum alloy	Alumite
7	Body	Aluminum alloy	Hard alumite	15	Adaptor (B)	Aluminum alloy	Alumite
8	Spacer	Aluminum alloy	Chromate				

Repair parts list

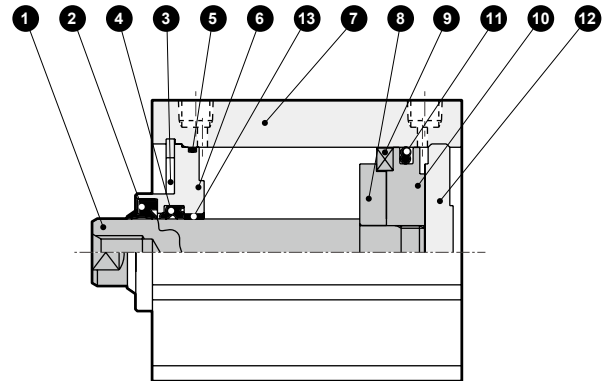
Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ20	SSD2-G-20K	2 4 5 11
φ25	SSD2-G-25K	
φ32	SSD2-G-32K	

Internal structure and parts list

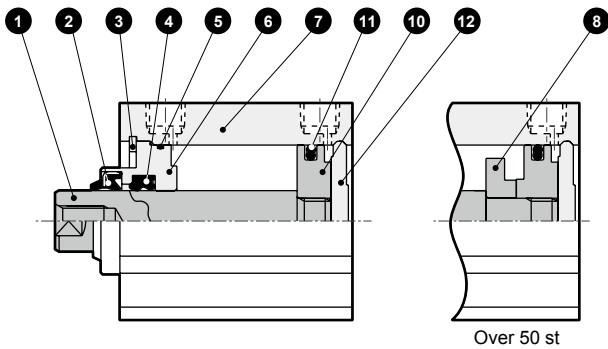
- SSD2-GL-40, 50 (double acting/single rod/rubber scraper/ with switch)



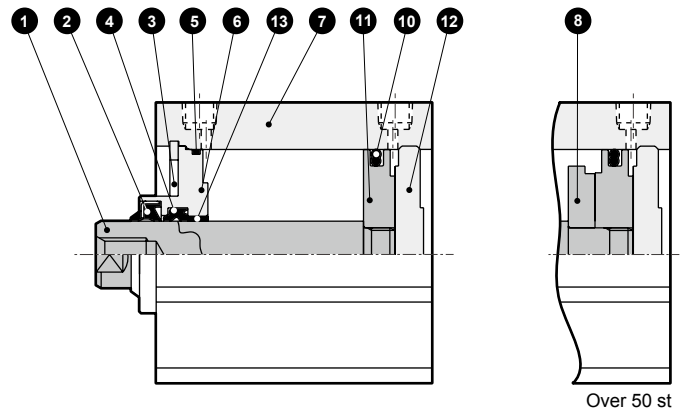
- SSD2-GL-63 to 100 (double acting/single rod/rubber scraper/ with switch)



- SSD2-G-40, 50 (double acting/single rod/rubber scraper)



- SSD2-G-63 to 100 (double acting/single rod/rubber scraper)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Body	Aluminum alloy	Hard alumite
2	Scraper	Nitrile rubber		8	Spacer	Aluminum alloy	Chromate
3	C type snap ring	Stainless steel		9	Magnet	Plastic	
4	Rod packing	Nitrile rubber		10	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		11	Piston packing	Nitrile rubber	
6	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ40, φ50: Alumite φ63 to φ100: Chromate	12	Cover	Aluminum alloy	Alumite
				13	Bush	Oiles drymet	φ63 to φ100 only

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ40	SSD2-G-40K	2 4 5 11
φ50	SSD2-G-50K	
φ63	SSD2-G-63K	
φ80	SSD2-G-80K	
φ100	SSD2-G-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

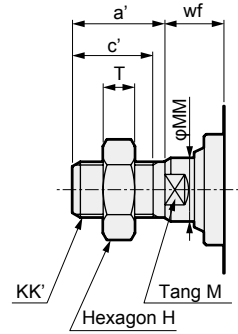
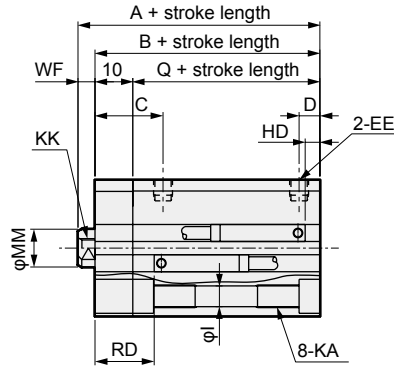
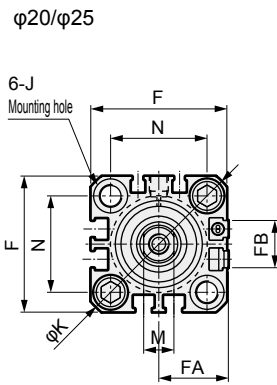
Ending

SSD2-G Series

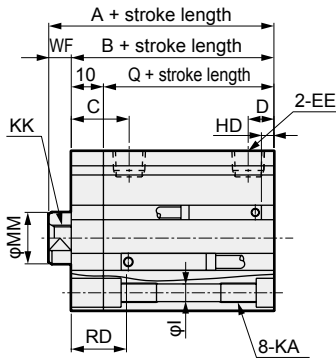
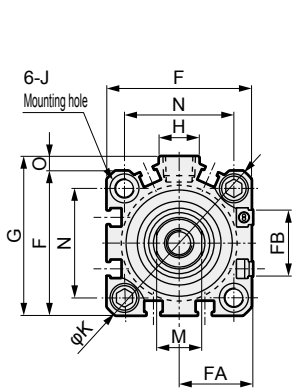
Dimensions

● SSD2-G(L)

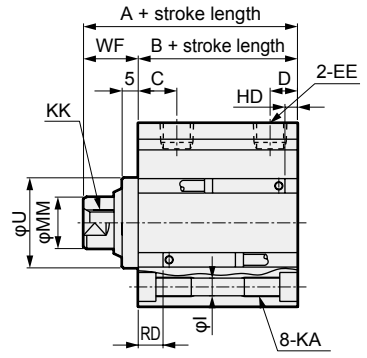
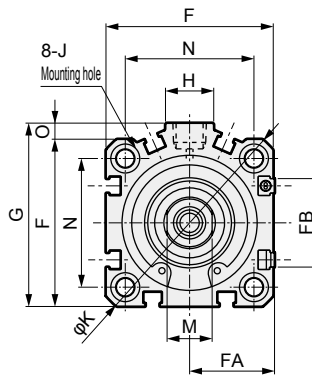
● Rod end male thread



φ32



φ40 to φ100



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

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

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

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

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

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

*7 : Dimensions in () of code J are for the rod side mounting hole.

Code	Dimensions without switch							Common dimensions with switch												
	A ^{*1, *4}		B ^{*1, *4}		Q	A ^{*1}	B ^{*1}	Q	C	D	EE ^{*5}	F	FA ^{*6}	FB	G	H	I	J	K	KA
φ20	34	29.5	19.5	44	39.5	29.5	18	5.5	M5	36	18.5(22)	12.5	-	-	5.5	9 spot face depth 5.5 (16.5)	47	M6 depth 11	M5 depth 7	
φ25	37.5	32.5	22.5	47.5	42.5	32.5	21	6	M5	40	20.5(24)	13.5	-	-	5.5	9 spot face depth 5.5 (16.5)	51	M6 depth 11	M6 depth 12	
φ32	40(50)	33(43)	23(33)	50	43	33	18	8	Rc1/8	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5 (16.5)	60	M6 depth 11	M8 depth 13	
φ40	46.5(56.5)	29.5(39.5)	-	56.5	39.5	-	12	8.5	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	
φ50	48.5(58.5)	30.5(40.5)	-	58.5	40.5	-	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	
φ63	54(64)	36(46)	-	64	46	-	13	11	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	
φ80	63.5(73.5)	43.5(53.5)	-	73.5	53.5	-	16	13	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	
φ100	75(85)	53(63)	-	85	63	-	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	

Code	Common dimensions with switch						Reed T0H/ T0V, T5H/T5V		Proximity T2H/ T2V, T3H/T3V		Proximity T2WH/T2WV/ T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/ F2YV, F3YH F3YV		Proximity F2S/F3S		Dimensions of rod end male thread part							
	M	MM	N	O	U	WF	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	a'	c'	H	KK'	M	MM	T	wf
φ20	8	10	25.5	-	-	4.5	3	17.5	3	17.5	5	19.5	7.5	22	6.5	21	14	12	13	M8	8	10	5	4.5
φ25	10	12	28	-	-	5	4	19.5	4	19.5	6	21.5	8.5	24	7.5	23	17.5	15	17	M10×1.25	10	12	6	5
φ32	14	16	34	4.5	-	7	4	19.5	4	19.5	6	21.5					23.5	20.5	22	M14×1.5	14	16	8	5
φ40	14	16	40	5	28	17	7	12	7	12	8.5	13.5					23.5	20.5	22	M14×1.5	14	16	8	15
φ50	17	20	50	7	35	18	7.5	12.5	7.5	12.5	9	14					28.5	26	27	M18×1.5	17	20	11	15
φ63	17	20	60	7	35	18	12.5	13	12.5	13	14	14.5					28.5	26	27	M18×1.5	17	20	1	15
φ80	22	25	77	5	43	20	17.5	15.5	17.5	15.5	19	17					35.5	32.5	32	M22×1.5	22	25	13	18
φ100	27	30	94	6.5	59	22	23	19.5	23	19.5	24.5	21					35.5	32.5	41	M26×1.5	27	30	16	18

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

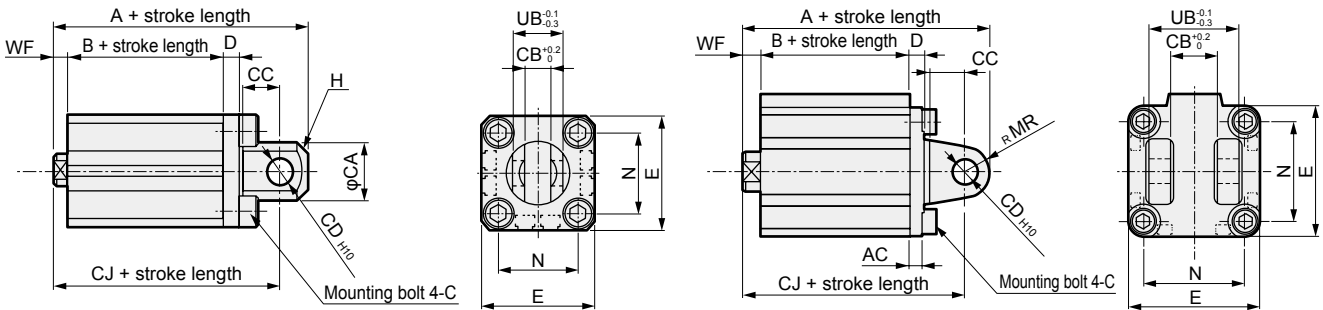
SSD2-G Series

Dimensions with mounting bracket

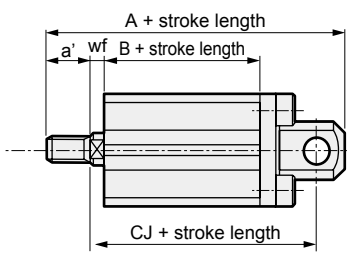
- Clevis bracket (CB)
SSD2-G(L)-20 to 100 -CB

· $\phi 20/\phi 25$

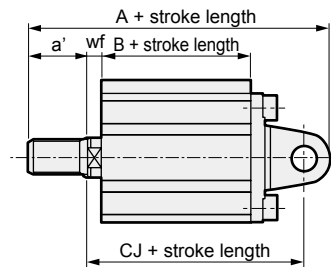
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



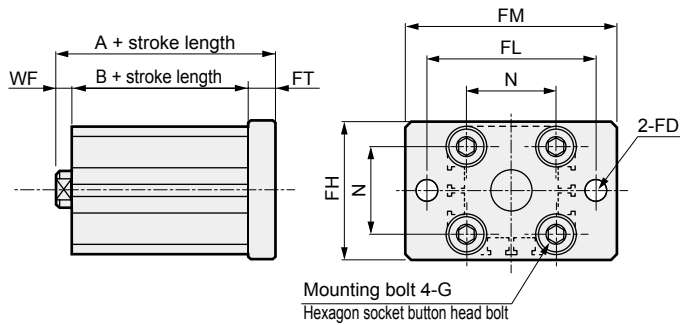
Code	Common dimensions										
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	MR	N
φ20	-	20	8.2	12	8	5	36	M6×16	-	25.5	16
φ25	-	24	10.2	14	10	5	40	M6×16	-	28	20
φ32	4.5	-	18.2	14	10	5	45	M6×16	10	34	36
φ40	5	-	18.2	14	10	6	52	M6×16	10	40	36
φ50	6	-	22.2	20	14	7	64	M8×20	14	50	44
φ63	7	-	22.2	20	14	8	77	M10×25	14	60	44
φ80	9	-	28.2	27	18	10	98	M12×40	18	77	56
φ100	12	-	32.2	31	22	13	117	M12×40	22	94	64

Code	Bore size (mm)	Female thread						Male thread								
		WF	Without switch			With switch			a'	wf	Without switch			With switch		
			A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ20	4.5	61	29.5	52	71	39.5	62	14	14.5	75	29.5	52	85	39.5	62	
φ25	5	67.5	32.5	57.5	77.5	42.5	67.5	17.5	15	85	32.5	57.5	95	42.5	67.5	
φ32	7	70	33	60	80	43	70	23.5	15	91.5	33	58	101.5	43	68	
φ40	7	78.5	29.5	68.5	88.5	39.5	78.5	23.5	15	100	29.5	66.5	110	39.5	76.5	
φ50	8	90.5	30.5	76.5	100.5	40.5	86.5	28.5	15	116	30.5	73.5	126	40.5	83.5	
φ63	8	98	36	84	108	46	94	28.5	15	123.5	36	81	133.5	46	91	
φ80	10	119.5	43.5	101.5	129.5	53.5	111.5	35.5	18	153	43.5	99.5	163	53.5	109.5	
φ100	12	142	53	120	152	63	130	35.5	18	173.5	53	116	183.5	63	126	

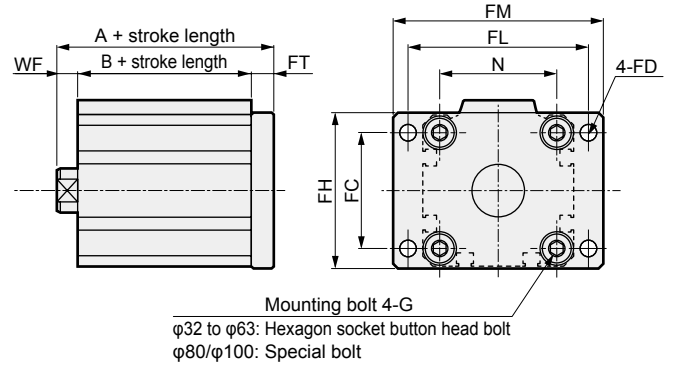
Dimensions with mounting bracket

- Head side flange (FB)
SSD2-G(L)-20 to 100 -FB

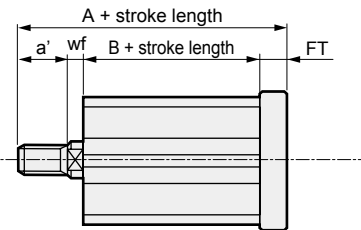
· $\phi 20/\phi 25$



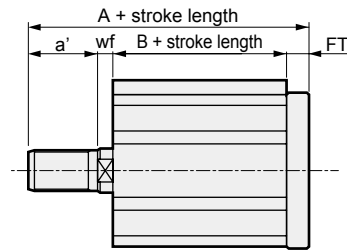
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



Code	Common dimensions								Female thread				Male thread				FC*				
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf		Without switch		With switch	
											A	B	A	B				A	B	A	B
$\phi 20$	-	6.6	39	48	60	8	25.5	M6×16	4.5	42	29.5	52	39.5	14	14.5	56	29.5	66	39.5		
$\phi 25$	-	6.6	42	52	64	8	28	M6×16	5	45.5	32.5	55.5	42.5	17.5	15	63	32.5	73	42.5		
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	7	48	33	58	43	23.5	15	69.5	33	79.5	43		
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	7	54.5	29.5	64.5	39.5	23.5	15	76	29.5	86	39.5		
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	8	57.5	30.5	67.5	40.5	28.5	15	83	30.5	93	40.5		
$\phi 63$	60	9	80	92	108	9	60	M10×25	8	63	36	73	46	28.5	15	88.5	36	98.5	46		
$\phi 80$	77	11	99	116	134	11	77	M12×40	10	74.5	43.5	84.5	53.5	35.5	18	108	43.5	118	53.5		
$\phi 100$	94	11	117	136	154	11	94	M12×40	12	86	53	96	63	35.5	18	117.5	53	127.5	63		

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

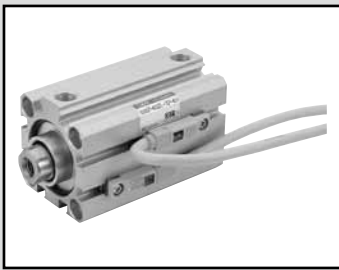
ShkAbs

FJ

FK

Spd Contr

Ending

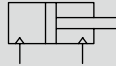


Compact cylinder Double acting/coolant proof

SSD2-G2/G3 Series

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

JIS symbol



Specifications

Descriptions	SSD2-G2/G3									
	SSD2-G2L/G3L (with switch)									
Bore size mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)									
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)					0.1 (≈ 15 psi, 1 bar)				
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)									
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5			Rc1/8 (*1)			Rc1/4		Rc3/8	
Stroke tolerance mm	$^{+1.0}$ $_0$									
Working piston speed mm/s	50 to 500					50 to 300				
Cushion	None									
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)									

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

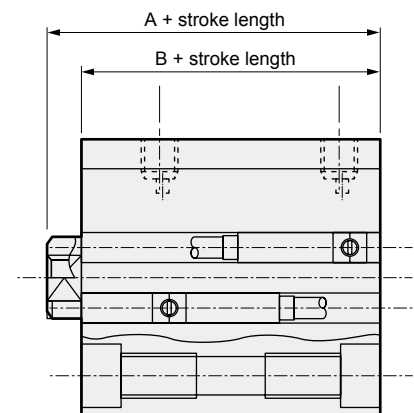
Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 16$	5/10/15/20/25/30	30	1(10) The value in () is for types with one or two switches.
$\phi 20$	5/10/15/20/25/	50	
$\phi 25$	30/35/40/45/50	100	
$\phi 32$	5/10/15/20/25/30/		
$\phi 40$	35/40/45/50/75/100	100	
$\phi 50$	10/15/20/25/		
$\phi 63$	30/35/40/45/		
$\phi 80$	50/75/100		
$\phi 100$			

Custom stroke length

● SSD2-G2/G3 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-G2-32-38 A +2 mm spacer is added to the SSD2-G2-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 73 mm.	



Switch specifications

● Proximity switch

model No.	Proximity/2-wire		Proximity/3-wire	
	T2YLH/T2YLV		T3YLH/T3YLV	
Descriptions				
Applications	Dedicated for programmable controller		Programmable controller, relay	
Power supply voltage	-		10 to 28 VDC	
Load voltage/current	10 to 30 VDC, 5 to 20 mA *1		30 VDC or less, 50 mA or less	
Indicator lamp	Red/green LED (Lit when ON)			
Leakage current	1 mA or less		10 μA or less	
Max. shock resistance	980 m/S ²			
Weight	g 1 m:33 3 m:87 5 m:142			

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ16	62	118	73	118	83	158	94	139	105	150	116	161	-	-	-	-	-	-	-	-	-	-	-	-
φ20	108	163	120	195	133	208	146	221	158	233	171	246	184	259	197	272	210	285	223	298	-	-	-	-
φ25	151	242	166	257	182	273	198	289	214	305	229	320	245	336	261	352	293	384	292	383	-	-	-	-
φ32	230	344	252	366	274	388	296	410	317	431	339	453	361	475	383	497	427	519	426	540	487	648	707	755
φ40	301	444	328	471	354	497	381	524	408	551	434	577	461	604	487	630	540	657	540	683	625	816	890	948
φ50	-	-	513	707	555	749	597	791	639	833	682	876	734	918	766	960	890	1002	850	1044	787	1254	1307	1464
φ63	-	-	733	1012	788	1067	843	1122	898	1177	953	1232	1009	1288	1064	1343	1175	1398	1174	1453	1384	1728	1939	2003
φ80	-	-	1532	1945	1619	2032	1705	2118	1792	2203	1878	2288	1965	2377	2052	2465	2226	2552	2225	2638	2564	3071	3434	3503
φ100	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2-G2/G3 Series

How to order

Without switch (without magnet for switch)

SSD2-G2-20-30-N-LB-I

With switch (built-in magnet for switch)

SSD2-G2L-20-30-T2YLH-R-N-LB-I

A Degree of protection level

B Bore size

C Port thread

D Stroke length

E Switch model No.

*1

*6

F Switch quantity

G Option

H Mounting bracket

*2

*3

I Accessory

*4

⚠ Precautions for model No. selection

*1 : The F type switch can only be mounted on the piping port surface of bore sizes $\phi 20$ and $\phi 25$.

*2 : The mounting bracket is attached at shipment.

*3 : The structure of bore sizes $\phi 16$ to $\phi 32$ does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Assembly before shipment is available as a custom order.

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

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

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

[Example of model No.]

SSD2-G2L-32-30-T2YLH-R-N

Model: Compact cylinder

A Degree of protection level : Coolant proof scraper + packing NBR, with switch

B Bore size : $\phi 32$ mm

C Port thread : Rc thread

D Stroke length : 30 mm

E Switch model No. : Proximity switch T2YLH, lead wire 1 m

F Switch quantity : 1 on rod side

G Option : Rod end male thread

H Mounting bracket : Axial foot

Code	Content
A Degree of protection level	
G2	Coolant proof scraper + packing NBR
G3	Coolant proof scraper + packing FKM
G2L	Coolant proof scraper + packing NBR, with switch
G3L	Coolant proof scraper + packing FKM, with switch

B Bore size (mm)	
16	$\phi 16$
20	$\phi 20$
25	$\phi 25$
32	$\phi 32$
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

C Port thread	
Blank	Rc thread
NN	NPT thread ($\phi 32$ and over) (custom order product)
GN	G thread ($\phi 32$ and over) (custom order product)

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

E Switch model No.					
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire
Straight	L-shaped	Proximity	DC	2-color display	2-wire 3-wire
T2YLH*	T2YLV*				
T3YLH*	T3YLV*				
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				

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

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

H Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot (custom order product)
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange (custom order product)
FB	Head side flange

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

[Stroke length table]

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

*1: Less than 10 mm stroke length is not available.

Refer to page 931 for the min. stroke length with switch.

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

How to order switch

SW-T2YLH

Switch model No.
(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ16	φ20	φ25	φ32	φ40	φ50	φ63
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
Clevis bracket (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)	φ80	φ100					
Mounting bracket							
Foot (LB)	SSD2-LB-80	SSD2-LB-100					
Flange (FA/FB)	SSD2-FA-80	SSD2-FA-100					
Clevis bracket (CB)	SSD2-CB-80	SSD2-CB-100					

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

*2: The structure of bore sizes φ16 to φ32 does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Contact CKD for details.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

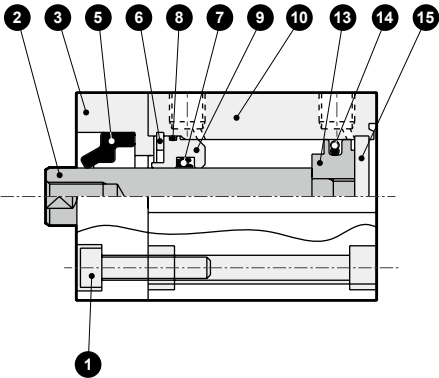
Ending

SSD2-G2/G3 Series

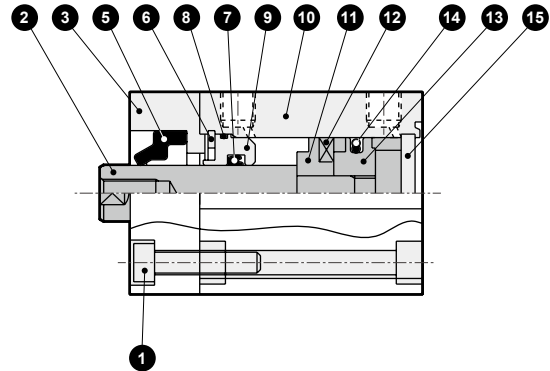
Internal structure and parts list

- Degree of protection: Packing NBR SSD2-G2/G2L
Packing FKM SSD2-G3/G3L

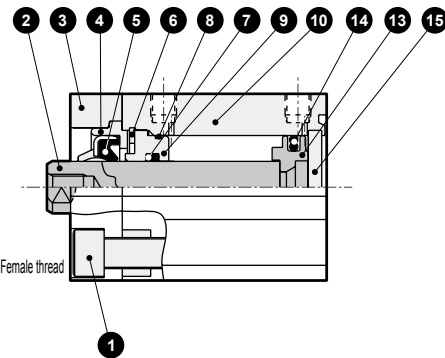
- SSD2-G₃²-16 (without switch)



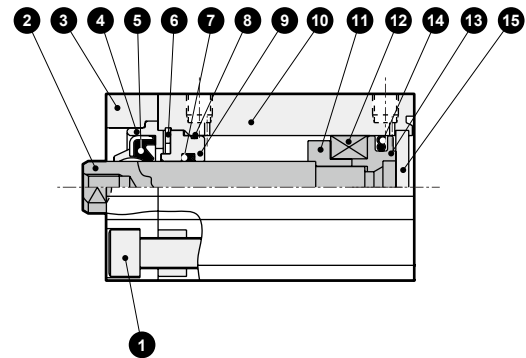
- SSD2-G₃²L-16 (with switch)



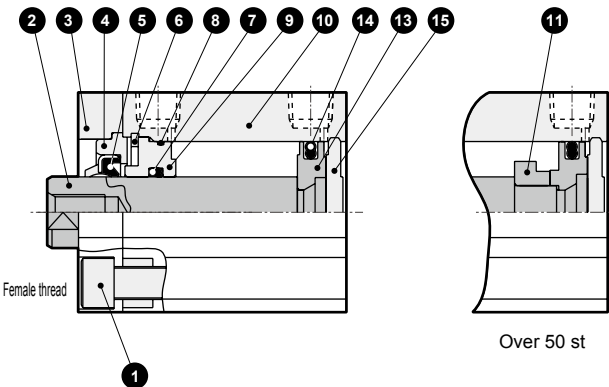
- SSD2-G₃²-20, 25 (without switch)



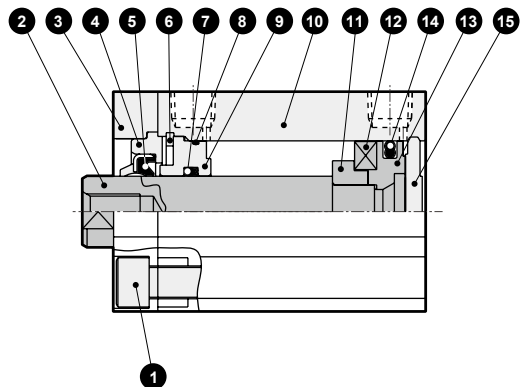
- SSD2-G₃²L-20, 25 (with switch)



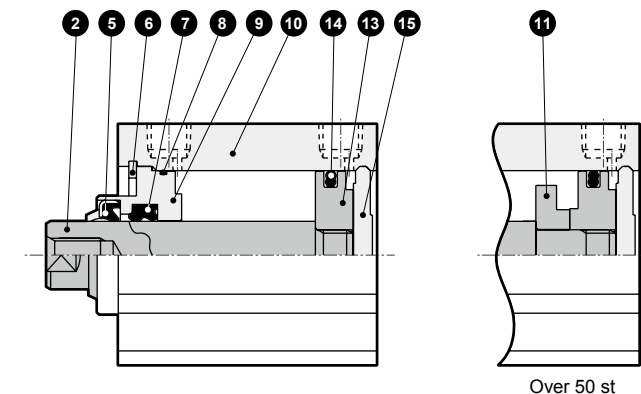
- SSD2-G₃²-32 (without switch)



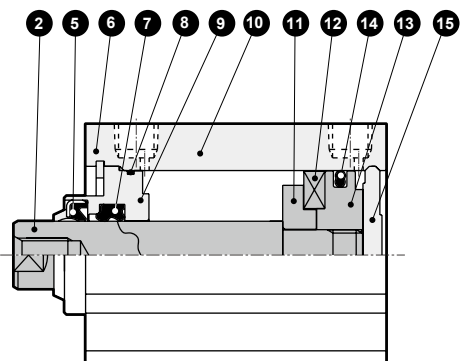
- SSD2-G₃²L-32 (with switch)



- SSD2-G₃²-40, 50 (without switch)



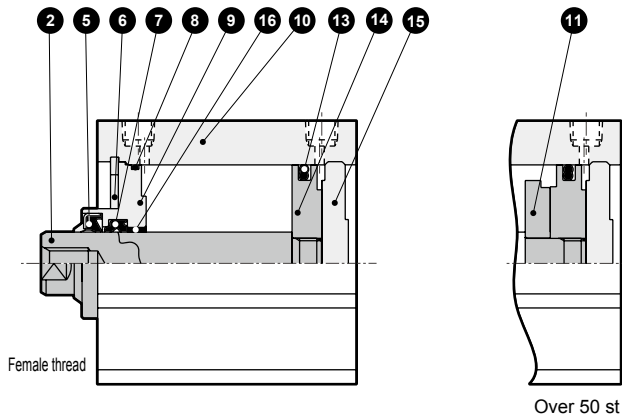
- SSD2-G₃²L-40, 50 (with switch)



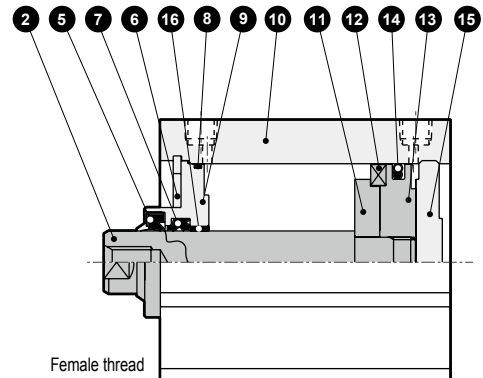
Internal structure and parts list

- Degree of protection: Packing NBR SSD2-G2/G2L
Packing FKM SSD2-G3/G3L

- SSD2-G₂-63 to 100 (without switch)



- SSD2-G₂-L-63 to 100 (with switch)



Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel	φ16 to φ32 only	9	Rod metal	φ16 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ16 to φ50: Alumite φ63 to φ100: Chromate
2	Piston rod	Stainless steel	Industrial chrome plating	10	Body	Aluminum alloy	Hard alumite
3	Adaptor (A)	Aluminum alloy	Alumite: φ16 to φ32 only	11	Spacer	Aluminum alloy	Chromate
4	Adaptor (B)	Aluminum alloy	Alumite: φ16 to φ32 only	12	Magnet	Plastic	
5	Scraper	G2	Nitrile rubber	13	Piston	Aluminum alloy	Chromate
		G3	Fluoro rubber				
6	C type snap ring	Stainless steel		14	Piston packing	G2	Nitrile rubber
7	Rod packing	G2	Nitrile rubber			G3	Fluoro rubber
		G3	Fluoro rubber				
8	Rod metal gasket	G2	Nitrile rubber	15	Cover	φ16 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	Alumite: φ32 to φ100
		G3	Fluoro rubber				
				16	Bush	Oiles drymet	φ63 to φ100 only

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ16	SSD2-G2-16K	5 7 8 14
	SSD2-G3-16K	
φ20	SSD2-G2-20K	
	SSD2-G3-20K	
φ25	SSD2-G2-25K	
	SSD2-G3-25K	
φ32	SSD2-G2-32K	
	SSD2-G3-32K	
φ40	SSD2-G2-40K	
	SSD2-G3-40K	
φ50	SSD2-G2-50K	
	SSD2-G3-50K	
φ63	SSD2-G2-63K	
	SSD2-G3-63K	
φ80	SSD2-G2-80K	
	SSD2-G3-80K	
φ100	SSD2-G2-100K	
	SSD2-G3-100K	

Note: Specify the kit No. when placing an order.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

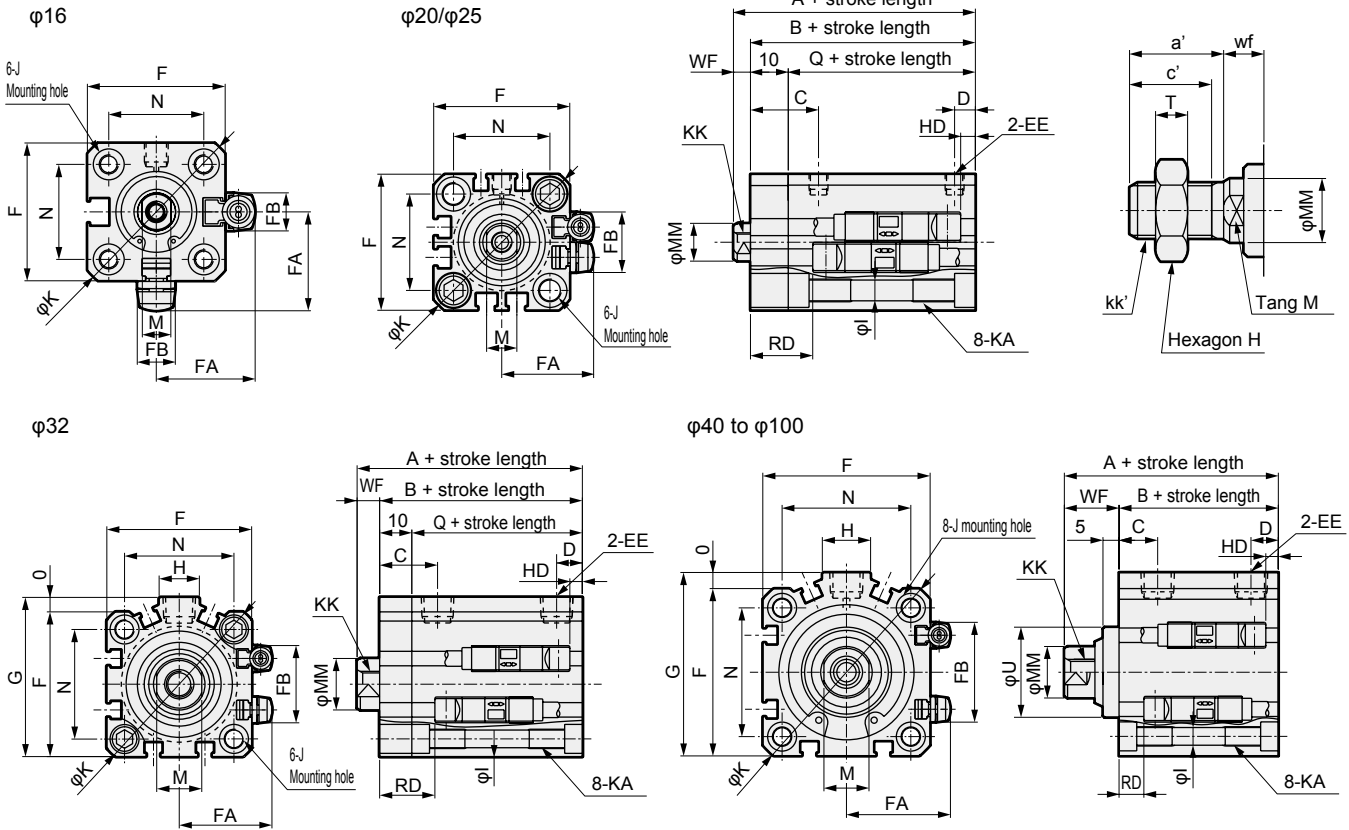
Ending

SSD2-G2/G3 Series

Dimensions

- Degree of protection: Packing NBR
SSD2-G2/G2L
- Degree of protection: Packing FKM
SSD2-G3/G3L

● Rod end male thread



- *1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *4 : Dimensions in () of codes A, B and Q are for stroke lengths of more than 50 mm.
- *5 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.
- *6 : Dimensions in () of code J are for the spot face of rod side mounting hole.

Code	Dimensions without switch			Common dimensions with switch															
	A ^{*1, *4}	B ^{*1, *4}	Q	A ^{*1}	B ^{*1}	Q	C	D	EE ^{*5}	F	FA	FB	G	H	I	J	K	KA	KK
φ16	35.5	27	17	40.5	32	22	15.5	5.5	M5	29	20.5	8	-	-	3.5	6.5 spot face depth 3.5 (13.4)	38	M4 depth 7	M4 depth 8
φ20	39	29.5	19.5	49	39.5	29.5	18	5.5	M5	36	24.5	16	-	-	5.5	9 spot face depth 5.5 (15.5)	47	M6 depth 11	M5 depth 7
φ25	42.5	32.5	22.5	52.5	42.5	32.5	21	6	M5	40	26.5	17	-	-	5.5	9 spot face depth 5.5 (15.5)	51	M6 depth 11	M6 depth 12
φ32	45(55)	33(43)	23(33)	55	43	33	18	8	Rc1/8	45	29	24	49.5	12.5	5.5	9 spot face depth 5.5 (15.5)	60	M6 depth 11	M8 depth 13
φ40	46.5(56.5)	29.5(39.5)	-	56.5	39.5	-	12	8.5	Rc1/8	52	32.5	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	48.5(58.5)	30.5(40.5)	-	58.5	40.5	-	10.5	10.5	Rc1/4	64	38.5	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	54(64)	36(46)	-	64	46	-	13	11	Rc1/4	77	45	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	63.5(73.5)	43.5(53.5)	-	73.5	53.5	-	16	13	Rc3/8	98	55.5	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	75(85)	53(63)	-	85	63	-	23	15	Rc3/8	117	65	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code	Common dimensions with switch							Proximity T2YLH,		Dimensions of rod end male thread part							
	M	MM	N	O	U	WF	T2YLV, T3YLV, T3YLV		a'	c'	H	KK'	M	MM	T	wf	
							RD	HD									
φ16	6	8	20	-	-	8.5	-	-	12	10	10	M6	6	8	3.6	8.5	
φ20	8	10	25.5	-	-	9.5	16.5	2	14	12	13	M8	8	10	5	9.5	
φ25	10	12	28	-	-	10	18.5	3	17.5	15	17	M10×1.25	10	12	6	10	
φ32	14	16	34	4.5	-	12	19	3	23.5	20.5	22	M14×1.5	14	16	8	10	
φ40	14	16	40	5	28	17	12	6.5	23.5	20.5	22	M14×1.5	14	16	8	15	
φ50	17	20	50	7	35	18	12	7.5	28.5	26	27	M18×1.5	17	20	11	15	
φ63	17	20	60	7	35	18	12.5	12.5	28.5	26	27	M18×1.5	17	20	1	15	
φ80	22	25	77	5	43	20	15	17.5	35.5	32.5	32	M22×1.5	22	25	13	18	
φ100	27	30	94	6.5	59	22	19	23	35.5	32.5	41	M26×1.5	27	30	16	18	

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

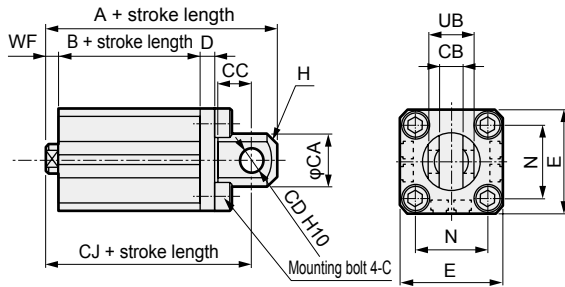
Ending

SSD2-G2/G3 Series

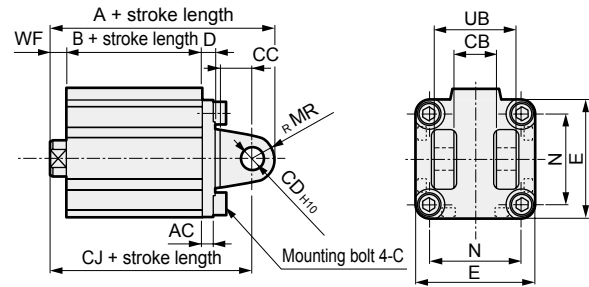
Dimensions with mounting bracket

- Clevis bracket (CB)
SSD2-G2(L)/G3(L)-16 to 100 -CB

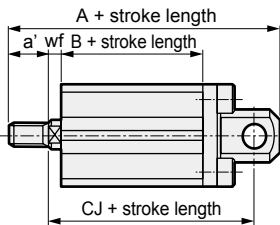
· $\phi 16$ to $\phi 25$



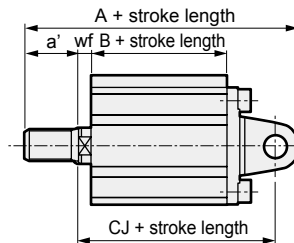
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



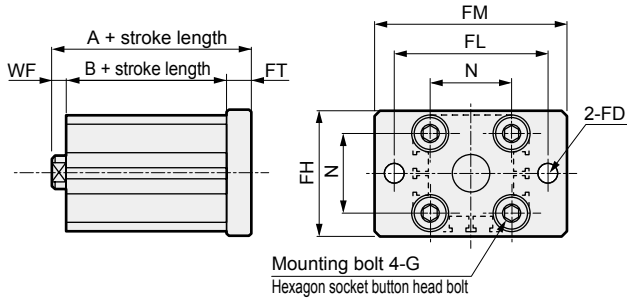
Code	Common dimensions											
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N
φ16	-	15	6.6 ^{+0.3}	8	5	5	29	M4×12	C2	-	20	12
φ20	-	20	8.2 ^{+0.2}	12	8	5	36	M6×16	C4	-	25.5	16
φ25	-	24	10.2 ^{+0.2}	14	10	5	40	M6×16	C5	-	28	20
φ32	4.5	-	18.2 ^{+0.2}	14	10	5	45	M6×16	-	10	34	36
φ40	5	-	18.2 ^{+0.2}	14	10	6	52	M6×16	-	10	40	36
φ50	6	-	22.2 ^{+0.2}	20	14	7	64	M8×20	-	14	50	44
φ63	7	-	22.2 ^{+0.2}	20	14	8	77	M10×25	-	14	60	44
φ80	9	-	28.2 ^{+0.2}	27	18	10	98	M12×40	-	18	77	56
φ100	12	-	32.2 ^{+0.2}	31	22	13	117	M12×40	-	22	94	64

Code	Bore size (mm)	Female thread						Male thread								
		WF	Without switch			With switch			a'	wf	Without switch			With switch		
			A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
φ16	8.5	56.5	27	50.5	61.5	32	55.5	12	8.5	68.5	27	50.5	73.5	32	55.5	
φ20	9.5	66	29.5	57	76	39.5	67	14	9.5	80	29.5	57	90	39.5	67	
φ25	10	72.5	32.5	62.5	82.5	42.5	72.5	17.5	10	90	32.5	62.5	100	42.5	72.5	
φ32	12	75	33	65	85	43	75	23.5	10	96.5	33	63	106.5	43	73	
φ40	17	78.5	29.5	68.5	88.5	39.5	78.5	23.5	15	100	29.5	66.5	110	39.5	76.5	
φ50	18	90.5	30.5	76.5	100.5	40.5	86.5	28.5	15	116	30.5	73.5	126	40.5	83.5	
φ63	18	98	36	84	108	46	94	28.5	15	123.5	36	81	133.5	46	91	
φ80	20	119.5	43.5	101.5	129.5	53.5	111.5	35.5	18	153	43.5	99.5	163	53.5	109.5	
φ100	22	142	53	120	152	63	130	35.5	18	173.5	53	116	183.5	63	126	

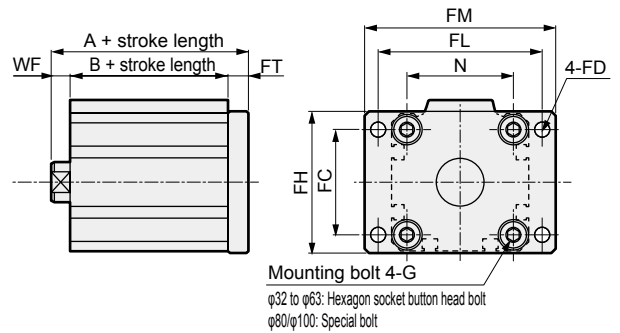
Dimensions with mounting bracket

- Head side flange (FB)
SSD2-G2(L)/G3 (L)-20 to 100-FB

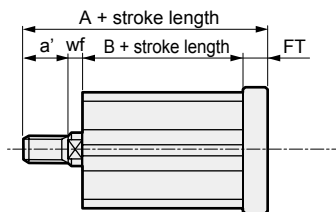
· $\phi 16$ to $\phi 25$



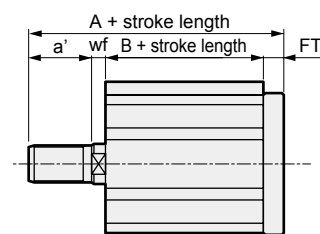
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



Code	Common dimensions												Female thread				Male thread							
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch		With switch		a'	wf	Without switch		With switch	
		A	B	A	B	A	B	A	B	A	B	A	B											
φ16	-	15	6.5	8	5	5	29	M4×12	C2	-	20	12	8.5	41	27	46	32	12	8.5	53	27	58	32	
φ20	-	20	8	12	8	5	36	M6×16	C4	-	25.5	16	9.5	47	29.5	57	39.5	14	9.5	61	29.5	71	39.5	
φ25	-	24	10	14	10	5	40	M6×16	C5	-	28	20	10	50.5	32.5	60.5	42.5	17.5	10	68	32.5	78	42.5	
φ32	4.5	-	18	14	10	5	45	M6×16	-	10	34	36	12	53	33	63	43	23.5	10	74.5	33	84.5	43	
φ40	5	-	18	14	10	6	52	M6×16	-	10	40	36	17	54.5	29.5	64.5	39.5	23.5	15	76	29.5	86	39.5	
φ50	6	-	22	20	14	7	64	M8×20	-	14	50	44	18	57.5	30.5	67.5	40.5	28.5	15	83	30.5	93	40.5	
φ63	7	-	22	20	14	8	77	M10×25	-	14	60	44	18	63	36	73	46	28.5	15	88.5	36	98.5	46	
φ80	9	-	28	27	18	10	98	M12×40	-	18	77	56	20	74.5	43.5	84.5	53.5	35.5	18	108	43.5	118	53.5	
φ100	12	-	32	31	22	13	117	M12×40	-	22	94	64	22	86	53	96	63	35.5	18	117.5	53	127.5	63	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

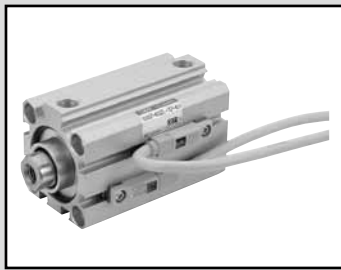
ShkAbs

FJ

FK

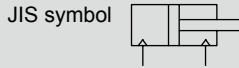
Spd Contr

Ending



Compact cylinder double acting/high load/coolant proof SSD2-KG2/KG3 Series

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



Specifications

Descriptions	SSD2-KG2/KG3									
	SSD2-KG2L/KG3L (with switch)									
Bore size mm	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)									
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)					0.1 (≈ 15 psi, 1 bar)				
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)									
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5 \times 0.8			Rc1/8			Rc1/4		Rc3/8	
Stroke tolerance mm	$+2.0$ 0									
Working piston speed mm/s	50 to 500					50 to 300				
Cushion	Rubber cushion									
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)									
Allowable absorbed energy J	0.09	0.16	0.16	0.4	0.63	0.98	1.56	2.51	3.92	

Stroke length

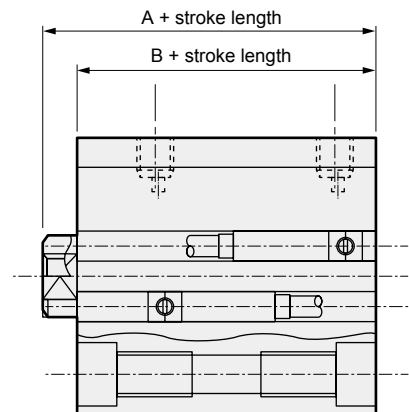
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 16$	5/10/15/20/25/30	30	1(10) The value in () is for types with one or two switches.
$\phi 20$	5/10/15/20/25/30/35/40/45/50	50	
$\phi 25$	5/10/15/20/25/30/35/40/45/50/75/100	100	
$\phi 32$	10/15/20/25/30/35/40/45/50/75/100	100	
$\phi 40$			
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

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

Custom stroke length

● SSD2-KG2/KG3 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-KG2-32-41 A +4 mm spacer is added to the SSD2-KG2-32-45 standard cylinder to create 41 mm stroke length. B + stroke length is 88 mm.	



Switch specifications

● Proximity switch

Type/model No. Descriptions	Proximity/2-wire		Proximity/3-wire	
	T2YLH/T2YLV		T3YLH/T3YLV	
Applications	Dedicated for programmable controller		Programmable controller, relay	
Power supply voltage	-		10 to 28 VDC	
Load voltage/current	10 to 30 VDC, 5 to 20 mA *1		30 VDC or less, 50 mA or less	
Indicator lamp	Red/green LED (Lit when ON)			
Leakage current	1 mA or less		10 μA or less	
Max. shock resistance	980 m/S ²			
Weight	g 1 m:33 3 m:87 5 m:142			

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

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

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ16	69	114	79	124	90	135	101	146	112	157	123	168	-	-	-	-	-	-	-	-	-	-	-	-
φ20	68	163	101	176	114	189	126	201	139	214	151	226	164	239	176	251	189	264	201	276	-	-	-	-
φ25	118	209	134	225	150	241	166	257	181	272	198	289	214	305	230	321	246	337	262	353	-	-	-	-
φ32	211	325	232	346	253	367	275	389	297	411	319	433	341	455	362	476	384	498	405	519	513	627	620	734
φ40	289	432	316	459	343	486	369	512	395	538	422	565	449	592	475	618	502	645	528	671	661	804	793	936
φ50	-	-	509	703	551	745	594	788	637	831	678	872	720	914	762	956	804	998	846	1040	1056	1250	1266	1460
φ63	-	-	727	1006	782	1061	837	1116	893	1172	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1443	1722	1718	1997
φ80	-	-	1274	1687	1361	1774	1447	1860	1534	1947	1621	2034	1708	2121	1794	2207	1881	2294	1967	2380	2400	2813	2832	3245
φ100	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01 × 10 ²	1.21 × 10 ²	1.41 × 10 ²	1.61 × 10 ²	1.81 × 10 ²	2.01 × 10 ²
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06 × 10 ²	1.21 × 10 ²	1.36 × 10 ²	1.51 × 10 ²
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2-KG2/KG3 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SSD2-KG2-16-30-N-LB-I

With switch (built-in magnet for switch)

SSD2-KG2L-16-30-T2YLH-R-N-LB-I

A Degree of protection level

B Bore size

C Stroke length

D Switch model No.
*5

E Switch quantity

F Option

G Mounting bracket
*1
*2

H Accessory *3

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.

*2 : The structure of bore sizes φ16 to φ25 does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Assembly before shipment is available as a custom order.

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

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

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

[Example of model No.]

SSD2-KG2L-32-30-T2YLH-R-N-LB

Model: Compact cylinder, high load

A Degree of protection level: Coolant proof scraper + packing NBR, with switch

B Bore size : φ32 mm

C Stroke length : 30 mm

D Switch model No. : Proximity switch T2YLH, lead wire 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

G Mounting bracket : Axial foot

Code	Content				
A Degree of protection level					
KG2	High load + coolant proof scraper + packing NBR				
KG3	High load + coolant proof scraper + packing FKM				
KG2L	High load + coolant proof scraper + packing NBR, with switch				
KG3L	High load + coolant proof scraper + packing FKM, with switch				
B Bore size (mm)					
16	φ16				
20	φ20				
25	φ25				
32	φ32				
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
C Stroke length (mm)					
Refer to the stroke length table on the following page.					
D Switch model No.					
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire
Straight	L-shaped	Proximity	DC	2-color display	2-wire 3-wire
T2YLH*	T2YLV*				
T3YLH*	T2YLV*				
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
E Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
F Option					
Blank	Rod end female thread				
N	Rod end male thread				
G Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order product)				
CB	Clevis bracket (pin and snap ring attached)				
FA	Rod side flange (custom order product)				
FB	Head side flange				
H Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

How to order switch

SW-T2YLH

Switch model No.
(Item ① on the previous page)

[Stroke length table]

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

*1: Less than 10 mm stroke length is not available.

Refer to page 941 for the number of installed switches and the min. stroke length.

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

How to order mounting bracket

Bore size (mm)	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Mounting bracket									
Foot (LB)					SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)					SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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: The foot mounting bracket is provided as 2 pcs./set.

*2: The structure of bore sizes φ16 to φ25 does not permit retrofitting of the foot bracket (LB) or flange bracket (FA) on the rod side. Contact CKD for details.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

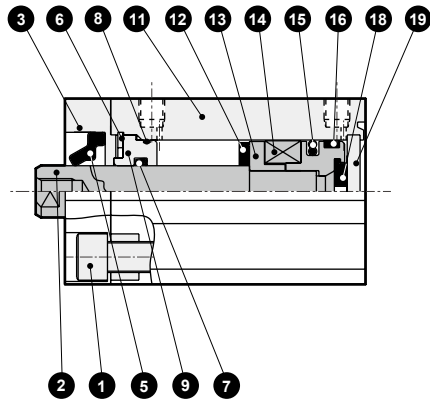
SSD2-KG2/KG3 Series

Internal structure and parts list

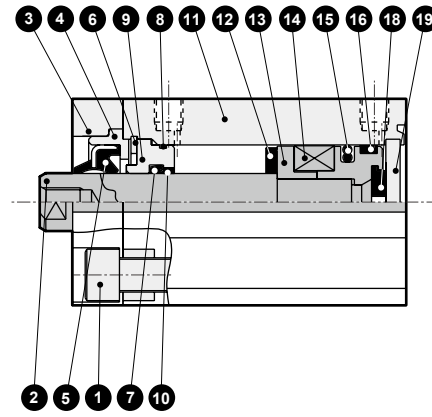
- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVPIN2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

- Degree of protection: Packing NBR SSD2-KG2/KG2L
- Degree of protection: Packing FKM SSD2-KG3/KG3L

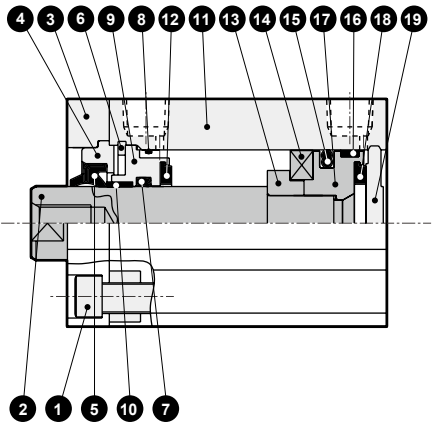
● SSD2-KG₂ L-16 (with switch)



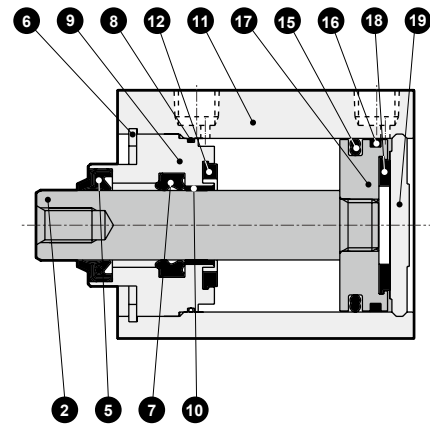
● SSD2-KG₂ L-20, 25 (with switch)



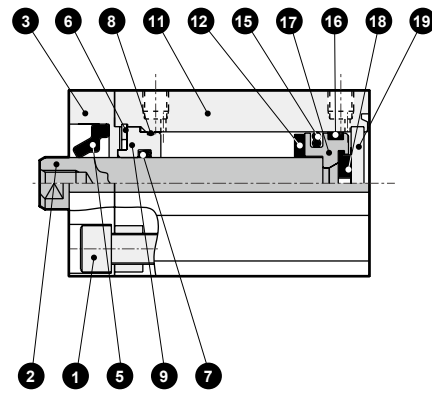
● SSD2-KG₂ L-32 to 50 (with switch)



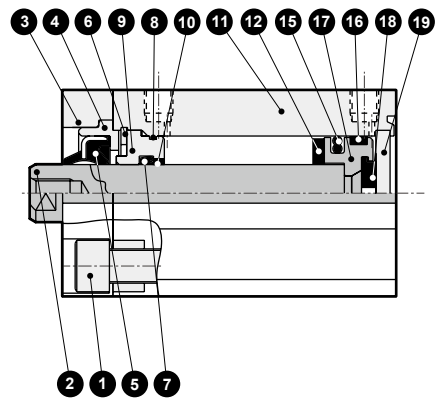
● SSD2-KG₂ L-63 to 100 (with switch)



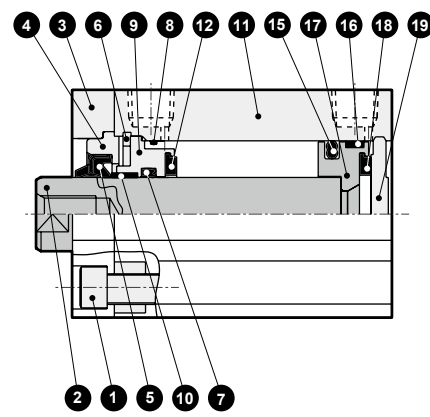
● SSD2-KG₂ -16 (without switch)



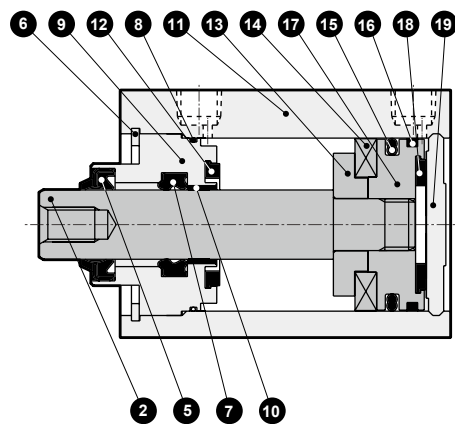
● SSD2-KG₂ -20, 25 (without switch)



● SSD2-KG₂ -32 to 50 (without switch)



● SSD2-KG₂ -63 to 100 (without switch)



Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel	φ16 to φ25 only	10	Bush	Oiles drymet	φ20 to φ100 only
2	Piston rod	Stainless steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
3	Adaptor (A)	Aluminum alloy	Alumite: φ16 to φ25 only	12	Cushion rubber R	Urethane rubber	
4	Adaptor (B)	Aluminum alloy	Alumite: φ20/φ25 only	13	Spacer	Aluminum alloy	φ16 to φ32: Chromate
5	Scraper	G2	Nitrile rubber	14	Magnet	Plastic	
		G3	Fluoro rubber				
6	C type snap ring (for hole)	Stainless steel		15	Piston packing	G2	Nitrile rubber
			G3			Fluoro rubber	
7	Rod packing	G2	Nitrile rubber	16	Wear ring	Polyacetal resin	
		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	φ16 to φ25: Stainless steel φ32 to φ100: Aluminum alloy	
9	Rod metal	Aluminum alloy	Alumite				

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ16	SSD2-KG2-16K	
	SSD2-KG3-16K	
φ20	SSD2-KG2-20K	
	SSD2-KG3-20K	
φ25	SSD2-KG2-25K	
	SSD2-KG3-25K	
φ32	SSD2-KG2-32K	
	SSD2-KG3-32K	
φ40	SSD2-KG2-40K	
	SSD2-KG3-40K	
φ50	SSD2-KG2-50K	
	SSD2-KG3-50K	
φ63	SSD2-KG2-63K	
	SSD2-KG3-63K	
φ80	SSD2-KG2-80K	
	SSD2-KG3-80K	
φ100	SSD2-KG2-100K	
	SSD2-KG3-100K	

Note: Specify the kit No. when placing an order.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

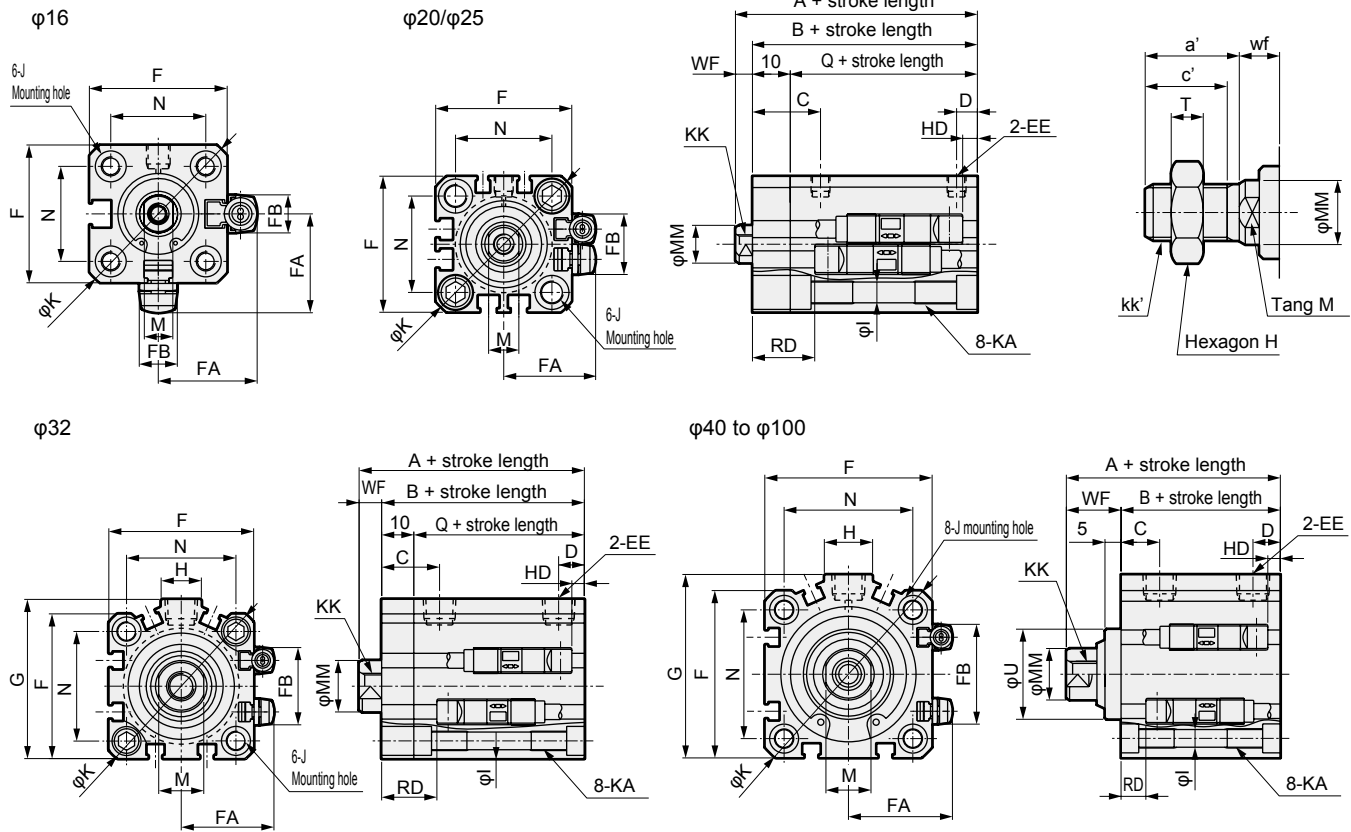
Ending

SSD2-KG2/KG3 Series

Dimensions

- Degree of protection: Packing NBR
SSD2-KG/KG2L
- Degree of protection: Packing FKM
SSD2-KG3/KG3L

● Rod end male thread



- *1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *4 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.
- *5 : Dimensions in () of code J are for the spot face of rod side mounting hole.

Code	Dimensions without switch			Common dimensions with switch																
	A ^{*1}	B ^{*1}	Q ^{*1}	A ^{*1}	B ^{*1}	Q ^{*1}	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ16	40.5	32	22	45.5	37	27	15.5	5.5	3.4	M5	29	21	8	-	-	3.5	8.5 spot face depth 3.5 (13.4)	38	M4 depth 7	M4 depth 8
φ20	44	34.5	24.5	54	44.5	34.5	18	5.5	5.5	M5	36	24.5	16	-	-	5.5	9 spot face depth 5.5 (15.5)	47	M6 depth 11	M5 depth 7
φ25	47.5	37.5	27.5	57.5	47.5	37.5	21	6	5.5	M5	40	26.5	17	-	-	5.5	9 spot face depth 5.5 (15.5)	51	M6 depth 11	M6 depth 12
φ32	55(65)	43(53)	33(43)	65	53	43	18	8	5.5	Rc1/8	45	29	24	49.5	12.5	5.5	9 spot face depth 5.5 (15.5)	60	M6 depth 11	M8 depth 13
φ40	56.5(66.5)	39.5(49.5)	-	66.5	49.5	-	12	8.5	5.5	Rc1/8	52	32.5	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
φ50	58.5(68.5)	40.5(50.5)	-	68.5	50.5	-	10.5	10.5	5.5	Rc1/4	64	38.5	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
φ63	64(74)	46(56)	-	74	56	-	13	11	5.5	Rc1/4	77	45	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15
φ80	73.5(83.5)	53.5(63.5)	-	83.5	63.5	-	16	13	5.5	Rc3/8	98	55.5	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
φ100	85(95)	63(73)	-	95	73	-	23	15	5.5	Rc3/8	117	65	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Code	Common dimensions with switch							Proximity T2YLH,		Dimensions of rod end male thread part							
	M	MM	N	O	U	WF	T2YLV, T3YLV, T3YLV		a'	c'	H	KK'	M	MM	T	wf	
							HD	RD									
φ16	6	8	20	-	-	8.5	2.5	14.5	12	10	10	M6	6	8	3.6	8.5	
φ20	8	10	25.5	-	-	9.5	4.5	20.0	14	12	13	M8	8	10	5	9.5	
φ25	10	12	28	-	-	10	4.5	22.5	17.5	15	17	M10×1.25	10	12	6	10	
φ32	14	16	34	4.5	-	12	9.5	25.5	23.5	20.5	22	M14×1.5	14	16	8	10	
φ40	14	16	40	5	28	17	10.5	31.0	23.5	20.5	22	M14×1.5	14	16	8	15	
φ50	17	20	50	7	35	18	11.5	31.0	28.5	26	27	M18×1.5	17	20	11	15	
φ63	17	20	60	7	35	18	18.0	29.0	28.5	26	27	M18×1.5	17	20	1	15	
φ80	22	25	77	6	43	20	24.0	31.5	35.5	32.5	32	M22×1.5	22	25	13	18	
φ100	27	30	94	6.5	59	22	29.5	35.5	35.5	32.5	41	M26×1.5	27	30	16	18	

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

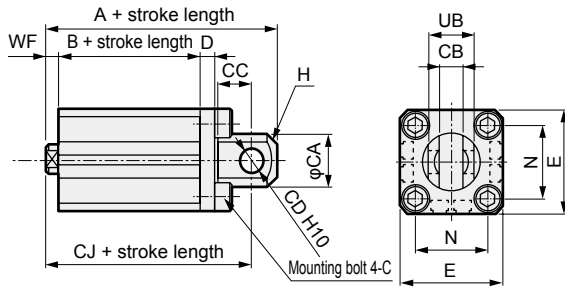
Ending

SSD2-KG2/KG3 Series

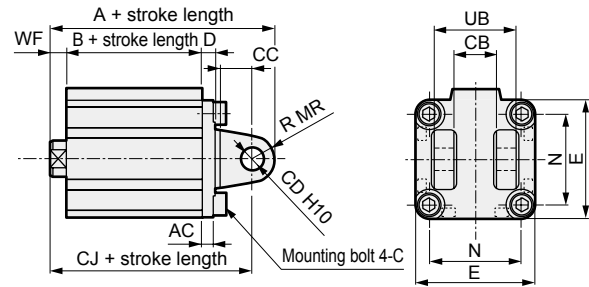
Dimensions with mounting bracket

● Clevis bracket (CB)
SSD2-KG2(L)/KG3(L)-20 to 100 -CB

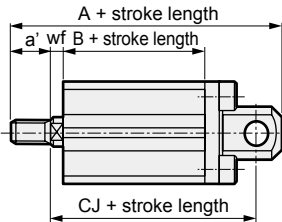
· $\phi 16$ to $\phi 25$



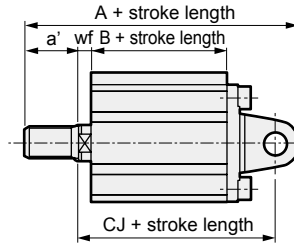
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



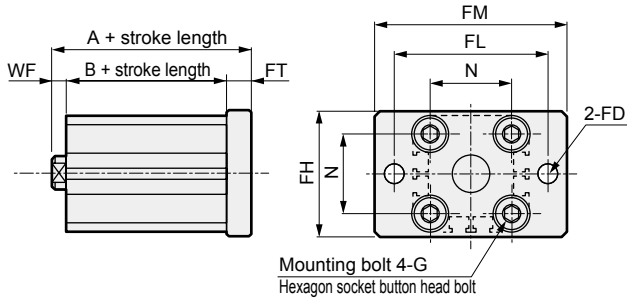
Code	Common dimensions											
Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB
$\phi 16$	-	15	$6.6^{+0.3}$	8	5	5	29	M4×12	C2	-	20	12
$\phi 20$	-	20	$8.2^{+0.2}$	12	8	5	36	M6×16	C4	-	25.5	16
$\phi 25$	-	24	$10.2^{+0.2}$	14	10	5	40	M6×16	C5	-	28	20
$\phi 32$	4.5	-	$18.2^{+0.2}$	14	10	5	45	M6×16	-	10	34	36
$\phi 40$	5	-	$18.2^{+0.2}$	14	10	6	52	M6×16	-	10	40	36
$\phi 50$	6	-	$22.2^{+0.2}$	20	14	7	64	M8×20	-	14	50	44
$\phi 63$	7	-	$22.2^{+0.2}$	20	14	8	77	M10×25	-	14	60	44
$\phi 80$	9	-	$28.2^{+0.2}$	27	18	10	98	M12×40	-	18	77	56
$\phi 100$	12	-	$32.2^{+0.2}$	31	22	13	117	M12×40	-	22	94	64

Code	Female thread							Male thread								
Bore size (mm)	WF	Without switch			With switch			a'	wf	Without switch			With switch			
		A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ	
$\phi 16$	8.5	61.5	32	55.5	66.5	37	60.5	12	8.5	73.5	32	55.5	78.5	37	60.5	
$\phi 20$	9.5	71	34.5	62	81	44.5	72	14	9.5	85	34.5	62	95	44.5	72	
$\phi 25$	10	77.5	37.5	67.5	87.5	47.5	77.5	17.5	10	95	37.5	67.5	105	47.5	77.5	
$\phi 32$	12	85	43	75	95	53	85	23.5	10	106.5	43	73	116.5	53	83	
$\phi 40$	17	88.5	39.5	78.5	98.5	49.5	88.5	23.5	15	110	39.5	76.5	120	49.5	86.5	
$\phi 50$	18	100.5	40.5	86.5	110.5	50.5	96.5	28.5	15	126	40.5	83.5	136	50.5	93.5	
$\phi 63$	18	108	46	94	118	56	104	28.5	15	133.5	46	91	143.5	56	101	
$\phi 80$	20	129.5	53.5	111.5	139.5	63.5	121.5	35.5	18	163	53.5	109.5	173	63.5	119.5	
$\phi 100$	22	152	63	130	162	73	140	35.5	18	183.5	63	126	193.5	73	136	

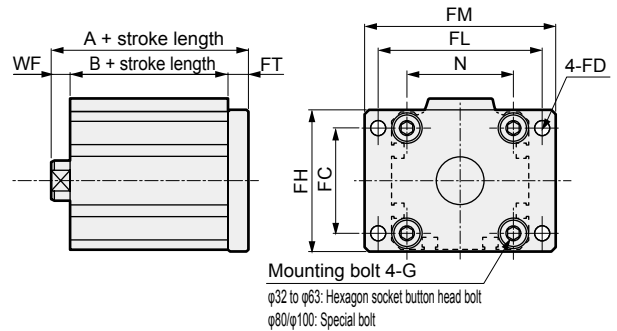
Dimensions with mounting bracket

- Head side flange (FB)
SSD2-KG2(L)/KG3(L)-20 to 100 -FB

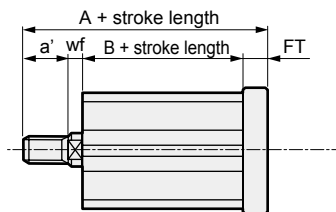
· φ16 to φ25



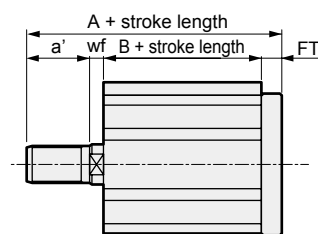
· φ32 to φ100



Rod end male thread



Rod end male thread



Code	Common dimensions												Female thread				Male thread							
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch		With switch		a'	wf	Without switch		With switch	
		A	B	A	B	A	B	A	B	A	B													
φ16	-	15	6.5	8	5	5	29	M4×12	C2	-	20	12	8.5	46	32	51	37	12	8.5	58	32	63	37	
φ20	-	20	8	12	8	5	36	M6×16	C4	-	25.5	16	9.5	52	34.5	62	44.5	14	9.5	66	34.5	76	44.5	
φ25	-	24	10	14	10	5	40	M6×16	C5	-	28	20	10	55.5	37.5	65.5	47.5	17.5	10	73	37.5	83	47.5	
φ32	4.5	-	18	14	10	5	45	M6×16	-	10	34	36	12	63	43	73	53	23.5	10	84.5	43	94.5	53	
φ40	5	-	18	14	10	6	52	M6×16	-	10	40	36	17	64.5	39.5	74.5	49.5	23.5	15	86	39.5	96	49.5	
φ50	6	-	22	20	14	7	64	M8×20	-	14	50	44	18	67.5	40.5	77.5	50.5	28.5	15	93	40.5	103	50.5	
φ63	7	-	22	20	14	8	77	M10×25	-	14	60	44	18	73	46	83	56	28.5	15	98.5	46	108.5	56	
φ80	9	-	28	27	18	10	98	M12×40	-	18	77	56	20	84.5	53.5	94.5	63.5	35.5	18	118	53.5	128	63.5	
φ100	12	-	32	31	22	13	117	M12×40	-	22	94	64	22	96	63	106	73	35.5	18	127.5	63	137.5	73	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

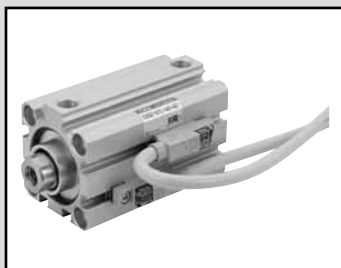
ShkAbs

FJ

FK

Spd
Contr

Ending

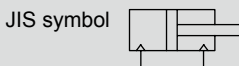


Compact cylinder
double acting/single rod/coil scraper

Compact cylinder
double acting/single rod/anti-spatter adherence

SSD2-G1 Series SSD2-G4 Series

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



Specifications

Descriptions	SSD2-G1/G4							
	SSD2-G1L/G4L (with switch)							
Bore size mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)				0.1 (≈ 15 psi, 1 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5	Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance mm	$\begin{matrix} +1.0 \\ 0 \end{matrix}$							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	None							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

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

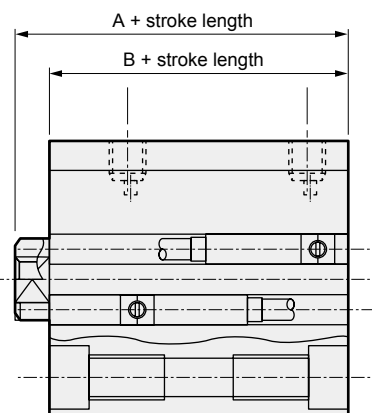
Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 25$	5/10/15/20/25/ 30/35/40/45/50	50	1(10) The value in () is for types with one or two switches.
$\phi 32$	5/10/15/20/25/30/ 35/40/45/50/75/100	100	
$\phi 40$			
$\phi 50$	10/15/20/25		
$\phi 63$	30/35/40/45/50		
$\phi 80$	75/100		
$\phi 100$			

Custom stroke length

● SSD2-G1, G4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-G1-32-38 A +2 mm spacer is added to the SSD2-G1-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 63mm.	



Switch specifications

Descriptions	Proximity 2-wire	
	T2YD	
Applications	Dedicated for programmable controller	
Indicator lamp	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20 VDC	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Output delay time *1 (Delay ON, delay OFF)	60 ms or less	
Lead wire length	1 m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm ² x 2-conductor) *2, *3	
Insulation resistance	100 MΩ and over with 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Max. shock resistance	980 m/s ²	
Ambient temperature	-10 to +60°C	
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance	
Weight	g 1 m:61 3 m:166 5 m:272	

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

*3: Flame-resistant lead wires are available as options.

*4: This switch cannot be used in DC environments.

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	131	222	146	237	162	253	178	269	194	285	209	300	225	600	241	332	257	166	272	363	-	-	-	-
φ32	184	298	206	320	228	342	250	364	271	385	293	407	315	429	337	451	359	473	380	494	553	602	661	709
φ40	265	408	292	435	318	461	345	488	372	515	398	541	425	568	451	594	478	621	504	647	722	780	854	912
φ50	-	-	460	654	502	696	544	738	586	780	629	823	671	865	713	907	755	949	797	991	1144	1201	1354	1411
φ63	-	-	658	937	713	992	768	1047	823	1102	878	1157	934	1213	989	1268	1044	1323	1099	1378	1589	1653	1864	1928
φ80	-	-	1180	1593	1267	1680	1353	1765	1440	1853	1526	1939	1613	2026	1700	2113	1787	2200	1873	2286	2650	2719	3082	3151
φ100	-	-	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	Working pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²	
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²	
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²	
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²	
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³	
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³	
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³	
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³	
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³	
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³	
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³	
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³	
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³	
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³	

SSD2-G1/G4 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SSD2-G4-32-10-N-LB-I

With switch (built-in magnet for switch)

SSD2-G4L-32-10-T2YD-R-N-LB-I

A Model No.

B Bore size

C Stroke length
*1

D Switch model No.

E Switch quantity

F Option

G Mounting bracket
*1

H Accessory
*2

Code	Content				
A Model No.					
SSD2-G1	Double acting/single rod/coil scraper				
SSD2-G1L	Double acting/single rod/coil scraper/with switch				
SSD2-G4	Double acting/single rod/anti-spatter adherence				
SSD2-G4L	Double acting/single rod/anti-spatter adherence/with switch				
B Bore size (mm)					
25	φ25				
32	φ32				
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
C Stroke length (mm)					
Refer to the stroke length table on the following page.					
D Switch model No.					
Lead wire Straight	Lead wire L-shaped	Contact	Voltage	Display	Lead wire
T2YD*	-	Proximity	DC	2-color display for AC magnetic field	2-wire
T2YDT*	-				
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
E Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
F Option					
Blank	Rod end female thread				
N	Rod end male thread				
G Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order)				
CB	Clevis bracket (pin and snap ring attached)				
FA	Rod side flange (custom order)				
FB	Head side flange				
H Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

⚠ Precautions for model No. selection

*1: The mounting bracket is attached at shipment.

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

[Example of model No.]

SSD2-G4L-32-10-T2YD-R-N

Model: Compact cylinder

Double acting/anti-spatter adherence

B Bore size : φ32 mm

C Stroke length : 10 mm

D Switch model No.: Proximity switch for AC magnetic field
T2YD, lead wire length 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

[Stroke length table]

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

*1: Less than 10 mm stroke length of strong magnetic field proof with switch is not available.
Refer to page 950 for the min. stroke length with switch.

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

How to order switch

SW - T2YD*

↓
Switch model No.
(Item ④ on the previous page)

How to order mounting bracket

Bore size (mm)	φ25	φ32	φ40	φ50	φ63	φ80
Mounting bracket						
Flange (FB)	SSD2-FA-25	SSD2-G1-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80
Clevis bracket (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80
Bore size (mm)	φ100					
Mounting bracket						
Flange (FB)	SSD2-FA-100					
Clevis bracket (CB)	SSD2-CB-100					

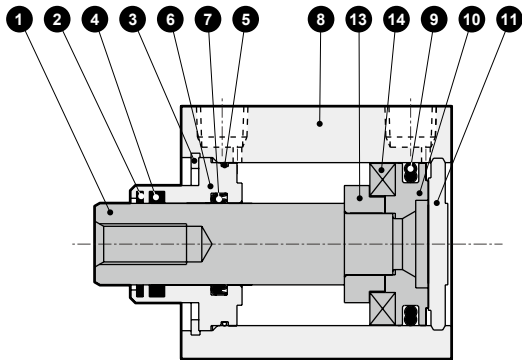
*1: The foot mounting bracket is provided as 2 pcs./set.

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

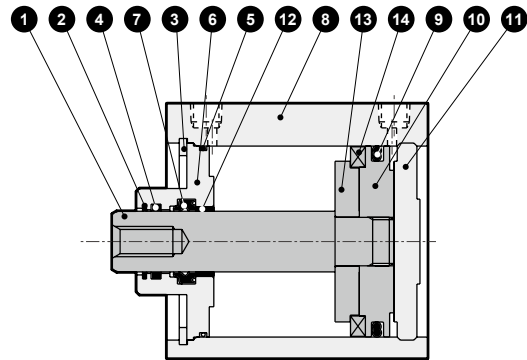
SSD2-G1/G4 Series

Internal structure and parts list

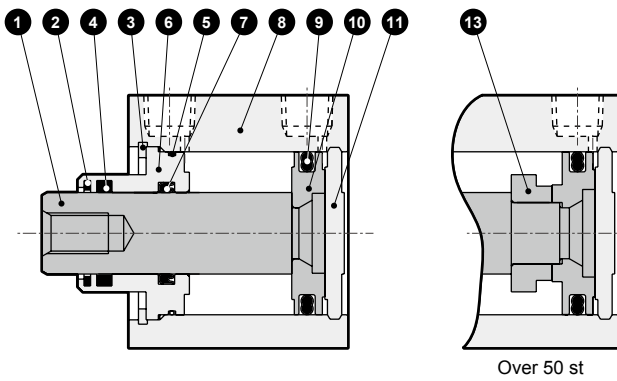
● SSD2-G1L, G4L-25 to 50 (double acting/anti-spatter adherence/ with switch)



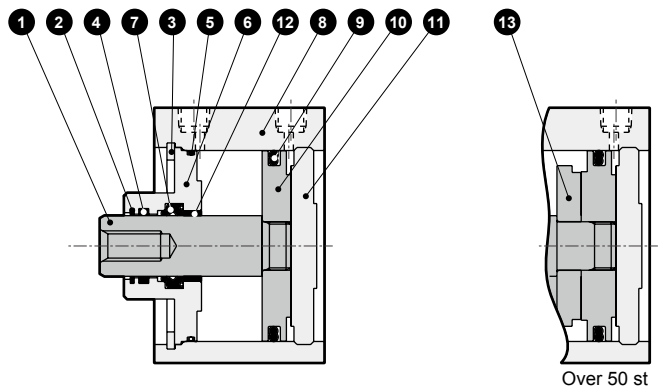
● SSD2-G1L, G4L-63 to 100 (double acting/anti-spatter adherence/ with switch)



● SSD2-G1, G4-25 to 50 (double acting/anti-spatter adherence)



● SSD2-G1, G4-63 to 100 (double acting/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ25: Stainless steel φ32 to φ100: Steel	Industrial chrome plating	8	Body	Aluminum alloy	Hard alumite
2	Coil scraper	Phosphor bronze		9	Piston packing	Nitrile rubber	
3	C type snap ring	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Cover	φ25: Stainless steel φ32 to φ100: Aluminum alloy	φ32 to φ100: Alumite
5	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
6	Rod metal	φ25 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ25 to φ50: Alumite φ63 to φ100: Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

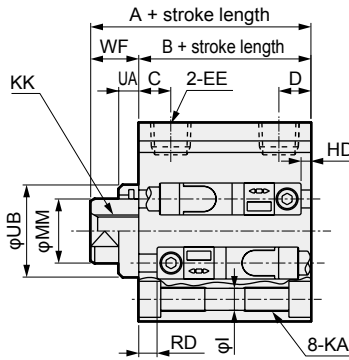
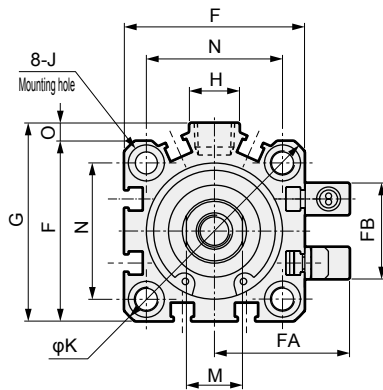
Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ25	SSD2-G1-25K	2 5 7 9
φ32	SSD2-G1-32K	
φ40	SSD2-G1-40K	
φ50	SSD2-G1-50K	
φ63	SSD2-G1-63K	
φ80	SSD2-G1-80K	
φ100	SSD2-G1-100K	

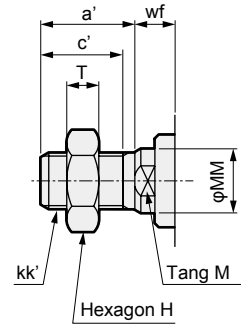
Dimensions



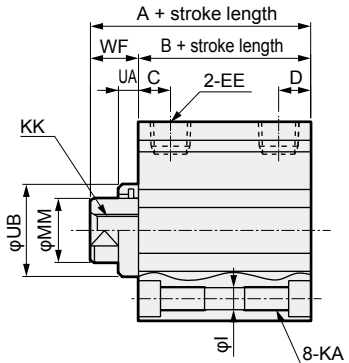
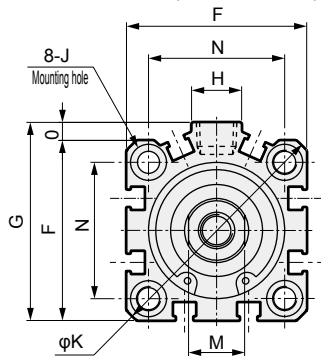
● SSD2-G1L/G4L-25 to 100 (with switch/T0H/V, T5H/V, T2H/V, T3H/V)



● Rod end male thread



● SSD2-G1/G4-25 to 100 (without switch)



Code	Without switch			Common dimensions with switch											
	A ^{*1}		B ^{*6}	A ^{*1}		B ^{*1}	C ^{*6}	D ^{*6}	EE	F	FA	FB	G	H	I
	G1	G4		G1	G4										
φ25	37.5	37.5	32.5	47.5	47.5	42.5	11	6	M5	40	31.5	17	-	-	5.5
φ32	35(45)	40(50)	23(33)	45	50	33	8(10)	8(5.5)	Rc1/8 ^{*5}	45	33.5	24	49.5	12.5	5.5
φ40	41.5(51.5)	46.5(56.5)	29.5(39.5)	51.5	56.5	39.5	12(11.5)	8.5(8)	Rc1/8	52	37	31	57	15	5.5
φ50	43.5(53.5)	48.5(58.5)	30.5(40.5)	53.5	58.5	40.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9
φ63	49(59)	54(64)	36(46)	59	64	46	13	11	Rc1/4	77	49.5	32	84	23	8.7
φ80	58.5(68.5)	63.5(73.5)	43.5(53.5)	68.5	73.5	53.5	16	13	Rc3/8	98	60	32	104	31	10.5
φ100	70(80)	75(85)	53(63)	80	85	63	23	15	Rc3/8	117	69.5	32	123.5	38	10.5

Code	Common dimensions with switch													Proximity T2YD	
	J	K	KA	KK	M	MM	N	O	UA		UB	WF		HD	RD ^{*2}
									G1	G4		G1	G4		
φ25	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	-	-	-	-	5	5	3	8.5
φ32	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17	3.5	8.5
φ40	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	5	10	28 h9	12	17	5.5	10.5
φ50	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	5	10	35 h9	13	18	6	11
φ63	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	5	10	35 h9	13	18	11	11.5
φ80	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	5	10	43 h9	15	20	16	14
φ100	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22	21.5	18

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

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

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

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

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

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

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf	
								G1	G4
φ25	17.5	15	17	M10×1.25	10	12	6	5	5
φ32	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ40	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ50	28.5	26	27	M18×1.5	17	20	11	10	15
φ63	28.5	26	27	M18×1.5	17	20	11	10	15
φ80	35.5	32.5	32	M22×1.5	22	25	13	13	18
φ100	35.5	32.5	41	M26×1.5	27	30	16	13	18

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

Ending

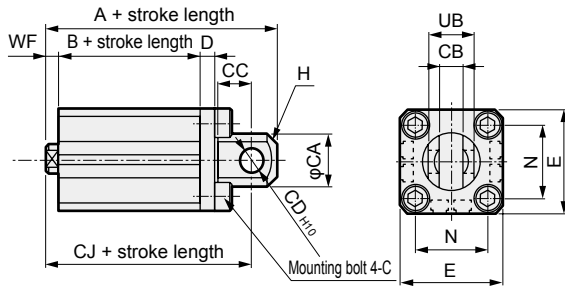
SSD2-G1/G4 Series

Dimensions with mounting bracket

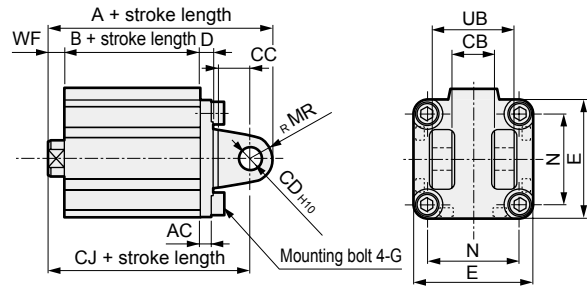


- Clevis bracket (CB)
SSD2-G1(L)/G4(L)-25 to 100 -CB

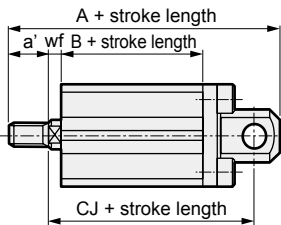
· φ25



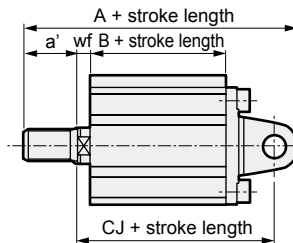
· φ32 to φ100



Rod end male thread



Rod end male thread



Code	Common dimensions												Female thread											
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF		Without switch				With switch				
G1		G4	A		B	CJ		A		B	CJ													
			G1	G4		G1	G4	G1	G4		G1	G4												
φ25	-	24	10.2	14	10	5	40	M6×16	C2	-	28	20	5	5	67.5	67.5	32.5	57.5	57.5	77.5	77.5	42.5	67.5	67.5
φ32	4.5	-	18.2	14	10	5	45	M6×16	C4	10	34	36	12	17	65	70	23	55	60	75	80	33	65	70
φ40	5	-	18.2	14	10	6	52	M6×16	C5	10	40	36	12	17	73.5	78.5	29.5	63.5	68.5	83.5	88.5	39.5	73.5	78.5
φ50	6	-	22.2	20	14	7	64	M8×20	-	14	50	44	13	18	85.5	90.5	30.5	71.5	76.5	95.5	100.5	40.5	81.5	86.5
φ63	7	-	22.2	20	14	8	77	M10×25	-	14	60	44	13	18	93	98	36	79	84	103	108	46	89	94
φ80	9	-	28.2	27	18	10	98	M12×40	-	18	77	56	15	20	114.5	119.5	43.5	96.5	101.5	124.5	129.5	53.5	106.5	111.5
φ100	12	-	32.2	31	22	13	117	M12×40	-	22	94	64	17	22	137	142	53	115	120	147	152	63	125	130

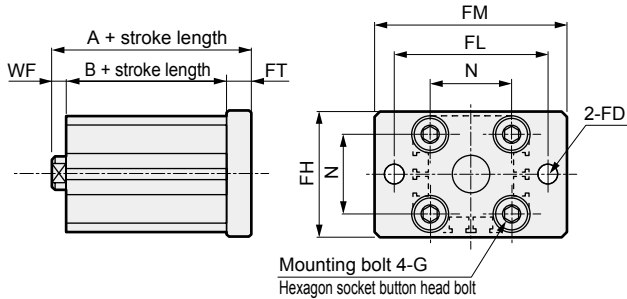
Code	Male thread												
	Bore size (mm)	a'	wf		Without switch				With switch				
G1			G4	A		B	CJ		A		B	CJ	
				G1	G4		G1	G4	G1	G4		G1	G4
φ25	17.5	5	5	85	85	32.5	57.5	57.5	95	95	42.5	67.5	67.5
φ32	23.5	10	15	86.5	91.5	23	53	58	96.5	101.5	33	63	68
φ40	23.5	15	20	95	100	29.5	61.5	66.5	105	110	39.5	71.5	76.5
φ50	28.5	15	20	111	116	30.5	68.5	73.5	121	126	40.5	78.5	83.5
φ63	28.5	15	20	118.5	123.5	36	76	81	128.5	133.5	46	86	91
φ80	35.5	18	23	148	153	43.5	94.5	99.5	158	163	53.5	104.5	109.5
φ100	35.5	18	23	168.5	173.5	53	111	116	178.5	183.5	63	121	126

Dimensions with mounting bracket

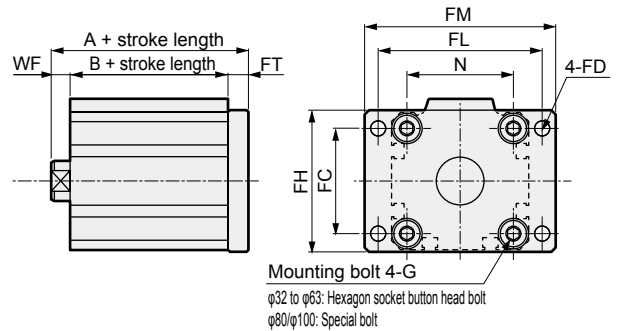


- Head side flange (FB)
SSD2-G1(L)/G4(L)-25 to 100 -FB

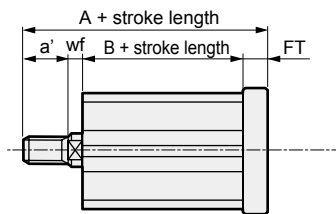
· $\phi 25$



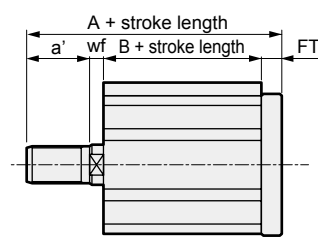
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



Code	Common dimensions								Female thread							
	FC	FD	FH	FL	FM	FT	N	G	WF		Without switch			With switch		
									G1	G4	A		B	A		B
$\phi 25$	-	6.6	42	52	64	8	28	M6×16	5	5	45.5	45.5	32.5	55.5	55.5	42.5
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	12	17	43	48	23	53	58	33
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	12	17	49.5	54.5	29.5	59.5	64.5	39.5
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	13	18	52.5	57.5	30.5	62.5	67.5	40.5
$\phi 63$	60	9	80	92	108	9	60	M10×25	13	18	58	63	36	68	73	46
$\phi 80$	77	11	99	116	134	11	77	M12×40	15	20	69.5	74.5	43.5	79.5	84.5	53.5
$\phi 100$	94	11	117	136	154	11	94	M12×40	17	22	81	86	53	91	96	63

Code	Male thread									
	Bore size (mm)	a'	wf		Without switch			With switch		
			G1	G4	A		B	A		B
$\phi 25$	17.5	5	5	63	63	32.5	73	73	42.5	
$\phi 32$	23.5	10	15	64.5	69.5	23	74.5	79.5	33	
$\phi 40$	23.5	15	20	71	76	29.5	81	86	39.5	
$\phi 50$	28.5	15	20	78	83	30.5	88	93	40.5	
$\phi 63$	28.5	15	20	83.5	88.5	36	93.5	98.5	46	
$\phi 80$	35.5	18	23	103	108	43.5	113	118	53.5	
$\phi 100$	35.5	18	23	112.5	117.5	53	122.5	127.5	63	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

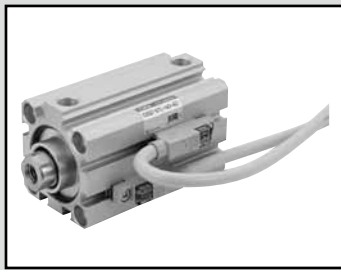
ShkAbs

FJ

FK

Spd
Contr

Ending



Compact cylinder
double acting/single rod/high load/coil scraper

Compact cylinder
double acting/single rod/high load/anti-spatter adherence

SSD2-KG1 Series SSD2-KG4 Series

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



Specifications

Descriptions	SSD2-KG1/KG4 SSD2-KG1L/KG4L (with switch)							
	mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Bore size	mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Actuation		Double acting						
Working fluid		Compressed air						
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)						
Min. working pressure	MPa	0.15 (≈ 22 psi, 1.5 bar)				0.1 (≈ 15 psi, 1 bar)		
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)						
Ambient temperature	$^{\circ}\text{C}$	-10 (14 $^{\circ}\text{F}$) to 60 (140 $^{\circ}\text{F}$) (no freezing)						
Port size		M5	Rc1/8	Rc1/4		Rc3/8		
Stroke tolerance	mm	$+2.0$ 0						
Working piston speed	mm/s	50 to 500				50 to 300		
Cushion		Rubber cushion						
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy	J	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 25$	5/10/15/20/25/ 30/35/40/45/50	50	1(10) The value in () is for types with one or two switches.
$\phi 32$	5/10/15/20/25/30/ 35/40/45/50/75/100	100	
$\phi 40$			
$\phi 50$	10/15/20/25		
$\phi 63$	30/35/40/45/50		
$\phi 80$	75/100		
$\phi 100$			

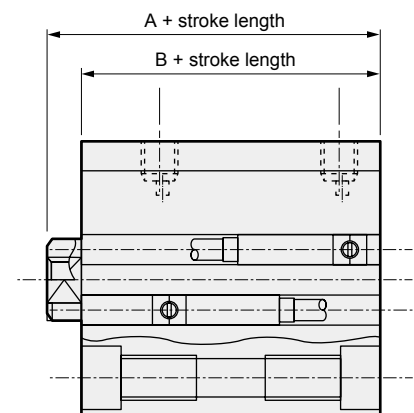
*1: The custom stroke is available in 1 mm increments.

*2: Dimensions of custom stroke length (example: 64 mm stroke length) are the same as the next stroke length up (example: 70 mm stroke length).

Custom stroke length

● SSD2-KG1, KG4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-KG1-32-38 A +2 mm spacer is added to the SSD2-KG1-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 83mm.	



Switch specifications

Descriptions	Proximity 2-wire	
	T2YD	
Applications	Dedicated for programmable controller	
Indicator lamp	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20 mA	
Internal voltage drop	6 V or less	
Leakage current	1.0 mA or less	
Output delay time *1 (Delay ON, delay OFF)	30 to 60 ms	
Lead wire length	1 m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm ² x 2-conductor) *2, *3	
Insulation resistance	100 MΩ and over at 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Max. shock resistance	980 m/s ²	
Ambient temperature	-10 to +60°C	
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance	
Weight	g 1 m:61 3 m:166 5 m:272	

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

*3: Flame-resistant lead wires are available as options.

*4: This switch cannot be used in DC environments.

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

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
φ32	228	342	249	363	270	384	292	406	314	428	336	450	358	472	379	493	401	515	422	536	530	644	637	751
φ40	318	461	345	488	372	515	398	541	424	567	451	594	478	621	504	647	531	674	557	700	690	833	822	965
φ50	-	-	549	743	591	785	634	828	677	871	718	912	760	954	802	996	844	1038	886	1080	1096	1290	1306	1500
φ63	-	-	782	1061	837	1116	892	1171	948	1227	1003	1282	1058	1337	1113	1392	1168	1447	1223	1502	1498	1777	1773	2052
φ80	-	-	1382	1795	1469	1882	1555	1968	1642	2055	1729	2142	1816	2229	1902	2315	1989	2402	2075	2488	2508	2921	2940	3353
φ100	-	-	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	Working pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²	
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²	
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²	
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²	
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³	
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³	
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³	
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³	
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³	
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³	
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³	
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³	
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³	
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³	

SSD2-KG1/KG4 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

Without switch (without magnet for switch)

SSD2-KG4-32-10-N-LB-I

With switch (built-in magnet for switch)

SSD2-KG4L-32-10-T2YD-R-N-LB-I

A Model No.

B Bore size

C Stroke length

D Switch model No.

E Switch quantity

F Option

G Mounting bracket *1

H Accessory *2

Code	Content				
A Model No.					
SSD2-KG1	Double acting/single rod/high load/coil scraper				
SSD2-KG1L	Double acting/single rod/high load/coil scraper/with switch				
SSD2-KG4	Double acting/single rod/high load/anti-spatter adherence				
SSD2-KG4L	Double acting/single rod/high load/anti-spatter adherence/with switch				
B Bore size (mm)					
25	φ25				
32	φ32				
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
C Stroke length (mm)					
Refer to the stroke length table on the following page.					
D Switch model No.					
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire
Straight	L-shaped				
T2YD*	-	Proximity	DC	2-color display for AC magnetic field	2-wire
T2YDT*	-				
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
E Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
F Option					
Blank	Rod end female thread				
N	Rod end male thread				
G Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order product)				
CB	Clevis bracket (pin and snap ring attached)				
FA	Rod side flange (custom order product)				
FB	Head side flange				
H Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

⚠ Precautions for model No. selection

*1: The mounting bracket is attached at shipment.

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

[Example of model No.]

SSD2-KG4L-32-10-T2YD-R-N

Model: Compact cylinder

Double acting, high load, anti-spatter adherence

B Bore size : φ32 mm

C Stroke length : 10 mm

D Switch model No.: Proximity switch for AC magnetic field
T2YD, lead wire length 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

How to order switch

SW - **T2YD**

Switch model No.
(Item ④ on the previous page)

[Stroke length table]

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

*1: Less than 10 mm stroke length with AC magnetic field proof switch is not available.

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

How to order mounting bracket

Bore size (mm)	φ25	φ32	φ40	φ50	φ63	φ80	φ100
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
Clevis bracket (CB)	SSD2-CB-25	SSD2-CB-32	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

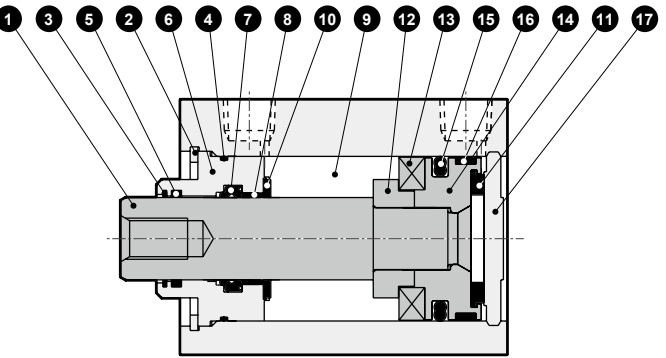
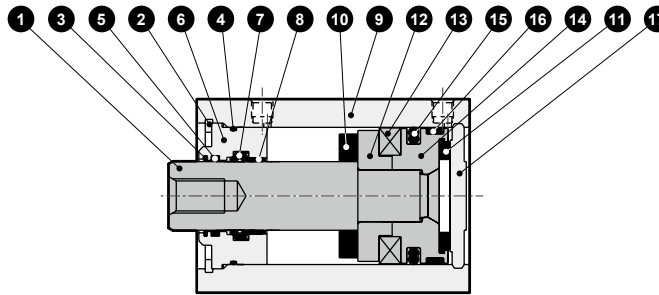
Ending

SSD2-KG1/KG4 Series

Internal structure and parts list

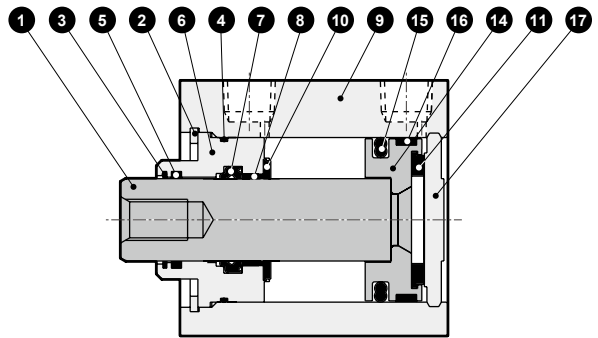
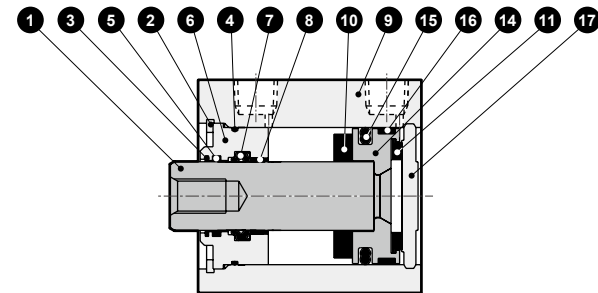
● SSD2-KG1L/KG4L-25
(double acting/single rod high load/anti-spatter adherence/with switch)

● SSD2-KG1L/KG4L-32 to 50
(double acting/single rod high load/anti-spatter adherence/with switch)



● SSD2-KG1/KG4-25
(double acting/single rod/high load/anti-spatter adherence)

● SSD2-KG1/KG4-32 to 50
(double acting/single rod/high load/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Zinc phosphate	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer	Aluminum alloy	φ25, φ32: Chromate
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber	G4 only	14	Piston	Aluminum alloy	Chromate
6	Rod metal	Special aluminum	Alumite	15	Piston packing	Nitrile rubber	
7	Rod packing	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oiles drymet		17	Cover	φ25: Stainless steel φ32 to 50: Aluminum alloy	φ32 to φ50: Alumite
9	Body	Aluminum alloy	Hard alumite				

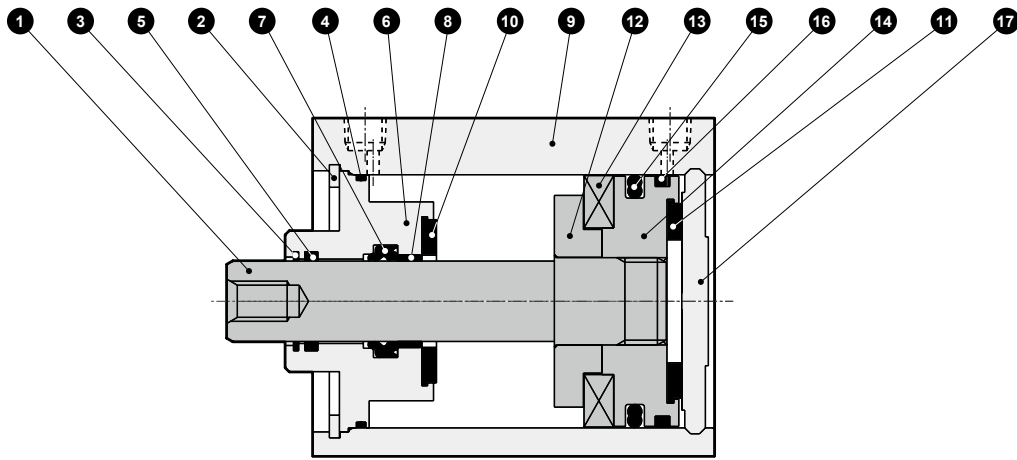
*1: For dimensions of individual accessories, refer to pages 1030 to 1033.

Repair parts list

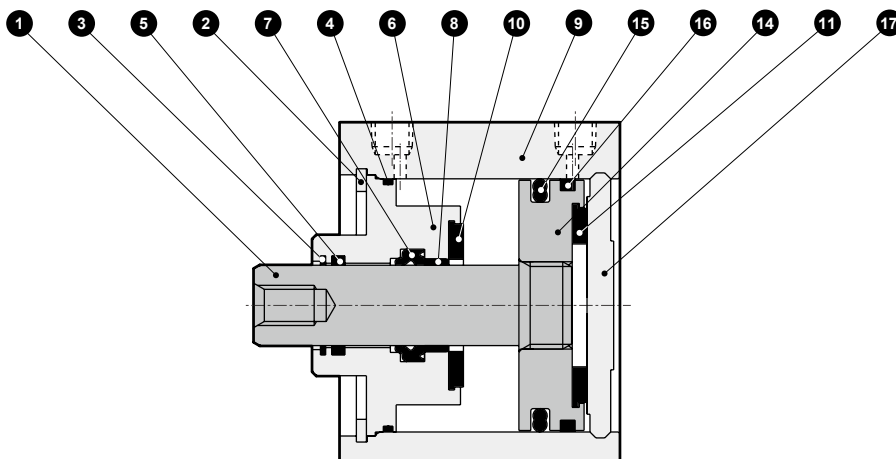
Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ25	SSD2-KG1-25K	3 4 7
φ32	SSD2-KG1-32K	10 11 15 16
φ40	SSD2-KG1-40K	
φ50	SSD2-KG1-50K	

Internal structure and parts list

- SSD2-KG1L/KG4L-63 to 100 (double acting/single rod high load/anti-spatter adherence/with switch)



- SSD2-KG1/KG4-63 to 100 (double acting/single rod high load/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Zinc phosphate	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber	G4 only	14	Piston	Aluminum alloy	Chromate
6	Rod metal	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod packing	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oiles drymet		17	Cover	Aluminum alloy	Alumite
9	Body	Aluminum alloy	Hard alumite				

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ63	SSD2-KG1-63K	3 4 7 10
φ80	SSD2-KG1-80K	11 15 16
φ100	SSD2-KG1-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

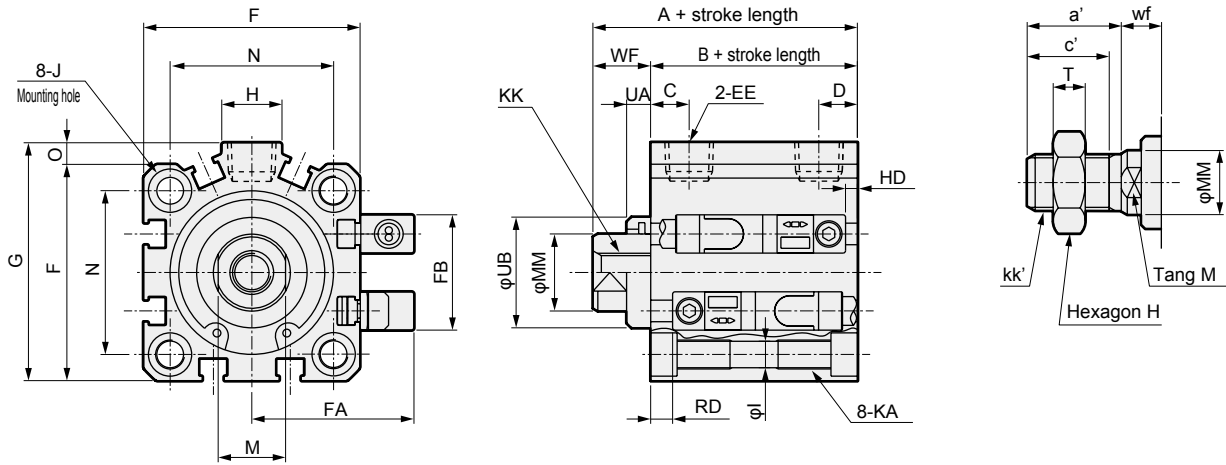
SSD2-KG1/KG4 Series

Dimensions



● SSD2-KG1L/KG4L-25 to 100 (with switch/T0H/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread



Code	Dimensions with switch														
Bore size (mm)	A ^{*1}		B ^{*1}	C	D	EE	F	FA	FB	G	H	I	J	K	KA
	G1	G4													
φ25	52.5	52.5	47.5	11	6	M5	40	31.5	17	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11
φ32	55	60	43	8	8	Rc1/8	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
φ40	61.5	66.5	49.5	12	8.5	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
φ50	63.5	68.5	50.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
φ63	69	74	56	13	11	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	103	M10 depth 25
φ80	78.5	83.5	63.5	16	13	Rc3/8	98	60	32	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28
φ100	90	95	73	23	15	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28

Code	Dimensions with switch										Proximity T2YD	
Bore size (mm)	KK	M	MM	N	O	UA		UB	WF		HD	RD ^{*2}
						G1	G4		G1	G4		
φ25	M6 depth 12	10	12	28	-	-	-	-	5	5	2	20
φ32	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17	4.5	20.5
φ40	M8 depth 13	14	16	40	5	5	10	28 h9	12	17	8	23.5
φ50	M10 depth 15	17	20	50	7	5	10	35 h9	13	18	9	23.5
φ63	M10 depth 15	17	20	60	7	5	10	35 h9	13	18	13	24
φ80	M16 depth 21	22	25	77	6	5	10	43 h9	15	20	19	26.5
φ100	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22	24.5	30.5

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

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

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

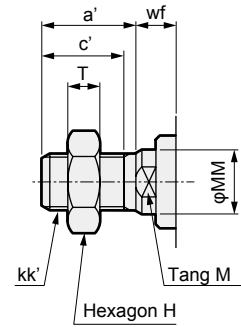
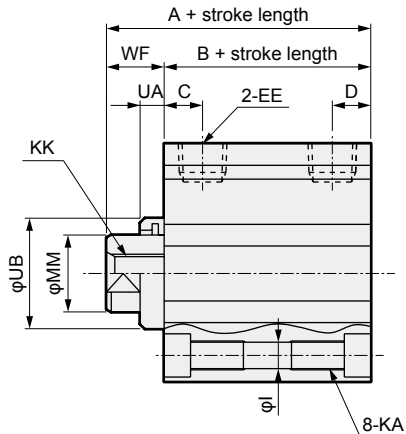
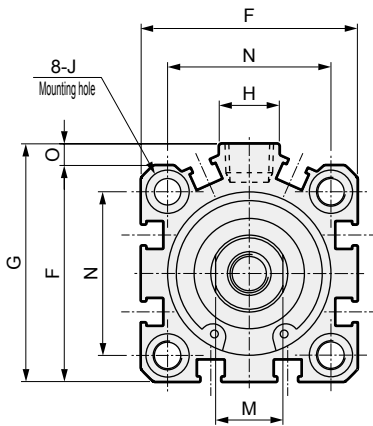
● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf	
Bore size (mm)								G1	G4
φ25	17.5	15	17	M10×1.25	10	12	6	5	5
φ32	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ40	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ50	28.5	26	27	M18×1.5	17	20	11	10	15
φ63	28.5	26	27	M18×1.5	17	20	11	10	15
φ80	35.5	32.5	32	M22×1.5	22	25	13	13	18
φ100	35.5	32.5	41	M26×1.5	27	30	16	13	18

Dimensions

● SSD2-KG1/KG4-25 to 100 (without switch)

● Rod end male thread



Code Bore size (mm)	Dimensions without switch												
	A ^{*1, *4}		B ^{*1, *4}	C	D	EE ^{*5}	F	G	H	I	J	K	KA
G1	G4												
φ25	42.5	42.5	37.5	11	6	M5	40	-	-	5.5	9 spot face depth 5.5	51	M6 depth 11
φ32	45(55)	50(60)	33(43)	10	5.5	Rc1/8	45	49.5	12.5	5.5	9 spot face depth 5.5	60	M6 depth 11
φ40	51.5(61.5)	56.5(66.5)	39.5(49.5)	11.5	8	Rc1/8	52	57	15	5.5	9 spot face depth 5.5	69	M6 depth 11
φ50	53.5(63.5)	58.5(68.5)	40.5(50.5)	10.5	10.5	Rc1/4	64	71	18	6.9	11 spot face depth 6.5	86	M8 depth 13
φ63	59(69)	64(74)	46(56)	13	11	Rc1/4	77	84	23	8.7	14 spot face depth 9	103	M10 depth 25
φ80	68.5(78.5)	73.5(83.5)	53.5(63.5)	16	13	Rc3/8	98	104	31	10.5	17.5 spot face depth 11	132	M12 depth 28
φ100	80(90)	85(95)	63(73)	23	15	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28

Code Bore size (mm)	Dimensions without switch									
	KK	M	MM	N	O	UA		UB	WF	
						G1	G4		G1	G4
φ25	M6 depth 12	10	12	28	-	-	-	-	5	5
φ32	M8 depth 13	14	16	34	4.5	5	10	23 h9	12	17
φ40	M8 depth 13	14	16	40	5	5	10	28 h9	12	17
φ50	M10 depth 15	17	20	50	7	5	10	35 h9	13	18
φ63	M10 depth 15	17	20	60	7	5	10	35 h9	13	18
φ80	M16 depth 21	22	25	77	6	5	10	43 h9	15	20
φ100	M20 depth 27	27	30	94	6.5	5	10	59 h9	17	22

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

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

*3 : For dimensions of individual accessories, refer to pages 1030 to 1033.

*4 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

*5 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.

● Rod end male thread

Code Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf	
								G1	G4
φ25	17.5	15	17	M10×1.25	10	12	6	5	5
φ32	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ40	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ50	28.5	26	27	M18×1.5	17	20	11	10	15
φ63	28.5	26	27	M18×1.5	17	20	11	10	15
φ80	35.5	32.5	32	M22×1.5	22	25	13	13	18
φ100	35.5	32.5	41	M26×1.5	27	30	16	13	18

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

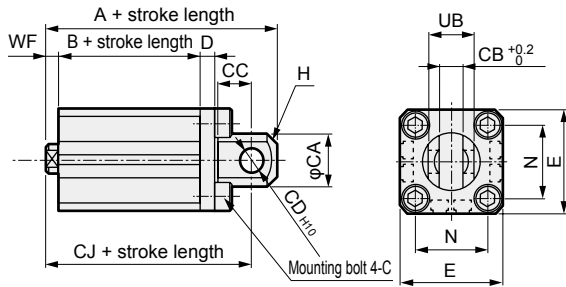
SSD2-KG1/KG4 Series

Dimensions with mounting bracket

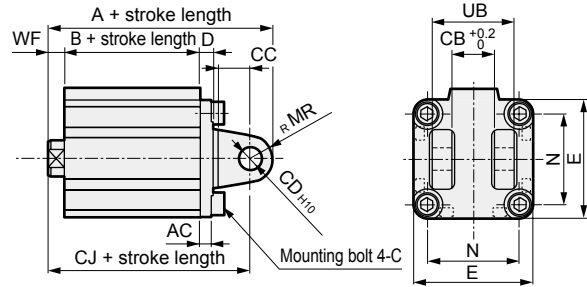


- Clevis bracket (CB)
SSD2-KG1(L)/KG4(L)-25 to 100 -CB

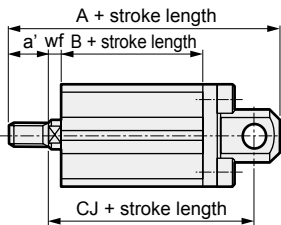
· φ25



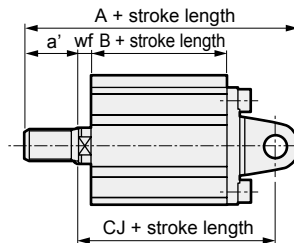
· φ32 to φ100



Rod end male thread



Rod end male thread



Code	Common dimensions													Female thread										
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF		Without switch				With switch				
		G1	G4	G1	G4	B	G1	G4	G1	G4	B	G1	G4	G1	G4	B	G1	G4						
φ25	-	24	10.2	14	10	5	40	M6×16	C5	-	28	20	5	5	72.5	72.5	37.5	62.5	62.5	82.5	82.5	47.5	72.5	72.5
φ32	4.5	-	18.2	14	10	5	45	M6×16	-	10	34	36	12	17	75	80	33	65	70	85	90	43	75	80
φ40	5	-	18.2	14	10	6	52	M6×16	-	10	40	36	12	17	83.5	88.5	39.5	73.5	78.5	93.5	98.5	49.5	83.5	88.5
φ50	6	-	22.2	20	14	7	64	M8×20	-	14	50	44	13	18	95.5	100.5	40.5	81.5	86.5	105.5	110.5	50.5	91.5	96.5
φ63	7	-	22.2	20	14	8	77	M10×25	-	14	60	44	13	18	103	108	46	89	94	113	118	56	99	104
φ80	9	-	28.2	27	18	10	98	M12×40	-	18	77	56	15	20	124.5	129.5	53.5	106.5	111.5	134.5	139.5	63.5	116.5	121.5
φ100	12	-	32.2	31	22	13	117	M12×40	-	22	94	64	17	22	147	152	63	125	130	157	162	73	135	140

Code	Male thread												
	Bore size (mm)	a'	wf		Without switch				With switch				
			G1	G4	A		B	CJ		A		B	CJ
φ25	17.5	5	5	90	90	37.5	62.5	62.5	100	100	47.5	72.5	72.5
φ32	23.5	10	15	96.5	101.5	33	63	68	106.5	111.5	43	73	78
φ40	23.5	15	20	105	110	39.5	71.5	76.5	115	120	49.5	81.5	86.5
φ50	28.5	15	20	121	126	40.5	78.5	83.5	131	136	50.5	88.5	93.5
φ63	28.5	15	20	128.5	133.5	46	86	91	138.5	143.5	56	96	101
φ80	35.5	18	23	158	163	53.5	104.5	109.5	168	173	63.5	114.5	119.5
φ100	35.5	18	23	178.5	183.5	63	121	126	188.5	193.5	73	131	136

SSD2-KG1/KG4 Series

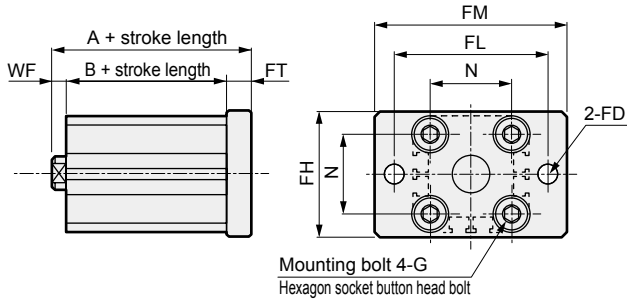
Dimensions with mounting bracket

Dimensions with mounting bracket

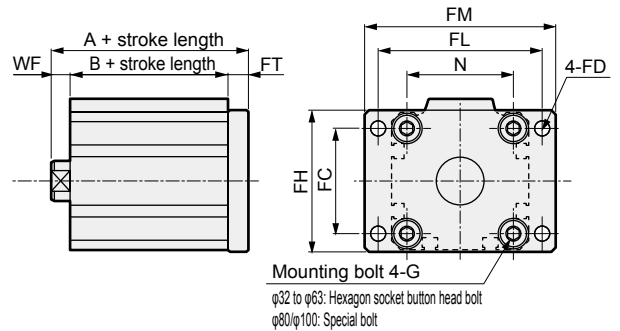


- Head side flange (FB)
SSD2-KG1(L)/KG4(L)-20 to 100 -FB

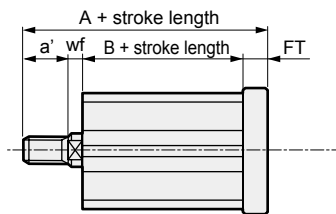
· $\phi 25$



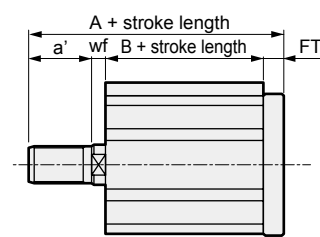
· $\phi 32$ to $\phi 100$



Rod end male thread



Rod end male thread



Code	Common dimensions								Female thread							
	FC	FD	FH	FL	FM	FT	N	G	WF		Without switch			With switch		
									G1	G4	A		B	A		B
$\phi 25$	-	6.6	42	52	64	8	28	M6×16	5	5	50.5	50.5	37.5	60.5	60.5	47.5
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	12	17	53	58	33	63	68	43
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	12	17	59.5	64.5	39.5	69.5	74.5	49.5
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	13	18	62.5	67.5	40.5	72.5	77.5	50.5
$\phi 63$	60	9	80	92	108	9	60	M10×25	13	18	68	73	46	78	83	56
$\phi 80$	77	11	99	116	134	11	77	M12×40	15	20	79.5	84.5	53.5	89.5	94.5	63.5
$\phi 100$	94	11	117	136	154	11	94	M12×40	17	22	91	96	63	101	106	73

Code	Male thread									
	Bore size (mm)	a'	wf		Without switch			With switch		
			G1	G4	A		B	A		B
$\phi 25$	17.5	5	5	68	68	37.5	78	78	47.5	
$\phi 32$	23.5	10	15	74.5	79.5	33	84.5	89.5	43	
$\phi 40$	23.5	15	20	81	86	39.5	91	96	49.5	
$\phi 50$	28.5	15	20	88	93	40.5	98	103	50.5	
$\phi 63$	28.5	15	20	93.5	98.5	46	103.5	108.5	56	
$\phi 80$	35.5	18	23	113	118	53.5	123	128	63.5	
$\phi 100$	35.5	18	23	122.5	127.5	63	132.5	137.5	73	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

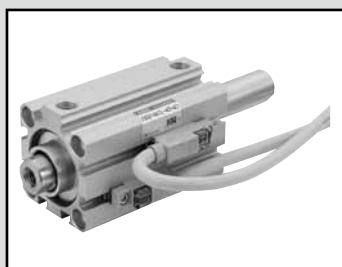
ShkAbs

FJ

FK

Spd
Contr

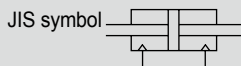
Ending



Compact cylinder double acting/
double rod/coil scraper

SSD2-DG1 Series

● Bore size: $\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



Compact cylinder double acting/
double rod/anti-spatter adherence

SSD2-DG4 Series



Specifications

Descriptions	SSD2-DG1/DG4 SSD2-DG1L/DG4L (with switch)							
	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size mm	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)							
Min. working pressure MPa	0.2 (≈ 29 psi, 2 bar)				0.15 (≈ 22 psi, 1.5 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)							
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	Rc1/8			Rc1/4			Rc3/8	
Stroke tolerance mm	$^{+1.0}$ 0							
Working piston speed mm/s	50 to 500					50 to 300		
Cushion	None							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

Stroke length

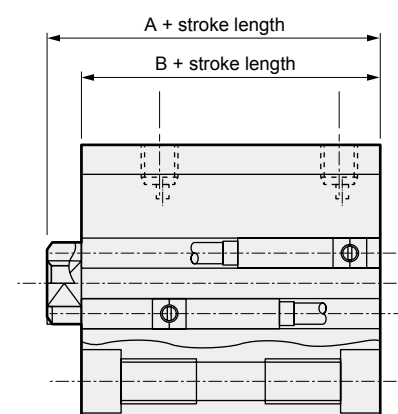
Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 25$	5/10/15/20/25/ 30/35/40/45/50	50	1(10) The value in () is for types with one or two switches.
$\phi 32$	5/10/15/20/25/30/ 35/40/45/50/75/100	100	
$\phi 40$	10/15/20/25 30/35/40/45/50 75/100		
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

*1: The custom stroke is available in 1 mm increments.

Custom stroke length

● SSD2-DG1, DG4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-DG1-32-38 A +2 mm spacer is added to the SSD2-DG1-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 90.5mm.	



Switch specifications

● Proximity switch for AC magnetic field

Descriptions	Proximity 2-wire	
	T2YD	
Applications	Dedicated for programmable controller	
Indicator lamp	Red/green LED (Lit when ON)	
Load voltage	24 VDC ±10%	
Load current	5 to 20 mA	
Internal voltage drop	6 V or less	
Leakage current	1.0 mA or less	
Output delay time *1 (Delay ON, delay OFF)	60 ms or less	
Lead wire length	1m (oil resistant vinyl cabtyre cable φ 6, 0.5 mm ² x 2-conductor) *2, *3	
Insulation resistance	100 MΩ and over at 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Max. shock resistance	980 m/s ²	
Ambient temperature	-10 to +60°C	
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance	
Weight	g	1 m:61 3 m:166 5 m:272

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

*3: Flame-resistant lead wires are available as options.

*4: This switch cannot be used in DC environments.

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ25	234	325	249	340	265	356	281	372	297	388	313	403	329	419	344	435	360	461	375	486	-	-	-	-
φ32	308	423	354	468	399	514	446	560	490	605	537	651	584	696	631	741	678	786	725	831	960	1056	1195	1281
φ40	446	589	473	616	499	642	526	669	553	696	579	732	606	754	632	775	659	802	685	828	818	961	950	1093
φ50	-	-	746	940	796	989	846	1041	896	1089	946	1139	996	1189	1046	1239	1098	1291	1149	1343	1407	1603	1664	1863
φ63	-	-	1203	1567	1278	1642	1353	1717	1428	1792	1503	1867	1579	1943	1654	2018	1729	2093	1804	2168	2179	2543	2554	2918
φ80	-	-	2112	2042	2229	2420	2345	2798	2462	2915	2578	3031	2695	3153	2812	3275	2929	3392	3045	3508	3628	4091	4210	4673
φ100	-	-	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	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ25	Push/Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push/Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push/Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push/Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push/Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push/Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push/Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2-DG1/DG4 Series

How to order

Without switch (without magnet for switch)

SSD2-DG4 - **32** - **10** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD2-DG4L - **32** - **10** - **T2YD** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Stroke length

D Switch model No.

E Switch quantity

F Option

G Mounting bracket
*1

H Accessory
*2

Code	Content				
A Model No.					
SSD2-DG1	Double acting/double rod/coil scraper				
SSD2-DG1L	Double acting/double rod/coil scraper/with switch				
SSD2-DG4	Double acting/double rod/anti-spatter adherence				
SSD2-DG4L	Double acting/double rod/anti-spatter adherence/with switch				
B Bore size (mm)					
25	φ25				
32	φ32				
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
C Stroke length (mm)					
Refer to the stroke length table on the following page.					
D Switch model No.					
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire
Straight	L-shaped				
T2YD*	-	Proximity	DC	2-color display for AC magnetic field	2-wire
T2YDT*	-				
T2YDU (Custom order product)					
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
E Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
F Option					
Blank	Rod end female thread				
N	Rod end male thread				
G Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order product)				
FA	Rod side flange (custom order product)				
H Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

How to order switch

SW - **T2YD**

Switch model No.
(Item **D** above)

⚠ Precautions for model No. selection

*1: The mounting bracket is attached at shipment.

*2: "I" and "Y" cannot be selected together.

[Example of model No.]

SSD2-DG4L-32-10-T2YD-R-N

Model: Compact cylinder

Double acting, double rod, anti-spatter adherence

B Bore size : φ32 mm

C Stroke length : 10 mm

D Switch model No.: Proximity switch for AC magnetic field
T2YD, lead wire length 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

[Stroke length table]

Stroke length (mm)		Applicable bore size							
		25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●					
	10	●	●	●	●	●	●	●	
	15	●	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●	
	25	●	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●	
	35	●	●	●	●	●	●	●	
	40	●	●	●	●	●	●	●	
	45	●	●	●	●	●	●	●	
	50	●	●	●	●	●	●	●	
	75		●	●	●	●	●	●	
100		●	●	●	●	●	●		
Min. stroke length (mm) *1		1							
Max. stroke length (mm)		50	100						
Custom stroke length *2		In 1 mm increments							

*1: Less than 10 mm stroke length with AC magnetic field proof switch is not available.

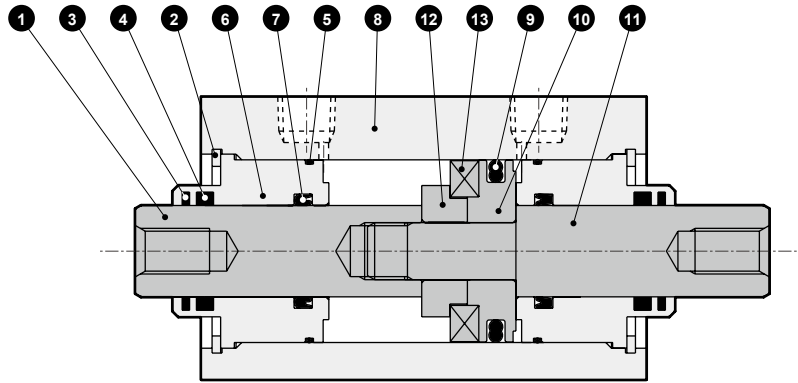
*2: The total length is the same as that of the next longer standard stroke length.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

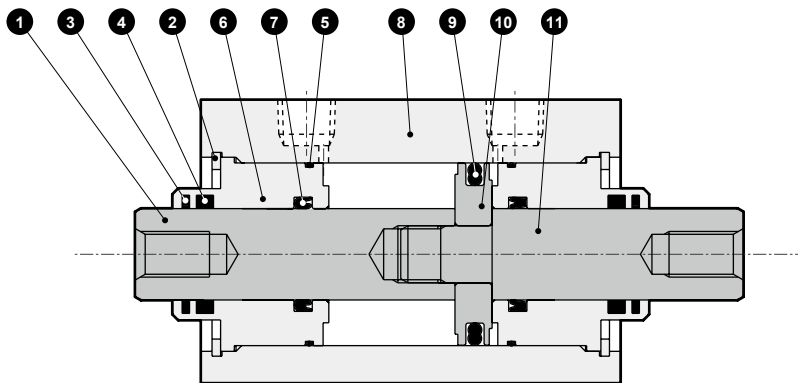
SSD2-DG1/DG4 Series

Internal structure and parts list

● SSD2-DG1L/DG4L-25 to 50 (double acting/double rod/anti-spatter adherence/with switch)



● SSD2-DG1/DG4-25 to 50 (double acting/double rod/anti-spatter adherence)



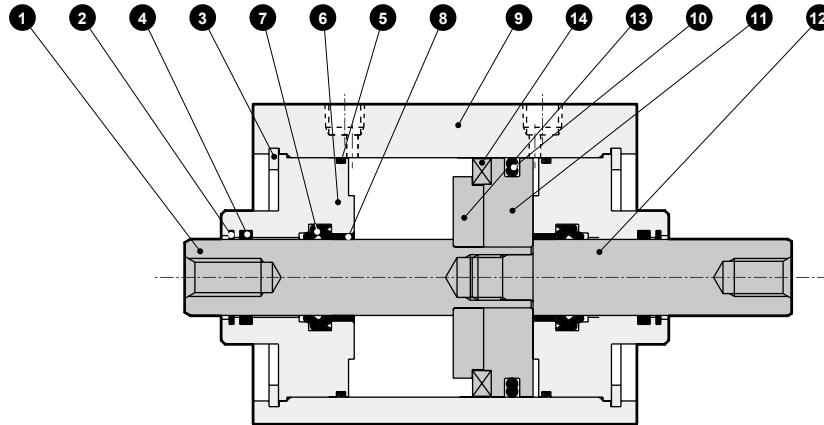
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating	8	Body	Aluminum alloy	Hard alumite
2	C type snap ring for hole	Steel	Zinc phosphate	9	Piston packing	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Piston rod B	φ25: Stainless steel φ32 to φ50: Steel	Industrial chrome plating
5	Rod metal gasket	Nitrile rubber		12	Spacer	Aluminum alloy	φ25, φ32: Chromate
6	Rod metal	Aluminum alloy	Alumite	13	Magnet	Plastic	
7	Rod packing	Nitrile rubber					

Repair parts list

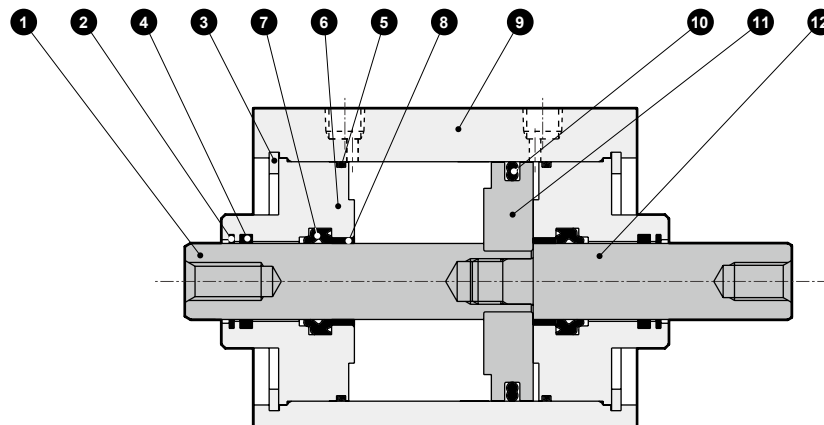
Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ25	SSD2-DG1-25K	3 5 7 9
φ32	SSD2-DG1-32K	
φ40	SSD2-DG1-40K	
φ50	SSD2-DG1-50K	

Internal structure and parts list

- SSD2-DG1L/DG4L-63 to 100 (double acting/double rod/anti-spatter adherence/with switch)



- SSD2-DG1/DG4-63 to 100 (double acting/double rod/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Bush	Oiles drymet	
2	Coil scraper	Phosphor bronze		9	Body	Aluminum alloy	Hard alumite
3	C type snap ring for hole	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		12	Piston rod B	Steel	Industrial chrome plating
6	Rod metal	Aluminum alloy	Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ63	SSD2-DG1-63K	
φ80	SSD2-DG1-80K	2 5 7 10
φ100	SSD2-DG1-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

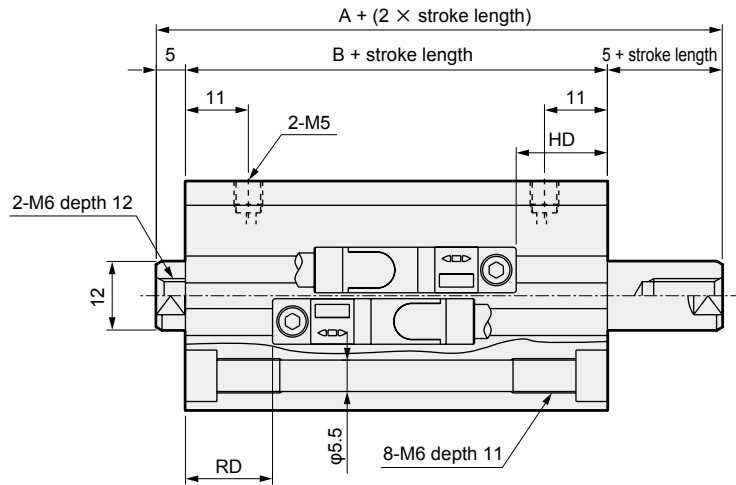
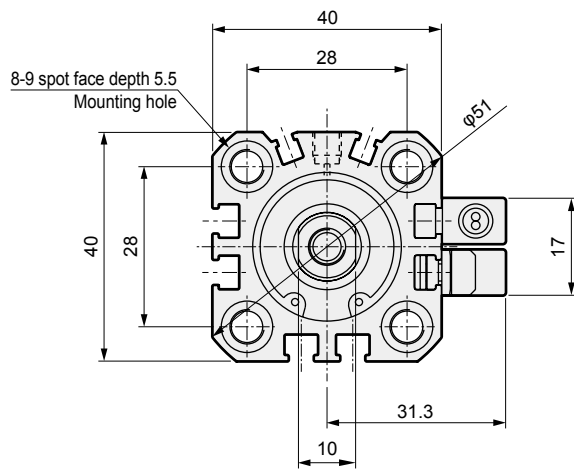
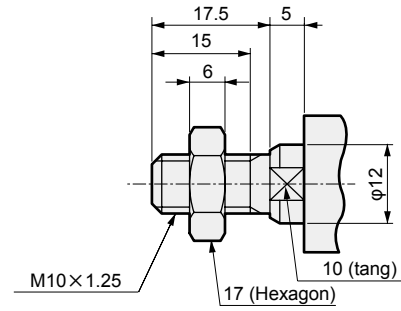
Ending

SSD2-DG1/DG4 Series

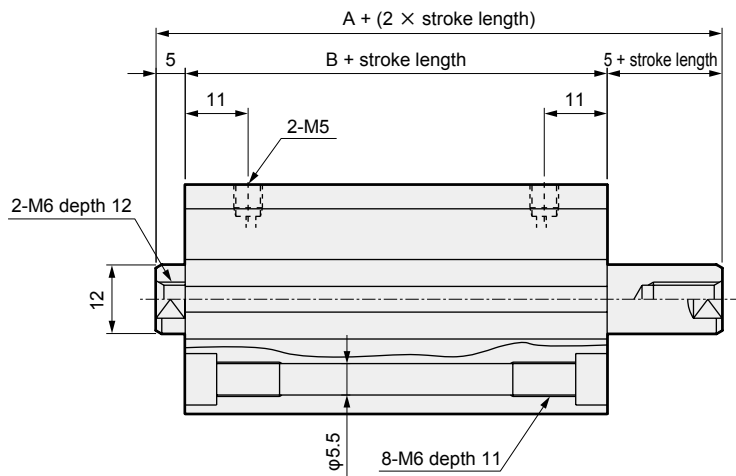
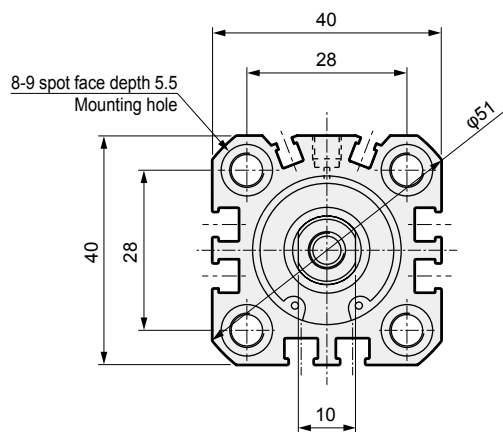
Dimensions

● SSD2-DG1L/DG4L-25 (with switch)

● Rod end male thread



● SSD2-DG1/DG4-25 (without switch)



Code	Without switch		Dimensions with switch					
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	FA	FB	RD ^{*2}	HD
FJ	59	49	69	59	31.5	17	20	21.5

*1 : To calculate A+ (2 x stroke length), B+ stroke length or 5+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

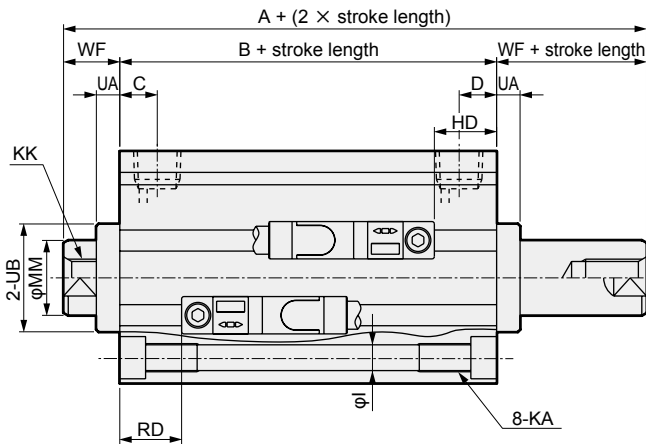
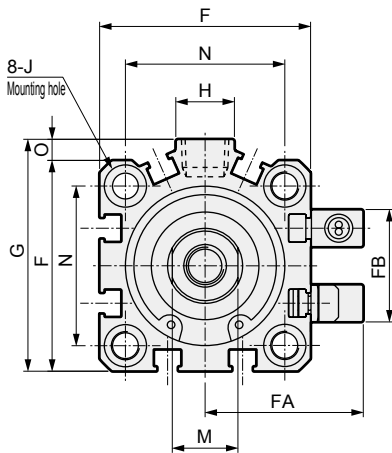
*3 : For dimensions of individual accessories, refer to pages 1030 to 1033.

SSD2-DG1/DG4 Series

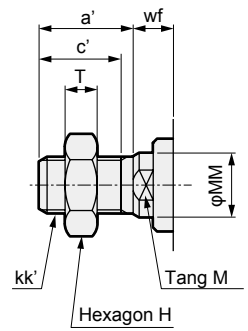
Double acting/double rod

Dimensions

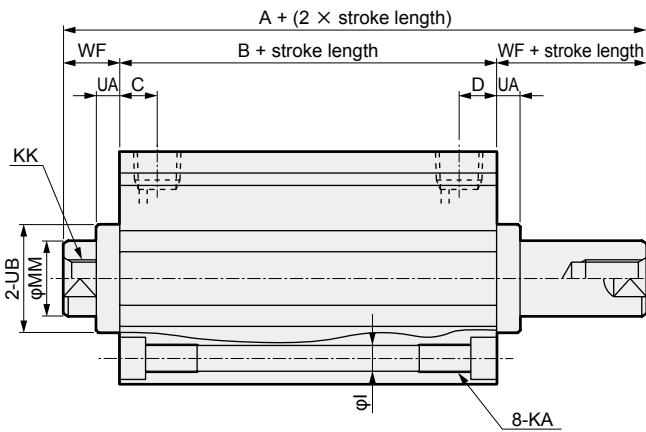
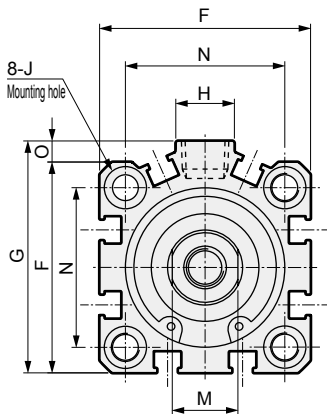
● SSD2-DG1L/DG4L-32 to 100 (with switch)



● Rod end male thread



● SSD2-DG1/DG4-32 to 100 (without switch)



Code	Without switch				Common dimensions with switch													
	A ^{*1, *4}		B ^{*1, *4}	A ^{*1}		B ^{*1}	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
	G1	G4		G1	G4													
φ32	54.5(64.5)	64.5(74.5)	30.5(40.5)	64.5	74.5	40.5	8	8	Rc1/8	45	33.5	24	49.5	12.5	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ40	64(74)	74(84)	40(50)	74	84	50	12	12	Rc1/8	52	37	31	57	15	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
φ50	66.5(76.5)	76.5(86.5)	40.5(50.5)	76.5	86.5	50.5	10.5	10.5	Rc1/4	64	43	32	71	18	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
φ63	68(78)	78(88)	42(52)	78	88	52	13	13	Rc1/4	77	49.5	32	84	23	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
φ80	81(91)	91(101)	51(61)	91	101	61	16	16	Rc3/8	98	60	32	104	31	10.5	17 spot face depth 11	M12 depth 28	M16 depth 21
φ100	94.5(104.5)	104.5(114.5)	60.5(70.5)	104.5	114.5	70.5	23	23	Rc3/8	117	69.5	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Code	Common dimensions with switch								With T2YD switch		
	M	MM	N	O	UA		UB	WF		RD ^{*2}	HD
					G1	G4		G1	G4		
φ32	14	16	34	4.5	5	10	23 h9	12	17	20.5	22
φ40	14	16	40	5	5	10	28 h9	12	17	23.5	27.5
φ50	17	20	50	7	5	10	35 h9	13	18	23.5	27.5
φ63	17	20	60	7	5	10	35 h9	13	18	24	28.5
φ80	22	25	77	6	5	10	43 h9	15	20	26.5	35
φ100	27	30	94	6.5	5	10	59 h9	17	22	30.5	40.5

*1 : To calculate A+ (2 x stroke length), B+ stroke length or WF+ stroke length when using a custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke length is 17 mm, apply the standard stroke length 20 mm.

*2 : RD dimensions for custom stroke length differ from these dimensions according to the setting.

*3 : For dimensions of individual accessories, refer to pages 1030 to 1033.

*4 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf	
								G1	G4
φ32	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ40	23.5	20.5	22	M14×1.5	14	16	8	10	15
φ50	28.5	26	27	M18×1.5	17	20	11	10	15
φ63	28.5	26	27	M18×1.5	17	20	11	10	15
φ80	35.5	32.5	32	M22×1.5	22	25	13	13	18
φ100	35.5	32.5	41	M26×1.5	27	30	16	13	18

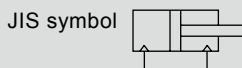
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MGR2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Compact cylinder double acting single rod/environment-resistant scraper

SSD2-G5 Series

● Bore size: $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



Specifications

Descriptions	SSD2-G5 SSD2-G5L (with switch)									
	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size	mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)								
Min. working pressure	MPa	0.2 (≈ 29 psi, 2 bar)				0.15 (≈ 22 psi, 1.5 bar)				
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)								
Ambient temperature	$^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)								
Port size		M5		Rc1/8 (*1)		Rc1/4		Rc3/8		
Stroke tolerance	mm	+1.0 0								
Working piston speed	mm/s	50 to 500					50 to 300			
Cushion		None								
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Allowable absorbed energy J		0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

*1: The $\phi 32$ bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 20$	5/10/15/20/25/ 30/35/40/45/50	50	1
$\phi 25$			
$\phi 32$	5/10/15/20/25/30/35/40/ 45/50/75/100	100	
$\phi 40$			
$\phi 50$	10/15/20/25/30/35/40/4 5/50/75/100	100	
$\phi 63$			
$\phi 80$			
$\phi 100$			

Min. stroke length with switch (2 switches)

Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
$\phi 20$	5	5
$\phi 25$		
$\phi 32$		
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

1: Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

*2: Values in () are for the type with 1 on rod side.

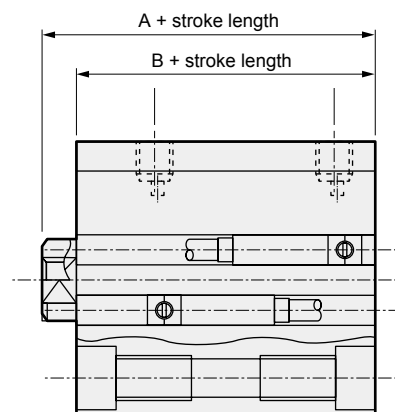
*1: For the type with switch, refer to the table of switch mounting quantity and minimum stroke length.

*2: The custom stroke length is available in 1 mm increments. The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

Custom stroke length

● SSD2-G5 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-G5-32-38 A +2 mm spacer is added to the SSD2-G5-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 73mm.	



Switch specifications (F type switch)

- 1-color/2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire		Proximity 2-wire		Proximity 3-wire		
	F2S		F3S		F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (Custom order)	F3YH/F3YV
Applications	Dedicated for programmable controller		For programmable controller, relay		Dedicated for programmable controller		For programmable controller, relay		
Output method	-		NPN output		-		NPN output	PNP output	NPN output
Power supply voltage	-		10 to 28 VDC		-		10 to 28 VDC	4.5 to 28 VDC	10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 20 mA		50 mA or less		5 to 20 mA		100 mA or less	50 mA or less	
Indicator lamp	LED (Lit when ON)				Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Yellow LED (Lit when ON)		Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less		1 mA or less		10 µA or less		
Weight	g				1 m:10 3 m:29				

Switch specifications (T type switch)

- 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire	
	T1H/T1V	T2H/T2V	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD		
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		Dedicated for programmable controller	
Output method	-		NPN output				PNP output				-		-			
Pwr. supp. V.	-		10 to 28 VDC				-				-		-			
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight	g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272		

*1 : The above max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*2 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

*3 : Refer to Ending Page 1 for other switch specifications.

*4 : Dimensions depend on switch model No. Refer to Ending Pages 18 and 23 for details.

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ20	95	150	107	182	120	195	133	208	145	220	158	233	171	246	184	259	197	272	210	285	-	-	-	-
φ25	131	222	146	237	162	253	178	269	194	285	209	300	225	316	241	332	257	348	272	363	-	-	-	-
φ32	185	299	207	321	229	343	251	365	272	386	294	408	316	430	338	452	360	474	381	495	552	600	662	710
φ40	269	412	296	439	322	465	349	492	376	519	402	545	429	572	455	598	482	625	508	651	726	784	858	916
φ50	-	-	476	670	518	712	560	754	602	796	645	839	687	881	729	923	771	965	813	1007	1160	1217	1370	1427
φ63	-	-	703	982	758	1037	813	1092	868	1147	923	1202	999	1258	1074	1313	1150	1369	1144	1423	1332	1696	1709	1973
φ80	-	-	1240	1653	1327	1740	1413	1826	1500	1908	1586	1990	1673	2082	1760	2173	1847	2265	1933	2346	2701	2754	3136	3211
φ100	-	-	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	Working pressure MPa											
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²	
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²	
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²	
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²	
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²	
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²	
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³	
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³	
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³	
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³	
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³	
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³	
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³	
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³	
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³	
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³	

SSD2-G5 Series

How to order

Without switch (without magnet for switch)

SSD2-G5 - **20** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD2-G5L - **20** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.

*1

*4

F Switch quantity

G Option

H Mounting bracket

*2

I Accessory

*3

Precautions for model No. selection

1 : The T8 switch cannot be mounted on the φ20 to φ32 bore sizes.

*2 : The mounting bracket is attached at shipment. The WF/wf dimension of the cylinder for "LB" and "FA" is set 10 mm longer than that of standard products. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

*3 : "I" and "Y" cannot be selected together.

*4 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

*5 : 5 m lead wire for the F type switch is a custom order product.

[Example of model No.]

SSD2-G5L-32-5-T0H-R-N-LB-I

Model: Compact cylinder

Double acting/single rod/environment-resistant scraper

B Bore size : φ32 mm

C Port thread : Type of Rc thread

D Stroke length : 5 mm

E Switch model : Reed switch T0H
No. Lead wire length 1 m

F Switch quantity : 1 on rod side

G Option : Rod end male thread

H Mounting bracket : Axial foot

I Accessory : Rod eye

Code	Content															
A Model No.																
SSD-G5	Double acting/single rod/environment-resistant scraper (custom order product)															
SSD-G5L	Double acting/single rod/environment-resistant scraper/switch (custom)															
B Bore size (mm)																
20	φ20															
25	φ25															
32	φ32															
40	φ40															
50	φ50															
63	φ63															
80	φ80															
100	φ100															
C Port thread																
Blank	Rc thread/M5 thread															
NN	NPT thread (φ32 and over) (custom order product)															
GN	G thread (φ32 and over) (custom order product)															
D Stroke length (mm)																
Refer to the stroke length table on the following page.																
E Switch model No.																
Lead wire	Lead wire	Contact	Voltage	Display	Lead	Bore size										
						AC	DC	Line	20	25	32	40	50	63	80	100
Straight	L-shaped	Proximity	●	1-color display	2-wire	●	●									
					3-wire	●	●									
F2S*	F3S*	Proximity	●	1-color display	2-wire	●	●									
					3-wire	●	●									
F2H*	F2V*	Proximity	●	1-color display (PNP output) (custom)	3-wire	●	●									
					3-wire	●	●									
F3H*	F3V*	Proximity	●	2-color display	2-wire	●	●									
					3-wire	●	●									
F3PH*	F3PV*	Proximity	●	2-color display	2-wire	●	●									
					3-wire	●	●									
F2YH*	F2YV*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
F3YH*	F3YV*	Reed	●	Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T0H*	T0V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T5H*	T5V*	Reed	●	Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T8H*	T8V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T1H*	T1V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T2H*	T2V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T3H*	T3V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T3PH*	T3PV*	Proximity	●	1-color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	●	●	●
					3-wire	●	●	●	●	●	●	●	●	●	●	●
T2WH*	T2WV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T2YH*	T2YV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T3WH*	T3WV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T3YH*	T3YV*	Proximity	●	2-color display	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T2YD*	-	Proximity	●	for AC magnetic field	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T2YDT*	-	Proximity	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*	Proximity	●	1-color display off-delay	2-wire	●	●	●	●	●	●	●	●	●	●	●
					2-wire	●	●	●	●	●	●	●	●	●	●	●

* Lead wire length

Blank	1 m (standard)
3	3 m (option)
5	5 m (option) *5

F Switch quantity

R	1 on rod side
H	1 on head side
D	2

G Option

Blank	Rod end female thread
N	Rod end male thread

H Mounting bracket

Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

I Accessory (available when rod end male thread "N" is selected)

I	Rod eye
Y	Rod clevis (pin and snap ring attached)

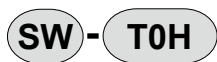
[Stroke length table]

Stroke length (mm)	Applicable bore size								
	20	25	32	40	50	63	80	100	
Standard stroke length	5	●	●	●	●				
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●	●
	35	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	45	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	75			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke length (mm) *1	1								
Max. stroke length (mm)	50		100						
Custom stroke length *2	In 1 mm increments								

1: Less than 5 mm for 1-color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 976 for the min. stroke length with switch.

*2: The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

How to order switch



Switch model No.

(Item ⑤ on the previous page)

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80
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
Clevis bracket (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)	φ100						
Mounting bracket							
Foot (LB)	SSD2-LB-100						
Flange (FA/FB)	SSD2-FA-100						
Clevis bracket (CB)	SSD2-CB-100						

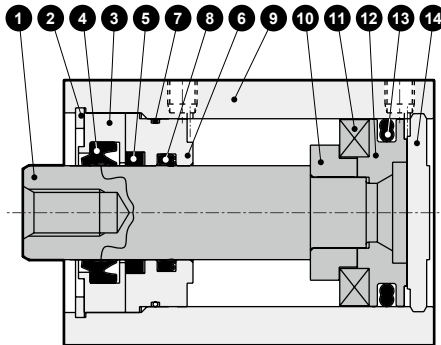
*1: The foot mounting bracket is provided as 2 pcs./set.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

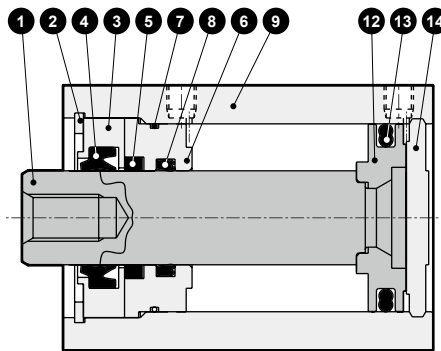
SSD2-G5 Series

Internal structure and parts list (φ20 to φ50)

- SSD2-G5L-20, 25
(double acting/environment-resistant scraper/with switch)



- SSD2-G5-20, 25
(double acting/environment-resistant scraper)



Main parts list

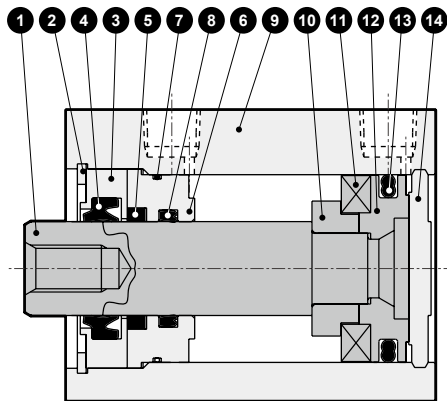
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel	Industrial chrome plating	9	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Zinc phosphate	10	Spacer	Aluminum alloy	Chromate
3	Rod metal 1	Special aluminum	Alumite	11	Magnet	Plastic	
4	Scraper	Nitrile rubber		12	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		13	Piston packing	Nitrile rubber	
6	Rod metal	Special aluminum	Alumite	14	Cover	Stainless steel	
7	Rod metal gasket	Nitrile rubber					
8	Rod packing	Nitrile rubber					

Repair parts list

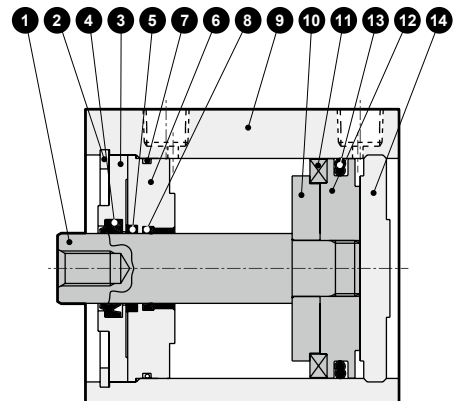
Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ20	SSD2-G5-20K	4 5 7 8 13
φ25	SSD2-G5-25K	

Internal structure and parts list (φ63 to φ100)

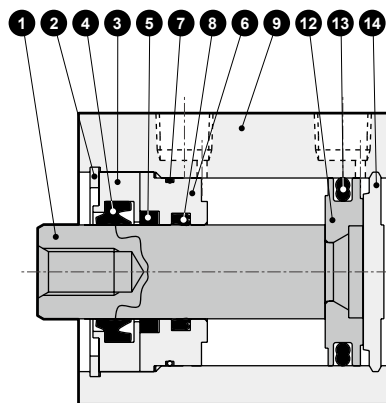
- SSD2-G5L-32 to 50
(double acting/environment-resistant scraper/with switch)



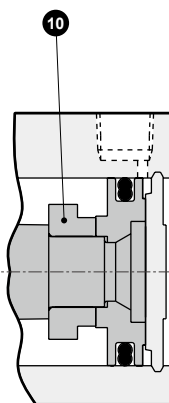
- SSD2-G5L-63 to 100
(double acting/environment-resistant scraper/with switch)



- SSD2-G5L-32 to 50
(double acting/environment-resistant scraper)

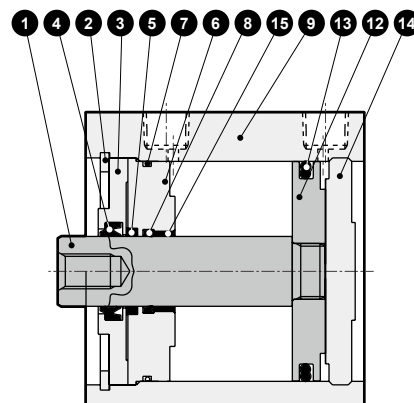


50 st or less

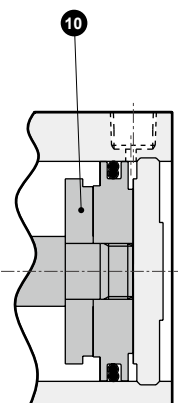


Over 50 st

- SSD2-G5L-63 to 100
(double acting/environment-resistant scraper)



50 st or less



Over 50 st

Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Rod packing	Nitrile rubber	
2	C type snap ring	Steel	Zinc phosphate	9	Body	Aluminum alloy	Hard alumite
3	Rod metal 1	φ32 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ32 to φ50: Alumite φ63 to φ100: Chromate	10	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		11	Magnet	Plastic	
5	Lube keeping structure	Special rubber		12	Piston	Aluminum alloy	Chromate
6	Rod metal	φ32 to φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ32 to φ50: Alumite φ63 to φ100: Chromate	13	Piston packing	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		14	Cover	Aluminum alloy	Alumite
				15	Bush	Oiles drymet	

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ32	SSD2-G5-32K	4 5 7 8 13
φ40	SSD2-G5-40K	
φ50	SSD2-G5-50K	
φ63	SSD2-G5-63K	
φ80	SSD2-G5-80K	
φ100	SSD2-G5-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

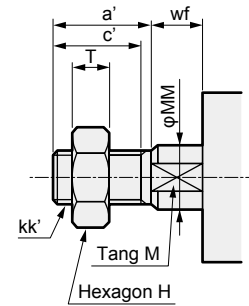
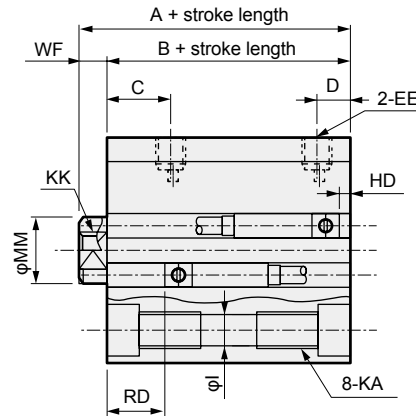
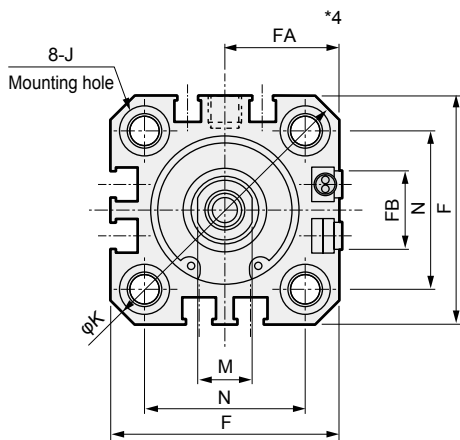
SSD2-G5 Series

Dimensions (φ20, φ25)

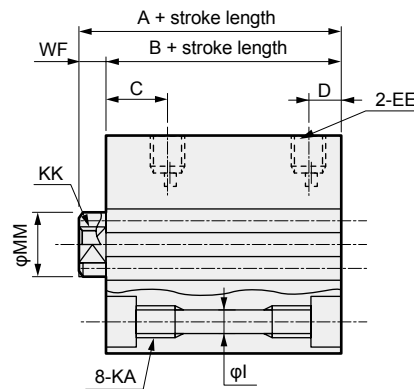
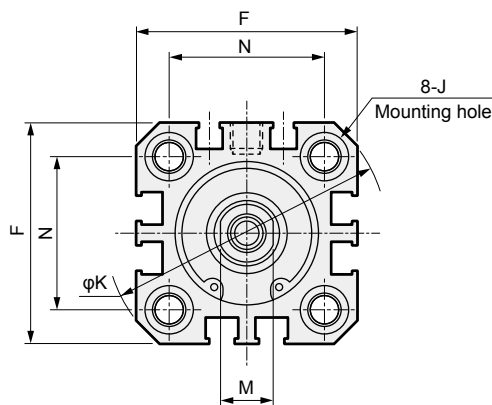
● SSD2-G5L-20, 25 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread

φ20/φ25



● SSD2-G5-20, 25 (without switch)



Code	Without switch		Common dimensions with switch							
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB
φ20	34	29.5	44	39.5	18	5.5	M5	36	18.5(22)	12.5
φ25	37.5	32.5	47.5	42.5	21	6	M5	40	20.5(24)	13.5

Code	Common dimensions with switch									
	I	J	K	KA	KK	M	MM	N	WF	
φ20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	
φ25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5	

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S	
	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD
φ20	3	17.5	3	17.5	5	19.5	7.5	22	6.5	21
φ25	4	19.5	4	19.5	6	21.5	8.5	24	7.5	23

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the radial lead wire.

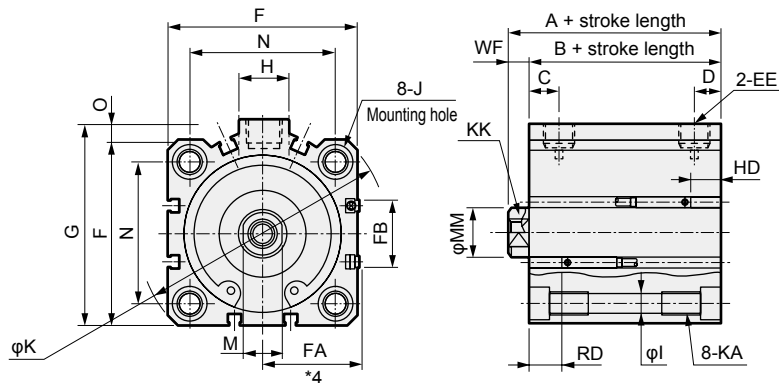
*5 : For dimensions with individual accessories, refer to pages 1030 to 1033.

Rod end male thread

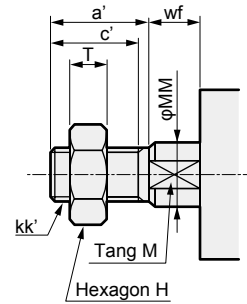
Code	a'	c'	H	kk'	M	MM	T	wf
	φ20	14	12	13	M8	8	10	5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions

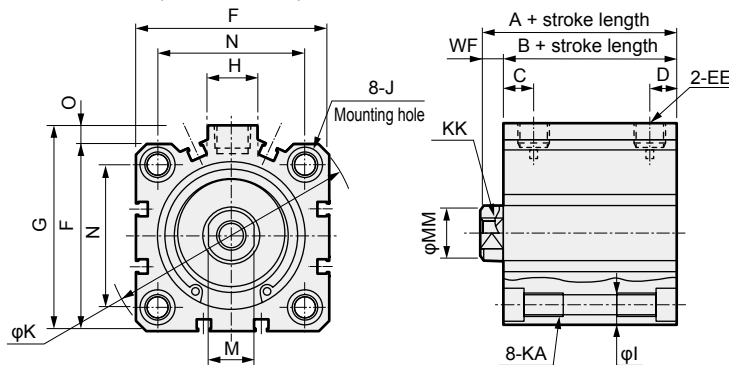
● SSD2-G5L-32 to 100 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)



● Rod end male thread



● SSD2-G5-32 to 100 (without switch)



Code	Without switch		Common dimensions with switch									
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C ^{*7}	D ^{*7}	EE ^{*8}	F	FA ^{*4}	FB	G	H
φ32	40(50)	33(43)	50	43	18(20)	8(5.5)	Rc1/8	45	23(26.5)	20.5	49.5	12.5
φ40	46.5(56.5)	39.5(49.5)	56.5	49.5	22(21.5)	8.5(8)	Rc1/8	52	26.5(30)	27.5	57	15
φ50	48.5(58.5)	40.5(50.5)	58.5	50.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18
φ63	54(64)	46(56)	64	56	23	11	Rc1/4	77	39(42.5)	28.5	84	23
φ80	63.5(73.5)	53.5(63.5)	73.5	63.5	26	13	Rc3/8	98	49.5(53)	28.5	104	31
φ100	75(85)	63(73)	85	73	33	15	Rc3/8	117	59(62.5)	28.5	123.5	38

Code	Common dimensions with switch									
	I	J	K	KA	KK	M	MM	N	O	WF
φ32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7
φ40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7
φ50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8
φ63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8
φ80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10
φ100	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV	
	HD	RD	HD	RD	HD	RD
φ32	4	19.5	4	19.5	6	21.5
φ40	7	22	7	22	8.5	23.5
φ50	7.5	22.5	7.5	22.5	9	24
φ63	12.5	23	12.5	23	14	24.5
φ80	17.5	25.5	17.5	25.5	19	27
φ100	23	29.5	23	29.5	24.5	31

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the radial lead wire.

*5 : For dimensions of individual accessories, refer to pages 1030 to 1033.

*6 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

*7 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

*8 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5.

Rod end male thread

Code	Bore size	a'	c'	H	kk'	M	MM	T	wf
		φ32	23.5	20.5	22	M14×1.5	14	16	8
φ40	23.5	20.5	22	M14×1.5	14	16	8	5	
φ50	28.5	26	27	M18×1.5	17	20	11	5	
φ63	28.5	26	27	M18×1.5	17	20	11	5	
φ80	35.5	32.5	32	M22×1.5	22	25	13	8	
φ100	35.5	32.5	41	M26×1.5	27	30	16	8	

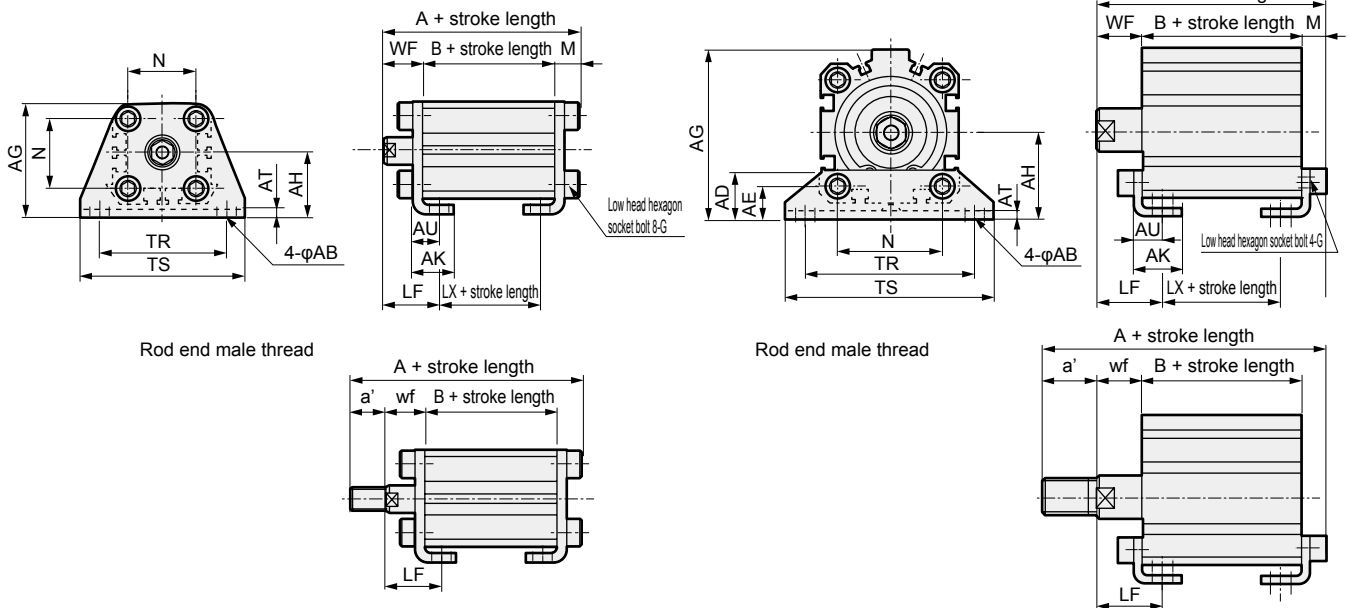
SSD2-G5 Series

Dimensions with mounting bracket

● Axial foot (LB)

SSD2-G5(L)-20 to 100 -LB
 · φ20/φ25

· φ32 to φ100

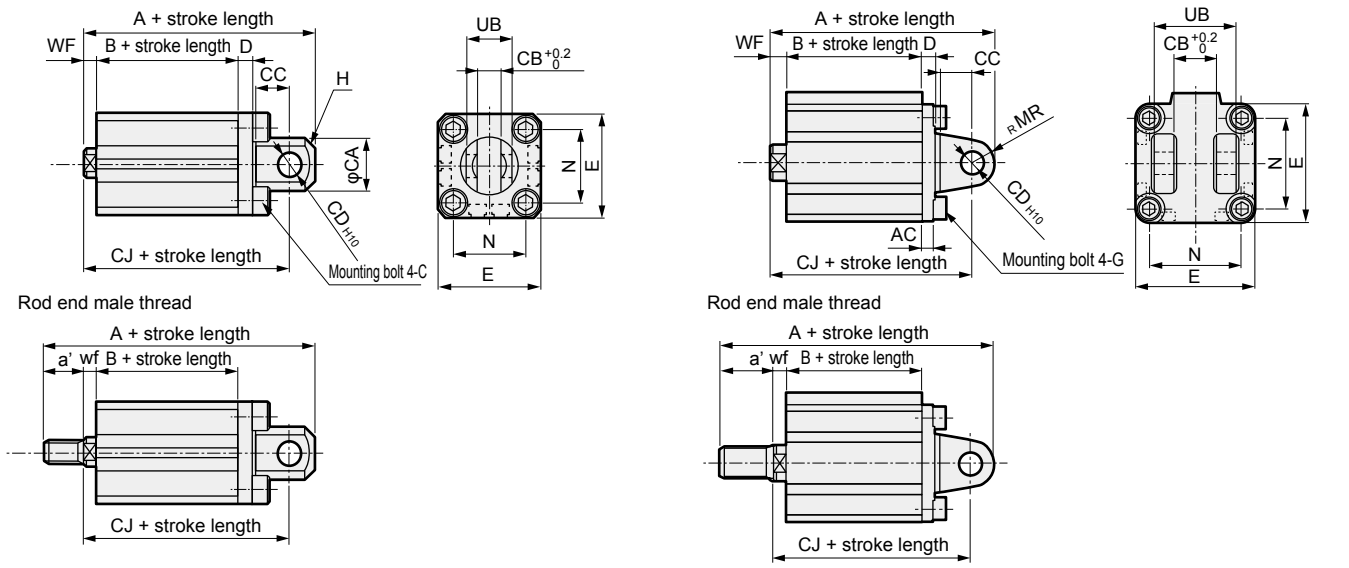


Code	Common dimensions													Female thread						Male thread										
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	LF	WF	Without switch			With switch			a'	wf	Without switch			With switch		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C								
φ20	7	-	-	42	24	15	3.2	9.2	M6×16	25.5	48	62	7.2	20.5	14.5	51.2	29.5	17.5	61.2	39.5	27.5	14	14.5	65.2	29.5	17.5	75.2	39.5	27.5	
φ25	7	-	-	46	26	16.5	3.2	10.7	M6×16	28	52	66	7.2	22.5	15	54.7	32.5	17.5	64.7	42.5	27.5	17.5	15	72.2	32.5	17.5	82.2	42.5	27.5	
φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	7.2	25	17	57.2	33	17	67.2	43	27	23.5	15	78.7	33	17	88.7	43	27	
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	25	17	63.7	39.5	23.5	73.7	49.5	33.5	23.5	15	85.2	39.5	23.5	95.2	49.5	33.5	
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	29.5	18	66.7	40.5	17.5	76.7	50.5	27.5	28.5	15	92.2	40.5	17.5	102.2	50.5	27.5	
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	31	18	73.2	46	20	83.2	56	30	28.5	15	98.7	46	20	108.7	56	30	
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	35	20	85	53.5	23.5	95	63.5	33.5	35.5	18	118.5	53.5	23.5	128.5	63.5	33.5	
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	39	22	98	63	29	108	73	39	35.5	18	129.5	63	29	139.5	73	39	

● Clevis bracket (CB)

SSD2-G5(L)-20 to 100 -CB
 · φ20/φ25

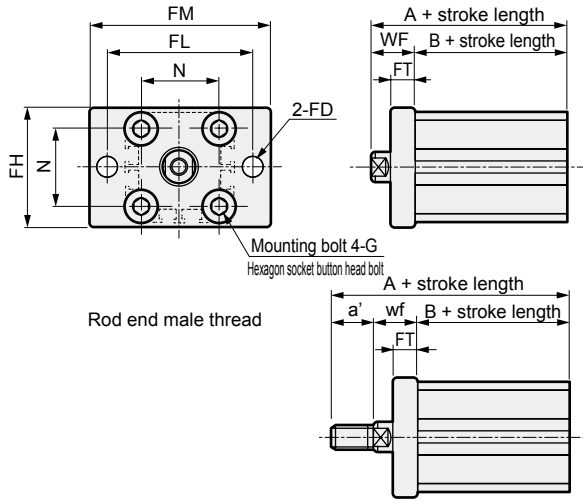
· φ32 to φ100



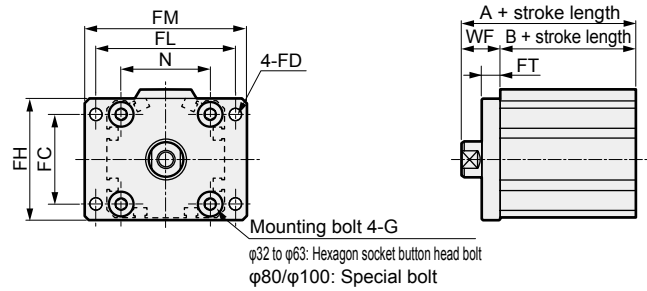
Code	Common dimensions													Female thread						Male thread								
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch			a'	wf	Without switch			With switch		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A			B	C				
φ20	-	20	8.2	12	8	5	36	M6×16	C4	-	25.5	16	4.5	61	29.5	52	71	39.5	62	14	4.5	75	29.5	52	85	39.5	62	
φ25	-	24	10.2	14	10	5	40	M6×16	C5	-	28	20	5	67.5	32.5	57.5	77.5	42.5	67.5	17.5	5	85	32.5	57.5	95	42.5	67.5	
φ32	4.5	-	18.2	14	10	5	45	M6×16	-	10	34	36	7	70	33	60	80	43	70	23.5	5	91.5	33	58	101.5	43	68	
φ40	5	-	18.2	14	10	6	52	M6×16	-	10	40	36	7	78.5	39.5	68.5	88.5	49.5	78.5	23.5	5	100	39.5	66.5	110	49.5	76.5	
φ50	6	-	22.2	20	14	7	64	M8×20	-	14	50	44	8	90.5	40.5	76.5	100.5	50.5	86.5	28.5	5	116	40.5	73.5	126	50.5	83.5	
φ63	7	-	22.2	20	14	8	77	M10×25	-	14	60	44	8	98	46	84	108	56	94	28.5	5	123.5	46	81	133.5	56	91	
φ80	9	-	28.2	27	18	10	98	M12×40	-	18	77	56	10	119.5	53.5	101.5	129.5	63.5	111.5	35.5	8	153	53.5	99.5	163	63.5	109.5	
φ100	12	-	32.2	31	22	13	117	M12×40	-	22	94	64	12	142	63	120	152	73	130	35.5	8	173.5	63	116	183.5	73	126	

Dimensions with mounting bracket

- Rod side flange (FA)
SSD2-G5(L)-20 to 100 -FA
· φ20/φ25

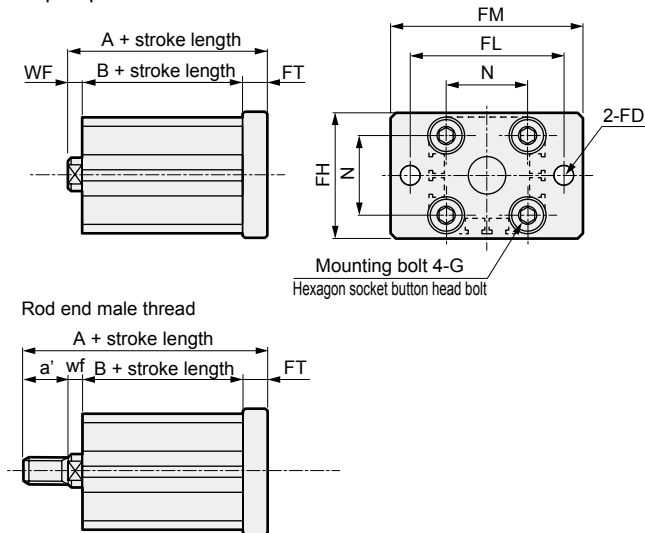


- φ32 to φ100

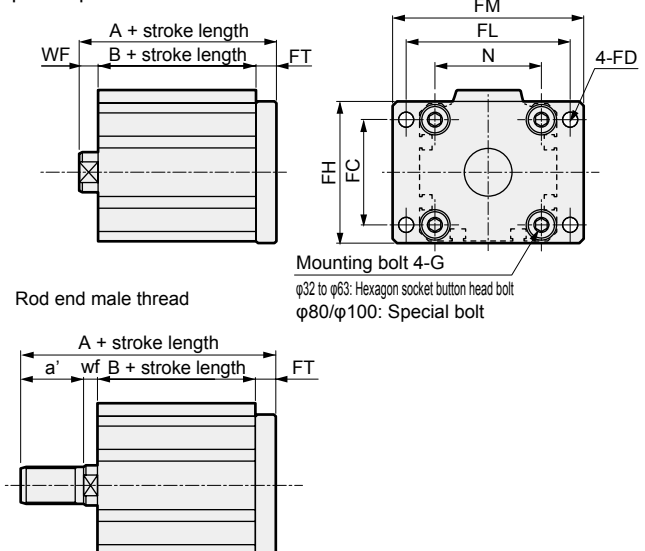


Code	Common dimensions								Female thread				Male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
φ20	-	6.6	39	48	60	8	25.5	M6×16	14.5	44	29.5	54	39.5	14	14.5	58	29.5	68	39.5	
φ25	-	6.6	42	52	64	8	28	M6×16	15	47.5	32.5	57.5	42.5	17.5	15	65	32.5	75	42.5	
φ32	34	5.5	48	56	65	8	34	M6×16	17	50	33	60	43	23.5	15	71.5	33	81.5	43	
φ40	40	5.5	54	62	72	8	40	M6×16	17	56.5	39.5	66.5	49.5	23.5	15	78	39.5	88	49.5	
φ50	50	6.6	67	76	89	9	50	M8×20	18	58.5	40.5	68.5	50.5	28.5	15	84	40.5	94	50.5	
φ63	60	9	80	92	108	9	60	M10×25	18	64	46	74	56	28.5	15	89.5	46	99.5	56	
φ80	77	11	99	116	134	11	77	M12×40	20	73.5	53.5	83.5	63.5	35.5	18	107	53.5	117	63.5	
φ100	94	11	117	136	154	11	94	M12×40	22	85	63	95	73	35.5	18	116.5	63	126.5	73	

- Head side flange (FB)
SSD2-G5(L)-20 to 100 -FB
· φ20/φ25

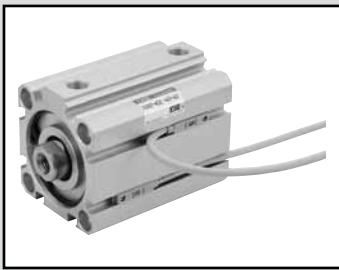


- φ32 to φ100



Code	Common dimensions								Female thread				Male thread							
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
											A	B	A	B			A	B	A	B
φ20	-	6.6	39	48	60	8	25.5	M6×16	4.5	42	29.5	52	39.5	14	4.5	56	29.5	66	39.5	
φ25	-	6.6	42	52	64	8	28	M6×16	5	45.5	32.5	55.5	42.5	17.5	5	63	32.5	73	42.5	
φ32	34	5.5	48	56	65	8	34	M6×16	7	48	33	58	43	23.5	5	69.5	33	79.5	43	
φ40	40	5.5	54	62	72	8	40	M6×16	7	54.5	39.5	64.5	49.5	23.5	5	76	39.5	86	49.5	
φ50	50	6.6	67	76	89	9	50	M8×20	8	57.5	40.5	67.5	50.5	28.5	5	83	40.5	93	50.5	
φ63	60	9	80	92	108	9	60	M10×25	8	63	46	73	56	28.5	5	88.5	46	98.5	56	
φ80	77	11	99	116	134	11	77	M12×40	10	74.5	53.5	84.5	63.5	35.5	8	108	53.5	118	63.5	
φ100	94	11	117	136	154	11	94	M12×40	12	86	63	96	73	35.5	8	117.5	63	127.5	73	

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Compact cylinder double acting/single rod/high load/environment-resistant scraper

SSD2-KG5 Series

● Bore size: $\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



Specifications

Descriptions	SSD2-KG5 SSD2-KG5L (with switch)								
	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Bore size mm	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)								
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)					0.05 (≈ 7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)								
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)								
Port size	M5		Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance mm	$^{+2.0}$ 0								
Working piston speed mm/s	50 to 500					50 to 300			
Cushion	Rubber cushion								
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 20$	5/10/15/20/25/ 30/35/40/45/50	50	1
$\phi 25$			
$\phi 32$	5/10/15/20/25/30/35/40/ 45/50/75/100	100	
$\phi 40$			
$\phi 50$	10/15/20/25/30/35/40/45/ /50/75/100	100	
$\phi 63$			
$\phi 80$			
$\phi 100$			

Min. stroke length with switch (2 switches)

Bore size (mm)	T0H/V / T5H/V	T2H/V / T3H/V
$\phi 20$	5	5
$\phi 25$		
$\phi 32$		
$\phi 40$		
$\phi 50$		
$\phi 63$		
$\phi 80$		
$\phi 100$		

1 : Less than 10 mm with the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

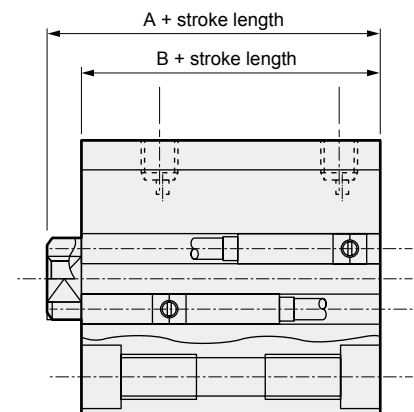
*2 : Values in () are for the type with 1 on rod side.

*4 : When using the type with switch, refer to the table of the min. stroke length with switch.

Custom stroke length

● SSD2-KG5 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-KG5-32-38 A +2 mm spacer is added to the SSD2-KG5-32-40 standard cylinder to create 38 mm stroke length. B + stroke length is 83mm.	



Switch specifications (F type switch)

● 1-color/2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire		Proximity 2-wire		Proximity 3-wire		
	F2S		F3S		F2H/F2V	F2YH/ F2YV	F3H/F3V	F3PH/F3PV (Custom order)	F3YH/ F3YV
Applications	Dedicated for programmable controller		For programmable controller, relay		Dedicated for programmable controller		For programmable controller, relay		
Output method	-		NPN output		-		NPN output	PNP output	NPN output
Power supply voltage	-		10 to 28 VDC		-		10 to 28 VDC		10 to 28 VDC
Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 20 mA		50 mA or less		5 to 20 mA		100 mA or less	50 mA or less	
Indicator lamp	LED (Lit when ON)				Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Yellow LED (Lit when ON)		Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 µA or less		1 mA or less		10 µA or less		
Weight	g		1 m:10 3 m:29						

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay	For programmable controller, relay, IC circuit (no indicator lamp), serial connection	For programmable controller, relay		Dedicated for programmable controller		
Output method	-		-		NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-		-		10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*1)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Without indicator lamp		LED (Lit when ON)	Red/green LED (Lit when ON)			
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less		10 µA or less				0 mA				1 mA or less				
Weight	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142	1 m:61 3 m:166 5 m:272				

*1 : The above max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*2 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

*3 : Refer to Ending Page 1 for other switch specifications.

*4 : Dimensions depend on switch model No. Refer to Ending Pages 18 and 23 for details.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ20	Push	31.4	47.1	62.8	94.2	1.26 × 10 ²	1.57 × 10 ²	1.88 × 10 ²	2.20 × 10 ²	2.51 × 10 ²	2.83 × 10 ²	3.14 × 10 ²
	Pull	23.6	35.3	47.1	70.7	94.2	1.18 × 10 ²	1.41 × 10 ²	1.65 × 10 ²	1.88 × 10 ²	2.12 × 10 ²	2.36 × 10 ²
φ25	Push	49.1	73.6	98.2	1.47 × 10 ²	1.96 × 10 ²	2.45 × 10 ²	2.95 × 10 ²	3.44 × 10 ²	3.93 × 10 ²	4.42 × 10 ²	4.91 × 10 ²
	Pull	37.8	56.7	75.6	1.13 × 10 ²	1.51 × 10 ²	1.89 × 10 ²	2.27 × 10 ²	2.64 × 10 ²	3.02 × 10 ²	3.40 × 10 ²	3.78 × 10 ²
φ32	Push	80.4	1.21 × 10 ²	1.61 × 10 ²	2.41 × 10 ²	3.22 × 10 ²	4.02 × 10 ²	4.83 × 10 ²	5.63 × 10 ²	6.43 × 10 ²	7.24 × 10 ²	8.04 × 10 ²
	Pull	60.3	90.5	1.21 × 10 ²	1.81 × 10 ²	2.41 × 10 ²	3.02 × 10 ²	3.62 × 10 ²	4.22 × 10 ²	4.83 × 10 ²	5.43 × 10 ²	6.03 × 10 ²
φ40	Push	1.26 × 10 ²	1.88 × 10 ²	2.51 × 10 ²	3.77 × 10 ²	5.03 × 10 ²	6.28 × 10 ²	7.54 × 10 ²	8.80 × 10 ²	1.01 × 10 ³	1.13 × 10 ³	1.26 × 10 ³
	Pull	1.06 × 10 ²	1.58 × 10 ²	2.11 × 10 ²	3.17 × 10 ²	4.22 × 10 ²	5.28 × 10 ²	6.33 × 10 ²	7.39 × 10 ²	8.44 × 10 ²	9.50 × 10 ²	1.06 × 10 ³
φ50	Push	1.96 × 10 ²	2.95 × 10 ²	3.93 × 10 ²	5.89 × 10 ²	7.85 × 10 ²	9.82 × 10 ²	1.18 × 10 ³	1.37 × 10 ³	1.57 × 10 ³	1.77 × 10 ³	1.96 × 10 ³
	Pull	1.65 × 10 ²	2.47 × 10 ²	3.30 × 10 ²	4.95 × 10 ²	6.60 × 10 ²	8.25 × 10 ²	9.90 × 10 ²	1.15 × 10 ³	1.32 × 10 ³	1.48 × 10 ³	1.65 × 10 ³
φ63	Push	3.12 × 10 ²	4.68 × 10 ²	6.23 × 10 ²	9.35 × 10 ²	1.25 × 10 ³	1.56 × 10 ³	1.87 × 10 ³	2.18 × 10 ³	2.49 × 10 ³	2.81 × 10 ³	3.12 × 10 ³
	Pull	2.80 × 10 ²	4.20 × 10 ²	5.61 × 10 ²	8.41 × 10 ²	1.12 × 10 ³	1.40 × 10 ³	1.68 × 10 ³	1.96 × 10 ³	2.24 × 10 ³	2.52 × 10 ³	2.80 × 10 ³
φ80	Push	5.03 × 10 ²	7.54 × 10 ²	1.01 × 10 ³	1.51 × 10 ³	2.01 × 10 ³	2.51 × 10 ³	3.02 × 10 ³	3.52 × 10 ³	4.02 × 10 ³	4.52 × 10 ³	5.03 × 10 ³
	Pull	4.54 × 10 ²	6.80 × 10 ²	9.07 × 10 ²	1.36 × 10 ³	1.81 × 10 ³	2.27 × 10 ³	2.72 × 10 ³	3.17 × 10 ³	3.63 × 10 ³	4.08 × 10 ³	4.54 × 10 ³
φ100	Push	7.85 × 10 ²	1.18 × 10 ³	1.57 × 10 ³	2.36 × 10 ³	3.14 × 10 ³	3.93 × 10 ³	4.71 × 10 ³	5.50 × 10 ³	6.28 × 10 ³	7.07 × 10 ³	7.85 × 10 ³
	Pull	7.15 × 10 ²	1.07 × 10 ³	1.43 × 10 ³	2.14 × 10 ³	2.86 × 10 ³	3.57 × 10 ³	4.29 × 10 ³	5.00 × 10 ³	5.72 × 10 ³	6.43 × 10 ³	7.15 × 10 ³

SSD2-KG5 Series

How to order

Without switch (without magnet for switch)

SSD2-KG5 - **20** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD2-KG5L - **20** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Port thread

D Stroke length

E Switch model No.

*3

F Switch quantity

G Option

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.

*2 : "I" and "Y" cannot be selected together. The WF/wf dimension of the cylinder for "LB" and "FA" is set 10 mm longer than that of standard products. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

*3 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

*4 : 5 m lead wire for the F type switch is a custom order product.

[Example of model No.]

SSD2-KG5L-32-5-T0H-R-N

Model: Compact cylinder

Double acting/single rod/high load/environment-resistant scraper

B Bore size : φ32 mm

C Port thread : Rc thread

D Stroke length : 5 mm

E Switch model No.: Reed T0H switch
Lead wire 1 m

F Switch quantity : 1 on rod side

G Option : Rod end male thread

H Mounting bracket
*1

I Accessory
*2

Code	Content														
A Model No.															
SSD2-KG5	Double acting/single rod/high load/environment-resistant scraper (custom order product)														
SSD2-KG5L	Double acting/single rod/high load/environment-resistant scraper/switch (custom)														
B Bore size (mm)															
20	φ20														
25	φ25														
32	φ32														
40	φ40														
50	φ50														
63	φ63														
80	φ80														
100	φ100														
C Port thread															
Blank	Rc thread/M5 thread														
N	NPT thread (φ32 and over)														
G	G thread (φ32 and over)														
D Stroke length (mm)															
Refer to the stroke length table on the following page.															
E Switch model No.															
Lead wire	Lead wire	Contact	Voltage	Display	Lead wire	Bore size									
						AC	DC	20	25	32	40	50	63	80	100
Straight	F2S*	Proximity	●	1-color display	2-wire	●	●								
					3-wire	●	●								
					2-wire	●	●								
					3-wire	●	●								
					1 color display (PNP output) (custom)	3-wire	●	●							
					2-color display	2-wire	●	●							
	F3S*	Proximity	●	1-color display	2-wire	●	●								
					3-wire	●	●								
					2-wire	●	●								
					3-wire	●	●								
					1 color display (PNP output) (custom)	3-wire	●	●							
					2-color display	2-wire	●	●							
F2H*	F2V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●	●	
					Without indicator lamp	2-wire	●	●	●	●	●	●	●	●	
					1-color display	2-wire	●	●	●	●	●	●	●	●	
					1-color display	2-wire	●	●	●	●	●	●	●	●	
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	●	
					2-color display	2-wire	●	●	●	●	●	●	●	●	
	F3H*	F3V*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●	
						Without indicator lamp	2-wire	●	●	●	●	●	●	●	
						1-color display	2-wire	●	●	●	●	●	●	●	
						1-color display	2-wire	●	●	●	●	●	●	●	
						1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●	
						2-color display	2-wire	●	●	●	●	●	●	●	
F2YH*	F2YV*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
F3YH*	F3YV*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T0H*	T0V*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T2H*	T2V*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T3H*	T3V*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T2YH*	T2YV*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T3YH*	T3YV*	Proximity	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					Without indicator lamp	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1-color display	2-wire	●	●	●	●	●	●	●		
					1 color display (PNP output) (custom)	3-wire	●	●	●	●	●	●	●		
					2-color display	2-wire	●	●	●	●	●	●	●		
T2YD*	-	Reed	●	2-color display	2-wire	●	●	●	●	●	●	●	●		
					AC magnetic field	2-wire	●	●	●	●	●	●	●		
T2YDT*	-	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					1-color display off-delay	2-wire	●	●	●	●	●	●	●		
T2JH*	T2JV*	Reed	●	1-color display	2-wire	●	●	●	●	●	●	●	●		
					1-color display off-delay	2-wire	●	●	●	●	●	●	●		
* Lead wire length															
Blank	1 m (standard)														
3	3 m (option)														
5	5 m (option) *4														
F Switch quantity															
R	1 on rod side														
H	1 on head side														
D	2														
G Option															
Blank	Rod end female thread														
N	Rod end male thread														
H Mounting bracket															
Blank	Without mounting bracket														
LB	Axial foot														
CB	Clevis bracket (pin and snap ring attached)														
FA	Rod side flange														
FB	Head side flange														
I Accessory (available when rod end male thread "N" is selected)															
I	Rod eye														
Y	Rod clevis (pin and snap ring attached)														

[Stroke length table]

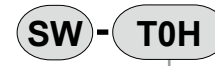
Stroke length (mm)	Applicable bore size							
	20	25	32	40	50	63	80	100
5	●	●	●	●				
10	●	●	●	●	●	●	●	●
15	●	●	●	●	●	●	●	●
20	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●
30	●	●	●	●	●	●	●	●
35	●	●	●	●	●	●	●	●
40	●	●	●	●	●	●	●	●
45	●	●	●	●	●	●	●	●
50	●	●	●	●	●	●	●	●
75			●	●	●	●	●	●
100			●	●	●	●	●	●
Min. stroke length (mm) *1	1							
Max. stroke length (mm)	50		100					
Custom stroke length *2	In 1 mm increments							

1: Less than 5 mm for 1-color display switch and less than 10 mm for the 2-color display, off-delay, AC magnetic field proof, T1 or T8* switch are not available.

Refer to page 986 for the number of installed switches and the min. stroke length.

*2: The total length is the same as that of the next longer standard stroke length.

How to order switch



Switch model No.
(Item ⑤ on the previous page)

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35		40		45		50		75		100	
	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
φ20	107	182	120	195	133	208	145	220	158	233	170	245	182	257	195	270	206	281	220	295	-	-	-	-
φ25	146	237	162	253	178	269	194	285	209	300	226	317	242	333	258	349	274	365	290	381	-	-	-	-
φ32	230	344	251	365	272	386	294	408	316	430	338	452	360	474	381	495	403	517	424	538	597	646	705	753
φ40	323	466	349	492	376	519	402	545	428	571	455	598	482	625	508	651	535	678	561	704	779	837	911	969
φ50	-	-	560	754	602	796	645	839	688	882	729	923	771	965	813	1007	855	1049	897	1091	1244	1301	1454	1511
φ63	-	-	813	1092	868	1147	923	1202	979	1258	1034	1313	1089	1368	1144	1423	1199	1478	1254	1533	1744	1808	2019	2083
φ80	-	-	1413	1826	1500	1913	1586	1999	1673	2086	1760	2173	1847	2260	1933	2346	2020	2433	2106	2519	2886	2952	3318	3384
φ100	-	-	2106	2673	2220	2787	2334	2901	2448	3015	2561	3128	2675	3242	2789	3356	2903	3470	3017	3584	4082	4154	4652	4724

How to order mounting bracket

Bore size (mm)	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100
Foot (LB)	SSD2-LB-20	SSD2-LB-25	SSD2-LB-32	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-20	SSD2-FA-25	SSD2-FA-32	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (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

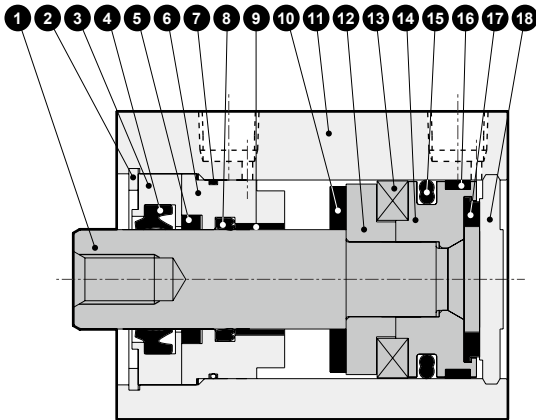
*1: The foot mounting bracket is provided as 2 pcs./set.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

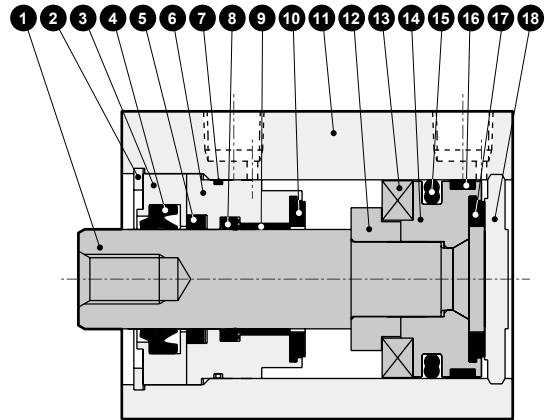
SSD2-KG5 Series

Internal structure and parts list (φ20 to φ50)

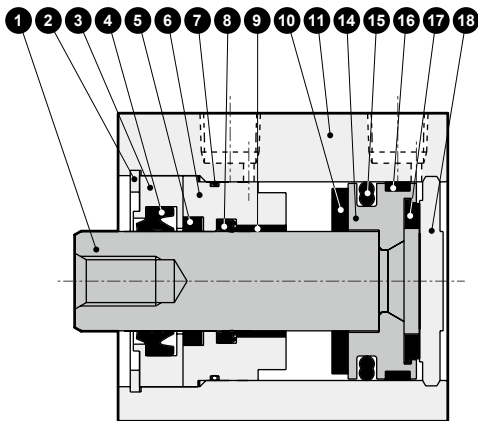
● SSD2-KG5L-20/25
(double acting/high load/environment-resistant scraper/with switch)



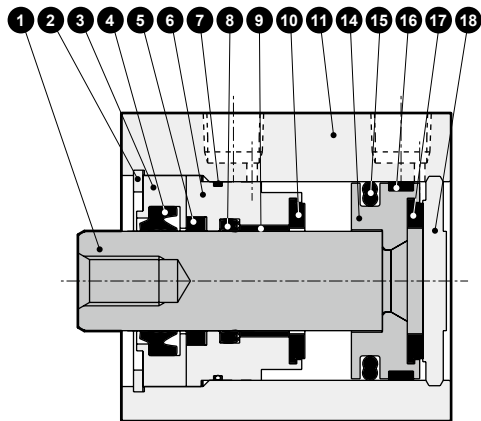
● SSD2-KG5L-32 to 50
(double acting/high load/environment-resistant scraper/with switch)



● SSD2-KG5-20/25
(double acting/high load/environment-resistant scraper)



● SSD2-KG5-32 to 50
(double acting/high load/environment-resistant scraper)



Main parts list

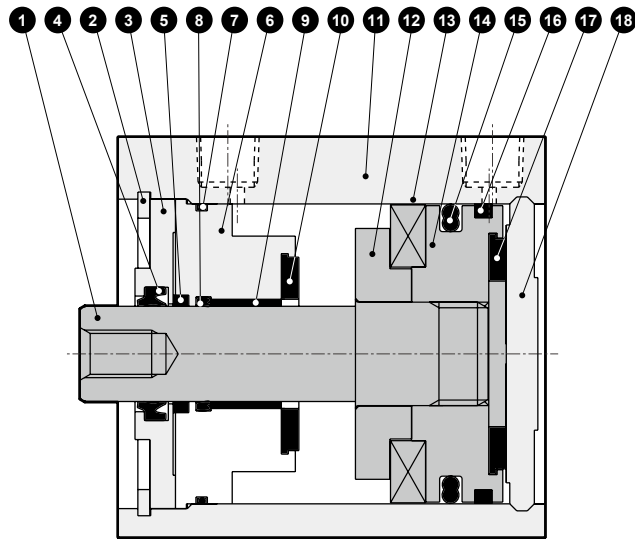
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	φ20/φ25: Stainless steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
		φ32 to φ50: Steel		12	Spacer	Special resin	
2	C type snap ring	Steel	Zinc phosphate	13	Magnet	Plastic	
3	Rod metal 1	Special aluminum	Chromate	14	Piston	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		15	Piston packing	Nitrile rubber	
5	Lube keeping structure	Special rubber		16	Wear ring	Polyacetal resin	
6	Rod metal 2	Special aluminum	Alumite	17	Cushion rubber H	Urethane rubber	
7	Rod metal gasket	Nitrile rubber		18	Cover	φ20/φ25: Stainless steel	φ32 to φ50: Alumite
8	Rod packing	Nitrile rubber				φ32 to φ50: Aluminum alloy	
9	Bush	Oiles drymet					
10	Cushion rubber R	Urethane rubber					

Repair parts list

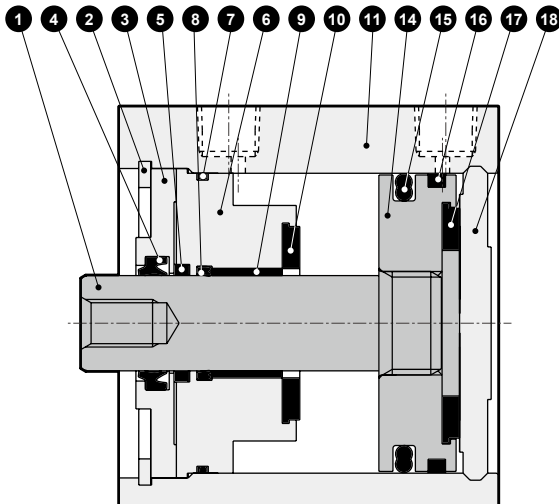
Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ20	SSD2-KG5-20K	
φ25	SSD2-KG5-25K	
φ32	SSD2-KG5-32K	
φ40	SSD2-KG5-40K	
φ50	SSD2-KG5-50K	

Internal structure and parts list

- SSD2-KG5L-63 to 100 (double acting/high load/environment-resistant scraper/with switch)



- SSD2-KG5-63 to 100 (double acting/high load/environment-resistant scraper)



Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring	Steel	Zinc phosphate	11	Body	Aluminum alloy	Hard alumite
3	Rod metal 1	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber		14	Piston	Aluminum alloy	Chromate
6	Rod metal 2	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Rod packing	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
9	Bush	Oiles drymet		18	Cover	Aluminum alloy	Alumite

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ63	SSD2-KG5-63K	4 5 7 8
φ80	SSD2-KG5-80K	10 15 16 17
φ100	SSD2-KG5-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2**SSD2**

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

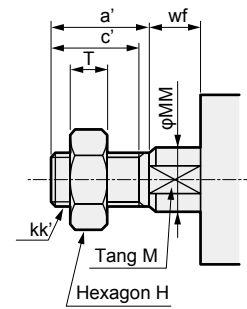
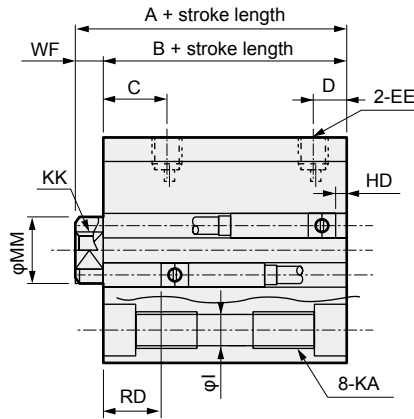
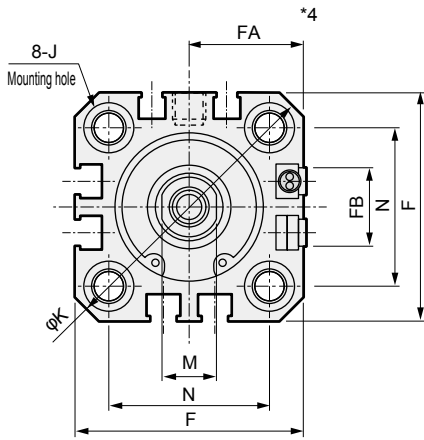
Ending

SSD2-KG5 Series

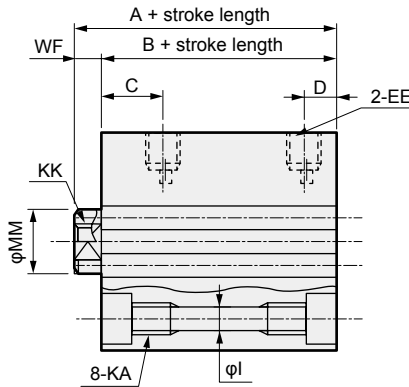
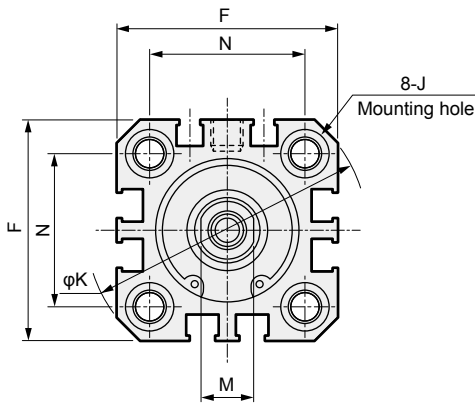
Dimensions (φ20, φ25)

● SSD2-KG5L-20, 25 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread



● SSD2-KG5-20, 25 (without switch)



Code	Without switch		Common dimensions with switch							
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*4}	FB
φ20	39	34.5	49	44.5	18	5.5	M5	36	18.5(22)	12.5
	φ25	42.5	37.5	52.5	47.5	21	6	M5	40	20.5(24)

Code	Common dimensions with switch								
	I	J	K	KA	KK	M	MM	N	WF
φ20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
φ25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimensions	Reed/proximity 1-color		Proximity 2-color		T8H/V switch	
	HD	RD	HD	RD	HD	RD
φ20	6	18.5	4.5	18.5	0	12.5
φ25	5.5	22	4	22	0	16

Switch dimensions	Proximity F2H/V, F3H/V, F2YH/V, F3YH/V		Proximity F2S/F3S	
	HD	RD	HD	RD
φ20	10.5	23	9	23
φ25	10	26.5	8.5	26.5

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the radial lead wire.

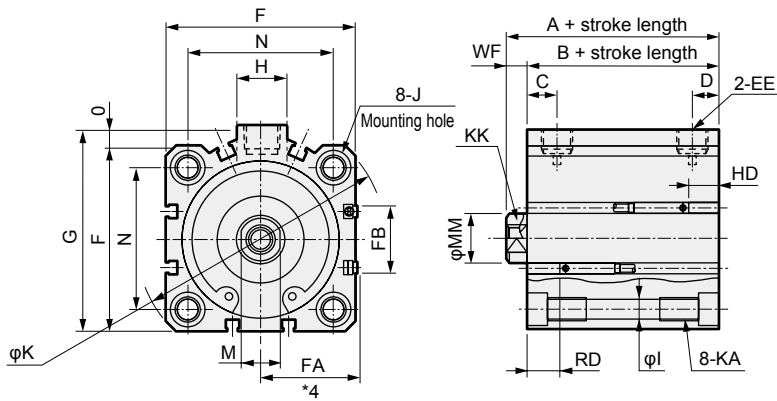
*5 : For dimensions of individual accessories, refer to pages 1030 to 1033.

Rod end male thread

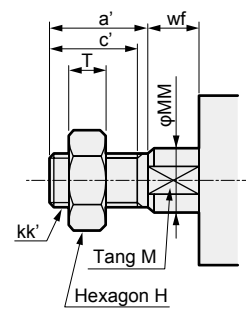
Code	a'	c'	H	kk'	M	MM	T	wf
	φ20	14	12	13	M8	8	10	5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions

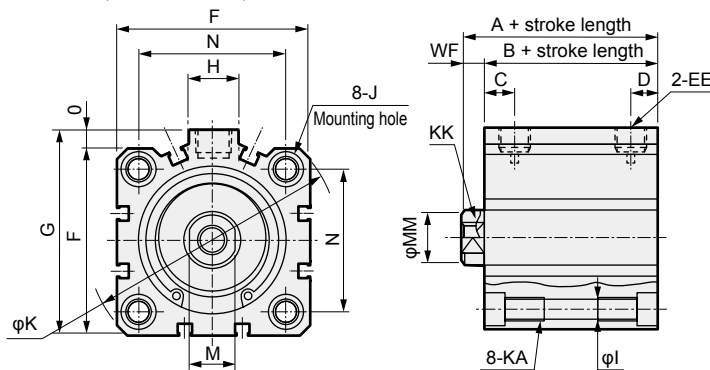
● SSD2-KG5L-32 to 100 (with switch/TOH/V, T5H/V, T2H/V, T3H/V)



● Rod end male thread



● SSD2-32 to 100 (without switch)



Code	Without switch		Common dimensions with switch									
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*3}	FB	G	H
φ32	50(60)	43(53)	60	53	18	8	Rc1/8	45	23(26.5)	20.5	49.5	12.5
φ40	56.5(66.5)	49.5(59.5)	66.5	59.5	22	8.5	Rc1/8	52	26.5(30)	27.5	57	15
φ50	58.5(68.5)	50.5(60.5)	68.5	60.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	18
φ63	64(74)	56(66)	74	66	23	11	Rc1/4	77	39(42.5)	28.5	84	23
φ80	73.5(83.5)	63.5(73.5)	83.5	73.5	26	13	Rc3/8	98	49.5(53)	28.5	104	31
φ100	85(95)	73(83)	95	83	33	15	Rc3/8	117	59(62.5)	28.5	123.5	38

Code	Common dimensions with switch										
	I	J	K	KA	KK	M	MM	N	O	WF	
φ32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	14	16	34	4.5	7	
φ40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	14	16	40	5	7	
φ50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	17	20	50	7	8	
φ63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	17	20	60	7	8	
φ80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	22	25	77	6	10	
φ100	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	

Switch dimensions	Reed/proximity 1-color		Proximity 2-color		T8H/V switch	
	HD	RD	HD	RD	HD	RD
φ32	8.5	24	7	22.5	2.5	18
φ40	9.5	29.5	8	28	3.5	23.5
φ50	10	30	8.5	28.5	4	24
φ63	17.5	28	16	26.5	11.5	22
φ80	22	30.5	20.5	29	16	24.5
φ100	28	34.5	26.5	33	22	28.5

- *1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.
- *3 : Dimensions in () of FA are for the radial lead wire.
- *4 : For dimensions of individual accessories, refer to pages 1030 to 1033.
- *5 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

Rod end male thread

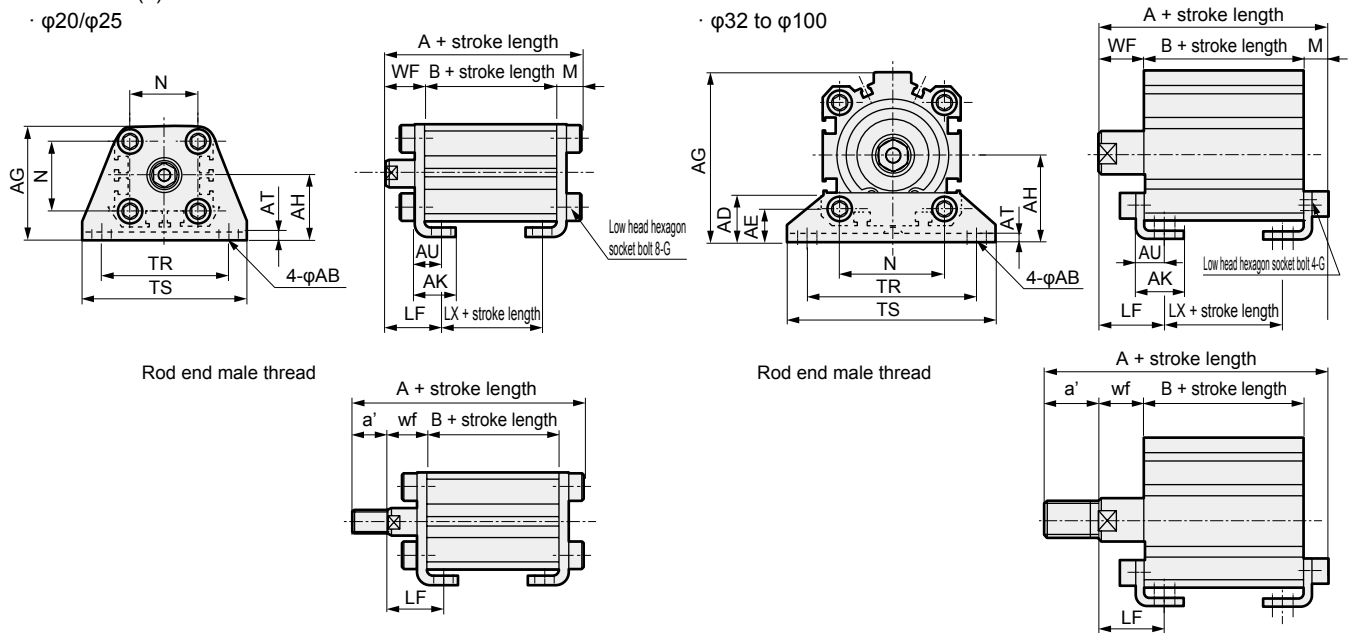
Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14x1.5	14	16	8	5
φ40	23.5	20.5	22	M14x1.5	14	16	8	5
φ50	28.5	26	27	M18x1.5	17	20	11	5
φ63	28.5	26	27	M18x1.5	17	20	11	5
φ80	35.5	32.5	32	M22x1.5	22	25	13	8
φ100	35.5	32.5	41	M26x1.5	27	30	16	8

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SSD2-KG5 Series

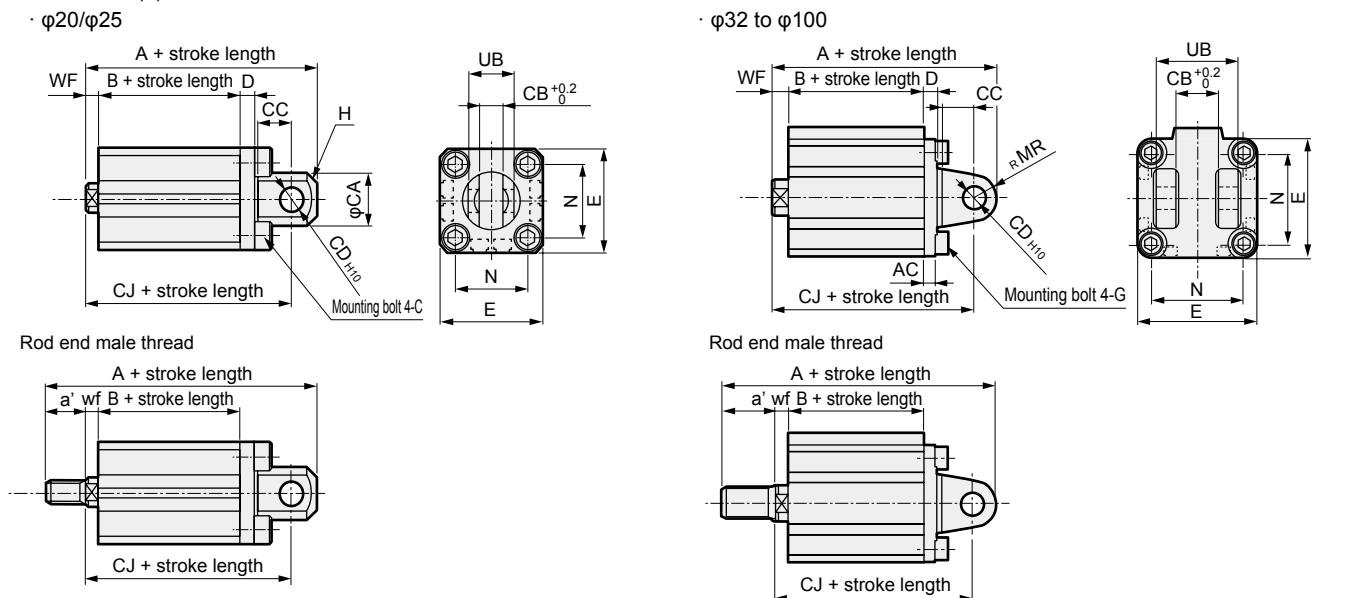
Dimensions with mounting bracket

- Axial foot (LB)
SSD2-KG5(L)-20 to 100 -LB
· φ20/φ25



Code	Common dimensions														Female thread						Male thread										
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	LF	WF	Without switch			With switch			a'		wf		Without switch			With switch	
MDC2	φ20	7	-	-	42	24	15	3.2	9.2	M6×16	25.5	48	62	9.2	20.5	14.5	56.2	34.5	22.5	66.2	44.5	32.5	14	14.5	70.2	34.5	22.5	80.2	44.5	32.5	
	φ25	7	-	-	46	26	16.5	3.2	10.7	M6×16	28	52	66	9.2	22.5	15	59.7	37.5	22.5	69.7	47.5	32.5	17.5	15	77.2	37.5	22.5	87.2	47.5	32.5	
	φ32	7	18.5	13	57	30	17	3.2	11.2	M6×16	34	57	71	9.2	25	17	67.2	43	27	77.2	53	37	23.5	15	88.7	43	27	98.7	53	37	
MVC	φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	9.2	25	17	73.7	49.5	33.5	83.7	59.5	43.5	23.5	15	95.2	49.5	33.5	105.2	59.5	43.5	
	φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	11.2	29.5	18	76.7	50.5	27.5	86.7	60.5	37.5	28.5	15	102.2	50.5	27.5	112.2	60.5	37.5	
	φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	13.2	31	18	83.2	56	30	93.2	66	40	28.5	15	108.7	56	30	118.7	66	40	
SMG	φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	16.5	35	20	95	63.5	33.5	105	73.5	43.5	35.5	18	128.5	63.5	33.5	138.5	73.5	43.5	
	φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	18	39	22	98	73	39	118	83	49	35.5	18	139.5	73	39	149.5	83	49	

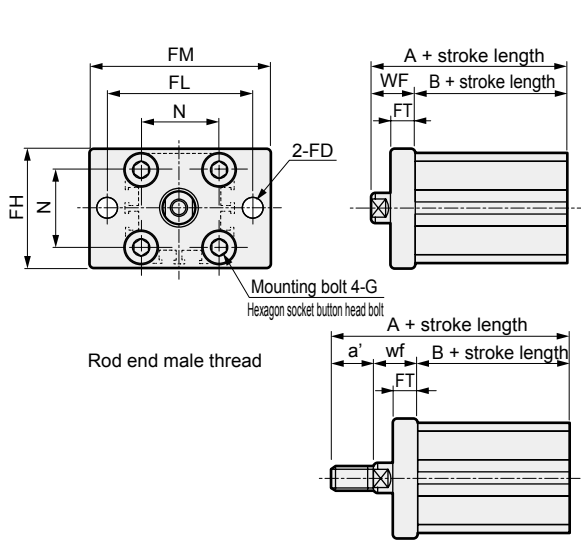
- Clevis bracket (CB)
SSD2-KG5(L)-20 to 100 -CB
· φ20/φ25



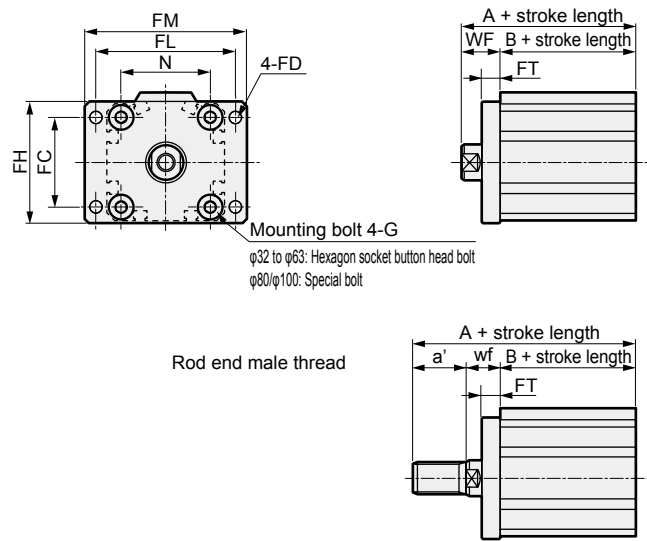
Code	Common dimensions														Female thread						Male thread								
	Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch			a'		wf		Without switch			With switch	
FJ	φ20	-	20	8.2	12	8	5	36	M6×16	C4	-	25.5	16	4.5	66	34.5	57	76	44.5	67	14	4.5	80	34.5	57	90	44.5	67	
	φ25	-	24	10.2	14	10	5	40	M6×16	C5	-	28	20	5	72.5	37.5	62.5	82.5	47.5	72.5	17.5	5	90	37.5	62.5	100	47.5	72.5	
	φ32	4.5	-	18.2	14	10	5	45	M6×16	-	10	34	36	7	80	43	70	90	53	80	23.5	5	101.5	43	68	111.5	53	78	
Spd Contr	φ40	5	-	18.2	14	10	6	52	M6×16	-	10	40	36	7	88.5	49.5	78.5	98.5	59.5	88.5	23.5	5	110	49.5	76.5	120	59.5	86.5	
	φ50	6	-	22.2	20	14	7	64	M8×20	-	14	50	44	8	100.5	50.5	86.5	110.5	60.5	96.5	28.5	5	126	50.5	83.5	136	60.5	93.5	
	φ63	7	-	22.2	20	14	8	77	M10×25	-	14	60	44	8	108	56	94	118	66	104	28.5	5	133.5	56	91	143.5	66	101	
Ending	φ80	9	-	28.2	27	18	10	98	M12×40	-	18	77	56	10	129.5	63.5	111.5	139.5	73.5	121.5	35.5	8	163	63.5	109.5	173	73.5	119.5	
	φ100	12	-	32.2	31	22	13	117	M12×40	-	22	94	64	12	152	73	130	162	83	140	35.5	8	183.5	73	126	193.5	83	136	

Dimensions with mounting bracket

- Rod side flange (FA)
 - SSD2-KG5(L)-20 to 100 -FA
 - $\phi 20/\phi 25$

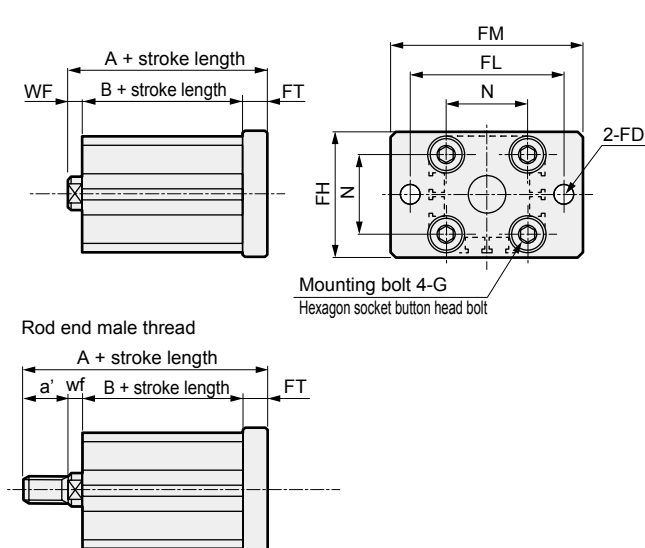


- $\phi 32$ to $\phi 100$

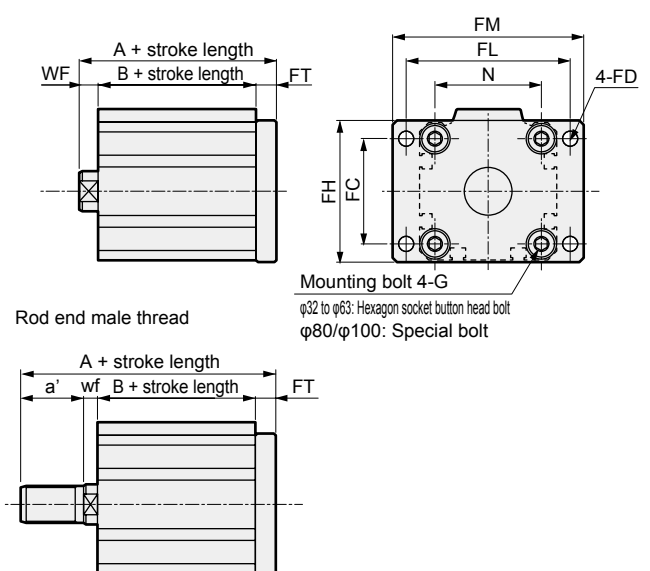


Code	Common dimensions								Female thread				Male thread						
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
$\phi 20$	-	6.6	39	48	60	8	25.5	M6×16	14.5	A	B	A	B	14	14.5	A	B	A	B
$\phi 25$	-	6.6	42	52	64	8	28	M6×16	15	52.5	37.5	62.5	47.5	17.5	15	70	37.5	80	47.5
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	17	60	43	70	53	23.5	15	81.5	43	91.5	53
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	17	66.5	49.5	76.5	59.5	23.5	15	88	49.5	98	59.5
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	18	68.5	50.5	78.5	60.5	28.5	15	94	50.5	104	60.5
$\phi 63$	60	9	80	92	108	9	60	M10×25	18	74	56	84	66	28.5	15	99.5	56	109.5	66
$\phi 80$	77	11	99	116	134	11	77	M12×40	20	83.5	63.5	93.5	73.5	35.5	18	117	63.5	127	73.5
$\phi 100$	94	11	117	136	154	11	94	M12×40	22	95	73	105	83	35.5	18	126.5	73	136.5	83

- Head side flange (FB)
 - SSD2-KG5(L)-20 to 100 -FB
 - $\phi 20/\phi 25$

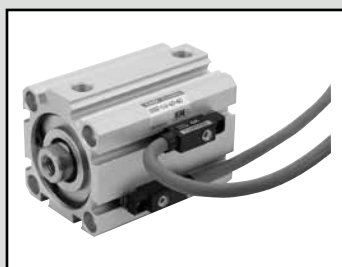


- $\phi 32$ to $\phi 100$



Code	Common dimensions								Female thread				Male thread						
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch		a'	wf	Without switch		With switch	
$\phi 20$	-	6.6	39	48	60	8	25.5	M6×16	4.5	A	B	A	B	14	4.5	A	B	A	B
$\phi 25$	-	6.6	42	52	64	8	28	M6×16	5	50.5	37.5	60.5	47.5	17.5	5	68	37.5	78	47.5
$\phi 32$	34	5.5	48	56	65	8	34	M6×16	7	58	43	68	53	23.5	5	79.5	43	89.5	53
$\phi 40$	40	5.5	54	62	72	8	40	M6×16	7	64.5	49.5	74.5	59.5	23.5	5	86	49.5	96	59.5
$\phi 50$	50	6.6	67	76	89	9	50	M8×20	8	67.5	50.5	77.5	60.5	28.5	5	93	50.5	103	60.5
$\phi 63$	60	9	80	92	108	9	60	M10×25	8	73	56	83	66	28.5	5	98.5	56	108.5	66
$\phi 80$	77	11	99	116	134	11	77	M12×40	10	84.5	63.5	94.5	73.5	35.5	8	118	63.5	128	73.5
$\phi 100$	94	11	117	136	154	11	94	M12×40	12	96	73	106	83	35.5	8	127.5	73	137.5	83

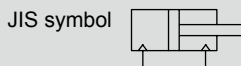
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending



Compact cylinder double acting/single rod/with strong magnetic field proof switch

SSD2-L4 Series

● Bore size: $\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$



Specifications

Descriptions	SSD2-L4					
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)					
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)			0.05 (≈ 7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)					
Port size	Rc1/8	Rc1/4			Rc3/8	
Stroke tolerance mm	$^{+10}_0$					
Working piston speed mm/s	50 to 500			50 to 300		
Cushion	None					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20/25/30/35 40/45/50/75/100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

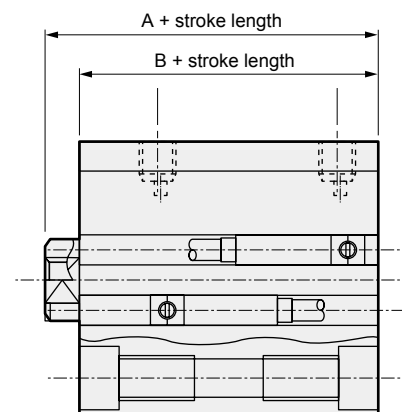
Number of installed switches and min. stroke length (mm)

Switch quantity	1	2
Switch model No.	V0	
Bore size (mm)		
$\phi 40$	20	20
$\phi 50$	20	20
$\phi 63$	20	20
$\phi 80$	20	20
$\phi 100$	20	20

Custom stroke length

● SSD2-L4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model No.	Model No.: SSD2-L4-40-38	
	A +2 mm spacer is added to the SSD2-L4-40-40 standard cylinder to create 38 mm stroke length. B + stroke length is 89.5mm.	



Switch specifications

Descriptions	Reed 2-wire	
	V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight	g 1 m:63 3 m:170 5 m:277	

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
φ40	493	520	546	573	599	626	652	785	917
φ50	757	799	841	883	925	967	1009	1219	1429
φ63	1089	1145	1200	1256	1311	1367	1422	1700	1977
φ80	1822	1909	1996	2083	2170	2257	2344	2779	3214
φ100	2665	2779	2892	3006	3119	3233	3346	3914	4481

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
φ50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
φ63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
φ80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
φ100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3

SSD2-L4 Series

How to order

Model No. **SSD2-L4-50-40-V0-D-N-LB-I**

Model No.

A Bore size

B Stroke length

C Switch model No.

D Switch quantity

E Option

⚠ Precautions for model No. selection

- *1 : The mounting bracket is attached at shipment.
- *2 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on page 1001. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *3 : "I" and "Y" cannot be selected together.

[Example of model No.]

SSD2-L4-50-40-V0-D-N-LB-I

Model: Compact cylinder

Double acting/single rod/with strong magnetic field proof switch

- A** Bore size : $\phi 50$ mm
- B** Stroke length : 40 mm
- C** Switch model No.: Reed V0 switch, Lead wire length 1 m
- D** Switch quantity : 2 pcs. included
- E** Option : Rod end male thread
- F** Mounting bracket: Axial foot
- G** Accessory : Rod eye

How to order mounting bracket

Bore size (mm)	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Mounting bracket					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.

Code	Content
A Bore size (mm)	
40	$\phi 40$
50	$\phi 50$
63	$\phi 63$
80	$\phi 80$
100	$\phi 100$

B Stroke length (mm)		
Bore size	Stroke length *1	Custom stroke length *2
$\phi 40$ to $\phi 100$	20 to 100	In 1 mm increments

*1 : Refer to page 996 for the number of installed switches and the min. stroke length.
*2 : The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

C Switch model No.					
Lead wire Straight	Contact	Voltage		Display	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color display	2-wire
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				

D Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

E Option	
Blank	Rod end female thread
N	Rod end male thread

F Mounting bracket	
Blank	Without mounting bracket
LB	Axial foot
CB	Clevis bracket (pin and snap ring attached)
FA	Rod side flange
FB	Head side flange

G Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)

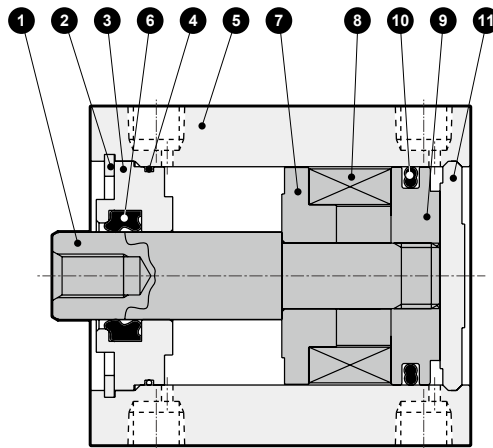
How to order switch

SW - V0

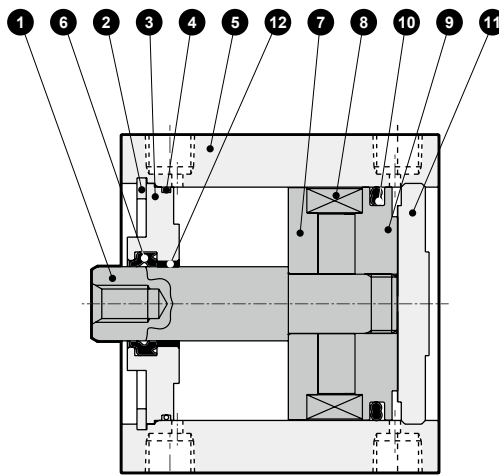
Switch model No.
(Item © above)

Internal structure and parts list

● SSD2-L4-40, 50



● SSD2-L4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Stainless steel		8	Magnet	Plastic	
3	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ40, φ50: Alumite φ63 to φ100: Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	Aluminum alloy	Alumite
6	Rod packing	Nitrile rubber		12	Bush	Oiles drymet	φ63 to φ100 only

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD2-40K	● 4 ● 6 ● 10
φ50	SSD2-50K	
φ63	SSD2-63K	
φ80	SSD2-80K	
φ100	SSD2-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

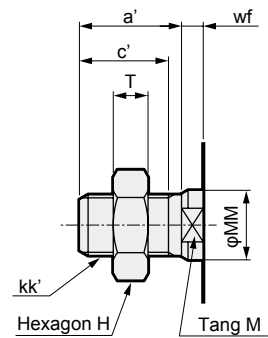
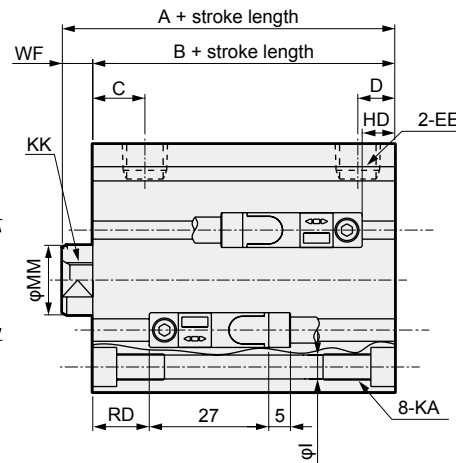
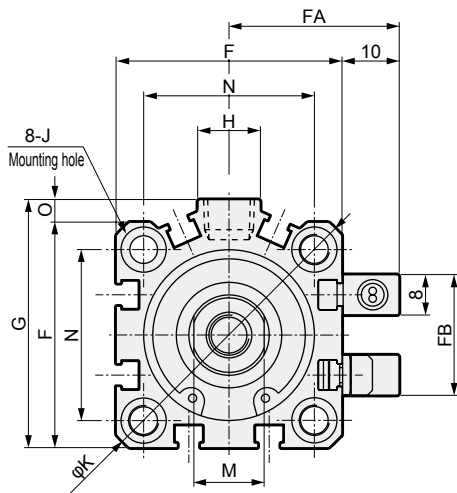
Ending

SSD2-L4 Series

Dimensions

● SSD2-L4-40 to 100

● Rod end male thread



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	56.5	49.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Spot face φ9 depth 5.5
φ50	58.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Spot face φ11 depth 6.5
φ63	64	56	13	11	Rc1/4	77	48.5	32	84	23	8.7	Spot face φ14 depth 9
φ80	73.5	63.5	16	13	Rc3/8	98	59	32	104	31	10.5	Spot face φ17.5 depth 11
φ100	85	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5 depth 11

Code	K	KA	KK	M	MM	N	O	WF	HD	RD
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	7.5	13
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	8.5	13
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	13.5	13.5
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	18.5	16
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	24	20

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.

(Example) If the custom stroke length is 23 mm, apply the standard stroke length 25 mm.

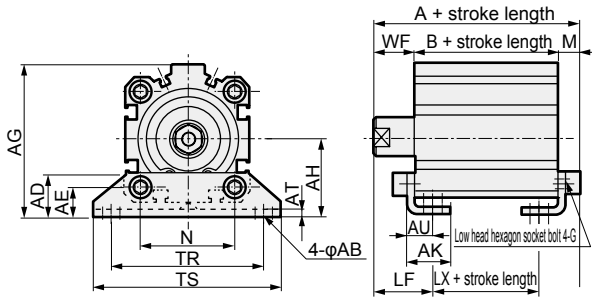
*2 : For dimensions of individual accessories, refer to pages 1030 to 1033.

● Rod end male thread

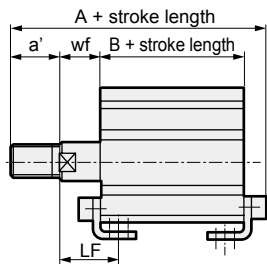
Code	a'	c'	H	kk'	M	MM	T	wf
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8

Dimensions with mounting bracket

- Axial foot (LB)
SSD2-L4-40 to 100 -LB



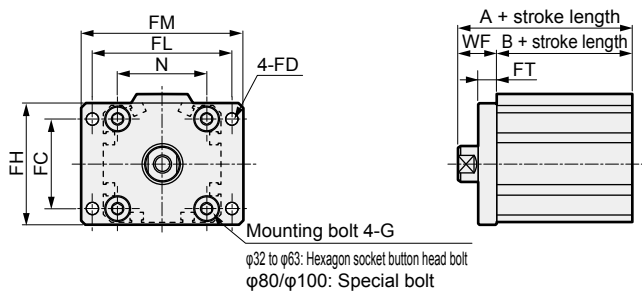
Rod end male thread



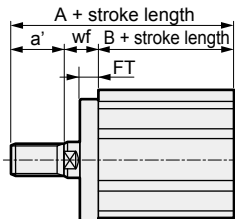
Code	Common dimensions													
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	LF
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	25
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	29.5
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	31
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	35
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	39

Code	Female thread						Male thread		
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
φ40	17	73.7	49.5	33.5	23.5	15	95.2	49.5	33.5
φ50	18	76.7	50.5	27.5	28.5	15	102.7	50.5	27.5
φ63	18	83.2	56	30	28.5	15	108.7	56	30
φ80	20	95	63.5	33.5	35.5	18	128.5	63.5	33.5
φ100	22	108	73	39	35.5	18	139.5	73	39

- Rod side flange (FA)
SSD2-L4-40 to 100 -FA

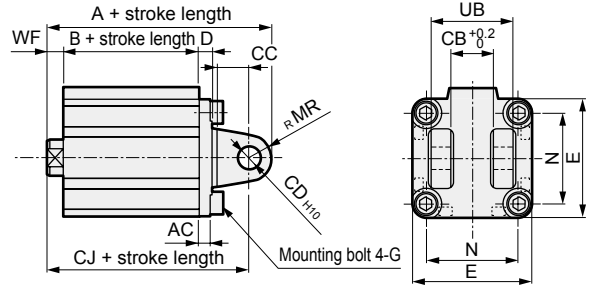


Rod end male thread

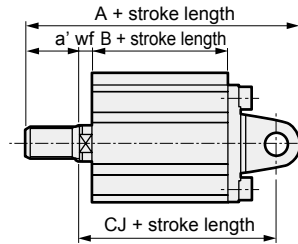


Code	Common dimensions							Female thread		Male thread	
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	17	66.5	49.5
φ50	50	6.6	67	76	89	9	50	M8×20	18	68.5	50.5
φ63	60	9	80	92	108	9	60	M10×25	18	74	56
φ80	77	11	99	116	134	11	77	M12×40	20	83.5	63.5
φ100	94	11	117	136	154	11	94	M12×40	22	95	73

- Clevis bracket (CB)
SSD2-L4-40 to 100 -CB



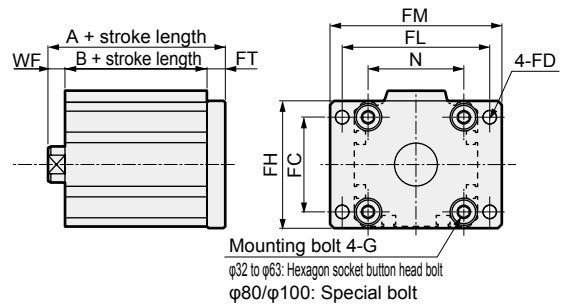
Rod end male thread



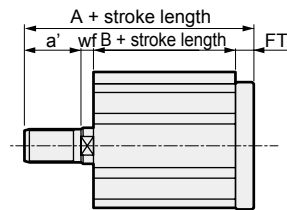
Code	Common dimensions									
Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N	UB
φ40	5	18.2	14	10	6	52	M6×16	10	40	36
φ50	6	22.2	20	14	7	64	M8×20	14	50	44
φ63	7	22.2	20	14	8	77	M10×25	14	60	44
φ80	9	28.2	27	18	10	98	M12×40	18	77	56
φ100	12	32.2	31	22	13	117	M12×40	22	94	64

Code	Female thread					Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ	
φ40	7	88.5	49.5	78.5	23.5	5	110	49.5	76.5	
φ50	8	100.5	50.5	86.5	28.5	5	126	50.5	83.5	
φ63	8	108	56	94	28.5	5	133.5	56	91	
φ80	10	129.5	63.5	111.5	35.5	8	163	63.5	109.5	
φ100	12	152	73	130	35.5	8	183.5	73	126	

- Head side flange (FB)
SSD2-L4-40 to 100 -FB

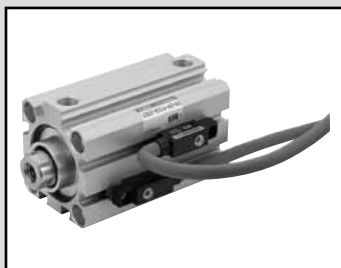


Rod end male thread



Code	Common dimensions							Female thread		Male thread	
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	7	64.5	49.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	67.5	50.5
φ63	60	9	80	92	108	9	60	M10×25	8	73	56
φ80	77	11	99	116	134	11	77	M12×40	10	84.5	63.5
φ100	94	11	117	136	154	11	94	M12×40	12	96	73

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

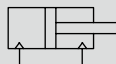


Compact cylinder double acting/single rod
with strong magnetic field proof switch/coil scraper

SSD2-G1L4 Series

● Bore size: $\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



Specifications

Descriptions	SSD2-G1L4					
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)					
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)			0.1 (≈ 15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)					
Port size	Rc1/8	Rc1/4			Rc3/8	
Stroke tolerance mm	$^{+1.0}_0$					
Working piston speed mm/s	50 to 500			50 to 300		
Cushion	None					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20/25/30/35/ 40/45/50/75/100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

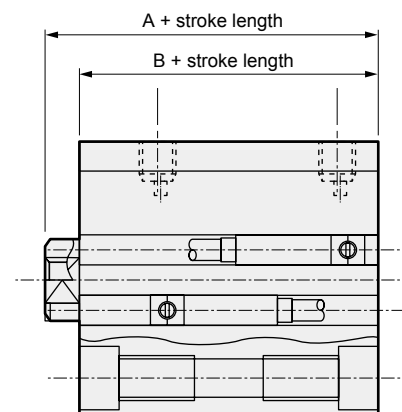
Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\phi 40$	20	20	35
$\phi 50$	20	20	35
$\phi 63$	20	20	35
$\phi 80$	20	20	35
$\phi 100$	20	20	35

Custom stroke length

● SSD2-G1L4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model No.	Model No.: SSD2-G1L4-40-38	
	A +2 mm spacer is added to the SSD2-G1L4-40-40 standard cylinder to create 38 mm stroke length. B + stroke length is 89.5mm.	



Switch specifications

Descriptions	Reed 2-wire	
	V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight	g 1 m:63 3 m:170 5 m:277	

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
φ40	575	602	628	655	681	708	734	867	999
φ50	876	918	960	1002	1044	1086	1128	1338	1548
φ63	1240	1296	1351	1407	1462	1518	1573	1851	2128
φ80	2074	2161	2248	2335	2422	2509	2596	3031	3466
φ100	3000	3114	3227	3341	3454	3568	3681	4249	4816

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
φ50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
φ63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
φ80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
φ100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

SSD2-G1L4 Series

How to order

Model No. **SSD2-G1L4-50-40-V0-D-N-LB-I**

A Bore size

B Stroke length

C Switch model No.

D Switch quantity

E Option

F Mounting bracket *1

G Accessory *2

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : "I" and "Y" cannot be selected together.

[Example of model No.]

SSD2-G1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder
Double acting/with coil scraper/with strong magnetic field proof switch

- A** Bore size : φ50 mm
- B** Stroke length : 40 mm
- C** Switch model No. : Reed V0 switch, Lead wire length 1 m
- D** Switch quantity : 2 pcs. included
- E** Option : Rod end male thread
- F** Mounting bracket : Axial foot
- G** Accessory : Rod eye

How to order mounting bracket

Bore size (mm)	φ40	φ50	φ63	φ80	φ100
Mounting bracket					
Flange (FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.

Code	Content				
A Bore size (mm)					
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
B Stroke length (mm)					
Bore size		Stroke length *1	Custom stroke length *2		
φ40 to φ100		20 to 100	In 1 mm increments		
*1 : Refer to page 1002 for the number of installed switches and the min. stroke length. *2 : The total length is the same as that of the next longer standard stroke length.					
C Switch model No.					
Lead wire Straight	Contact	Voltage		Display	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color display	2-wire
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
D Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
T	3				
E Option					
Blank	Rod end female thread				
N	Rod end male thread				
F Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order product)				
CB	Clevis bracket (pin and snap ring attached)				
FA	Rod side flange (custom order product)				
FB	Head side flange				
G Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

How to order switch

SW - V0

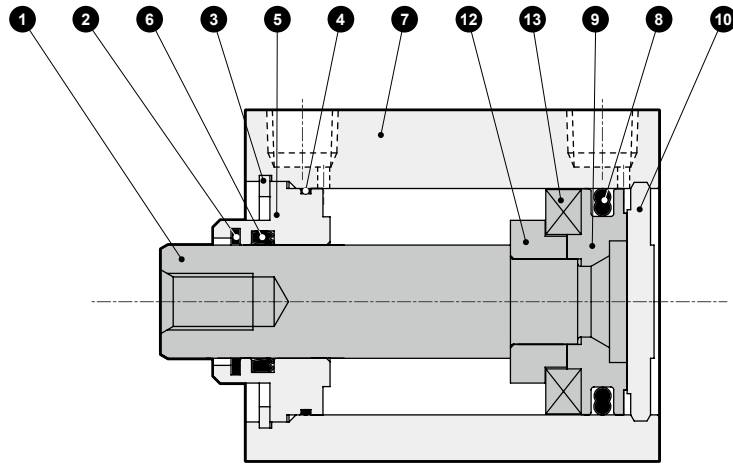
Switch model No.
(Item C above)

SSD2-G1L4 Series

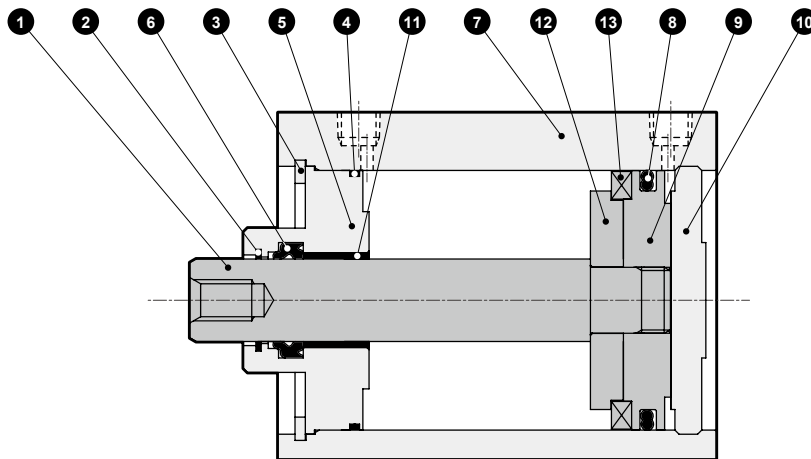
Double acting/single rod with strong magnetic field proof switch/coil scraper

Internal structure and parts list

● SSD2-G1L4-40, 50



● SSD2-G1L4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Piston packing	Nitrile rubber	
2	Coil scraper	Phosphor bronze		9	Piston	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Zinc phosphate	10	Cover	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		11	Bush	Oiles drymet	φ63 to φ100
5	Rod metal	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	
6	Rod packing	Nitrile rubber		13	Magnet	Plastic	
7	Body	Aluminum alloy	Hard alumite				

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
φ40	SSD2-G1-40K	2 4 6 8
φ50	SSD2-G1-50K	
φ63	SSD2-G1-63K	
φ80	SSD2-G1-80K	
φ100	SSD2-G1-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

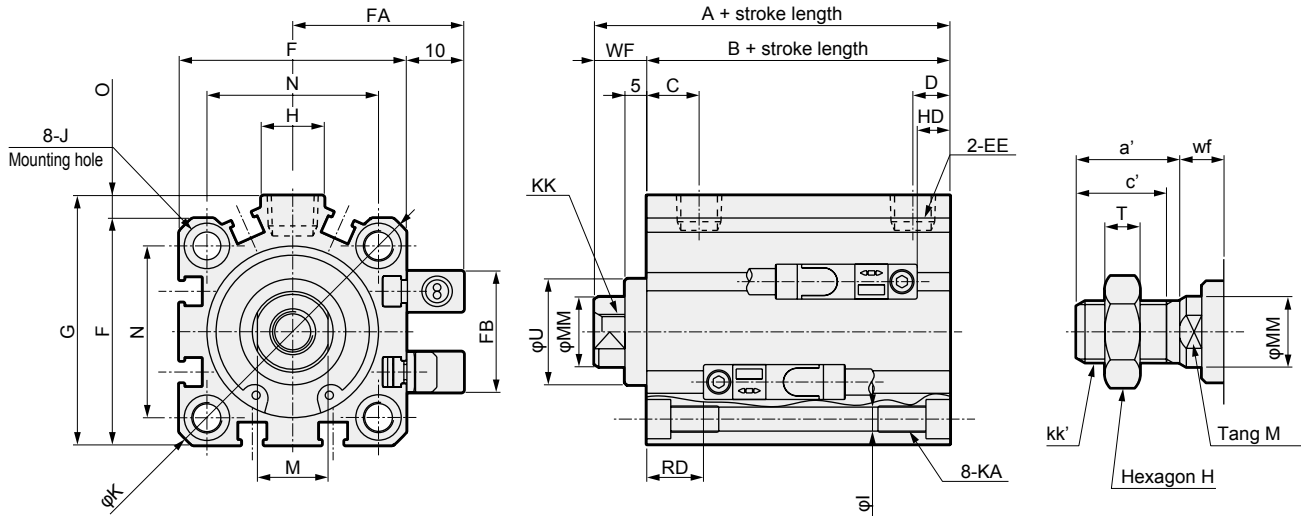
Ending

SSD2-G1L4 Series

Dimensions

● SSD2-G1L4-40 to 100

● Rod end male thread



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Code												
Bore size (mm)												
φ40	61.5	49.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	9 spot face depth 5.5
φ50	63.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	11 spot face depth 6.5
φ63	69	56	13	11	Rc1/4	77	48.5	32	84	23	8.7	14 spot face depth 9
φ80	78.5	63.5	16	13	Rc3/8	98	59	32	104	31	10.5	17.5 spot face depth 11
φ100	90	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	17.5 spot face depth 11

Code	K	KA	KK	M	MM	N	O	U	WF	HD	RD
Code											
Bore size (mm)											
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	28 h9	12	7.5	13
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	35 h9	13	8.5	13
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	35 h9	13	13.5	13.5
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	43 h9	15	18.5	16
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59 h9	17	24	20

*1 : The A + stroke length and B + stroke length when using a custom stroke length are the same as those when using the next longer standard stroke length.

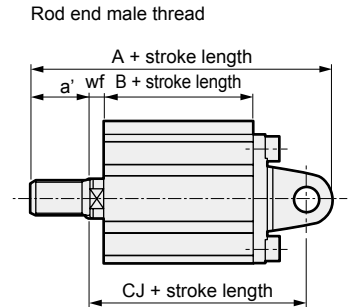
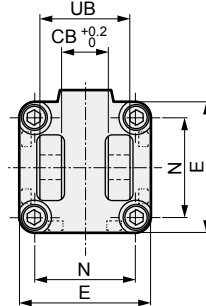
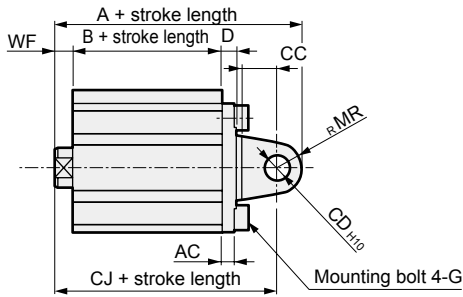
*2 : For dimensions of individual accessories, refer to pages 1030 to 1033.

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Code								
Bore size (mm)								
φ40	23.5	20.5	22	M14×1.5	14	16	8	10
φ50	28.5	26	27	M18×1.5	17	20	11	10
φ63	28.5	26	27	M18×1.5	17	20	11	10
φ80	35.5	32.5	32	M22×1.5	22	25	13	13
φ100	35.5	32.5	41	M26×1.5	27	30	16	13

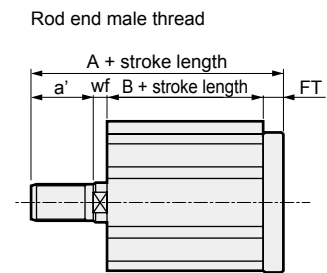
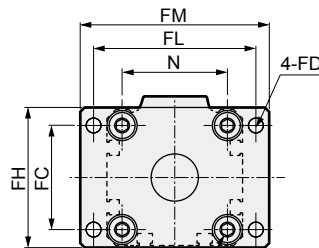
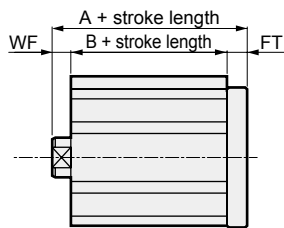
Dimensions with mounting bracket

- Clevis bracket (CB)
SSD2-G1L4-40 to 100 -CB



Code	Common dimensions										Female thread			Male thread					
	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	A	B	CJ	a'	wf	A	B	CJ
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	93.5	49.5	83.5	23.5	5	115	49.5	81.5
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	105.5	50.5	91.5	28.5	5	131	50.5	88.5
φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	113	56	99	28.5	5	138.5	56	96
φ80	9	28.2	27	18	10	98	M12×40	18	77	56	10	134.5	63.5	116.5	35.5	8	168	63.5	114.5
φ100	12	32.2	31	22	13	117	M12×40	22	94	64	12	157	73	135	35.5	8	188.5	73	131

- Head side flange (FB)
SSD2-G1L4-40 to 100 -FB



Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt

Code	Common dimensions								Female thread			Male thread			
	FC	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	7	69.5	49.5	23.5	5	91	49.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	72.5	50.5	28.5	5	98	50.5
φ63	60	9	80	92	108	9	60	M10×25	8	78	56	28.5	5	103.5	56
φ80	77	11	99	116	134	11	77	M12×40	10	89.5	63.5	35.5	8	123	63.5
φ100	94	11	117	136	154	11	94	M12×40	12	101	73	35.5	8	132.5	73

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

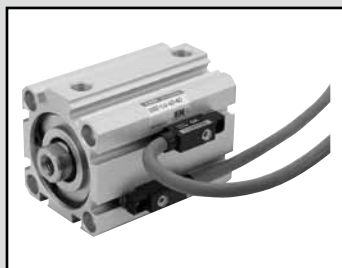
ShkAbs

FJ

FK

Spd
Contr

Ending

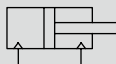


Compact cylinder double acting/high load/
with strong magnetic field proof switch

SSD2-KL4 Series

● Bore size: $\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



Specifications

Descriptions	SSD2-KL4					
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)					
Min. working pressure MPa	0.1 (≈ 15 psi, 1 bar)			0.05 (≈ 7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)					
Port size	Rc1/8	Rc1/4			Rc3/8	
Stroke tolerance mm	$^{+2.0}_0$					
Working piston speed mm/s	50 to 500			50 to 300		
Cushion	Rubber cushion					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20/25/30/35/40 45/50/75/100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

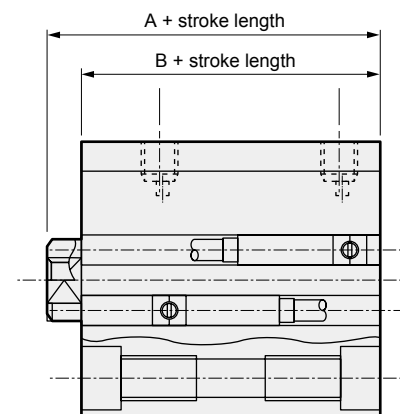
Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\phi 40$	20	20	35
$\phi 50$	20	20	35
$\phi 63$	20	20	35
$\phi 80$	20	20	35
$\phi 100$	20	20	35

Custom stroke length

● SSD2-KL4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model No.	Model No.: SSD2-KL4-40-38	
	A +2 mm spacer is added to the SSD2-KL4-40-40 standard cylinder to create 38 mm stroke length. B + stroke length is 99.5mm.	



Switch specifications

Descriptions	Reed 2-wire	
	V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight	g 1 m:63 3 m:170 5 m:277	

Cylinder weight table

(the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
φ40	546	573	599	626	652	679	705	838	970
φ50	841	883	925	967	1009	1051	1093	1303	1513
φ63	1199	1254	1309	1364	1419	1474	1529	1804	2079
φ80	1995	2082	2169	2256	2343	2430	2517	2952	3387
φ100	2893	3007	3120	3234	3347	3461	3574	4142	4709

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
φ50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
φ63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
φ80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
φ100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SSD2-KL4 Series

How to order

SSD2-KL4-50-40-V0-D-N-LB-I

Model No.

A Bore size

B Stroke length

C Switch model No.

D Switch quantity

E Option

F Mounting bracket

G Accessory

⚠ Precautions for model No. selection

- *1 : The mounting bracket is attached at shipment.
- *2 : The projection dimension of piston rod WF when LB or FA is selected is different from that of the standard. Refer to the dimensions on page 1013. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *3 : "I" and "Y" cannot be selected together.

[Example of model No.]

SSD2-KL4-50-40-V0-D-N-LB-I

Model: Compact cylinder
Double acting/single high load/
with strong magnetic field proof switch

- A Bore size : φ50 mm
- B Stroke length : 40 mm
- C Switch model No. : Reed V0 switch,
Lead wire length 1 m
- D Switch quantity : 2 pcs. included
- E Option : Rod end male thread
- F Mounting bracket : Axial foot
- G Accessory : Rod eye

How to order mounting bracket

Bore size (mm)	φ40	φ50	φ63	φ80	φ100
Mounting bracket					
Foot (LB)	SSD2-LB-40	SSD2-LB-50	SSD2-LB-63	SSD2-LB-80	SSD2-LB-100
Flange (FA/FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.

Code	Content			
A Bore size (mm)				
40	φ40			
50	φ50			
63	φ63			
80	φ80			
100	φ100			
B Stroke length (mm)				
Bore size		Stroke length *1	Custom stroke length *2	
φ40 to φ100		20 to 100	In 1 mm increments	
*1 : Refer to page 1008 for the number of installed switches and the min. stroke length.				
*2 : The total length is the same as that of the next longer standard stroke length.				
C Switch model No.				
Lead wire Straight	Contact	Voltage		Display
		AC	DC	
V0*	Reed	●	●	1-color display
* Lead wire length				
Blank	1 m (standard)			
3	3 m (option)			
5	5 m (option)			
D Switch quantity				
R	1 on rod side			
H	1 on head side			
D	2			
T	3			
E Option				
Blank	Rod end female thread			
N	Rod end male thread			
F Mounting bracket				
Blank	Without mounting bracket			
LB	Axial foot			
CB	Clevis bracket (pin and snap ring attached)			
FA	Rod side flange			
FB	Head side flange			
G Accessory (available when rod end male thread "N" is selected)				
I	Rod eye			
Y	Rod clevis (pin and snap ring attached)			

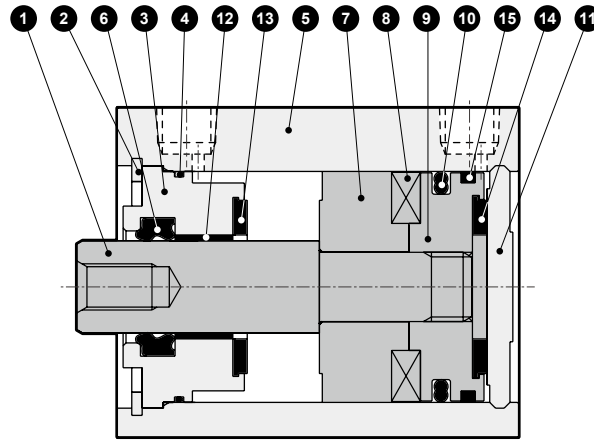
How to order switch

SW - V0

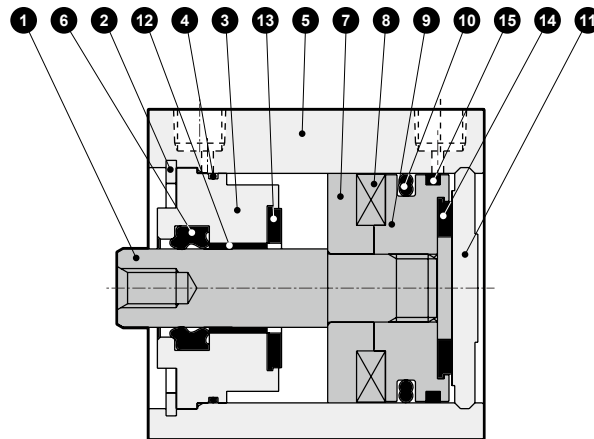
Switch model No.
(Item C above)

Internal structure and parts list

● SSD2-KL4-40, 50



● SSD2-KL4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	
3	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ40, φ50: Alumite φ63 to φ100: Chromate	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oiles drymet	
6	Rod packing	Nitrile rubber		13	Cushion rubber (R)	Urethane rubber	
7	Spacer	φ40, φ50: Special resin φ63 to φ100: Aluminum alloy	φ63 to φ100: Chromate	14	Cushion rubber (H)	Urethane rubber	
				15	Wear ring	Polyacetal resin	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ40	SSD2-K-40K	
φ50	SSD2-K-50K	
φ63	SSD2-K-63K	
φ80	SSD2-K-80K	
φ100	SSD2-K-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

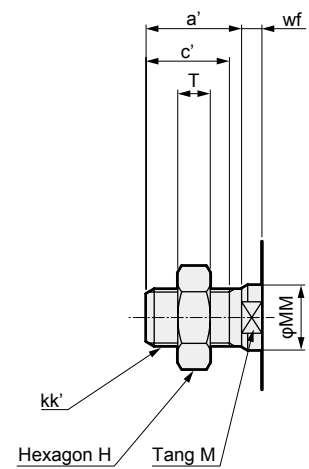
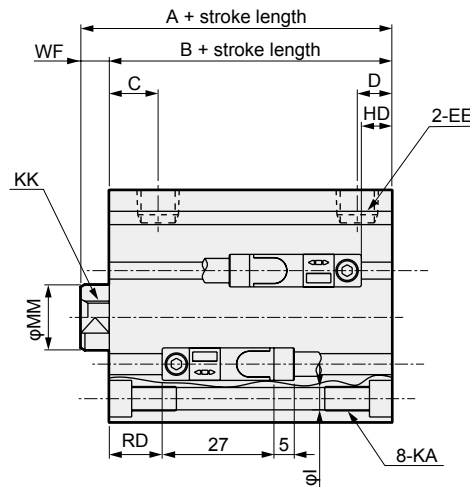
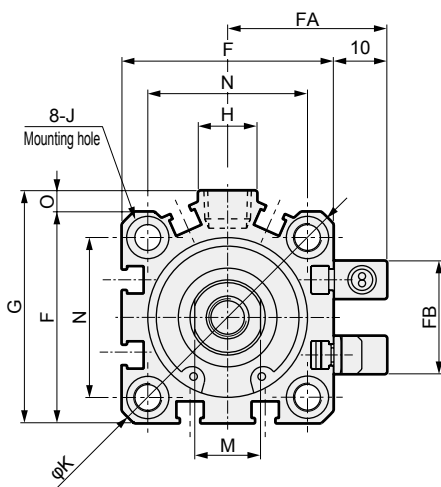
Ending

SSD2-KL4 Series

Dimensions

● SSD2-KL4-40 to 100

● Rod end male thread



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Code												
Bore size (mm)												
φ40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Spot face φ9 depth 5.5
φ50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Spot face φ11 depth 6.5
φ63	74	66	13	11	Rc1/4	77	48.5	32	84	23	8.7	Spot face φ14 depth 9
φ80	83.5	73.5	16	13	Rc3/8	98	59	32	104	31	10.5	Spot face φ17.5 depth 11
φ100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5 depth 11

Code	K	KA	KK	M	MM	N	O	WF	HD	RD
Code										
Bore size (mm)										
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	12.5	18
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	13.5	18
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	18.5	18.5
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	23.5	21
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	29	25

*1 : The A + stroke length and B + stroke length when using a custom stroke length are the same as those when using the next longer standard stroke length.

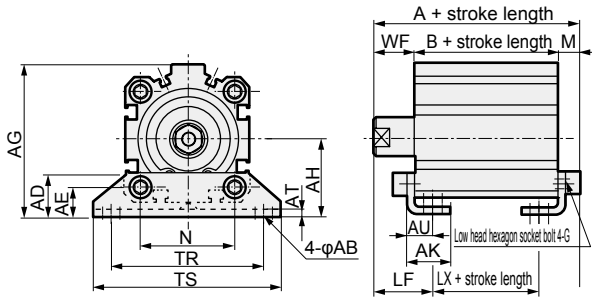
*2 : For dimensions of individual accessories, refer to pages 1030 to 1033.

● Rod end male thread

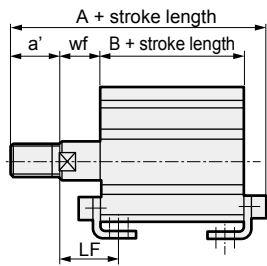
Code	a'	c'	H	kk'	M	MM	T	wf
Code								
Bore size (mm)								
φ40	23.5	20.5	22	M14 × 1.5	14	16	8	5
φ50	28.5	26	27	M18 × 1.5	17	20	11	5
φ63	28.5	26	27	M18 × 1.5	17	20	11	5
φ80	35.5	32.5	32	M22 × 1.5	22	25	13	8
φ100	35.5	32.5	41	M26 × 1.5	27	30	16	8

Dimensions with mounting bracket

- Axial foot (LB)
SSD2-KL4-40 to 100 -LB



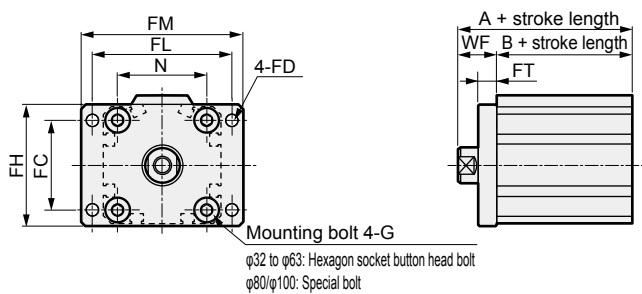
Rod end male thread



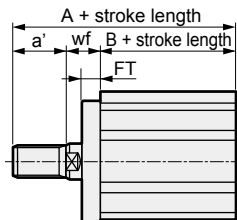
Code	Common dimensions													
Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	LF
φ40	7	18	13	64	33	18.2	3.2	11.2	M6×16	40	64	78	7.2	25
φ50	9	22	14	78	39	22.7	3.2	14.7	M8×20	50	79	95	8.2	29.5
φ63	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	60	95	113	9.2	31
φ80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	77	118	140	11.5	35
φ100	13	35	24	136	71	35.5	6	23	M12×40	94	137	162	13	39

Code	Female thread				Male thread				
Bore size (mm)	WF	A	B	LX	a'	wf	A	B	LX
φ40	17	83.7	59.5	43.5	23.5	15	105.2	59.5	43.5
φ50	18	86.7	60.5	37.5	28.5	15	112.2	60.5	37.5
φ63	18	93.2	66	40	28.5	15	118.7	66	40
φ80	20	105	73.5	43.5	35.5	18	138.5	73.5	43.5
φ100	22	118	83	49	35.5	18	149.5	83	49

- Rod side flange (FA)
SSD2-KL4-40 to 100 -FA

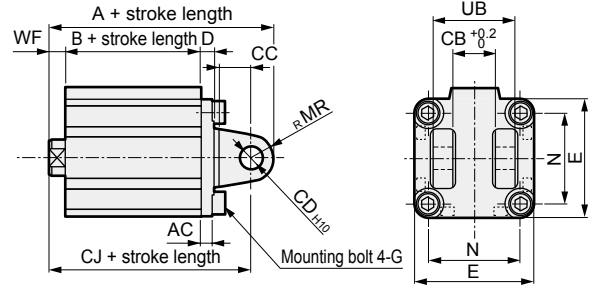


Rod end male thread

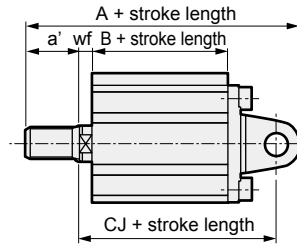


Code	Common dimensions							Female thread		Male thread	
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	17	76.5	59.5
φ50	50	6.6	67	76	89	9	50	M8×20	18	78.5	60.5
φ63	60	9	80	92	108	9	60	M10×25	18	84	66
φ80	77	11	99	116	134	11	77	M12×40	20	93.5	73.5
φ100	94	11	117	136	154	11	94	M12×40	22	105	83

- Clevis bracket (CB)
SSD2-KL4-40 to 100 -CB



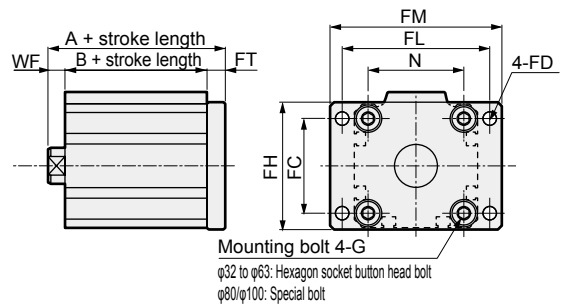
Rod end male thread



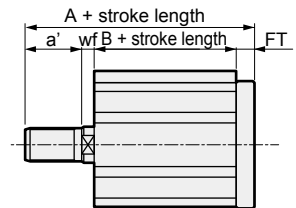
Code	Common dimensions									
Bore size (mm)	AC	CB	CC	CD	D	E	G	MR	N	UB
φ40	5	18.2	14	10	6	52	M6×16	10	40	36
φ50	6	22.2	20	14	7	64	M8×20	14	50	44
φ63	7	22.2	20	14	8	77	M10×25	14	60	44
φ80	9	28.2	27	18	10	98	M12×40	18	77	56
φ100	12	32.2	31	22	13	117	M12×40	22	94	64

Code	Female thread				Male thread				
Bore size (mm)	WF	A	B	CJ	a'	wf	A	B	CJ
φ40	7	98.5	59.5	88.5	23.5	5	120	59.5	86.5
φ50	8	110.5	60.5	96.5	28.5	5	136	60.5	93.5
φ63	8	118	66	104	28.5	5	143.5	66	101
φ80	10	139.5	73.5	121.5	35.5	8	173	73.5	119.5
φ100	12	162	83	140	35.5	8	193.5	83	136

- Head side flange (FB)
SSD2-KL4-40 to 100 -FB

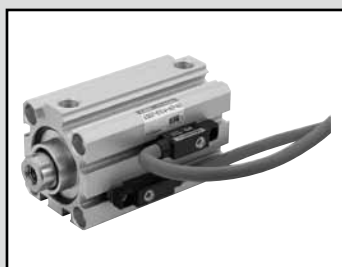


Rod end male thread



Code	Common dimensions							Female thread		Male thread	
Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	7	74.5	59.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	77.5	60.5
φ63	60	9	80	92	108	9	60	M10×25	8	83	66
φ80	77	11	99	116	134	11	77	M12×40	10	94.5	73.5
φ100	94	11	117	136	154	11	94	M12×40	12	106	83

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Compact cylinder double acting/high load/
with strong magnetic field proof switch/with coil scraper

SSD2-KG1L4 Series

● Bore size: $\phi 40/\phi 50/\phi 63/\phi 80/\phi 100$

JIS symbol



Specifications

Descriptions	SSD2-KG1L4					
Bore size mm	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	
Actuation	Double acting					
Working fluid	Compressed air					
Max. working pressure MPa	1.0 (≈ 150 psi, 10 bar)					
Min. working pressure MPa	0.15 (≈ 22 psi, 1.5 bar)			0.1 (≈ 15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈ 230 psi, 16 bar)					
Ambient temperature $^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)					
Port size	Rc1/8	Rc1/4			Rc3/8	
Stroke tolerance mm	$^{+2.0}_0$					
Working piston speed mm/s	50 to 500			50 to 300		
Cushion	Rubber cushion					
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)					
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92	

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 40$	20/25/30/35/40 45/50/75/100	100	20
$\phi 50$			
$\phi 63$			
$\phi 80$			
$\phi 100$			

*1: The custom stroke length is available in 1 mm increments. However, the total length is the same as that of the next longer standard stroke length.

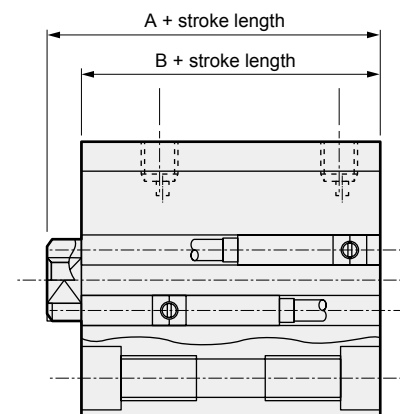
Number of installed switches and min. stroke length (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\phi 40$	20	20	35
$\phi 50$	20	20	35
$\phi 63$	20	20	35
$\phi 80$	20	20	35
$\phi 100$	20	20	35

Custom stroke length

● SSD2-KG1L4 Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	40 to 100	1 to 99
Example of model No.	Model No.: SSD2-KG1L4-40-38 A +2 mm spacer is added to the SSD2-KG1L4-40-40 standard cylinder to create 38 mm stroke length. B + stroke length is 99.5mm.	



Switch specifications

Descriptions	Reed 2-wire	
	V0	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator lamp	LED (Lit when ON)	
Leakage current	0 mA	
Weight	g 1 m:63 3 m:170 5 m:277	

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

(Unit: g)

Stroke length (mm)	20	25	30	35	40	45	50	75	100
φ40	628	655	681	708	734	761	787	920	1052
φ50	960	1002	1044	1086	1128	1170	1212	1422	1632
φ63	1350	1406	1461	1517	1572	1628	1683	1961	2238
φ80	2247	2334	2421	2508	2595	2682	2769	3204	3639
φ100	3228	3342	3455	3569	3682	3796	3909	4477	5044

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
φ50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
φ63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
φ80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
φ100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SSD2-KG1L4 Series

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

How to order

SSD2-KG1L4-50-40-V0-D-N-LB-I

Model No.

A Bore size

B Stroke length

C Switch model No.

D Switch quantity

E Option

F Mounting bracket

*1

G Accessory

*2

⚠ Precautions for model No. selection

*1 : The mounting bracket is attached at shipment.
*2 : "I" and "Y" cannot be selected together.

[Example of model No.]

SSD2-KG1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder
Double acting/high load/with coil scraper/with strong magnetic field proof switch

- A Bore size : φ50 mm
- B Stroke length : 40 mm
- C Switch model No. : Reed V0 switch, Lead wire length 1 m
- D Switch quantity : 2 pcs. included
- E Option : Rod end male thread
- F Mounting bracket : Axial foot
- G Accessory : Rod eye

How to order mounting bracket

Bore size (mm)	φ40	φ50	φ63	φ80	φ100
Mounting bracket					
Flange (FB)	SSD2-FA-40	SSD2-FA-50	SSD2-FA-63	SSD2-FA-80	SSD2-FA-100
Clevis bracket (CB)	SSD2-CB-40	SSD2-CB-50	SSD2-CB-63	SSD2-CB-80	SSD2-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.

Code	Content				
A Bore size (mm)					
40	φ40				
50	φ50				
63	φ63				
80	φ80				
100	φ100				
B Stroke length (mm)					
Bore size		Stroke length *1	Custom stroke length *2		
φ40 to φ100		20 to 100	In 1 mm increments		
*1: Refer to page 1014 for the number of installed switches and the min. stroke length. *2: The total length is the same as that of the next longer standard stroke length.					
C Switch model No.					
Lead wire Straight	Contact	Voltage		Display	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color display	2-wire
* Lead wire length					
Blank	1 m (standard)				
3	3 m (option)				
5	5 m (option)				
D Switch quantity					
R	1 on rod side				
H	1 on head side				
D	2				
T	3				
E Option					
Blank	Rod end female thread				
N	Rod end male thread				
F Mounting bracket					
Blank	Without mounting bracket				
LB	Axial foot (custom order product)				
CB	Clevis bracket (pin and snap ring attached)				
FA	Rod side flange (custom order product)				
FB	Head side flange				
G Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
Y	Rod clevis (pin and snap ring attached)				

How to order switch

SW - V0

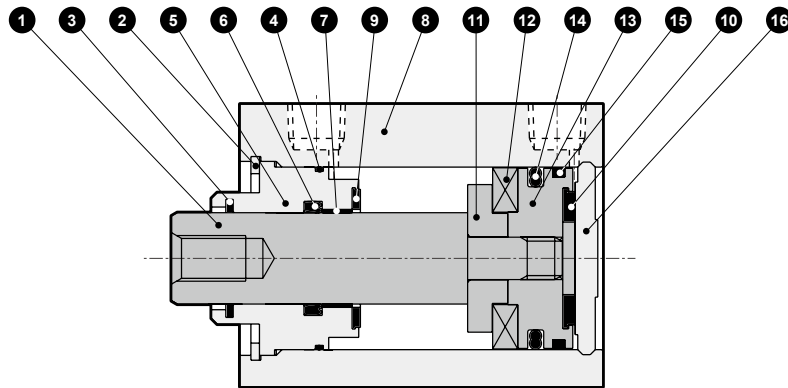
Switch model No.
(Item C above)

SSD2-KG1L4 Series

Double acting/high load/with strong magnetic field proof switch/coil scraper

Internal structure and parts list

● SSD2-KG1L4-40 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Zinc phosphate	10	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		11	Spacer	Aluminum alloy	
4	Rod metal gasket	Nitrile rubber		12	Magnet	Plastic	
5	Rod metal	φ40, φ50: Special aluminum φ63 to φ100: Aluminum alloy	φ40, φ50: Alumite φ63 to φ100: Chromate	13	Piston	Aluminum alloy	Chromate
6	Rod packing	Nitrile rubber		14	Piston packing	Nitrile rubber	
7	Bush	Oiles drymet		15	Wear ring	Polyacetal resin	
8	Body	Aluminum alloy	Hard alumite	16	Cover	Aluminum alloy	Alumite

Repair parts list

Part name	Kit No.	Repair parts No.
φ40	SSD2-KG1-40K	
φ50	SSD2-KG1-50K	
φ63	SSD2-KG1-63K	
φ80	SSD2-KG1-80K	
φ100	SSD2-KG1-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

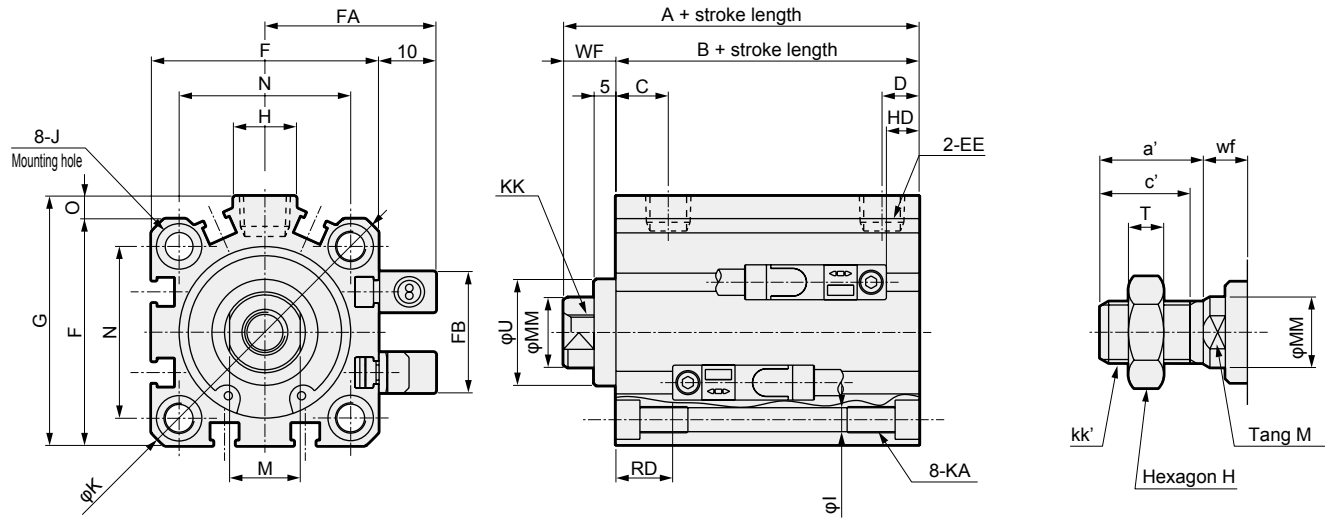
Ending

SSD2-KG1L4 Series

Dimensions

● SSD2-KG1L4-40 to 100

● Rod end male thread



Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size (mm)												
φ40	71.5	59.5	12	8.5	Rc1/8	52	36	31	57	15	5.5	Spot face φ9 depth 5.5
φ50	73.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	18	6.9	Spot face φ11 depth 6.5
φ63	79	66	13	11	Rc1/4	77	48.5	32	84	23	8.7	Spot face φ14 depth 9
φ80	88.5	73.5	16	13	Rc3/8	98	59	32	104	31	10.5	Spot face φ17.5 depth 11
φ100	100	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face φ17.5 depth 11

Code	K	KA	KK	M	MM	N	O	U	WF	HD	RD
Bore size (mm)											
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	28 h9	12	12.5	18
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	35 h9	13	13.5	18
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	35 h9	13	18.5	18.5
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	43 h9	15	23.5	21
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	59 h9	17	29	25

*1 : The A + stroke length and B + stroke length when using a custom stroke length are the same as those when using the next longer standard stroke length.

*2: For dimensions of individual accessories, refer to pages 1030 to 1033.

● Rod end male thread

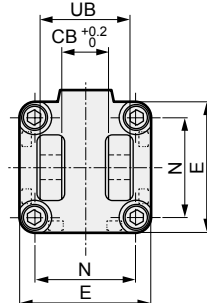
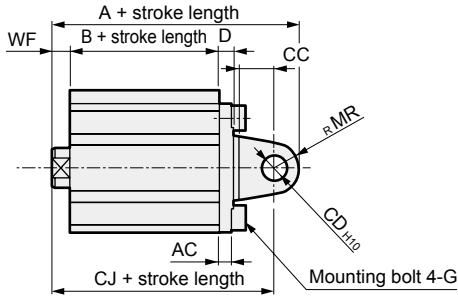
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ40	23.5	20.5	22	M14 × 1.5	14	16	8	10
φ50	28.5	26	27	M18 × 1.5	17	20	11	10
φ63	28.5	26	27	M18 × 1.5	17	20	11	10
φ80	35.5	32.5	32	M22 × 1.5	22	25	13	13
φ100	35.5	32.5	41	M26 × 1.5	27	30	16	13

SSD2-KG1L4 Series

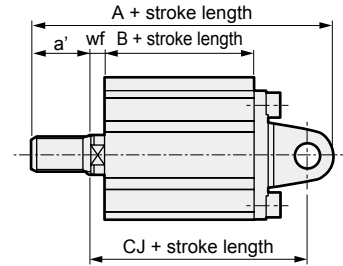
Double acting/high load/with AC magnetic field proof switch/coil scraper

Dimensions with mounting bracket

- Clevis bracket (CB)
SSD2-KG1L4-40 to 100 -CB

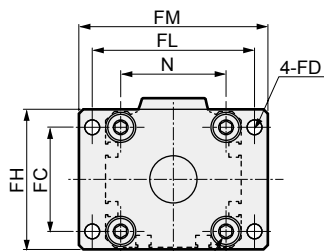
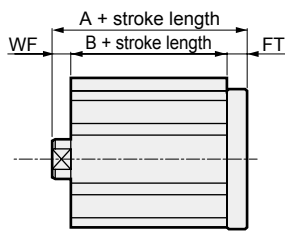


Rod end male thread



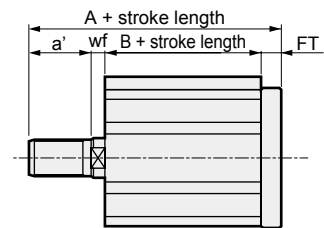
Code	Common dimensions										Female thread			Male thread					
	AC	CB	CC	CD	D	E	G	MR	N	UB	WF	A	B	CJ	a'	wf	A	B	CJ
φ40	5	18.2	14	10	6	52	M6×16	10	40	36	7	103.5	59.5	93.5	23.5	5	125	59.5	91.5
φ50	6	22.2	20	14	7	64	M8×20	14	50	44	8	115.5	60.5	101.5	28.5	5	141	60.5	98.5
φ63	7	22.2	20	14	8	77	M10×25	14	60	44	8	123	66	109	28.5	5	148.5	66	106
φ80	9	28.2	27	18	10	98	M12×40	18	77	56	10	144.5	73.5	126.5	35.5	8	178	73.5	124.5
φ100	12	32.2	31	22	13	117	M12×40	22	94	64	12	167	83	145	35.5	8	198.5	83	141

- Head side flange (FB)
SSD2-KG1L4-40 to 100 -FB

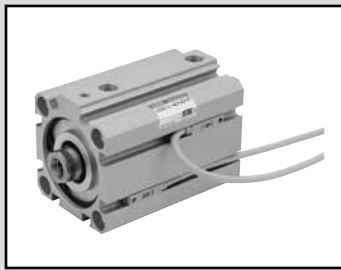


Mounting bolt 4-G
φ32 to φ63: Hexagon socket button head bolt
φ80/φ100: Special bolt

Rod end male thread



Code	Common dimensions								Female thread			Male thread			
	FC	FD	FH	FL	FM	FT	N	G	WF	A	B	a'	wf	A	B
φ40	40	5.5	54	62	72	8	40	M6×16	7	79.5	59.5	23.5	5	101	59.5
φ50	50	6.6	67	76	89	9	50	M8×20	8	82.5	60.5	28.5	5	108	60.5
φ63	60	9	80	92	108	9	60	M10×25	8	88	66	28.5	5	113.5	66
φ80	77	11	99	116	134	11	77	M12×40	10	99.5	73.5	35.5	8	133	73.5
φ100	94	11	117	136	154	11	94	M12×40	12	111	83	35.5	8	142.5	83

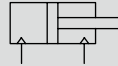


Compact cylinder double acting/single rod

SSD2-P7*/P5* Series

● Bore size: $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 80/\phi 100/\phi 125/\phi 140/\phi 160$

JIS symbol



Specifications

Descriptions	SSD2-P7*/P5*														
	SSD2-L-P7*/P5* (with switch)														
Bore size	mm	$\phi 12$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$	$\phi 125$	$\phi 140$	$\phi 160$	
Actuation		Double acting													
Working fluid		Compressed air													
Max. working pressure	MPa	1.0 (≈ 150 psi, 10 bar)													
Min. working pressure	MPa	0.15 (≈ 22 psi, 1.5 bar)							0.1 (≈ 15 psi, 1 bar)						
Proof pressure	MPa	1.6 (≈ 230 psi, 16 bar)													
Ambient temperature	$^{\circ}\text{C}$	-10 (14°F) to 60 (140°F) (no freezing)													
Port size		M5				Rc1/8 *1			Rc1/4			Rc3/8			
Pressure relief port size		M5							Rc3/8						
Stroke tolerance	mm	$^{+1.0}_0$							$^{+2.0}_0$						
Working piston speed	mm/s	50 to 500							50 to 300						
Cushion		None										Rubber cushion			
Lubrication		Not available													
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	6.52	6.52	7.78	

*1: The $\phi 32$ bore size with a 5 mm stroke and without a switch has a port size of M5.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
$\phi 12$	5/10/15/20	30	1(5) The value in () is for types with one or two switches.
$\phi 16$	25/30		
$\phi 20$	5/10/15/20/25	50	
$\phi 25$	30/35/40/45/50		
$\phi 32$	5/10/15/20/25/30	100	
$\phi 40$	35/40/45/50/75/100		
$\phi 50$	10/15/20		
$\phi 63$	25/30/35		
$\phi 80$	40/45/50	300	
$\phi 100$	75/100		
$\phi 125$	10/20/30/40/50		
$\phi 140$	75/100/125/150	300	
$\phi 160$	175/200/250/300		

*1: Availability of custom stroke length
 Custom stroke length is available in 1 mm increments. Total length when using a custom stroke length is different between $\phi 12$ to $\phi 100$ and $\phi 125$ to $\phi 160$. Please be careful.
 ($\phi 12$ to $\phi 100$) The dimensions of the total length with the custom stroke length are the same as the next longer standard stroke length.
 ($\phi 125$ to $\phi 160$) Total length dimension with custom stroke length is handled as custom stroke dedicated length.

2: Less than 5 mm with 1-color display switch and less than 10 mm with 2-color display, off-delay, T1 or T8* switch are not available.

Switch specifications (F type switch)

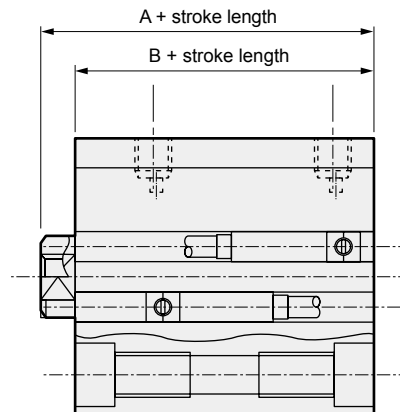
● 1-color/2-color display

Descriptions	Proximity 2-wire		Proximity 3-wire		Proximity 2-wire		Proximity 3-wire	
	F2S	F3S	F2H/F2V	F2YH/F2YV	F3H/F3V	F3PH/F3PV (custom order)	F3YH/F3YV	
Applications	Dedicated for programmable controller		For programmable controller, relay		Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output		-		NPN output PNP output NPN output	
Power supply voltage	-		10 to 28 VDC		-		10 to 28 VDC 4.5 to 28 VDC 10 to 28 VDC	
Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC 24 VDC $\pm 10\%$		30 VDC or less	
Load current	5 to 20 mA		50 mA or less		5 to 20 mA		100 mA or less 50 mA or less	
Indicator lamp	LED (Lit when ON)				Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Yellow LED (Lit when ON) Red/green LED (Lit when ON)	
Leakage current	1 mA or less		10 μA or less		1 mA or less		10 μA or less	
Weight	g				1 m:10 3 m:29			

Custom stroke length

● SSD2-P7*, P5* Series

Descriptions	Standard products	
	Standard stroke length body with spacer	
Model No.	Refer to How to order.	
Content	A spacer is added to the standard stroke length body to adjust the stroke length in 1 mm increments.	
Stroke range	Bore size	Stroke range
	12/16	1 to 29
	20 to 25	1 to 49
	32 to 100	1 to 99
Example of model No.	Model No.: SSD2-32-38-P7 A +2 mm spacer is added to the SSD2-32-40-P7 standard cylinder to create 38 mm stroke length. B + stroke length is 73mm.	



Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Descriptions	Proximity 2-wire		Proximity 2-wire				Proximity 3-wire				Reed 2-wire				Proximity 2-wire			
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD				
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller				For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay		Dedicated for programmable controller	
Output method	-						NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-						10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*1)				100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC		1 mA or less				10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			

*1 : The above max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

*2 : Switch for AC magnetic field (T2YD) cannot be used in DC magnetic field.

*3 : Refer to Ending Page 1 for other switch specifications.

*4 : Dimensions depend on switch model No. Refer to Ending Pages 18 and 23 for details.

Cylinder weight table (the weight of the switches is when there are 2 cylinder switches.)

● φ12 to φ100

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		35	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ12	66	107	74	116	83	125	91	133	100	142	108	150	-	-
φ16	92	138	103	148	113	158	124	169	135	180	146	191	-	-
φ20	130	185	142	217	155	230	168	243	180	255	193	268	206	281
φ25	181	272	196	287	212	303	228	319	244	335	259	350	275	366
φ32	254	368	276	390	298	412	320	434	341	455	363	477	385	499
φ40	373	516	400	543	426	569	453	596	480	623	506	649	533	676
φ50	-	-	691	885	733	927	775	969	817	1011	860	1054	902	1096
φ63	-	-	939	1218	994	1273	1049	1328	1104	1383	1159	1438	1215	1494
φ80	-	-	1911	2324	1998	2411	2084	2497	2171	2584	2257	2670	2344	2757
φ100	-	-	2625	3192	2739	3306	2852	3419	2966	3533	3080	3647	3194	3761

Stroke length (mm)	40		45		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ12	-	-	-	-	-	-	-	-	-	-
φ16	-	-	-	-	-	-	-	-	-	-
φ20	219	294	232	307	245	320	-	-	-	-
φ25	291	382	307	398	322	413	-	-	-	-
φ32	407	521	429	543	450	564	558	672	665	779
φ40	559	702	586	729	612	755	745	888	877	1020
φ50	944	1138	986	1180	1028	1222	1238	1432	1448	1642
φ63	1270	1549	1325	1604	1380	1659	1655	1934	1930	2209
φ80	2431	2844	2518	2931	2604	3017	3037	3450	3469	3882
φ100	3307	3874	3421	3988	3535	4102	4105	4672	4675	5242

● φ125 to φ160

(Unit: kg)

Stroke length (mm)	10		20		30		40		50		75		100	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	6.12	6.22	6.39	6.49	6.65	6.75	6.92	7.02	7.18	7.28	7.90	8.25	8.51	8.61
φ140	8.50	8.61	8.80	8.91	9.11	9.22	9.41	9.52	9.72	9.83	10.54	10.94	11.24	11.35
φ160	11.86	11.98	12.24	12.36	12.62	12.74	13.00	13.12	13.38	13.50	14.39	14.90	15.28	15.40

Stroke length (mm)	125		150		175		200		250		300	
	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
φ125	9.18	9.28	9.84	9.94	10.51	10.61	11.17	11.27	12.50	12.60	13.83	13.93
φ140	12.00	12.11	12.76	12.87	13.52	13.63	14.28	14.39	15.80	15.91	17.32	17.43
φ160	16.23	16.35	17.18	17.30	18.13	18.25	19.08	19.20	20.98	21.10	22.88	23.00

Note: Refer to Ending Pages 16 and 22 for weight of switches with 3 m and 5 m switch lead wire lengths.

SSD2-P7*/P5* Series

How to order

Without switch (without magnet for switch)

SSD2-12-5-N-P7

With switch (built-in magnet for switch)

SSD2-L-12-5-T0H-R-N-P7

A Model No.

B Bore size

C Stroke length

*1

D Switch

* indicates the lead wire length.

*2

*3

*4

*5

E Switch quantity

F Option

G Clean-room specifications
*6

⚠ Precautions for model No. selection

*1 : Availability of custom stroke length

Custom stroke length is available in 1 mm increments. (Less than 5 mm with switch is not available.) Total length when using a custom stroke length is different between φ12 to φ100 and φ125 to φ160. Please be careful.
[φ12 to φ100]

The dimensions of the total length with the custom stroke length are the same as the next longer standard stroke length.
[φ125 to φ160]

The total length when using a custom stroke length is the same as that when using the next longer standard stroke length.

2 : The T2YD switch cannot be mounted on the φ12 and φ16 bore sizes.

3 : The T8 switch cannot be mounted on the φ12 to φ32 bore sizes.

*4 : The F type switch can only be mounted on the piping port surface of bore sizes φ20 and φ25.

*5 : The F type switch with L type lead wire on φ20 models cannot be selected on stroke lengths of 15 mm or under.

*6 : "P5" and "P51" are custom order products.

*7 : Refer to pages 734 and 735 for combinations of variations/options.

[Example of model No.]

SSD2-L-12-5-T0H-R-NP7

- A** Model : Compact cylinder, standard
- B** Bore size : φ12 mm
- C** Stroke length : 5 mm
- D** Switch model No. : Reed switch T0H, lead wire length 1 m
- E** Switch quantity : 1 on rod side
- F** Option : Rod end male thread
- G** Clean-room specifications : Exhaust port

Code	Content
A Model No.	
SSD2	Double acting/single rod
SSD2-L	Double acting/single rod/with switch

B Bore size (mm)	
12	φ12
16	φ16
20	φ20
25	φ25
32	φ32
40	φ40
50	φ50
63	φ63
80	φ80
100	φ100
125	φ125
140	φ140
160	φ160

C Stroke length (mm)	
Refer to the stroke length table on the following page.	

D Switch model No.		Lead wire	Lead wire	Contact	Voltage	Display	Lead wire	Bore size													
Straight	L-shaped				ACDC			12	16	20	25	32	40	50	63	80	100	125	140	160	
F2S					●	1-color display	2-wire			●	●										
F3S					●		3-wire				●	●									
F2H*	F2V*				●	2-color display	2-wire					●	●								
F3H*	F3V*				●		3-wire						●	●							
F3PH*	F3PV*				●	1 color display (PNP output) (custom)	3-wire					●	●								
F2YH*	F2YV*				●	2-color display	2-wire					●	●								
F3YH*	F3YV*				●		3-wire						●	●							
T0H*	T0V*				●	1-color display	2-wire					●	●	●	●	●	●	●	●	●	●
T5H*	T5V*				●	Without indicator lamp		2-wire					●	●	●	●	●	●	●	●	●
T8H*	T8V*				●	1-color display	2-wire														
T1H*	T1V*				●	1-color display		2-wire					●	●	●	●	●	●	●	●	●
T2H*	T2V*				●		2-color display	2-wire					●	●	●	●	●	●	●	●	●
T3H*	T3V*				●	1 color display (PNP output) (custom)		3-wire					●	●	●	●	●	●	●	●	●
T3PH*	T3PV*				●		2-color display	3-wire					●	●	●	●	●	●	●	●	●
T2WH*	T2WV*				●	2-color display		2-wire					●	●	●	●	●	●	●	●	●
T2YH*	T2YV*				●		AC magnetic field	2-wire					●	●	●	●	●	●	●	●	●
T3WH*	T3WV*				●	1-color display off-delay		2-wire					●	●	●	●	●	●	●	●	●
T3YH*	T3YV*				●			2-wire					●	●	●	●	●	●	●	●	●
T2YD*	-				●		2-wire					●	●	●	●	●	●	●	●	●	●
T2YDT*	-				●		2-wire					●	●	●	●	●	●	●	●	●	●
T2JH*	T2JV*				●		2-wire					●	●	●	●	●	●	●	●	●	●

* Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

E Switch quantity	
R	1 on rod side
H	1 on head side
D	2

F Option	
Blank	Rod end female thread
N	Rod end male thread

G Clean-room specifications		
	Structure	Material limitations
P7	Exhaust port	-
P71	Vacuum treatment	-
P5	Exhaust port	Copper/silicon/halogen-based materials (fluorine, chlorine, bromine) prohibited
P51	Vacuum treatment	Copper/silicon/halogen-based materials (fluorine, chlorine, bromine) prohibited

[Stroke length table]

Stroke length (mm)	Applicable bore size													
	φ12	φ16	φ20	φ25	φ32	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160	
Standard stroke length	5	●	●	●	●	●	●							
	10	●	●	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●	●	●	●
	35			●	●	●	●	●	●	●	●			
	40			●	●	●	●	●	●	●	●	●	●	●
	45			●	●	●	●	●	●	●	●			
	50			●	●	●	●	●	●	●	●	●	●	●
	75					●	●	●	●	●	●	●	●	●
	100					●	●	●	●	●	●	●	●	●
	125										●	●	●	●
	150										●	●	●	●
	175										●	●	●	●
	200										●	●	●	●
	250										●	●	●	●
300										●	●	●	●	
Min. stroke length (mm)	1													
Max. stroke length (mm)	30		50		100				300					
Custom stroke length *1	In 1 mm increments													

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
φ12	Push	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02×10^2	1.13×10^2
	Pull	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
φ16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06×10^2	1.21×10^2	1.36×10^2	1.51×10^2
φ20	Push	31.4	47.1	62.8	94.2	1.26×10^2	1.57×10^2	1.88×10^2	2.20×10^2	2.51×10^2	2.83×10^2	3.14×10^2
	Pull	23.6	35.3	47.1	70.7	94.2	1.18×10^2	1.41×10^2	1.65×10^2	1.88×10^2	2.12×10^2	2.36×10^2
φ25	Push	49.1	73.6	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2	3.93×10^2	4.42×10^2	4.91×10^2
	Pull	37.8	56.7	75.6	1.13×10^2	1.51×10^2	1.89×10^2	2.27×10^2	2.64×10^2	3.02×10^2	3.40×10^2	3.78×10^2
φ32	Push	80.4	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	60.3	90.5	1.21×10^2	1.81×10^2	2.41×10^2	3.02×10^2	3.62×10^2	4.22×10^2	4.83×10^2	5.43×10^2	6.03×10^2
φ40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
φ50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
φ63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
φ80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
φ100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3
φ125	Push	1.23×10^3	1.84×10^3	2.45×10^3	3.68×10^3	4.91×10^3	6.14×10^3	7.36×10^3	8.59×10^3	9.82×10^3	1.10×10^4	1.23×10^4
	Pull	1.13×10^3	1.70×10^3	2.26×10^3	3.39×10^3	4.52×10^3	5.65×10^3	6.79×10^3	7.92×10^3	9.05×10^3	1.02×10^4	1.13×10^4
φ140	Push	1.54×10^3	2.31×10^3	3.08×10^3	4.62×10^3	6.16×10^3	7.70×10^3	9.24×10^3	1.08×10^4	1.23×10^4	1.39×10^4	1.54×10^4
	Pull	1.44×10^3	2.16×10^3	2.89×10^3	4.33×10^3	5.77×10^3	7.22×10^3	8.66×10^3	1.01×10^4	1.15×10^4	1.30×10^4	1.44×10^4
φ160	Push	2.01×10^3	3.02×10^3	4.02×10^3	6.03×10^3	8.04×10^3	1.01×10^4	1.21×10^4	1.41×10^4	1.61×10^4	1.81×10^4	2.01×10^4
	Pull	1.88×10^3	2.83×10^3	3.77×10^3	5.65×10^3	7.54×10^3	9.42×10^3	1.13×10^4	1.32×10^4	1.51×10^4	1.70×10^4	1.88×10^4

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd Contr

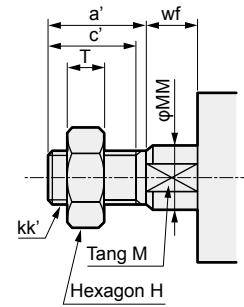
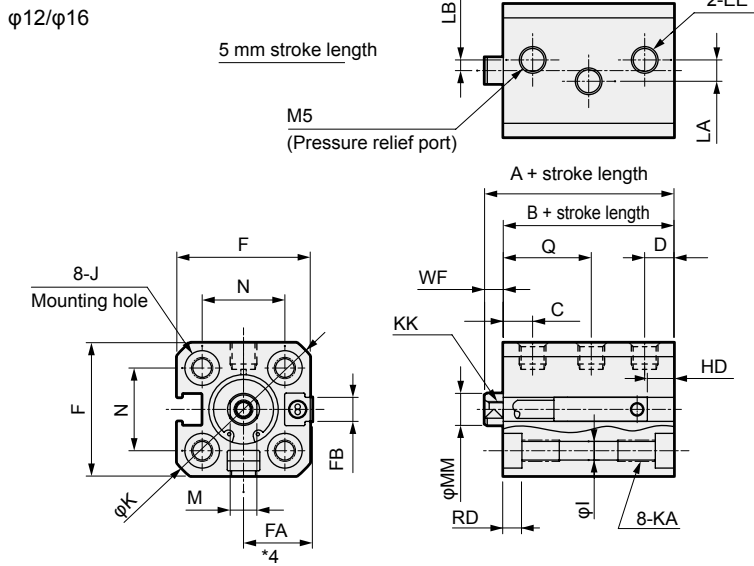
Ending

SSD2-P7*/P5* Series

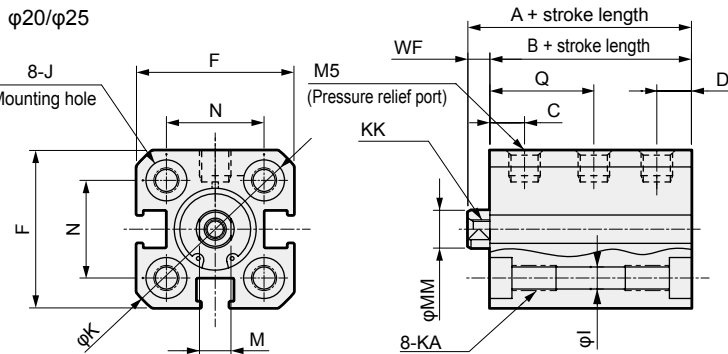
Dimensions

● SSD2-L-12 to 25-P7*/P5* (with switch/TOH/V, T5H/V, T2H/V, T3H/V)

● Rod end male thread



● SSD2-12 to 25-P7*/P5* (without switch)



Code	Without switch		Common dimensions with switch																		
	A ^{*1}	B ^{*1}	A	B	C	D	LA		LB		Q ^{*5}	EE	F	FA ^{*4}	FB	I	J	K	KA	KK	
	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	≤5 St	Over 5 st	
SRL3	φ12	30.5	27	35.5	32	5.5	5.5	4	0	2	0	16.5(16)	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6
	φ16	30.5	27	35.5	32	5.5	5.5	6	0	0	0	16.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
SRG3	φ20	34	29.5	44	39.5	5.5	7	-	-	-	-	16.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M6 depth 7
	φ25	37.5	32.5	47.5	42.5	7	8.5	-	-	-	-	18	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12

Code	Common dimensions with switch				Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WV, T3WH/T3WV		Proximity F2H/F2V, F3H/F3V, F2YH/F2YV, F3YH/F3YV		Proximity F2S/F3S		
	M	MM	N	WF	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	
SRT3	φ12	5	6	15.5	3.5	4	9	4	9	6	11	-	-	-	
	φ16	6	8	20	3.5	2	11.5	2	11.5	3	13.5	-	-	-	
MRL2	φ20	8	10	25.5	4.5	6	14.5	6	14.5	8	16.5	10.5	19	9.5	18
	φ25	10	12	28	5	8	16	8	16	10	18	12.5	20	11.5	19

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value.

(Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the radial lead wire.

*5 : Dimensions in () of code Q are when the value is for a 5 mm stroke without switch.

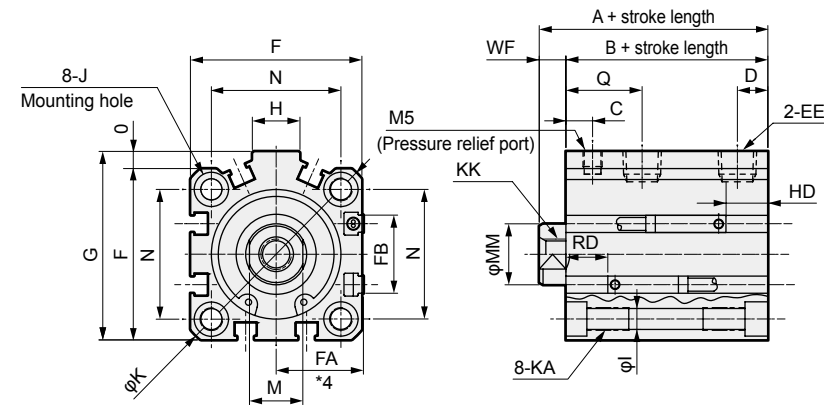
*6 : Only F type switch is available for the φ20 or φ25 piping port surface.

● Rod end male thread

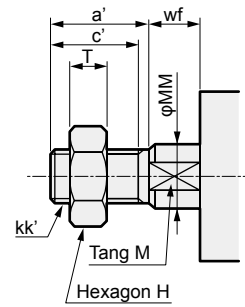
Code	a'	c'	H	kk'	M	MM	T	wf
φ12	10.5	9	8	M5	5	6	3.2	3.5
φ16	12	10	10	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10×1.25	10	12	6	5

Dimensions

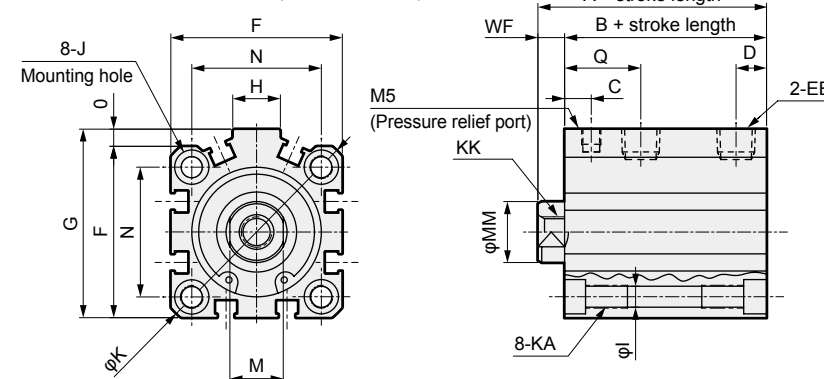
● SSD2-L-32 to 100-P7*/P5* (with switch/TOH/V, T5H/V, T2H/V, T3H/V)



● Rod end male thread



● SSD2-32 to 100-P7*/P5* (without switch)



Code	Without switch		Common dimensions with switch													
	A ^{*1, *5}	B ^{*1, *5}	A ^{*1}	B ^{*1}	C	D ^{*7}	Q	EE	F	FA ^{*4}	FB	G	H	I	J	K
φ32	40(50)	33(43)	50	43	7	8(5.5)	20	Rc1/8 ^{*5}	45	23(26.5)	20.5	49.5	12.5	5.5	9 spot face depth 5.5	60
φ40	46.5(56.5)	39.5(49.5)	56.5	49.5	8.5	8	21.5	Rc1/8	52	26.5(30)	27.5	57	15	5.5	9 spot face depth 5.5	69
φ50	48.5(58.5)	40.5(50.5)	58.5	50.5	9.5	10.5(9.5)	25	Rc1/4 ^{*5}	64	32.5(36)	28.5	71	18	6.9	11 spot face depth 6.3	86
φ63	54(64)	46(56)	64	56	10	11	25.5	Rc1/4	77	39(42.5)	28.5	84	23	8.7	14 spot face depth 9	103
φ80	68.5(78.5)	58.5(68.5)	78.5	68.5	11.5	13	30	Rc3/8	98	49.5(53)	28.5	104	31	10.5	17.5 spot face depth 11	132
φ100	80(90)	68(78)	90	78	15.5	15	35	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156

Code	Common dimensions with switch							Reed TOH/TOV, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2WH/T2WW, T3WH/T3WV	
	KA	KK	M	MM	N	O	WF	HD	RD	HD	RD	HD	RD
φ32	M6 depth 11	M8 depth 13	14	16	34	4.5	7	4	19.5	4	19.5	6	21.5
φ40	M6 depth 11	M8 depth 13	14	16	40	5	7	7	22	7	22	8.5	23.5
φ50	M8 depth 13	M10 depth 15	17	20	50	7	8	7.5	22.5	7.5	22.5	9	24
φ63	M10 depth 25	M10 depth 15	17	20	60	7	8	12.5	23	12.5	23	14	24.5
φ80	M12 depth 28	M16 depth 21	22	25	77	6	10	17.5	25.5	17.5	25.5	19	27
φ100	M12 depth 28	M20 depth 27	27	30	94	6.5	12	23	29.5	23	29.5	24.5	31

*1 : To calculate A+ stroke length or B+ stroke length when using custom stroke length, apply the next longer standard stroke length (instead of the custom stroke length) to the stroke length value. (Example) If the custom stroke length is 7 mm, apply the standard stroke length of 10 mm.

*2 : HD and RD dimensions for 5 mm stroke length differ from these dimensions according to the setting.

3 : Refer to page 1028 for HD, RD and protruding dimensions of the 2-color display, off-delay, AC magnetic field proof, T1 and T8* switches.

*4 : Dimensions in () of FA are for the radial lead wire.

*5 : Dimensions in () of codes A and B are for stroke lengths of more than 50 mm.

*6 : The φ32 bore size with a 5 mm stroke and without a switch has a port size of M5. The φ50 bore size with a 10 mm stroke and without a switch has a port size of Rc1/8.

*7 : Dimensions in () of codes C and D are when the value is for a 5 mm stroke without switch.

● Rod end male thread

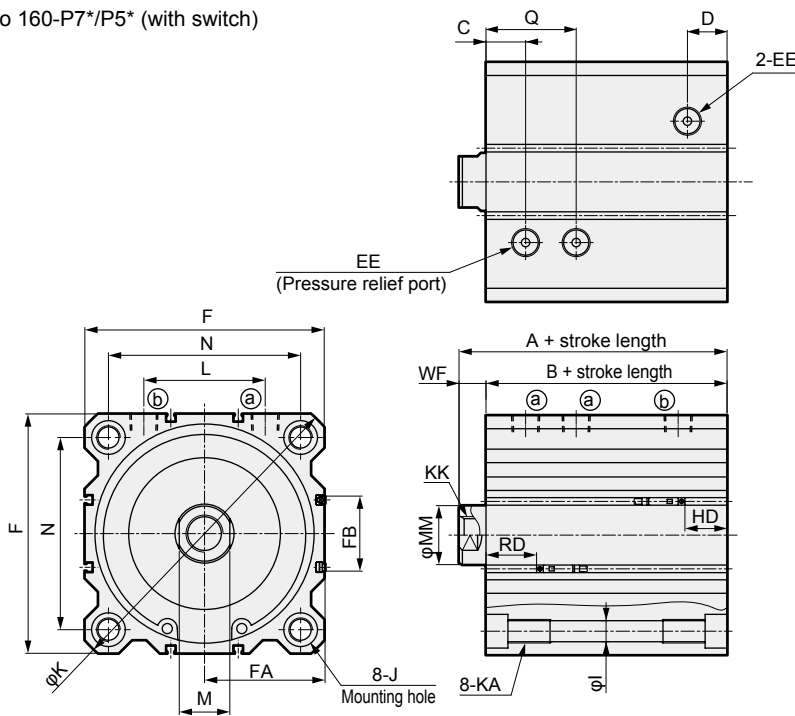
Code	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14×1.5	14	16	8	5
φ40	23.5	20.5	22	M14×1.5	14	16	8	5
φ50	28.5	26	27	M18×1.5	17	20	11	5
φ63	28.5	26	27	M18×1.5	17	20	11	5
φ80	35.5	32.5	32	M22×1.5	22	25	13	8
φ100	35.5	32.5	41	M26×1.5	27	30	16	8

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

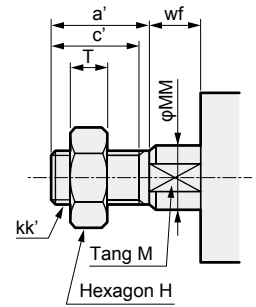
SSD2-P7*/P5* Series

Dimensions (φ125 to φ160)

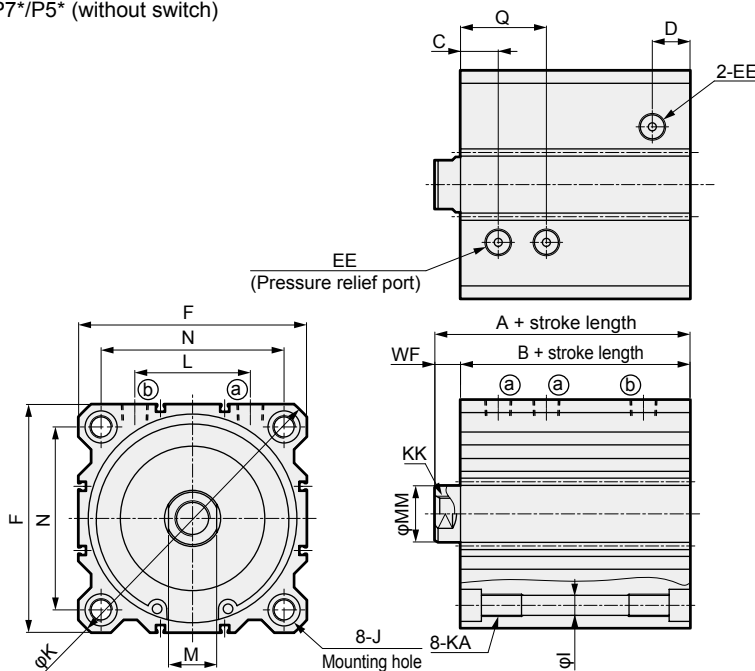
● SSD2-L-125 to 160-P7*/P5* (with switch)



● Rod end male thread



● SSD2-125 to 160-P7*/P5* (without switch)



Code	Common dimensions for types with/without switch																		
Bore size (mm)	A	B	C	D	EE	F	FA ^{*2}	FB	I	J	K	KA	KK	L	M	MM	N	Q	WF
φ125	118	102	23.5	23.5	Rc3/8	142	71.5(75)	44.5	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30	72	30	35	114	53.5	16
φ140	128	112	27	27	Rc3/8	158	79.5(83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30	80	30	35	128	57	16
φ160	143	126	30	30	Rc3/8	178	89.5(93)	48.5	14.7	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33	90	36	40	144	65	17

Code	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V		Proximity T2YH/T2YV, T3YH/T3YV	
Bore size (mm)	HD	RD	HD	RD	HD	RD
φ125	24.5	59.5	24.5	59.5	23	58
φ140	31	63	31	63	29.5	61.5
φ160	34	74	34	74	32.5	72.5

● *1 : Refer to page 1028 for HD , RD, and protruding dimensions of the 2-color display switches.

● *2 : Dimensions in () of FA are for the radial lead wire.

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
φ125	45	42	46	M30×1.5	30	35	18	13
φ140	45	42	46	M30×1.5	30	35	18	13
φ160	50	47	55	M36×1.5	36	40	21	14

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

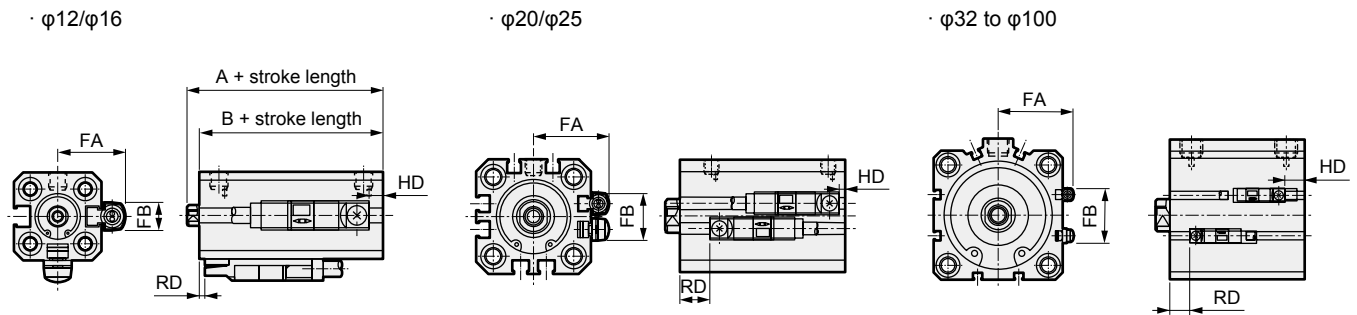
Spd
Contr

Ending

SSD2 Series

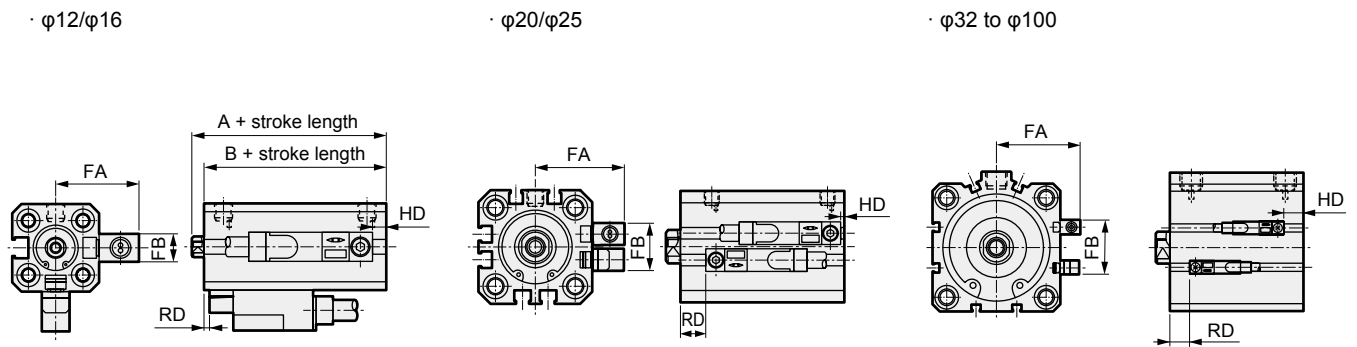
SSD2 Series common dimensions (with 2-color display, off-delay, AC magnetic field, T1* and T8* switches)

● SSD2-L-12 to 100 (with 2-color display, off-delay, T8* switches/T2YH/V, T3YH/V, T2JH/V, T8H/V)



Code	FA	FB	T2YH/V, T3YH/V, T2JH/V												T8H/V										
			SSD2-L, XL, YL		SSD2-DL ^{*1}		SSD2 (Long)-L ^{*2}		SSD2-ML		SSD2-GL		SSD2-G5L		SSD2-L, XL, YL, GL		SSD2-DL		SSD2-ML		SSD2 (Long)-L ^{*2}		SSD2-G5L		
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	
SSG	φ12	18.8	8	-	-	1	3.5	3	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	φ16	20.8	8	-	-	0.5	3.5	2.5	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SSD	φ20	24.3	16	6.5	2	5	8	14(8.5)	5.5(11)	10	1.5	16.5	2	-	-	-	-	0.5	3.5	-	-	9.5(4)	0(6.5)	-	-
	φ25	26.3	17	8.5	3	8	10	17.5(10.5)	5(12.5)	13	1.5	18.5	3	-	-	-	-	1.5	5.5	-	-	13(6)	0(8)	-	-
CAT	φ32	28.8	24	8.5	3.5	7.5	9.5	16(8)	8(14.5)	17.5	2	18.5	3.5	19.5	3.5	-	-	3	5	-	-	11.5(4)	2.5(10)	-	-
	φ40	32.3	31	10.5	5.5	10.5	15	24.5(15)	8(17.5)	10.5	5.5	10.5	5.5	20.5	5.5	6	1	6	10.5	6	1	20(10.5)	3.5(13)	16	1
MDC2	φ50	38.3	32	11	6	11	15	24.5(16)	8.5(17.5)	11	6	11	6	21	6	6.5	1.5	6.5	10.5	6.5	1.5	19.5(11)	4(13)	16.5	1.5
	φ63	44.8	32	11.5	11	11.5	16.5	18.5(13.5)	16(21.5)	11.5	11	11.5	11	21.5	11	7	6.5	7	12	7	6.5	13.5(8.5)	11.5(17)	17	6.5
MVC	φ80	55.3	32	14	16	14	21.5	22.5(17.5)	20.5(26.5)	-	-	14	16	28	16	9.5	11.5	9.5	17	-	-	17.5(12.5)	16(22)	23.5	11.5
	φ100	64.8	32	18	21.5	18	27	26.5(21.5)	26.5(32)	-	-	18	21.5	33.5	21.5	13.5	17	13.5	22.5	-	-	21.5(16.5)	22(27.5)	29	17

● SSD2-L-12 to 100 (for AC magnetic field, with T1* switch, T2YD, T2YDT, T1H/V)



Code	FA	FB	SSD2-L, XL, YL		SSD2-DL ^{*1}		SSD2 (Long stroke)-L ^{*2}		SSD2-ML		SSD2-GL		SSD2-G5L	
			RD	HD	RD	HD	RD	HD	RD	HD	RD	HD	RD	HD
SM-25	φ12	23.8	8	-	-	1.5	4	3	1	-	-	-	-	-
	φ16	25.8	8	-	-	0.5	3.5	2.5	1.5	-	-	-	-	-
ShkAbs	φ20	29.3	16	6.5	2	5	8	14(8.5)	5.5(11)	10	1.5	16.5	2	-
	φ25	31.3	17	8.5	3	8	10	17.5(10.5)	5(12.5)	13	1.5	18.5	3	-
FJ	φ32	33.8	24	8.5	3.5	7.5	9.5	16(8)	8(14.5)	17.5	2	18.5	3.5	19.5
	φ40	37.3	31	10.5	5.5	10.5	15	24.5(15)	8(17.5)	10.5	5.5	10.5	5.5	20.5
FK	φ50	43.3	32	11	6	11	15	24.5(16)	8.5(17.5)	11	6	11	6	21
	φ63	49.8	32	11.5	11	11.5	16.5	18.5(13.5)	16(21.5)	11.5	11	11.5	11	21.5
Spd Contr	φ80	60.3	32	14	16	14	21.5	22.5(17.5)	20.5(26.5)	-	-	14	16	28
	φ100	69.8	32	18	21.5	18	27	26.5(21.5)	26.5(32)	-	-	18	21.5	33.5

*1: The port surface with the mark is the "RD side".

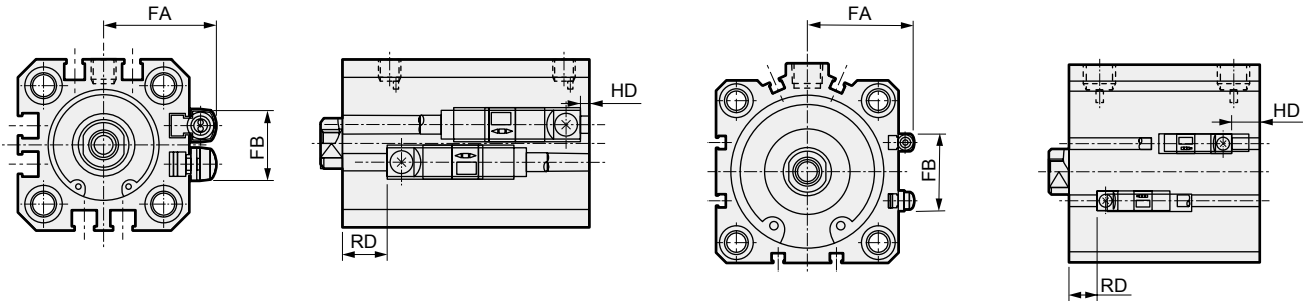
*2: Dimensions in () are for stroke length over 100 for φ20, stroke length over 150 for φ25 to φ50, and stroke length over 200 for φ63 to φ100.

SSD2-K Series common dimensions (with 2-color display, off-delay, AC magnetic field, T1* and T8* switches)

- SSD2-KL-20 to 100 (with 2-color display, off-delay, T8* switches/T2YH/V, T3YH/V, T2JH/V, T8H/V)

· $\phi 20/\phi 25$

· $\phi 32$ to $\phi 100$

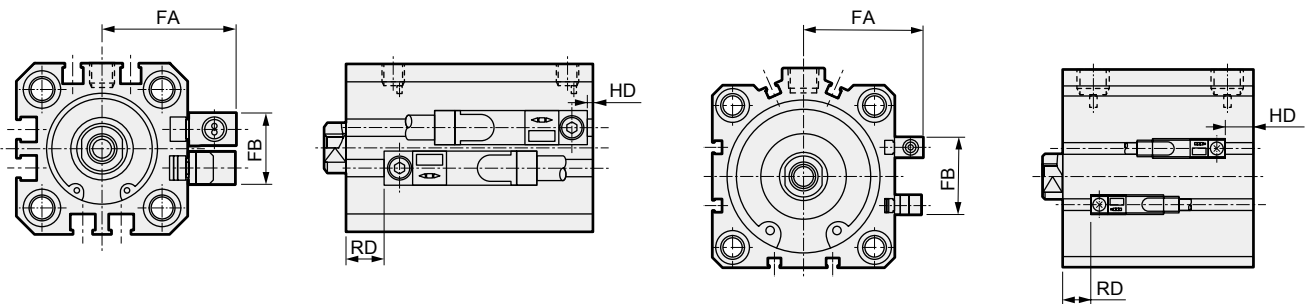


Code Bore size (mm)	FA	FB	T2YH/V, T3YH/V, T2JH/V		T8H/V	
			RD	HD	RD	HD
$\phi 20$	24.3	16	8	5.5	-	-
$\phi 25$	26.3	17	11.5	5	-	-
$\phi 32$	28.8	24	14	8	-	-
$\phi 40$	32.3	31	18	8	13.5	3.5
$\phi 50$	38.3	32	18.5	8.5	14	4
$\phi 63$	44.8	32	16.5	16	12	11.5
$\phi 80$	55.3	32	19	20.5	14.5	16
$\phi 100$	64.8	32	23	26.5	18.5	22

- SSD2-KL-20 to 100 (for AC magnetic field, with T1* switch, T2YD, T2YDT, T1H/V)

· $\phi 20/\phi 25$

· $\phi 32$ to $\phi 100$



Code Bore size (mm)	FA	FB	RD	HD
$\phi 20$	29.3	16	8	5.5
$\phi 25$	31.3	17	11.5	5
$\phi 32$	33.8	24	14	8
$\phi 40$	37.3	31	18	8
$\phi 50$	43.3	32	18.5	8.5
$\phi 63$	49.8	32	16.5	16
$\phi 80$	60.3	32	19	20.5
$\phi 100$	60.8	32	23	26.5

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

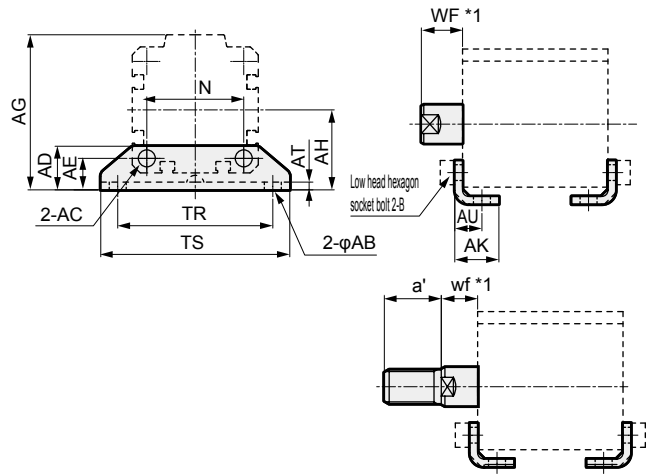
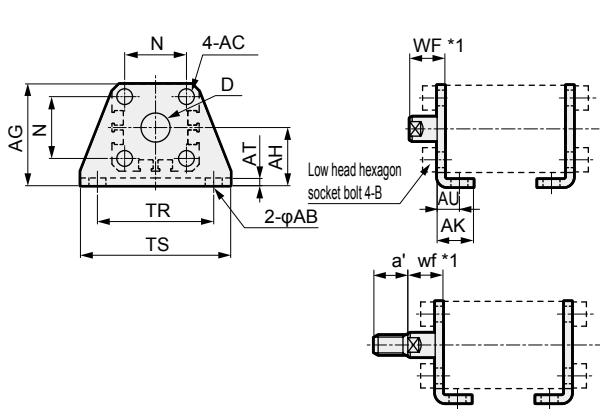


Dimensions (Mounting bracket: LB)

- Axial foot (LB)
- $\phi 12$ to $\phi 25$

· $\phi 32$ to $\phi 100$

Material: Steel
Zinc
chromate
treatment



*1: Hex socket mounting bolts are attached.

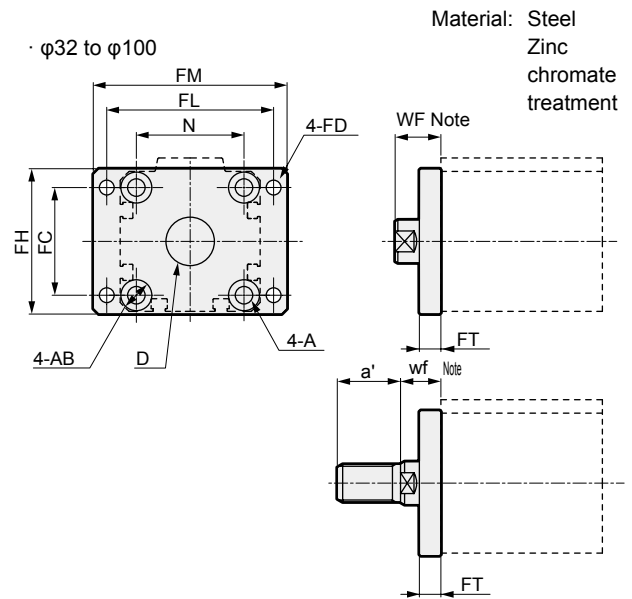
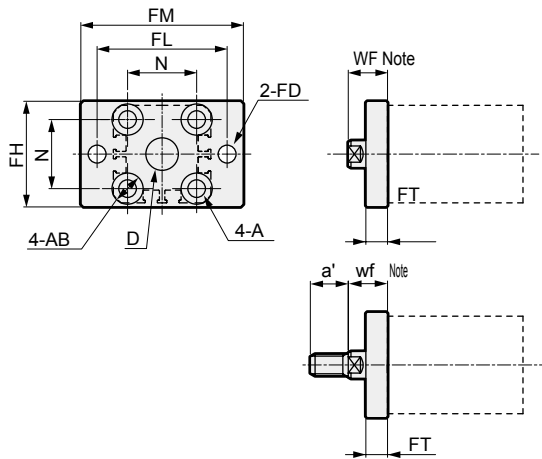
Model No.	Bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	D	N	TR	TS	WF	wf	a'	Weight (g)
SSD2-LB-12	$\phi 12$	5	4.5	-	-	29.5	17	12.5	2	8	M4×10	8	15.5	34	44	13.5	13.5	10.5	51
SSD2-LB-16	$\phi 16$	5	4.5	-	-	33.5	19	13	2	8	M4×10	10	20	38	48	13.5	13.5	12	61
SSD2-LB-20	$\phi 20$	7	6.5	-	-	42	24	15	3.2	9.2	M6×16	12	25.5	48	62	14.5	14.5	14	161
SSD2-LB-25	$\phi 25$	7	6.5	-	-	46	26	16.5	3.2	10.7	M6×16	14	28	52	66	15	15	17.5	176
SSD2-LB-32	$\phi 32$	7	7	18.5	13	57	30	17	3.2	11.2	M6×16	-	34	57	71	17	15	23.5	107
SSD2-LB-40	$\phi 40$	7	7	18	13	64	33	18.2	3.2	11.2	M6×16	-	40	64	78	17	15	23.5	121
SSD2-LB-50	$\phi 50$	9	9	22	14	78	39	22.7	3.2	14.7	M8×20	-	50	79	95	18	15	28.5	201
SSD2-LB-63	$\phi 63$	11	11	26	16	91.5	46	25.2	3.2	16.2	M10×25	-	60	95	113	18	15	28.5	314
SSD2-LB-80	$\phi 80$	13	13	31.5	20.5	114	59	30.5	4.5	19.5	M12×40	-	77	118	140	20	18	35.5	678
SSD2-LB-100	$\phi 100$	13	13	35	24	136	71	35.5	6	23	M12×40	-	94	137	162	22	18	35.5	1198

*1: The WF/wf dimension of the cylinder for LB is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and LB brackets.

*2: The mounting brackets for SSD2 are the same dimensions as the compact mounting brackets for SSD. Check the General Catalog (CB-029SA) in order to avoid mistakes. (Example: SSD2-LB-32 is the same dimensions as SSD-LB2-32.)

Dimensions (Mounting bracket: FA, FB)

- Rod side flange (FA)
 - $\phi 12$ to $\phi 25$

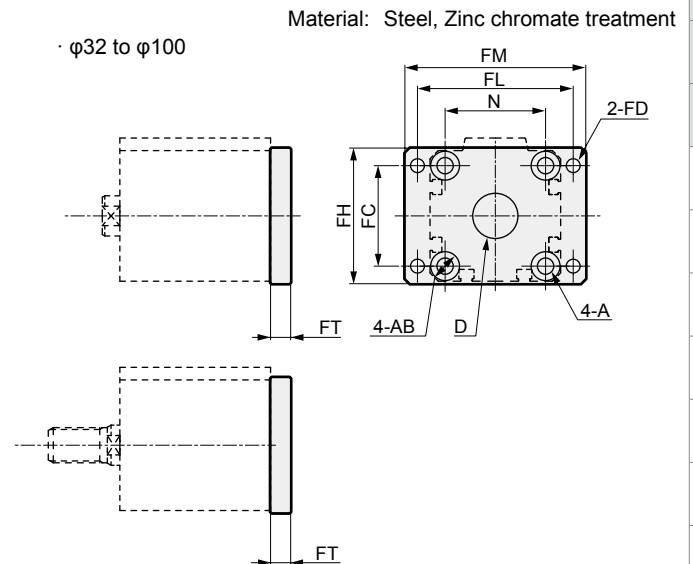
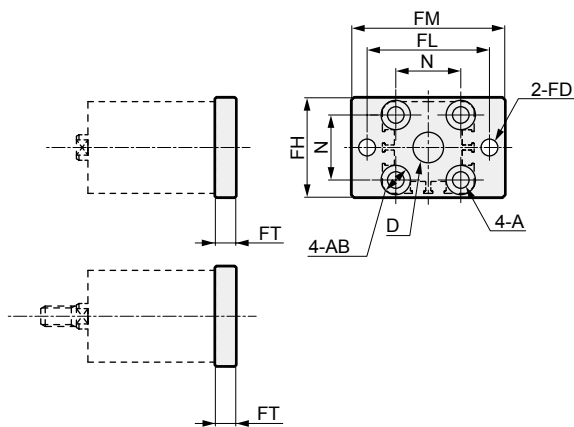


*1: Mounting bolts are attached.

Model No.	Bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	WF	wf	a'	Weight (g)
SSD2-FA-12	$\phi 12$	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	13.5	13.5	10.5	54
SSD2-FA-16	$\phi 16$	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	13.5	13.5	12	64
SSD2-FA-20	$\phi 20$	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	14.5	14.5	14	129
SSD2-FA-25	$\phi 25$	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	15	15	17.5	148
SSD2-FA-32	$\phi 32$	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	17	15	23.5	167
SSD2-FA-40	$\phi 40$	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	17	15	23.5	215
SSD2-FA-50	$\phi 50$	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	18	15	28.5	387
SSD2-FA-63	$\phi 63$	60	9	80	92	108	9	11	18 spot face depth 6	35	60	18	15	28.5	573
SSD2-FA-80	$\phi 80$	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	20	18	35.5	1132
SSD2-FA-100	$\phi 100$	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	22	18	35.5	1522

Note: The WF/wf dimension of the cylinder for FA is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and FA brackets.

- Head side flange (FB)
 - $\phi 12$ to $\phi 25$



*1: Mounting bolts are attached.

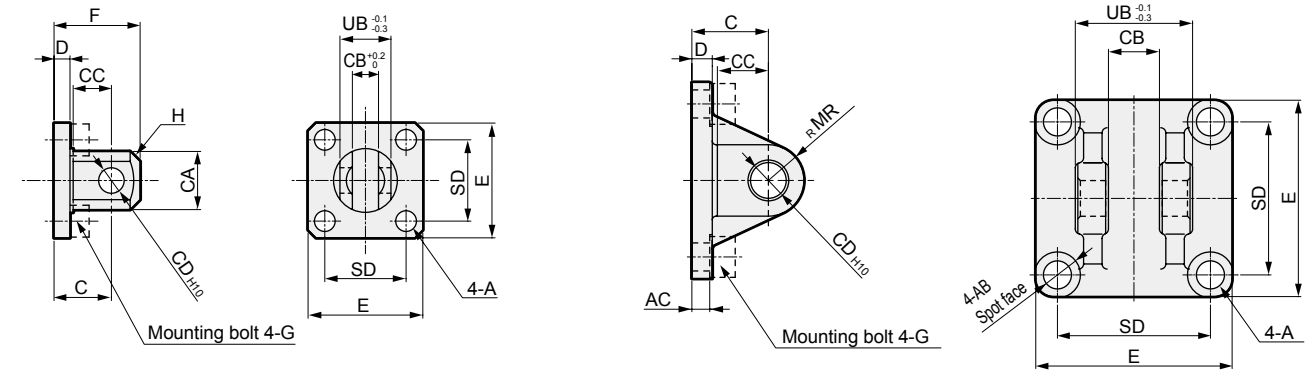
Model No.	Bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	Weight (g)
SSD2-FB-12	$\phi 12$	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	54
SSD2-FB-16	$\phi 16$	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	64
SSD2-FB-20	$\phi 20$	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	129
SSD2-FB-25	$\phi 25$	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	148
SSD2-FB-32	$\phi 32$	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	22	34	167
SSD2-FB-40	$\phi 40$	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	28	40	215
SSD2-FB-50	$\phi 50$	50	6.6	67	76	89	9	9	15 spot face depth 5	35	50	387
SSD2-FB-63	$\phi 63$	60	9	80	92	108	9	11	18 spot face depth 6	35	60	573
SSD2-FB-80	$\phi 80$	77	11	99	116	134	11	13	19 spot face depth 7.5	43	77	1132
SSD2-FB-100	$\phi 100$	94	11	117	136	154	11	13	19 spot face depth 7.5	59	94	1522

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Dimensions (Mounting bracket: CB)

● Clevis bracket (CB)

Material: Cast iron
Painting



*1: Hex socket mounting bolts, pins, and snap rings are attached.

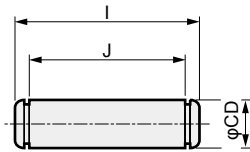
SSD2	Model No.	Bore size	A	AB	AC	C	CA	CB	CC	CD	D	E	F	G	H	MR	SD	UB	Weight (g)
	SSD2-CB-12	φ12	4.5	-	-	14	12	5.2 ^{+0.2} ₀	7	5	4	25	20	M4×12	C1.5	-	15.5	10	28
	SSD2-CB-16	φ16	4.5	-	-	15	15	6.6 ^{+0.3} ₀	8	5	5	29	21	M4×12	C2	-	20	12	43
	SSD2-CB-20	φ20	6.5	-	-	18	20	8.2 ^{+0.2} ₀	12	8	5	36	27	M6×16	C4	-	25.5	16	84
	SSD2-CB-25	φ25	6.5	-	-	20	24	10.2 ^{+0.2} ₀	14	10	5	40	30	M6×16	C5	-	28	20	110
	SSD2-CB-32	φ32	6.6	13	4.5	20	-	18.2 ^{+0.2} ₀	14	10	5	45	30	M6×16	-	10	34	36	159
	SSD2-CB-40	φ40	6.6	14	5	22	-	18.2 ^{+0.2} ₀	14	10	6	52	32	M6×16	-	10	40	36	207
	SSD2-CB-50	φ50	9	16	6	28	-	22.2 ^{+0.2} ₀	20	14	7	64	42	M8×20	-	14	50	44	420
	SSD2-CB-63	φ63	11	18	7	30	-	22.2 ^{+0.2} ₀	20	14	8	77	44	M10×25	-	14	60	44	605
	SSD2-CB-80	φ80	13.5	23	9	38	-	28.2 ^{+0.2} ₀	27	18	10	98	56	M12×40	-	18	77	56	1222
	SSD2-CB-100	φ100	13.5	20	12	45	-	32.2 ^{+0.2} ₀	31	22	13	117	67	M12×40	-	22	94	64	2031

*1: The mounting brackets for SSD2 are the same dimensions as the compact mounting brackets for SSD.

Check the General Catalog (CB-029SA) in order to avoid mistakes.
(Example: SSD2-CB-32 is the same dimensions as SSD-CB2-32.)

● Clevis bracket (CB) attached pin dimensions table (P)

Material: Steel
Zinc
chromate
treatment



Model No.	Applicable bore size	I	J	CD	Applicable snap ring	Weight (g)
SSD2-P-12	φ12	15.2	10.2	5 ^{-0.01} _{-0.028}	E type 4	2.4
SSD2-P-16	φ16	18	13	5 ^{-0.01} _{-0.028}	E type 4	2.8
SSD2-P-20	φ20	21	16.2	8 ^{-0.025} _{-0.047}	C type for shaft 8	8.2
SSD2-P-25	φ25	25.6	20.2	10 ^{-0.025} _{-0.047}	C type for shaft 10	16
SSD2-P-32	φ32/φ40	41.6	36.2	10 ^{-0.025} _{-0.047}	C type for shaft 10	25
SSD2-P-50	φ50/φ63	50.6	44.2	14 ^{-0.032} _{-0.059}	C type for shaft 14	60
SSD2-P-80	φ80	64	56.2	18 ^{-0.032} _{-0.059}	C type for shaft 18	124
SSD2-P-100	φ100	72	64.2	22 ^{-0.040} _{-0.083}	C type for shaft 22	213

Dimensions (Accessory: I, Y)

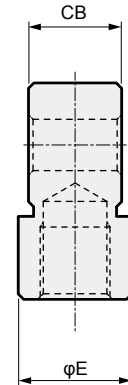
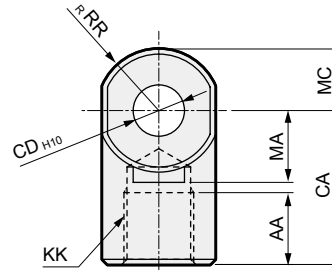
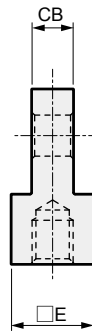
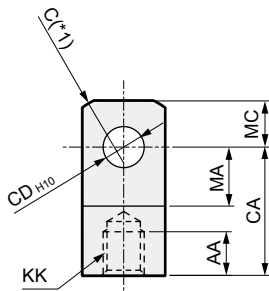


- Rod eye (I)
- φ12 to φ25

Material: Steel
Zinc chromate treatment

- φ32 to φ100

Material: Cast iron
Painting



*1: φ20/25 are SR RR

Model No.	Bore size	AA	CA	CB	CD	E	KK	MA	C	RR	MC	Weight (g)
SSD2-I-12	φ12	6	16	5 ^{-0.2} _{-0.4}	5	□10	M5×0.8	7	2	-	5.5	9
SSD2-I-16	φ16	8	25	6.5 ^{-0.2} _{-0.4}	5	□12	M6×1	14	2	-	7	21
SSD2-I-20	φ20	8.5	25	8 ^{-0.2} _{-0.4}	8	□16	M8×1.25	11.5	-	13.4	9	38
SSD2-I-25	φ25	10.5	30	10 ^{-0.2} _{-0.4}	10	□20	M10×1.25	14	-	17.1	11	71
SSD2-I-32	φ32/φ40	14	30	18 ^{-0.3} _{-0.5}	10	φ22	M14×1.5	14	-	12	12	74
SSD2-I-50	φ50/φ63	18	40	22 ^{-0.3} _{-0.5}	14	φ28	M18×1.5	20	-	16	16	155
SSD2-I-80	φ80	21	50	28 ^{-0.3} _{-0.5}	18	φ38	M22×1.5	27	-	21	21	380
SSD2-I-100	φ100	21	55	32 ^{-0.3} _{-0.5}	22	φ44	M26×1.5	31	-	24	24	550

*1: The accessories for SSD2 are the same dimensions as the compact accessories for SSD.

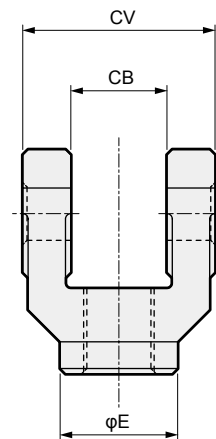
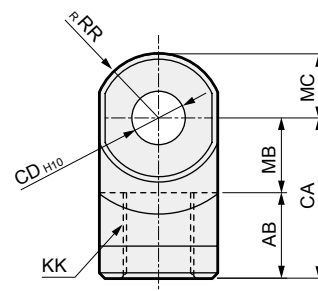
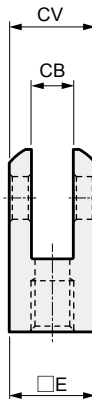
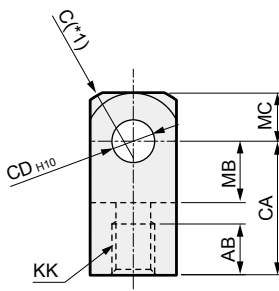
Check the General Catalog (CB-029SA) in order to avoid mistakes.
(Example: SSD2-I-32 is the same dimensions as SSD-I2-32.)

- Rod clevis (Y)
- φ12 to φ25

Material: Steel
Zinc chromate treatment

- φ32 to φ100

Material: Cast iron
Painting



*1: φ20/25 are SR RR

*2: A pin (including C ring) is attached.

*3: The pins for the rod clevis are common with the pins for the clevis brackets.

Model No.	Bore size	AB	CA	CB	CD	CV	E	KK	MB	C	RR	MC	Weight (g)
SSD2-Y-12	φ12	6	16	5 ^{+0.4} _{+0.2}	5	10	□10	M5×0.8	7	2	-	5.5	12
SSD2-Y-16	φ16	11	21	6.5 ^{+0.4} _{+0.2}	5	12	□12	M6×1	10	2	-	7	20
SSD2-Y-20	φ20	13.5	25	8 ^{+0.4} _{+0.2}	8	16	□16	M8×1.25	11.5	-	13.4	9	45
SSD2-Y-25	φ25	16	30	10 ^{+0.4} _{+0.2}	10	20	□20	M10×1.25	14	-	17.1	11	84
SSD2-Y-32	φ32/φ40	16	30	18 ^{+0.5} _{+0.3}	10	36	φ22	M14×1.5	14	-	12	12	120
SSD2-Y-50	φ50/φ63	20	40	22 ^{+0.5} _{+0.3}	14	44	φ28	M18×1.5	20	-	16	16	257
SSD2-Y-80	φ80	23	50	28 ^{+0.5} _{+0.3}	18	56	φ38	M22×1.5	27	-	21	21	589
SSD2-Y-100	φ100	24	55	32 ^{+0.5} _{+0.3}	22	64	φ44	M26×1.5	31	-	24	24	933

*1: The accessories for SSD2 are the same dimensions as the compact accessories for SSD.

Check the General Catalog (CB-029SA) in order to avoid mistakes.
(Example: SSD2-Y-32 is the same dimensions as SSD-Y2-32.)

SSD2 Series

SCP*3

How to order mounting bolts

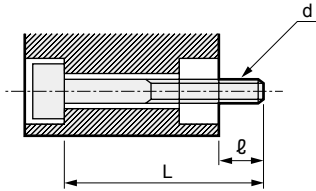
SSD2 - BOLT - d × L

Mounting bolts (Bolts are available in units of 4 bolts per set.)

CMK2

CMA2

How to read the list



Material: Steel
Treatment: Black finish

d: Mounting bolt screw diameter
L: Mounting bolt length
ℓ: Mating side screw-in available length
(Note) The mounting bolts will be displayed as d × L.

SCM

SCG

SCA2

SCS2

● SSD2, SSD2-K(φ12 to φ100)

Bore size	Stroke length	ℓ	d × L					
			SSD2	SSD2-L	SSD2-K	SSD2-KL		
φ12 φ16	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		
φ20	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		
	50		× 70	× 80	× 75	× 85		
φ25	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		
φ32	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		
	50		× 75	× 85	× 90	× 100		
φ40	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		
	50		× 80	× 90	× 90	× 100		
φ50	10	11	M6 × 45	M6 × 55	M6 × 55	M6 × 65		
	15		× 50	× 60	× 60	× 70		
	20		× 55	× 65	× 65	× 75		
	25		× 60	× 70	× 70	× 80		
	30		× 65	× 75	× 75	× 85		
	35		× 70	× 80	× 80	× 90		
φ63	40	13	× 75	× 85	× 85	× 95		
	45		× 80	× 90	× 90	× 100		
	50		× 85	× 95	× 95	× 105		
	75		× 90	× 100	× 100	× 110		
	100		× 125	× 125	× 135	× 135		
	φ80		10	17.5	M8 × 50	M8 × 60	M8 × 60	M8 × 70
			15		× 55	× 65	× 65	× 75
			20		× 60	× 70	× 70	× 80
			25		× 65	× 75	× 75	× 85
			30		× 70	× 80	× 80	× 90
35		× 75	× 85		× 85	× 95		
40		× 80	× 90		× 90	× 100		
45		× 85	× 95		× 95	× 105		
50		× 90	× 100		× 100	× 110		
75		× 125	× 125		× 135	× 135		
φ100	10	18	M10 × 60	M10 × 70	M10 × 70	M10 × 80		
	15		× 65	× 75	× 75	× 85		
	20		× 70	× 80	× 80	× 90		
	25		× 75	× 85	× 85	× 95		
	30		× 80	× 90	× 90	× 100		
	35		× 85	× 95	× 95	× 105		
	40		× 90	× 100	× 100	× 110		
	45		× 95	× 105	× 105	× 115		
	50		× 100	× 110	× 110	× 120		
	75		× 135	× 135	× 145	× 145		
φ120	10	18	M10 × 70	M10 × 80	M10 × 80	M10 × 90		
	15		× 75	× 85	× 85	× 95		
	20		× 80	× 90	× 90	× 100		
	25		× 85	× 95	× 95	× 105		
	30		× 90	× 100	× 100	× 110		
	35		× 95	× 105	× 105	× 115		
	40		× 100	× 110	× 110	× 120		
	45		× 105	× 115	× 115	× 125		
	50		× 110	× 120	× 120	× 130		
	75		× 145	× 145	× 155	× 155		

Bore size	Stroke length	ℓ	d × L			
			SSD2	SSD2-L	SSD2-K	SSD2-KL
φ50	10	11	M6 × 45	M6 × 55	M6 × 55	M6 × 65
	15		× 50	× 60	× 60	× 70
	20		× 55	× 65	× 65	× 75
	25		× 60	× 70	× 70	× 80
	30		× 65	× 75	× 75	× 85
	35		× 70	× 80	× 80	× 90
	40		× 75	× 85	× 85	× 95
	45		× 80	× 90	× 90	× 100
	50		× 85	× 95	× 95	× 105
	75		× 120	× 120	× 130	× 130
φ63	10	13	M8 × 50	M8 × 60	M8 × 60	M8 × 70
	15		× 55	× 65	× 65	× 75
	20		× 60	× 70	× 70	× 80
	25		× 65	× 75	× 75	× 85
	30		× 70	× 80	× 80	× 90
	35		× 75	× 85	× 85	× 95
	40		× 80	× 90	× 90	× 100
	45		× 85	× 95	× 95	× 105
	50		× 90	× 100	× 100	× 110
	75		× 125	× 125	× 135	× 135
φ80	10	17.5	M10 × 60	M10 × 70	M10 × 70	M10 × 80
	15		× 65	× 75	× 75	× 85
	20		× 70	× 80	× 80	× 90
	25		× 75	× 85	× 85	× 95
	30		× 80	× 90	× 90	× 100
	35		× 85	× 95	× 95	× 105
	40		× 90	× 100	× 100	× 110
	45		× 95	× 105	× 105	× 115
	50		× 100	× 110	× 110	× 120
	75		× 135	× 135	× 145	× 145
φ100	10	18	M10 × 70	M10 × 80	M10 × 80	M10 × 90
	15		× 75	× 85	× 85	× 95
	20		× 80	× 90	× 90	× 100
	25		× 85	× 95	× 95	× 105
	30		× 90	× 100	× 100	× 110
	35		× 95	× 105	× 105	× 115
	40		× 100	× 110	× 110	× 120
	45		× 105	× 115	× 115	× 125
	50		× 110	× 120	× 120	× 130
	75		× 145	× 145	× 155	× 155

* Values in () are for the high load (SSD2-K/KL).

SSD2 Series

Mounting bolt

● SSD2(φ125 to φ200)

Bore size	Stroke length	φ	d×L	
			SSD2	SSD2-L
φ125 φ140	10	20	M12×100	M12×100
	20		×110	×110
	30		×120	×120
	40		×130	×130
	50		×140	×140
	75		×165	×165
	100		×190	×190
φ160	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
φ180	10	36	M18×125	M18×125
	20		×135	×135
	30		×145	×145
	40		×155	×155
	50		×165	×165
	75		×190	×190
	100		×215	×215
φ200	10	39	M18×135	M18×135
	20		×145	×145
	30		×155	×155
	40		×165	×165
	50		×175	×175
	75		×200	×200
	100		×225	×225

● SSD2-X, SSD2-Y, SSD2-M

Bore size	Stroke length	φ	d×L			
			SSD2-X,Y	SSD2-XL,YL	SSD2-M	SSD2-ML
φ12 φ16	5	6.5	M3×25	M3×30	M3×30	M3×35
	10		×30	×35	×35	×40
	15				×40	×45
	20				×45	×50
	25				×50	×55
	30				×55	×60
	5		6	M5×25	M5×35	M5×30
10	×30	×40		×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		
5	8	M5×30	M5×40	M5×35	M5×45	
10		×35	×45	×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		
5	8.5	M5×30	M5×40	M5×40	M5×50	
10		×35	×45	×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			×120	×120		
100			×145	×145		
5	6	M5×35	M5×45	M5×35	M5×45	
10		×40	×50	×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	×115		
100			×140	×140		
10	11	M6×45	M6×55	M6×45	M6×55	
15				×50	×60	
20		×55	×65	×55	×65	
25				×60	×70	
30				×65	×75	
35				×70	×80	
40				×75	×85	
45			×80	×90		
50			×85	×95		
75			×120	×120		
100			×145	×145		
10	13	M8×50	M8×60	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		
100			×150	×150		

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

SSD2 Series

● SSD2-D, SSD2-Q

	Bore size	Stroke length	ℓ	d×L						
				SSD2-D	SSD2-DL	SSD2-Q(L)-R	SSD2-Q(L)-H			
SCP*3	φ12	5	6.5	M3×30	M3×35	/				
CMK2		10		×35	×40					
CMA2		15		×40	×45					
SCM		20		×45	×50					
		25		×50	×55					
		30		×55	×60					
SCG	φ20	5	9.5 (11.5) [12]	M5×35	M5×45	/				
SCA2		10		×40	×50			M5×70	M5×80	
		15		×45	×55	×75	×85			
SCS2		20		×50	×60	×80	×90			
		25		×55	×65	×85	×100			
CKV2		30		×60	×70	/				
		35		×65	×75					
		40		×70	×80					
CAV2/ COVPIN2		45		×75	×85	/				
SSD2		50		×80	×90			×130	×130	
	75	/		×155	×155					
	100			×180	×180					
SSG	φ25	5	11.5 (10.5) [9]	M5×40	M5×50	/				
		10		×45	×55			M5×70	M5×75	
		15		×50	×60	×75	×80			
		20		×55	×65	×80	×85			
		SSD		25	×60	×70	×85	×90		
				30	×65	×75	/			
		CAT		35	×70	×80				
				40	×75	×85				
		MDC2		45	×80	×90	/			
				50	×85	×95			×120	×120
75	/		×145	×145						
100			×170	×170						
SMG	φ32	5	10 (12.5) [15]	M5×40	M5×50	/				
		10		×45	×55			M5×75	M5×85	
		15		×50	×60	×80	×90			
		MSD/ MSDG		20	×55	×65	×85	×95		
				25	×60	×70	×90	×100		
		FC*		30	×65	×75	/			
				35	×70	×80				
				40	×75	×85				
		STK		45	×80	×90	/			
				50	×85	×95			×115	×125
75	×120		×120	×140	×150					
SRL3	100	×145	×145	×165	×175					
SRG3	φ40	5	10.5 (11.5) [11]	M5×50	M5×60	/				
		10		×55	×65			M5×80	M5×90	
		15		×60	×70	×85	×95			
		SRM3		20	×65	×75	×90	×100		
				25	×70	×80	×95	×105		
		SRT3		30	×75	×85	/			
				35	×80	×90				
		MRL2		40	×85	×95				
				45	×90	×100				
		MRG2		50	×95	×105	×120	×130		
75	×130		×130	×145	×155					
100	×155		×155	×170	×175					
SM-25	φ50	10	11	M6×55	M6×65	M6×80	M6×90			
		15		×60	×70	×85	×95			
		20		×65	×75	×90	×100			
		ShkAbs		25	×70	×80	×95	×105		
				30	×75	×85	/			
		FJ		35	×80	×90				
				40	×85	×95				
		FK		45	×90	×100	/			
				50	×95	×105			×120	×130
				75	×130	×130			×145	×155
Spd Contr	100	×155	×155	×170	×175					
	Ending									

	Bore size	Stroke length	ℓ	d×L						
				SSD2-D	SSD2-DL	SSD2-Q(L)-R	SSD2-Q(L)-H			
φ63	φ63	10	12 (18) [17]	M8×50	M8×60	M8×90	M8×95			
		15		×55	×65	×95	×100			
		20		×60	×70	×100	×105			
		25		×65	×75	×105	×110			
		30		×70	×80	/				
		35		×75	×85					
		40		×80	×90					
		φ80		45	×85	×95	/			
				50	×90	×100			×130	×135
		φ80		75	×125	×125	×155	×160		
100	×150		×150	×180	×185					
φ80	φ80	10	16 (12.5) [15]	M10×65	M10×75	/				
		15		×70	×80					
		20		×75	×85	/				
		25		×80	×90					
		30		×85	×95			M10×130	M10×125	
		φ100		35	×90	×100	/			
				40	×95	×105				
		φ100		φ100	45	16.5 (13) [15.5]	×100	×110	/	
					50		×105	×115		
					75		×140	×140		
φ100	100		×165		×165		×205	×205		
	10		M10×75		M10×85		/			
15	×80		×90		/					
20	×85		×95							
25	×90		×100				M10×140	M10×135		
φ100	30		×95		×105		/			
	35		×100		×110					
φ125	40	×105	×115	/						
	45	×110	×120							
	50	×115	×125			×165	×160			
φ140	75	×150	×150	×190	×190					
	100	×175	×175	×215	×215					
φ160	φ160	10	24.2	M12×100	M12×100	/				
		20		×110	×110					
		30		×120	×120	/				
		40		×130	×130					
		50		×140	×140					
		φ180		75	×165	×165	/			
				100	×190	×190				
		φ180		φ180	10	36	M14×110	M14×110	/	
					20		×120	×120		
					30		×130	×130	/	
40	×140		×140							
50	×150		×150							
φ200	75		×175		×175		/			
	100		×200		×200					
φ200	φ200		10		39		M18×125	M18×125	/	
			20				×135	×135		
			30				×145	×145	/	
		40	×155	×155						
		50	×165	×165						
		φ200	75	×190		×190	/			
			100	×215		×215				
		φ200	φ200	10		39	M18×135	M18×135	/	
				20			×145	×145		
				30			×155	×155	/	
40	×165			×165						
50	×175			×175						
φ200	75			×200	×200		/			
	100			×225	×225					

* Values in () are for SSD2-Q(L)-R.

* Values in [] are for SSD2-Q(L)-H.

● SSD2-G1, 4

Bore size	Stroke length	φ	d×L	
			SSD2-G1, 4	SSD2-G1, 4L
φ32	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		
φ40	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		
φ50	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
φ63	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
φ80	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
φ100	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 length	φ	d×L	
			SSD2-G5	SSD2-G5L
φ32	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		
φ40	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		
φ50	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
φ63	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
φ80	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
φ100	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

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/
COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/
MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd
Contr
- Ending

SSD2 Series

● SSD2-G, G2, 3

	Bore size	Stroke length	ℓ	d×L		
				SSD2-G, G2, 3	SSD2-G, G2, 3L	
SCP*3	φ20	5	6	M5×25	M5×35	
CMK2		10		×35	×45	
CMA2		15		×40	×50	
SCM		20		×45	×55	
		25		×50	×60	
SCG		30		×55	×65	
		35		×60	×70	
SCA2		40		×65	×75	
		45		×70	×80	
SSD2		50		×75	×85	
		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				
SSG	φ32	5	7.5	M5×30	M5×40	
SSD		10		×35	×45	
		15		×40	×50	
CAT		20		×45	×55	
		25		×50	×60	
MDC2		30		×55	×65	
		35		×60	×70	
MVC		40		×65	×75	
		45		×70	×80	
SMG		50		×75	×85	
	75	×105	×120			
MSD/MSDG	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		
FC*	75	×115	×125			
	100	×140	×150			
STK	φ50	10	11	M6×45	M6×55	
SRL3		15		×50	×60	
SRG3		20		×55	×65	
		25		×60	×70	
SRM3		30		×65	×75	
		35		×70	×80	
SRT3		40		×75	×85	
		45		×80	×90	
MRL2		50		×85	×95	
		75		×120	×130	
MRG2	100	×145	×155			
SM-25	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				
ShkAbs	10	17.5	M10×60	M10×70		
	15		×65	×75		
	20		×70	×80		
	25		×75	×85		
	Ending		25	×75	×85	

φ80	30	17.5	×80	×90
	35		×85	×95
	40		×90	×100
	45		×95	×105
	50		×100	×110
	75		×135	×145
	100		×160	×170
φ100	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
	75		×145	×155
	100		×170	×180

● SSD2-T1L

Bore size	Stroke length	ℓ	d×L
			SSD2-T1L
φ32	5	7.5	M5×40
	10		×45
	15		×50
	20		×55
	25		×60
	30		×65
	35		×70
	40		×75
	45		×80
	50		×85
φ40	75	6	×120
	100		×145
	5		M5×45
	10		×50
	15		×55
	20		×60
	25		×65
	30		×70
	35		×75
	40		×80
φ50	45	11	×85
	50		×90
	75		×125
	100		×150
	10		M6×55
	15		×60
	20		×65
	25		×70
	30		×75
	35		×80
φ63	40	13	×85
	45		×90
	50		×95
	75		×135
	100		×160
	10		M8×60
	15		×65
	20		×70
	25		×75
	30		×80
35	×85		
Ending	40	13	×90
	45		×95
	50		×100
	75		×135
	100		×160
	10		M8×60
	15		×65
	20		×70

SSD2 Series

Mounting bolt

● SSD2-K-*C

Bore size	Stroke length	φ	d×L	
			SSD2-K-*C	SSD2-KL-*C
φ20	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
φ25	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
φ32	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
φ40	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
φ50	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
φ63	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
φ80	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
φ100	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

● SSD2-KU

Bore size	Stroke length	φ	d×L	
			SSD2-KU	SSD2-KUL
φ20	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
φ25	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
φ32	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
φ40	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
φ50	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
φ63	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
φ80	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
φ100	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

- SCP*3
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS2
- CKV2
- CAV2/COVP/N2
- SSD2**
- SSG
- SSD
- CAT
- MDC2
- MVC
- SMG
- MSD/MSDG
- FC*
- STK
- SRL3
- SRG3
- SRM3
- SRT3
- MRL2
- MRG2
- SM-25
- ShkAbs
- FJ
- FK
- Spd Contr
- Ending

SSD2 Series

● SSD2-L4

	Bore size	Stroke length	ℓ	d×L	
				SSD2-KU	SSD2-KUL
SCP*3	φ40	5	6	M5×45	M5×55
CMK2		10		×50	×60
CMA2		15		×55	×65
SCM		20		×60	×70
		25		×65	×75
SCG		30		×70	×80
		35		×75	×85
SCA2		40		×80	×90
		45		×85	×95
SCS2		50		×90	×100
	75	×125	×135		
CKV2	100	×150	×160		
	10	M6×55	M6×65		
CAV2/ COVPIN2	15	×60	×70		
	20	×65	×75		
SSD2	25	×70	×80		
	30	×75	×85		
SSG	35	×80	×90		
	40	×85	×95		
SSD	45	×90	×100		
	50	×95	×105		
CAT	75	×130	×140		
	100	×155	×165		
MDC2	10	M8×60	M8×70		
	15	×65	×75		
MVC	20	×70	×80		
	25	×75	×85		
SMG	30	×80	×90		
	35	×85	×95		
MSD/ MSDG	40	×90	×100		
	45	×95	×105		
FC*	50	×100	×110		
	75	×135	×145		
STK	100	×160	×170		
	10	M10×70	M10×80		
SRL3	15	×75	×85		
	20	×80	×90		
SRG3	25	×85	×95		
	30	×90	×100		
SRM3	35	×95	×105		
	40	×100	×110		
SRT3	45	×105	×115		
	50	×110	×120		
MRL2	75	×145	×155		
	100	×170	×180		
MRG2	10	M10×80	M10×90		
	15	×85	×95		
SM-25	20	×90	×100		
	25	×95	×105		
ShkAbs	30	×100	×110		
	35	×105	×115		
FJ	40	×110	×120		
	45	×115	×125		
FK	50	×120	×130		
	75	×155	×165		
Spd Contr	100	×180	×190		
	10	M10×80	M10×90		
Ending	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-P7*/P5*

	Bore size	Stroke length	ℓ	d×L	
				SSD2-K-*C	SSD2-KL-*C
SM-25	φ12	5	6.5	M5×35	M5×45
		10		×45	×60
		15		×50	×65
		20		×55	×70
		25		×60	×75
ShkAbs	φ12	30	6.5	×65	×80
		5		M5×40	M5×50
		10		×45	×60
		15		×50	×65
		20		×55	×70
FJ	φ16	25	6.5	×60	×75
		30		×65	×80
		5		M5×35	M5×45
		10		×45	×60
		15		×50	×65
FK	φ16	20	6.5	×55	×70
		25		×60	×75
		30		×65	×80
		5		M5×35	M5×45
		10		×45	×60
Spd Contr	φ20	15	6	×50	×65
		20		×55	×70
		25		×60	×75
		5		M5×35	M5×45
		10		×45	×60
Ending	φ20	15	6	×50	×65
		20		×55	×70
		25		×60	×75

φ20	30	6	M5×65	M5×80		
	35		×70	×85		
	40		×75	×90		
	45		×80	×95		
	50		×85	×100		
φ25	5	8	M5×40	M5×50		
	10		×45	×60		
	15		×50	×65		
	20		×55	×70		
	25		×60	×75		
	30		×65	×80		
	35		×70	×85		
	40		×75	×90		
	45		×80	×95		
	50		×85	×100		
φ32	5	7.5	M5×40	M5×55		
	10		×45	×60		
	15		×50	×65		
	20		×55	×70		
	25		×60	×75		
	30		×65	×80		
	35		×70	×85		
	40		×75	×90		
	45		×80	×95		
	50		×85	×100		
	75		×120	×135		
	100		×145	×160		
	φ40		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			
φ50		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		
	φ63	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			
φ80		10	17.5		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		
	50	×115		×125		
	75	×150		×160		
	100	×175		×185		
	φ100	10		18	M10×85	M10×95
		15			×90	×100
		20			×95	×105
		25			×100	×110
30		×105	×115			
35		×110	×120			
40		×115	×125			
45		×120	×130			
50		×125	×135			
75		×160	×170			
100		×185	×195			

MEMO

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending



Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

Product-specific cautions: Compact cylinder SSD2 Series

Design/selection

1. With heat resistant cylinder switch SSD2-T1L

⚠ WARNING

■ Cylinder

At an ambient temperature of 150°C, external leakage will occur gradually after approximately 500,000 uses.

■ Heat resistant cylinder switch

The lights used are LEDs.

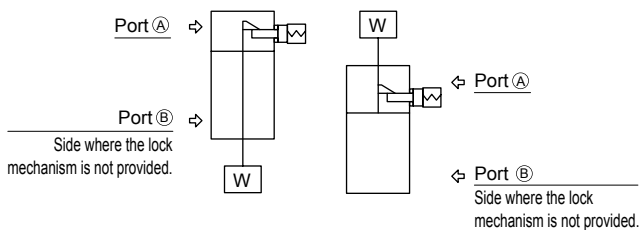
Visibility will gradually decrease with continuous use under high temperatures. As the LED light circuit is separated from the switch output circuit, the switch output works normally even if the LED light goes out.

2. Position locking SSD2-Q

⚠ WARNING

■ If pressure is supplied to port (A) when both ports are not pressurized and the piston is locked, the lock may not be released or the piston rod may suddenly pop out just after the lock is released. This can be extremely hazardous.

To release the locking mechanism, be sure to supply pressure to port (B). Check that a load is not applied to the locking mechanism upon release.



■ For usage where the drop rate is increased using the quick exhaust valve, the lock may not release normally because the cylinder body starts operating before the lock pin. For the position locking cylinder, do not use the quick exhaust valve.

■ Do not use 3-position valves.

Do not use the cylinder in combination with a 3-position (especially, closed center metal seal type) valve. If the port at the side where the lock mechanism is provided is pressurized, the lock cannot be engaged. Even if it is locked once, the air leaked from the valve enters the cylinder, and the lock may be released after a certain period of time.

⚠ CAUTION

■ Cylinder load factor must be 50% or less.

If the load factor is high, the lock may not be released, or the lock section may be damaged.

■ If back pressure is applied to the locking mechanism, the lock may be released. Use a single valve, or an individual exhaust manifold.

■ Do not use multiple synchronized cylinders.

Do not use so that 1 workpiece is moved by synchronizing 2 or more position locking cylinders. Lock release may fail for one of the cylinders.

3. Fine speed SSD2-F, SSD2-KF

⚠ CAUTION

■ Use without lubrication.

Applying lubrication may cause changes in characteristics.

■ Assemble the speed controller near the cylinder.

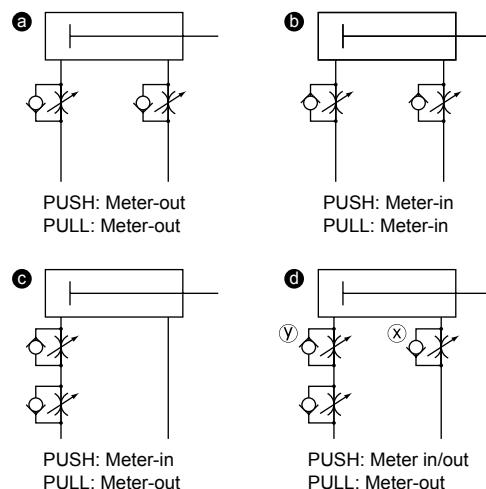
When installed far from the cylinder, the speed becomes unstable. Use the SC-M3/M5, SC3W, SCD-M3/M5 or SC3U Series speed controller.

■ In general, the speed is more stable at higher air pressure and lower load factor.

Use at a 50% or less load factor.

■ The speed control is achieved with a meter-out circuit.

When fine speed activation is performed with operating direction PUSH for the single rod cylinder, the popping out phenomenon occurs when operation starts if the load resistance is low. For countermeasures, use the (b), (c) or (d) circuit. Note that circuit (d) is the most stable.

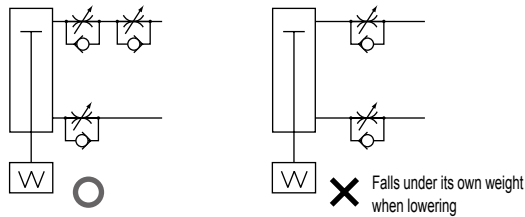


Speed adjustment method for PUSH operation of (d) circuit:

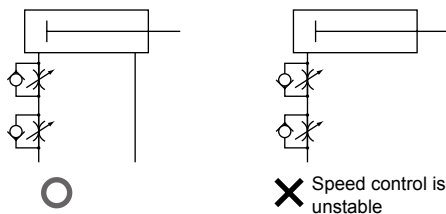
1. Set the speed with the speed controller x.
2. Restrict the speed with the speed controller y until there is no popping out.
3. Check the speed again.

(*1) When comparing (b), (c), and (d), operation is the most stable with the (d) circuit.

(*2) For vertical mounting, combine the cylinder with a meter-out circuit, as it will fall under its own weight when a meter-in circuit is used.



(*3) Use the circuit shown in the figure below for the serial connection of the speed controllers.



(Guidelines for pop-out generation)

Popping out occurs in the following cases.

· Thrust > Resistance

* Resistance: Thrust caused by residual pressure on the exhaust side (in the fine speed, suction pressure = residual pressure) + { When using horizontally : frictional force caused by load
When using vertically : load self-weight

■ Do not apply a lateral load to the cylinder.
With a lateral load, operation will become unstable.

■ Avoid using this product where vibration is present.
The product will be adversely affected by vibration and operation will become unstable.

4. Low friction SSD2-KU

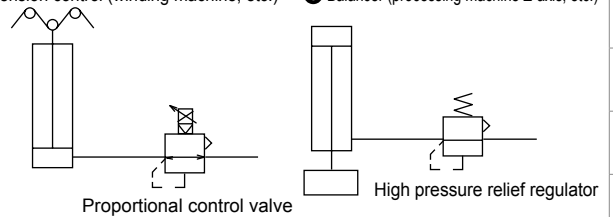
⚠ WARNING

■ Durability differs based on working conditions and model characteristics.
This cylinder has internal leakage.
Refer to specifications (page 848) for amount of leakage.

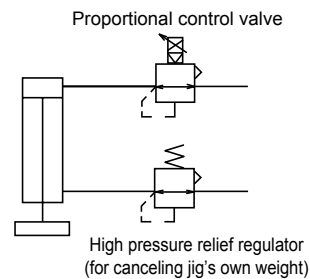
⚠ CAUTION

■ Mount a speed controller on the cylinder.
Mount the speed controller on the cylinder. Use each cylinder within the applicable working piston speed range. When using the cylinder for a balancer, etc., it may be advisable not to mount a speed controller in order to improve the supply and exhaust efficiency. Depending on the application, circuits a to c below are recommended.

a Tension control (winding machine, etc.) b Balancer (processing machine Z-axis, etc.)



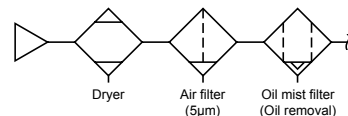
c Load control (grinding, etc.)



* To improve the supply and exhaust efficiency, make the volume of piping as large as possible.

■ Do not lubricate. The properties fluctuate.

■ Because poor quality air worsens the characteristics and adversely affects the durability, use clean air with the piping below.



■ Assemble the speed controller near the cylinder.
When installed far from the cylinder, the speed becomes unstable.

■ In general, the speed is more stable at higher air pressure and lower load factor.
Use at a 50% or less load factor.

■ A rubber cushion is built into the compact cylinder.
The table below shows the kinetic energy which can be absorbed by the cushion. If kinetic energy exceeds these values, consider using a separate shock absorber.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

	Bore size (mm)	Allowable absorbed energy (J)	
		SSD2-K	SSD2-KU
SCP*3			
CMK2	φ12	0.04	-
	φ16	0.09	-
CMA2	φ20	0.16	
	φ25	0.16	
SCM	φ32	0.40	
	φ40	0.63	
SCG	φ50	0.98	
	φ63	1.56	
	φ80	2.51	
SCA2	φ100	3.92	

$$\text{Kinetic energy (J)} = \frac{1}{2} \times \text{weight (kg)} \times [\text{speed (m/s)}]^2$$

(Note) Calculating kinetic energy

Average cylinder speed is obtained with $V_a = \frac{L}{T}$.

Va: Average speed (m/s)
L: Cylinder stroke length (m)
T: Operation time (s)

With respect to this, the cylinder speed just before the stroke end can be obtained with the following simplified formula.

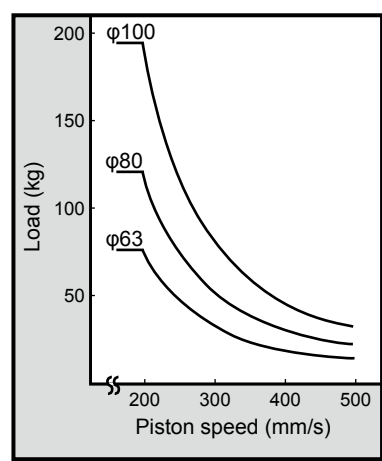
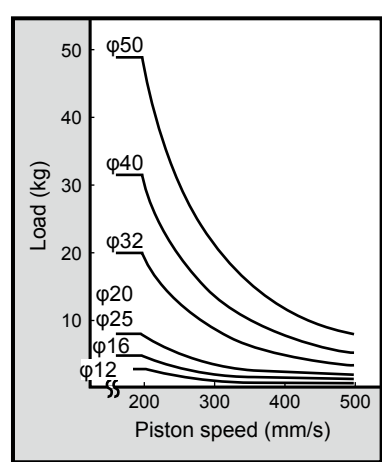
$$V_m = \frac{L}{T} \times (1 + 1.5 \times \frac{\omega}{100})$$

Vm: Speed immediately prior to stroke end (m/s)
ω: Cylinder load factor (%)

Use this Vm value as speed to calculate kinetic energy.

The following is a graph which shows the allowable energy values of the compact cylinder in the form of the relationship between the piston speed and the load.

High load allowable energy value graph



Note: Usable in the range below and to the left of the curve. For the upper right range, an external cushion is required.

5. Coolant proof SSD2-G2/G3 / SSD2-KG2/KG3

CAUTION

- Do not apply an eccentric load to the piston rod. The service life of the scraper or bearing could be shortened.
- If the piston rod is not exposed to splattered cutting oil or water, use the G or G1 Series. In the case that the G2 or G3 Series are not exposed to splattering of cutting oil or water, the lubrication of the piston rod will run out and the service life will be shortened.
- Mount a speed controller on the cylinder.
 - Mount a speed controller on the cylinder. Use each cylinder within the applicable working piston speed range.

6. Anti-spatter adherence SSD2-G4/SSD2-KG4/SSD2-DG4

WARNING

- The durability of this cylinder series is improved in comparison to standard cylinders when used in an atmosphere exposed to spatter. But durability may be shorter than the standard cylinder when used in other atmospheres.

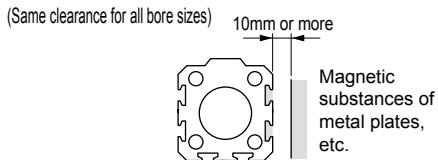
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Mounting, installation and adjustment

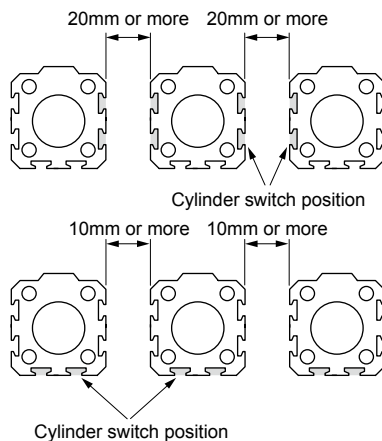
1. Common

CAUTION

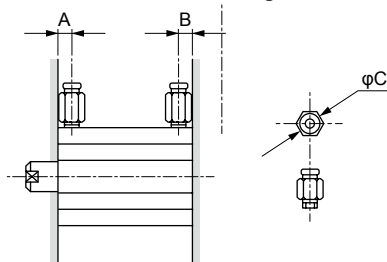
- The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. Confirm that a distance of at least 10 mm is allocated from the surface of the cylinders.



- The cylinder switch may malfunction if cylinders are installed adjacently. Check that the following distances are allocated between cylinders. (Same clearance for all bore sizes)



- As compatible piping fittings are limited, refer to the table below to select the fitting.



Descriptions Bore size (mm)	Port size	Port position		Applicable fittings	Fitting O.D. ϕC	Inapplicable fittings
		A	B			
$\phi 12$	M5	5.5	5.5	SC3W-M5-4	$\phi 11$ or less	GWS6-M5
$\phi 16$				SC3W-M5-6		
$\phi 20$		8	5.5	GWS4-M5-S		
$\phi 25$				GWS4-M5		
		11	6	GWL4-M5		
				GWL6-M5		
$\phi 32$	Rc1/8	8	8	SC3W-6-4, 6, 8	$\phi 15$ or less	GWS10-6 GWL8-6 GWL10-6
$\phi 40$				GWS4-6 GWS6-6		
		12	8.5	GWS8-6 GWL4-6		
				GWL6-6		
$\phi 50$	Rc1/4	10.5	10.5	SC3W-8-6, 8, 10	$\phi 21$ or less	GWS12-8
$\phi 63$				GWS4-8 GWS6-8		
		13	11	GWS10-8		
				GWL4 to 12-8		
$\phi 80$	Rc3/8	16	13	SC3W-10-6, 8, 10	$\phi 21$ or less	-
$\phi 100$				GWS6-10 GWS8-10		
		23	15	GWS10-10		
				GWL6 to 12-10		

2. Single acting SSD2-X/SSD2-Y

CAUTION

- Do not leave the single acting cylinder pressurized. If it is left pressurized for long periods, the piston rod may not return due to spring load when the pressure is released. Use the double acting if the cylinder needs to be left pressurized for long periods.

3. Position locking SSD2-Q

CAUTION

- The lock mechanism functions at the stroke end, so that if the stopper is engaged during the stroke by the external stopper, the lock mechanism may not work and the piston could fall. When setting a load, make sure to install after checking that the locking mechanism works.
- Supply pressure equal to or higher than the min. working pressure to the port on the lock mechanism side.
- When the piping at the side where the lock mechanism is provided is long and thin, or when the speed controller is far away from the cylinder port, note that it takes time to engage the lock. Clogging in the silencer mounted on the EXH port of the valve may cause the same result.

4. Fine speed SSD2-F, SSD2-KF

CAUTION

- Perform adjustment such as centering so that a lateral load is not applied to the cylinder. Adjust and install the sliding guide so that it is not twisted.
 - When the load or the resistance fluctuates, operation becomes unstable.
 - With a large difference between static friction and kinematic friction of the guide, operation becomes unstable.

5. Low friction SSD2-KU

CAUTION

- Do not apply a lateral load to the cylinder. In addition, install the sliding guide so that it is not twisted.
 - When the load or the resistance fluctuates, operation becomes unstable.
 - For the long stroke length type, the piston rod's self-weight causes the speed to become unstable. Install the guide before use.
 - With a large difference between static friction and kinematic friction of the guide, operation becomes unstable.
- Avoid using in environments with water vapor or high humidity or in alkaline atmospheres.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

6. Rotation-stop SSD2-M, DM

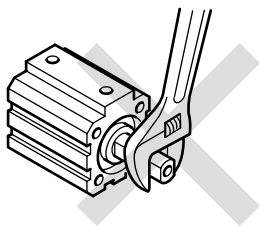
⚠ CAUTION

- Do not use the product so as to apply rotation torque to the piston rod.

The bushing for the rotation lock may deform and significantly shorten the service life.

- Use the product so that load on the piston rod is always applied in the rod axial direction.

- When fixing a workpiece onto the tip of the piston rod, retract the piston rod to the stroke end and apply a wrench to the section protruding from the rod's parallel section. Tighten so that torque is not applied to the cylinder body.



7. Double rod/rotation-stop SSD2-DM

- Make sure that a reverse torque is not applied to the piston rods at either side of the cylinder. Applying torque can loosen the fastened portions of the internal components and lead to unexpected trouble. In addition, when attaching/removing loads, lock the piston rod using the tang on the end where the load will be attached, and be sure not to apply any torque on the rotation lock guide.

8. Two-stage SSD2-W

- Remove the nut mounted on the body through bolt tip (rod side) before mounting. This is a nut for fixing cylinder 1 and cylinder 2. It is not for mounting.

Use/maintenance

1. Common

⚠ WARNING

- Use appropriate pliers (C type snap ring mounting tool) to install and remove rod metal.

- Even in cases when appropriate pliers (C type snap ring mounting tool) are used, be careful as the snap ring may pop out at the tip of the pliers (C type snap ring mounting tool) and cause physical or equipment damage.

In addition, when mounting the unit, be sure that the unit fits securely into the snap ring groove before supplying air.

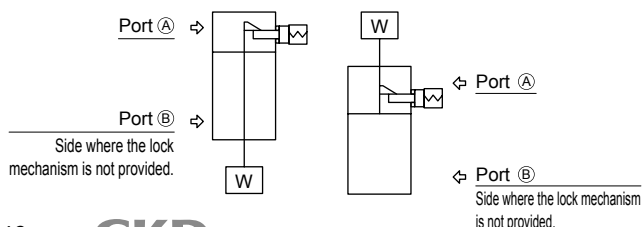
2. Position locking SSD2-Q

⚠ WARNING

- For safety purposes, prevent the load from falling under its own weight during maintenance.

- If pressure is supplied to port (A) when both ports are not pressurized and the piston is locked, the lock may not be released or the piston rod may suddenly pop out just after the lock is released. This can be extremely hazardous.

To release the locking mechanism, be sure to supply pressure to port (B). Check that a load is not applied to the locking mechanism upon release.



- For usage where the drop rate is increased using the quick exhaust valve, the lock may not release normally because the cylinder body starts operating before the lock pin. For the position locking cylinder, do not use the quick exhaust valve.

- When stopping the piston with an external buffer device (shock absorber, etc.), adjust it so that there is no bound. If the piston bounds at the stroke end, the sleeve and stopper piston will collide strongly and may result in damage of the locking mechanism. Inspect the piston once or twice a year to make sure there is no damage to the retainer caused by this phenomenon.

⚠ CAUTION

- After the locking mechanism is manually operated, make sure to return the locking mechanism to the original state before use. Do not perform manual operation except for adjustment, as it is dangerous.

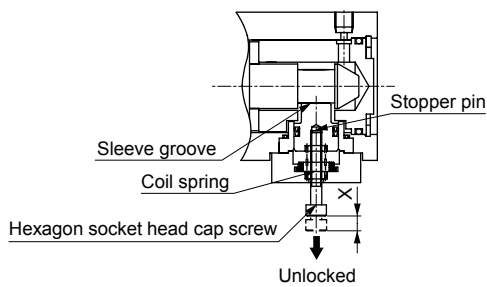
- When mounting or adjusting the cylinder, release the lock. If mounting work, etc., is done while the lock is engaged, the lock part may be damaged.

- Do not use multiple synchronized cylinders. Do not use so that 1 workpiece is moved by synchronizing 2 or more position locking cylinders. Lock release may fail for one of the cylinders.

- Use the speed controller with meter-out. If the meter-in control is used, the lock may not be able to be released.

■ At the side where the lock mechanism is attached, be sure to use the cylinder from the stroke end.
If the cylinder piston does not reach the stroke end, the lock may not be engaged or the lock may not be able to be released.

■ **Manual override non-locking release method**
By screwing the hexagon socket head cap screw into the stopper piston and pulling the bolt X mm with force of 20 N or more, the stopper piston moves and the lock is released. (when horizontally installed with no load or with the opposite side port pressurized). When the screw is released, the internal spring causes the stopper piston to return. When it fits into the piston rod groove, the piston is locked.



Hexagon socket head cap screw dimensions and travel distance Unit: mm

Bore size	Dimensions	Travel distance X
φ20	M3×20	3
φ25	M3×20	3
φ32	M3×20	3
φ40	M3×20	3
φ50	M4×30	3
φ63	M4×30	3
φ80	M4×30	3.5
φ100	M4×30	3.5

3. Low friction SSD2-U

⚠ CAUTION

- Do not disassemble the product. Once disassembled, the performance may not be retained.
For this product, ordering just the replacement parts is not possible.
- Smoking with hands smeared with the fluorine grease used for the U Series could generate harmful gases and cause physical harm.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/N2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

Ending

