

Space saving structure

Overview

This is a square, space saving cylinder that integrates the cylinder switch into the body for shorter total length. Perform adjustment so that a lateral load is not applied to the cylinder before use.

Features

Space saving/square.

Female thread is provided as standard.

External mounting is possible with female thread attached to the end of the rod. In addition, the male thread is also available to widen the selection range.

All bore sizes miniature

switch mountable

All bore sizes/all series miniature proximity/reed switch can be mounted. (excluding heat resistance)

Direct mounting

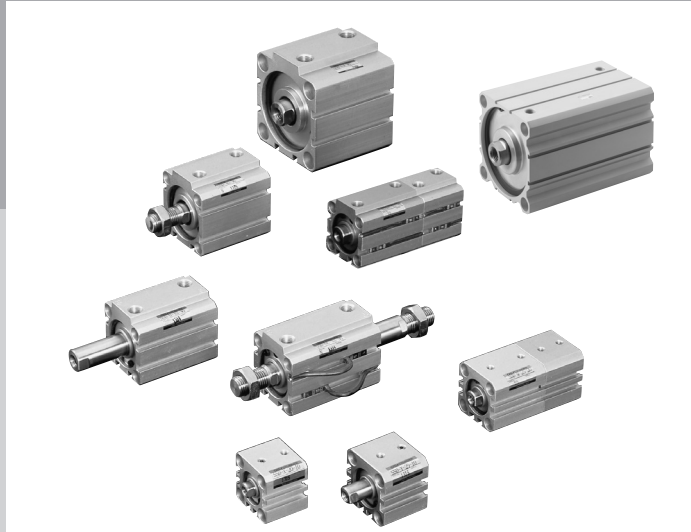
Can be mounted directly with hexagon socket head cap screw. Further, either through bolt or screw-in mounting can be selected.

The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

SSD

Compact cylinder

ø12/ø16/ø20/ø25/ø32/ø40/ø50/ø63
ø80/ø100/ø125/ø140/ø160



CONTENTS

Series variation	1082
Variation and option combination selection table	1086
Product introduction and application examples	1092
● Double acting/single rod (SSD)	1094
● Double acting/single rod/high load (SSD-K)	1116
● Single acting/push (SSD-X)	1126
● Single acting/pull (SSD-Y)	1126
● Double acting/heat resistant (SSD-T)	1138
● Double acting/with heat resistant cylinder switch (SSD-T1L)	1142
● Double acting/high load/rubber-air cushioned (SSD-K- *C)	1150
● Double acting/position locking (SSD-Q)	1160
● Double acting/fine speed (SSD-F, SSD-KF)	1172
● Double acting/low speed (SSD-O)	1178
● Double acting/high load/low friction (SSD-KU)	1184
● Double acting/double rod (SSD-D)	1188
● Double acting/back to back (SSD-B)	1200
● Double acting/2-stage (SSD-W)	1210
● Double acting/rotation-stop (SSD-M)	1220
● Double acting/coolant proof (SSD-G2/G3)	1230
● Double acting/high load/coolant proof (SSD-KG2/KG3)	1238
● Double acting/coil scraper (SSD-G1)/anti-spatter adherence (SSD-G4)	1246
● Double acting/high load/coil scraper (SSD-KG1)/anti-spatter adherence (SSD-KG4)	1254
● Double acting/double rod/coil scraper (SSD-DG1)/anti-spatter adherence (SSD-DG4)	1264
● Double acting/single rod/environment-resistant scraper (SSD-G5)	1272
● Double acting/high load/environment-resistant scraper (SSD-KG5)	1280
● Double acting/single rod/strong magnetic field proof switch (SSD-L4)	1288
● Double acting/single rod/strong magnetic field proof switch, with coil scraper (SSD-G1L4)	1294
● Double acting/high load/strong magnetic field proof with switch (SSD-KL4)	1300
● Double acting/high load/with strong magnetic field proof switch, with coil scraper (SSD-KG1L4)	1306
SSD Series common switch dimensions	1312
Introduction of custom order products	1318
SSD Series common accessory dimensions	1108
List of mounting bolts	1326
⚠ Safety precautions	1334

Series variation

Compact cylinder SSD Series

* Refer to page 1084 for high load and type with strong magnetic field proof switch.

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	Model No. JIS symbol	Bore size (mm)	Standard stroke (mm)							
			5	10	15	20	25	30	40	
Double acting/single rod with switch 2-color LED switch	SSD SSD-L SSD-L1	 ø12/ø16 ø20/ø25/ø32/ø40/ø50 ø63/ø80/ø100 ø125/ø140/ø160	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Single acting/push with switch 2-color LED switch	SSD-X SSD-XL SSD-XL1	 ø12/ø16/ø20 ø25/ø32 ø40/ø50	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Single acting/pull with switch 2-color LED switch	SSD-Y SSD-YL SSD-YL1	 ø12/ø16/ø20 ø25/ø32 ø40/ø50	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/heat resistant	SSD-T	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/with heat resistant cylinder switch	SSD-T1L	 ø16 ø20 ø25 ø32/ø40/ø50 ø63	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	● ● ● ● ●	
Double acting/position locking with switch	SSD-Q SSD-QL	 ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	
Double acting/fine speed with switch 2-color LED switch	SSD-F SSD-LF SSD-L1F	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/low speed with switch 2-color LED switch	SSD-O SSD-OL SSD-OL1	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/double rod with switch	SSD-D SSD-DL	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100 ø125/ø140/ø160	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	
Double acting/back to back with switch	SSD-B SSD-BL SSD-BL1 (Indicator)	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/2-stage with switch	SSD-W SSD-WL SSD-WL1 (Indicator)	 ø12/ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/rotation-stop with switch 2-color LED switch	SSD-M SSD-ML SSD-ML1	 ø12/ø16/ø20/ø25 ø32/ø40/ø50 ø63	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/coolant proof with switch	SSD-G2/G3 SSD-G2L/G3L	 ø16/ø20 ø25/ø32/ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/anti-spatter adherence with switch	SSD-G1/G4 SSD-G1L/G4L	 ø25/ø32 ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/double rod/anti-spatter adherence with switch	SSD-DG1/DG4 SSD-DG1L/DG4L	 ø25/ø32 ø40/ø50 ø63/ø80/ø100	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	
Double acting/single rod with switch	SSD-G5 SSD-G5L	 ø20/ø25/ø32 ø40/ø50 ø63/ø80/ø100	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	○ ○ ○	

●: Standard, ◎: Option, ○: Made to order, △: Available depending on conditions (contact CKD.) ; ■: Not available

Standard stroke (mm)							(mm) Min. stroke	(mm) Max. stroke	(per mm) Custom stroke	Option			Mounting bracket						Switch	Page	
										Rod end male thread	Dedicated unit for custom stroke	Copper and PTFE free	Axial foot	Axial foot (compact)	Clevis bracket	Clevis bracket (compact)	Rod side flange	Head side flange			
	50	60	70	80	90	100				N	S	P6	LB	LB2	CB	CB2	FA	FB			
	●						1	30	1	○	○	●	○	○	○	○	○	○	○	○	1094
	●							50		○	○	●	○	○	○	○	○	○	○		
	●	●	●	●	●	●		50		○	○	○	○	○	○	○	○	○	○		
	●							300		○	●	○	○	△	○	△	△	△			
							5	10	-	○		●	○	○	○	○	○	○	○	○	1126
								10		○		●	○	○	○	○	○	○	○		
								20		○		●	○	○	○	○	○	○	○		
							5	10	-	○		●	○	○	○	○	○	○	○	○	1126
								10		○		●	○	○	○	○	○	○	○		
								20		○		●	○	○	○	○	○	○	○		
	●						1	30	1	○			○	○	○	○	○	○	○	○	1138
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
							10	30	1	○			○	○	○	○	○	○	○	○	1142
	●							15		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●	●	●	●	●	●	5	100	1	○		○	○	○	○	○	○	○	○	○	1160
	●							200		○		○	○	○	○	○	○	○	○		
	●							300		○		○	○	○	○	○	○	○	○		
	●						1	30	1	○			○	○	○	○	○	○	○	○	1172
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●						1	30	1	○			○	○	○	○	○	○	○	○	1178
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●						1	30	1	○		●	○	○			○			○	1188
	●							50		○		●	○	○			○				
	●	●	●	●	●	●		50		○		○		○			○				
	●						10	300		○		○	○	△			△				
	●						1	30	1	○		●		○						○	1200
	●							50		○		●		○							
	●							50		○		●		○							
	●						1	30	1	○		●		○						○	1210
	●							50		○		○		○							
	●							50		○		○		○							
	●						1	30	1	○		●	○	○	○	○	○	○	○	○	1220
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○	○	○	○	○	○		
	●						1	30	1	○		○	△ ₁	△ ₁	○	○	△ ₁	○	○	○	1230
	●							50		○		○	○	○	○	○	○	○	○		
	●							50		○		○	○	○	○	○	○	○	○		
	●						1	50	1	○			○	○	○	○	○	○	○	○	1246
	●							50		○			○	○	○	○	○	○	○		
	●							50		○			○	○							
	●						1	50	1	○			○	○			○			○	1264
	●							50		○			○	○			○				
	○						1	50	1	○			○	○	○	○	○	○	○	○	1272
	○							50		○			○	○	○	○	○	○	○		

*1: The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

Series variation



Compact cylinder SSD 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

[High load]

Variation	Model No. JIS symbol	Bore size (mm)	Standard stroke(mm)										
			5	10	15	20	25	30	40	50	60		
Double acting/ single rod/ high load with switch	SSD-K SSD-KL 	ø12/ø16	●	●	●	●	●	●	●	●	●		
		ø20	●	●	●	●	●	●	●	●	●		
		ø25/ø32/ø40/ø50		●	●	●	●	●	●	●	●		
		ø63/ø80/ø100		●		●		●	●	●	●		
Double acting/ rubber-air cushioned	SSD-K-*C 	ø20	●	●	●	●	●	●	●	●	●		
		ø25/ø32/ø40/ø50		●	●	●	●	●	●	●	●	●	
		ø63/ø80/ø100		●		●		●	●	●	●		
Double acting/ high load/fine speed with switch	SSD-KF SSD-KLF 	ø12/ø16/ø20	●	●	●	●	●	●	●	●			
		ø25/ø32/ø40/ø50		●	●	●	●	●	●	●	●	●	
		ø63/ø80/ø100		●		●		●	●	●	●	●	
Double acting/ high load/low friction with switch	SSD-KU SSD-KUL 	ø20	●	●	●	●	●	●	●	●			
		ø25/ø32/ø40/ø50		●	●	●	●	●	●	●	●	●	
		ø63/ø80/ø100		●		●		●	●	●	●	●	
Double acting/high load/ coolant proof with switch	SSD-KG2/KG3 SSD-KG2L/KG3L 	ø16/ø20	●	●	●	●	●	●	●	●			
		ø25/ø32/ø40/ø50		●	●	●	●	●	●	●	●	●	
		ø63/ø80/ø100		●		●		●	●	●	●	●	
Double acting/high load/ anti-spatter adherence with switch	SSD-KG1/KG4 SSD-KG1L/KG4L 	ø25/ø32		●	●	●	●	●	●	●	●		
		ø40/ø50				●	●	●	●	●	●	●	
		ø63/ø80/ø100		●		●		●	●	●	●	●	
Double acting/high load/ environment-resistant scraper with switch	SSD-KG5 SSD-KG5L 	ø20	○	○	○	○	○	○	○	○			
		ø25/ø32/ø40/ø50		○	○	○	○	○	○	○	○	○	
		ø63/ø80/ø100		○		○		○	○	○	○	○	

* The length measuring function (cylinder with length measuring sensor, super compact LN-A* Series) is also available.
Refer to "Pneumatic Cylinders II" (No.CB-030SA) for details.

[With strong magnetic field proof switch]

Double acting/single rod with strong magnetic field proof switch	SSD-L4		ø40, ø50 ø63, ø80, ø100				●		●	●	●	
Double acting/single rod/ strong magnetic field proof with switch/coil scraper	SSD-G1L4		ø40, ø50 ø63, ø80, ø100				●		●	●	●	
Double acting/high load/ strong magnetic field proof with switch	SSD-KL4		ø40, ø50 ø63, ø80, ø100				●		●	●	●	
Double acting/high load with strong magnetic field proof switch with coil scraper	SSD-KG1L4		ø40, ø50 ø63, ø80, ø100				●		●	●	●	

●: Standard, ◎: Option, ○: Made to order, ■: Not available

Standard stroke (mm)					Min. stroke (mm)	Max. stroke (mm)	Custom stroke (per mm)	Option			Mounting bracket						Switch	Page
								Rod end male thread	Dedicated unit for custom stroke	Copper and PTFE free	Axial foot type	Axial foot type(Compact)	Clevis bracket	Clevis bracket(Compact)	Rod side flange	Head side flange		
70	80	90	100					N	S	P6	LB	LB2	CB	CB2	FA	FB		
					1	100	1	◎	◎	●	◎	◎	◎	◎	◎	◎	◎	1116
						200		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
						300		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
						300		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
					5	200	1	◎			◎	◎	◎	◎	◎	◎	◎	1150
						300		◎		○	◎	◎	◎	◎	◎	◎	◎	
					10	300		◎		○	◎	◎	◎	◎	◎	◎	◎	
					1	100	1	◎			◎	◎	◎	◎	◎	◎	◎	1172
						150		◎			◎	◎	◎	◎	◎	◎	◎	
						200		◎			◎	◎	◎	◎	◎	◎	◎	
					5	200	1	◎			◎	◎	◎	◎	◎	◎	◎	1184
						300		◎			◎	◎	◎	◎	◎	◎	◎	
						300		◎			◎	◎	◎	◎	◎	◎	◎	
					1	100	1	◎		○	△ ^{*1}	△ ^{*1}	◎	◎	△ ^{*1}	◎	◎	1238
						150		◎		○	△ ^{*1}	△ ^{*1}	◎	◎	△ ^{*1}	◎	◎	
						200		◎		○	◎	◎	◎	◎	◎	◎	◎	
					1	300	1	◎			◎	◎	◎	◎	◎	◎	◎	1254
						300		◎			◎	◎	◎	◎	◎	◎	◎	
					1	200	1	○			○	○	○	○	○	○	○	1280
						300		○			○	○	○	○	○	○	○	
						300		○				○	○	○	○	○	○	

*1: The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

					20	50	1	◎		○	◎	◎	◎	◎	◎	◎	◎	1288
								◎		○	◎	◎	◎	◎	◎	◎	◎	
					20	50	1	◎			◎	◎	◎	◎	◎	◎	◎	1294
								◎			◎	◎	◎	◎	◎	◎	◎	
					20	150	1	◎		○	◎	◎	◎	◎	◎	◎	◎	1300
						200		◎		○	◎	◎	◎	◎	◎	◎	◎	
					20	150	1	◎			◎	◎	◎	◎	◎	◎	◎	1306
						200		◎			◎	◎	◎	◎	◎	◎	◎	

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

Variation and option combination selection table

SSD (ø100 or less)

⊙: Option

○: Available (made-to-order product)

△: Available depending on conditions (Contact CKD.)

x: Not available

Category		Category	Variation																				Port thread		Option							
			Double acting single rod	Single acting push	Single acting pull	Double acting double rod	Back to back	Two-stage	With position locking	Rotation-stop	Heat resistant (120°C)	Low speed	With rubber scraper	With metal scraper	With coolant proof scraper (NBR)	With coolant proof scraper (FKM)	Anti-spatter adherence	With environment-resistant scraper	With cylinder switch	With cylinder switch (for strong magnetic field proof)	With cylinder switch (for heat resistance)	Fine speed	NPT(ø32 to ø100)	G(ø32 to ø100)		Piston rod material stainless steel	Piston rod end male thread	Copper and PTFE free	Clean-room specifications (exhaust port)	Clean-room specifications (vacuum treatment)	Specify piston rod end form	
		Code	None	X	Y	D	B	W	Q	M	T	O	G	G1	G2	G3	G4	G5	L	L4	T1L	F	N	G		M	N	P6	P7	P71	N**	
Variation	Double acting single rod	Blank																								○	○		○	○	○	○
	Single acting push	X			x	△	○	x	x	△	○	x	△	△	△	△	△	△	△	○	○	x	○	○		○	○	*5	x	x	○	
	Single acting pull	Y				x	○	x	x	△	○	x	△	△	△	△	△	△	△	○	○	○	x	○	○		○	○	*5	x	x	△
	Double acting double rod	D					x	x	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	*6			○	
	Back to back	B						x		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	*7	○	○	○	
	Two-stage	W							x	○	○	○	△	△	△	△	△	△	△	○	○	○	○	○		○	○	*7	○	△	○	
	With position locking	Q								△	x	△	△	△	△	△	△	△	○	○	x	△	○	○		○	○	○	△	△	○	
	Rotation-stop	M									x	○	x	x	x	x	x	x	○	○	x	○	○	○		*10	○	*1	*10	*10	○	
	Heat resistance (120°C)	T										x	x	○	x	x	x	x	x	x	*4	x	○	○		○	○	x	x	x	○	
	Low speed	O											x	x	x	x	x	x	○	○	x	x	○	○		○	○	x	△	△	○	
	With rubber scraper	G												x	x	x	x	x	○	○	x	x	○	○		○	○	○	x	x	○	
	With metal scraper	G1													x	x	*7	x	○	○	○	x	○	○		○	○	x	x	x	○	
	With coolant proof scraper (NBR)	G2														x	x	x	○	x	x	x	○	○		*2	○	○	x	x	○	
	With coolant proof scraper (FKM)	G3															x	x	○	x	x	x	○	○		*2	○	○	x	x	○	
	Anti-spatter adherence	G4																x	○	○	x	x	○	○		○	○	x	x	x	○	
	With environment-resistant scraper	G5																	○	○	x	x	○	○		○	○	○	x	x	○	
	With cylinder switch	L																		x	x	○	○	○		○	○	○	○	○	○	
	With cylinder switch (strong magnetic field proof)	L4																			x	○	○	○		○	○	○	○	○	○	
	With cylinder switch (for heat resistance)	T1L																				x	○	○		○	○	x	x	x	○	
	Fine speed	F																						○	○	○	○	○	x	○	○	
Port thread	NPT(ø32 to ø100)	N																					x		x	○	○	○	○	○	○	
G(ø32 to ø100)	G																							x	○	○	○	○	○	○	○	
Option	Piston rod material SS (with C-ring)	M																								○	○	*3	*3	○		
	Piston rod end male thread	N																									○	○	○	x		
	Copper and PTFE free	P6																											x	x	○	
	Clean-room specifications (exhaust port)	P7																												x	○	
	Clean-room specifications (vacuum treatment)	P71																													○	
	Specify piston rod end form	N**																														
Accessory																																
	Cylinder switch	Separate list	○	○	○	○	○	○	○	x	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	○
	Mounting bracket LB with bolt	LB	○	○	○	○	△	△	○	○	○	○	○	*9	*9	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	○	○
	Mounting bracket LB2 with bolt	LB2	○	○	○	○	△	△	○	○	○	○	○	*9	*9	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	○	○
	Mounting bracket CB with bolt/pin	CB	○	○	○	x	x	△	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	x	x	○	○
	Mounting bracket CB2 with bolt/pin	CB2	○	○	○	x	x	△	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	x	x	○	○
	Rod side flange	FA	○	○	○	○	○	○	○	○	○	○	○	*9	*9	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	○	○
	Head side flange	FB	○	○	○	x	x	x	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	△	△	○	○
Mounting bolt	Separate list	○	○	○	○	x	x	○	○	○	○	○	△	△	○	○	○	○	○	○	○	○	○		△	○	○	△	△	○	○	

Caution

Consult with CKD for dimensions when variations/options are combined.

*1 : P6 is standard only for ø12 to ø25. ø32 to ø63 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 : When "P7" or "P71" female thread is selected, the material for the piston rod and C-ring is stainless steel. M code is not required.

For stainless steel male thread rod nut, combination with M is required.

*4 : "T1L" has heat resistant specifications.

*5 : P6 specifications even without code.

*6 : P6 is standard for ø12 to ø50 and optional for ø63 to ø100.

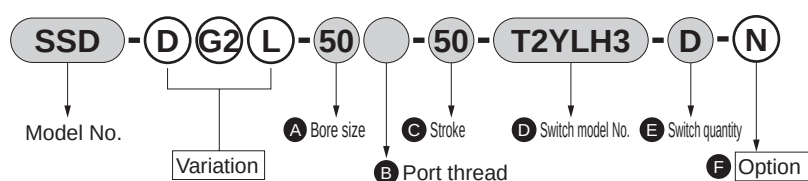
*7 : P6 is standard for ø12 to ø50 and available as made to order for ø63 to ø80.

*8 : G4 includes metal scraper.

*9 : The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

*10 : ø12 to ø25 are options and ø32 to ø63 are made-to-order products.

[Example of model No.]



* Indicate codes from left to right in the left table.

* Indicate codes from left to right in the left table.

Model No.: Compact cylinder

Variation: Double rod/coolant proof scraper/with switch

- A Bore size : $\varnothing 50$ mm
- B Port thread : Rc thread
- C Stroke : 50 mm
- D Switch model No. : Coolant proof switch, 3 m lead wire
- E Switch quantity : 2
- F Option : Rod end male thread

*1: The back to back includes two cylinders. Specify the model No. as below when ordering variation.

For S1 variations only, insert the variation code before the stroke of S1.

(Example) SSD-B-32-M10-30: Only S1 is rotation-stop.

For S2 variations only, insert the variation code before the stroke of S2.

(Example) SSD-B-32-10-M30: Only S2 is rotation-stop.

When ordering the same variation for S1 and S2, insert the variation code before the bore size.

(Example) SSD-MB-32-10-30: Both S1 and S2 are rotation-stop.

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

Variation and option combination selection table

High load SSD-K (ø100 or less)

⊙: Option
○: Available (made-to-order product)
△: Available depending on conditions (Contact CKD.)
x: Not available

Category		Category	Variation																Port thread	Cushion	Option										
		Code	Double acting/high load	Double acting double rod	Back to back	Two-stage	Rotation-stop	Heat resistant (120°C)	Low speed	Low friction	With rubber scraper	With metal scraper	With coolant proof scraper (NBR)	With coolant proof scraper (FKM)	Anti-spatter adherence	With cylinder switch	With cylinder switch (strong magnetic field proof)	With cylinder switch (for heat resistance)	Fine speed	NPT (ø32 to ø100)	G (ø32 to ø100)		Rubber-air cushioned			Piston rod material stainless steel	Piston rod end male thread	Copper and PTFE free	Clean-room specifications (exhaust port)	Clean-room specifications (vacuum treatment)	Specify piston rod end form
Variation	Double acting/high load	K		○	○	○	○	○	◎		○	○	○	○	○	○	○	○	○	○	○		◎			◎	◎	◎	◎	◎	○
	Double acting double rod	D			x	x	○	○	x	○	○	○	○	○	○	○	○	○	○	○	○		○			○	○	○	○	○	○
	Back to back	B				x	○	○															○			○	○	○	○	○	○
	Two-stage	W					○	○	○	x	△	△	△	△	△	○	○	○	○	○	○		x			○	○	○	○	○	○
	Rotation-stop	M						x	○	x	x	x	x	x	x	○		x	○	○	○		○			*10	*1	*10	*10	○	○
	Heat resistant (120°C)	T							x	x	x	○	x	x	x	x	x	*4	x	○	○		x			○	○	x	x	x	○
	Low speed	O								x	x	x	x	x	x	○	○	x	x	○	○		○			○	○	x	○	x	○
	Low friction	U										x	x	x	x	◎	◎	x	x	○	○		x			○	◎	x	x	○	○
	With rubber scraper	G										x	x	x	x	○	○	x	x	○	○		x			○	○	○	x	x	○
	With metal scraper	G1											x	x	*8	◎	○	○	○	○	○		○			○	○	x	x	x	○
	With coolant proof scraper (NBR)	G2												x	x	◎	x	x	x	○	○		○			*2	◎	○	x	x	○
	With coolant proof scraper (FKM)	G3														x	◎	x	x	x	○	○		x		*2	◎	○	x	x	○
	Anti-spatter adherence	G4														x	x	x	x	○	○		○			○	○	x	x	x	○
	With cylinder switch	L															x	x	◎	○	○		◎			◎	◎	◎	○	○	○
	With cylinder switch (strong magnetic field proof)	L4																x	○	○	○		○			○	◎	◎	◎	○	○
	With cylinder switch (for heat resistance)	T1L																		x	○	○		x			○	○	x	x	x
Fine speed	F																		○	○	○		○			○	○	x	○	○	
Port thread	NPT(ø32 to ø100)	N																		x			○			○	○	○	○	○	○
	G(ø32 to ø100)	G																					○			○	○	○	○	○	○
Cushion	Rubber-air cushioned	C																									○	◎	○	○	○
Option	Piston rod material stainless steel	M																									◎	○	*3	*3	○
	Piston rod end male thread	N																									◎	○			x
	Copper and PTFE free	P6																											x	x	○
	Clean-room specifications (exhaust port)	P7																												x	○
	Clean-room specifications (vacuum treatment)	P71																													○
	Specify piston rod end form	N**																													
Accessory																															
	Cylinder switch	Separate list	◎	○	○	○	○	x	○	◎		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	◎	○	○
	Mounting bracket LB with bolt	LB	◎	○	△	△	○	○	◎	◎	◎	*9	*9	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	△	△	○
	Mounting bracket LB2 with bolt	LB2	◎	○	△	△	○	○	◎	◎	◎	*9	*9	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	△	△	○
	Mounting bracket CB with bolt/pin	CB	◎	x	x	△	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	x	x	○
	Mounting bracket CB2 with bolt/pin	CB2	◎	x	x	△	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	x	x	○
	Rod side flange	FA	◎	○	○	○	○	○	◎	◎	◎	*9	*9	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	△	△	○
Head side flange	FB	◎	x	x	x	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		◎			◎	◎	◎	◎	△	△	○
Mounting bolt	Separate list	◎	○	x	x	○	○	○	◎	◎	◎	△	◎	◎	◎	◎	◎	◎	◎	◎		◎			△	◎	◎	△	△	◎	◎

Caution

Consult with CKD for dimensions when variations/options are combined.

*1 : Only ø12 to 25 are available. ø32 to ø63 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 : When "P7" or "P71" female thread is selected, the material for the piston rod and C-ring is stainless steel. M code is not required.

For stainless steel male thread rod nut, combination with M is required.

*4 : "T1L" has heat resistant specifications.

*5 : Heat resistance is without rubber cushion.

*6 : If the standard stroke is exceeded, the double rod is available as a standard double rod instead of a high load.

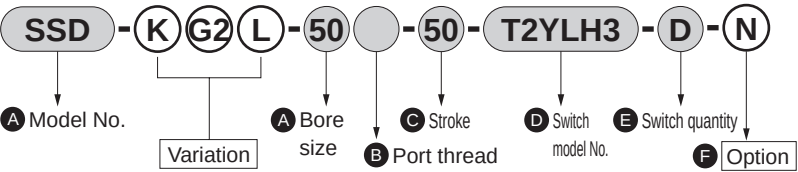
*7 : The 2-stage is available as a high load only for the S1 side cylinder.

*8 : G4 includes metal scraper.

*9 : The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

*10 : ø12 to ø25 are options and ø32 to ø63 are made-to-order products.

[Example of model No.]



* Indicate codes from left to right in the left table.
* For the fine speed, insert "F" after with/without switch (L).
* Indicate codes from left to right in the left table.

Model No.: Compact cylinder
Variation: High load/coolant proof scraper/with switch

- A** Bore size : $\varnothing 50$ mm
- B** Port thread : Rc thread
- C** Stroke : 50 mm
- D** Switch model No. : Coolant proof switch, 3 m lead wire
- E** Switch quantity : 2
- F** Option : Rod end male thread

*1: The back to back includes two cylinders. Specify the model No. as below when ordering variation.

For S1 variations only, insert the variation code before the stroke of S1.

(Example) SSD-B-32-K100-30: Only S1 is high load.

For S2 variations only, insert the variation code before the stroke of S2.

(Example) SSD-B-32-30-K100: Only S2 is high load.

When ordering the same variation for S1 and S2, insert the variation code before the bore size.

(Example) SSD-KB-32-30-100: Both S1 and S2 are high load.

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

Variation and option combination selection table

SSD (ø125 or more)

◎: Option

○: Available (made-to-order product)

△: Available depending on conditions (Contact CKD.)

x: Not available

Category	Code	Variation												Port thread		Option						
		Double acting single rod	Double acting double rod	Back to back	Two-stage	Heat resistant (120°C)	Low speed	With rubber scraper	With metal scraper	With coolant proof scraper (NBR)	With coolant proof scraper (FKM)	With cylinder switch	Fine speed	NPT	G	Piston rod material stainless steel	Piston rod/C-ring material stainless steel	Piston rod end male thread	Copper and PTFE free	Clean-room specifications (exhaust port)	Clean-room specifications (vacuum treatment)	Specify piston rod end form
		None	D	B	W	T	O	G	G1	G2	G3	L	F	N	G	M	M1	N	P6	P7	P71	N**
SSD2	Double acting single rod	Blank												○	○	○	○	◎	○	○	○	○
SSG	Double acting double rod	D		x	x	○	○	○	○	○	○	◎	○	○	○	○	○	◎	○	○	○	○
	Back to back	B			x	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SSD	Two-stage	W				○	○	△	△	△	△	○	○	○	○	○	○	○	○	○	△	○
CAT	Heat resistant (120°C)	T					x	x	○	x	x	x	x	○	○	○	○	x	x	x	○	○
	Low speed	O						x	x	x	x	○	x	○	○	○	○	x	○	○	○	○
MDC2	With rubber scraper	G							x	x	x	○	x	○	○	○	○	○	x	x	○	○
MVC	With metal scraper	G1								x	x	○	x	○	○	○	○	x	x	x	○	○
	With coolant proof scraper (NBR)	G2									x	○	x	○	○	*1	○	○	○	x	x	○
SMG	With coolant proof scraper (FKM)	G3										○	x	○	○	*1	○	○	○	x	x	○
MSD/MSDG	With cylinder switch	L											○	○	○	○	○	◎	○	○	○	○
	Fine speed	F												○	○	○	○	x	○	○	○	○
FC*	NPT	N													x	○	○	○	○	○	○	○
	G	G														○	○	○	○	○	○	○
STK																						
	Piston rod material stainless steel	M															x	○	○	*2	*2	○
SRL3	Piston rod/C-ring material stainless steel	M1															○	○	○	○	○	○
SRG3	Piston rod end male thread	N																○	○	○	x	○
SRM3	Copper and PTFE free	P6																	x	x	○	○
	Clean-room specifications (exhaust port)	P7																		x	○	○
SRT3	Clean-room specifications (vacuum treatment)	P71																			○	○
MRL2	Specify piston rod end form	N**																				○
MRG2	Cylinder switch	Listed separately	◎	◎	○	○	x	○	○	○	○	◎	○	○	○	○	○	◎	○	○	○	○
	Mounting bracket LB with bolt	LB	◎	○	△	△	○	○	○	△	△	◎	○	○	○	○	○	◎	○	△	△	○
SM-25	Mounting bracket CB with bolt/pin	CB	◎	x	x	△	○	○	○	△	△	◎	○	○	○	○	○	◎	○	x	x	○
	Mounting bolt	Listed separately	◎	○	x	x	○	○	○	△	△	◎	○	○	○	△	△	◎	○	△	△	○

Caution

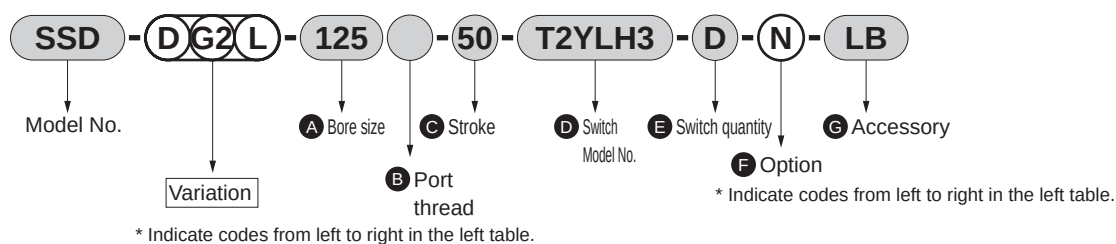
Consult with CKD for dimensions when variations/options are combined.

*1: When "G2" or "G3" is selected, the material for the piston rod is stainless steel. M code is not required.

*2: When "P7" or "P71" female thread is selected, the material for the piston rod is stainless steel. M code is not required.

For stainless steel male thread rod nut, combination with M is required.

[Example of model No.]



Model No.: Compact cylinder

● Variation: Double rod/coolant proof scraper/with switch

- A Bore size : $\phi 125$ mm
- B Port thread : Rc thread
- C Stroke : 50 mm
- D Switch model No. : Proximity coolant proof switch, 3 m lead wire
- E Switch quantity : 2
- F Option : Rod end male thread
- G Accessory : Axial foot

*1: The back to back includes two cylinders. Specify the model No. as below when ordering variation.

For S1 variations only, insert the variation code before the stroke of S1.

(Example) SSD-B-125-010-30: Only S1 is low speed.

For S2 variations only, insert the variation code before the stroke of S2.

(Example) SSD-B-125-10-030: Only S2 is low speed.

When ordering the same variation for S1 and S2, insert the variation code before the bore size.

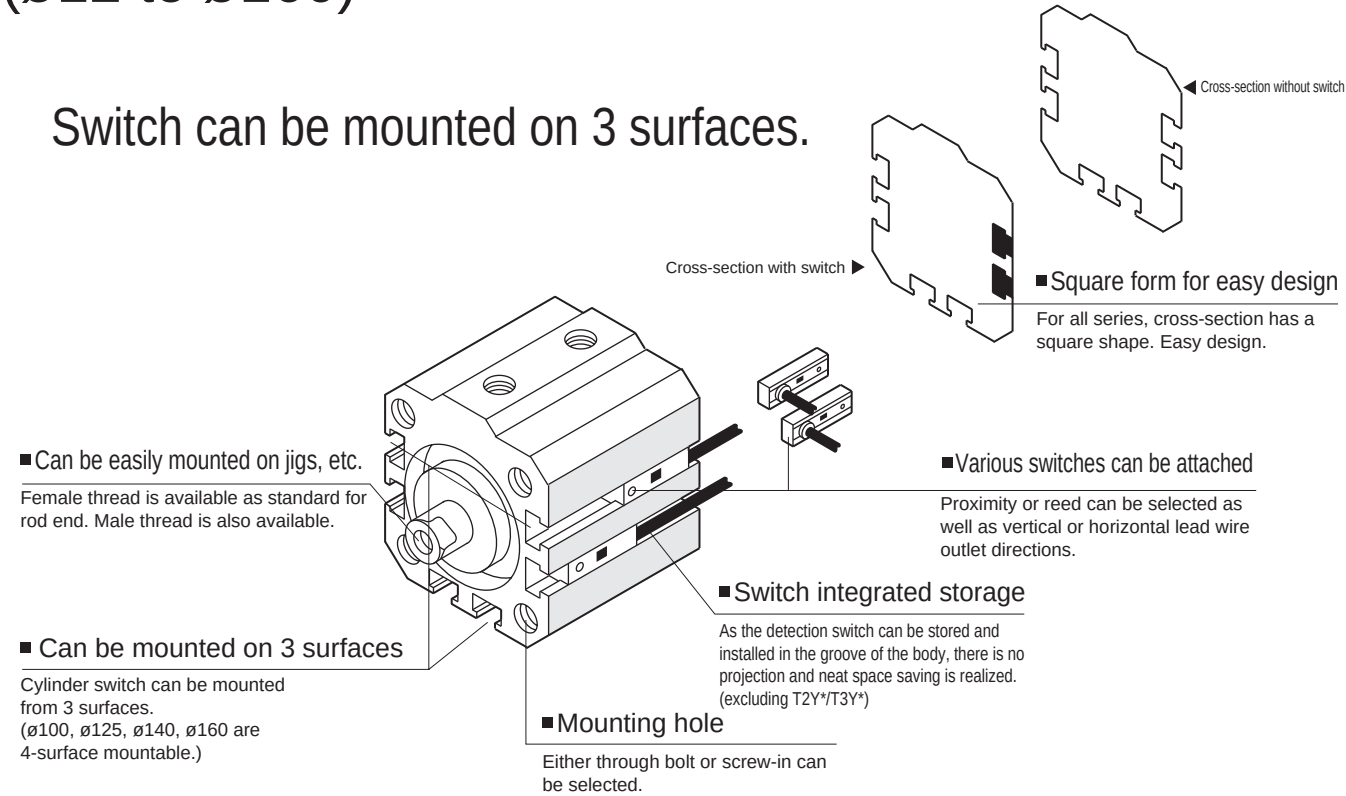
(Example) SSD-B0-125-10-30: Both S1 and S2 are low speed.

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

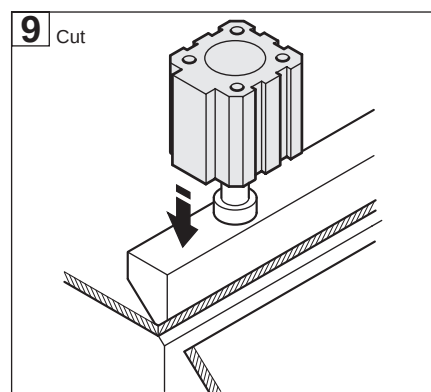
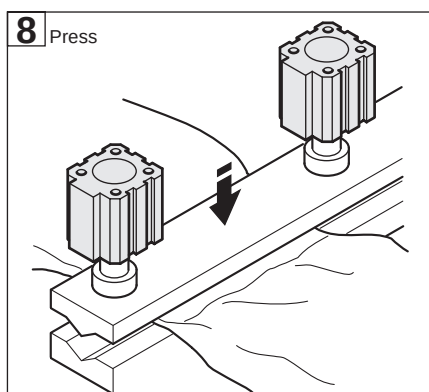
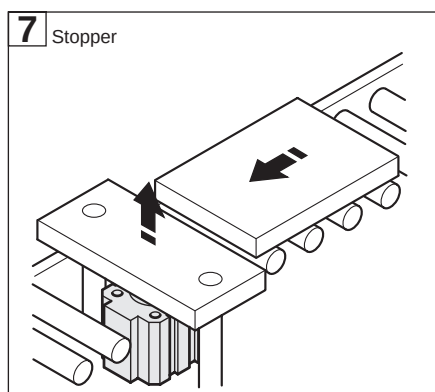
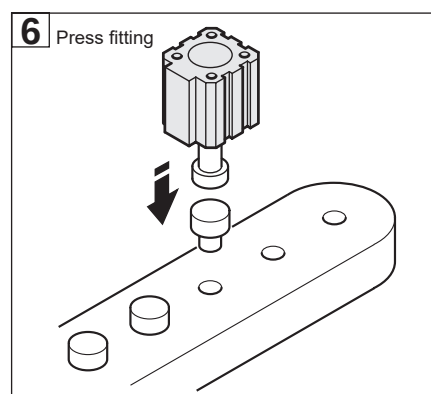
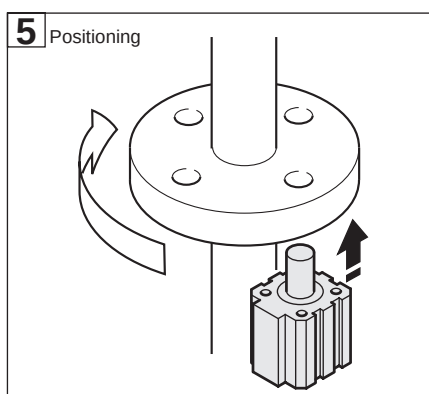
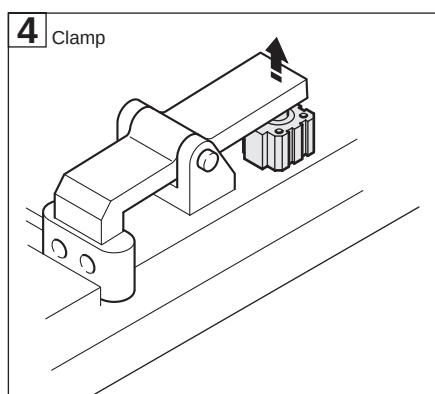
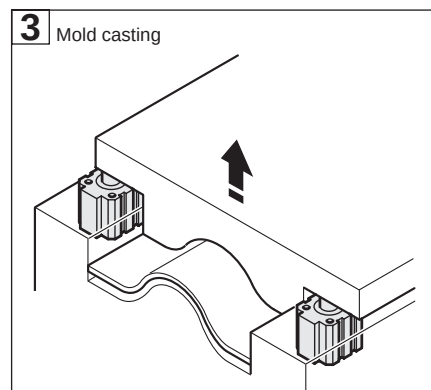
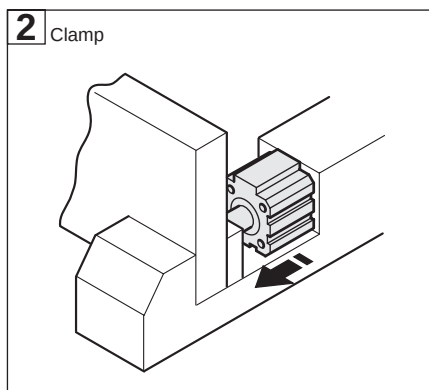
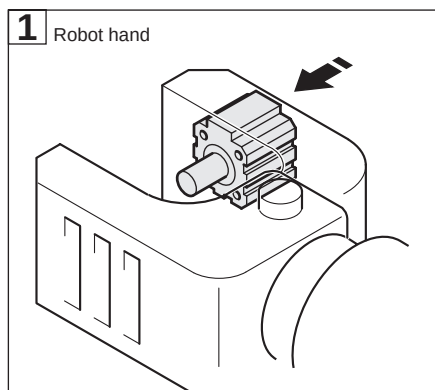
Switch integrated design

Miniature switch is stored neatly in the body.
 Super compact cylinder which realizes space saving and compact features.
 (ø12 to ø160)



*Mounting of cylinder switch on 4 surfaces is supported.
 Refer to page 1318 for details.

Applications



SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

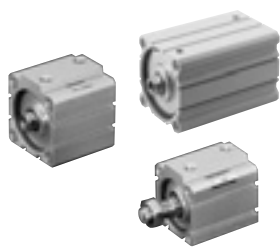
FJ

FK

Spd

Contr

Ending



Compact cylinder double acting/single rod

SSD Series

● Bore size: $\varnothing 12/\varnothing 16/\varnothing 20/\varnothing 25/\varnothing 32/\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100/\varnothing 125/\varnothing 140/\varnothing 160$

JIS symbol



Specifications

Item		SSD SSD-L (with switch)													
Bore size mm		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	
Actuation		Double acting													
Working fluid		Compressed air													
Max. working pressure MPa		1.0 (≈150 psi, 10 bar)													
Min. working pressure MPa		0.1 (≈15 psi, 1 bar)								0.05 (≈7.3 psi, 0.5 bar)					
Proof pressure MPa		1.6 (≈230 psi, 16 bar)													
Ambient temperature °C		-10 (14°F) to 60 (140°F) (no freezing)													
Port size		M5				Rc 1/8		Rc 1/4		Rc 3/8					
Stroke tolerance mm	With rubber cushion	+2.0 0													
	Without cushion	+1.0 0										-			
Working piston speed mm/s		50 to 500							50 to 300						
Cushion		With or without cushion can be selected										With rubber cushion (standard)			
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)													
Allowable absorbed energy J	With rubber cushion	0.03	0.05	0.10	0.16	0.16	0.44	0.75	0.78	2.51	3.92	6.52	6.52	7.78	
	Without cushion	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	-			

Clean-room specifications

(Catalog No. CB-033SA)

- Anti-dust generation structure for use in cleanrooms

SSD..... **P7***SSD..... **P5***

Specifications for rechargeable battery

(Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process

SSD..... **P4***

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	*1) 30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	*1) 50	
ø32			
ø40			
ø50	5, 10, 20, 30, 40, 50	*1) 50	
ø63			
ø80			
ø100	10, 20, 30, 40 50, 60, 70, 80 90, 100	300	
ø125			
ø140			
ø160			

*1) For $\varnothing 12$ to $\varnothing 100$, if the standard stroke is exceeded, the high load is used. Refer to page 1116 for specifications.

*2) For the type with switch, refer to the table on the following page of installed switch numbers and minimum stroke.

*3) Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Custom stroke

● SSD Series

Item	Standard products		Optional products	
	Standard stroke body with spacer		Dedicated unit (-S)	
Model No.	Refer to How to order.		Add "-S" option code to the model No.	
Description	A spacer is added to the standard stroke body to adjust the stroke in 1 mm increments.		Dedicated units of the required stroke are available.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12/16	1 to 29	12/16	6 (11) to 29 (*1)
	20 to 50	1 to 49	20 to 50	6 to 49
	63 to 100	1 to 49	63 to 100	6 to 49
	125 to 160	1 to 299 (*2)	125 to 160	1 to 299 (*2)
Example of model No.	Model No.: SSD-32-38 A +2 mm spacer is added to the SSD-32-40 standard cylinder to create 38 mm stroke. B dimension is 63 mm.		Model No.: SSD-32-38-S Dedicated units for 38 mm stroke are available. B dimension is 61mm.	

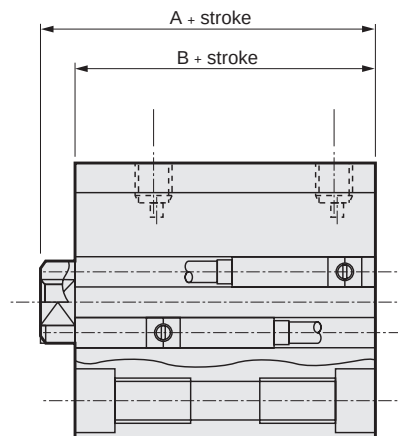
*1) The value in () is for type with switch.

*2) Dedicated body is available as standard for $\varnothing 125$ to $\varnothing 160$.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\varnothing 12$	5	5	25	-	-
$\varnothing 16$	5	5	25	-	-
$\varnothing 20$	5	5	35	50	-
$\varnothing 25$	5	5	35	50	-
$\varnothing 32$	5	5	35	50	-
$\varnothing 40$	5	5	35	50	-
$\varnothing 50$	5	5	35	50	-
$\varnothing 63$	5	5	35	50	-
$\varnothing 80$	5	5	35	50	-
$\varnothing 100$	5	5	35	50	-
$\varnothing 125$	5	5	40	55	70
$\varnothing 140$	5	5	40	55	70
$\varnothing 160$	5	5	40	55	70

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



Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less		12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less		10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

● ø12 to ø100

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-
ø20	63	138	75	150	88	163	101	176	113	188	126	201	151	226	176	251
ø25	87	178	102	193	118	209	134	225	150	241	165	256	197	288	228	319
ø32	122	236	144	258	166	280	188	302	209	323	231	345	275	389	318	432
ø40	183	326	210	353	236	379	263	406	290	433	316	459	369	512	422	565
ø50	299	493	341	535	383	577	425	619	467	661	510	704	594	788	678	872
ø63	452	731	507	786	-	-	617	896	-	-	727	1006	838	1117	948	1227
ø80	841	1254	928	1341	-	-	1101	1514	-	-	1274	1687	1448	1861	1621	2034
ø100	1319	1886	1433	2000	-	-	1660	2227	-	-	1888	2455	2115	2682	2343	2910

● ø125 to ø160

(Unit: kg)

Stroke (mm)	10		20		30		40		50		60		70		80		90		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	No switch	With switch	No switch	With switch	No switch	With switch
ø125	4.35	4.45	4.62	4.72	4.88	4.98	5.15	5.25	5.41	5.51	5.68	5.78	5.94	6.04	6.21	6.31	6.47	6.57	6.74	6.84
ø140	6.33	6.44	6.63	6.74	6.94	7.05	7.24	7.35	7.55	7.66	7.85	7.96	8.16	8.27	8.46	8.57	8.77	8.88	9.07	9.18
ø160	8.64	8.76	9.02	9.14	9.4	9.52	9.78	9.9	10.16	10.28	10.54	10.66	10.92	11.04	11.3	11.42	11.68	11.8	12.06	12.18

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	11.3	17.0	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02x10 ²	1.13x10 ²
	Pull	-	8.48	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	20.1	30.2	40.2	60.3	80.4	1.01x10 ²	1.21x10 ²	1.41x10 ²	1.61x10 ²	1.81x10 ²	2.01x10 ²
	Pull	-	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06x10 ²	1.21x10 ²	1.36x10 ²	1.51x10 ²
ø20	Push	-	31.4	47.1	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	23.6	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	49.1	73.6	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	37.8	56.7	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	80.4	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	60.3	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.06x10 ²	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	1.56x10 ²	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	1.40x10 ²	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	2.51x10 ²	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	2.27x10 ²	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	3.93x10 ²	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	3.57x10 ²	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³
ø125	Push	6.13x10 ²	1.23x10 ³	1.84x10 ³	2.45x10 ³	3.68x10 ³	4.91x10 ³	6.14x10 ³	7.36x10 ³	8.59x10 ³	9.82x10 ³	1.10x10 ⁴	1.23x10 ⁴
	Pull	5.65x10 ²	1.13x10 ³	1.70x10 ³	2.26x10 ³	3.39x10 ³	4.52x10 ³	5.65x10 ³	6.79x10 ³	7.92x10 ³	9.05x10 ³	1.02x10 ⁴	1.13x10 ⁴
ø140	Push	7.69x10 ²	1.54x10 ³	2.31x10 ³	3.08x10 ³	4.62x10 ³	6.16x10 ³	7.70x10 ³	9.24x10 ³	1.08x10 ⁴	1.23x10 ⁴	1.39x10 ⁴	1.54x10 ⁴
	Pull	7.21x10 ²	1.44x10 ³	2.16x10 ³	2.89x10 ³	4.33x10 ³	5.77x10 ³	7.22x10 ³	8.66x10 ³	1.01x10 ⁴	1.15x10 ⁴	1.30x10 ⁴	1.44x10 ⁴
ø160	Push	10.1x10 ²	2.01x10 ³	3.02x10 ³	4.02x10 ³	6.03x10 ³	8.04x10 ³	1.01x10 ⁴	1.21x10 ⁴	1.41x10 ⁴	1.61x10 ⁴	1.81x10 ⁴	2.01x10 ⁴
	Pull	9.42x10 ²	1.88x10 ³	2.83x10 ³	3.77x10 ³	5.65x10 ³	7.54x10 ³	9.42x10 ³	1.13x10 ⁴	1.32x10 ⁴	1.51x10 ⁴	1.70x10 ⁴	1.88x10 ⁴

How to order

No switch (without magnet for switch)

SSD - 12 - 5 - N - LB - I

With switch (built-in magnet for switch)

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

2-color LED/off-delay, with T1* switch (ø12/ø16 only) (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Cushion

E Stroke

F Switch model No.

*1
*2
*3
*10

⚠ Precautions for model No. selection

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

*2 : AC magnetic field proof switch cannot be installed on ø12 and ø16.

3 : T8 switch cannot be installed on ø12 to ø32.

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

*5 : The mounting bracket is included at shipment.

*6 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 to 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*9 : Refer to pages 1086 to 1091 for combinations of variations/options.

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

*11 : Only LB and CB are available for ø125 to ø160.

[Example of model No.]

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

Model: Compact cylinder, standard

B Bore size : ø12 mm

C Port thread : Rc thread

D Cushion : Without cushion

E Stroke : 5 mm

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
*11J Accessory
*7

Code	Description														
A Model No.															
SSD	Double acting/single rod														
SSD-L	Double acting/single rod/with switch														
SSD-L1	ø12, ø16 2-color LED, off-delay, with T1* switch														
B Bore size (mm)															
12	ø12														
16	ø16														
20	ø20														
25	ø25														
32	ø32														
40	ø40														
50	ø50														
63	ø63														
80	ø80														
100	ø100														
125	ø125														
140	ø140														
160	ø160														
C Port thread															
Blank	Rc thread														
NN	NPT thread (ø32 and over) (made-to-order product)														
GN	G thread (ø32 and over) (made-to-order product)														
D Cushion															
Blank	Without cushion (with rubber cushion for ø125 and over)														
D	With rubber cushion (ø12 to ø100)														
E Stroke (mm)															
Refer to the stroke table on the following page.															
F Switch model No.															
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire									
			AC	DC											
T0H*	T0V*	Reed	●	●	1-color LED	2-wire									
T5H*	T5V*		●	●	No indicator lamp										
T8H*	T8V*		●	●	1-color LED										
T1H*	T1V*		●			2-wire									
T2H*	T2V*		●	1-color LED	3-wire										
T3H*	T3V*		●	1-color LED											
T3PH*	T3PV*	Proximity		●	1-color LED	2-wire									
T2WH*	T2WV*			●	2-color LED		3-wire								
T2YH*	T2YV*			●											
T3WH*	T3WV*			●											
T3YH*	T3YV*			●	2-wire										
T2JH*	T2JV*			●		1-color LED off-delay	2-wire								
T2YD*	-			●		2-color LED									
T2YDT*	-			●	AC magnetic field	2-wire									
T2HR3	T2VR3			●	1-color LED (bead resist lead wire specs)										
* Lead wire length															
Blank	1 m (standard)														
3	3 m (option)														
5	5 m (option)														
G Switch quantity															
R	1 on rod side														
H	1 on head side														
D	2														
H Option															
	Bore size (mm)	12	16	20	25	32	40	50	63	80	100	125	140	160	
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●	●	
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●	●	
P6	Cu/PTFE free specs	Supported as standard									●	●			
S	Unit for custom stroke	●	●	●	●	●	●	●	●	●	●	Supported as standard			
M	Piston rod material (S.S.)	●	●	●	●	●	●	●	●	●	●				
I Mounting bracket															
LB	Axial foot														
LB2	Axial foot (compact)														
CB	Clevis bracket (pin and snap ring included)														
CB2	Clevis bracket (compact) (pin and snap ring included)														
FA	Rod side flange														
FB	Head side flange														
J Accessory (available when rod end male thread "N" is selected)															
I	Rod eye														
I2	Rod eye (compact)														
Y	Rod clevis (pin and snap ring included)														
Y2	Rod clevis (compact) (pin and snap ring included)														

[Stroke table]

Stroke (mm)		Applicable bore size													
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	
Standard stroke	5	●	●	●	●	●	●	●	●	●					
	10	●	●	●	●	●	●	●	●	●	●	●	●	●	
	15	●	●	●	●	●	●	●							
	20	●	●	●	●	●	●	●	●	●	●	●	●	●	
	25	●	●	●	●	●	●	●							
	30	●	●	●	●	●	●	●	●	●	●	●	●	●	
	40			●	●	●	●	●	●	●	●	●	●	●	
	50			●	●	●	●	●	●	●	●	●	●	●	
	60											●	●	●	
	70	If the standard stroke is exceeded, the high load (K) is used. Refer to page 1116 for specifications, and pages 1122 to 1125 for dimensions.											●	●	●
	80												●	●	●
	90												●	●	●
	100										●	●	●		
Min. stroke (mm) *1		1													
Max. stroke (mm)		30		50								300			
Custom stroke *2		In 1 mm increments													

1: Less than 5 mm for 1-color LED switch and less than 10 mm for the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1094 for the number of installed switches and the min. stroke.

*2: Total length when using a custom stroke is different between ø12 to ø100 and ø125 to ø160 as below. Please be careful.

[ø12 to ø100]

The dimensions of the total length with the custom stroke are the handled same as the next longer standard stroke.

[ø125 to ø160]

Total length dimension with custom stroke is handled as the custom stroke dedicated length.

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order switch

SW - T0H

Switch model No.
(Item ⑤ on page 1096)

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

- Anti-dust generation structure for use in cleanrooms

SSD..... **P7***

SSD..... **P5***

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

- Design compatible with rechargeable battery manufacturing process

SSD..... **P4***

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Mounting bracket							
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50
Bore size (mm)	ø63	ø80	ø100	ø125	ø140	ø160	
Mounting bracket							
Foot (LB)	SSD-LB-63	SSD-LB-80	SSD-LB-100	SSD-LB-125	SSD-LB-140	SSD-LB-160	
Foot (LB2)	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100	-	-	-	
Flange (FA/FB)	SSD-FA-63	SSD-FA-80	SSD-FA-100	-	-	-	
Clevis bracket (CB)	SSD-CB-63	SSD-CB-80	SSD-CB-100	SSD-CB-125	SSD-CB-140	SSD-CB-160	
Clevis bracket (CB2)	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100	-	-	-	

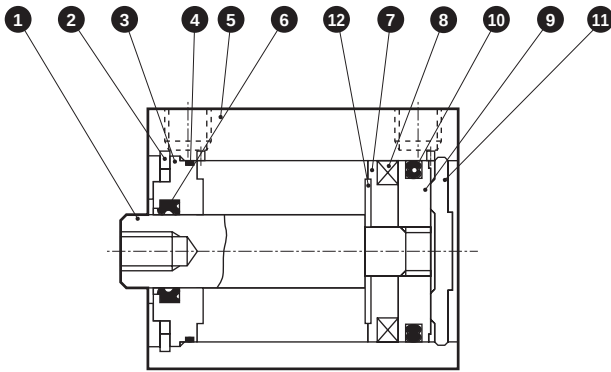
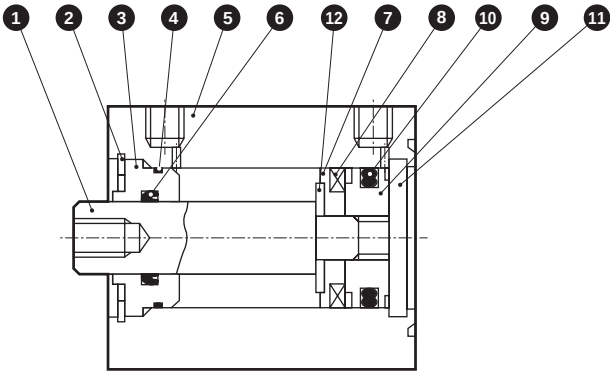
*1: The foot mounting bracket is provided as 2 pcs./set.

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

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

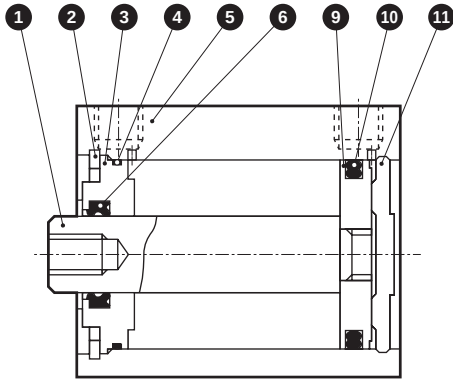
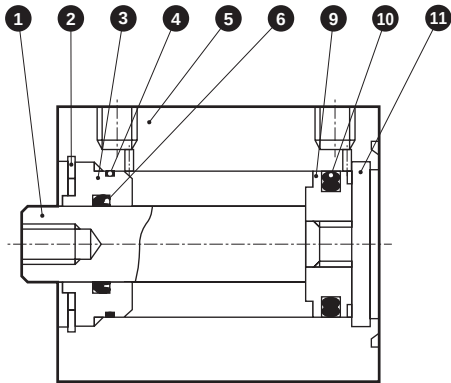
● SSD-L-12 to 25 (double acting/with switch)

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



● SSD-12 to 25 (double acting)

● SSD-32 to 50 (double acting)



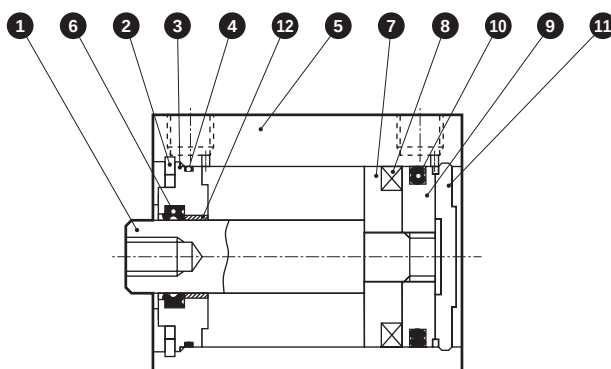
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel, ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	7	Spacer	ø12: Aluminum alloy ø16 to ø50: Special resin	Chromate (ø12)
2	C-snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
6	Rod packing	Nitrile rubber		12	Spacer washer	Stainless steel	ø20 to ø50

Repair parts list

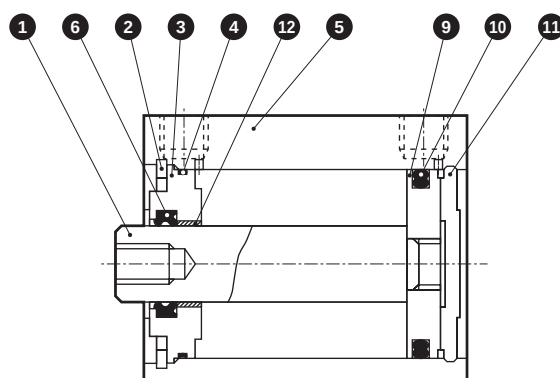
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-12K	4 6 10
ø16	SSD-16K	
ø20	SSD-20K	
ø25	SSD-25K	
ø32	SSD-32K	
ø40	SSD-40K	
ø50	SSD-50K	

Internal structure and parts list (ø63 to 100) (no cushion)

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



● SSD-63 to 100 (double acting)



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

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

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø63	SSD-63K	4 6 10
ø80	SSD-80K	
ø100	SSD-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

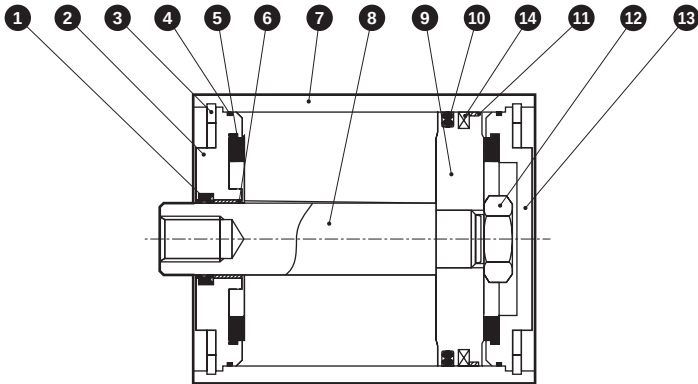
FK

Spd
Contr

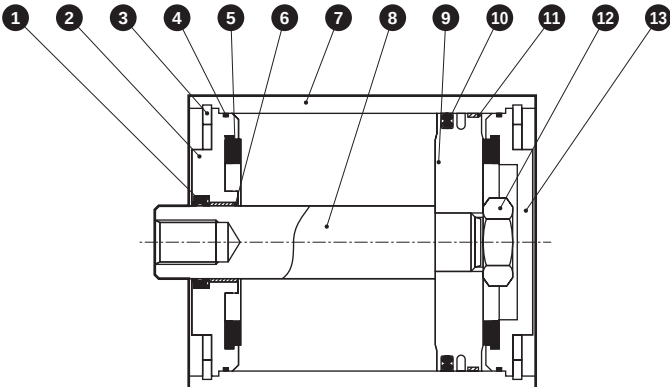
Ending

Internal structure and parts list (ø125 to ø160) (with cushion)

● SSD-L-ø125 to ø160 (double acting/single rod/with switch)



● SSD-L-ø125 to ø160 (double acting/single rod)



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

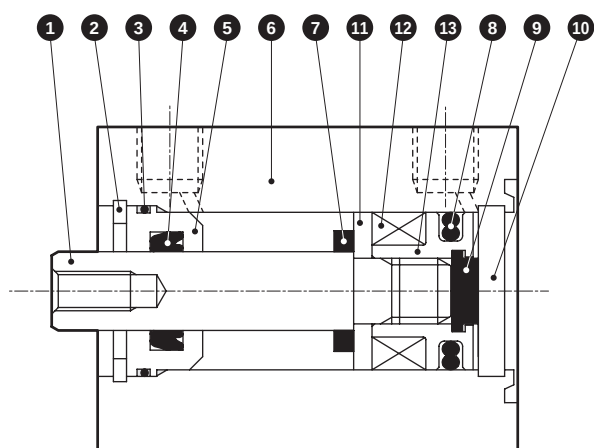
Consumable parts list

Bore size(mm)	Kit No.	Consumable parts No.
ø125	SSD-125K	1 4 5 10 11
ø140	SSD-140K	
ø160	SSD-160K	

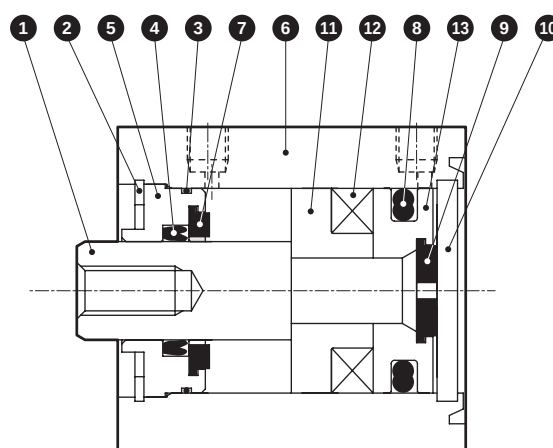
*1: Specify the kit No. when placing an order.

Internal structure and parts list (ø12 to ø32) (with rubber cushion)

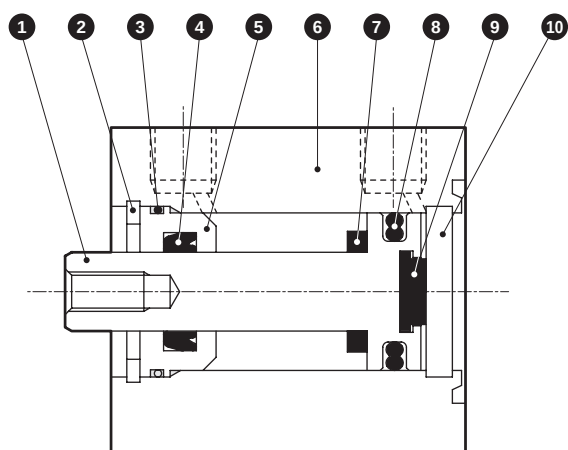
● SSD-L-12D (double acting/with switch)



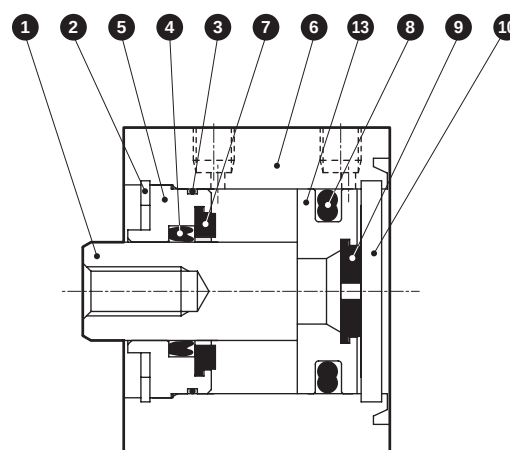
● SSD-L-16D to 32D (double acting/with switch)



● SSD-12D (double acting)



● SSD-16D to 32D (double acting)



No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32: Steel	ø16 to ø32 Industrial chrome plating
2	C-snap ring	Steel	Zinc phosphate
3	Rod metal gasket	Nitrile rubber	
4	Rod packing	Nitrile rubber	
5	Rod metal	Aluminum alloy	Alumite
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber R	Urethane rubber	

No.	Part name	Material	Remarks
8	Piston packing	Nitrile rubber	
9	Cushion rubber H	Urethane rubber	
10	Cover	ø12 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite
11	Spacer	Aluminum alloy	Chromate
12	Magnet	Plastic	
13	Piston	Aluminum alloy	Chromate

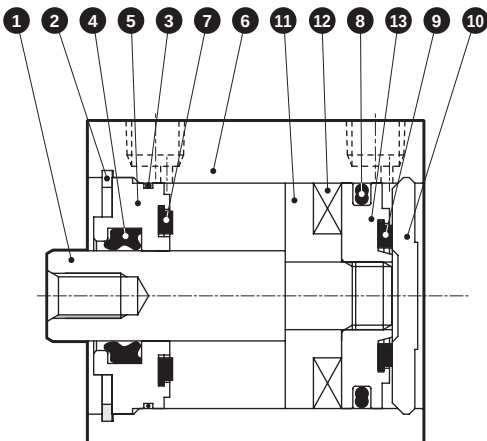
Repair parts list

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

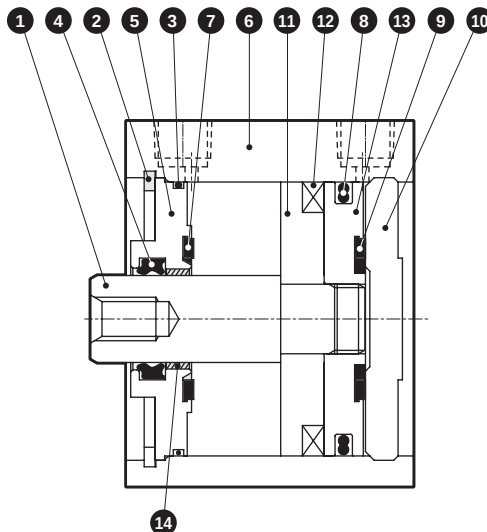
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list (ø40 to ø100) (with rubber cushion)

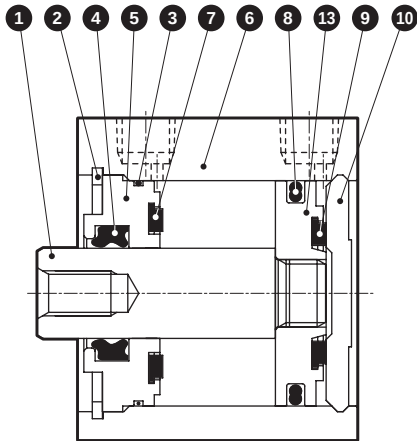
● SSD-L-40D to 50D (double acting/with switch)



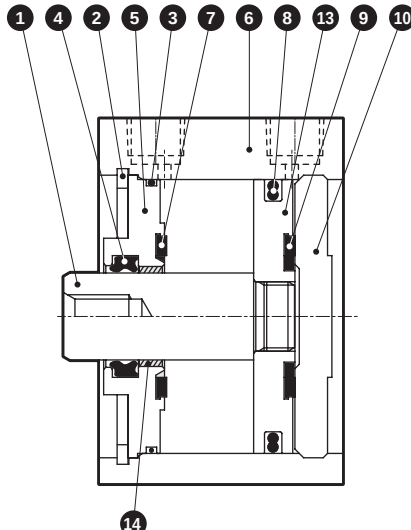
● SSD-L-63D to 100D (double acting/with switch)



● SSD-40, 50D (double acting)



● SSD-63D to 100D (double acting)



No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C-snap ring	Steel	Zinc phosphate
3	Rod metal gasket	Nitrile rubber	
4	Rod packing	Nitrile rubber	
5	Rod metal	Aluminum alloy	ø40 to ø50: Alumite ø63 to ø100: Chromate
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber R	Urethane rubber	

No.	Part name	Material	Remarks
8	Piston packing	Nitrile rubber	
9	Cushion rubber H	Urethane rubber	
10	Cover	Aluminum alloy	Alumite
11	Spacer	Aluminum alloy	Chromate
12	Magnet	Plastic	
13	Piston	Aluminum alloy	Chromate
14	Bush	Oiles drymet	ø63 to ø100

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	SSD-40DK	3 4 7 8 9
ø50	SSD-50DK	
ø63	SSD-63DK	
ø80	SSD-80DK	
ø100	SSD-100DK	

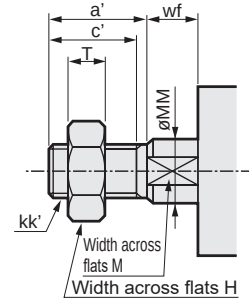
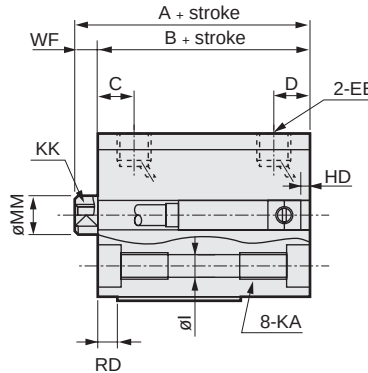
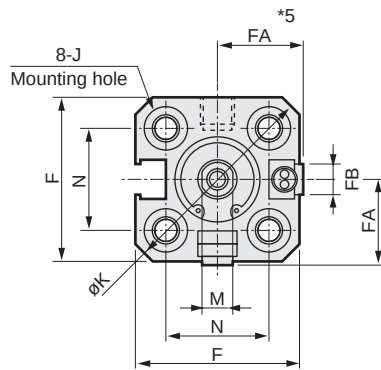
Dimensions



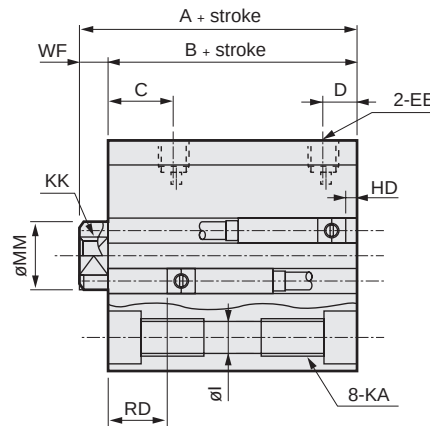
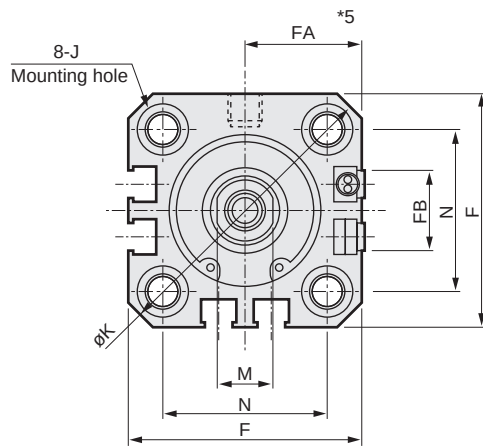
● SSD-L-12 to 25 (with switch, T0^H/V, T5^H/V, T2^H/V, T3^H/V, T2W^H/V, T3W^H/V)

● Rod end male thread

ø12/ø16



ø20/ø25



Code	Common dimensions with switch																
Bore size (mm)	A *1	B *1	C	D	EE	F	FA *5	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	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
ø16	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
ø20	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
ø25	37.5	32.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV				*1: To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. *2 : When the stroke is 5 mm for ø12 or ø16 with switch, (A + stroke) length and (B + stroke) length are as shown in the table. *3 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.							
	HD *2		RD *2		HD *2		RD *2										
Bore size (mm)	0		2.5		0		2.5										
ø12	0		2		0		2										
ø16	3		6.5		3		6.5										
ø20	3		9.5		3		9.5										

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

Bore size	A + stroke	B + stroke
ø12	35.5	32
ø16	35.5	32

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

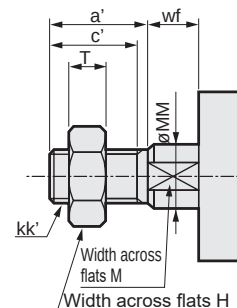
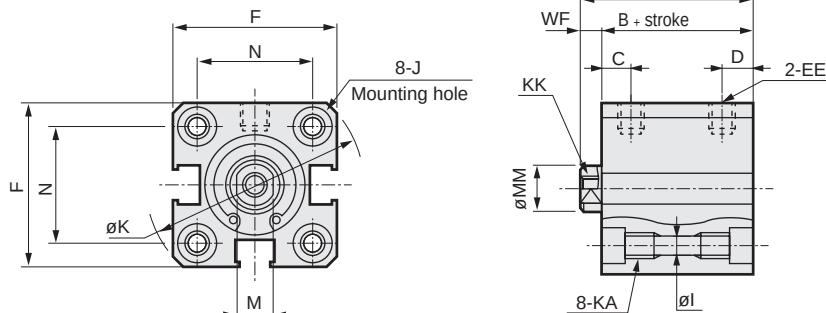
Dimensions



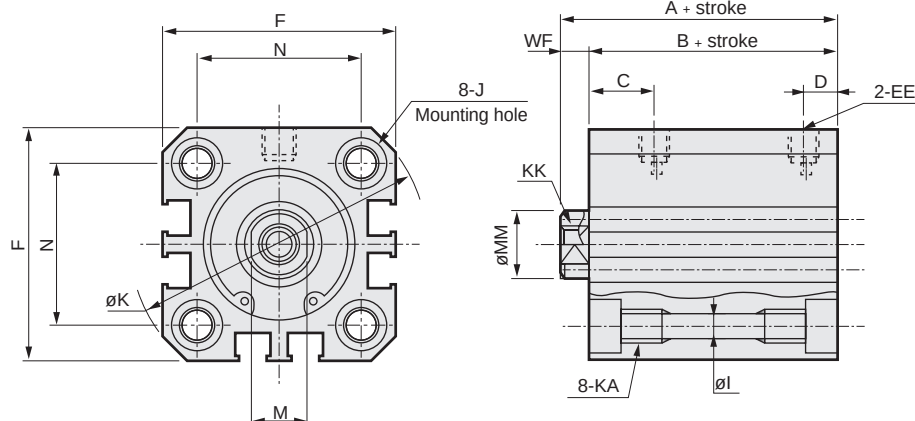
● SSD-12 to 25 (without switch)

● Rod end male thread

ø12/ø16



ø20/ø25



Code	Dimensions without switch and common dimensions														
Bore size (mm)	A *1	B *1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	20.5	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	20.5	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	24	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	27.5	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

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

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

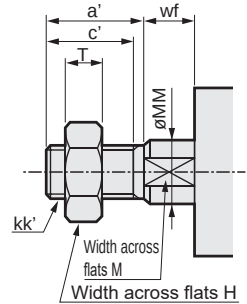
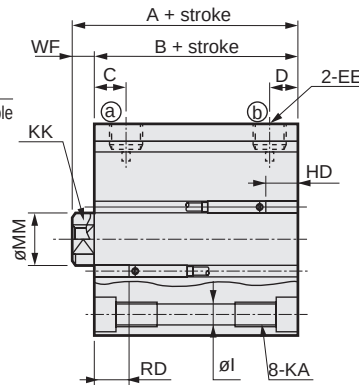
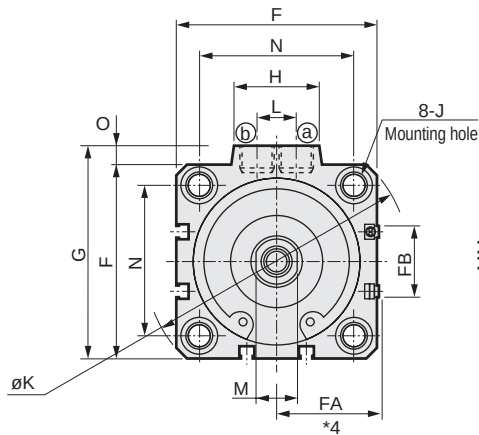
*2: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Dimensions

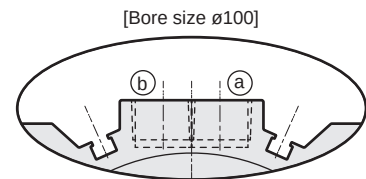
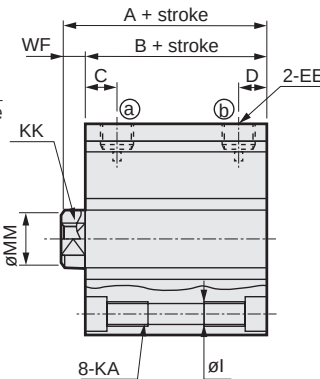
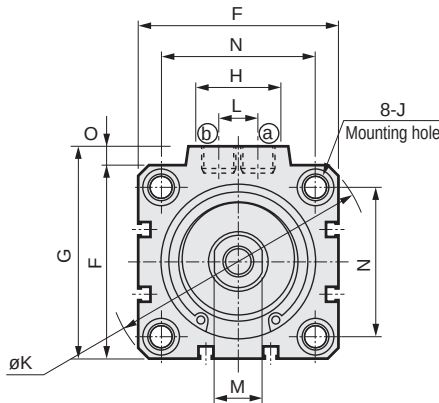


● SSD-L-32 to 100 (with switch, TO¹/_V, T5¹/_V, T2¹/_V, T3¹/_V, T2W¹/_V, T3W¹/_V)

● Rod end male thread



● SSD-32 to 100 (without switch)



* Only for ø100, the port surface has switch grooves.

Code	No switch		Common dimensions with switch																				
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ø32	30	23	40	33	8	8	Rc 1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ø40	36.5	29.5	46.5	39.5	12	8.5	Rc 1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ø50	38.5	30.5	48.5	40.5	10.5	10.5	Rc 1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ø63	44	36	54	46	13	11	Rc 1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ø80	53.5	43.5	63.5	53.5	16	13	Rc 3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ø100	65	53	75	63	23	15	Rc 3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12
Switch dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV						*1 : To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting. *3 : Refer to page 1313 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches. *4 : Dimensions in () of FA are for the L-shaped lead wire. *5 : Refer to pages 1320 to 1325 for dimensions including the										
	Bore size (mm)	HD *2		RD *2		HD *2		RD *2															
ø32	3.5		9		3.5		9																
ø40	7		12		7		12																
ø50	7.5		12.5		7.5		12.5																
ø63	12.5		13		12.5		13																
ø80	17.5		15.5		17.5		15.5																
ø100	23		19.5		23		19.5																

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

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

3 : Refer to page 1313 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1 and T8* switches.

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

*5 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

● Rod end male thread

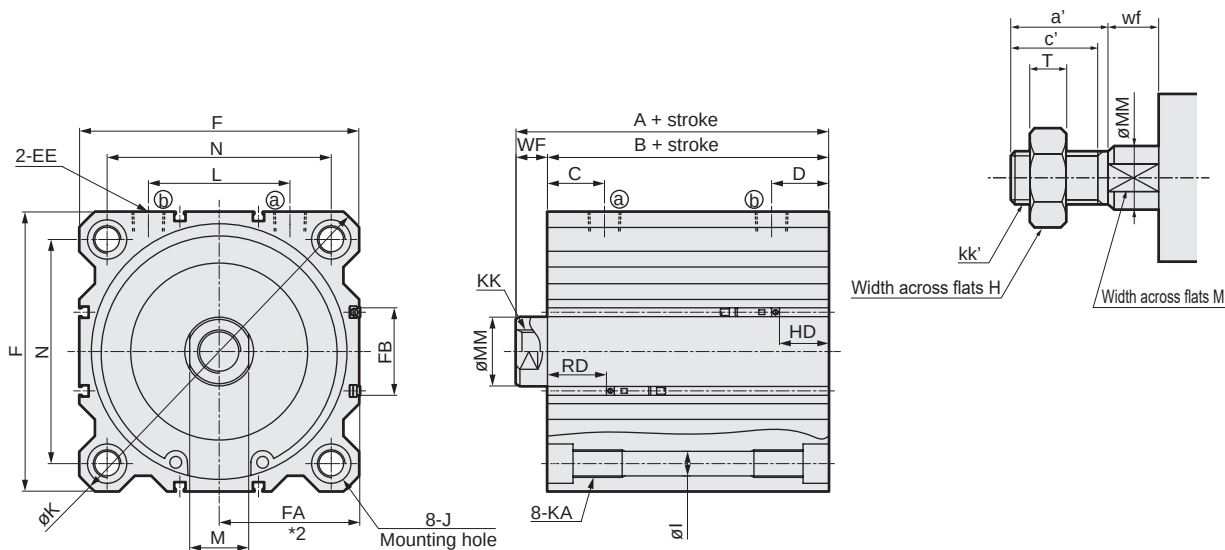
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	17	20	11	5
ø 63	28.5	26	27	M18x1.5	17	20	11	5
ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

Dimensions

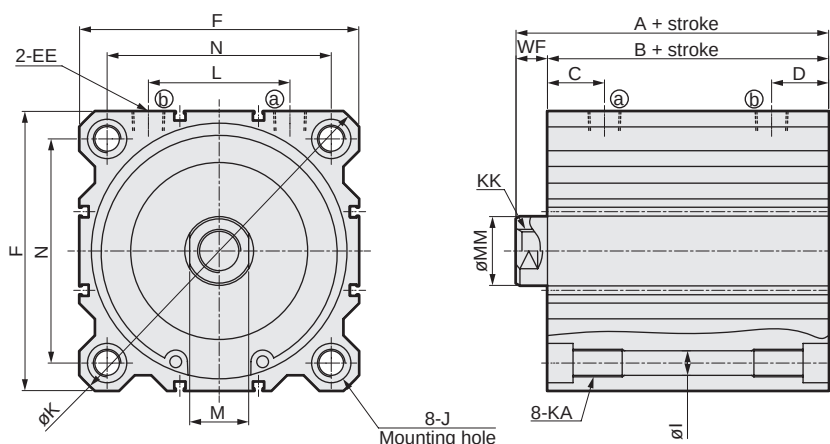


● SSD-L-125 to 160 (double acting/with switch)

● Rod end male thread



● SSD-125 to 160 (double acting)



Code	Common dimensions with switch												
Bore size (mm)	A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK
ø125	88	72	23.5	23.5	Rc3/8	142	71.5(75)	44.5	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30
ø140	98	82	27	27	Rc3/8	158	79.5(83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30
ø160	108	91	30	30	Rc3/8	178	89.5(93)	48.5	14.7	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33

Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV			
Bore size (mm)	L	M	MM	N	WF	HD	RD	HD	RD
ø125	72	30	35	114	16	24.5	29.5	24.5	29.5
ø140	80	30	35	128	16	31	33	31	33
ø160	90	36	40	144	17	34	39	34	39

● *1 : Refer to page 1313 for HD and RD dimensions of 2-color LED switches.

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

● *3 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø125	45	42	46	M30x1.5	30	35	18	13
ø140	45	42	46	M30x1.5	30	35	18	13
ø160	50	47	55	M36x1.5	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

Dimensions (Mounting bracket: LB)



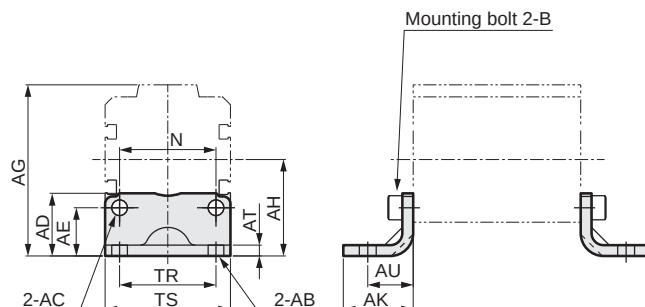
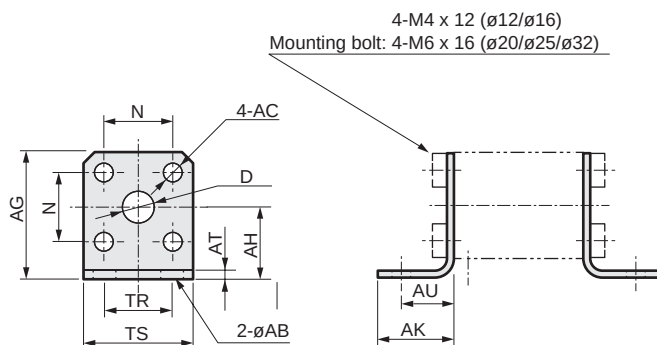
● Mounting bracket Axial foot (LB)

·ø12 to ø32

Material: Steel
Zinc chromate treatment

·ø40 to ø100

Material: Steel
Zinc chromate treatment



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

Model No.	Applicable bore size	AB	AC	AG	AH	AK	AT	AU	D	N	TR	TS	Wt (g)
SSD-LB-12	ø12	6	4.5	29.5	17	18	2.3	12	8	15.5	16	25	40
SSD-LB-16	ø16	6	4.5	33.5	19	18	2.3	12	10	20	16	29	50
SSD-LB-20	ø20	7	6.5	42	24	24	3.2	16	12	25.5	24	36	140
SSD-LB-25	ø25	7	6.5	46	26	24	3.2	16	14	28	28	40	150
SSD-LB-32	ø32	7	6.5	53.5	31	24	3.2	16	18	34	34	45	180

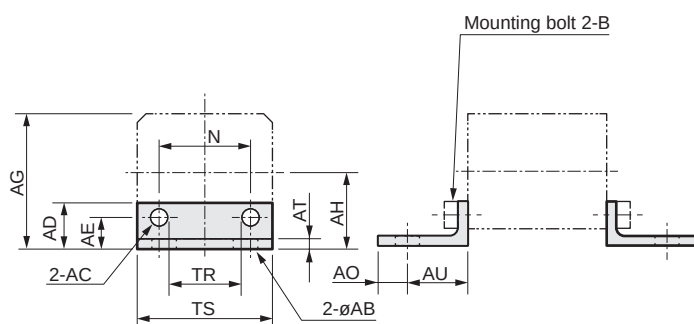
Note) Axial foot (LB) cannot be mounted on SSD-W or SSD-B.

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

Model No.	Bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	N	TR	TS	Wt (g)
SSD-LB-40	ø40	7	6.5	26	20	71	40	29	4.5	19	M6x16	40	40	52	170
SSD-LB-50	ø50	9	9	23	15	79	40	34	4.5	22	M8x20	50	46	64	270
SSD-LB-63	ø63	11	11	33	21	96.5	51	40	4.5	25	M10x25	60	60	77	420
SSD-LB-80	ø80	13	13	42	23	116.5	61.5	50	6	35	M12x40	77	77	98	890
SSD-LB-100	ø100	13	13	48	22	134	69	50	6	35	M12x40	94	94	117	1050

· ø125 to ø160

Material: Steel
Zinc chromate treatment



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

Model No.	Bore size	AB	AC	AD	AE	AG	AH	AO	AT	AU	B	N	TR	TS	Wt (g)
SSD-LB-125	ø125	19	14.5	43	28	156	85	20	7	45	M14x40	114	100	142	1750
SSD-LB-140	ø140	19	14.5	51	36	179	100	20	8	50	M14x40	128	112	158	2400
SSD-LB-160	ø160	19	16.5	52	34	195	106	20	10	53	M16x50	144	118	178	3500

Dimensions (Mounting bracket: LB2)



● Axial foot (LB2)

· $\phi 12$ to $\phi 25$

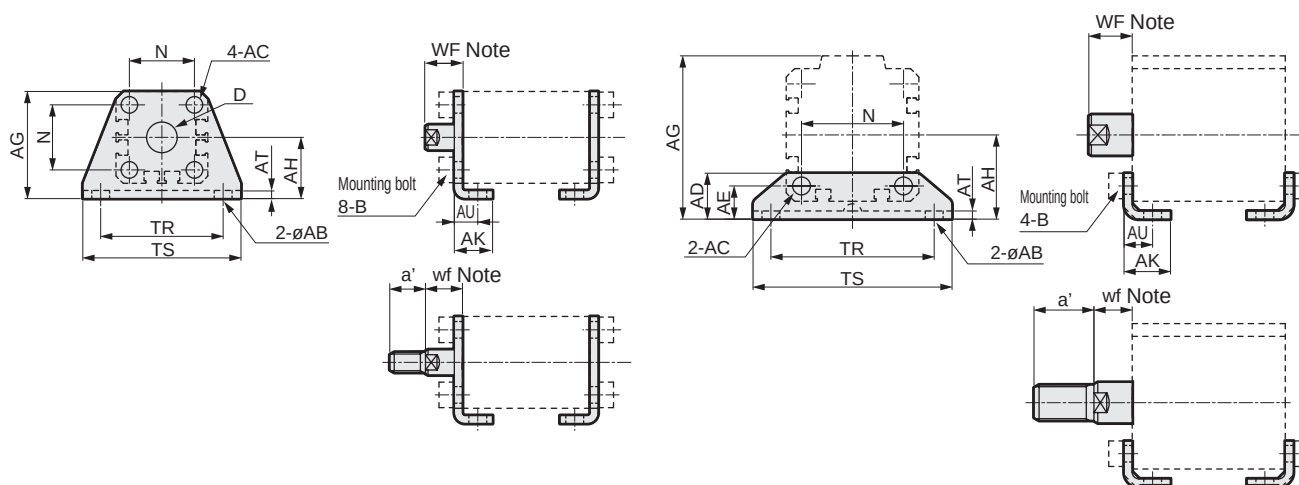
Material: Steel

Zinc chromate treatment

· $\phi 32$ to $\phi 100$

Material: Steel

Zinc chromate treatment



*1: Hex socket mounting bolts are included.

Model No.	Bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	D	N	TR	TS	WF	wf	a'	Wt (g)
SSD-LB2-12	$\phi 12$	5	4.5	-	-	29.5	17	12.5	2	8	M4x10	8	15.5	34	44	13.5	13.5	10.5	51
SSD-LB2-16	$\phi 16$	5	4.5	-	-	33.5	19	13	2	8	M4x10	10	20	38	48	13.5(18.5)	13.5(18.5)	12	61
SSD-LB2-20	$\phi 20$	7	6.5	-	-	42	24	15	3.2	9.2	M6x16	12	25.5	48	62	14.5(19.5)	14.5(19.5)	14	161
SSD-LB2-25	$\phi 25$	7	6.5	-	-	46	26	16.5	3.2	10.7	M6x16	14	28	52	66	15(20)	15(20)	17.5	176
SSD-LB2-32	$\phi 32$	7	7	18.5	13	57	30	17	3.2	11.2	M6x16	-	34	57	71	17(22)	15(20)	23.5	107
SSD-LB2-40	$\phi 40$	7	7	18	13	64	33	18.2	3.2	11.2	M6x16	-	40	64	78	17(22)	15(20)	23.5	121
SSD-LB2-50	$\phi 50$	9	9	22	14	78	39	22.7	3.2	14.7	M8x20	-	50	79	95	18(23)	15(20)	28.5	201
SSD-LB2-63	$\phi 63$	11	11	26	16	91.5	46	25.2	3.2	16.2	M10x25	-	60	95	113	18(23)	15(20)	28.5	314
SSD-LB2-80	$\phi 80$	13	13	31.5	20.5	114	59	30.5	4.5	19.5	M12x40	-	77	118	140	20(25)	18(23)	35.5	678
SSD-LB2-100	$\phi 100$	13	13	35	24	136	71	35.5	6	23	M12x40	-	94	137	162	22(27)	18(23)	35.5	1198

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

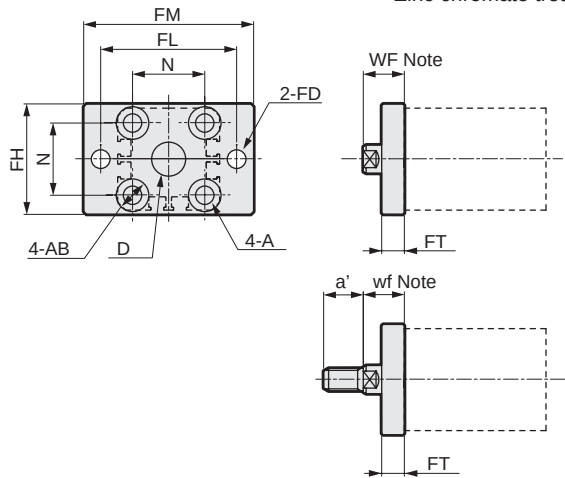
*2 : Dimensions in () of WF/wf are dimensions for SSD-G2/G3.

Dimensions (Mounting bracket: FA, FB)



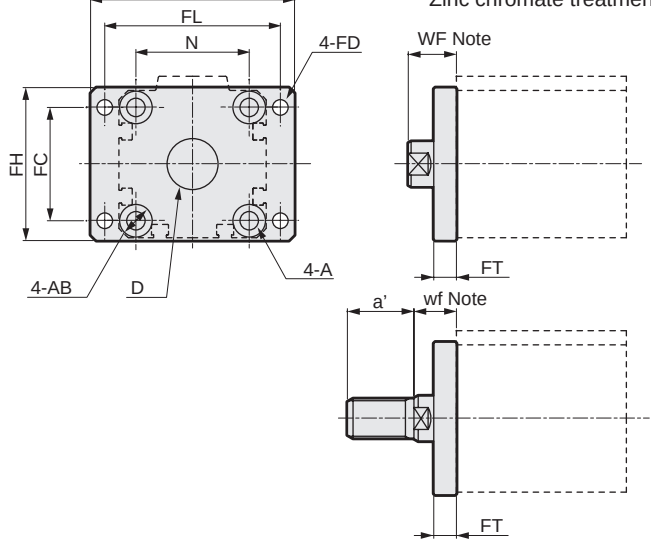
● Rod side flange (FA)
· $\phi 12$ to $\phi 25$

Material: Steel
Zinc chromate treatment



· $\phi 32$ to $\phi 100$

Material: Steel
Zinc chromate treatment



*1: Mounting bolts are included.

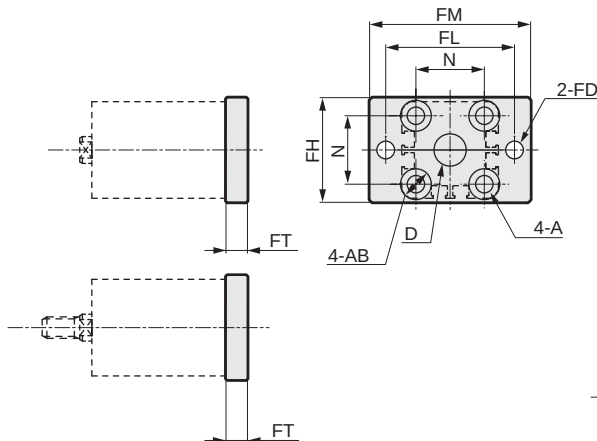
Model No.	Bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	WF	wf	a'	Wt (g)
SSD-FA-12	$\phi 12$	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	13.5	13.5	10.5	54
SSD-FA-16	$\phi 16$	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	13.5(18.5)	13.5(18.5)	12	64
SSD-FA-20	$\phi 20$	-	6.6	39	48	60	8	6.5	11.5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

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

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

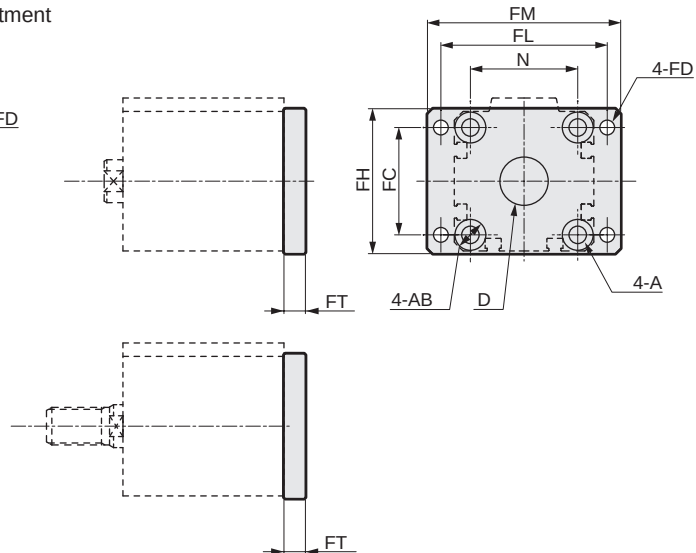
● Head side flange (FB)
· $\phi 12$ to $\phi 25$

Material: Steel
Zinc chromate treatment



· $\phi 32$ to $\phi 100$

Material: Steel, zinc chromate treatment



*1: Mounting bolts are included.

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

Dimensions (Mounting bracket: CB)



● Mounting bracket Clevis bracket (CB)

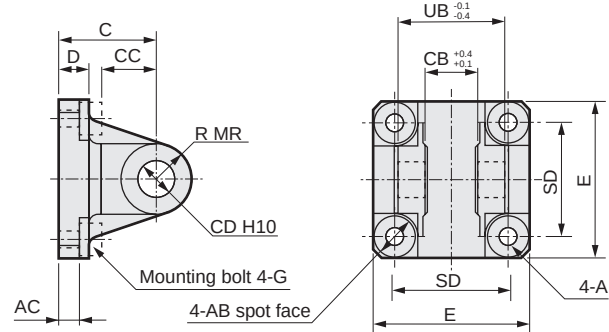
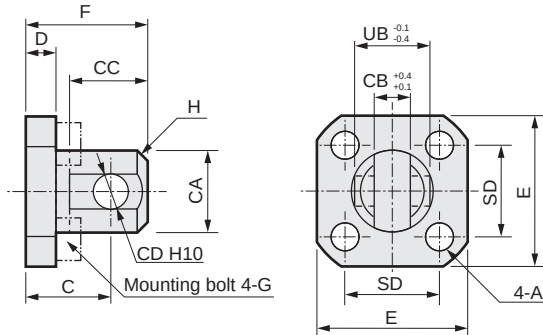
* Pin (including C-ring) and snap ring are included.
* When used for oscillation, a high load cylinder is recommended.

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

Material: Cast iron
Painted

· $\phi 32$ to $\phi 100$

Material: Cast iron
Painted



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

Model No.	Bore size	A	C	CA	CB	CC	CD	D	E	F	G	H	SD	UB	Wt (g)
SSD-CB-12	$\phi 12$	4.5	14	13.5	6.5	13	5	5	25	20	M4x12	C1.5	15.5	12	35
SSD-CB-16	$\phi 16$	4.5	15	15	6.5	14	5	5	29	21	M4x12	C2	20	12	45
SSD-CB-20	$\phi 20$	6.5	23	24	8	22	10	8	36	33	M6x20	C4	25.5	19	140
SSD-CB-25	$\phi 25$	6.5	27	27.5	10	28	12	8	40	39	M6x20	C5	28	21	180

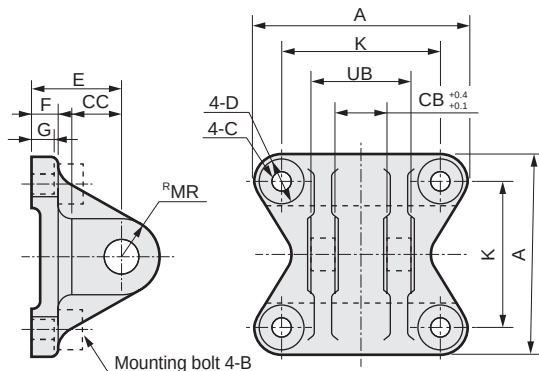
* 4 hexagon socket head cap screws are included for installation.

Model No.	Bore size	A	AB	AC	C	CB	CC	CD	D	E	G	MR	SD	UB	Wt (g)
SSD-CB- 32	$\phi 32$	6.5	13	9.5	30	10	16	12	10	45	M6x20	R12	34	21	230
SSD-CB- 40	$\phi 40$	6.5	14	6.5	32	18	18	12	10	52	M6x20	R12	40	36	290
SSD-CB- 50	$\phi 50$	9	16	6.5	32	18	18	12	10	64	M8x20	R12	50	36	390
SSD-CB- 63	$\phi 63$	11	20	7.5	37	20	24	14	10	77	M10x25	R16	60	40	630
SSD-CB- 80	$\phi 80$	14	20	10.5	52	28	30	20	14	98	M12x40	R20	77	56	1530
SSD-CB-100	$\phi 100$	14	20	10.5	52	28	30	20	16	118	M12x40	R20	94	56	1900

● Clevis bracket (CB)

Material: Cast iron
Painted

· $\phi 125$ to $\phi 160$



* A pin and a snap ring are included.

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

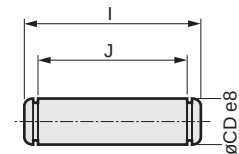
Model No.	Bore size	A	B	C	CB	CC	CD
SSD-CB-125	$\phi 125$	140	M14x50	16	32	35	25
SSD-CB-140	$\phi 140$	154	M14x50	16	36	40	28
SSD-CB-160	$\phi 160$	174	M16x60	18	40	40	32

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

● Clevis bracket (CB) included pin dimensions table

· $\phi 12$ to $\phi 100$

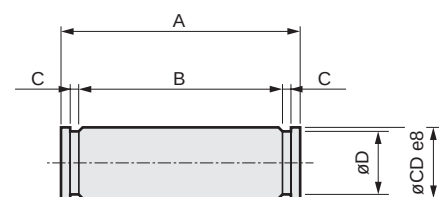
Material: Steel
Zinc chromate treatment



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

· $\phi 125$ to $\phi 160$

Material: Steel
Zinc chromate treatment



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

Dimensions (Mounting bracket: CB2)



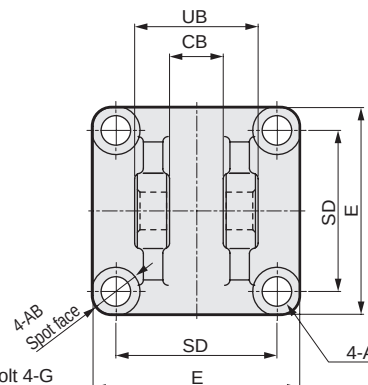
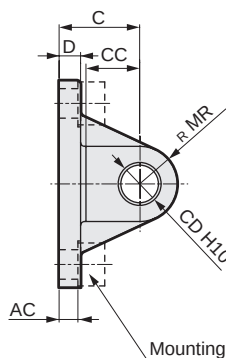
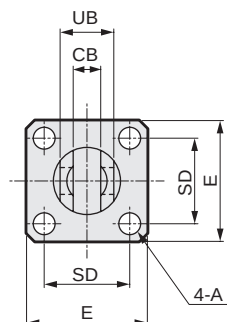
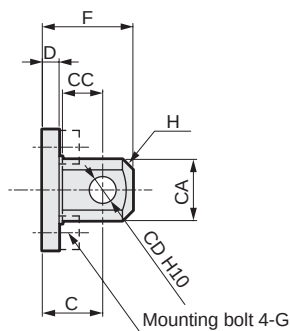
● Clevis bracket (CB2)

· $\phi 12$ to $\phi 25$

Material: Cast iron
Painted

· $\phi 32$ to $\phi 100$

Material: Cast iron
Painted



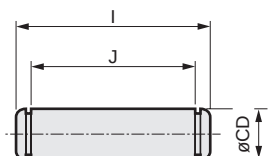
*1: Hex socket mounting bolts, pins (including C-rings), and snap rings are included.

Model No.	Bore size	A	AB	AC	C	CA	CB	CC	CD	D	E	F	G	H	MR	SD	UB	Wt (g)
SSD-CB2-12	$\phi 12$	4.5	-	-	14	12	$5.2_{-0.2}^{+0.048}$	7	$5_{-0.048}^{+0.048}$	4	25	20	M4x12	C1.5	-	15.5	$10_{-0.3}^{+0.1}$	28
SSD-CB2-16	$\phi 16$	4.5	-	-	15	15	$6.6_{-0.3}^{+0.048}$	8	$5_{-0.048}^{+0.048}$	5	29	21	M4x12	C2	-	20	$12_{-0.4}^{+0.1}$	43
SSD-CB2-20	$\phi 20$	6.5	-	-	18	20	$8.2_{-0.2}^{+0.058}$	12	$8_{-0.058}^{+0.058}$	5	36	27	M6x16	C4	-	25.5	$16_{-0.3}^{+0.1}$	84
SSD-CB2-25	$\phi 25$	6.5	-	-	20	24	$10.2_{-0.2}^{+0.058}$	14	$10_{-0.058}^{+0.058}$	5	40	30	M6x16	C5	-	28	$20_{-0.3}^{+0.1}$	110
SSD-CB2-32	$\phi 32$	6.6	13	4.5	20	-	$18.2_{-0.2}^{+0.058}$	14	$10_{-0.058}^{+0.058}$	5	45	30	M6x16	-	10	34	$36_{-0.3}^{+0.1}$	159
SSD-CB2-40	$\phi 40$	6.6	14	5	22	-	$18.2_{-0.2}^{+0.058}$	14	$10_{-0.058}^{+0.058}$	6	52	32	M6x16	-	10	40	$36_{-0.3}^{+0.1}$	207
SSD-CB2-50	$\phi 50$	9	16	6	28	-	$22.2_{-0.2}^{+0.070}$	20	$14_{-0.070}^{+0.070}$	7	64	42	M8x20	-	14	50	$44_{-0.3}^{+0.1}$	420
SSD-CB2-63	$\phi 63$	11	18	7	30	-	$22.2_{-0.2}^{+0.070}$	20	$14_{-0.070}^{+0.070}$	8	77	44	M10x25	-	14	60	$44_{-0.3}^{+0.1}$	605
SSD-CB2-80	$\phi 80$	13.5	23	9	38	-	$28.2_{-0.2}^{+0.070}$	27	$18_{-0.070}^{+0.070}$	10	98	56	M12x40	-	18	77	$56_{-0.3}^{+0.1}$	1222
SSD-CB2-100	$\phi 100$	13.5	20	12	45	-	$32.2_{-0.2}^{+0.084}$	31	$22_{-0.084}^{+0.084}$	13	117	67	M12x40	-	22	94	$64_{-0.3}^{+0.1}$	2031

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

Material: Steel

Zinc chromate treatment



Model No.	Applicable bore size	I	J	CD	Applicable snap ring	Weight (g)
SSD-P2-12	$\phi 12$	15.2	10.2	$5_{-0.028}^{+0.01}$	E type 4	2.4
SSD-P2-16	$\phi 16$	18	13	$5_{-0.028}^{+0.01}$	E type 4	2.8
SSD-P2-20	$\phi 20$	21	16.2	$8_{-0.047}^{+0.025}$	C type for shaft 8	8.2
SSD-P2-25	$\phi 25$	25.6	20.2	$10_{-0.047}^{+0.025}$	C type for shaft 10	16
SSD-P2-32	$\phi 32/\phi 40$	41.6	36.2	$10_{-0.047}^{+0.025}$	C type for shaft 10	25
SSD-P2-50	$\phi 50/\phi 63$	50.6	44.2	$14_{-0.059}^{+0.032}$	C type for shaft 14	60
SSD-P2-80	$\phi 80$	64	56.2	$18_{-0.059}^{+0.032}$	C type for shaft 18	124
SSD-P2-100	$\phi 100$	72	64.2	$22_{-0.083}^{+0.040}$	C type for shaft 22	213

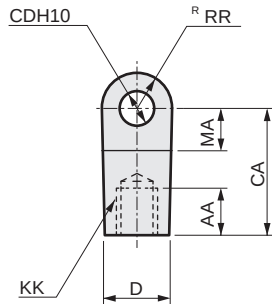
Dimensions (Accessory: I, I2)



● Rod eye (I)

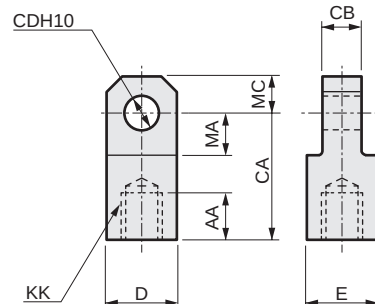
· ø12, ø16, ø40, ø50, ø63, ø80, ø100

Material: ø12 to ø25 Steel
ø32 to ø160 Cast iron
ø12 to ø32
Zinc chromate treatment
ø40 to ø100 Coating



· ø20, ø25, ø32, ø125, ø140, ø160

Material: ø12 to ø25 Steel
ø32 to ø160 Cast iron
ø12 to ø32
Zinc chromate treatment
ø40 to ø100 Coating



Model No.	Applicable bore size (mm)	AA	CA	CB	CD	D	E	KK	MA	MC	RR	Weight (g)
P2-I-16	12	8	25	6.4 ^{+0.048} _{-0.1}	5 ^{+0.048} ₀	12	12	M5	14	-	10	21
SSD-I-16	16	8	25	6.5 ^{+0.1} _{-0.2}	5 ^{+0.048} ₀	12	12	M6	14	-	10	21
SSD-I-20	20	13.5	30	8 ^{+0.1} _{-0.2}	10 ^{+0.058} ₀	19	19	M8	13	10	-	65
M1-I-30	25	14	36	10 ^{+0.1} _{-0.2}	12 ^{+0.070} ₀	25	19	M10x1.25	16	12	-	106
SSD-I-32	32	15	36	10 ^{+0.1} _{-0.2}	12 ^{+0.070} ₀	25	19	M14x1.5	16	12	-	106
SSD-I-40	40	20	50	18 ^{+0.1} _{-0.4}	12 ^{+0.070} ₀	27	27	M14x1.5	21	-	16	260
SSD-I-50	50	21	50	18 ^{+0.1} _{-0.4}	12 ^{+0.070} ₀	27	27	M18x1.5	21	-	16	240
SSD-I-63	63	21	50	20 ^{+0.1} _{-0.4}	14 ^{+0.070} ₀	27	27	M18x1.5	21	-	16	250
SSD-I-80	80	30	70	28 ^{+0.1} _{-0.4}	20 ^{+0.084} ₀	46	41	M22x1.5	30	-	25	880
SSD-I-100	100	30	70	28 ^{+0.1} _{-0.4}	20 ^{+0.084} ₀	46	41	M26x1.5	30	-	25	840
SSD-I-125	125/140	50	85	32 ^{+0.1} _{-0.4}	25 ^{+0.084} ₀	55	55	M30x1.5	32	27.5	-	1250
SSD-I-160	160	60	105	40 ^{+0.1} _{-0.4}	32 ^{+0.100} ₀	70	70	M36x1.5	40	35	-	2550

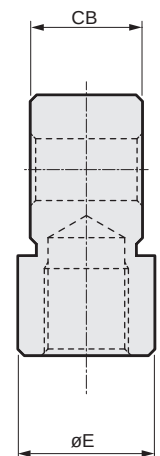
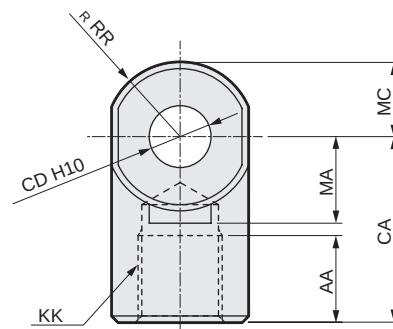
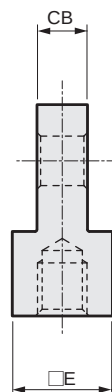
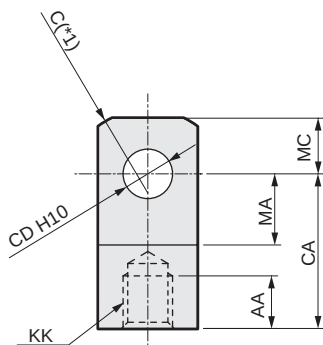
● Rod eye (I2)

· ø12 to ø25

Material: Steel
Zinc chromate treatment

· ø32 to ø100

Material: Cast iron
ø32 Zinc chromate treatment
ø40 to ø100 Coating



*1: ø20/25 are SR RR

Model No.	Bore size	AA	CA	CB	CD	E	KK	MA	C	RR	MC	Wt (g)
SSD-I2-12	ø12	6	16	5 ^{+0.2} _{-0.4}	5 ^{+0.048} ₀	□10	M5x0.8	7	2	-	5.5	9
SSD-I2-16	ø16	8	25	6.5 ^{+0.2} _{-0.4}	5 ^{+0.048} ₀	□12	M6x1	14	2	-	7	21
SSD-I2-20	ø20	8.5	25	8 ^{+0.2} _{-0.4}	8 ^{+0.058} ₀	□16	M8x1.25	11.5	-	13.4	9	38
SSD-I2-25	ø25	10.5	30	10 ^{+0.2} _{-0.4}	10 ^{+0.058} ₀	□20	M10x1.25	14	-	17.1	11	71
SSD-I2-32	ø32/ø40	14	30	18 ^{+0.3} _{-0.5}	10 ^{+0.058} ₀	ø22	M14x1.5	14	-	12	12	74
SSD-I2-50	ø50/ø63	18	40	22 ^{+0.3} _{-0.5}	14 ^{+0.070} ₀	ø28	M18x1.5	20	-	16	16	155
SSD-I2-80	ø80	21	50	28 ^{+0.3} _{-0.5}	18 ^{+0.070} ₀	ø38	M22x1.5	27	-	21	21	380
SSD-I2-100	ø100	21	55	32 ^{+0.3} _{-0.5}	22 ^{+0.084} ₀	ø44	M26x1.5	31	-	24	24	550

Dimensions (Accessory: Y, Y2)



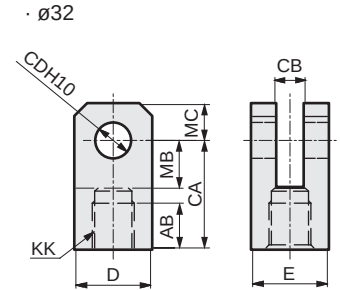
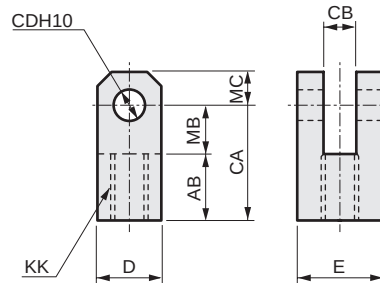
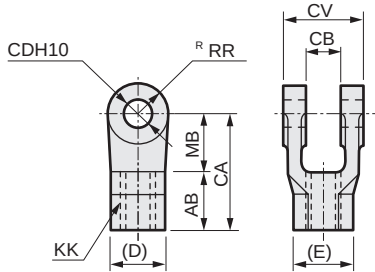
● Rod clevis (Y)

· $\phi 12$, $\phi 16$, $\phi 40$, $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$,
 $\phi 125$, $\phi 140$, $\phi 160$

· $\phi 20$, Material: $\phi 12$ to $\phi 32$ Steel
 $\phi 40$ to $\phi 100$ Cast iron
 $\phi 12$ to $\phi 25$

Zinc chromate treatment
 $\phi 32$ to $\phi 100$ Coating

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



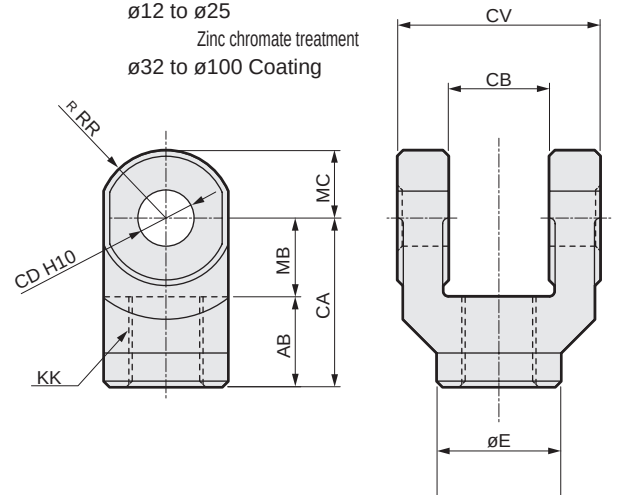
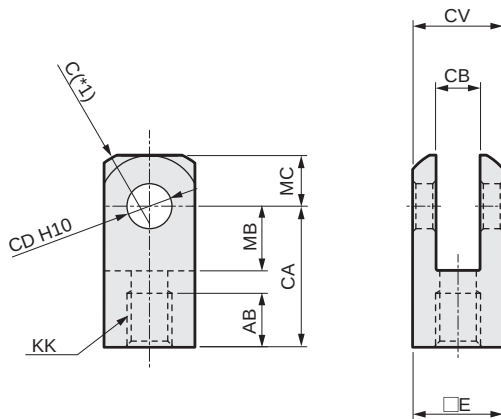
Model No.	Applicable bore size (mm)	AB	CA	CB	CD	CV	D	E	KK	MB	MC	RR	Weight (g)
P2-Y-16	12	11	21	6.5 ^{+0.2} _{+0.1}	5 ^{+0.048} ₀	12	12	12	M5	10	-	10	20
SSD-Y-16	16	11	21	6.5 ^{+0.2} _{+0.1}	5 ^{+0.048} ₀	12	12	12	M6	10	-	10	20
SSD-Y-20	20	17	30	8 ^{+0.3} _{+0.1}	10 ^{+0.058} ₀	19	19	19	M8	13	10	-	100
M1-Y-30	25	20	36	10 ^{+0.3} _{+0.1}	12 ^{+0.070} ₀	25	25	25	M10x1.25	16	12	-	197
SSD-Y-32	32	15	36	10 ^{+0.3} _{+0.1}	12 ^{+0.070} ₀	25	25	25	M14x1.5	16	12	-	197
SSD-Y-40	40	24	50	18 ^{+0.4} _{+0.1}	12 ^{+0.070} ₀	36	(27)	(31.2)	M14x1.5	26	-	16	250
SSD-Y-50	50	24	50	18 ^{+0.4} _{+0.1}	12 ^{+0.070} ₀	36	(27)	(31.2)	M18x1.5	26	-	16	240
SSD-Y-63	63	24	50	20 ^{+0.4} _{+0.1}	14 ^{+0.070} ₀	40	(27)	(31.2)	M18x1.5	26	-	16	260
SSD-Y-80	80	35	70	28 ^{+0.4} _{+0.1}	20 ^{+0.084} ₀	56	(41)	(47.3)	M22x1.5	35	-	25	900
SSD-Y-100	100	35	70	28 ^{+0.4} _{+0.1}	20 ^{+0.084} ₀	56	(41)	(47.3)	M26x1.5	35	-	25	850
SSD-Y-125	125/140	50	85	32 ^{+0.4} _{+0.1}	25 ^{+0.084} ₀	64	(46)	(53.1)	M30x1.5	35	-	27.5	1300
SSD-Y-160	160	60	105	40 ^{+0.4} _{+0.1}	32 ^{+0.100} ₀	80	(55)	(63.5)	M36x1.5	45	-	35	2550

● Rod clevis (Y2)

· $\phi 12$ to $\phi 25$

· $\phi 32$ to $\phi 100$

Material: $\phi 12$ to $\phi 32$ Steel
 $\phi 40$ to $\phi 100$ Cast iron
 $\phi 12$ to $\phi 25$
Zinc chromate treatment
 $\phi 32$ to $\phi 100$ Coating



*1: $\phi 20/25$ are SR RR

*2: A pin and a snap ring are included.

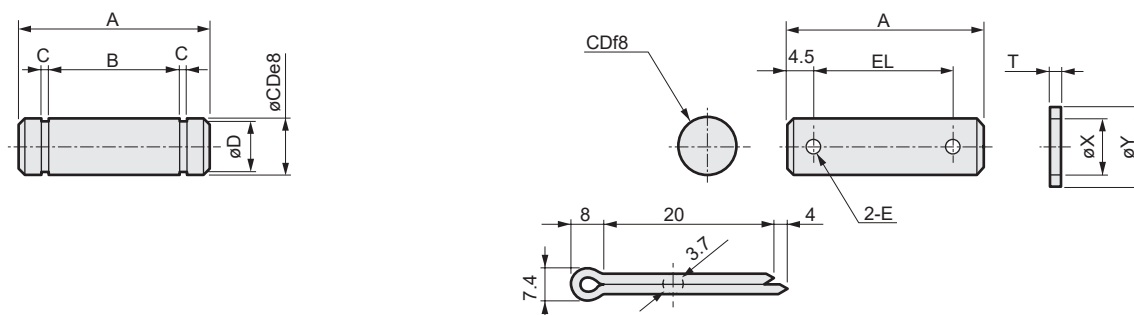
Model No.	Bore size	AB	CA	CB	CD	CV	E	KK	MB	C	RR	MC	Wt (g)
SSD-Y2-12	$\phi 12$	6	16	5 ^{+0.4} _{+0.2}	5 ^{+0.048} ₀	10	$\square 10$	M5x0.8	7	2	-	5.5	12
SSD-Y2-16	$\phi 16$	11	21	6.5 ^{+0.4} _{+0.2}	5 ^{+0.048} ₀	12	$\square 12$	M6x1	10	2	-	7	20
SSD-Y2-20	$\phi 20$	13.5	25	8 ^{+0.4} _{+0.2}	8 ^{+0.058} ₀	16	$\square 16$	M8x1.25	11.5	-	13.4	9	45
SSD-Y2-25	$\phi 25$	16	30	10 ^{+0.4} _{+0.2}	10 ^{+0.058} ₀	20	$\square 20$	M10x1.25	14	-	17.1	11	84
SSD-Y2-32	$\phi 32/\phi 40$	16	30	18 ^{+0.5} _{+0.3}	10 ^{+0.058} ₀	36	$\phi 22$	M14x1.5	14	-	12	12	120
SSD-Y2-50	$\phi 50/\phi 63$	20	40	22 ^{+0.5} _{+0.3}	14 ^{+0.070} ₀	44	$\phi 28$	M18x1.5	20	-	16	16	257
SSD-Y2-80	$\phi 80$	23	50	28 ^{+0.5} _{+0.3}	18 ^{+0.070} ₀	56	$\phi 38$	M22x1.5	27	-	21	21	589
SSD-Y2-100	$\phi 100$	24	55	32 ^{+0.5} _{+0.3}	22 ^{+0.084} ₀	64	$\phi 44$	M26x1.5	31	-	24	24	933

Dimensions (Accessory: P, P2)

- Rod clevis (Y) pin (P)
 - $\phi 12$, $\phi 16$, $\phi 40$ to $\phi 160$

· $\phi 20$ to $\phi 32$

Material: Steel
Zinc chromate treatment



Model No.	Applicable bore size (mm)	A	B	C	D	CD	E	EL	T	X	Y	Applicable snap ring pin	Wt (g)
P2-P-16	12/16	18	13	0.7	4	5 ^{-0.010 -0.028}	-	-	-	-	-	E type snap ring 4	3.0
M1-P-20	20	37	-	-	-	10 ^{-0.013 -0.035}	4	28	1.6	10.5	18	Split pin	29
M1-P-30	25/32	46	-	-	-	12 ^{-0.018 -0.043}	4	37	2.5	12.5	22	Split pin	50
S1-P-40	40/50	43.5	36.2	1.15	11.5	12 ^{-0.032 -0.059}	-	-	-	-	-	C type for shaft 12	40
S1-P-63	63	47.5	40.2	1.15	13.4	14 ^{-0.032 -0.059}	-	-	-	-	-	C type for shaft 14	60
S1-P-80	80/100	64	56.2	1.35	19	20 ^{-0.040 -0.073}	-	-	-	-	-	C type for shaft 20	160
SCS2-125-P	125/140	75	66.3	1.35	23.9	25 ^{-0.040 -0.073}	-	-	-	-	-	C type for shaft 25	250
SCS2-160-P	160	92	82.7	1.65	30.3	32 ^{-0.050 -0.089}	-	-	-	-	-	C type for shaft 32	500

- The pins for the rod clevis (Y2) are common with the pins (P2) for the clevis brackets (CB2). Refer to page 1112 for dimensions.



Compact cylinder double acting/single rod/high load

SSD-K Series

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

JIS symbol



Specifications

Item	SSD-K SSD-KL (with switch)										
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈230 psi, 16 bar)										
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)										
Port size	M5				Rc 1/8		Rc 1/4		Rc 3/8		
Stroke tolerance mm	+2.0 0										
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	Rubber cushion										
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)										
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92	

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30, 40, 50	*2) 100	1
ø16		*2) 200	
ø20			
ø25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	*2)	
ø32			
ø40			
ø50			
ø63			
ø80	10, 20, 30, 40, 50 60, 70, 80, 90, 100	300	
ø100			

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

*2) Stroke over standard to maximum is available in increments of 10.
(Example) $\phi 16$: 60, 70, 80, 90, 100

*3) From 101 to 200 for $\phi 20$, 151 to 300 for $\phi 25$ to $\phi 50$, or 201 to 300 for $\phi 63$ to $\phi 100$, internal structure and total length are different in some products.

*4) For the type with switch, refer to the table on the following page of installed switch numbers and minimum stroke.

*5) Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Custom stroke

● SSD-K Series

Item	Standard products		Optional products	
	Standard stroke body with spacer		Dedicated unit (-S)	
Model No.	Refer to How to order.		Add "-S" option code to the model No.	
Description	A spacer is added to the standard stroke body to adjust the stroke in 1 mm increments.		Dedicated units of the required stroke are available.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12 to 20	1 to 49	12/16 20	6 (11) to 100 (*1) 6 to 200
	25 to 100	1 to 99	25 to 100	11 to 300
Example of model No.	Model No.: SSD-K-32-81 A +9 mm spacer is added to the SSD-K-32-90 standard cylinder to create 90 mm stroke. B dimension is 123mm.		Model No.: SSD-K-32-81-S Dedicated units for 81 mm stroke are available. B dimension is 114mm.	

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

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

● Anti-dust generation structure for use in cleanrooms

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

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

Oil-prohibited specifications (Ending Page 132)

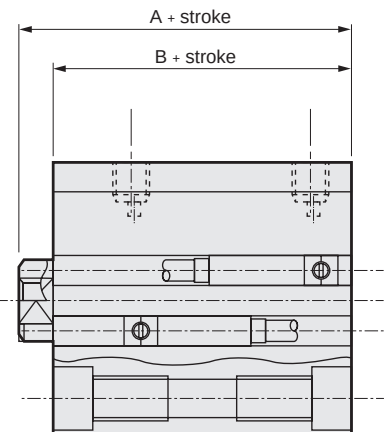
● Grease splash prevented

SSD-K..... **P12**

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

● Design compatible with rechargeable battery manufacturing process

SSD-K..... **P4***



Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
ø12	5	5	25	-	-
ø16	5	5	25	-	-
ø20	5	5	35	50	65
ø25	5	5	35	50	65
ø32	5	5	35	50	65
ø40	5	5	35	50	65
ø50	5	5	35	50	65
ø63	5	5	35	50	65
ø80	5	5	35	50	65
ø100	5	5	35	50	65

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT			
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-									
Pwr. supp. V.	-				10 to 28 VDC				-									
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less		12/24 VDC	100/110 VAC		5/12/24 VDC	100/110 VAC		12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA		50 mA or less	20 mA or less		5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)			
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC		1 mA or less		10 µA or less				0 mA						1 mA or less			
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

Theoretical thrust table

(Unit: N)

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

How to order

No switch (without magnet for switch)

SSD-K - 12 - 5 - N - LB - I

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke

D Switch model No.

*1

*2

*9

E Switch quantity

F Option

*3

G Mounting bracket

*4

*5

H Accessory

*6

⚠ Precautions for model No. selection

*1: Switches other than D Switch model No. are also available. (Made to order)

Refer to Ending Page 1 for details.

2: AC magnetic field proof switch and T8 switch cannot be installed on ø12 and ø16.

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

*4: The mounting bracket is included at shipment.

*5: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*8: Refer to pages 1088 and 1089 for combinations of variations/options.

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

[Example of model No.]

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

Model: Compact cylinder High load

A Bore size : ø12 mm

B Port thread : Rc thread

C Stroke : 5 mm

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

E Switch quantity : 1 on rod side

F Option : Rod end male thread

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

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

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

D Switch model No.		Contact	Voltage		Indicator	Lead wire
Axial lead wire	Radial lead wire		AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●	■	1-color LED	2-wire
T2H*	T2V*		■	●		
T3H*	T3V*		■	●	1-color LED	3-wire
T3PH*	T3PV*		■	●		
T2WH*	T2WV*		■	●	2-color LED	2-wire
T2YH*	T2YV*		■	●		
T3WH*	T3WV*		■	●		3-wire
T3YH*	T3YV*		■	●		
T2JH*	T2JV*		■	●		1-color LED off-delay
T2YD*	-		■	●	2-color LED	2-wire
T2YDT*	-		■	●	AC magnetic field	
T2HR3	T2VR3			●	1-color LED (bend resist lead wire specs)	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 (ø)	
Blank	Rod end female thread
N	Rod end male thread
S	Dedicated unit for custom stroke
M	Piston rod material (stainless steel)
P6	Copper and PTFE free (for ø12, ø16, copper and PTFE free is provided as standard)

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

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

[Stroke table]

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●							
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●				●
	25	●	●	●		●	●	●			
	30	●	●	●		●	●	●	●	●	●
	40	●	●	●		●	●	●	●	●	●
	50	●	●	●		●	●	●	●	●	●
	60				●	●	●	●	●	●	●
	70				●	●	●	●	●	●	●
	80				●	●	●	●	●	●	●
90				●	●		●	●	●	●	
100				●	●		●	●	●	●	
Min. stroke (mm) *1		1									
Max. stroke (mm)		100		200		300					
Custom stroke *2		In 1 mm increments									

1: Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available. Refer to page 1117 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order switch

SW - T0H

Switch model No.
(Item ① on page 1118)

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	44	86	53	95	61	103	70	112	78	121	87	129	104	146	121	163	138	180	155	197	172	214	189	231	206	248
ø16	59	104	69	114	80	125	91	136	102	147	113	158	135	169	157	191	179	213	201	235	223	257	245	279	267	301
ø20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
ø25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
ø32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
ø40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
ø50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
ø63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
ø80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
ø100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Stroke (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
ø25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
ø32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
ø40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
ø50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
ø63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
ø80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
ø100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6330	5991	6558

Stroke (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
ø32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
ø40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
ø50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
ø63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
ø80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
ø100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839

How to order mounting bracket

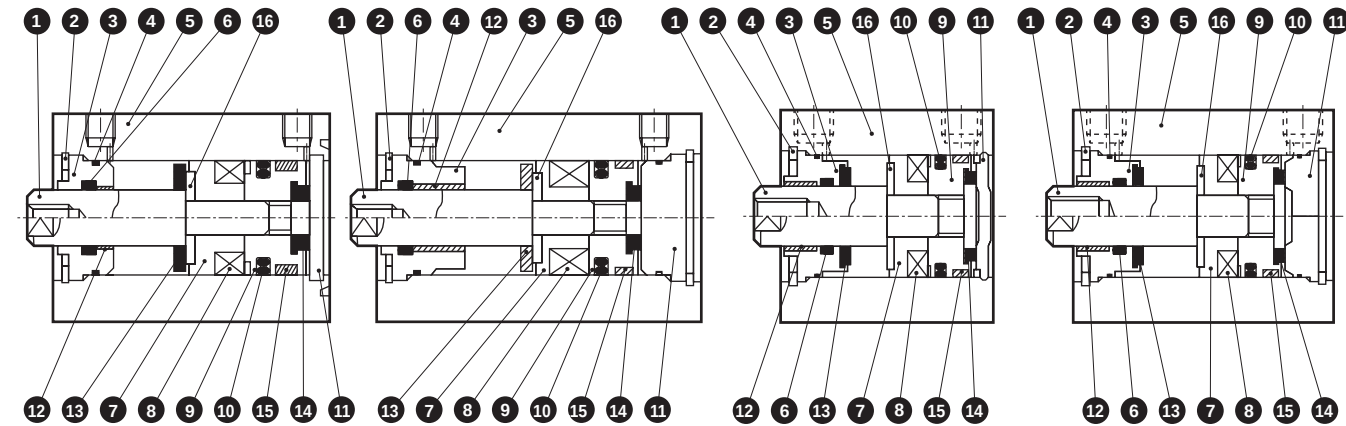
Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket										
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

Internal structure and parts list

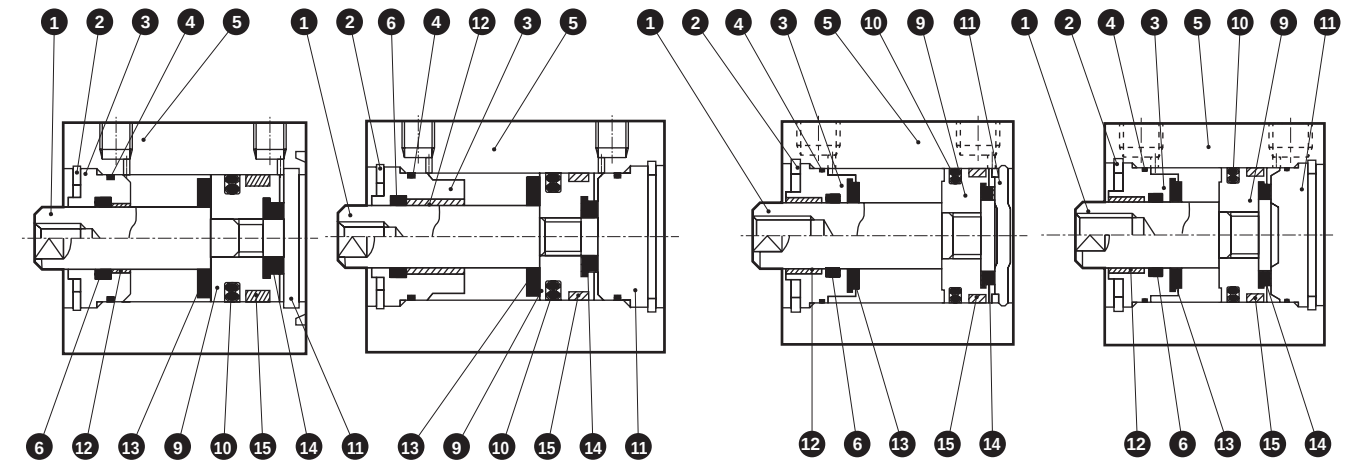
● SSD-KL-12 to 25 (double acting/single rod high load/with switch)
ø20: Over 100 to 200 mm stroke
ø25: Over 150 to 300 mm stroke

● SSD-KL-32 (double acting/single rod high load/with switch)
ø32: Over 150 to 300 mm stroke



● SSD-K-12 to 25 (double acting/single rod high load)
ø20: Over 100 to 200 mm stroke
ø25: Over 150 to 300 mm stroke

● SSD-K-32 (double acting/single rod high load)
ø32: Over 150 to 300 mm stroke



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32: Steel	ø16 to ø32 Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C-snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Special aluminum	Alumite (*3)	11	Cover	ø12 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite (*1)
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	ø20 to ø32 (*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	ø12: Aluminum alloy ø16 to ø32: Special resin	ø12: Chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic		16	Spacer washer	Stainless steel	ø20 to ø32

(*1) For cover for long stroke type (100 mm stroke and over for ø20, 150 mm stroke and over for ø25 and ø32), Material: Aluminum alloy, Remarks: Alumite treatment.
(*2) Material is steel for copper and PTFE free specifications.
(*3) Chromate-treated for ø32 only.

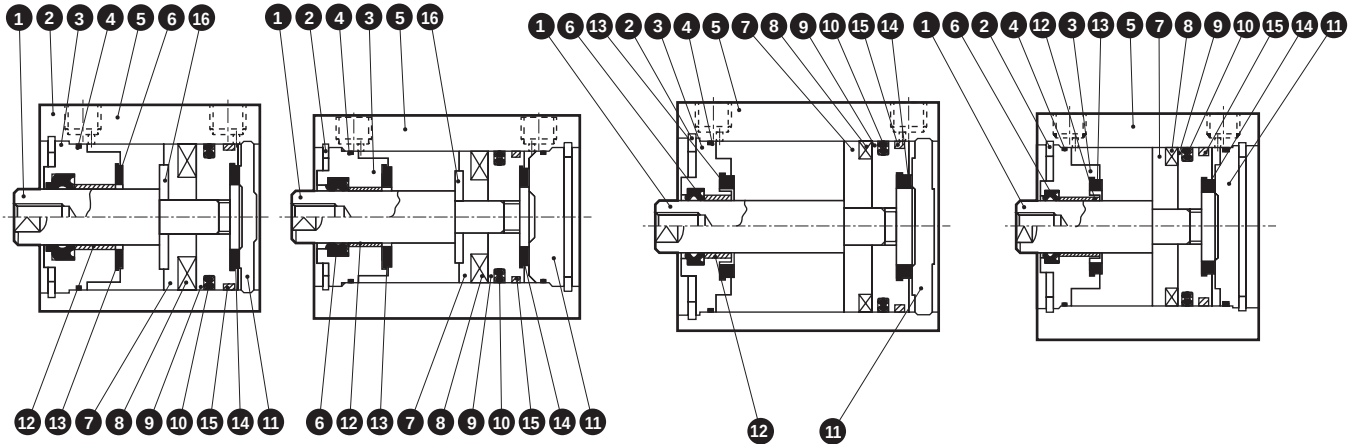
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-K-12K	4 6 10 13 14 15
ø16	SSD-K-16K	
ø20	SSD-K-20K	
ø25	SSD-K-25K	
ø32	SSD-K-32K	

Internal structure and parts list

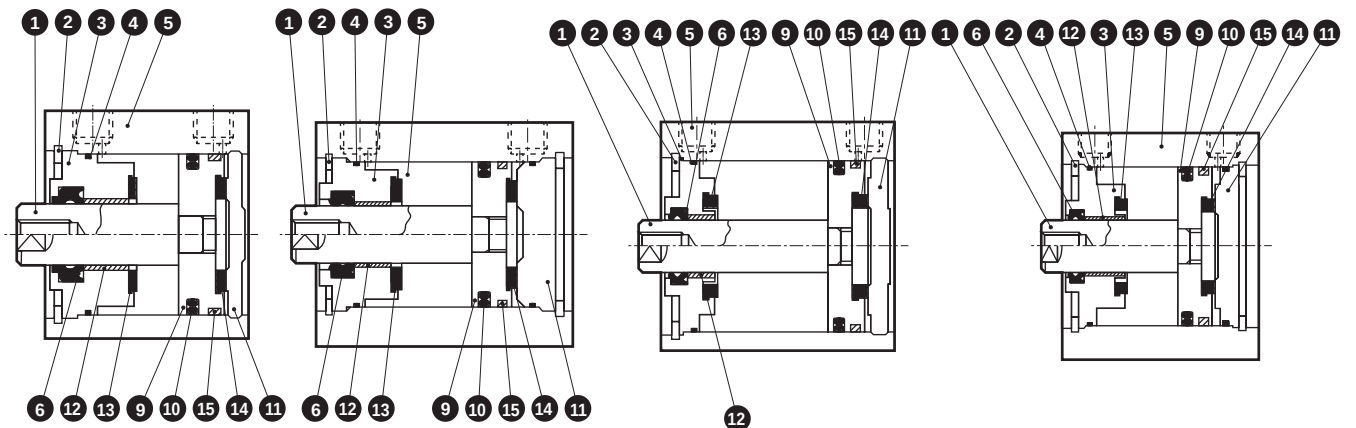
- SSD-KL-40, 50 (double acting/single rod high load/with switch)
 ø40, ø50: Over 150 to 300 mm stroke

- SSD-KL-63 to 100 (double acting/single rod high load/with switch)
 ø63 to ø100: Over 200 to 300 mm stroke



- SSD-K-40, 50 (double acting/single rod high load)
 ø40, ø50: Over 150 to 300 mm stroke

- SSD-K-63 to 100 (double acting/single rod high load)
 ø63 to ø100: Over 200 to 300 mm stroke



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	ø40, ø50: Special resin ø63 to ø100: Aluminum alloy	ø63 to ø100: Chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic		16	Spacer washer	Stainless steel	ø40 to ø50

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

(*2) Chromate-treated for ø40 and ø50 only.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	SSD-K-40K	
ø50	SSD-K-50K	
ø63	SSD-K-63K	4 6 10
ø80	SSD-K-80K	13 14 15
ø100	SSD-K-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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

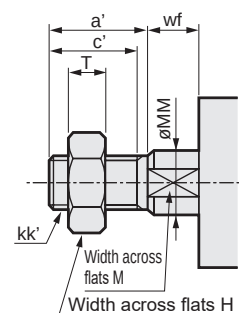
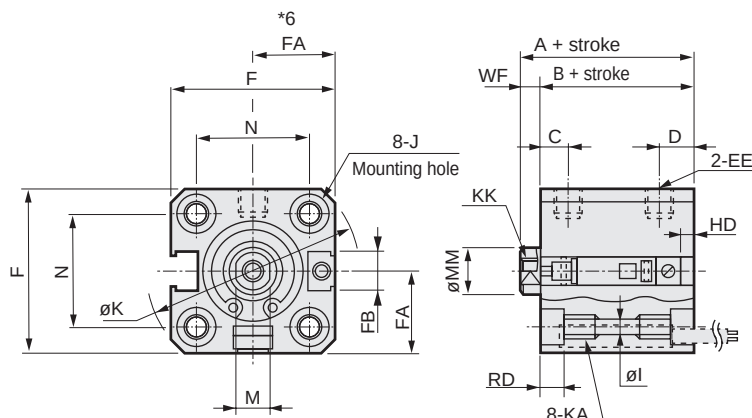
Dimensions



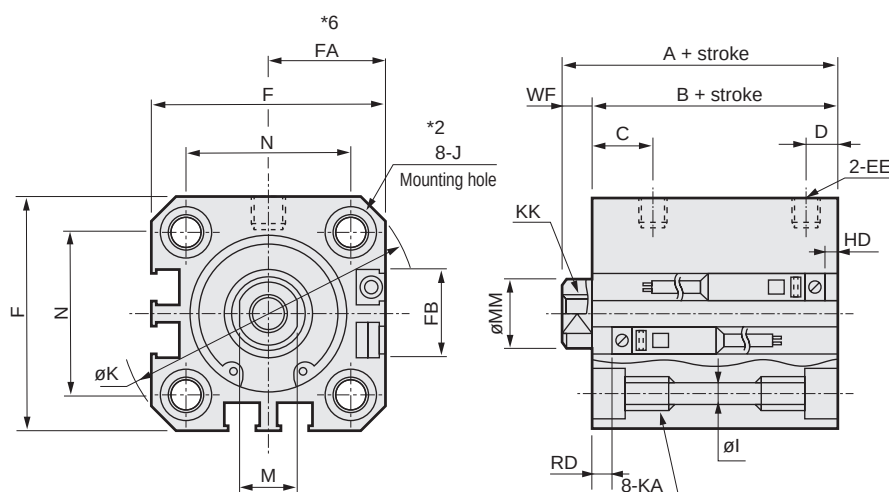
● SSD-KL-12 to 25 (with switch)

● Rod end male thread

ø12/ø16



ø20/ø25



Code	Common dimensions with switch																	
Bore size (mm)	A ^{*1}	B ^{*1}	C	D ^{*2}	EE	F	FA ^{*6}	FB	I	J	K	KA	KK	M	MM	N	WF	
ø12	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	
ø16	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	
ø20	39	34.5	8	5.5(8)	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	
ø25	42.5	37.5	11	6(11)	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5	
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV												
Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}											
ø12	2.5		4.5		2.5		4.5											
ø16	3		4		3		4											
ø20	6(125)		8.5(13.5)		6(12.5)		8.5(13.5)											
ø25	5.5(14)		12(17)		5.5(14)		12(17)											

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

● *2 : When longer than 100 mm stroke for ø20 or longer than 150 mm stroke for ø25, A and B dimensions are indicated in Table 1 and there is no spot face. 1

Table 1

Bore size	With switch	
	A ^{*2}	B ^{*2}
ø20	50.5	46
ø25	56	51

Table 2

Bore size	A + stroke	B + stroke
ø12	40.5	37
ø16	40.5	37

● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

- *1 : To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : When longer than 100 mm stroke for ø20 or longer than 150 mm stroke for ø25, A and B dimensions are indicated in Table 1 and there is no spot face J.
- *3 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *4 : When the stroke is 5 mm for ø12 and ø16 with switch, (A + stroke) length and (B + stroke) length are as shown in Table 2.
- *5 : Refer to page 1314 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the L-shaped lead wire.
- *7 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

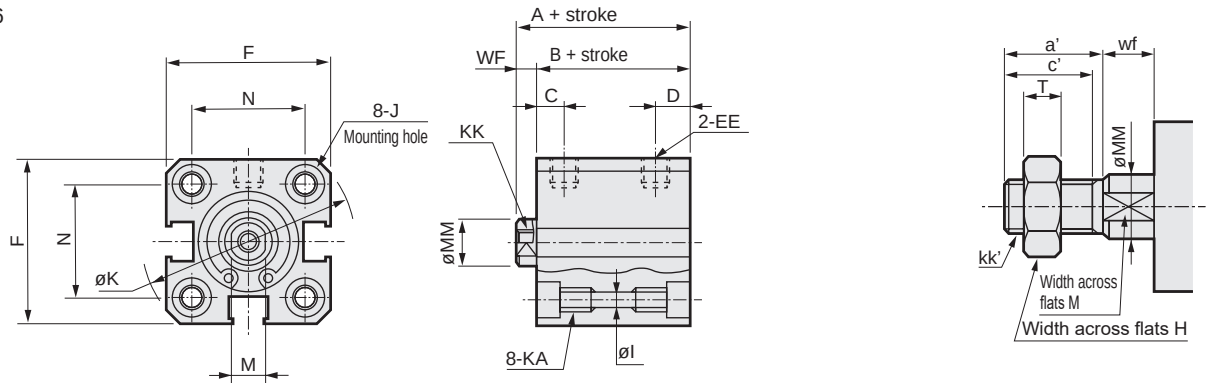
Dimensions



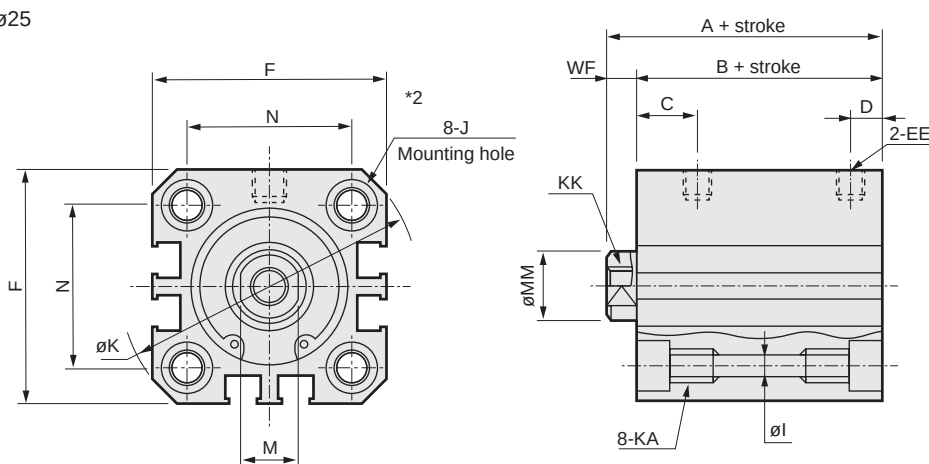
● SSD-K-12 to 25 (without switch)

● Rod end male thread

ø12/ø16



ø20/ø25



Code	Dimensions without switch and common dimensions														
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	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
ø16	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
ø20	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
ø25	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 or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : When longer than 100 mm stroke for ø20 or longer than 150 mm stroke for ø25, A and B dimensions are indicated in Table 1 and there is no spot face J.
- *3 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Table 1

Bore size	A ^{*2}	B ^{*2}
ø20	40.5	36
ø25	46	41

● Dimensions of rod end male thread part

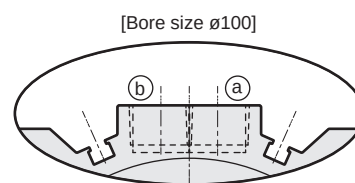
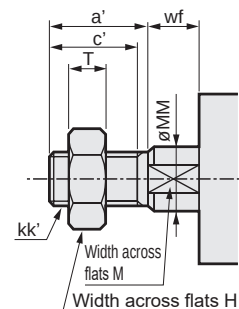
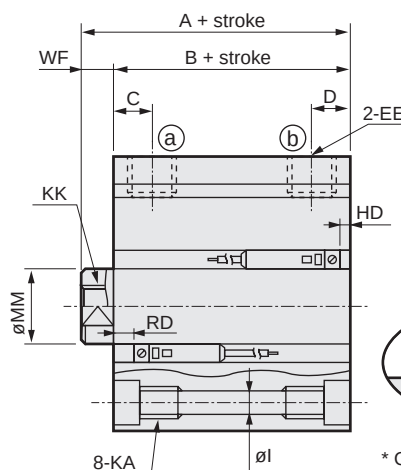
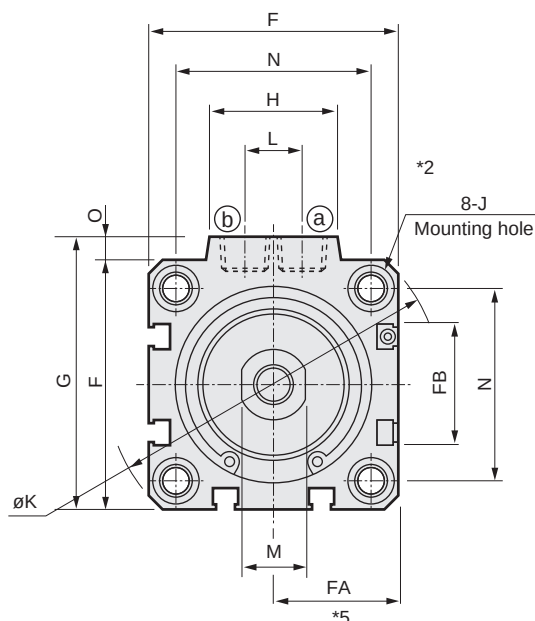
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

Dimensions



● SSD-KL-32 to 100 (with switch)

● Rod end male thread



* Only for Ø100, the port surface has switch grooves.

Code	Common dimensions with switch																				
Bore size (mm)	A ^{*1}	B ^{*1}	C	D ^{*2}	EE	F	FA ^{*5}	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ø32	50	43	8	8(8)	Rc 1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ø40	56.5	49.5	12	8.5(12)	Rc 1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ø50	58.5	50.5	10.5	10.5(10.5)	Rc 1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ø63	64	56	13	11(13)	Rc 1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ø80	73.5	63.5	16	13(16)	Rc 3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ø100	85	73	23	15(23)	Rc 3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV	
	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}
Ø32	8.5(16)	14(14)	8.5(16)	14(14)
Ø40	9.5(19)	19.5(19.5)	9.5(19)	19.5(19.5)
Ø50	10(19)	20(25)	10(19)	20(25)
Ø63	17.5(23)	18(23)	17.5(23)	18(23)
Ø80	22(28)	20.5(25.5)	22.5(28)	20.5(25.5)
Ø100	28(33.5)	24.5(29.5)	28(33.5)	24.5(29.5)

Table 2

Bore size	With switch	
	A ^{*2}	B ^{*2}
Ø32	57.5	50.5
Ø40	66	59
Ø50	72	64
Ø63	74	66
Ø80	83.5	73.5
Ø100	95	83

● Dimensions of rod end male thread part

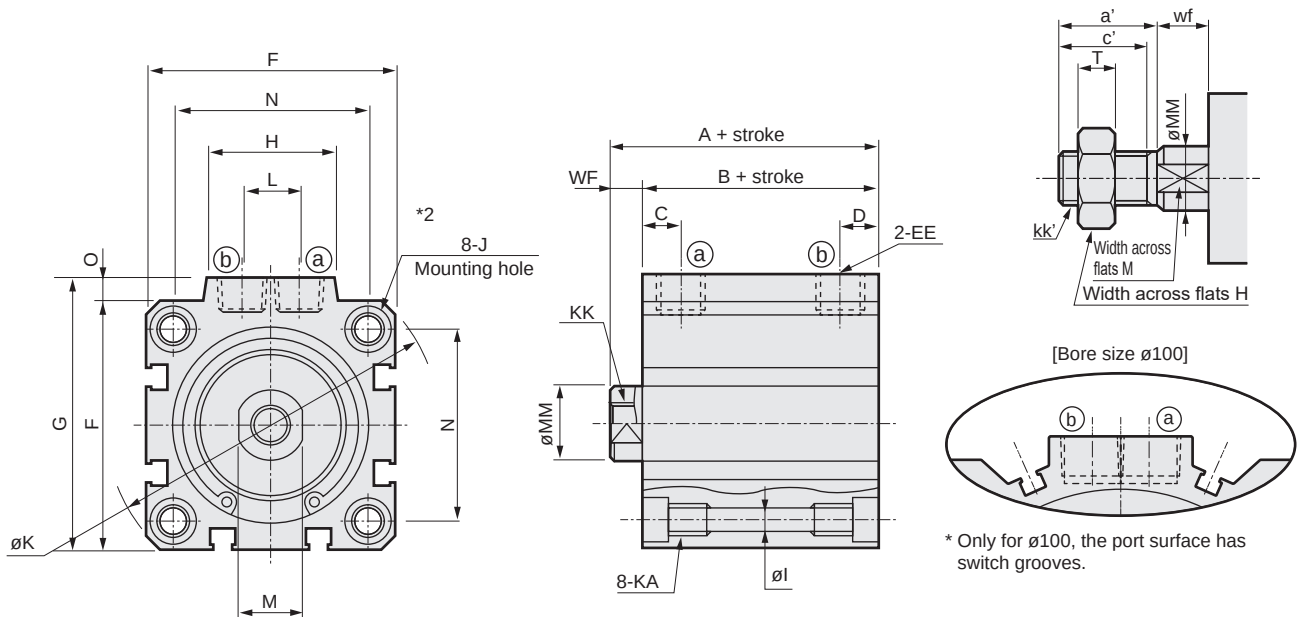
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
Ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 50	28.5	26	27	M18x1.5	17	20	11	5
Ø 63	28.5	26	27	M18x1.5	17	20	11	5
Ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
Ø100	35.5	32.5	41	M26x1.5	27	30	16	8

- *1 : To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : When longer than 150 mm stroke for Ø32 to Ø50 or longer than 200 mm stroke for Ø63 to Ø100, A and B dimensions are indicated in Table 2 and there is no spot face J. HD, RD and D dimensions are indicated in ().
- *3 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *4 : Refer to page 1315 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in () of FA are for the L-shaped lead wire.
- *6 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Dimensions

● SSD-K-32 to 100 (without switch)

● Rod end male thread



Code	Dimensions without switch and common dimensions																		
Bore size (mm)	A ^{*1}	B ^{*1}	C	D ^{*2}	EE	F	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
Ø32	40	33	8	8(8)	Rc 1/8	45	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
Ø40	46.5	39.5	12	8.5(12)	Rc 1/8	52	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
Ø50	48.5	40.5	10.5	10.5(10.5)	Rc 1/4	64	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
Ø63	54	46	13	11(13)	Rc 1/4	77	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
Ø80	63.5	53.5	16	13(16)	Rc 3/8	98	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
Ø100	75	63	23	15(23)	Rc 3/8	117	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Table 2

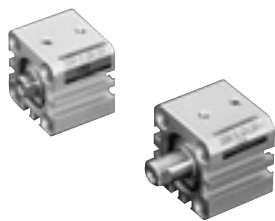
Bore size	A ^{*2}	B ^{*2}
Ø32	47.5	40.5
Ø40	56	49
Ø50	62	54
Ø63	64	56
Ø80	73.5	63.5
Ø100	85	73

- *1 : To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : When longer than 150 mm stroke for Ø32 to Ø50 or longer than 200 mm stroke for Ø63 to Ø100, A and B dimensions are indicated in Table 2 and there is no spot face J. D dimensions are indicated in ().
- *3 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
Ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 50	28.5	26	27	M18x1.5	17	20	11	5
Ø 63	28.5	26	27	M18x1.5	17	20	11	5
Ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
Ø100	35.5	32.5	41	M26x1.5	27	30	16	8

Note: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.



Compact cylinder
Single acting/push

SSD-X Series

Single acting/pull

SSD-Y Series

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

JIS symbol SSD-X

SSD-Y



Specifications

Item		SSD-X				SSD-Y		
		SSD-XL (with switch)				SSD-YL (with switch)		
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Actuation		SSD-X, XL: single acting/push, SSD-Y, YL: single acting/pull						
Working fluid		Compressed air						
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure	MPa	0.2 (≈29 psi, 2 bar)		0.17 (≈25 psi, 1.7 bar)			0.12 (≈17 psi, 1.2 bar)	
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)						
Port size		M5				Rc 1/8		Rc 1/4
Stroke tolerance	mm	+1.0 0						
Working piston speed	mm/s	50 to 500						
Cushion		None						
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1

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

Stroke

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

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

*2 : Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2
Switch model No.	T*	T*
Bore size (mm)		
$\phi 12$	5	5
$\phi 16$	5	5
$\phi 20$	5	5
$\phi 25$	5	5
$\phi 32$	5	5
$\phi 40$	10	10
$\phi 50$	10	10

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less		12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC		1 mA or less		10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

(Unit: g)

Stroke (mm)	5		10		20	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch
ø12	40	80	49	89	-	-
ø16	52	92	64	104	-	-
ø20	74	114	89	129	-	-
ø25	107	147	127	167	-	-
ø32	155	195	183	223	-	-
ø40	-	-	285	325	358	398
ø50	-	-	459	499	572	612

SSD-X/SSD-Y spring load

(Unit: N)

Bore size (mm)	Stroke (mm)	SSD-X		SSD-Y	
		When stroke = 0	At full stroke	When stroke = 0	At full stroke
ø12	5	8.7	13.7	2.9	11
	10	2.9	13.7	2.9	11.3
ø16	5	10.2	15.1	3.5	13.2
	10	5.4	15.1	3.5	13.2
ø20	5	16.8	24	11.8	30.4
	10	9.7	24	12.7	30.3
ø25	5	17.1	23.5	10.8	26.5
	10	10.8	23.5	10.8	26.5
ø32	5	24.1	28.5	17	27
	10	19.6	28.5	17.9	27.4
ø40	10	28.9	38.2	19.3	33
	20	19.6	38.2	19.9	40.2
ø50	10	33.3	47.9	24.5	84.3
	20	18.8	47.9	23.1	82.3

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Push	-	22.6	33.9	45.2	56.5	67.9	79.2	90.5	1.02x10 ²	1.13x10 ²
	Pull	-	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Push	-	40.2	60.3	80.4	1.01x10 ²	1.21x10 ²	1.41x10 ²	1.61x10 ²	1.81x10 ²	2.01x10 ²
	Pull	-	30.2	45.2	60.3	75.4	90.5	1.06x10 ²	1.21x10 ²	1.36x10 ²	1.51x10 ²
ø20	Push	-	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³

How to order

No switch (without magnet for switch)

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

With switch (built-in magnet for switch)

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

2-color LED/off-delay/with T1* switch (ø12/ø16 only)
(built-in magnet for switch)

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

B Bore size

A Model No.

C Port thread

D Stroke

E Switch model No.

*1

*2

*11

⚠ Precautions for model No. selection

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

2 : An AC magnetic field proof switch cannot be installed on ø12 and ø16. In addition, T8 switch cannot be installed on ø12 to ø32.

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

*4 : Copper and PTFE free as standard.

*5 : The mounting bracket is included at shipment.

*6 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*9 : Refer to pages 1086 and 1087 for combinations of variations/options.

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

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

[Example of model No.]

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

Model: Compact cylinder

A Model No. : Single acting push

B Bore size : ø12 mm

C Port thread : Rc thread

D Stroke : 5 mm

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

F Switch quantity

G Option

*3

*4

H Mounting bracket

*5

*6

I Accessory

*7

Code	Description
------	-------------

A Model No.

SSD-X	Single acting/push
SSD-XL	Single acting/push/with switch
SSD-XL1	ø12, ø16 2-color LED, with preventive maintenance switch
SSD-Y	Single acting/pull
SSD-YL	Single acting/pull/with switch
SSD-YL1	ø12, ø16 2-color LED, off-delay, with T1* switch

B Bore size (mm)

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

C Port thread

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

D Stroke (mm)

	Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
5	5	●	●	●	●	●	●	●
10	10	●	●	●	●	●	●	●
20	20						●	●

E Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC DC	Indicator	Lead wire
T0H*	T0V*	Reed	● ●	1-color LED	2-wire
T5H*	T5V*	Reed	● ●	No indicator lamp	
T8H*	T8V*	Reed	● ●	1-color LED	
T1H*	T1V*	Proximity	●	1-color LED	2-wire
T2H*	T2V*		●		
T3H*	T3V*		●		
T3PH*	T3PV*		●	1-color LED	3-wire
T2WH*	T2WV*		●		
T2YH*	T2YV*		●	2-color LED	2-wire
T3WH*	T3WV*		●		
T3YH*	T3YV*		●		
T2JH*	T2JV*		●	1-color LED off-delay	2-wire
T2YD*	-		●	2-color LED	
T2YDT*	-		●	AC magnetic field	2-wire
T2HR3	T2VR3		●	1-color LED (bend resist lead wire specs)	

* 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
M	Piston rod material (stainless steel)

H Mounting bracket

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

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

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring included)
Y2	Rod clevis (compact) (pin and snap ring included)

How to order switch



Switch model No.
(Item E on page 1128)

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Mounting bracket							
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50

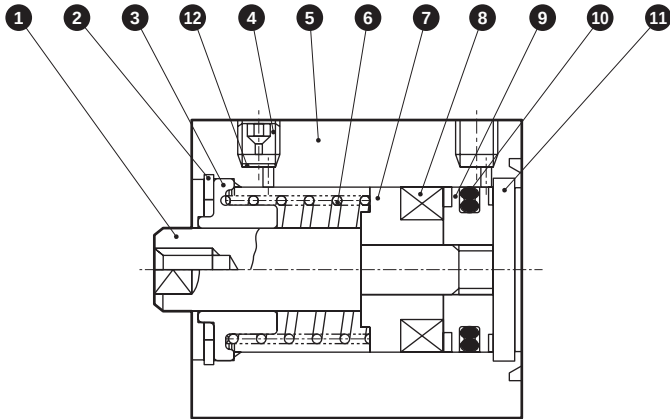
*1: The foot mounting bracket is provided as 2 pcs./set.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

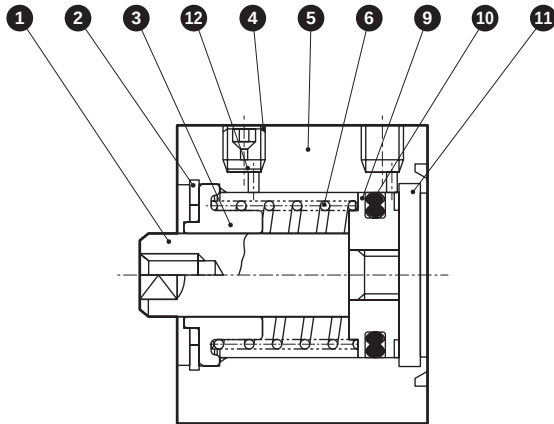
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list

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



● SSD-X (single acting/push)



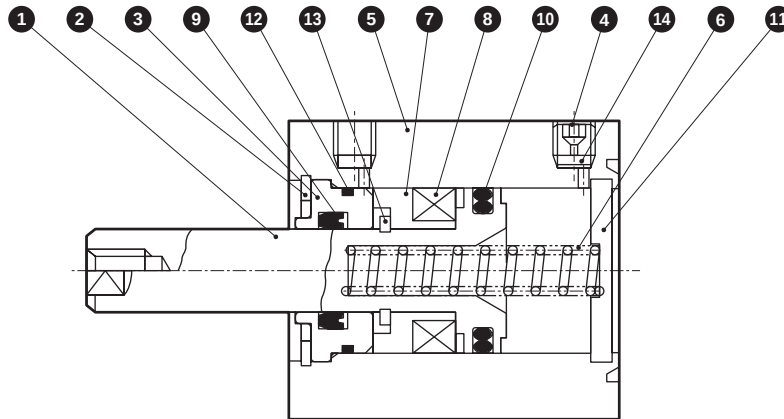
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C-snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	Special aluminum	Alumite	9	Piston	Aluminum alloy	Chromate
4	Plug	Stainless steel		10	Piston packing	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite	11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
6	Spring	Piano wire	Electrodeposition	12	Stainless steel wire mesh	Stainless steel	

Repair parts list

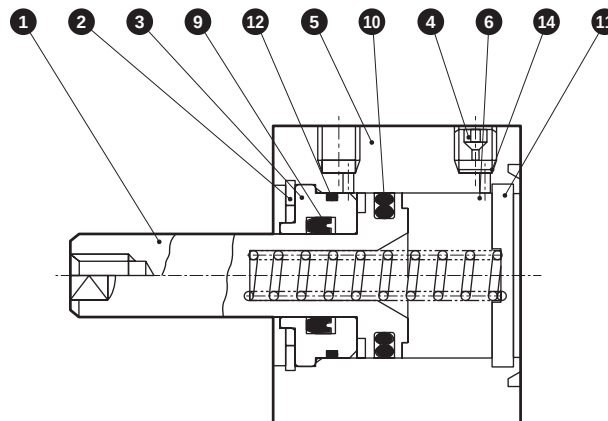
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-X-12K	10
ø16	SSD-X-16K	
ø20	SSD-X-20K	
ø25	SSD-X-25K	
ø32	SSD-X-32K	
ø40	SSD-X-40K	
ø50	SSD-X-50K	

Internal structure and parts list

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



● SSD-Y (single acting/pull)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston	Stainless steel		8	Magnet	Plastic	
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	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: 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.
ø12	SSD-Y-12K	9 10 12
ø16	SSD-Y-16K	
ø20	SSD-Y-20K	
ø25	SSD-Y-25K	
ø32	SSD-Y-32K	
ø40	SSD-Y-40K	
ø50	SSD-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

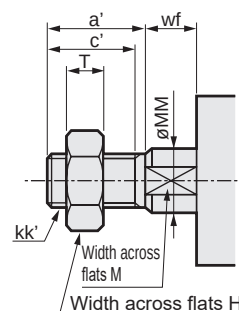
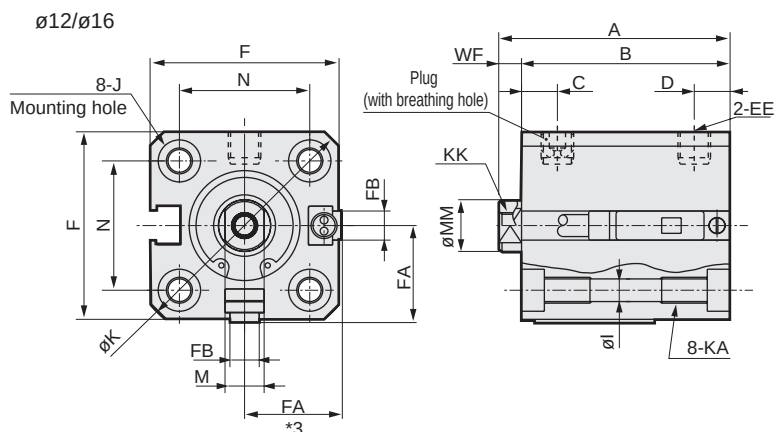
Ending

Dimensions

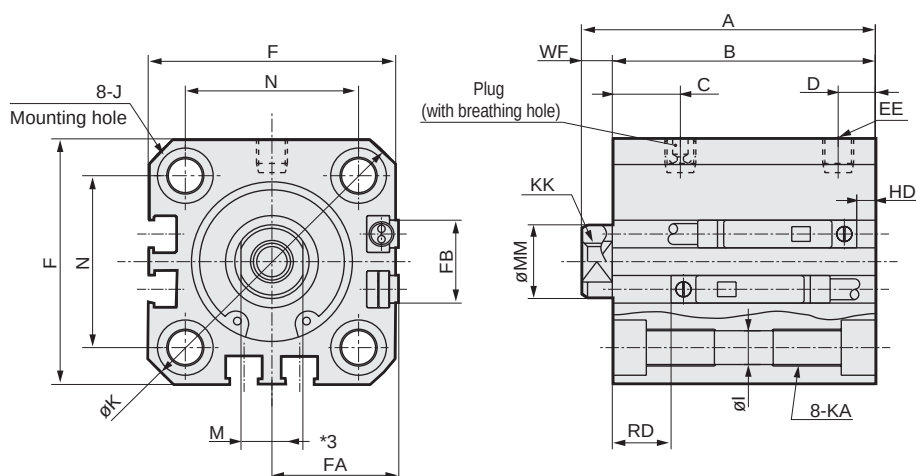


● SSD-XL-12 to 25 (with switch)

● Rod end male thread



ø20/ø25



Code			Common dimensions with switch																
Bore size (mm)			A	B	C	D	EE	F	FA *3	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	Stroke mm	5	35.5	32	5.5	5.5	M5	25	13(16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10																	
ø16	Stroke mm	5	35.5	32	5.5	5.5	M5	29	15(18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10																	
ø20	Stroke mm	5	39	34.5	8	5.5	M5	36	18.5(22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	44	39.5															
ø25	Stroke mm	5	42.5	37.5	11	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	47.5	42.5															

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
	HD *1	RD *1	HD *1	RD *1
Bore size (mm)				
ø12	0	2.5	0	2.5
ø16	0	2	0	2
ø20	3	6.5	3	6.5
ø25	3	9.5	3	9.5

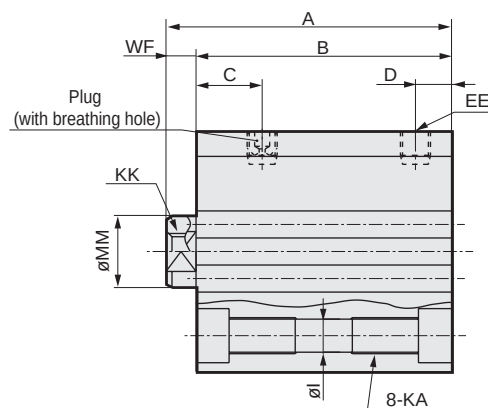
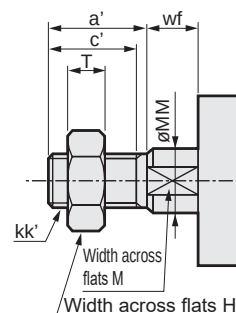
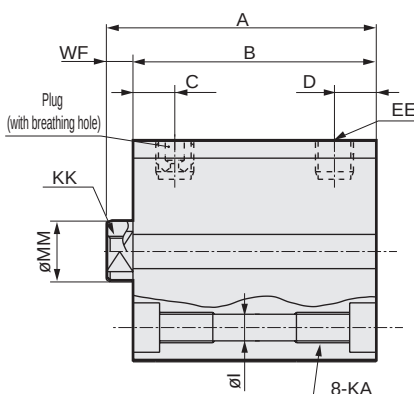
*1 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.

2 : Refer to page 1312 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1 and T8* switches.

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

*4 : For dimensions of individual accessories, refer to pages 1108 to 1115.

- Rod end male thread



Dimensions of rod end male thread

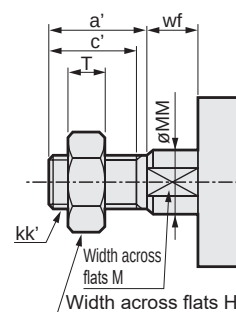
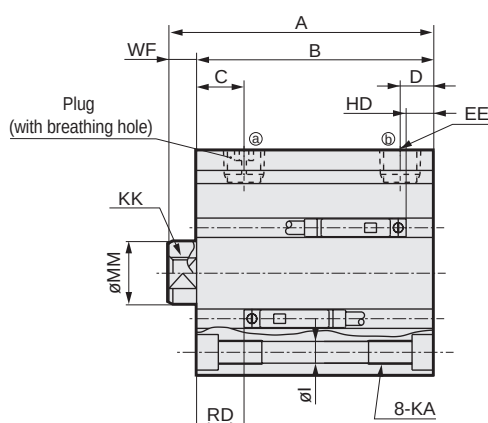
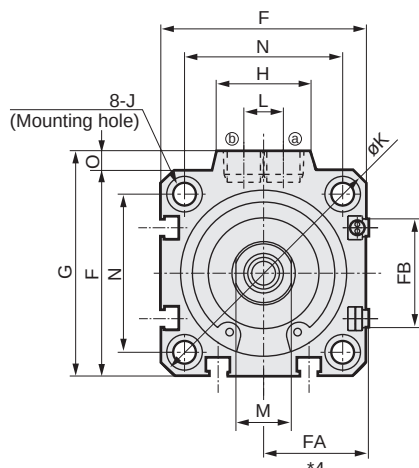
*1: For dimensions of individual accessories, refer to pages 1108 to 1115.

Dimensions

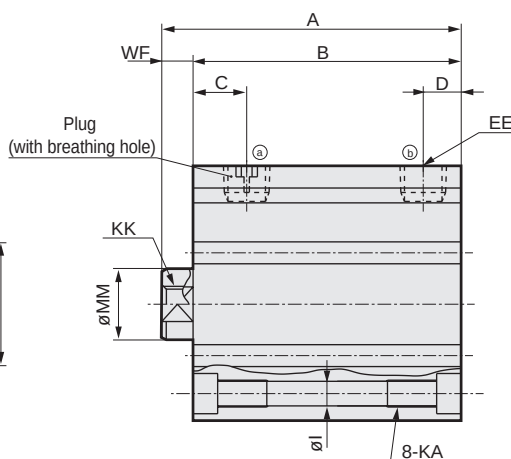
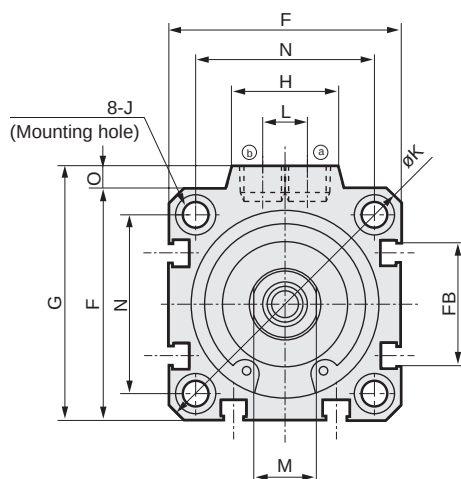


● SSD-XL-32 to 50 (with switch)

● Rod end male thread



● SSD-X-32 to 50 (without switch)



Code			No switch		Common dimensions with switch																				
			A	B	A	B	C	D	EE	F	FA *4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WP
ø32	Stroke mm	5	35	28	45	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 Depth 11	M8 Depth 13	10	14	16	34	4.5	7
		10	40	33	50	43																			
ø40	Stroke mm	10	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 Depth 11	M8 Depth 13	10	14	16	40	5	7
		20	56.5	49.5	66.5	59.5																			
ø50	Stroke mm	10	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 Depth 13	M10 Depth 15	15	17	20	50	7	8
		20	58.5	50.5	68.5	60.5																			

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	17	20	11	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
	HD ^{*1}	RD ^{*1}	HD ^{*1}	RD ^{*1}
Bore size (mm)				
ø32	3.5	9	3.5	9
ø40	7	12	7	12
ø50	7.5	12.5	7.5	12.5

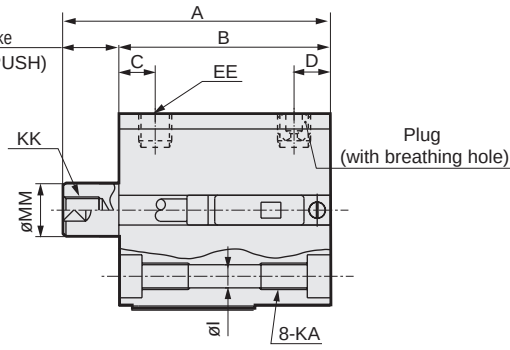
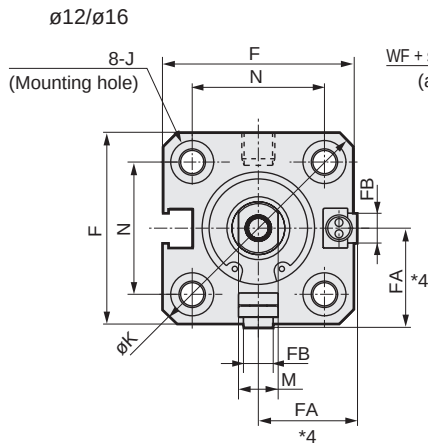
- *1 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *2 : Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3 : Refer to page 1313 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Dimensions in () of FA are for the L-shaped lead wire.
- *5 : For dimensions of individual accessories, refer to pages 1108 to 1115.

Note: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

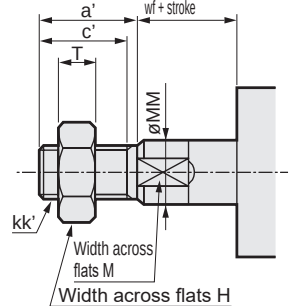
Dimensions



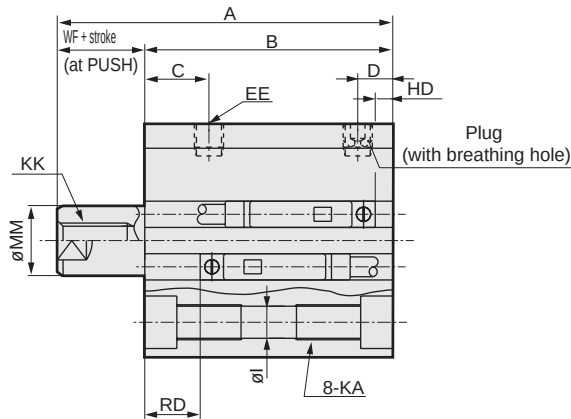
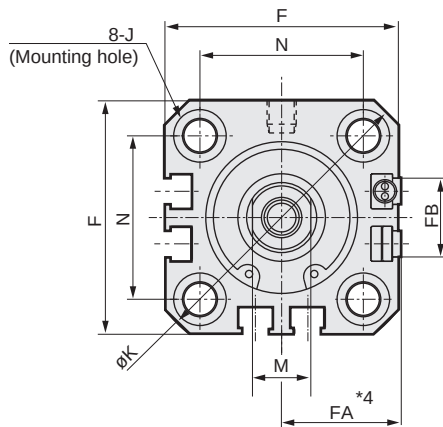
● SSD-YL-12 to 25 (with switch)



● Rod end male thread



ø20/ø25



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
ø12	Stroke mm	5	40.5	32	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10	45.5																
ø16	Stroke mm	5	40.5	32	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10	45.5																
ø20	Stroke mm	5	44	34.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	54	39.5															
ø25	Stroke mm	5	47.5	37.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	57.5	42.5															

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

Switch dimensions	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
	HD *1	RD *1	HD *1	RD *1
Bore size (mm)				
ø12	0	2.5	0	2.5
ø16	0	2	0	2
ø20	3	6.5	3	6.5
ø25	3	9.5	3	9.5

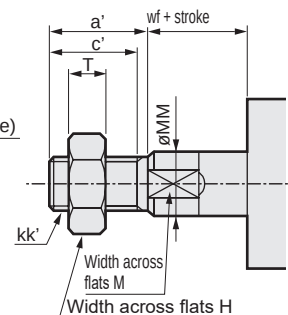
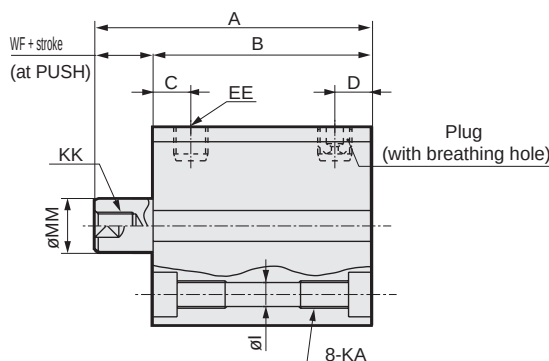
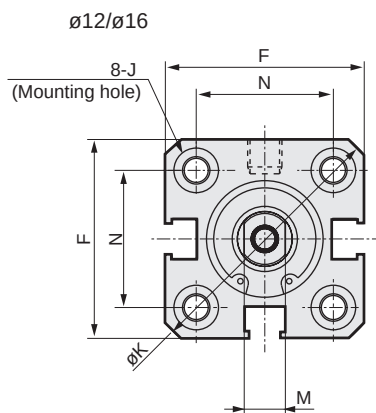
- *1 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *2 : Refer to page 1312 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3 : Refer to page 1312 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Dimensions in () of FA are for the L-shaped lead wire.
- *5 : For dimensions of individual accessories, refer to pages 1108 to 1115.

Dimensions

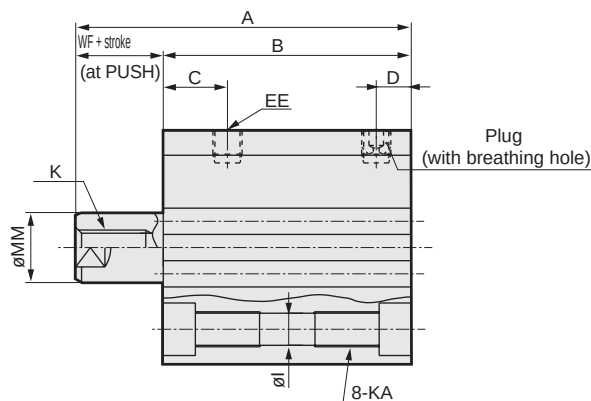
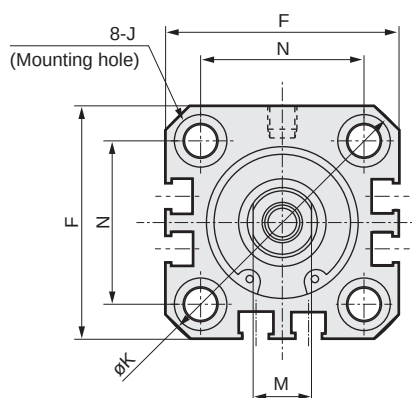


● SSD-Y-12 to 25 (without switch)

● Rod end male thread



Ø20/Ø25



Code			No switch														
Bore size (mm)			A	B	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	Stroke mm	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
		10	40.5	27													
ø16	Stroke mm	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
		10	40.5	27													
ø20	Stroke mm	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
		10	44	29.5													
ø25	Stroke mm	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
		10	47.5	32.5													

Dimensions of rod end male thread

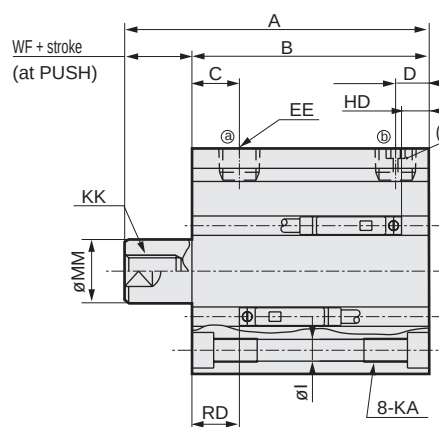
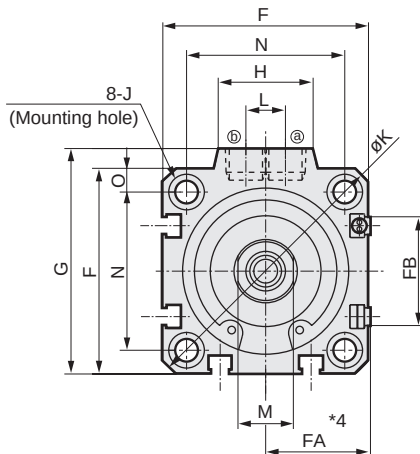
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
Ø 12	10.5	9	8	M5	5	6	3.2	3.5
Ø 16	12	10	10	M6	6	8	3.6	3.5
Ø 20	14	12	13	M8	8	10	5	4.5
Ø 25	17.5	15	17	M10x1.25	10	12	6	5

*1: For dimensions of individual accessories, refer to pages 1108 to 1115.

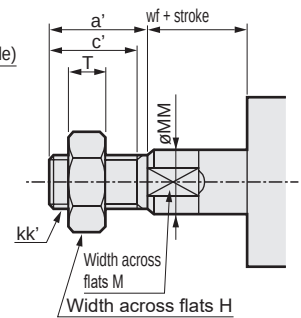
Dimensions



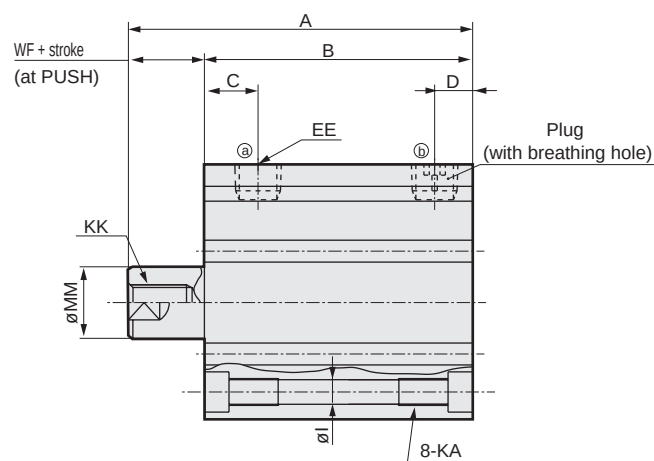
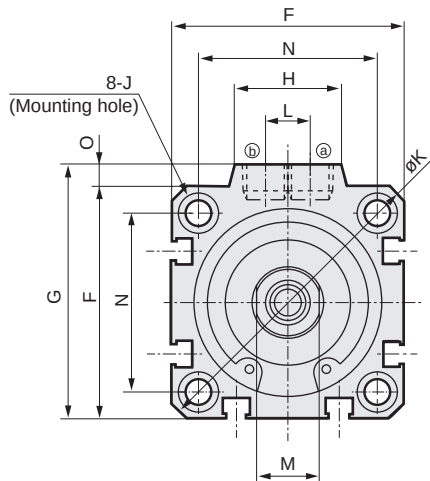
● SSD-YL-32 to 50 (with switch)



● Rod end male thread



● SSD-Y-32 to 50 (without switch)



Code			No switch		Common dimensions with switch																				
Bore size (mm)			A	B	A	B	C	D	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ø32	Stroke mm	5	40	28	50	38	8	8	Rc 1/8	45	23	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6	M8	10	14	16	34	4.5	7
		(26.5)	Depth 11	Depth 13																					
ø40	Stroke mm	10	56.5	39.5	66.5	49.5	12	8.5	Rc 1/8	52	26.5	27.5	57	24	5.5	9 spot face depth 5.5	69	M6	M8	10	14	16	40	5	7
		(30)	Depth 11	Depth 13																					
ø50	Stroke mm	10	58.5	40.5	68.5	50.5	10.5	10.5	Rc 1/4	64	32.5	28.5	71	33	6.9	11 spot face depth 6.5	86	M8	M10	15	17	20	50	7	8
		(36)	Depth 13	Depth 15																					

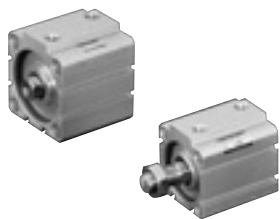
Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	17	20	11	5

Switch dimensions		Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)		HD ^{*1}	RD ^{*1}	HD ^{*1}	RD ^{*1}
ø32		3.5	9	3.5	9
ø40		7	12	7	12
ø50		7.5	12.5	7.5	12.5

- *1 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *2 : Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3 : Refer to page 1313 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Dimensions in () of FA are for the L-shaped lead wire.
- *5 : For dimensions of individual accessories, refer to pages 1108 to 1115.

Note: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.



Compact cylinder double acting/heat resistant

SSD-T Series

● Bore size: $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 83/\phi 100$

JIS symbol



Specifications

Item	SSD-T										
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation	Double acting										
Working fluid	Compressed air										
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)										
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure MPa	1.6 (≈230 psi, 16 bar)										
Ambient temperature °C	5 (41°F) to 120 (248°F)										
Port size	M5				Rc 1/8			Rc 1/4		Rc 3/8	
Stroke tolerance mm	+1.0										
	0										
Working piston speed mm/s	50 to 500							50 to 300			
Cushion	None										
Lubrication *1	Not available										
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

*1: Periodically apply additional heat-resistant grease.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	50	
ø80			
ø100			

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

*2) Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

(Unit: g)

Cylinder weight table

Stroke (mm)	5	10	15	20	25	30	40	50
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	—	—
$\phi 25$	87	102	118	134	150	165	197	228
$\phi 32$	122	144	166	188	209	231	275	318
$\phi 40$	183	210	236	263	290	316	369	422
$\phi 50$	299	341	383	425	467	510	594	678
$\phi 63$	452	507	—	617	—	727	838	948
$\phi 80$	841	928	—	1101	—	1274	1448	1621
$\phi 100$	1319	1433	—	1660	—	1888	2115	2343

Theoretical thrust table

(Unit: N)

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

SSD-T Series

How to order

SSD-T - **12** - **5** - **N** - **LB** - **I**

A Bore size

B Port thread

C Stroke

D Option
*1

E Mounting bracket *2

F Accessory
*4

⚠ Precautions for model No. selection

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

*2 : The mounting bracket is included at shipment.

*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*6 : Refer to pages 1086 and 1087 for combinations of variations/options.

[Example of model No.]

SSD-T-12-5-N

Model: Compact cylinder, heat resistance

A Bore size : ø12 mm

B Port thread : Rc thread

C Stroke : 5 mm

D Option : Rod end male thread

Code	Description
A Bore size (mm)	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
B Port thread	
Blank	Rc thread
NN	NPT thread (ø32 and over) (made-to-order product)
GN	G thread (ø32 and over) (made-to-order product)
C Stroke (mm)	
Refer to the stroke table below.	
D Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
E Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring included)
CB2	Clevis bracket (compact) (pin and snap ring included)
FA	Rod side flange
FB	Head side flange
F Accessory (available when rod end male thread "N" is selected)	
I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring included)
Y2	Rod clevis (compact) (pin and snap ring included)

(Stroke table)

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
50					●	●	●	●	●	●	●
Min. stroke (mm)		1									
Max. stroke (mm)		30			50						
Custom stroke *1		In 1 mm increments									

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

*2 : Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

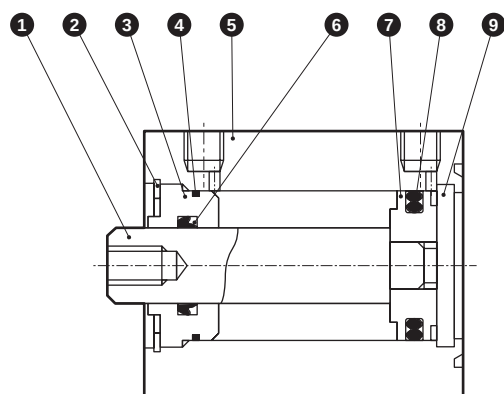
How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket										
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

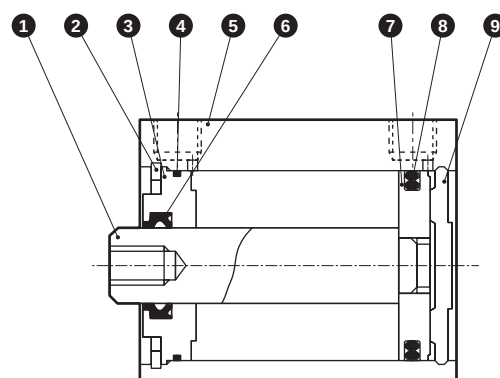
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

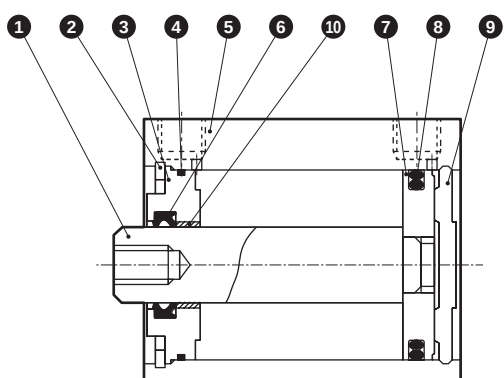
● SSD-T-12 to 25



● SSD-T-32 to 50



● SSD-T-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø100: Steel	ø16 to ø100: Industrial chrome plating	7	Piston	ø12 to ø25: Aluminum alloy ø32 to ø100: Stainless steel	ø12 to 25: Chromate
2	C-snap ring	Steel	Zinc phosphate	8	Piston packing	Fluoro rubber	
3	Rod metal	ø12 to ø50: Special aluminum ø63 to ø100: Aluminum alloy	Alumite	9	Cover	ø12 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
4	Rod metal gasket	Fluoro rubber		10	Bush	Oiles drymet	ø63 to ø100
5	Body	Aluminum alloy	Hard alumite				Fluorine grease is used.
6	Rod packing	Fluoro rubber					

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-T-12K	4 6 8
ø16	SSD-T-16K	
ø20	SSD-T-20K	
ø25	SSD-T-25K	
ø32	SSD-T-32K	
ø40	SSD-T-40K	
ø50	SSD-T-50K	
ø63	SSD-T-63K	
ø80	SSD-T-80K	
ø100	SSD-T-100K	

Dimensions

Same as double acting/single rod. Refer to pages 1103 to 1105.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

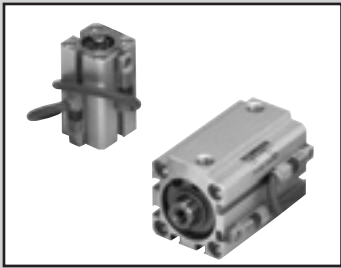
ShkAbs

FJ

FK

Spd
Contr

Ending

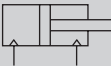


Compact cylinder double acting/with heat resistant cylinder switch

SSD-T1L Series

● Bore size: $\varnothing 16/\varnothing 20/\varnothing 25/\varnothing 32/\varnothing 40/\varnothing 50/\varnothing 63$

JIS symbol



Specifications

1 MPa = 10 bar

Item	SSD-T1L						
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)						0.05 (≈7.3 psi)
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	5 (41°F) to 150 (302°F) (*1)						
Port size	M5			Rc1/8		Rc1/4	
Stroke tolerance mm	+1.0 0						
Working piston speed mm/s	50 to 500						50 to 300
Cushion	None						
Lubrication (*2)	-						

*1: At an ambient temperature of 150°C , external leakage will occur gradually after approximately 500,000 uses.

*2: Periodically apply additional heat-resistant grease.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)		
			With 1 switch	With 2 switches	With 3 switches
ø16	10/15/20/25/30	30	10	20	-
ø20	15/20/25/30		15	25	-
ø25	15/20/25/30/40/50	50	10	20	40
ø32	10/15/20/25/30/40/50				
ø40					
ø50					
ø63					

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

Cylinder switch specifications

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

Note: Indicator uses LED.

Visibility will gradually decrease with continuous use under high temperatures. As the LED lamp circuit is separated from the switch output circuit, the switch output works normally even if the LED lamp turns OFF.

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

(Unit: g)

Stroke (mm)	10	15	20	25	30	40	50
Bore size (mm)							
ø16	124	134	145	156	167	-	-
ø20	170	183	196	208	221	-	-
ø25	213	229	245	261	276	308	339
ø32	278	300	322	343	365	409	452
ø40	373	399	426	453	479	532	585
ø50	555	597	639	681	724	808	892
ø63	806	-	916	-	1026	1137	1247

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø16	Push	-	20.1	30.2	40.2	60.3	80.4	1.01x10 ²	1.21x10 ²	1.41x10 ²	1.61x10 ²	1.81x10 ²	2.01x10 ²
	Pull	-	15.1	22.6	30.2	45.2	60.3	75.4	90.5	1.06x10 ²	1.21x10 ²	1.36x10 ²	1.51x10 ²
ø20	Push	-	31.4	47.1	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	23.6	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	49.1	73.6	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	37.8	56.7	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	80.4	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	60.3	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.06x10 ²	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	1.56x10 ²	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	1.40x10 ²	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³

SSD-T1L Series

How to order

SSD-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

D Switch model No.
*7

E Switch quantity

F Option
*1

G Mounting bracket
*2
*3

H Accessory
*4

⚠ Precautions for model No. selection

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

*2 : The mounting bracket is included at shipment.

*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*6 : Refer to pages 1086 and 1087 for combinations of variations/options.

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

[Example of model No.]

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

Model: Compact cylinder

With heat resistant cylinder switch

- A** Bore size : ø16
- B** Port thread : Rc thread
- C** Stroke : 10 mm
- D** Switch model No. : Reed switch ETOH, lead wire length 1 m
- E** Switch quantity : 2
- F** Option : Rod end male thread

Code		Description		
A Bore size (mm)				
16	ø16			
20	ø20			
25	ø25			
32	ø32			
40	ø40			
50	ø50			
63	ø63			
B Port thread				
Blank	Rc thread			
NN	NPT thread (ø32 and over) (made-to-order product)			
GN	G thread (ø32 and over) (made-to-order product)			
C Stroke (mm)				
Refer to the stroke table on the following page.				
D Switch model No.				
ET0H	Reed	DC/AC	2-wire	Axial lead wire
ET0V				L-shaped 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				
LB	Axial foot			
LB2	Axial foot (compact)			
CB	Clevis bracket (pin and snap ring included)			
CB2	Clevis bracket (compact) (pin and snap ring included)			
FA	Rod side flange			
FB	Head side flange			
H Accessory (available when rod end male thread “N” is selected)				
I	Rod eye			
I2	Rod eye (compact)			
Y	Rod clevis (pin and snap ring included)			
Y2	Rod clevis (compact) (pin and snap ring included)			

[Stroke table]

Stroke (mm)		Applicable bore size						
		ø16	ø20	ø25	ø32	ø40	ø50	ø63
Standard stroke	10	●			●	●	●	●
	15	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●
	40			●	●	●	●	●
	50			●	●	●	●	●
Min. stroke (mm) *1		10(20)	15(25)	15(20)	10(20)			
Max. stroke (mm)		30			50			
Custom stroke (mm) *2		In 1 mm increments						

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

Refer to page 1142 for the number of installed switches and the min. stroke.

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

How to order switch



Switch model No.

(Item ① on page 1144)

How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Mounting bracket							
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63

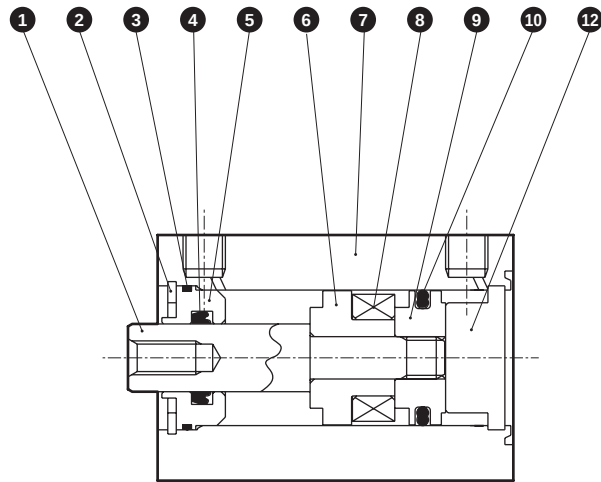
*1: The foot mounting bracket is provided as 2 pcs./set.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

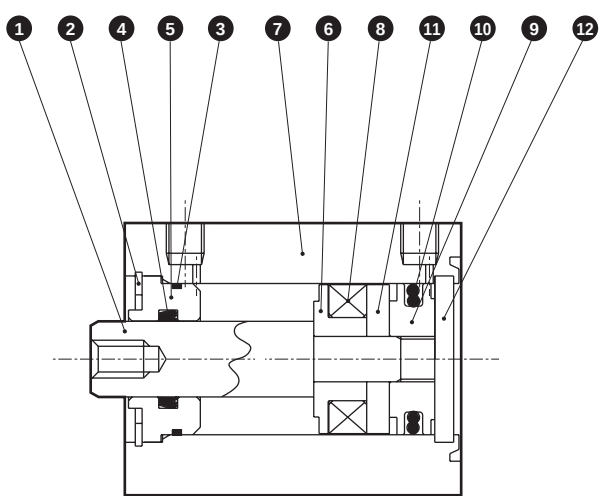
SSD-T1L Series

Internal structure and parts list (ø16 to ø32)

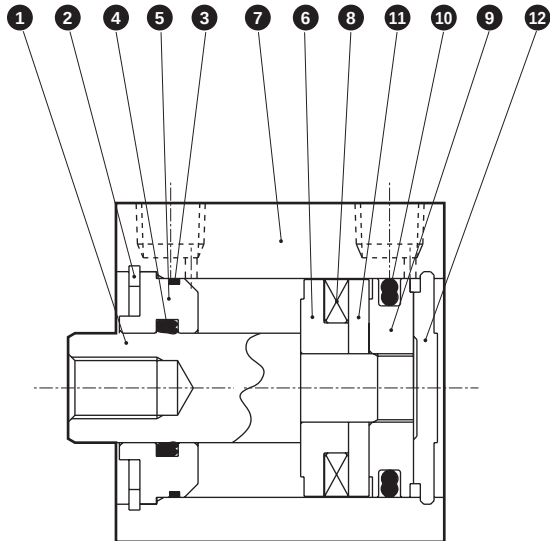
● SSD-T1L-16



● SSD-T1L-20/25



● SSD-T1L-32



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø16 to ø25: Stainless steel ø32: Steel	Industrial chrome plating	8	Magnet	Special alloy	
2	C-snap ring	Steel	Zinc phosphate	9	Piston	ø16 to ø25: Aluminum alloy ø32: Stainless steel	ø16 to ø25: Chromate
3	Rod metal gasket	Fluoro rubber		10	Piston packing	Fluoro rubber	
4	Rod packing	Fluoro rubber		11	Spacer	Aluminum alloy	Chromate
5	Rod metal	Special aluminum	Alumite	12	Cover	ø16 to ø25: Stainless steel ø32: Aluminum alloy	ø32: Alumite
6	Spacer (for magnet)	Aluminum alloy	Chromate				
7	Cylinder body	Aluminum alloy	Hard alumite				

Fluorine grease is used.

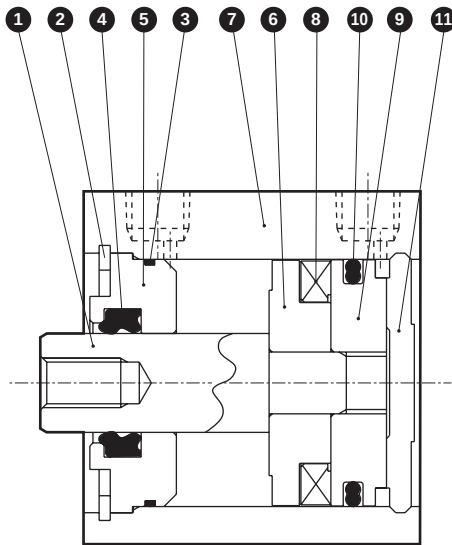
Repair parts list (ø16 to ø32)

Bore size (mm)	Kit No.	Repair parts No.
ø16	SSD-T-16K	
ø20	SSD-T-20K	
ø25	SSD-T-25K	
ø32	SSD-T-32K	

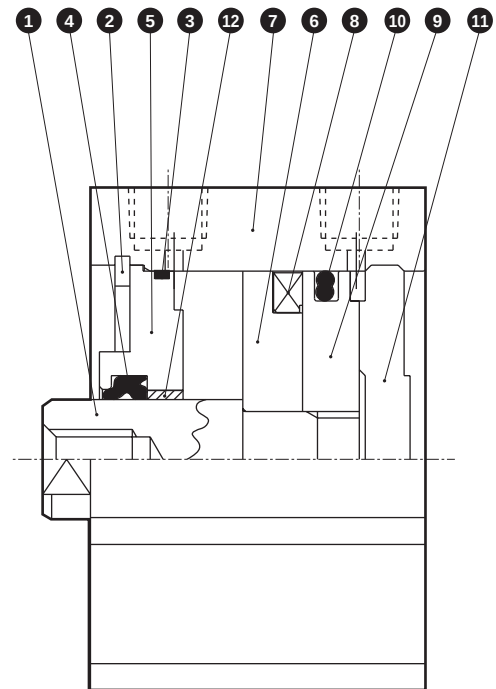
3 4 10

Internal structure and parts list (ø40 to ø63)

● SSD-T1L-40/50



● SSD-T1L-63



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	7	Cylinder body	Aluminum alloy	Hard alumite
2	C-snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal gasket	Fluoro rubber		9	Piston	Stainless steel	
4	Rod packing	Fluoro rubber		10	Piston packing	Fluoro rubber	
5	Rod metal	ø40, ø50: Special aluminum ø63: Aluminum alloy	Chromate	11	Cover	Aluminum alloy	Alumite
6	Spacer (for magnet)	Aluminum alloy	Chromate	12	Bush	Oiles drymet	

Fluorine grease is used.

Repair parts list (ø40 to ø63)

Bore size (mm)	Kit No.	Repair parts No.
ø40	SSD-T-40K	
ø50	SSD-T-50K	3 4 10
ø63	SSD-T-63K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

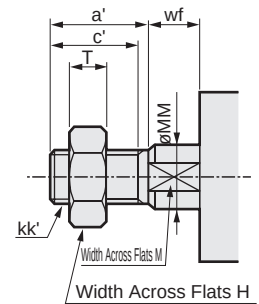
Ending

SSD-T1L Series

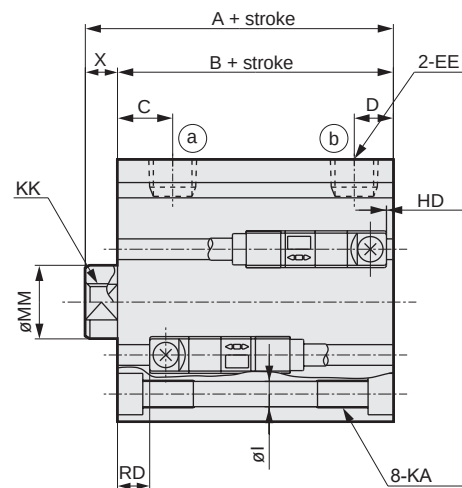
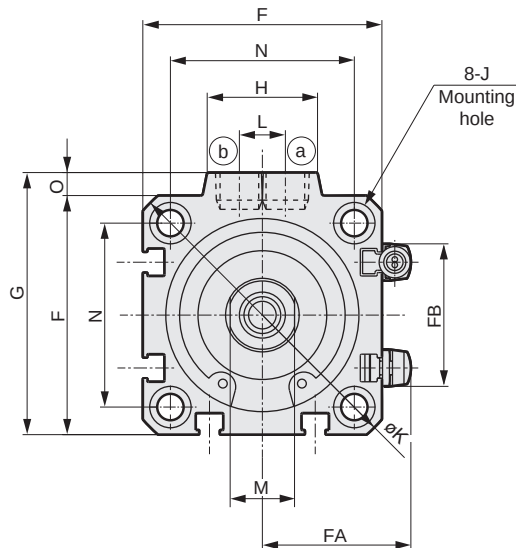
Dimensions (ø32 to ø63)



● Rod end male thread



● SSD-T1L-32 to 63



Code	Basic dimensions														
Bore size	A (*1)	B (*1)	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
ø32	40	33	8	8	Rc1/8	45	28.8	24	49.5	24	5.5	Spot face 9 depth 5.5	60	M6 depth 11	M8 depth 13
ø40	46.5	39.5	12	8.5	Rc1/8	52	32.3	31	57	24	5.5	Spot face 9 depth 5.5	69	M6 depth 11	M8 depth 13
ø50	48.5	40.5	10.5	10.5	Rc1/4	64	38.3	32	71	33	6.9	Spot face 11 depth 6.5	86	M8 depth 13	M10 depth 15
ø63	54	46	13	11	Rc1/4	77	44.8	32	84	33	8.7	Spot face 14 depth 9	103	M10 depth 25	M10 depth 15

Code	Basic dimensions							Dimensions with switch reed ETOH/ETOV	
Bore size	L	M	MM	N	O	X	HD	RD	
ø32	10	14	16	34	4.5	7	0.5	2.0	
ø40	10	14	16	40	5	7	1.5	7.0	
ø50	15	17	20	50	7	8	1.5	6.0	
ø63	15	17	20	60	7	8	5.5	5.5	

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

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø32	23.5	20.5	22	M14X1.5	14	16	8	5
ø40	23.5	20.5	22	M14X1.5	14	16	8	5
ø50	28.5	26	27	M18X1.5	17	20	11	5
ø63	28.5	26	27	M18X1.5	17	20	11	5

For dimensions of individual accessories, refer to pages 1108 to 1115.



Compact cylinder high load/rubber-air cushioned

SSD-K-*C Series

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

JIS symbol



Specifications

Item	SSD-K-*C, SSD-KL-*C (with switch)							
Bore size mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure MPa	0.25 (≈36 psi, 2.5 bar)		0.2 (≈29 psi, 2 bar)					
Proof pressure MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	Rc 1/8				Rc 1/4		Rc 3/8	
Stroke tolerance mm	+2.0 0							
Working piston speed mm/s	50 to 500					50 to 300		
Cushion	Rubber-air cushion							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20	5, 10, 15, 20, 25, 30, 40, 50	200	5 mm(ø20 to ø50) 10 mm(ø63 to ø100)
ø25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	300	
ø32			
ø40			
ø50			
ø63	10, 20, 30, 40, 50, 60, 70, 80, 90, 100		
ø80			
ø100			

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

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

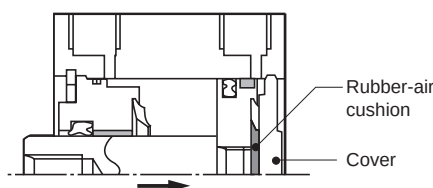
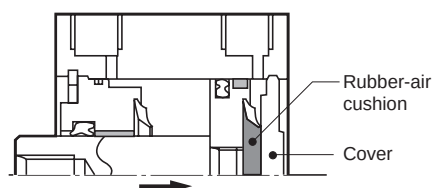
*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)	T*	T*	T*	T*	T*
$\varnothing 20$	5	5	35	50	65
$\varnothing 25$	5	5	35	50	65
$\varnothing 32$	5	5	35	50	65
$\varnothing 40$	5	5	35	50	65
$\varnothing 50$	5	5	35	50	65
$\varnothing 63$	10	10	35	50	65
$\varnothing 80$	10	10	35	50	65
$\varnothing 100$	10	10	35	50	65

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

Rubber-air cushion mechanism

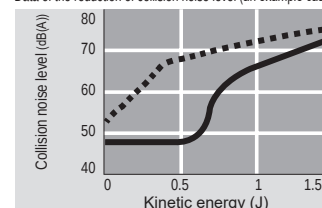


When pulled

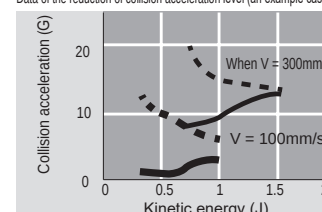
An airtight space is created in the area when the piston operates and the rubber-air cushion and cover make contact. Air in the airtight area is further compressed, absorbing energy as the piston operates. At the end of the stroke, energy generated by compression distortion of the rubber cushion is also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

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

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



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



Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	Programming controller relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33		1 m:61	
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49					3 m:87		3 m:166	
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80					5 m:142		5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa								
		0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-K-*C Series

How to order

No switch (without magnet for switch)

SSD-K-40-C-10-N-LB-I

With switch (built-in magnet for switch)

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

A Bore size

Rubber-air cushioned

B Port thread

C Stroke

D Switch model No.

*1

*8

E Switch quantity

F Option

*2

G Mounting bracket

*3

*4

H Accessory

*5

⚠ Precautions for model No. selection

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

*2: Piston rod of ø20 and ø25 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 included at shipment.

*4: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*7: Refer to pages 1088 and 1089 for combinations of variations/options.

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

[Example of model No.]

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

Model: Compact cylinder, rubber-air cushioned

A Bore size : ø32 mm

B Port thread : Rc thread

C Stroke : 10 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

Code	Description
A Bore size (mm)	
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

B Port thread	
Blank	Rc thread
N	NPT thread (ø32 and over) (made-to-order product)
G	G thread (ø32 and over) (made-to-order product)

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

D Switch model No.		Contact	Voltage		Indicator	Lead Line
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	2-wire
T1H*	T1V*		●	●	1-color LED	
T2H*	T2V*	Proximity	●	●	1-color LED	3-wire
T3H*	T3V*		●	●	1-color LED	
T3PH*	T3PV*		●	●	1-color LED	2-wire
T2WH*	T2WV*		●	●	2-color LED	
T2YH*	T2YV*		●	●	2-color LED	3-wire
T3WH*	T3WV*		●	●	2-color LED	
T3YH*	T3YV*		●	●	2-color LED	2-wire
T2JH*	T2JV*		●	●	1-color LED off-delay	
T2YD*	-		●	●	2-color LED	2-wire
T2YDT*	-		●	●	AC magnetic field	
T2HR3	T2VR3		●	●	1-color LED (hard reset lead wire spec)	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
M	Piston rod material (stainless steel)

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

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

How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

[Stroke table]

Stroke (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●
	70			●	●	●	●	●	●
	80			●	●	●	●	●	●
	90			●	●	●	●	●	●
100			●	●	●	●	●	●	
Min. stroke (mm) *1		5					10		
Max. stroke (mm)		200	300						
Custom stroke *2		In 1 mm increments							

1: Less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch is not available.
Refer to page 1150 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order switch

SW - T0H

(Item ① on page 1152)

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
ø25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
ø32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
ø40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
ø50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
ø63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
ø80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
ø100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Stroke (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
ø25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
ø32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
ø40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
ø50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
ø63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
ø80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
ø100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6330	5991	6558

Stroke (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
ø32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
ø40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
ø50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
ø63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
ø80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
ø100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839

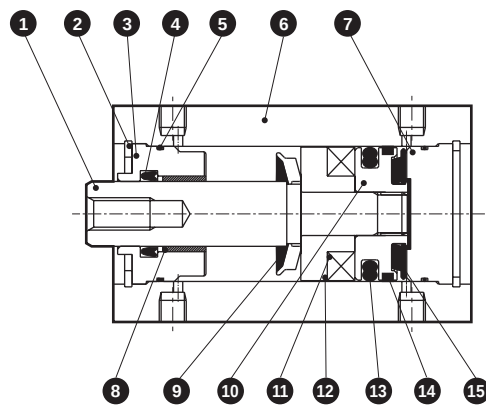
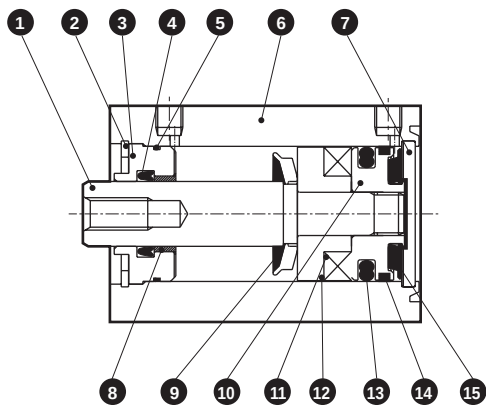
SSD-K-*C Series

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

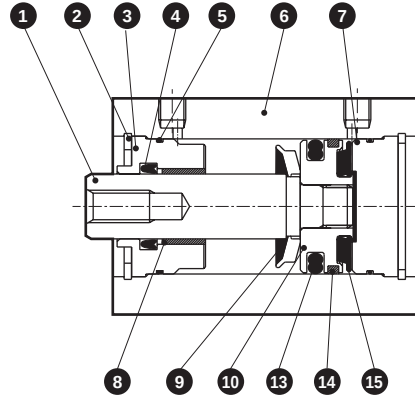
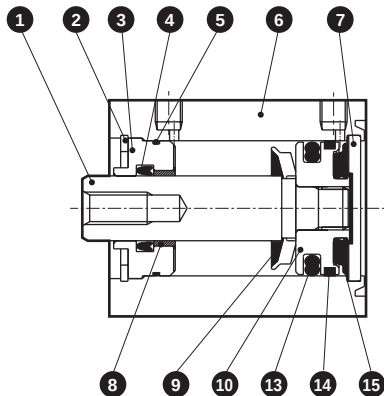
● SSD-KL-20C, 25C
(double acting/single rod high load/rubber-air cushioned/
with switch)

· ø20: Over 100 to 200 mm stroke
· ø25: Over 150 to 300 mm stroke



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

· ø20: Over 100 to 200 mm stroke
· ø25: Over 150 to 300 mm stroke



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

Repair parts list

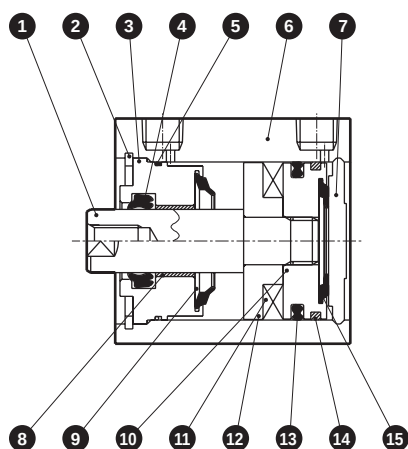
Bore size (mm)	Kit No.	Repair parts No.
ø20	SSD-K-20CK	4 5 9
ø25	SSD-K-25CK	13 14 15

Dimensions

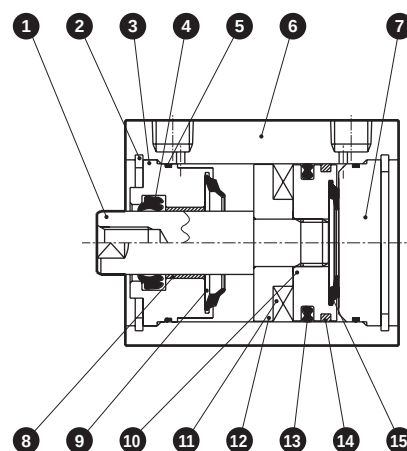
Same as SSD-K Series (double acting/high load).
Refer to pages 1122 to 1125.

Internal structure and parts list

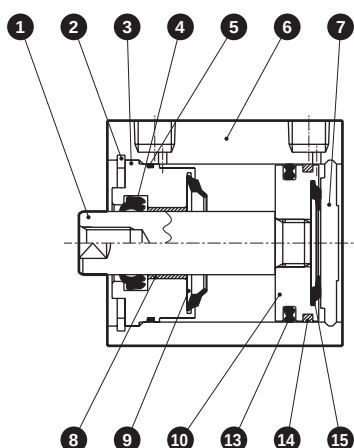
- SSD-KL-32C to 100C
(double acting/single rod high load/rubber-air cushioned/
with switch)



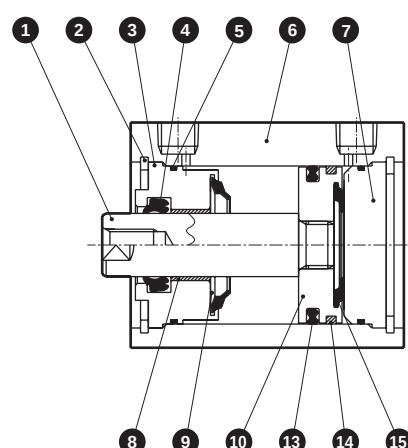
- $\varnothing 32$ to $\varnothing 50$: Over 150 to 300 mm stroke
- $\varnothing 63$ to $\varnothing 100$: Over 200 to 300 mm stroke



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



- $\varnothing 32$ to $\varnothing 50$: Over 150 to 300 mm stroke
- $\varnothing 63$ to $\varnothing 100$: Over 200 to 300 mm stroke



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

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
$\varnothing 32$	SSD-K-32CK	4 5 9 13 14 15
$\varnothing 40$	SSD-K-40CK	
$\varnothing 50$	SSD-K-50CK	
$\varnothing 63$	SSD-K-63CK	
$\varnothing 80$	SSD-K-80CK	
$\varnothing 100$	SSD-K-100CK	

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

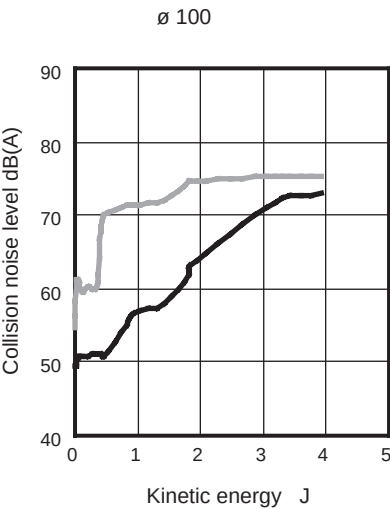
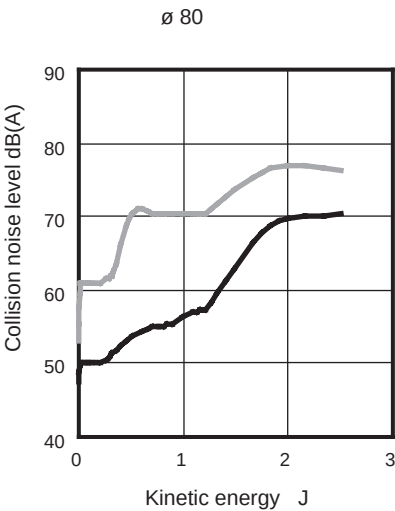
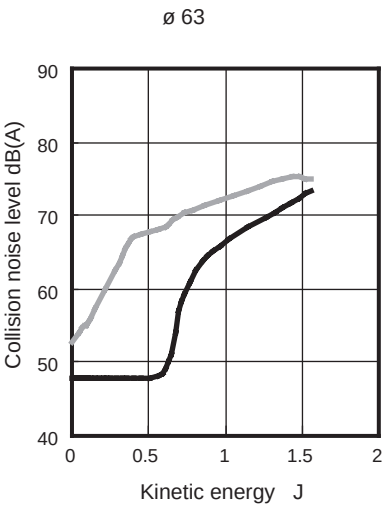
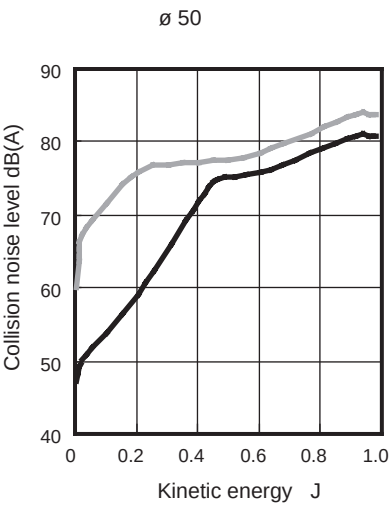
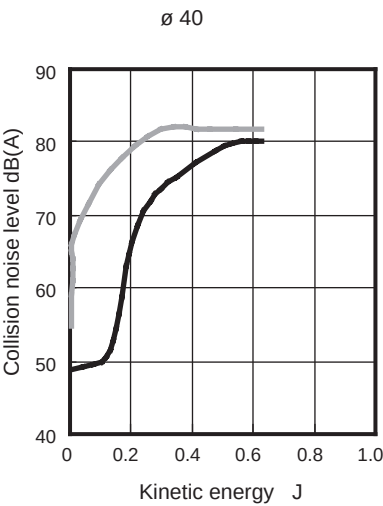
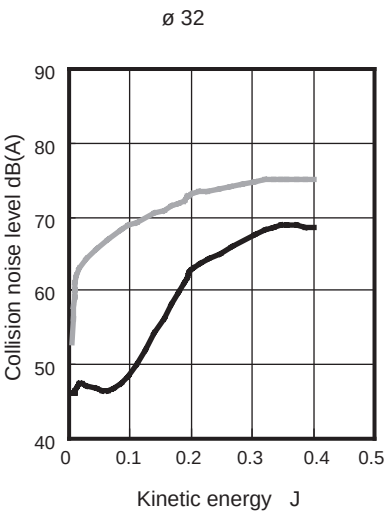
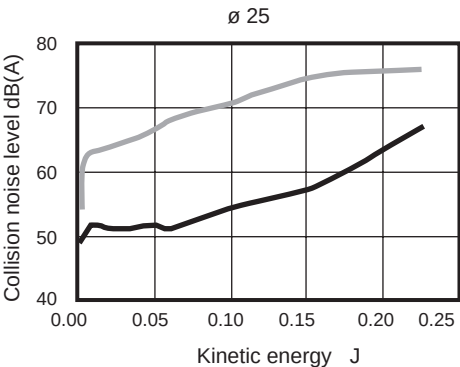
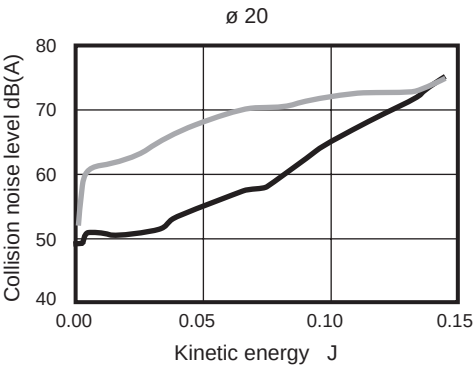
[Comparison of collision noise level]

Standard rubber cushion: 
Rubber-air cushion: 

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

(Test conditions)

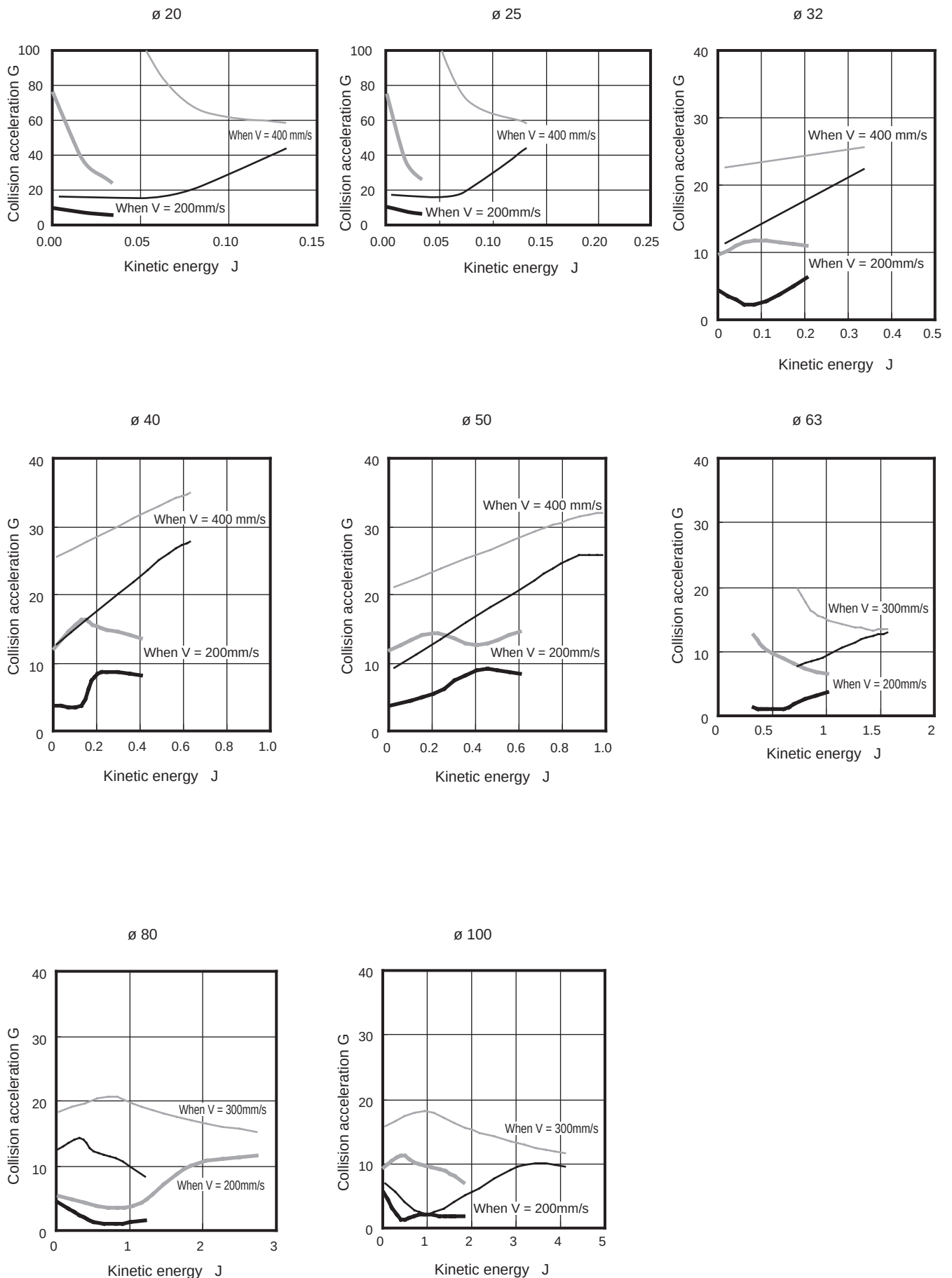
Cylinder : SSD
Mounting direction of cylinder : Vertical with rod upward
Cylinder supply pressure : 0.5 MPa
Measurement position of sound level meter : 1 m from sample



Technical data

[Comparison of collision acceleration]

Standard rubber cushion: —
Rubber-air cushion: —



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

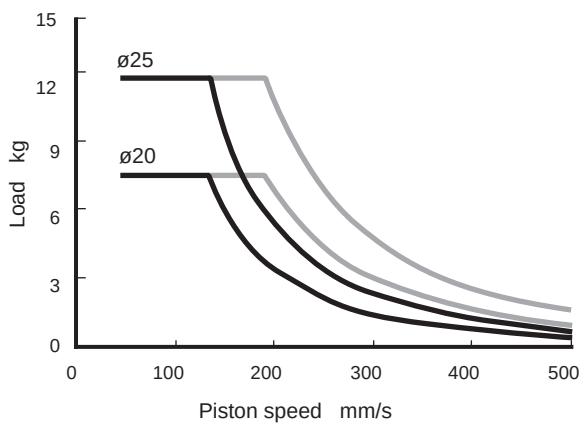
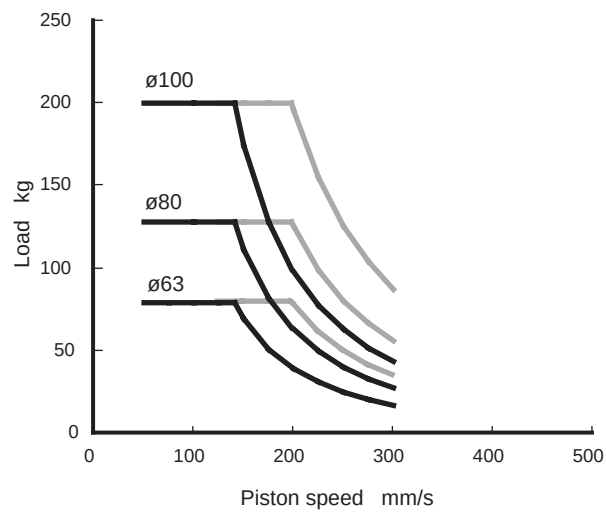
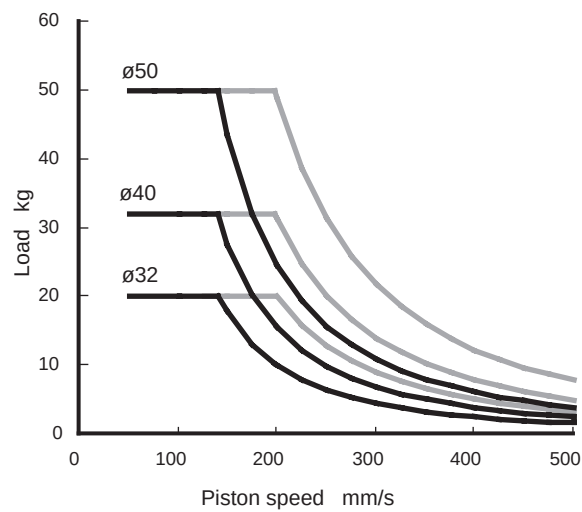
FK

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

[Allowable energy value]



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

MEMO

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

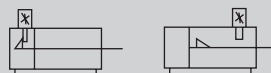


Compact cylinder double acting/with position locking

SSD-Q Series

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

JIS symbol



Specifications

Item	SSD-Q SSD-QL (with switch)								
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting/position locking								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)								
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)								
Proof pressure MPa	1.6 (≈230 psi, 16 bar)								
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)								
Port size	M5			Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.5 0								
Working piston speed mm/s	50 to 500					50 to 300			
Cushion	Rubber cushion								
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)								
Position locking mechanism	Head side or rod side								
Holding force N	Max. thrust x 0.7								
Allowable absorbed energy J	0.09	0.157	0.157	0.402	0.628	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø16	5, 10, 15, 20	100 (*1)	5
ø20	25, 30, 40, 50	200 (*1)	
ø25	10, 15, 20, 25, 30 45, 50, 60, 70, 80 90, 100	300 (*1)	
ø32			
ø40			
ø50			
ø63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
ø80			
ø100			

*1) Dimensions of custom stroke (example: 64 mm stroke) are obtained by directly entering the value of custom stroke (64). Available in 1mm increments.

*2) When using the type with switch, refer to the table at right.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)	T*	T*	T*	T*	T*
$\phi 16$	5	5	25	-	-
$\phi 20$	5	5	35	50	65
$\phi 25$	5	5	35	50	65
$\phi 32$	5	5	35	50	65
$\phi 40$	5	5	35	50	65
$\phi 50$	5	5	35	50	65
$\phi 63$	5	5	35	50	65
$\phi 80$	5	5	35	50	65
$\phi 100$	5	5	35	50	65

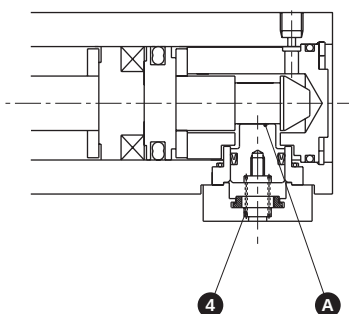
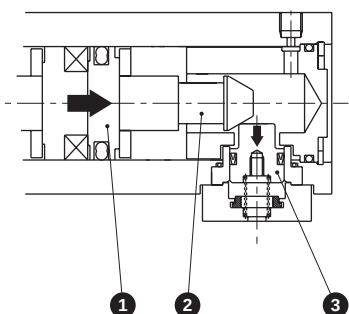
1: Less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

Operational explanation

● When locked

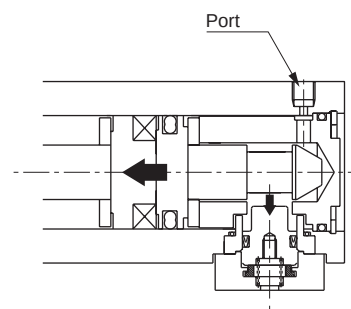
When the piston ① of the cylinder moves toward the stroke end, the stopper piston ③ is pushed up along the slope of the sleeve ②.

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



● Unlocking

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



⚠ Be sure to read the Safety precautions for the **Position locking** on pages 1334 to 1338 before use.

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed				2-wire proximity			
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V		T2YD (*4) T2YDT			
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay	Dedicated for programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	No indicator lamp	LED (Lit when ON)			Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA					1 mA or less		
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272		

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

Cylinder weight table

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

Bore size (mm)	Product weight for 0 mm stroke		St = Additional weight per 10 mm
	No switch	With switch	
ø16	119	164	21
ø20	164	239	25
ø25	227	318	32
ø32	377	491	43
ø40	599	742	53
ø50	1197	1391	84
ø63	1703	1982	110
ø80	3651	4064	173
ø100	5291	5858	228

(Example) Product weight

SSD-QL-40-50-T0H-D-H

- Product weight for 0 mm stroke 742 g
- Additional weight for stroke 50 mm..... 53 x 5 = 265 g
- Product weight..... 742 + 265 = 1007 g

Theoretical thrust table

(Unit: N)

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

How to order

● No switch (without magnet for switch)

SSD-Q - 16 - 5 - R - N - LB - I

● With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke

D Position locking mechanism

E Switch model No.

*1

*7

F Switch quantity

G Option

H Mounting bracket

*2

*3

I Accessory

*4

! Precautions for model No. selection

1 : AC magnetic field proof switch and T8 switch cannot be installed on ø16.

*2 : The mounting bracket is included at shipment.

*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*6 : Refer to pages 1086 and 1087 for combinations of variations/options.

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

[Example of model No.]

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

Model: Compact cylinder, position locking

A Bore size : ø16 mm

B Port thread : Rc thread

C Stroke : 5 mm

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

Code	Description
A Bore size (mm)	
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

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

C Stroke (mm)	
Refer to the stroke 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.					
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator
			AC	DC	
T0H*	T0V*	Reed	●	●	1-color LED
T5H*	T5V*		●	●	No indicator lamp
T8H*	T8V*		●	●	1-color LED
T1H*	T1V*		●	●	1-color LED
T2H*	T2V*	Proximity	●	●	1-color LED
T3H*	T3V*		●	●	1-color LED
T3PH*	T3PV*		●	●	1-color LED
T2WH*	T2WV*		●	●	2-color LED
T2YH*	T2YV*		●	●	
T3WH*	T3WV*		●	●	2-color LED
T3YH*	T3YV*		●	●	
T2JH*	T2JV*		●	●	1-color LED off-delay
T2YD*	-		●	●	2-color LED
T2YDT*	-		●	●	AC magnetic field
T2HR3	T2VR3		●	●	1-color LED (bend resist lead wire specs)

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

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

How to order switch

SW - T0H

Switch model No.

(Item E above)

[Stroke table]

Stroke (mm)		Applicable bore size								
		ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●							
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●	●
	70			●	●	●	●	●	●	●
	80			●	●	●	●	●	●	●
	90			●	●	●	●	●	●	●
	100			●	●	●	●	●	●	●
Min. stroke (mm) *1		5								
Max. stroke (mm)		100	200	300						
Custom stroke *2		In 1 mm increments								

1 : Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1160 for the number of installed switches and the min. stroke.
*2 : Total length is obtained by directly entering the value of custom stroke.

How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket									
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

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

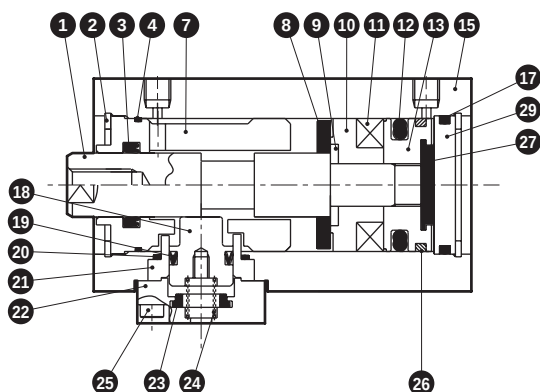
- Design compatible with rechargeable battery manufacturing process

SSD-Q..... P4*

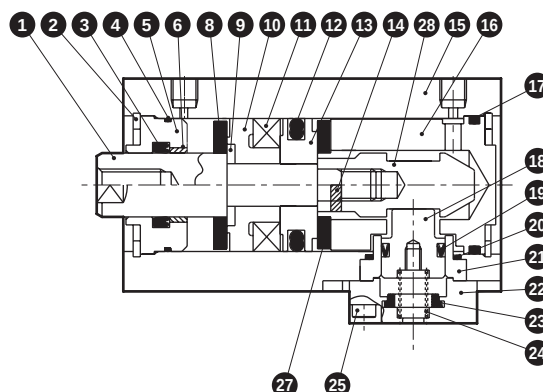
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list (ø16 to ø25)

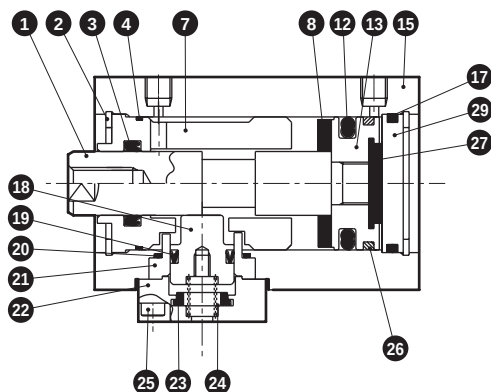
● SSD-QL-16 to 25-R
(double acting/single rod/with switch/rod side position locking)



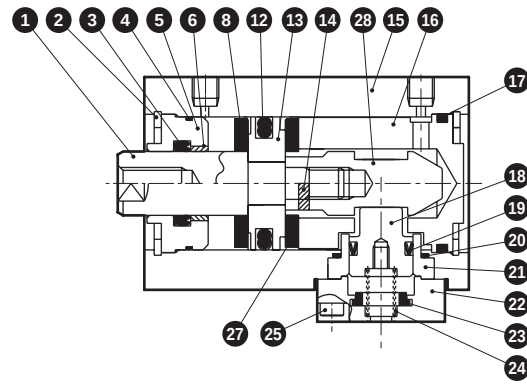
● SSD-QL-16 to 25-H
(double acting/single rod/with switch/head side position locking)



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



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



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel	Industrial chrome plating	15	Body	Aluminum alloy	Hard alumite
2	C-snap ring	Steel	Zinc phosphate	16	Head cover	Aluminum alloy	Chromate
3	Rod packing	Nitrile rubber		17	O-ring	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		18	Stopper piston	Steel	Nitriding
5	Rod metal	Special aluminum	Alumite	19	Stopper packing	Nitrile rubber	
6	Bush	Oiles drymet	Only for ø20 and ø25 H sides	20	O-ring	Nitrile rubber	
7	Rod cover	Aluminum alloy	Alumite	21	Stopper housing	Aluminum alloy	Alumite
8	Cushion rubber R	Urethane rubber		22	Stopper cover	Aluminum alloy	Alumite
9	Spacer washer	Stainless steel		23	Cushion rubber	Urethane rubber	
10	Spacer	Special resin		24	Coil spring	Piano wire	Electrodeposition
11	Magnet	Plastic		25	Hexagon socket head cap screw	Steel	Black galvanizing
12	Piston packing	Nitrile rubber		26	Wear ring	Polyacetal resin	
13	Piston	Aluminum alloy	Chromate	27	Cushion rubber H	Urethane rubber	
14	Spring pin	Steel	Black finish ø20, ø25	28	Sleeve	Steel	Nitriding
				29	Cover	Aluminum alloy	Chromate

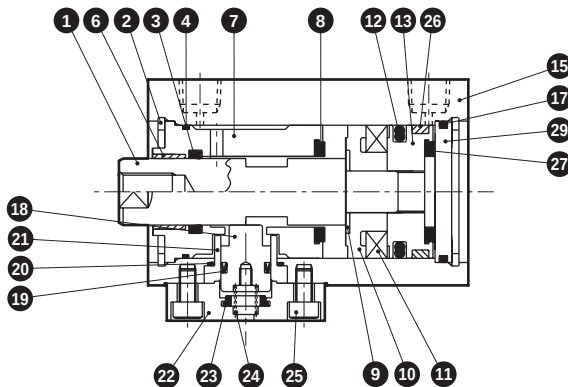
Repair parts list

Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
ø16	SSD-Q-R-16K	SSD-Q-H-16K	3 4 8 12 17 19 20 23 26 27
ø20	SSD-Q-R-20K	SSD-Q-H-20K	
ø25	SSD-Q-R-25K	SSD-Q-H-25K	

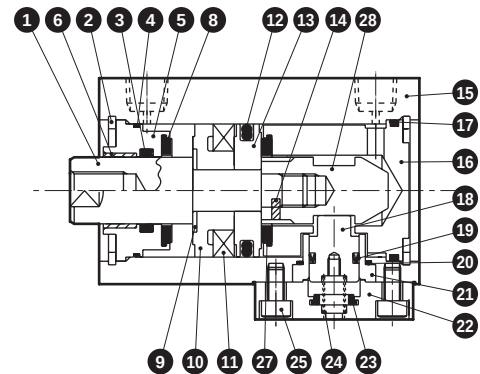
*1: 26 is not available with head side position locking.

Internal structure and parts list (ø32 to ø40)

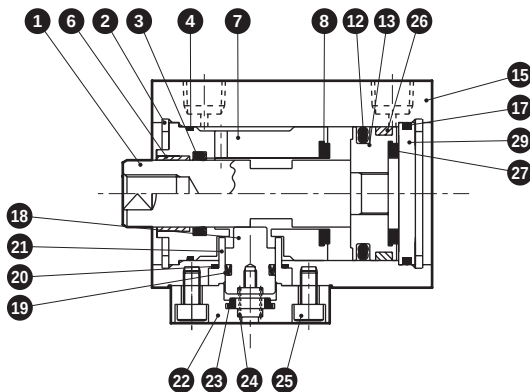
- SSD-QL-32 to 40-R
(double acting/single rod/with switch/rod side position locking)



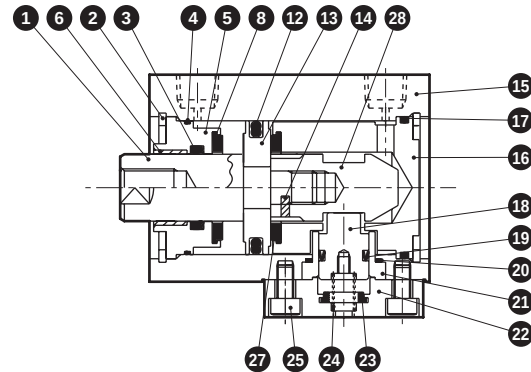
- SSD-QL-32 to 40-H
(double acting/single rod/with switch/head side position locking)



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



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



Parts list

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

Repair parts list

Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
ø32	SSD-Q-R-32K	SSD-Q-H-32K	3 4 8 12 17
ø40	SSD-Q-R-40K	SSD-Q-H-40K	19 20 23 26 27

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

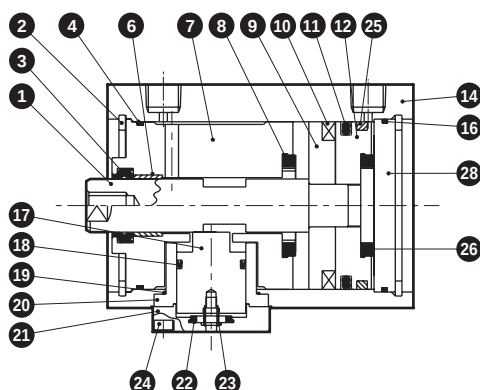
Spd
Contr

Ending

Internal structure and parts list (ø50 to ø100)

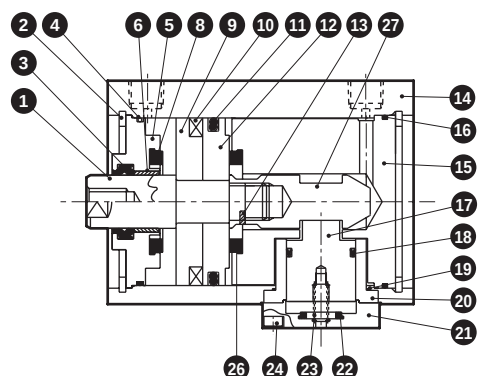
● SSD-QL-50 to 100-R

(double acting/single rod/with switch/rod side position locking)



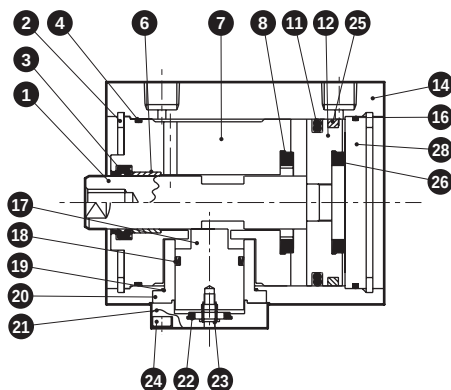
● SSD-QL-50 to 100-H

(double acting/single rod/with switch/head side position locking)



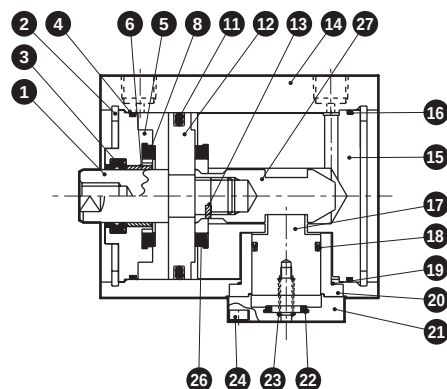
● SSD-Q-50 to 100-R

(double acting/single rod/rod side position locking)



● SSD-Q-50 to 100-H

(double acting/single rod/head side position locking)



Parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	15	Head cover	Aluminum alloy	Chromate
2	C-snap ring	Steel	Zinc phosphate	16	O-ring	Nitrile rubber	
3	Rod packing	Nitrile rubber		17	Stopper piston	Steel	Nitriding
4	Rod metal gasket	Nitrile rubber		18	Stopper packing	Nitrile rubber	
5	Rod metal	Special aluminum	Chromate	19	O-ring	Nitrile rubber	
6	Bush	Oiles drymet		20	Stopper housing	Aluminum alloy	Alumite
7	Rod cover	Aluminum alloy	Chromate	21	Stopper cover	Aluminum alloy	Alumite
8	Cushion rubber R	Urethane rubber		22	Cushion rubber	Urethane rubber	
9	Spacer	ø50: Special resin ø63 to ø100: Aluminum alloy	ø63 to 100: Chromate	23	Coil spring	Piano wire	Electrodeposition
10	Magnet	Plastic		24	Hexagon socket head cap screw	Steel	Black galvanizing
11	Piston packing	Nitrile rubber		25	Wear ring	Polyacetal resin	
12	Piston	Aluminum alloy	Chromate	26	Cushion rubber H	Urethane rubber	
13	Spring pin	Steel	Black finish	27	Sleeve	Steel	Nitriding
14	Body	Aluminum alloy	Hard alumite	28	Cover	Aluminum alloy	Chromate

Repair parts list

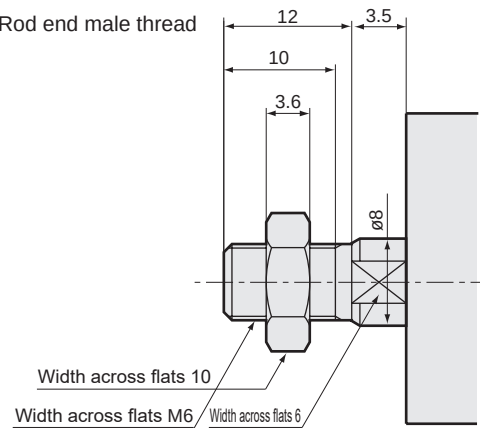
Bore size (mm)	Kit No.		Repair parts No.
	With rod side position locking	With head side position locking	
ø50	SSD-Q-R-50K	SSD-Q-H-50K	3 4 8 11 16 18 19 22 25 26
ø63	SSD-Q-R-63K	SSD-Q-H-63K	
ø80	SSD-Q-R-80K	SSD-Q-H-80K	
ø100	SSD-Q-R-100K	SSD-Q-H-100K	

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

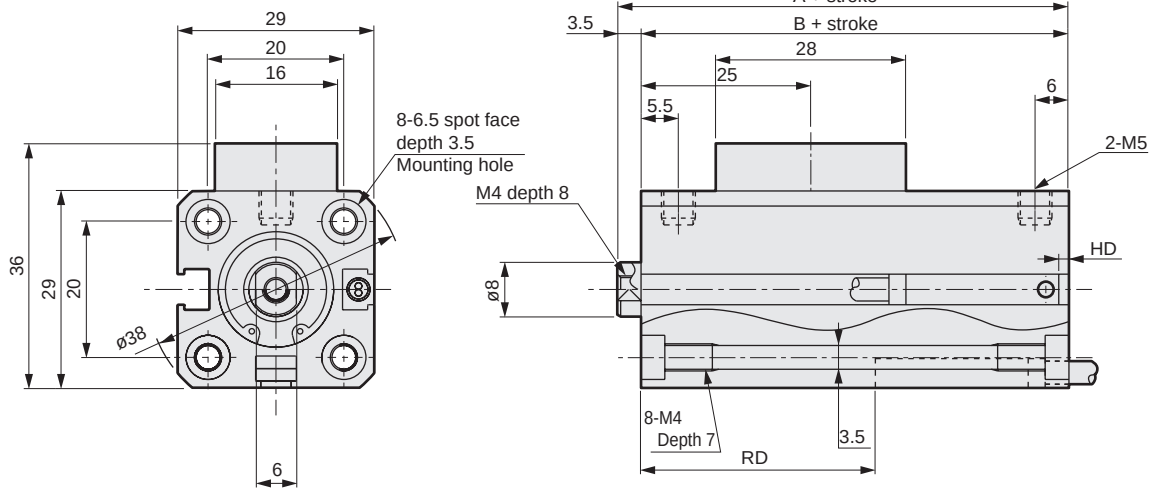
Dimensions (ø16)



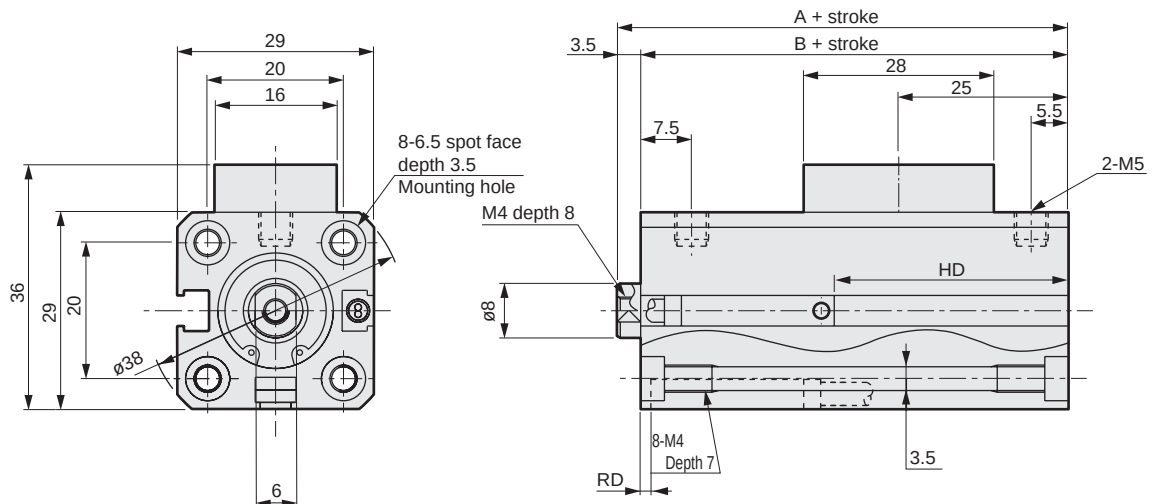
● Rod end male thread



● SSD-Q(L)-16-R (with switch, TO^H/_V, T5^H/_V, T2^H/_V, T3^H/_V, with rod side position locking)



● SSD-Q(L)-16-H (with switch, TO^H/_V, T5^H/_V, T2^H/_V, T3^H/_V, with head side position locking)



Code	No switch		Common dimensions with switch		With rod side position locking mechanism				With head side position locking mechanism			
					T2/T3/T2W/T3W	T0/T5	T2/T3/T2W/T3W	T0/T5				
Bore size (mm)	A *1	B *1	A *1	B *1	RD *2	HD *2	RD *2	HD *2	RD *2	HD *2	RD *2	HD *2
ø16	56.5	53	61.5	58	33	6.5	33	6.5	5	34.5	5	34.5

*1 : To calculate A+ stroke or B+ stroke when using a custom stroke, apply the custom stroke value as the stroke. (Example) For the custom stroke of 7 mm, calculate by directly including 7 mm.

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

*3 : For dimensions of individual accessories, refer to pages 1108 to 1115.

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

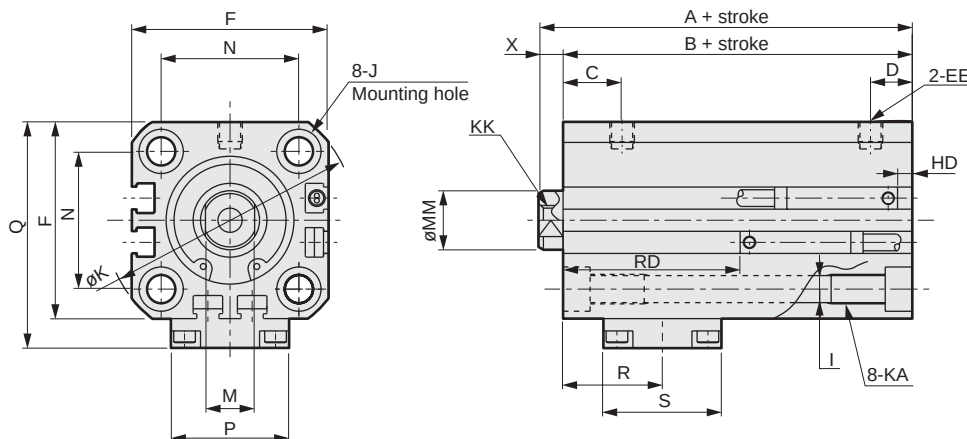
Spd
Contr

Ending

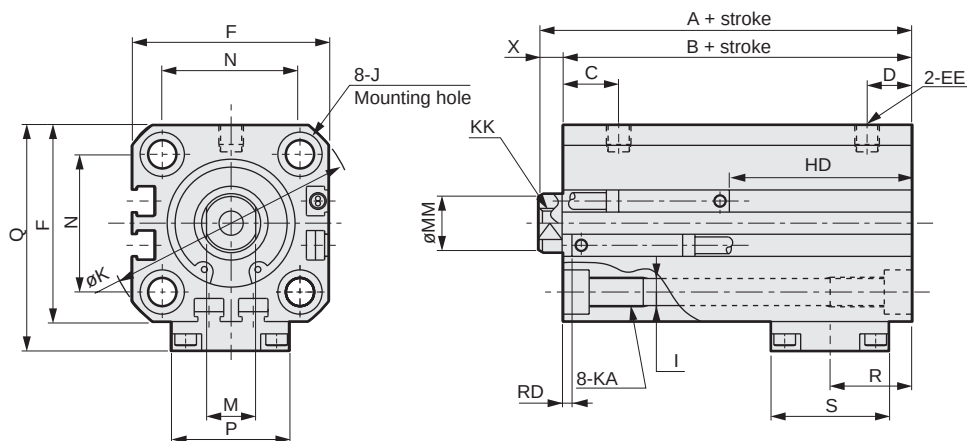
Dimensions (ø20, ø25)



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



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



Code	No switch		Common dimensions with switch								
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	I	J *3	K
ø20	58	53.5	68	63.5	9.5	8.5	M5	36	5.5	9 spot face depth 5.5	47
ø25	63.5	58.5	73.5	68.5	12	10.5	M5	40	5.5	9 spot face depth 5.5	51

Code	Common dimensions with switch									
Bore size (mm)	KA *3	KK	M	MM	N	P	Q	S	X	
ø20	M6 depth 11	M5 depth 7	8	10	25.5	21	43	23.2	4.5	
ø25	M6 depth 11	M6 depth 12	10	12	28	24	46	24	5	

Dimension code with switch	With rod side position locking mechanism					With head side position locking mechanism				
	R	T2/T3		T0/T5		R	T2/T3/T2W/T3W		T0/T5	
Bore size (mm)		RD *2	HD *2	RD *2	HD *2		RD *2	HD *2	RD *2	HD *2
ø20	18.6	34.5	10	34.5	10	18	9.5	35	9.5	35
ø25	20.5	37.5	9.5	37.5	9.5	18.8	12.5	34.5	12.5	34.5

● Dimensions of rod end male thread part

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M10x1.25	10	12	6	5

*1 : To calculate A+ stroke or B+ stroke when using a custom stroke, apply the custom stroke value as the stroke.
(Example) For the custom stroke of 7 mm, calculate by directly including 7 mm.

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

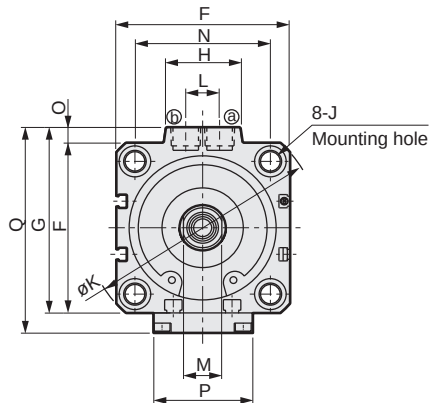
*3 : When longer than 150 mm stroke for ø25, there is no spot face J.
KA dimension for this case is 17.

*4 : For dimensions of individual accessories, refer to pages 1108 to 1115.

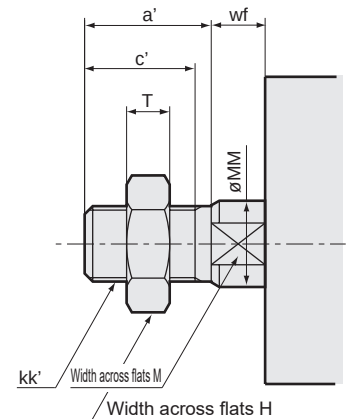
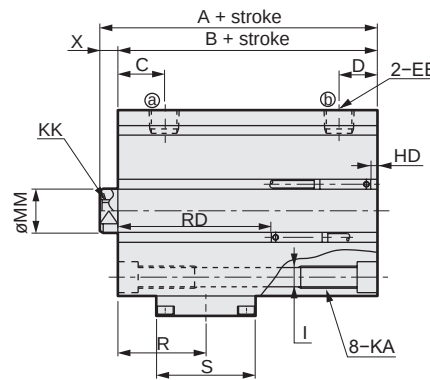
Dimensions (ø32 to ø100)



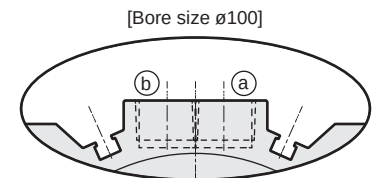
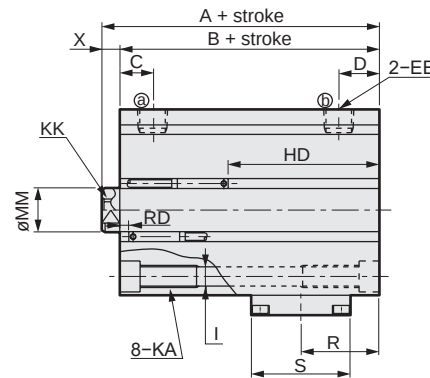
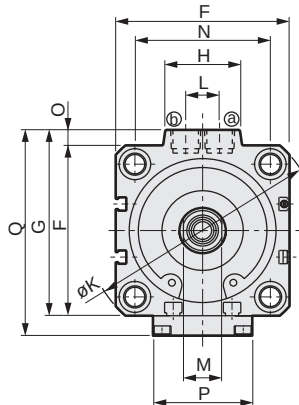
- SSD-Q(L)-32 to 100R
(with switch, TO^{H/V}, T5^{H/V}, T2^{H/V}, T3^{H/V}, with rod side position locking)



- Rod end male thread



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



* Only for ø100, the port surface has switch grooves.

Code	No switch		Common dimensions with switch										
	A *1	B *1	A *1	B *1	C	D	EE	F	G	H	I	J *2	K
ø32	69	62	79	72	11	10	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	60
ø40	83	76	93	86	14	11	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	69
ø50	102.5	94.5	112.5	104.5	14.5	12.5	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	86
ø63	108	100	118	110	18.5	17	Rc1/4	77	84	33	8.7	14 spot face depth 9	103
ø80	139	129	149	139	18	17	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	132
ø100	141	129	151	139	23	21	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	156

Code	Common dimensions with switch											
	KA *2		KK		L	M	MM	N	O	P	Q	S
ø32	M6 depth 11		M8 depth 13		10	14	16	34	4.5	24	58	38
ø40	M6 depth 11		M8 depth 13		10	14	16	40	5	24	65.5	38
ø50	M8 depth 13		M10 depth 15		15	17	20	50	7	44	79.5	43
ø63	M10 depth 25		M10 depth 15		15	17	20	60	7	47	92.5	47
ø80	M12 depth 28		M16 depth 21		15	22	25	77	6	47	112.5	47
ø100	M12 depth 28		M20 depth 27		15	27	30	94	6.5	55	133.5	55

Dimension code with switch Bore size (mm)	With rod side position locking mechanism					With head side position locking mechanism					Table 1		
	R	T2/T3/T2W/T3W		T0/T5		R	T2/T3/T2W/T3W		T0/T5		Bore size	J	KA
		RD *2	HD *2	RD *2	HD *2		RD *2	HD *2	RD *2	HD *2			
ø32	23.2	40.5	13	40.5	13	20.9	15.5	38	15.5	38	ø32	-	17
ø40	36.2	53	14	53	14	23.9	21	46	21	46	ø40	-	17
ø50	39.1	70.5	15	70.5	15	33.4	20.5	65	20.5	65	ø50	-	20
ø63	39	69	22.5	69	22.5	34.8	19	73	19	73	ø63	-	34
ø80	60	96	24	96	24	52	21.5	99	21.5	99	ø80	-	35
ø100	57	91	29.5	91	29.5	50	25.5	95	25.5	95	ø100	-	35

- Dimensions of rod end male thread part

Code	a'	c'	H	kk'1	M	MM	T	wf
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

*1: To calculate A+ stroke or B+ stroke when using a custom stroke, apply the custom stroke value as the stroke.
(Example) For the custom stroke of 7 mm, calculate by directly including 7 mm.

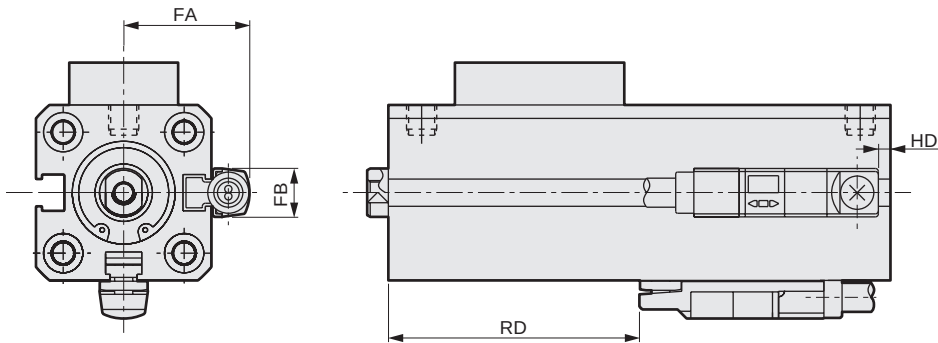
*2: When longer than 150 mm stroke for ø32 to ø63 or longer than 130 mm stroke for ø80 and ø100, there is no spot face J.
KA dimensions for this case are indicated in Table 1.

3: Refer to page 1313 for HD, RD and protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1 and T8* switches.

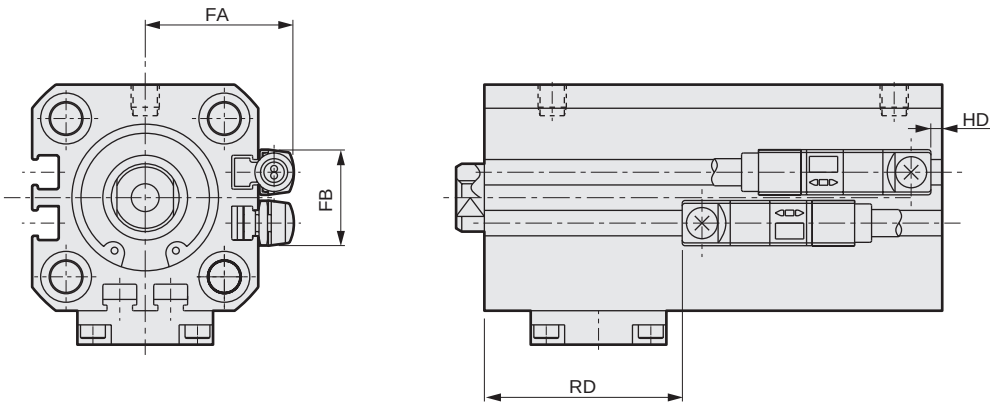
* For dimensions of individual accessories, refer to pages 1108 to 1115.

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

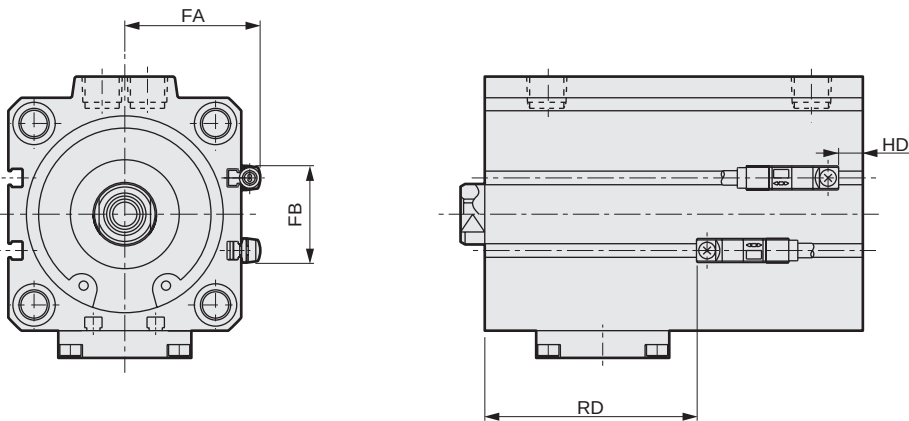
SSD-QL-16-R (with switch, T3 Y, T2J, T8, T2YD, T2YDT, T1, with rod side position locking)



SSD-QL-20 to 25-R (with switch, T3 Y, T2J, T8, T2YD, T2YDT, T1, with rod side position locking)



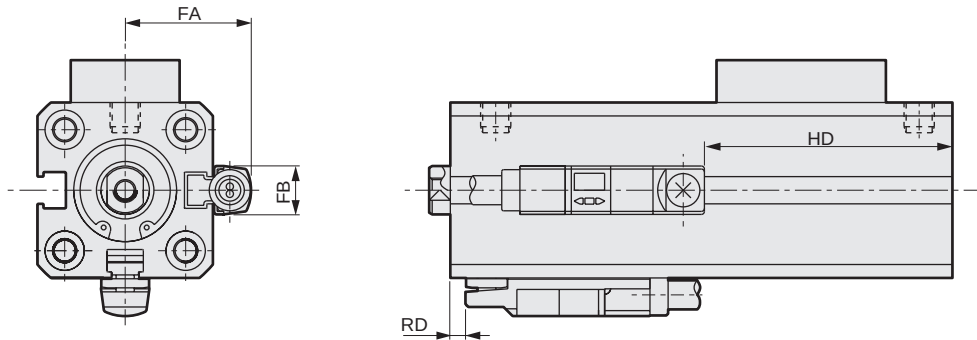
SSD-QL-32 to 100-R (with switch, T3 Y, T2J, T8, T2YD, T2YDT, T1, with rod side position locking)



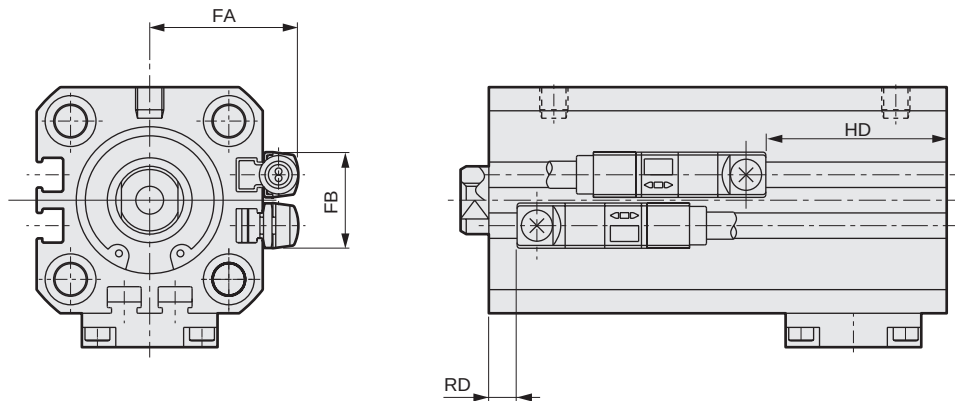
Code	T3 Y, T2J				T2YD, T2YDT, T1				T8			
	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
Bore size (mm)												
ø16	20.8	8	31.5	5	25.8	8	31.5	5	-	-	-	-
ø20	24.3	16	33	8.5	29.3	16	33	8.5	24.3	16	28.5	4
ø25	26.3	17	36.5	8	31.3	17	36.5	8	26.3	17	31.5	3.5
ø32	28.8	24	39	11.5	33.8	24	39	11.5	28.8	24	34.5	7
ø40	32.3	31	51.5	12.5	37.3	31	51.5	12.5	32.3	31	47	8
ø50	38.3	32	69.5	13.5	43.3	32	69.5	13.5	38.3	32	64.5	9
ø63	44.8	32	67.5	21	49.8	32	67.5	21	44.8	32	63	16.5
ø80	55.3	32	94.5	22.5	60.3	32	94.5	22.5	55.3	32	90	18
ø100	64.8	32	89.5	28	69.8	32	89.5	28	64.8	32	85	23.5

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

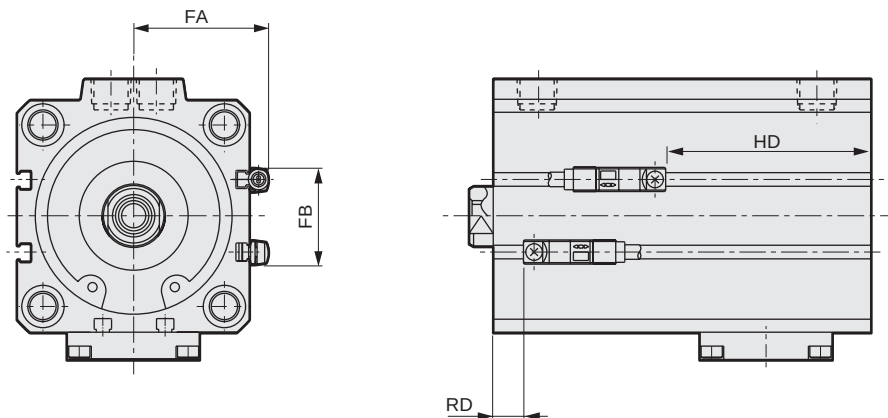
- SSD-QL-16-H (with switch, T₃Y₁, T2J₁, T8₁, T2YD, T2YDT, T1₁, with head side position locking)



- SSD-QL-20 to 25-H (with switch, T₃Y₁, T2J₁, T8₁, T2YD, T2YDT, T1₁, with head side position locking)



- SSD-QL-32 to 100-H (with switch, T₃Y₁, T2J₁, T8₁, T2YD, T2YDT, T1₁, with head side position locking)



Code	T ₃ Y ₁ , T2J ₁				T2YD, T2YDT, T1 ₁				T8 ₁			
	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ø16	20.8	8	3.5	33	25.8	8	3.5	33	20.8	8	-	-
ø20	24.3	16	8	33.5	29.3	16	8	33.5	24.3	16	3.5	29
ø25	26.3	17	11.5	33	31.3	17	11.5	33	26.3	17	6.5	28.5
ø32	28.8	24	14	36.5	33.8	24	14	36.5	28.8	24	9.5	32
ø40	32.3	31	20	44	37.3	31	20	44	32.3	31	15	40
ø50	38.3	32	19.5	63.5	43.3	32	19.5	63.5	38.3	32	14.5	59
ø63	44.8	32	17.5	71.5	49.8	32	17.5	71.5	44.8	32	13	67
ø80	55.3	32	20	97.5	60.3	32	20	97.5	55.3	32	15.5	93
ø100	64.8	32	24	93.5	69.8	32	24	93.5	64.8	32	19.5	89



Compact cylinder double acting/fine speed

SSD-F/SSD-KF Series

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

JIS symbol



Specifications

1 MPa = 10 bar

Item	SSD-F, SSD-LF (with switch)										SSD-KF, SSD-KLF (with switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting																			
Working fluid	Compressed air																			
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)																			
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi)			0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)																			
Ambient temperature °C	5 (41°F) to 60 (140°F)																			
Port size	M5				Rc1/8		Rc1/4		Rc3/8		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0										+2.0									
	0										0									
Working piston speed mm/s	1 to 200																			
Cushion	None										Rubber cushion									
Lubrication	Not available																			
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke

Model No.	Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
SSD-F SSD-LF	$\phi 12, \phi 16, \phi 20$	5, 10, 15, 20, 25, 30	30	1
	$\phi 25, \phi 32, \phi 40, \phi 50$	5, 10, 15, 20, 25, 30, 40, 50	50	
	$\phi 63, \phi 80, \phi 100$	5, 10, 20, 30, 40, 50	50	
SSD-KF SSD-KLF	$\phi 12, \phi 16, \phi 20$	5, 10, 15, 20, 25, 30, 40, 50	100	
	$\phi 25, \phi 32, \phi 40, \phi 50$	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150	
	$\phi 63, \phi 80, \phi 100$	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200	

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

*2 : When using the type with a switch, refer to the table below.

*3 : Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

● SSD-LF

Switch quantity	SSD-LF					SSD-KLF				
	1	2	3	4	5	1	2	3	4	5
Switch model No.										
Bore size (mm)	T*	T*	T*	T*	T*	T*	T*	T*	T*	T*
$\phi 12$	5	5	25	-	-	5	5	25	-	-
$\phi 16$	5	5	25	-	-	5	5	25	-	-
$\phi 20$	5	5	-	-	-	5	5	35	50	65
$\phi 25$	5	5	35	50	-	5	5	35	50	65
$\phi 32$	5	5	35	50	-	5	5	35	50	65
$\phi 40$	5	5	35	50	-	5	5	35	50	65
$\phi 50$	5	5	35	50	-	5	5	35	50	65
$\phi 63$	5	5	35	50	-	5	5	35	50	65
$\phi 80$	5	5	35	50	-	5	5	35	50	65
$\phi 100$	5	5	35	50	-	5	5	35	50	65

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity		
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller		
Output method	-				NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-				10 to 28 VDC				-								
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less			12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC		1 mA or less		10 μA or less				0 mA						1 mA or less		
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33		1 m:61		
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49					3 m:87		3 m:166		
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80					5 m:142		5 m:272		

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

Cylinder weight

Same as SSD Series (double acting/single rod) on page 1095 and SSD-K Series (double acting/high load) on page 1119.

Theoretical thrust table

(Unit: N)

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

SSD-F/SSD-KF Series

How to order

● No switch (without magnet for switch)

SSD-F - 12 - 5 - N - LB - I

● With switch (built-in magnet for switch)

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

● 2-color LED/off-delay, with T1* switch (double acting/single rod ø12/ø16 only) (built-in magnet for switch)

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

A Model No.

B Bore size

C Port thread

D Stroke

Precautions for model No. selection

- *1 : Switches other than E Switch model No. are also available. (Made to order)
- *2 : Refer to Ending Page 1 for details.
- *3 : An AC magnetic field proof switch cannot be installed on ø12 and ø16.
- *4 : T8* switch cannot be mounted in products with bore sizes as below.
- SSD-L1F: ø12 to ø32
- SSD-KLF: ø12, ø16
- *5 : Piston rod of ø12 to ø25 is stainless steel as standard. C-snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *6 : The mounting bracket is included at shipment.
- *7 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. 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.
- *8 : "I" and "Y" cannot be selected together.
- *9 : Refer to Ending Page 85 for custom specifications of rod end form.
- *10 : Refer to pages 1086 and 1089 for combinations of variations/options.
- *11 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

E Switch model No.

- *1
- *2
- *3
- *10

F Switch quantity

G Option

*4

H Mounting bracket

*5

*6

I Accessory

*7

[Example of model No.]

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

Model: Compact cylinder, fine speed

- A Model No. : Double acting/single rod
- B Bore size : ø12 mm
- C Port thread : Rc thread
- D Stroke : 5 mm
- E Switch model No. : Reed switch T0H, lead wire 1 m
- F Switch quantity : 1 on rod side
- G Option : Rod end male thread

How to order switch

SW - **T0H**

Switch model No.
(Item E above)

Code	Description
A Model No.	
SSD-F	Double acting/single rod
SSD-LF	Double acting/single rod/with switch
SSD-L1F	ø12, ø16 2-color LED, off-delay, with T1* switch
SSD-KF	Double acting/high load
SSD-KLF	Double acting/high load/with switch

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

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

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

E Switch model No.		Voltage		Indicator	Lead wire
Axial lead wire	Radial lead wire	AC	DC		
T0H*	T0V*	●	●	1-color LED	2-wire
T5H*	T5V*	●	●	No indicator lamp	
T8H*	T8V*	●	●	1-color LED	
T1H*	T1V*	●	●	1-color LED	2-wire
T2H*	T2V*	●	●		
T3H*	T3V*	●	●		
T3PH*	T3PV*	●	●	1-color LED	3-wire
T2WH*	T2WV*	●	●		
T2YH*	T2YV*	●	●		
T3WH*	T3WV*	●	●	2-color LED	2-wire
T3YH*	T3YV*	●	●		
T2JH*	T2JV*	●	●		
T2YD*	-	●	●	1-color LED off-delay	2-wire
T2YDT*	-	●	●	2-color LED	
T2HR3	T2VR3	●	●	AC magnetic field	
		●	●	1-color LED (bend resist lead wire specs)	2-wire

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

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

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

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

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

[Stroke table]

● SSD-F

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●
Min. stroke (mm) *1		1									
Max. stroke (mm)		30			50						
Custom stroke *2		In 1 mm increments									

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

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

● SSD-KF

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●	●
	60				●	●	●	●	●	●	●
	70				●	●	●	●	●	●	●
	80				●	●	●	●	●	●	●
	90				●	●	●	●	●	●	●
	100				●	●	●	●	●	●	●
Min. stroke (mm) *1		1									
Max. stroke (mm)		100			150				200		
Custom stroke *2		In 1 mm increments									

*1: Less than 5 mm for 1-color LED and stroke less than 10 mm for the 2-color LED with AC magnetic field proof switch are not available.

Refer to page 1172 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

Dimensions

Same as SSD Series (double acting/single rod) and SSD-K Series (double acting/high load).
Refer to pages 1103 to 1105 and 1122 to 1125.

Clean-room specifications

(Catalog No. CB-033SA)

● Anti-dust generation structure for use in cleanrooms

SSD-F P7*

SSD-KF..... P7*

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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

SSD-F/SSD-KF Series

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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.)

● SSD-F

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	—	—	—	—
ø16	48	104	59	104	69	114	80	125	91	136	102	147	—	—	—	—
ø20	63	118	75	150	88	163	101	176	113	188	126	201	—	—	—	—
ø25	87	178	102	193	118	209	134	225	150	241	165	256	197	288	228	319
ø32	122	236	144	258	166	280	188	302	209	323	231	345	275	389	318	432
ø40	183	326	210	353	236	379	263	406	290	433	316	459	369	512	422	565
ø50	299	493	341	535	383	577	425	619	467	661	510	704	594	788	678	872
ø63	452	731	507	786	—	—	617	896	—	—	727	1006	838	1117	948	1227
ø80	841	1254	928	1341	—	—	1101	1514	—	—	1274	1687	1448	1861	1621	2034
ø100	1319	1886	1433	2000	—	—	1660	2227	—	—	1888	2455	2115	2682	2343	2910

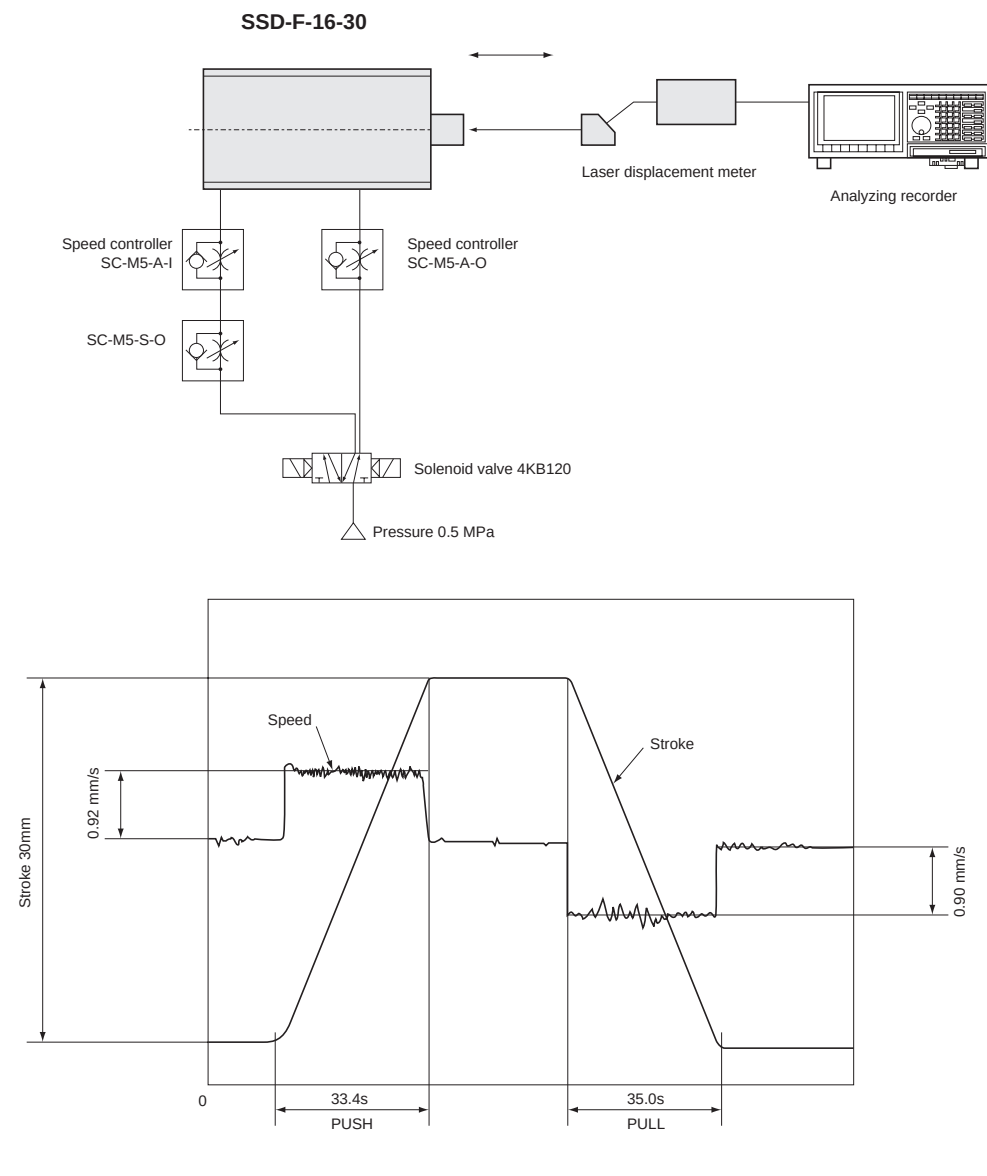
● SSD-KF

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	44	86	53	95	61	103	70	112	78	121	87	129	104	146	121	163	138	180	155	197	172	214	189	231	206	248
ø16	59	104	69	114	80	125	91	136	102	147	113	158	135	169	157	191	179	213	201	235	223	257	245	279	267	301
ø20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
ø25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
ø32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
ø40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
ø50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
ø63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
ø80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
ø100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Measurement data

● Measuring method



SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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

SSD-O Series

● Bore size: $\phi 12/\phi 16/\phi 20/\phi 25/\phi 32/\phi 40/\phi 50/\phi 63/\phi 83/\phi 100$

JIS symbol



Specifications

Item	SSD-O SSD-OL (with switch)									
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)									
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)									
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0									
	0									
Working piston speed mm/s	10 to 200									
Cushion	None									
Lubrication	Not available									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	50	
ø80			
ø100			

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

*2 : When using the type with a switch, refer to the table below.

*3 : Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\phi 12$	5	5	25	-	-
$\phi 16$	5	5	25	-	-
$\phi 20$	5	5	-	-	-
$\phi 25$	5	5	35	50	-
$\phi 32$	5	5	35	50	-
$\phi 40$	5	5	35	50	-
$\phi 50$	5	5	35	50	-
$\phi 63$	5	5	35	50	-
$\phi 80$	5	5	35	50	-
$\phi 100$	5	5	35	50	-

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

Switch specifications

- 1-color/2-color LED/for AC magnetic field proof

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity												
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT												
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller												
Output method	-				NPN output		PNP output		NPN output		NPN output		-														
Pwr. supp. V.	-				10 to 28 VDC				-																		
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less			12/24 VDC		100/110 VAC		5/12/24 VDC		100/110 VAC		12/24 VDC		110 VAC		220 VAC		24 VDC ±10%			
Load current	5 to 100 mA		5 to 20 mA (*3)			100 mA or less			50 mA or less			5 to 50 mA		7 to 20 mA		50 mA or less		20 mA or less		5 to 50 mA		7 to 20 mA		7 to 10 mA		5 to 20 mA	
Indicator	LED (Lit when ON)		LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)										
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC		1 mA or less			10 µA or less				0 mA						1 mA or less											
Weight g	1 m:33 3 m:87 5 m:142		1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80						1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272								

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	36	86	44	86	53	95	61	103	70	112	72	114	-	-	-	-
ø16	48	104	59	104	69	114	80	125	91	136	102	147	-	-	-	-
ø20	63	118	75	150	88	163	101	176	113	188	126	201	-	-	-	-
ø25	87	178	102	193	118	209	134	225	150	241	165	256	197	288	228	319
ø32	122	236	144	258	166	280	188	302	209	323	231	345	275	389	318	432
ø40	183	326	210	353	236	379	263	406	290	433	316	459	369	512	422	565
ø50	299	493	341	535	383	577	425	619	467	661	510	704	594	788	678	872
ø63	452	731	507	786	-	-	617	896	-	-	727	1006	838	1117	948	1227
ø80	841	1254	928	1341	-	-	1101	1514	-	-	1274	1687	1448	1861	1621	2034
ø100	1319	1886	1433	2000	-	-	1660	2227	-	-	1888	2455	2115	2682	2343	2910

Theoretical thrust table

(Unit: N)

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

Dimensions

Same as SSD Series (double acting/single rod). Refer to pages 1103 to 1105.

How to order

No switch (without magnet for switch)

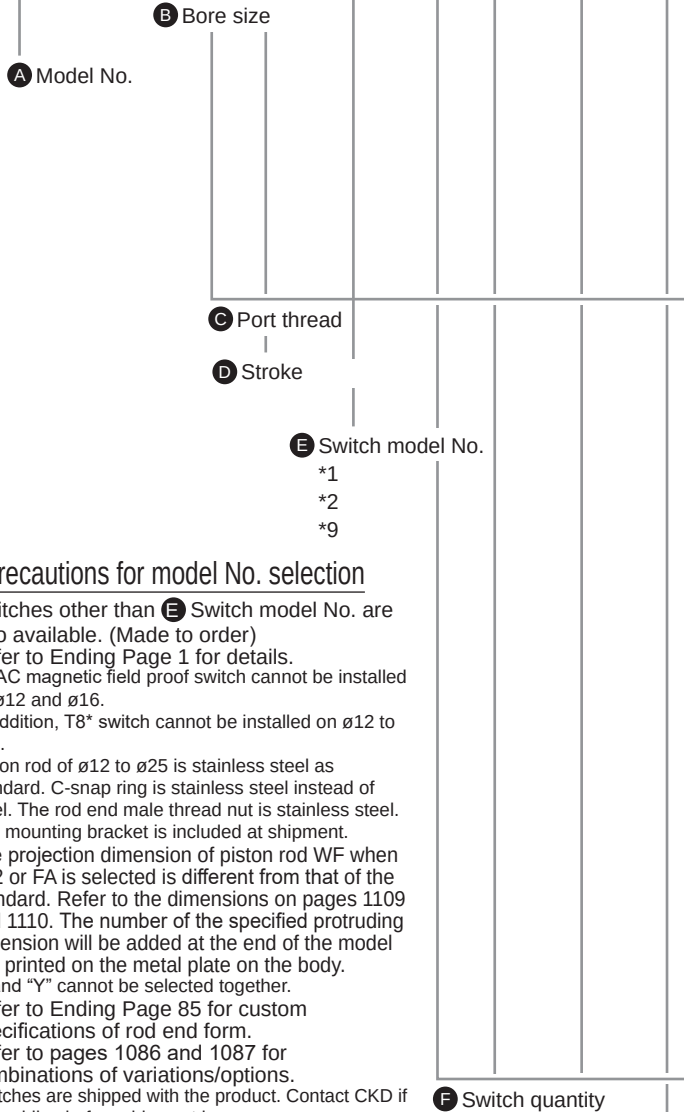
SSD-O - **12** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-OL - **12** - **5** - **T0H** - **R** - **N** - **LB** - **I**

2-color LED/off-delay, with T1* switch (ø12/ø16 only)

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



⚠ Precautions for model No. selection

- *1: Switches other than **E** Switch model No. are also available. (Made to order)
Refer to Ending Page 1 for details.
- *2: An AC magnetic field proof switch cannot be installed on ø12 and ø16.
In addition, T8* switch cannot be installed on ø12 to ø32.
- *3: Piston rod of ø12 to ø25 is stainless steel as standard. C-snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *4: The mounting bracket is included at shipment.
- *5: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *6: "I" and "Y" cannot be selected together.
- *7: Refer to Ending Page 85 for custom specifications of rod end form.
- *8: Refer to pages 1086 and 1087 for combinations of variations/options.
- *9: Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

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

Model: Compact cylinder
Double acting/low speed

- B** Bore size : ø12 mm
- C** Port thread : Rc thread
- D** Stroke : 5 mm
- E** Switch model No. : Reed T0H switch
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread

How to order switch

SW - **T0H**

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

CKD

Code	Description
A Model No.	
SSD-O	Double acting/low speed
SSD-OL	Double acting/low speed/with switch
SSD-OL1	ø12, ø16 2-color LED, off-delay, with T1* switch

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

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

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

E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●	●	1-color LED	2-wire
T2H*	T2V*		●	●		
T3H*	T3V*		●	●	1-color LED	3-wire
T3PH*	T3PV*		●	●		
T2WH*	T2WV*		●	●	2-color LED	2-wire
T2YH*	T2YV*		●	●		
T3WH*	T3WV*		●	●		
T3YH*	T3YV*		●	●		
T2JH*	T2JV*		●	●	1-color LED off-delay	2-wire
T2YD*	-		●	●	2-color LED	2-wire
T2YDT*	-		●	●	AC magnetic field	
T2HR3	T2VR3		●	●	1-color LED (bend resist lead wire specs)	2-wire

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

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

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

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

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

[Stroke table]

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●
Min. stroke (mm) *1		1									
Max. stroke (mm)		30			50						
Custom stroke *2		In 1 mm increments									

1: Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1178 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket										
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

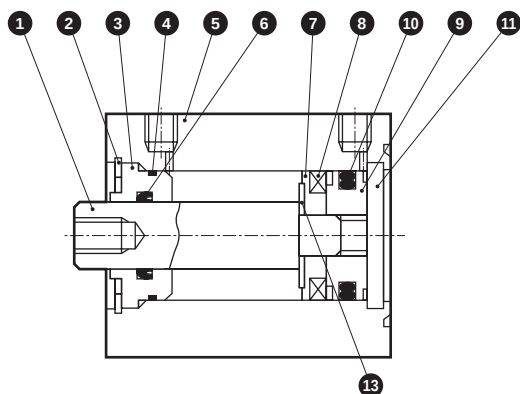
FK

Spd
Contr

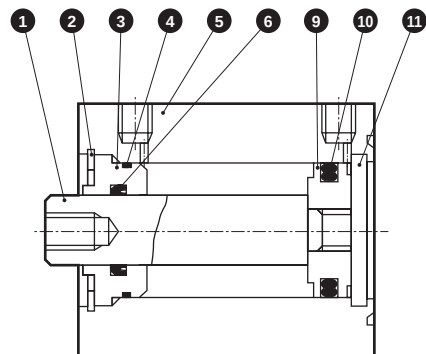
Ending

Internal structure and parts list

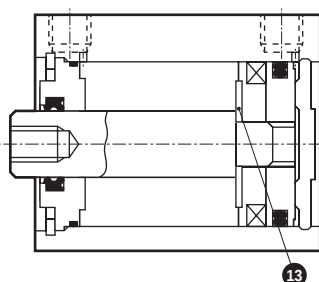
● SSD-OL-12 to 25 (double acting/low speed/with switch)



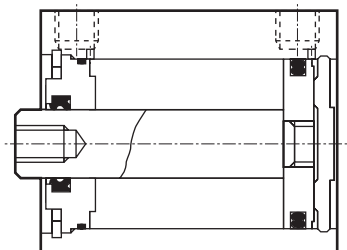
● SSD-O-12 to 25 (double acting/low speed)



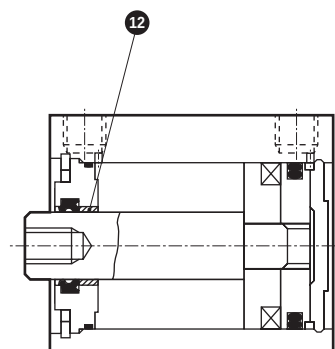
● SSD-OL-32 to 50 (double acting/low speed/with switch)



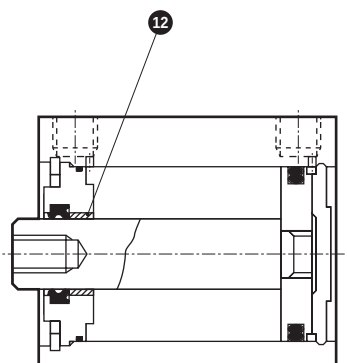
● SSD-O-32 to 50 (double acting/low speed)



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



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



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø100: Steel	ø16 to ø100: Industrial chrome plating	7	Spacer	ø12, ø63 to ø100: Aluminum alloy ø16 to ø50: Special resin	ø12, ø63 to ø100: Chromate
2	C-snap ring	Steel	Zinc phosphate	8	Magnet	Plastic	
3	Rod metal	ø12 to ø50: Special aluminum ø63 to ø100: 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	Cover	ø12 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	ø32 to ø100: Alumite
6	Rod packing	Nitrile rubber		12	Bush	Oiles drymet	ø63 to ø100
				13	Spacer washer	Stainless steel	ø20 to ø50

Fluorine grease is used.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.	Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-O-12K	4 6 10	ø40	SSD-O-40K	4 6 10
ø16	SSD-O-16K		ø50	SSD-O-50K	
ø20	SSD-O-20K		ø63	SSD-O-63K	
ø25	SSD-O-25K		ø80	SSD-O-80K	
ø32	SSD-O-32K		ø100	SSD-O-100K	

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/high load/low friction

SSD-KU Series

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

JIS symbol



Specifications

Item		SSD-KU SSD-KUL (with switch)							
Bore size		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	0.7 (≈100 psi, 7 bar)							
Min. working pressure	MPa	0.03 (≈4.4 psi, 0.3 bar)							
Proof pressure	MPa	1.0 (≈150 psi, 10 bar)							
Ambient temperature	°C	5 (41°F) to 60 (140°F)							
Port size		M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	+2.0 0							
Working piston speed	m/s	10 to 500					10 to 300		
Cushion		Rubber cushion							
Lubrication		Not available							
Allowable absorbed energy	J	0.16	0.16	0.40	0.62	0.98	1.56	2.51	3.92
Internal leakage	L/min	5						8	

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20	5, 10, 15, 20, 25, 30, 40, 50	200 *1)	5
ø25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	300 *1)	
ø32			
ø40			
ø50			
ø63	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
ø80			
ø100			

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

*2) Stroke over standard to maximum is available in increments of 10.
(Example) $\varnothing 20$: 60, 70, 80, 90, 100

*3) Dimensions of custom stroke (example: 64 mm stroke) are the same as the next stroke up (example: 70 mm stroke).

*4) From 101 to 200 for $\varnothing 20$, 151 to 300 for $\varnothing 25$ to $\varnothing 50$, or 201 to 300 for $\varnothing 63$ to $\varnothing 100$, internal structure and total length are different in some products.

*5) When using the type with a switch, refer to the table below.

*6) Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)	T*	T*	T*	T*	T*
$\varnothing 20$	5	5	35	50	65
$\varnothing 25$	5	5	35	50	65
$\varnothing 32$	5	5	35	50	65
$\varnothing 40$	5	5	35	50	65
$\varnothing 50$	5	5	35	50	65
$\varnothing 63$	5	5	35	50	65
$\varnothing 80$	5	5	35	50	65
$\varnothing 100$	5	5	35	50	65

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

Switch specifications

● 1-color/2-color LED/for AC magnetic field

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	Programmable controller, For relay, compact solenoid valve	Dedicated for programmable controller			Programmable For controller, relay				Programmable For controller, relay		Programmable controller, relay/C circuit (no indicator lamp), for serial connection		For programmable controller, relay		Programmable Controller dedicated	
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 (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/ greenLED (Lit when ON)	Red/ greenLED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/ greenLED (Lit when ON)	Red/ greenLED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/ greenLED (Lit when ON)	
Leakage current	1 mA or less with 100 VAC, 2 mA or less with 200 VAC	1 mA or less			10 µA or less				0mA						1 mA or less	
Weight g	1 m: 33	1 m: 18	1 m: 33	1 m: 18	1 m: 18		1 m: 33	1 m: 18	1 m: 18 3 m: 49 5 m: 80			1 m: 33 3 m: 87 5 m: 142		1 m: 61 3 m: 166 5 m: 272		
	3 m: 87	3 m: 49	3 m: 87	3 m: 49	3 m: 49		3 m: 87	3 m: 49								
	5 m: 142	5 m: 80	5 m: 142	5 m: 80	5 m: 80		5 m: 142	5 m: 80								

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa								
		0.03	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø20	Push	9.42	31.4	47.1	62.8	94.2	1.26 x 10 ²	1.57 x 10 ²	1.88 x 10 ²	2.20 x 10 ²
	Pull	7.07	23.6	35.3	47.1	70.7	94.2	1.18 x 10 ²	1.41 x 10 ²	1.65 x 10 ²
ø25	Push	14.7	49.1	73.6	98.2	1.47 x 10 ²	1.96 x 10 ²	2.45 x 10 ²	2.95 x 10 ²	3.44 x 10 ²
	Pull	11.3	37.8	56.7	75.6	1.13 x 10 ²	1.51 x 10 ²	1.89 x 10 ²	2.27 x 10 ²	2.64 x 10 ²
ø32	Push	24.1	80.4	1.21 x 10 ²	1.61 x 10 ²	2.41 x 10 ²	3.22 x 10 ²	4.02 x 10 ²	4.83 x 10 ²	5.63 x 10 ²
	Pull	18.1	60.3	90.5	1.21 x 10 ²	1.81 x 10 ²	2.41 x 10 ²	3.02 x 10 ²	3.62 x 10 ²	4.22 x 10 ²
ø40	Push	37.7	1.26 x 10 ²	1.88 x 10 ²	2.51 x 10 ²	3.77 x 10 ²	5.03 x 10 ²	6.28 x 10 ²	7.54 x 10 ²	8.80 x 10 ²
	Pull	31.7	1.06 x 10 ²	1.58 x 10 ²	2.11 x 10 ²	3.17 x 10 ²	4.22 x 10 ²	5.28 x 10 ²	6.33 x 10 ²	7.39 x 10 ²
ø50	Push	58.9	1.96 x 10 ²	2.95 x 10 ²	3.93 x 10 ²	5.89 x 10 ²	7.85 x 10 ²	9.82 x 10 ²	1.18 x 10 ³	1.37 x 10 ³
	Pull	49.5	1.65 x 10 ²	2.47 x 10 ²	3.30 x 10 ²	4.95 x 10 ²	6.60 x 10 ²	8.25 x 10 ²	9.90 x 10 ²	1.15 x 10 ³
ø63	Push	93.5	3.12 x 10 ²	4.68 x 10 ²	6.23 x 10 ²	9.35 x 10 ²	1.25 x 10 ³	1.56 x 10 ³	1.87 x 10 ³	2.18 x 10 ³
	Pull	84.0	2.80 x 10 ²	4.20 x 10 ²	5.61 x 10 ²	8.41 x 10 ²	1.12 x 10 ³	1.40 x 10 ³	1.68 x 10 ³	1.96 x 10 ³
ø80	Push	1.51 x 10 ²	5.03 x 10 ²	7.54 x 10 ²	1.01 x 10 ³	1.51 x 10 ³	2.01 x 10 ³	2.51 x 10 ³	3.02 x 10 ³	3.52 x 10 ³
	Pull	1.36 x 10 ²	4.54 x 10 ²	6.80 x 10 ²	9.07 x 10 ²	1.36 x 10 ³	1.81 x 10 ³	2.27 x 10 ³	2.72 x 10 ³	3.17 x 10 ³
ø100	Push	2.36 x 10 ²	7.85 x 10 ²	1.18 x 10 ³	1.57 x 10 ³	2.36 x 10 ³	3.14 x 10 ³	3.93 x 10 ³	4.71 x 10 ³	5.50 x 10 ³
	Pull	2.14 x 10 ²	7.15 x 10 ²	1.07 x 10 ³	1.43 x 10 ³	2.14 x 10 ³	2.86 x 10 ³	3.57 x 10 ³	4.29 x 10 ³	5.00 x 10 ³

Dimensions

Same as SSD-K Series (double acting/high load).Pages 1122 to 1125.

Technical data

For technical data regarding sliding resistance values,Page 306.Page 306SSD-KU Series shows a similar trend to the data of "SCM-U Series".

How to order

No switch (without magnet for switch)

SSD-KU - 20 - 5 - N - LB - I

With switch (built-in magnet for switch)

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

A Bore size

B Port thread

C Stroke

D Switch model No.

*7

⚠ Precautions for model No. selection

*1: Switches other than D Switch model No. are also available. (Made to order)

Refer to Ending Page 1 for details.

*2: Piston rod of ø20 and ø25 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 included at shipment.

*4: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

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

[Example of model No.]

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

Model: Compact cylinder

High load/low friction

A Bore size : ø20

B Port thread : Rc thread

C Stroke : 5 mm

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

E Switch quantity : 1 on rod side

F Option : Rod end male thread

E Switch quantity

F Option

*2

G Mounting bracket

*3

*4

H Accessory

*5

How to order switch

SW - T0H*

Switch model No.
(Item D above)

Code	Description
A Bore size (mm)	
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

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

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

D Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
TOH*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●	■	1-color LED	2-wire
T2H*	T2V*		■	●		
T3H*	T3V*		■	●		
T3PH*	T3PV*		■	●	1-color LED	3-wire
T2WH*	T2WV*		■	●		
T2YH*	T2YV*		■	●	2-color LED	2-wire
T3WH*	T3WV*		■	●		
T3YH*	T3YV*		■	●		
T2JH*	T2JV*		■	●	1-color LED off-delay	2-wire
T2YD*	-		■	●	2-color LED	2-wire
T2YDT*	-		■	●	AC magnetic field	
T2HR3	T2VR3		■	●	1-color LED (bend resist lead wire specs)	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
M	Piston rod material (stainless steel)

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

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

[Stroke table]

Stroke (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60		●	●	●	●	●	●	●
	70		●	●	●	●	●	●	●
	80		●	●	●	●	●	●	●
	90		●	●	●	●	●	●	●
	100		●	●	●	●	●	●	●
Min. stroke (mm) *1		5							
Max. stroke (mm)		200	300						
Custom stroke *2		In 1 mm increments							

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

Refer to page 1184 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
ø25	—	—	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
ø32	—	—	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
ø40	—	—	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
ø50	—	—	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
ø63	—	—	617	896	—	—	727	1006	—	—	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
ø80	—	—	1101	1514	—	—	1274	1687	—	—	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
ø100	—	—	1660	2227	—	—	1888	2455	—	—	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

Stroke (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	338	413	363	438	388	463	413	488	438	513	463	538	488	563	513	588	538	613	563	638
ø25	438	529	470	561	502	593	534	625	566	657	598	689	630	721	662	753	694	785	726	817
ø32	619	733	662	776	705	819	748	862	791	905	833	947	876	990	919	1033	962	1076	1005	1119
ø40	793	936	846	989	899	1042	952	1095	1005	1148	1058	1201	1111	1254	1164	1307	1217	1360	1270	1413
ø50	1266	1460	1350	1544	1434	1628	1518	1712	1602	1796	1700	1894	1785	1979	1870	2064	1955	2149	2040	2234
ø63	1718	1997	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987
ø80	2832	3245	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802
ø100	3939	4506	4167	4734	4395	4962	4623	5190	4851	5418	5079	5646	5307	5874	5535	6102	5763	6330	5991	6558

Stroke (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	769	849	801	881	833	913	865	945	897	977	929	1009	961	1041	993	1073	1025	1105	1057	1137
ø32	1048	1162	1091	1205	1134	1248	1177	1291	1220	1334	1263	1377	1306	1420	1349	1463	1392	1506	1435	1549
ø40	1323	1466	1376	1519	1429	1572	1482	1625	1535	1678	1588	1731	1641	1784	1694	1837	1747	1890	1800	1943
ø50	2125	2319	2210	2404	2295	2489	2380	2574	2465	2659	2550	2744	2635	2829	2720	2914	2805	2999	2890	3084
ø63	2817	3096	2927	3206	3037	3316	3147	3426	3257	3536	3367	3646	3477	3756	3587	3866	3697	3976	3807	4086
ø80	4561	4974	4734	5147	4907	5320	5080	5493	5253	5666	5426	5839	5599	6012	5772	6185	5945	6358	6118	6531
ø100	6220	6787	6448	7015	6676	7243	6904	7471	7132	7699	7360	7927	7588	8155	7816	8383	8044	8611	8272	8839



Compact cylinder double acting/double rod

SSD-D Series

● Bore size: $\varnothing 12/\varnothing 16/\varnothing 20/\varnothing 25/\varnothing 32/\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100/\varnothing 120/\varnothing 140/\varnothing 160$

JIS symbol



Specifications

Item	SSD-D SSD-DL (with switch)												
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160
Actuation	Double acting												
Working fluid	Compressed air												
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)												
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)							0.1 (≈15 psi, 1 bar)			0.05 (≈7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)												
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)												
Port size	M5				Rc1/8		Rc1/4		Rc3/8				
Stroke tolerance mm	+1.0 0									+2.0 0			
Working piston speed mm/s	50 to 500							50 to 300					
Cushion	None										Rubber cushion		
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)												
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	6.52	6.52	7.78

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20 25, 30, 40, 50	50	
ø32			
ø40			
ø50	5, 10, 20, 30, 40, 50	50	
ø63			
ø80			
ø100	10, 20, 30, 40, 50 60, 70, 80, 90, 100	300	10
ø125			
ø140			
ø160			

*1: Total length when using a custom stroke is different between $\varnothing 12$ to $\varnothing 100$ and $\varnothing 125$ to $\varnothing 160$. Please be careful.

[$\varnothing 12$ to $\varnothing 100$]

The dimensions of the total length with the custom stroke are the handled same as the next longer standard stroke.

[$\varnothing 125$ to $\varnothing 160$]

Total length dimension with custom stroke is handled as the custom stroke dedicated length.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\varnothing 12$	5	5	25	-	-
$\varnothing 16$	5	5	25	-	-
$\varnothing 20$	5	5	-	-	-
$\varnothing 25$	5	5	35	50	-
$\varnothing 32$	5	5	35	50	-
$\varnothing 40$	5	5	35	50	-
$\varnothing 50$	5	5	35	50	-
$\varnothing 63$	5	5	35	55	-
$\varnothing 80$	5	5	35	55	-
$\varnothing 100$	5	5	35	55	-
$\varnothing 125$	10	10	40	55	70
$\varnothing 140$	10	10	40	55	70
$\varnothing 160$	10	10	40	55	70

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller	
Output method				-	NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.				-	10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

● ø12 to ø100

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-
ø16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-
ø20	131	187	143	222	161	238	179	254	196	269	214	285	-	-	-	-
ø25	147	238	162	253	178	269	194	285	210	301	226	316	257	348	288	379
ø32	184	299	230	344	275	390	322	436	366	481	413	527	507	617	601	707
ø40	283	426	310	453	336	479	363	506	390	533	416	569	469	612	522	665
ø50	458	652	508	702	558	751	608	803	658	851	708	901	808	1001	911	1105
ø63	827	953	902	1266	-	-	1052	1416	-	-	1202	1566	1353	1717	1503	1867
ø80	1491	1421	1608	1538	-	-	1841	2294	-	-	2074	2527	2308	2771	2541	3004
ø100	2314	2941	2483	3105	-	-	2820	3402	-	-	3158	3770	3495	4097	3833	4425

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

● ø125 to ø160

(Unit: kg)

Stroke (mm)	10		20		30		40		50		60		70		80		90		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	No switch	With switch	No switch	With switch	No switch	With switch
ø125	4.64	4.74	4.98	5.08	5.32	5.42	5.66	5.76	6	6.1	6.64	6.44	6.68	6.78	7.02	7.12	7.36	7.46	7.7	7.8
ø140	6.62	6.73	7	7.11	7.93	7.5	7.77	7.88	8.15	8.26	8.54	8.65	8.92	9.03	9.3	9.41	9.68	9.79	10.07	10.18
ø160	9.1	9.22	9.58	9.7	10.06	10.18	10.54	10.66	11.02	11.14	11.5	11.62	11.97	12.09	12.45	12.57	12.93	13.05	13.41	13.53

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø12	Pull	-	-	12.7	17.0	25.4	33.9	42.4	50.9	59.4	67.9	76.3	84.8
ø16	Pull	-	-	22.6	30.2	45.2	60.3	75.4	90.5	1.06x10 ²	1.21x10 ²	1.36x10 ²	1.51x10 ²
ø20	Pull	-	-	35.3	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Pull	-	-	56.7	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Pull	-	-	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Pull	-	-	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Pull	-	-	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Pull	-	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Pull	-	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Pull	-	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³
ø125	Pull	5.65x10 ²	1.13x10 ³	1.70x10 ³	2.26x10 ³	3.39x10 ³	4.52x10 ³	5.65x10 ³	6.79x10 ³	7.92x10 ³	9.05x10 ³	1.02x10 ⁴	1.13x10 ⁴
ø140	Pull	7.21x10 ²	1.44x10 ³	2.16x10 ³	2.89x10 ³	4.33x10 ³	5.77x10 ³	7.22x10 ³	8.66x10 ³	1.01x10 ⁴	1.15x10 ⁴	1.30x10 ⁴	1.44x10 ⁴
ø160	Pull	9.42x10 ²	1.88x10 ³	2.83x10 ³	3.77x10 ³	5.65x10 ³	7.54x10 ³	9.42x10 ³	1.13x10 ⁴	1.32x10 ⁴	1.51x10 ⁴	1.70x10 ⁴	1.88x10 ⁴

SSD-D Series

How to order

No switch (without magnet for switch)

SSD-D - **12** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-DL - **12** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Bore size

B Port thread

C Stroke

D Switch model No.

*1

*2

*9

⚠ Precautions for model No. selection

- *1 : Switches other than **D** Switch model No. are also available. (Made to order)
Refer to Ending Page 1 for details.
- *2 : AC magnetic field proof switch and T8* switch cannot be installed on ø12 and ø16.
- *3 : Piston rod of ø12 to ø25 is stainless steel as standard. C-snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *4 : The mounting bracket is included at shipment.
- *5 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.
- *6 : Two units are included when "I" or "Y" is selected. One unit each is included when "IY" is selected.
- *7 : Refer to Ending Page 85 for custom specifications of rod end form.
- *8 : Refer to pages 1086 and 1091 for combinations of variations/options.
- *9 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *10 : Only LB and CB are available for ø125 to ø160.

[Example of model No.]

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

Model: Compact cylinder double acting/double rod

- A** Bore size : ø12 mm
- B** Port thread : Rc thread
- C** Stroke : 5 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)

CKD

Code	Description
A Bore size (mm)	
12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
125	ø125
140	ø140
160	ø160

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

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

D Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
TOH*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color LED off-delay	2-wire
T2YD*	-			●	2-color LED	2-wire
T2YDT*	-			●	AC magnetic field	
T2HR3	T2VR3			●	1-color LED (bend resist lead wire specs)	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 (ø)	12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●
P6	Cu/PTFE free specs	Supported as standard							●	●	●		
M	Piston rod material (S S)	●	●	●	●	●	●	●	●	●	●		

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

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

[Stroke table]

Stroke (mm)		Applicable bore size												
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160
Standard stroke	5	●	●	●	●	●	●	●	●	●	●			
	10	●	●	●	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●						
	20	●	●	●	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●						
	30	●	●	●	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●	●	●	●
	60											●	●	●
	70											●	●	●
	80											●	●	●
	90											●	●	●
	100											●	●	●
Min. stroke (mm) *1		1										10		
Max. stroke (mm)		30			50							300		
Custom stroke *2		In 1 mm increments												

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

Refer to page 1188 for the number of installed switches and the min. stroke.

*2: Total length when using a custom stroke is different between ø12 to ø100 and ø125 to ø160 as below.

Please be careful.

[ø12 to ø100]

The dimensions of the total length with the custom stroke are the handled same as the next longer standard stroke.

[ø125 to ø160]

Total length dimension with custom stroke is handled as the custom stroke dedicated length.

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50
Mounting bracket							
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50
Bore size (mm)	ø63	ø80	ø100	ø125	ø140	ø160	
Mounting bracket							
Foot (LB)	SSD-LB-63	SSD-LB-80	SSD-LB-100	SSD-LB-125	SSD-LB-140	SSD-LB-160	
Foot (LB2)	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100	-	-	-	
Flange (FB)	SSD-FA-63	SSD-FA-80	SSD-FA-100	-	-	-	

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

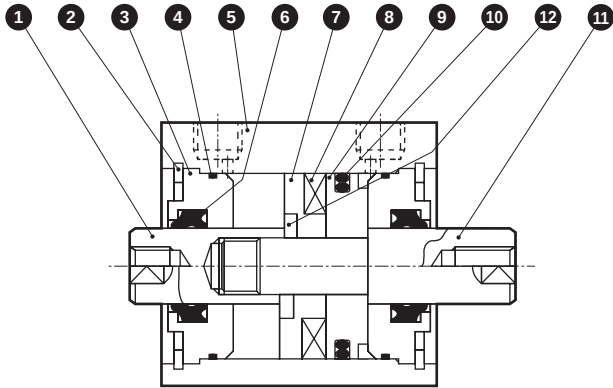
Spd
Contr

Ending

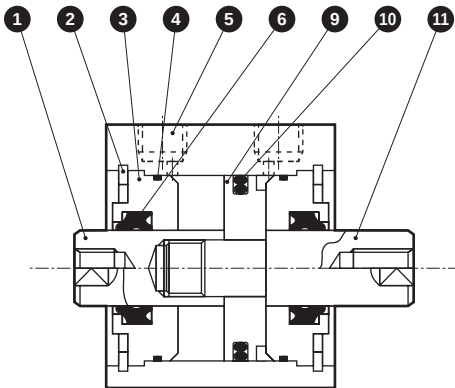
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list

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



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



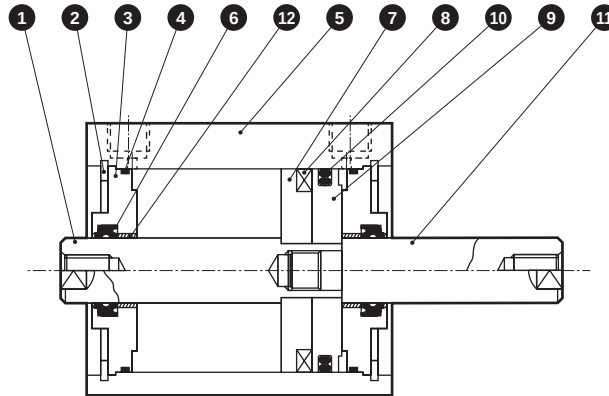
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod ①	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating	8	Magnet	Plastic	
2	C-snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Piston rod ②	ø12 to ø25: Stainless steel ø32 to ø50: Steel	ø16 to ø50: Industrial chrome plating
5	Body	Aluminum alloy	Hard alumite	12	Spacer washer	Stainless steel	ø25, 50
6	Rod packing	Nitrile rubber					
7	Spacer	ø12, ø20, ø32, ø40: Aluminum alloy ø16, ø25, ø50: Special resin	ø12, 20, 32, 40: Chromate				

Repair parts list

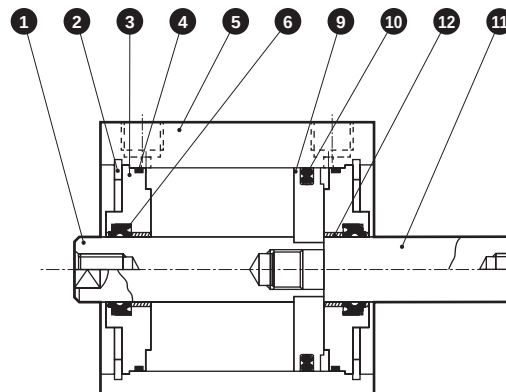
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-D-12K	● 4 ● 6 ● 10
ø16	SSD-D-16K	
ø20	SSD-D-20K	
ø25	SSD-D-25K	
ø32	SSD-D-32K	
ø40	SSD-D-40K	
ø50	SSD-D-50K	

Internal structure and parts list

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



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



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod [Ⓐ]	Steel	Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
2	C-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.
ø63	SSD-D-63K	4 6 10
ø80	SSD-D-80K	
ø100	SSD-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

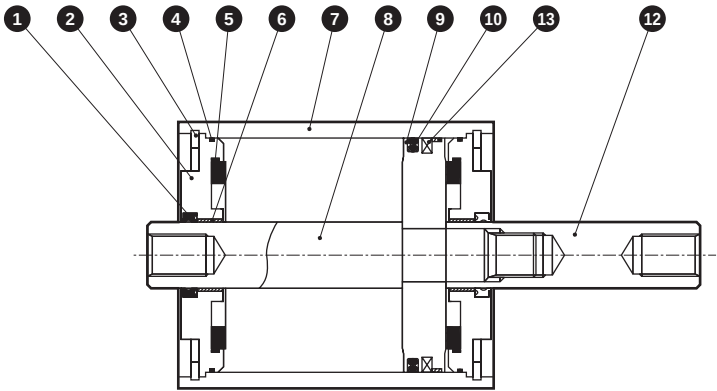
Spd
Contr

Ending

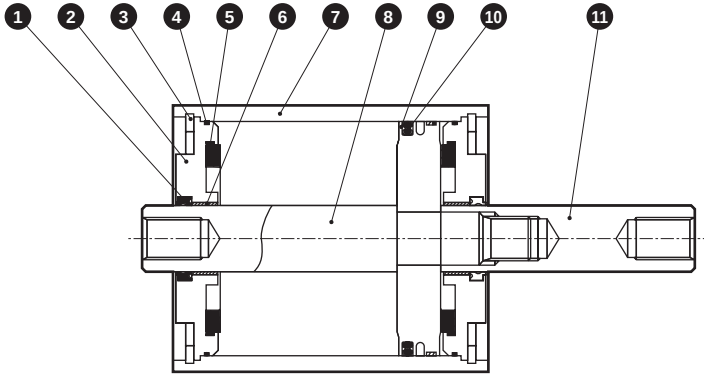
SSD-D Series

Internal structure and parts list

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



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



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

Repair parts kit

Bore size (mm)	Kit No.	Repair parts No.
ø125	SSD-D-125K	① ④ ⑤ ⑩
ø140	SSD-D-140K	
ø160	SSD-D-160K	

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

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

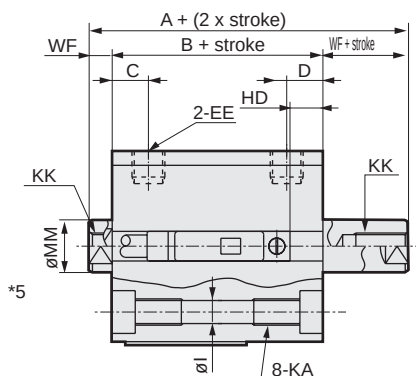
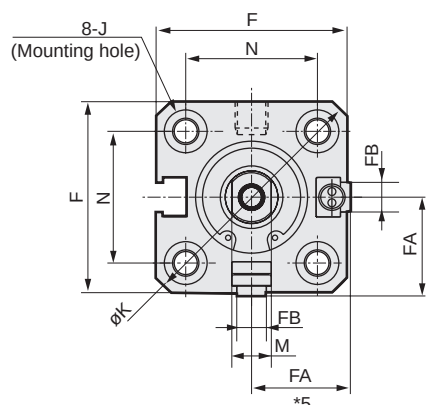
Ending

Dimensions

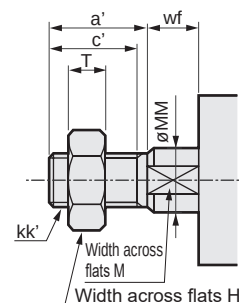


● SSD-DL-12 to 25 (with switch)

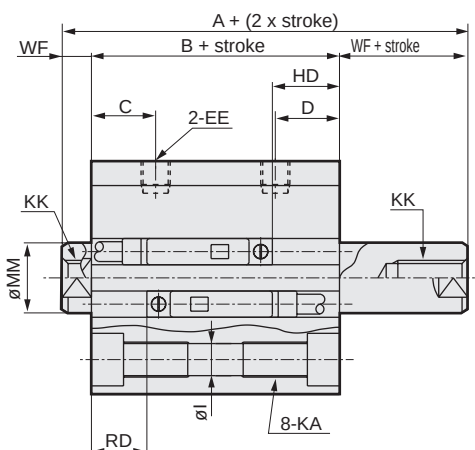
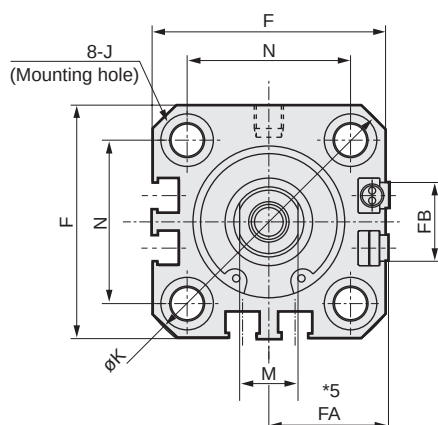
ø12/ø16



● Rod end male thread



ø20/ø25



Note: The positions for the left and right widths across flats are unspecified.

Code	Common dimensions with switch																
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*5}	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	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
ø16	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
ø20	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
ø25	51	41	11	11	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV				●*1 :To calculate A+ (2 x stroke), B+ stroke or WF+ stroke when using a custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. Left and right projection dimensions of rod differ. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. ●*2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.							
Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}										
ø12	5		2.5		5		2.5										
ø16	5		2		5		2										
ø20	9.5		6.5		9.5		6.5										
ø25	11.5		9.5		11.5		9.5										

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

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

● *3 : Refer to page 1312 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4 : Refer to page 1312 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

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

● *6 : For dimensions of individual accessories, refer to pages 1108 to 1115.

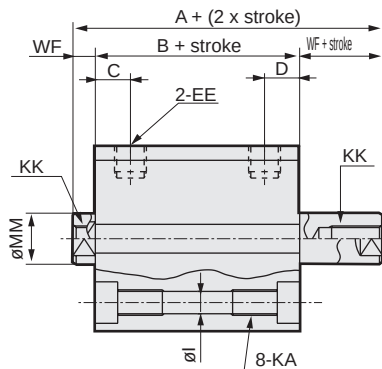
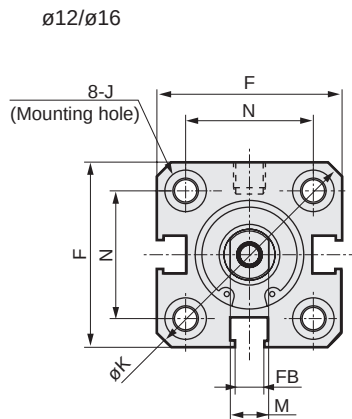
Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

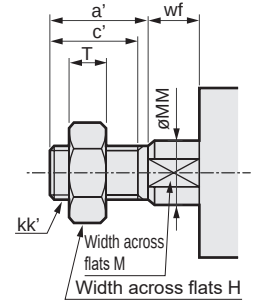
Dimensions



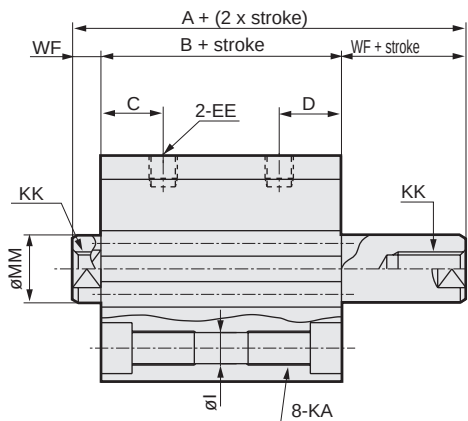
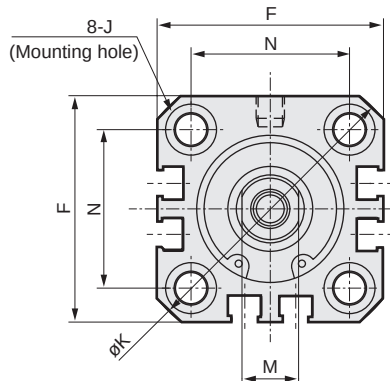
● SSD-D-12 to 25 (without switch)



● Rod end male thread



ø20/ø25



Note: The positions for the left and right widths across flats are unspecified.

Code	Dimensions without switch and common dimensions															
Bore size (mm)	A *1	B *1	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ø12	29	22	5.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	29	22	5.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ø20	35	26	8	8	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	41	31	11	11	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

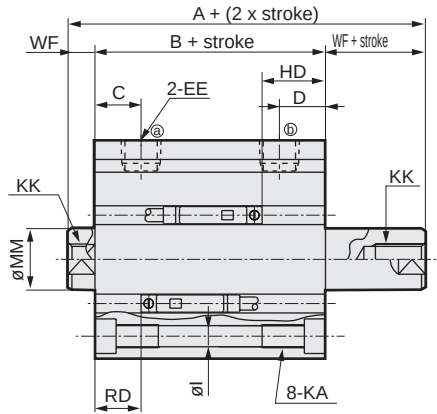
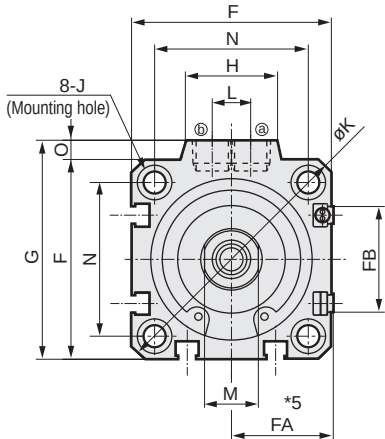
● *1 : To calculate A+ (2 x stroke), B+ stroke or WF+ stroke when using a custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10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

● *2 : For dimensions of individual accessories, refer to pages 1108 to 1115.

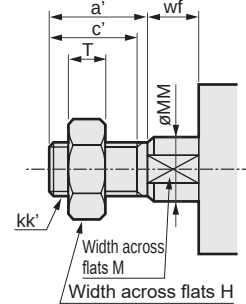
Dimensions



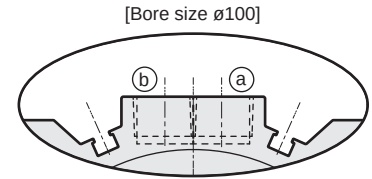
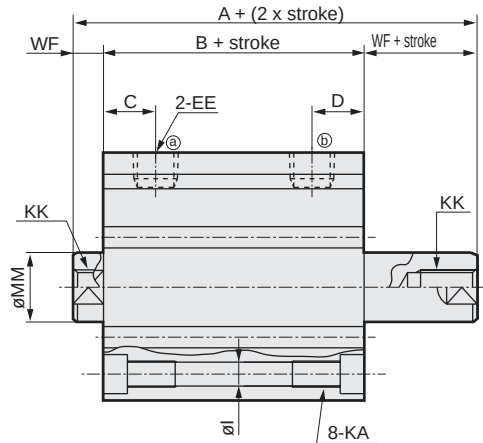
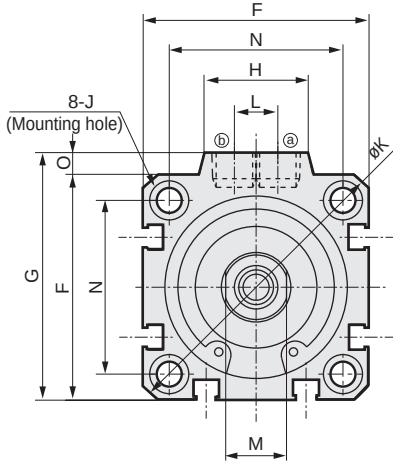
● SSD-DL-32 to 100 (with switch)



● Rod end male thread



● SSD-D-32 to 100 (without switch)



* Only for Ø100, the port surface has switch grooves.

Note: The positions for the left and right widths across flats are unspecified.

Code	No switch		Common dimensions with switch																				
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*5}	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ø32	44.5	30.5	54.5	40.5	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ø40	53	39	63	49	12	12	Rc1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ø50	55	39	65	49	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ø63	57	41	67	51	13	13	Rc1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ø80	68.5	48.5	78.5	58.5	16	16	Rc3/8	98	49.5(53)	28.5	104	38	10.5	17.5 spot face Depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ø100	82	58	92	68	23	23	Rc3/8	117	59(62.5)	28.5	123.5	38	10.5	17.5 spot face Depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions	Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV			
	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}	HD ^{*2}	RD ^{*2}
Ø32	11	9	11	9	11	9	11	9
Ø40	16.5	12	16.5	12	16.5	12	16.5	12
Ø50	16.5	12.5	16.5	12.5	16.5	12.5	16.5	12.5
Ø63	18	13	18	13	18	13	18	13
Ø80	23	15.5	23	15.5	23	15.5	23	15.5
Ø100	28.5	19.5	28.5	19.5	28.5	19.5	28.5	19.5

- *1 : To calculate A + (2 x stroke), B + stroke or WF + stroke when using a custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. Left and right projection dimensions of rod differ. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *3 : Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Refer to page 1313 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Dimensions in () of FA are for the L-shaped lead wire.
- *6 : For dimensions of individual accessories, refer to pages 1108 to 1115.

Dimensions of rod end male thread

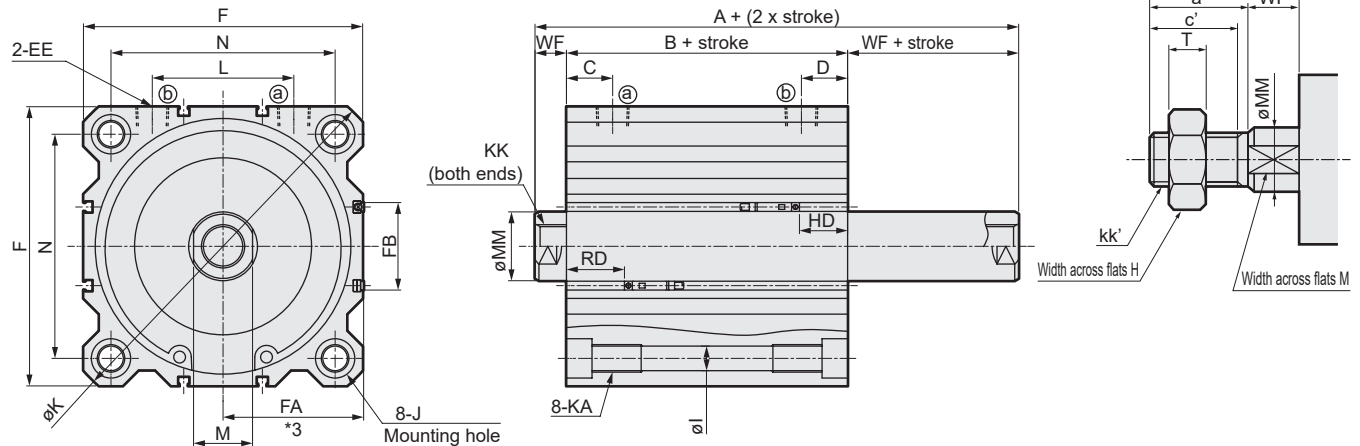
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
Ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
Ø 50	28.5	26	27	M18x1.5	17	20	11	5
Ø 63	28.5	26	27	M18x1.5	17	20	11	5
Ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
Ø100	35.5	32.5	41	M26x1.5	27	30	16	8

Dimensions

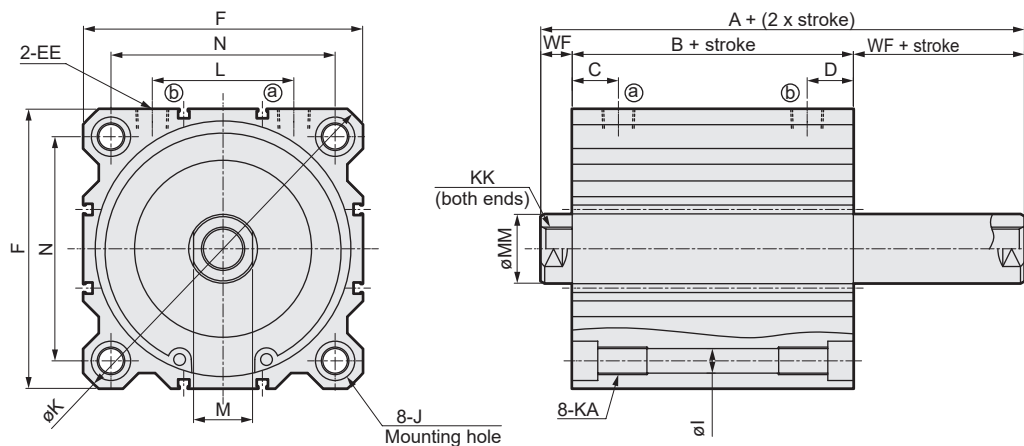


● SSD-DL-125 to 160 (double acting/double rod/with switch)

● Rod end male thread



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



Code	Common dimensions with switch												
Bore size (mm)	A	B	C	D	EE	F	FA (*3)	FB	I	J	K	KA	KK (*2)
ø125	104	72	23.5	23.5	Rc3/8	142	71.5(75)	44.5	12.5	20 spot face depth 13	190	M14 Depth 25	M22x2.5 Depth 30 (22)
ø140	114	82	27	27	Rc3/8	158	79.5(83)	44.5	12.5	20 spot face depth 13	210	M14 Depth 25	M22x2.5 Depth 30 (22)
ø160	125	91	30	30	Rc3/8	178	89.5(93)	48.5	14.7	23 spot face depth 15.2	238	M16 Depth 28	M24x3 Depth 33 (24)

Code	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV			
Bore size (mm)	L	M	MM	N	WF	HD	RD	HD	RD
ø125	72	30	35	114	16	24.5	29.5	24.5	29.5
ø140	80	30	35	128	16	31	33	31	33
ø160	90	36	40	144	17	34	39	34	39

*1: Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof switches.

*2: Values in () for KK dimensions indicate effective thread length on one side with 10 mm stroke.

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

*4: The positions for the left and right widths across flats are unspecified.

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø125	45	42	46	M30x1.5	30	35	18	13
ø140	45	42	46	M30x1.5	30	35	18	13
ø160	50	47	55	M36x1.5	36	40	21	14

* For dimensions of individual accessories, refer to pages 1108 to 1115.



Compact cylinder double acting/back to back

SSD-B Series

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

JIS symbol



Specifications

Item	SSD-B SSD-BL (with switch)									
	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Bore size mm										
Actuation	Double acting/back to back									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)									
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05 (≈7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)									
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	S ₁ = $\begin{matrix} +1.0 \\ 0 \end{matrix}$				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 ISO VG32 if necessary for lubrication)									
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	50	
ø80			
ø100			

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

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

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)	T*	T*	T*	T*	T*
$\varnothing 12$	5	5	25	-	-
$\varnothing 16$	5	5	25	-	-
$\varnothing 20$	5	5	-	-	-
$\varnothing 25$	5	5	35	50	-
$\varnothing 32$	5	5	35	50	-
$\varnothing 40$	5	5	35	50	-
$\varnothing 50$	5	5	35	50	-
$\varnothing 63$	5	5	35	50	-
$\varnothing 80$	5	5	35	50	-
$\varnothing 100$	5	5	35	50	-

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V			T2YD (*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay			Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49								
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80								

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	84	188	102	188	122	208	140	226	160	246	178	264	-	-	-	-
ø16	108	224	132	224	154	246	178	270	202	294	226	318	-	-	-	-
ø20	160	278	188	346	218	376	248	406	276	434	306	464	-	-	-	-
ø25	212	402	246	436	282	472	318	508	354	544	388	578	460	650	530	720
ø32	282	518	330	566	378	614	426	662	472	708	520	756	616	852	710	946
ø40	404	698	462	756	518	812	578	870	634	928	690	984	804	1098	918	1212
ø50	682	1086	774	1178	866	1270	958	1362	1050	1454	1144	1548	1328	1732	1512	1916
ø63	1044	1626	1166	1748	-	-	1410	1992	-	-	1654	2236	1900	2482	2144	2726
ø80	1920	2778	2110	2968	-	-	2488	3348	-	-	2868	3730	3252	4114	3634	4500
ø100	2908	4074	3152	4320	-	-	3640	4810	-	-	4132	5302	4622	5796	5118	6292

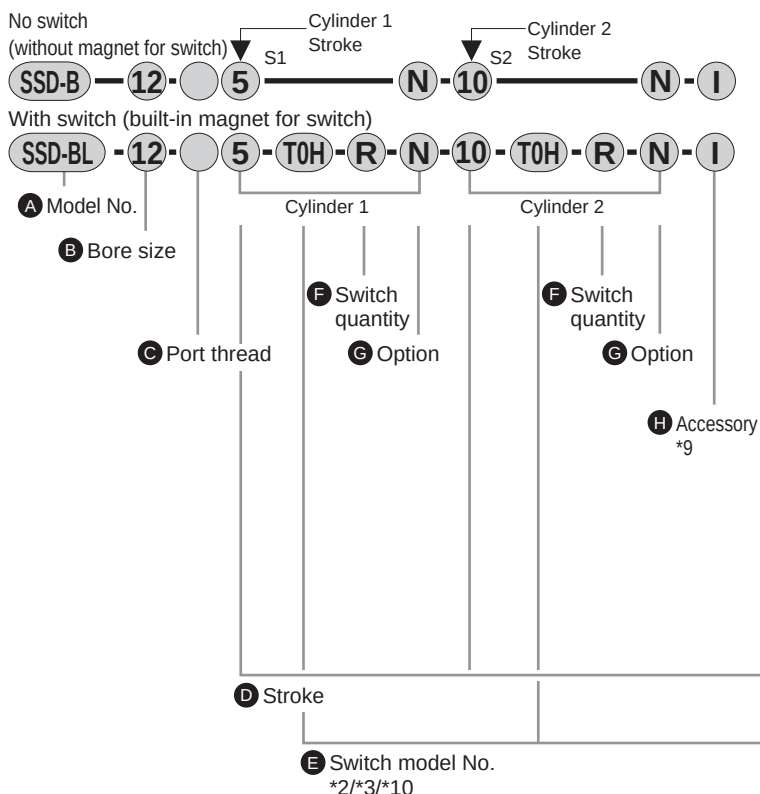
Theoretical thrust table

(Unit: N)

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

SSD-B Series

How to order



⚠ Precautions for model No. selection

- *1 : When two cylinders are connected, the connection is from Cylinder 2 side. (Refer to dimensions)
- *2 : Switches other than switch model No. are also available. (Made to order) Refer to Ending Page 1 for details.
- *3 : An AC magnetic field proof switch cannot be installed on ø12 and ø16. In addition, T8* switch cannot be installed on ø12 to ø32.
- *4 : Copper and PTFE free as standard for SSD-B-12 to 50.
- *5 : The mounting bracket is included at shipment.
- *6 : Refer to Ending Page 85 for custom specifications of rod end form.
- *7 : Refer to pages 1086 and 1089 for combinations of variations/options.
- *8 : Option code "N" will be inscribed on both S1 and S2 sides, but for all other option codes, they will only be written on S2.
- *9 : Two units are included when an accessory is selected. One unit each is included when "IY" is selected.
- *10 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.
- *11 : When S1 stroke is at or below that in the table below, the length of the usable mounting bolts will differ from the standard and so contact CKD.

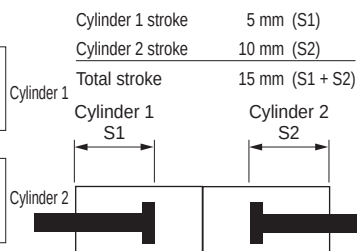
Bore size	No switch	With switch
	S1 stroke	
ø20	10 or less	-
ø25	5 or less	-
ø32	5 or less	-
ø50	5 or less	-
ø63	15 or less	5 or less
ø80	20 or less	10 or less
ø100	10 or less	-

[Example of model No.]

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

Model: Compact cylinder, back to back

- B** Bore size : ø12 mm
- C** Port thread : Rc thread
- D** Stroke S1 : 5 mm
- E** Switch model No. : Reed switch T0H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread
- D** Stroke S2 : 10 mm
- E** Switch model No. : Reed switch T0H, lead wire 1 m
- F** Switch quantity : 1 on rod side
- G** Option : Rod end male thread



Code	Description
A Model No.	
SSD-B	Double acting/back to back
SSD-BL	Double acting/back to back/with switch
SSD-BL1	ø12, ø16 2-color LED, off-delay, with T1* switch

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

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

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

E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
		AC	DC			
TOH*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		
T3PH*	T3PV*			●	1-color LED	3-wire
T2WH*	T2WV*			●		
T2YH*	T2YV*			●	2-color LED	2-wire
T3WH*	T3WV*			●		
T3YH*	T3YV*			●		
T2JH*	T2JV*			●	1-color LED off-delay	2-wire
T2YD*	-			●	2-color LED AC magnetic field	2-wire
T2YDT*	-			●		
T2HR3	T2VR3			●	1-color LED (bend resist lead wire specs)	2-wire

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

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

G Option	
Blank	Rod end female thread
N	Rod end male thread
M	*8 Piston rod material (stainless steel)

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

How to order switch



Switch model No.
(Item E on page 1202)

[Stroke table]

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●
Min. stroke (mm) *1		1									
Max. stroke (mm)		30			50						
Custom stroke *2		In 1 mm increments									

1 : Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1200 for the number of installed switches and the min. stroke.

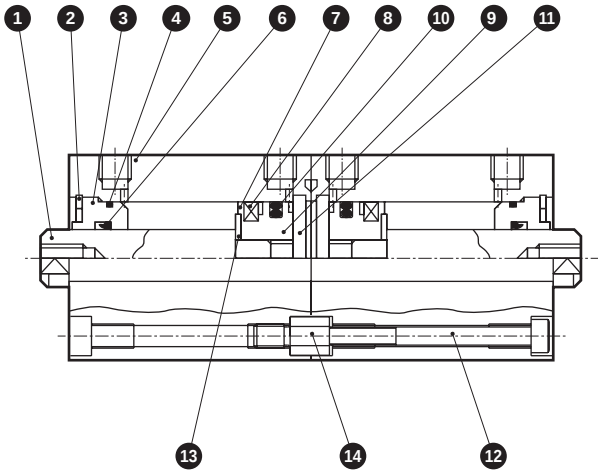
*2 : The total length is the same as that of the next longer standard stroke.

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

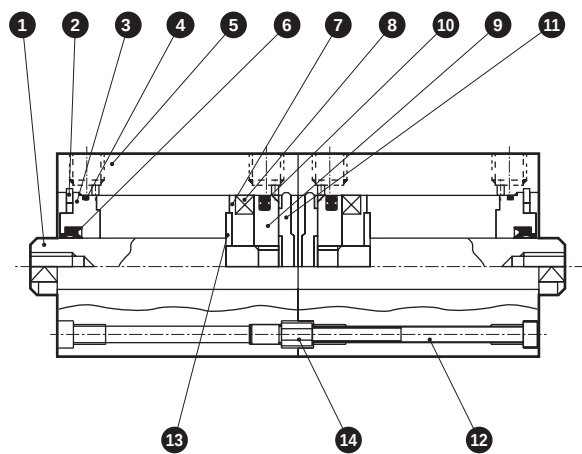
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list

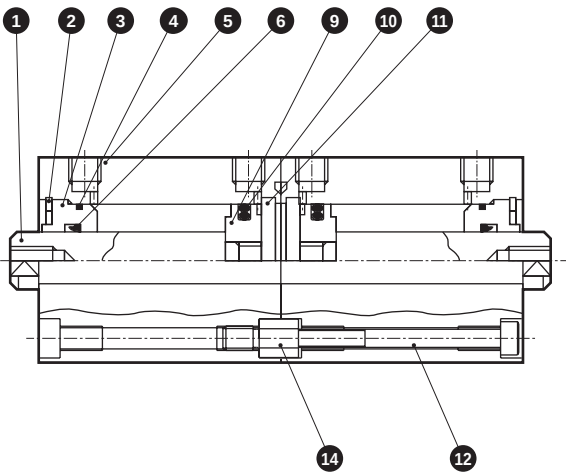
● SSD-BL-12 to 25 (double acting/back to back/with switch)



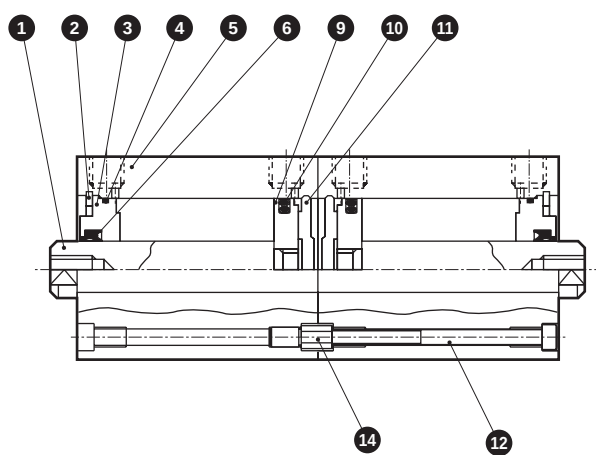
● SSD-BL-32 to 50 (double acting/back to back/with switch)



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



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



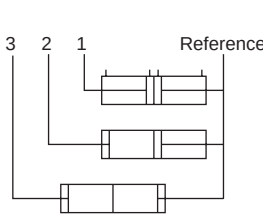
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø50: Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C-snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
5	Body	Aluminum alloy	Hard alumite	12	Hex socket screw	Alloy steel	Black finish
6	Rod packing	Nitrile rubber		13	Spacer washer	Stainless steel	ø12 to ø50
7	Spacer	ø12: Aluminum alloy ø16 to ø50: Special resin	ø12: Chromate	14	Connector	Steel	Zinc chromate

Repair parts list

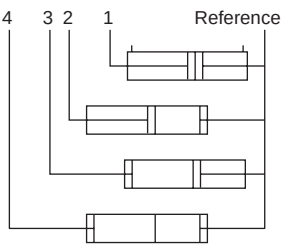
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-B-12K	4 6 10
ø16	SSD-B-16K	
ø20	SSD-B-20K	
ø25	SSD-B-25K	
ø32	SSD-B-32K	
ø40	SSD-B-40K	
ø50	SSD-B-50K	

SSD-B application examples

When the same strokes are combined, 3 positions are possible.

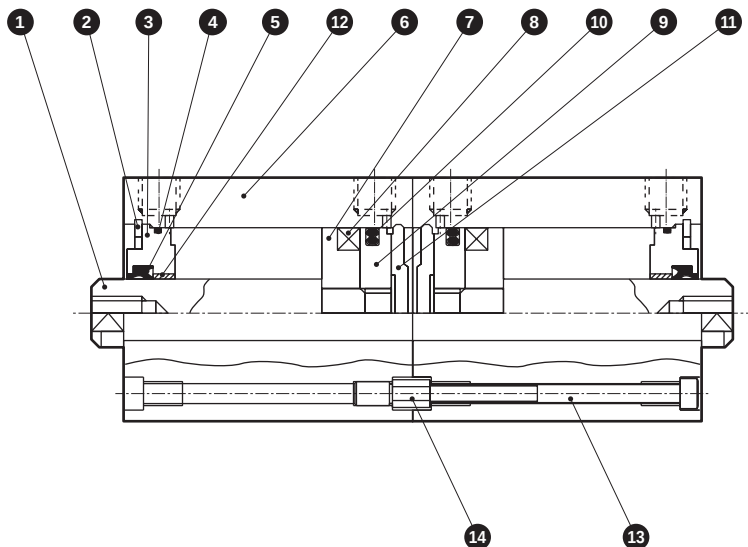


When different strokes are combined, 4 positions are possible.

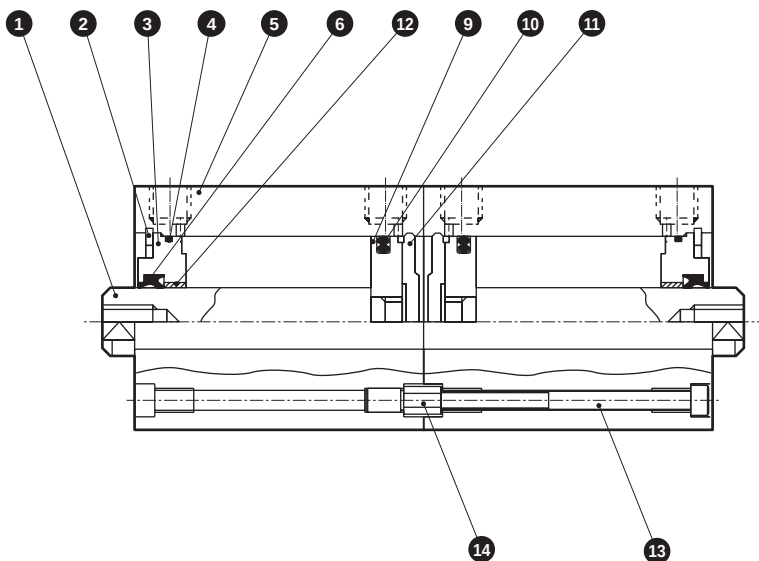


Internal structure and parts list

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



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



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø12 to ø25: Stainless steel ø32 to ø50: 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	Cover	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Bush	Oiles drymet	
6	Rod packing	Nitrile rubber		13	Hex socket screw	Alloy steel	Black finish
7	Spacer	Aluminum alloy	Chromate	14	Connector	Steel	Zinc chromate

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø63	SSD-B-63K	4 6 10
ø80	SSD-B-80K	
ø100	SSD-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

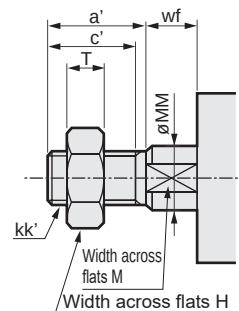
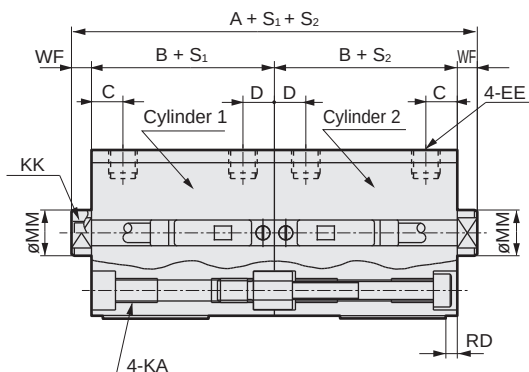
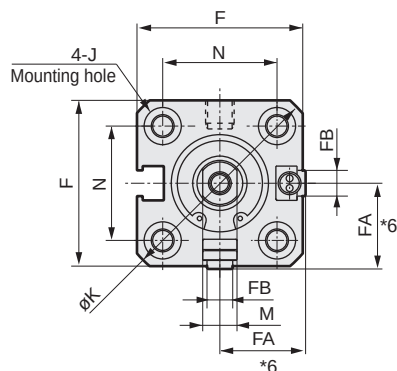
Ending

Dimensions

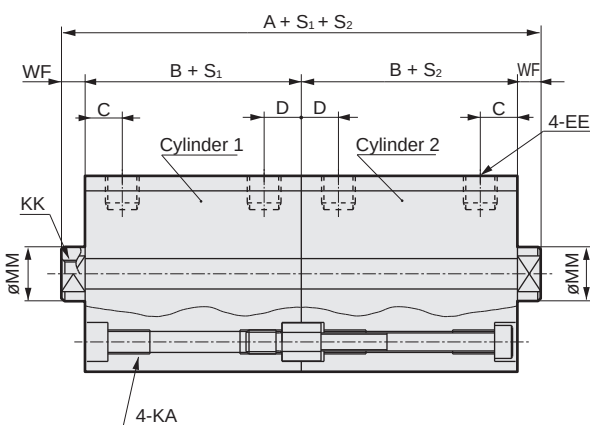
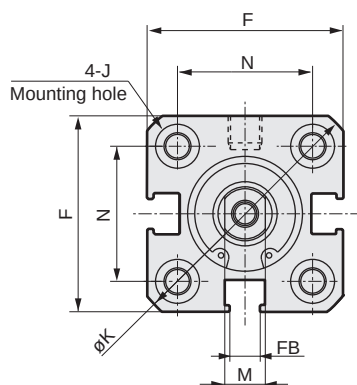


● SSD-BL-12/16 (with switch)

● Rod end male thread



● SSD-BL-12/16 (without switch)



Code	No switch		Common dimensions with switch																
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*6}	FB	J	K	KA	KK	M	MM	N	WF	
ø12	41	17	51	22	5.5	5.5	M5	25	13(16.5)	4.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5	
ø16	41	17	51	22	5.5	5.5	M5	29	15(18.5)	4.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5	
Switch dimensions	Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V														
	T2WH/T2WV, T3WH/T3WV																		
Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}												
ø12	0		2.5		0		2.5												
ø16	0		2		0		2												

● *3 : When the stroke S₁ or S₂ is 5 mm for ø12 or ø16 with switch in the dimensions table above, (B+S₁), (B+S₂), and (A+S₁+S₂) are as shown in the table below.

Code	Conditions	B + S ₁	B + S ₂	A + S ₁ + S ₂
ø12	S ₁ = 5	32	22 + S ₂	61 + S ₂
	S ₂ = 5	22 + S ₁	32	61 + S ₁

- *1 : To calculate A + S₁ + S₂ or B + S₁ + S₂ when using custom stroke, apply the next longer standard strokes (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.

- *3 : When the stroke S₁ or S₂ is 5 mm for Ø12 or Ø16 with switch in the dimensions table above, (B+S₁), (B+S₂), and (A+S₁+S₂) are as shown in the table below.

Code	Conditions	B + S ₁	B + S ₂	A + S ₁ + S ₂
Ø12 Ø16	S ₁ = 5	32	22 + S ₂	61 + S ₂
	S ₂ = 5	22 + S ₁	32	61 + S ₁
	When S ₁ = S ₂ = 5	32	32	71

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

- *4 : Refer to page 1312 for HD and RD dimensions for the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Refer to page 1312 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the L-shaped lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1108 to 1115.

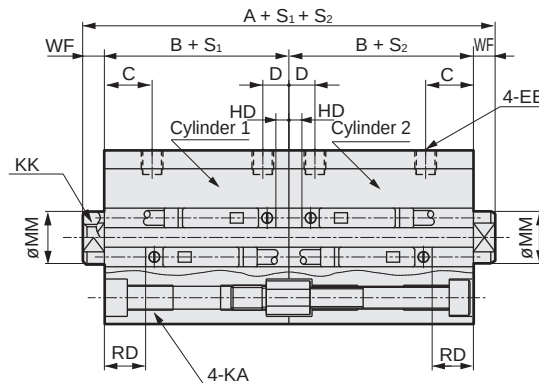
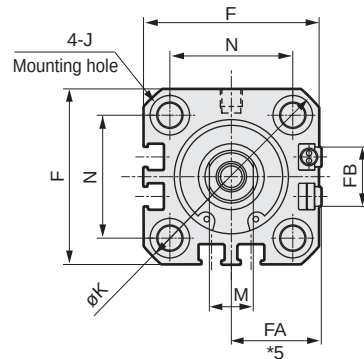
Dimensions of rod end male thread

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

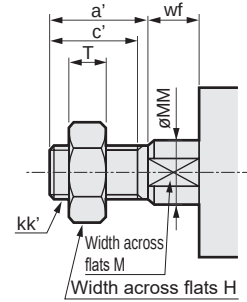
Dimensions



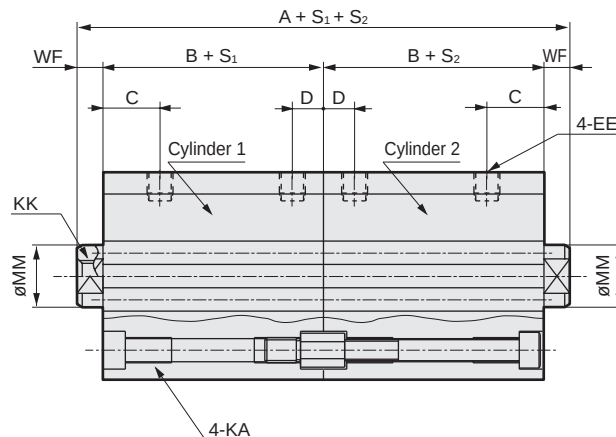
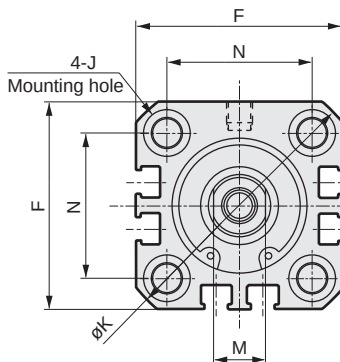
● SSD-BL-20/25 (with switch)



● Rod end male thread



● SSD-B-20/25 (without switch)



Code	No switch		Common dimensions with switch																	
Bore size (mm)	A *1	B *1	A *1	B *1	C	D	EE	F	FA *5	FB	J		K	KA	KK	M	MM	N	WF	
ø20	48	19.5	68	29.5	8	5.5	M5	36	18.5(22)	12.5	9 spot face depth 5.5		47	M6 depth 11	M5 depth 7	8	10	25.5	4.5	
ø25	55	22.5	75	32.5	11	6	M5	40	20.5(24)	13.5	9 spot face depth 5.5		51	M6 depth 11	M6 depth 12	10	12	28	5	
Switch dimensions	Reed T0H/T0V, T5H/T5V				Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV				● *1 : To calculate A + S₁ + S₂ or B + S₁ + S₂ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. ● *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions											
	HD *2		RD *2		HD *2		RD *2													
ø20	3		6.5		3		6.5													
ø25	3		9.5		3		9.5													

● *1 : To calculate $A + S_1 + S_2$ or $B + S_1 + S_2$ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

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

● *3 : Refer to page 1312 for HD and RD dimensions for the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4 : Refer to page 1312 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

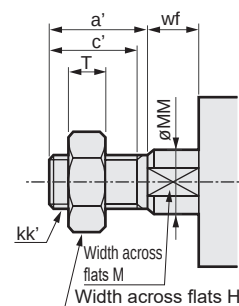
● *5 : Dimensions in () of FA are for the L-shaped lead wire.

● *6 : For dimensions of individual accessories, refer to pages 1108 to 1115.

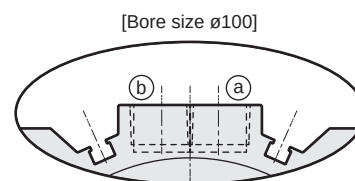
Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

● Rod end male thread



Technical drawing of a cross-section of a double-cylinder assembly. The drawing shows two cylinders, "Cylinder 1" and "Cylinder 2", mounted on a common base. The total width is labeled $A + S_1 + S_2$. The distance between the centers of the cylinders is $B + S_1$ and $B + S_2$. The width of each cylinder is C . The distance between the inner surfaces of the cylinders is D . The drawing also shows the "4-EE" (end effector) and "4-KA" (kinematic assembly) components. The diameter of the cylinders is labeled $\varnothing\text{MM}$.



* Only for Ø100, the port surface has switch grooves.

Code	No switch		Common dimensions with switch																			
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*5}	FB	G	H	J	K	KA	KK	L	M	MM	N	O	WF
ø32	60	23	80	33	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ø40	73	29.5	93	39.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	24	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ø50	77	30.5	97	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ø63	88	36	108	46	13	11	Rc1/4	77	39(42.5)	28.5	84	33	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ø80	107	43.5	127	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	38	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ø100	130	53	150	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12
Switch dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV															
Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}															
ø32	3.5		9		3.5		9															
ø40	7		12		7		12															
ø50	7.5		12.5		7.5		12.5															
ø63	12.5		13		12.5		13															
ø80	17.5		15.5		17.5		15.5															
ø100	23		19.5		23		19.5															

- *1: To calculate A + S₁ + S₂ or B + S₁ + S₂ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *3: Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4: Refer to page 1313 for the protruding dimensions of

● *1 : To calculate $A + S_1 + S_2$ or $B + S_1 + S_2$ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

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

● *3: Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4: Refer to page 1313 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

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

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	17	20	11	5
ø 63	28.5	26	27	M18x1.5	17	20	11	5
ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.

MEMO

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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/2-stage

SSD-W Series

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



Specifications

Item	SSD-W										
	SSD-WL (with switch)										
Bore size	mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation		Double acting/2-stage									
Working fluid		Compressed air									
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar) (Note)									
Min. working pressure	MPa	0.15 (≈22 psi, 1.5 bar)							0.1 (≈15 psi, 1 bar)		
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)									
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)									
Port size		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	$S_1 = \begin{matrix} +1.0 \\ 0 \end{matrix}$							$S_2 = \begin{matrix} 0 \\ -1.5 \end{matrix}$		
Working piston speed	mm/s	50 to 500							50 to 300		
Cushion		None									
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)									
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

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

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	50	
ø80			
ø100			

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

*2) When using the type with a switch, refer to the table below.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\varnothing 12$	5	5	25	-	-
$\varnothing 16$	5	5	25	-	-
$\varnothing 20$	5	5	-	-	-
$\varnothing 25$	5	5	35	50	-
$\varnothing 32$	5	5	35	50	-
$\varnothing 40$	5	5	35	50	-
$\varnothing 50$	5	5	35	50	-
$\varnothing 63$	5	5	35	55	-
$\varnothing 80$	5	5	35	55	-
$\varnothing 100$	5	5	35	55	-

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity		
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V		T2YD (*4) T2YDT			
Applications	For programmable controller, relay, compact solenoid valve		Dedicated for programmable controller		For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller			
Output method	-				NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-				10 to 28 VDC				-								
Load voltage	85 to 265 VAC		10 to 30 VDC		24 VDC ±10%		30 VDC or less			12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA		5 to 20 mA (*3)		100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)		
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA						1 mA or less		
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80			1 m:33 3 m:87 5 m:142		1 m:61 3 m:166 5 m:272			
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49									
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80									

*1:Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

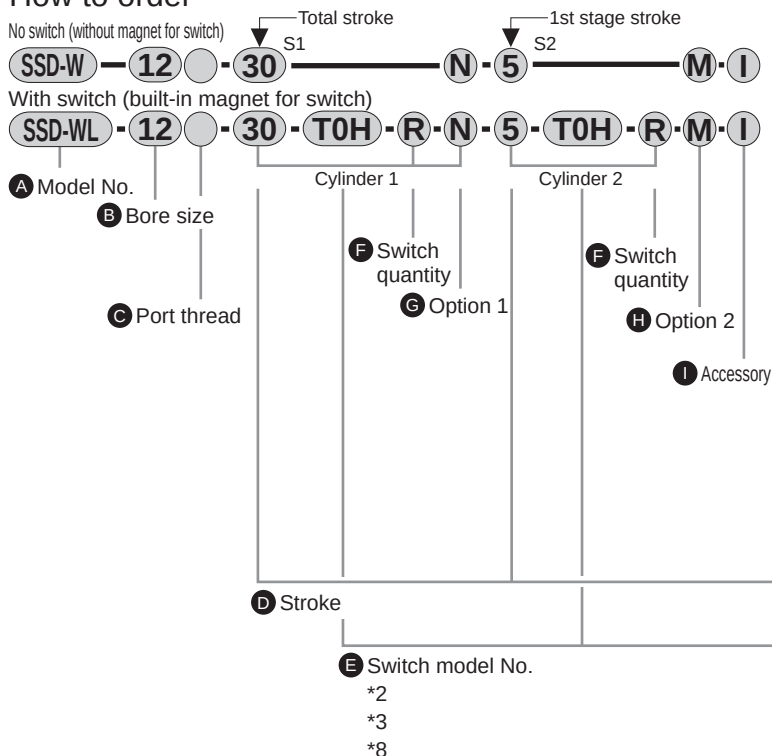
*4: Switch for AC magnetic field (T2YD/T2YDT) cannot be used in DC magnetic field.

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	88	191	104	191	122	210	138	227	156	246	163	267	—	—	—	—
ø16	122	237	144	237	164	258	186	281	208	304	230	324	—	—	—	—
ø20	194	305	218	372	249	401	280	430	309	457	340	486	—	—	—	—
ø25	234	416	264	446	296	478	328	510	360	542	391	572	454	636	516	698
ø32	306	535	374	602	441	670	510	738	575	804	644	872	782	1006	919	1139
ø40	466	752	520	806	572	858	626	912	680	966	732	1028	838	1124	944	1230
ø50	757	1145	849	1237	941	1328	1033	1422	1125	1512	1218	1605	1402	1789	1589	1977
ø63	1279	1684	1409	2052	—	—	1669	2312	—	—	1929	2572	2191	2834	2451	3094
ø80	2332	2675	2536	2879	—	—	2942	3808	—	—	3348	4214	3756	4632	4162	5038
ø100	3633	4827	3916	5105	—	—	4480	5629	—	—	5046	6225	5610	6779	6176	7335

How to order



⚠ Precautions for model No. selection

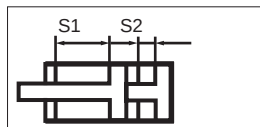
- *1 : As two cylinders are fastened at four positions from cylinder 2 (head side), they cannot be mounted at the head side. For mounting at the head side, made to order is available. Contact CKD separately.
- *2 : Switches other than **E** Switch model No. are also available. (Made to order)
Refer to Ending Page 1 for details.
- *3 : An AC magnetic field proof switch cannot be installed on $\phi 12$ and $\phi 16$. In addition, T8* switch cannot be installed on $\phi 12$ to $\phi 32$.
- *4 : Piston rod of $\phi 12$ to $\phi 25$ is stainless steel as standard. C-snap ring is stainless steel instead of steel. The rod end male thread nut is stainless steel.
- *5 : Copper and PTFE free as standard for SSD-W12 to 50.
- *6 : Refer to Ending Page 85 for custom specifications of rod end form.
- *7 : Refer to pages 1086 and 1087 for combinations of variations/options.
- *8 : Switches are shipped with the product. Contact CKD if assembling before shipment is necessary.

[Example of model No.]

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

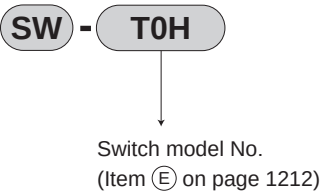
Model: Compact cylinder, 2-stage

B Bore size	: $\phi 12$ mm	
C Port thread	: Rc thread	
D Total stroke S1	: 30 mm	
E Switch model No.	: Reed switch T0H, lead wire 1 m	Cylinder 1
F Switch quantity	: 1 included (on rod side)	
G Option 1	: Rod end male thread	
D 1st stage stroke S2	: 5 mm	1st stage stroke 5 mm (S2)
2nd stage stroke	: 25 mm	+ 2nd stage stroke 25 mm
E Switch model No.	: Reed switch T0H, lead wire 1 m	Total stroke 30 mm (S1)
F Switch quantity	: 1 on rod side	
I Accessory	: Rod eye	



Code	Description					
A Model No.						
SSD-W	Double acting/2-stage					
SSD-WL	Double acting/2-stage/with switch					
SSD-WL1	ø12, ø16 2-color LED, off-delay, with T1* switch					
B Bore size (mm)						
12	ø12					
16	ø16					
20	ø20					
25	ø25					
32	ø32					
40	ø40					
50	ø50					
63	ø63					
80	ø80					
100	ø100					
C Port thread						
Blank	Rc thread					
NN	NPT thread (ø32 and over) (made-to-order product)					
GN	G thread (ø32 and over) (made-to-order product)					
D Stroke (mm)						
Refer to the stroke table on the following page.						
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●	●	1-color LED	2-wire
T2H*	T2V*		●	●		
T3H*	T3V*		●	●		
T3PH*	T3PV*		●	●	1-color LED	3-wire
T2WH*	T2WV*		●	●	2-color LED	
T2YH*	T2YV*		●	●		
T3WH*	T3WV*		●	●		3-wire
T3YH*	T3YV*		●	●		
T2JH*	T2JV*		●	●		1-color LED off-delay
T2YD*	-		●	●	2-color LED	2-wire
T2YDT*	-		●	●	AC magnetic field	
T2HR3	T2VR3		●	●	1-color LED (bend resist lead wire specs)	2-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
R	1 on rod side					
H	1 on head side					
D	2					
G Option 1						
Blank	Rod end female thread					
N	Rod end male thread					
H Option 2						
M	Piston rod material (stainless steel)					
I Accessory (available when rod end male thread "N" is selected)						
I	Rod eye					
I2	Rod eye (compact)					
Y	Rod clevis (pin and snap ring included)					
Y2	Rod clevis (compact) (pin and snap ring included)					

How to order switch



[Stroke table]

Stroke (mm)		Applicable bore size									
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●	●
	40				●	●	●	●	●	●	●
	50				●	●	●	●	●	●	●
Min. stroke (mm) *1		1									
Max. stroke (mm)		30			50						
Custom stroke *2		In 1 mm increments									

1 : Less than 5 mm with 1-color LED switch and less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch are not available.
Refer to page 1210 for the number of installed switches and the min. stroke.

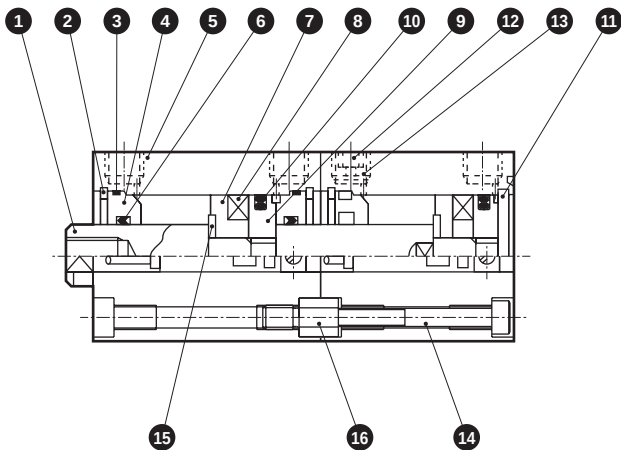
*2 : The total length is the same as that of the next longer standard stroke.

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

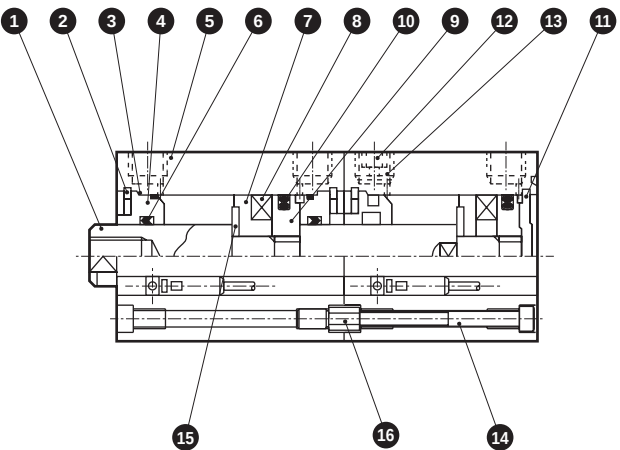
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Internal structure and parts list

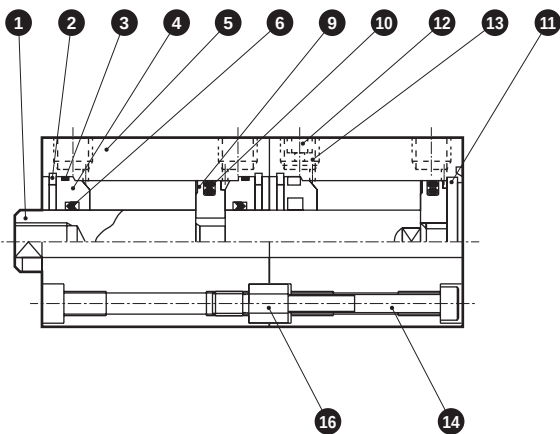
● SSD-WL-12 to 25 (double acting/2-stage/with switch)



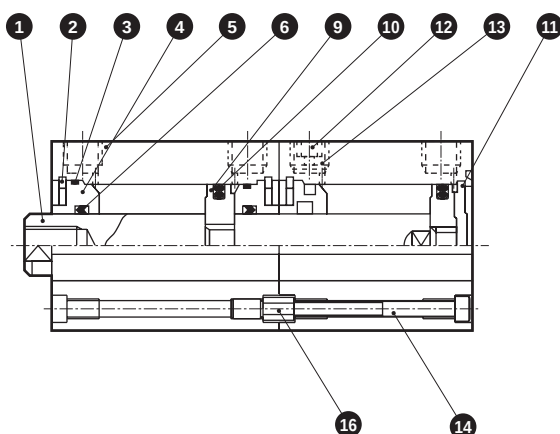
● SSD-WL-32 to 50 (double acting/2-stage/with switch)



● SSD-W-12 to 25 (double acting/2-stage)



● SSD-W-32 to 50 (double acting/2-stage)



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

No.	Part name	Material	Remarks
9	Piston	Aluminum alloy	Chromate
10	Piston packing	Nitrile rubber	
11	Cover	ø12 to ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
12	Plug	Stainless steel	
13	Stainless steel wire mesh	Stainless steel	
14	Hex socket screw	Steel	Black finish
15	Spacer washer	Stainless steel	ø12 to ø50
16	Connector	Steel	

Repair parts list

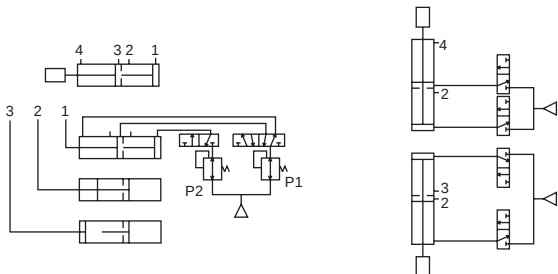
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-W-12K	4 6 10
ø16	SSD-W-16K	
ø20	SSD-W-20K	
ø25	SSD-W-25K	
ø32	SSD-W-32K	
ø40	SSD-W-40K	
ø50	SSD-W-50K	

SSD-W application examples

Pressure setting: P2 > P1

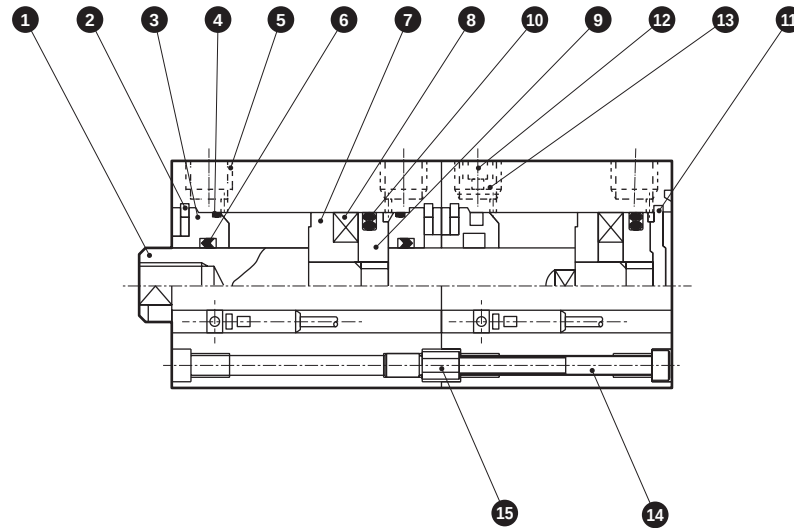
- 1st stage push
Keeping port 4 pressurized,
pressurize port 1.
- 2nd stage push
Keeping port 1 pressurized,
pressurize port 3.

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

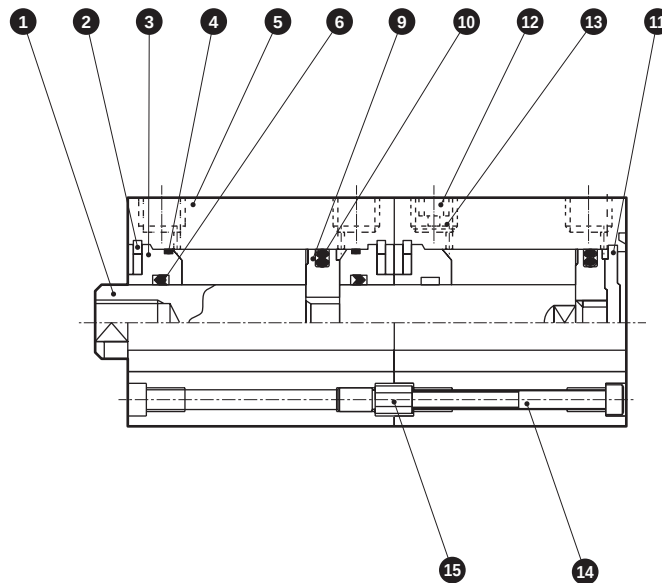


Internal structure and parts list

- SSD-WL-63 to 100 (double acting/2-stage/with switch)



- SSD-W-63 to 100 (double acting/2-stage)



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	Cover	Aluminum alloy	Alumite
5	Body	Aluminum alloy	Hard alumite	12	Plug	Stainless steel	
6	Rod packing	Nitrile rubber		13	Stainless steel wire mesh	Stainless steel	
7	Spacer	Aluminum alloy	Chromate	14	Hex socket screw	Steel	Black finish
				15	Connector	Steel	

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø63	SSD-W-63K	4 6 10
ø80	SSD-W-80K	
ø100	SSD-W-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

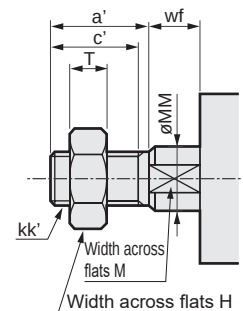
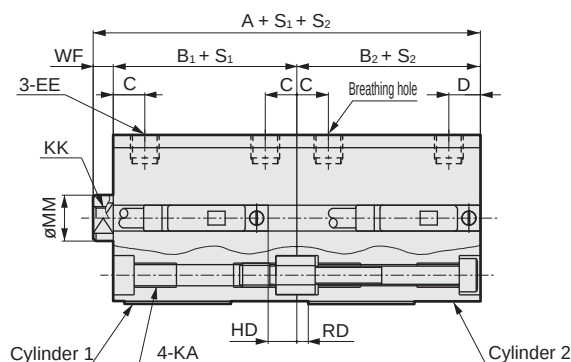
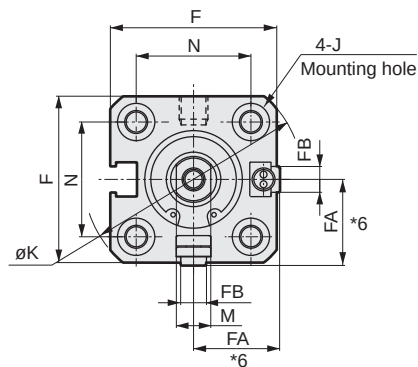
Ending

Dimensions

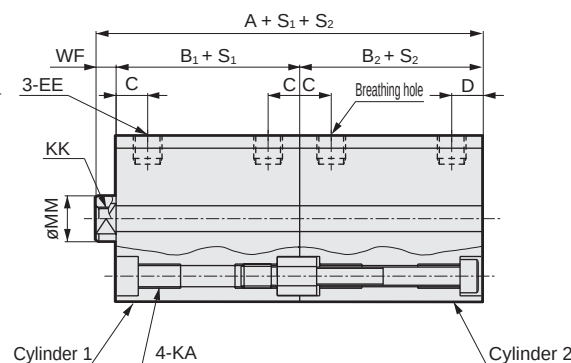
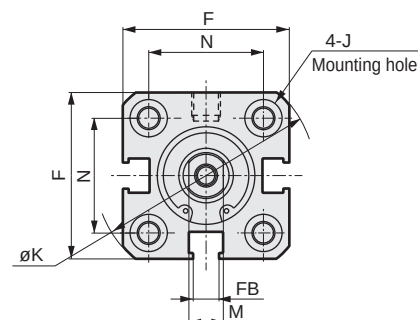


● SSD-WL-12/16 (with switch)

● Rod end male thread



● SSD-W-12/16 (without switch)



Code	No switch			Common dimensions with switch																
Bore size (mm)	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	C	D	EE	F	FA ^{*6}	FB	J	K	KA	KK	M	MM	N	WF
ø12	42.5	22	17	52.5	27	22	5.5	5.5	M5	25	13(16.5)	4.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ø16	42.5	22	17	52.5	27	22	5.5	5.5	M5	29	15(18.5)	4.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
Switch dimensions	Reed T0H/T0V, T5H/T5V			Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV																
	HD ₁ ^{*2}	HD ₂ ^{*2}	RD ^{*2}	HD ₁ ^{*2}	HD ₂ ^{*2}	RD ^{*2}														
ø12	5	0	2.5	5	0	2.5														
ø16	5	0	2	5	0	2														

● *3 :When the stroke S₂ is 5 mm for ø12 or ø16 with switch, (B₂+S₂) and (A+S₁+S₂) are as shown in the table below.

Bore size	A + S ₁ + S ₂	B ₁ + S ₁	B ₂ + S ₂
ø12	62.5 + S ₁	27 + S ₁	32
ø16	62.5 + S ₁	27 + S ₁	32

● *3 : When the stroke S_2 is 5 mm for ø12 or ø16 with switch, $(B_2 + S_2)$ and $(A + S_1 + S_2)$ are as shown in the table below.

Bore size	A + S ₁ + S ₂	B ₁ + S ₁	B ₂ + S ₂
ø12	62.5 + S ₁	27 + S ₁	32
ø16	62.5 + S ₁	27 + S ₁	32

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

- *4 : Refer to page 1316 for HD and RD dimensions for the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Refer to page 1316 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the L-shaped lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1108 to 1115.

Dimensions of rod end male thread

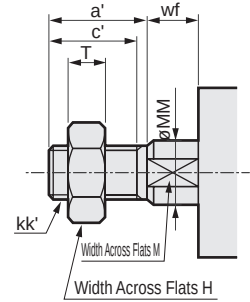
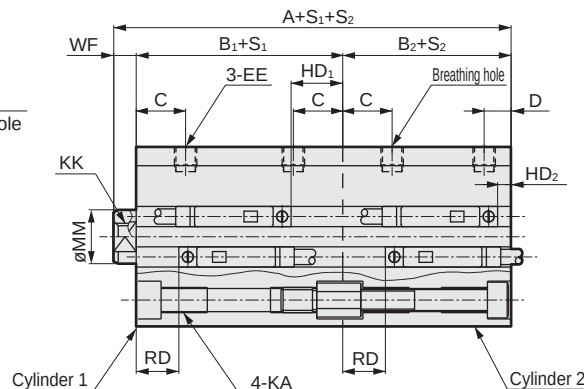
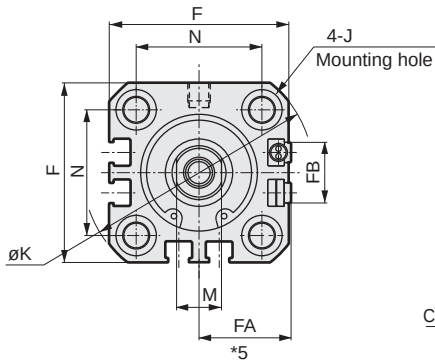
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5

dimensions

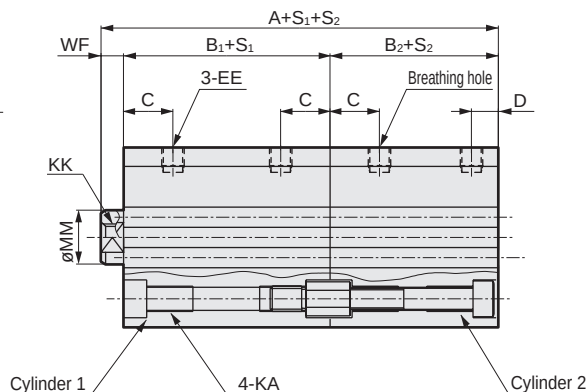
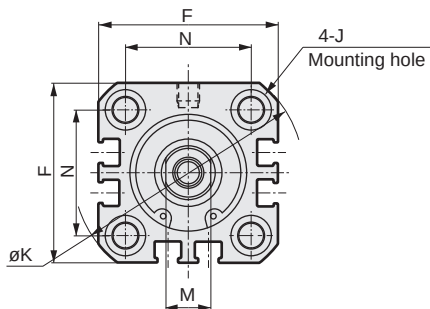


● SSD-WL-20/25 (with switch)

● Rod end male thread



● SSD-W-20/25 (without switch)



Code	No switch			Common dimensions with switch																
Bore size (mm)	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	C	D	EE	F	FA ^{*5}	FB	J	K	KA	KK	M	MM	N	WF
ø20	50	26	19.5	70	36	29.5	8	5.5	M5	36	18.5 (22)	12.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	58.5	31	22.5	78.5	41	32.5	11	6	M5	40	20.5 (24)	13.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV,T3WH/T3WV														
	HD ₁ ^{*2}	HD ₂ ^{*2}	RD ^{*2}		HD ₁ ^{*2}	HD ₂ ^{*2}	RD ^{*2}													
ø20	9.5	3	6.5		9.5	3	6.5													
ø25	11.5	3	9.5		11.5	3	9.5													

- *1: To calculate A + S₁ + S₂ or B₁ + S₁, B₂ + S₂ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2: HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.

- *3: Refer to page 1316 for HD and RD dimensions for the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4: Refer to page 1316 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5: Dimensions () of FA are for the L-shaped lead wire.
- *6: For dimensions of individual accessories, refer to pages 1108 to 1115.

Dimensions of rod end male thread

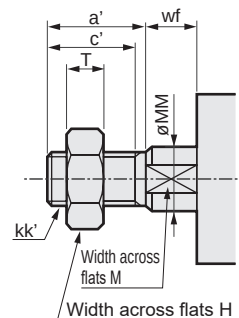
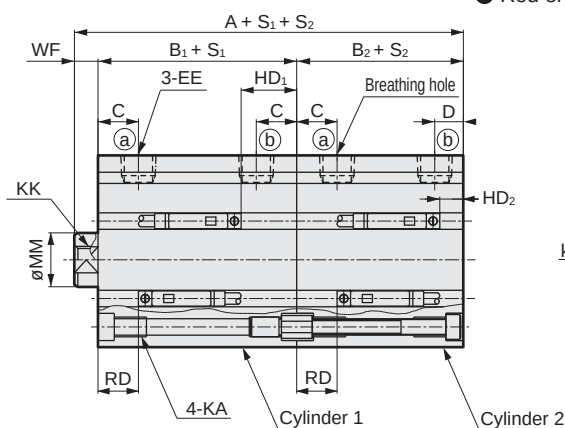
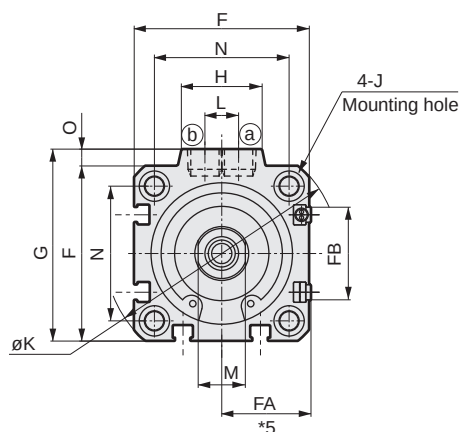
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M 10 x 1.25	10	12	6	5



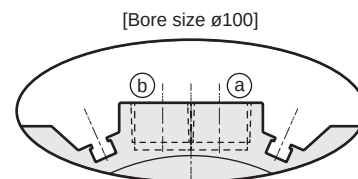
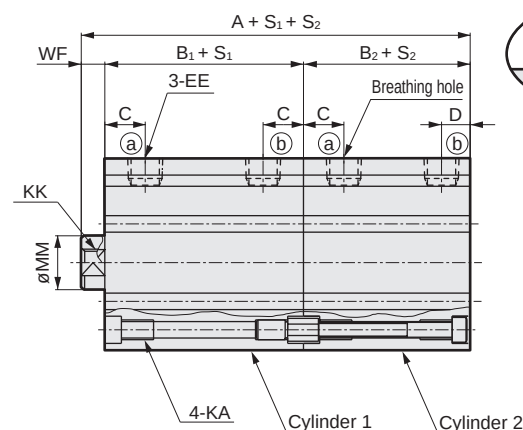
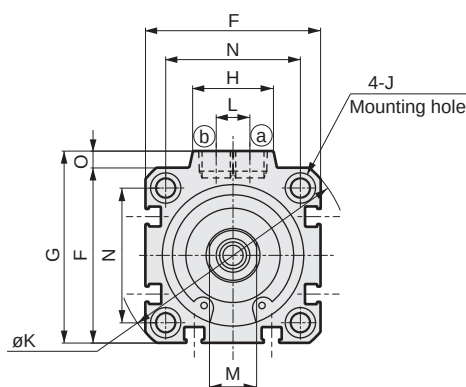
Dimensions

● SSD-WL-32 to 100 (with switch)

● Rod end male thread



● SSD-W-32 to 100 (without switch)



* Only for ø100, the port surface has switch grooves.

Code	No switch			Common dimensions with switch																														
Bore size (mm)	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	A ^{*1}	B ₁ ^{*1}	B ₂ ^{*1}	C	D	EE	F	FA ^{*5}	FB	G	H	J	K	KA	KK	L	M	MM	N	O	WF										
ø32	60.5	30.5	23	80.5	40.5	33	8	8	Rc1/8	45	23(26.5)	20.5	49.5	24	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7										
ø40	75.5	39	29.5	95.5	49	39.5	12	8.5	Rc1/8	52	26.5(30)	27.5	57	24	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7										
ø50	77.5	39	30.5	97.5	49	40.5	10.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8										
ø63	85	41	36	105	51	46	13	11	Rc1/4	77	39(42.5)	28.5	84	33	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8										
ø80	102	48.5	43.5	122	58.5	53.5	16	13	Rc3/8	98	49.5(53)	28.5	104	38	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10										
ø100	123	58	53	143	68	63	23	15	Rc3/8	117	59(62.5)	28.5	123.5	38	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12										
Switch dimensions	Reed T0H/T0V, T5H/T5V							Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV							● *1 : To calculate A + S₁ + S₂ or B₁ + S₁ + B₂ + S₂ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. ● *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting. ● *3 : Refer to page 1317 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches. ● *4 : Refer to page 1317 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1*								HD ₁ ^{*2}		HD ₂ ^{*2}		RD ^{*2}		HD ₁ ^{*2}		HD ₂ ^{*2}		RD ^{*2}	
	Bore size (mm)		HD ₁ ^{*2}		HD ₂ ^{*2}		RD ^{*2}		HD ₁ ^{*2}		HD ₂ ^{*2}		RD ^{*2}																					
ø32	11		3.5		9		11		3.5		9																							
ø40	16.5		7		12		16.5		7		12																							
ø50	16.5		7.5		12.5		16.5		7.5		12.5																							
ø63	18		12.5		13		18		12.5		13																							
ø80	23		17.5		15.5		23		17.5		15.5																							
ø100	28.5		23		19.5		28.5		23		19.5																							

● *1 : To calculate A + S₁ + S₂ or B₁ + S₁ + B₂ + S₂ when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.

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

● *3 : Refer to page 1317 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

● *4 : Refer to page 1317 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.

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

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	17	20	11	5
ø 63	28.5	26	27	M18x1.5	17	20	11	5
ø 80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.

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

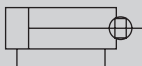


Compact cylinder double acting/rotation-stop

SSD-M Series

● Bore size: $\varnothing 12/\varnothing 16/\varnothing 20/\varnothing 25/\varnothing 32/\varnothing 40/\varnothing 50/\varnothing 63$

JIS symbol



Specifications

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

Item	SSD-M							
	SSD-ML (with switch)							
Bore size mm	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)							0.05
Proof pressure MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5				Rc1/8		Rc1/4	
Stroke tolerance mm	+1.0							
	0							
Working piston speed mm/s	50 to 500							50 to 300
Cushion	None							
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)							
Non-rotating accuracy	±2°	±1.5°			±1°			
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø12	5, 10, 15, 20, 25, 30	30	1
ø16			
ø20			
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	
ø32			
ø40			
ø50			
ø63			

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

2) When using the type with a switch, refer to the table below. Less than 10 mm with the 2-color LED, off-delay, AC magnetic field proof, T1 or T8* switch is not available.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\varnothing 12$	5	5	25	-	-
$\varnothing 16$	5	5	25	-	-
$\varnothing 20$	5	5	-	-	-
$\varnothing 25$	5	5	35	50	-
$\varnothing 32$	5	5	35	50	-
$\varnothing 40$	5	5	35	50	-
$\varnothing 50$	5	5	35	50	-
$\varnothing 63$	5	5	35	50	-

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

Switch specifications

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

Item	2-wire proximity				3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD (*4) T2YDT	
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay (no lamp), serial		For programmable controller, relay		Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less					12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		Red/green LED (Lit when ON)	
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 µA or less				0 mA						1 mA or less	
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80				1 m:33		1 m:61	
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49					3 m:87		3 m:166	
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80					5 m:142		5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø12	44	94	52	94	61	103	69	111	78	120	80	122	-	-	-	-
ø16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-
ø20	76	131	88	163	101	176	114	189	126	201	139	214	-	-	-	-
ø25	102	193	117	208	133	224	149	240	165	256	180	271	212	303	243	334
ø32	166	280	188	302	210	324	232	346	253	367	275	389	319	433	362	476
ø40	210	353	237	380	263	406	290	433	317	460	343	486	396	539	449	592
ø50	341	535	383	577	425	619	467	661	509	703	552	746	636	830	720	914
ø63	507	786	562	841	-	-	672	951	-	-	782	1061	893	1172	1003	1282

Theoretical thrust table

(Unit: N)

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

SSD-M Series

How to order

No switch (without magnet for switch)

SSD-M - **12** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

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

2-color LED/off-delay, with T1* switch (ø12/ø16 only)

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

A Model No.

B Bore size

C Port thread

D Stroke

E Switch model No.

*1
*2
*10

F Switch quantity

G Option
*3

H Mounting bracket
*5
*6

I Accessory
*7

⚠ Precautions for model No. selection

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

2 : An AC magnetic field proof switch cannot be installed on ø12 and ø16. In addition, T8 switch cannot be installed on ø12 to ø32.

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

*4 : Copper and PTFE free as standard for SSD-M-12 to 25.

*5 : The mounting bracket is included at shipment.

*6 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*9 : Refer to pages 1086 and 1087 for combinations of variations/options.

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

[Example of model No.]

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

Model: Compact cylinder rotation-stop

B Bore size : ø12 mm

C Port thread : Rc thread

D Stroke : 5 mm

E Switch model No. : Reed T0H switch

F Switch quantity : 1 on rod side

G Option : Rod end male thread

Code	Description
A Model No.	
SSD-M	Double acting/rotation-stop
SSD-ML	Double acting/rotation-stop/with switch
SSD-ML1	ø12, ø16 2-color LED, off-delay, with T1* switch

B Bore size (mm)

12	ø12
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63

C Port thread

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

D Stroke (mm)

Refer to the stroke table on the following page.

E Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC DC	Indicator	Lead wire
T0H*	T0V*	Reed	● ●	1-color LED	2-wire
T5H*	T5V*		● ●	No indicator lamp	
T8H*	T8V*		● ●	1-color LED	
T1H*	T1V*	Proximity	● ●	1-color LED	2-wire
T2H*	T2V*		● ●	1-color LED	3-wire
T3H*	T3V*		● ●	1-color LED	
T3PH*	T3PV*		● ●	1-color LED	2-wire
T2WH*	T2WV*		● ●	2-color LED	
T2YH*	T2YV*		● ●	2-color LED	3-wire
T3WH*	T3WV*		● ●	2-color LED	
T3YH*	T3YV*		● ●	2-color LED	2-wire
T2JH*	T2JV*		● ●	1-color LED off-delay	
T2YD*	-		● ●	2-color LED	2-wire
T2YDT*	-		● ●	AC magnetic field	
T2HR3	T2VR3		● ●	1-color LED (bend resist lead wire specs)	2-wire

* Lead wire length

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

F Switch quantity

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

G Option

Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel) (made to order (ø32 to ø63))

H Mounting bracket

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

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

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring included)
Y2	Rod clevis (compact) (pin and snap ring included)

How to order switch



Switch model No.
(Item ⑤ on page 1222)

(Stroke table)

Stroke (mm)		Applicable bore size							
		ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Standard stroke	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●	●
	40				●	●	●	●	●
	50				●	●	●	●	●
Min. stroke (mm) *1		1							
Max. stroke (mm)		30			50				
Custom stroke *2		In 1 mm increments							

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

Refer to page 1220 for the number of installed switches and the min. stroke.

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

How to order mounting bracket

Bore size (mm)	ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63
Mounting bracket								
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63
Clevis bracket (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63
Clevis bracket (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63

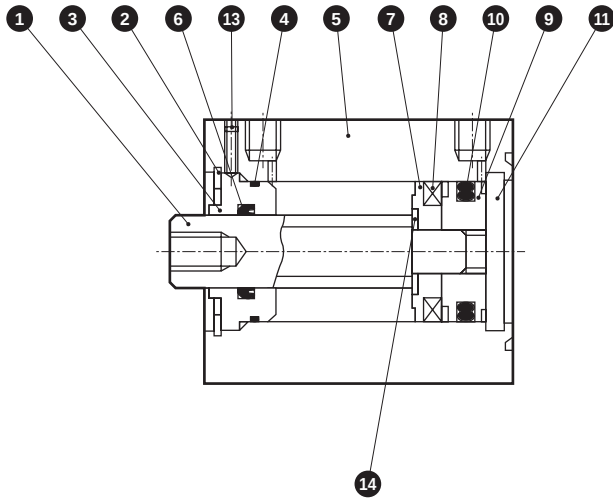
*1: The foot mounting bracket is provided as 2 pcs./set.

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

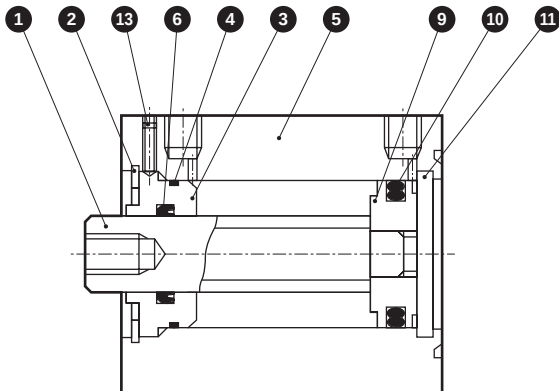
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list

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



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



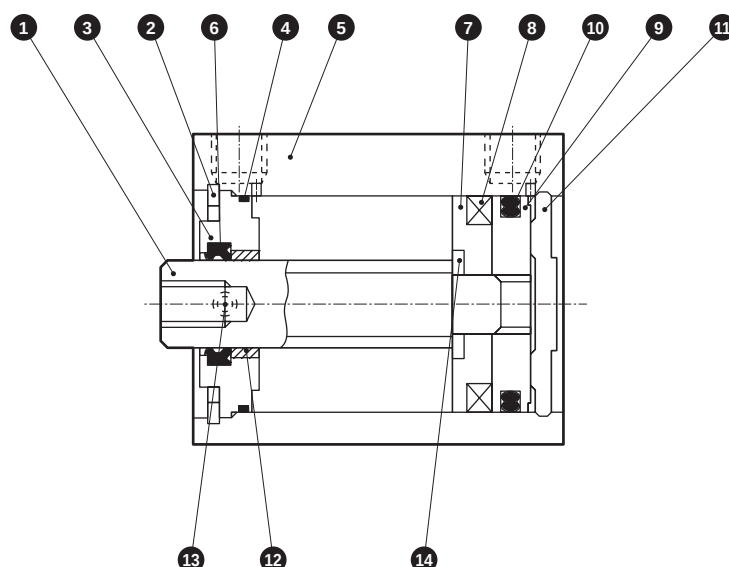
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Stainless steel		8	Magnet	Plastic	
2	C-snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	Special aluminum	Alumite	10	Piston packing	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	Stainless steel	
5	Body	Aluminum alloy	Hard alumite	13	Hexagon socket set screw	Steel	
6	Rod packing	Nitrile rubber		14	Spacer washer	Stainless steel	ø20 to ø25
7	Spacer	ø12: Aluminum alloy ø16 to ø25: Special resin	ø12: Chromate				

Repair parts list

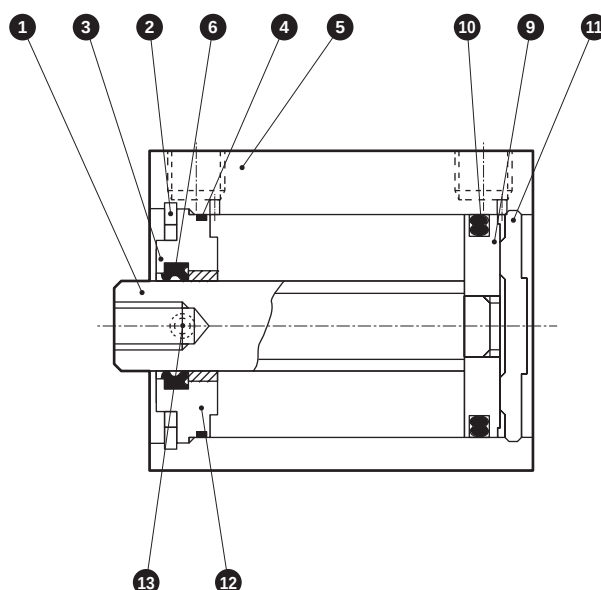
Bore size (mm)	Kit No.	Repair parts No.
ø12	SSD-M-12K	4 6 10
ø16	SSD-M-16K	
ø20	SSD-M-20K	
ø25	SSD-M-25K	

Internal structure and parts list

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



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



No.	Part name	Material	Remarks	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	ø32 to ø50: Special aluminum ø63: 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	ø32 to ø50: Special resin ø63: Aluminum alloy	ø63: Chromate	14	Spacer washer	Stainless steel	ø32 to ø50

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø32	SSD-M-32K	4 6 10
ø40	SSD-M-40K	
ø50	SSD-M-50K	
ø63	SSD-M-63K	

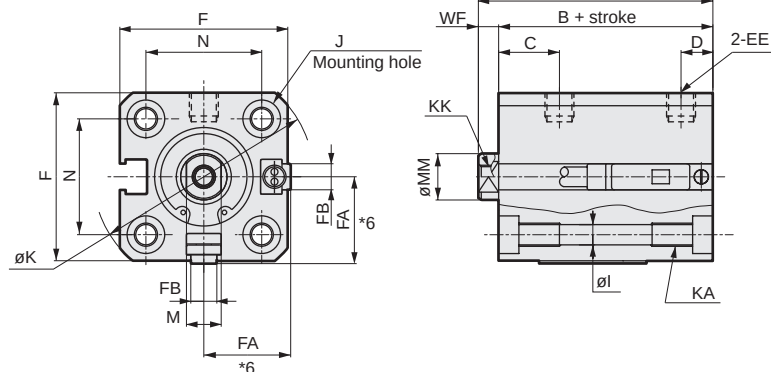
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Dimensions

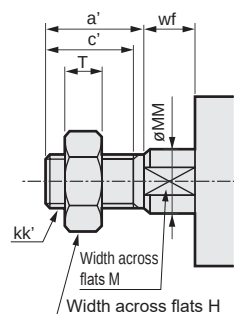


● SSD-ML-12 to 25 (with switch)

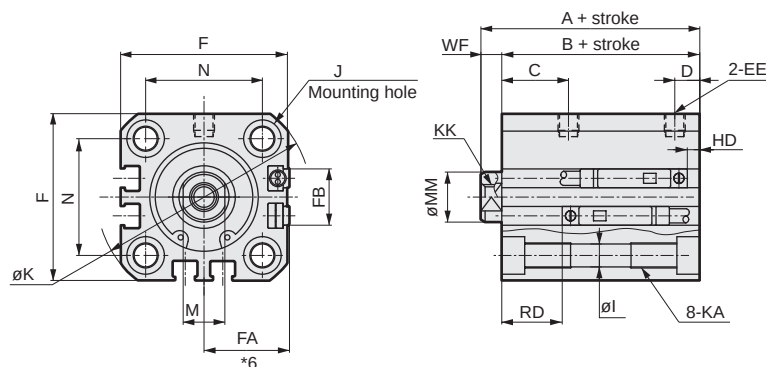
ø12/ø16



● Rod end male thread



ø20/ø25



Code	Common dimensions with switch																	
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*6}	FB	I	J	K	KA	KK	M	MM	N	WF	
ø12	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	
ø16	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	
ø20	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	
ø25	42.5	37.5	16	6	M5	40	20.5(24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5	
Switch dimensions	Reed T0H/T0V, T5H/T5V					Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV					● *1 : To calculate A+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. ● *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting. ● *3 : When the stroke is 5 mm for ø12 and ø16 with switch, (A+ stroke) length and (B+ stroke) length are as shown in Table 1.							
Bore size (mm)	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}											
ø12	0		7.5		0		7.5											
ø16	0		7		0		7											
ø20	3		11.5		3		11.5											
ø25	3		14.5		3		14.5											

Table 1

Bore size	A + stroke	B + stroke
ø12	40.5	37
ø16	40.5	37

- *1 : To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *3 : When the stroke is 5 mm for ø12 and ø16 with switch, (A+ stroke) length and (B+ stroke) length are as shown in Table 1.
- *4 : Refer to page 1312 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *5 : Refer to page 1312 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *6 : Dimensions in () of FA are for the L-shaped lead wire.
- *7 : For dimensions of individual accessories, refer to pages 1108 to 1115.

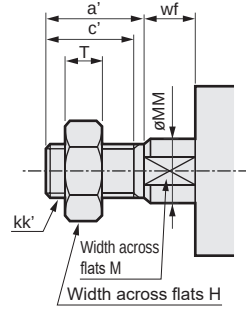
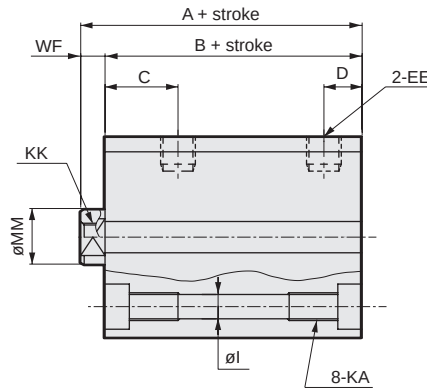
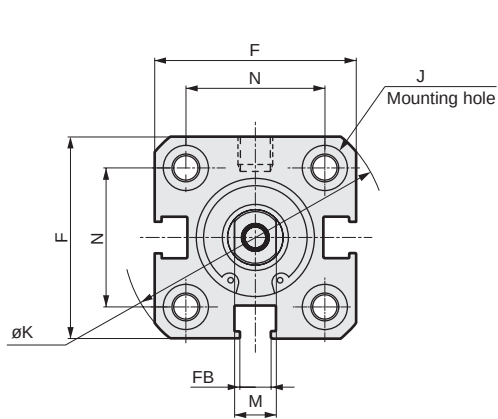
Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

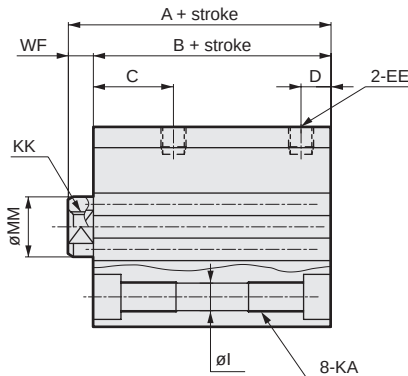
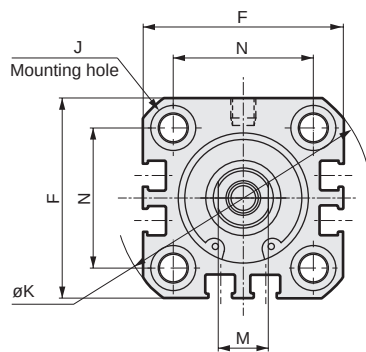
Dimensions

● SSD-M-12 to 25 (without switch)

ø12/ø16



ø20/ø25



Code	No switch														
Bore size (mm)	A ^{*1}	B ^{*1}	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ø12	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
ø16	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
ø20	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
ø25	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 or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.

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

*2: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Dimensions of rod end male thread

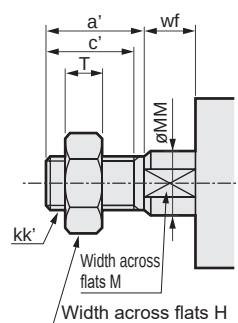
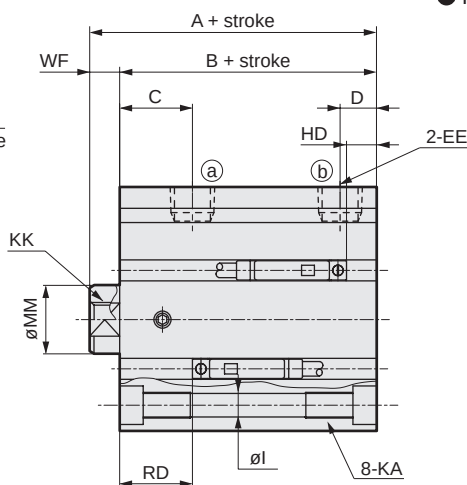
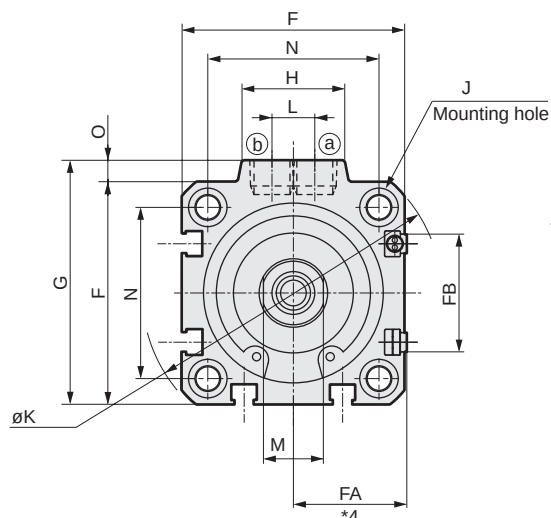
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 12	10.5	9	8	M5	5	6	3.2	3.5
ø 16	12	10	10	M6	6	8	3.6	3.5
ø 20	14	12	13	M8	8	10	5	4.5
ø 25	17.5	15	17	M10x1.25	10	12	6	5

Dimensions

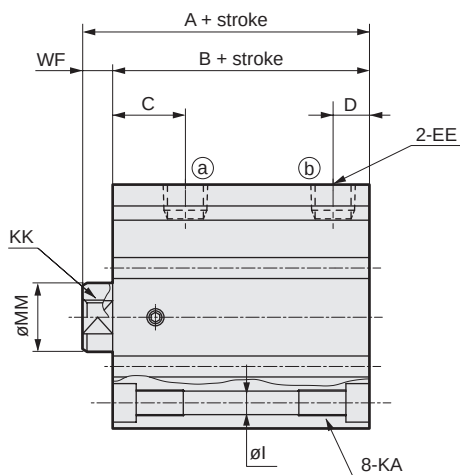
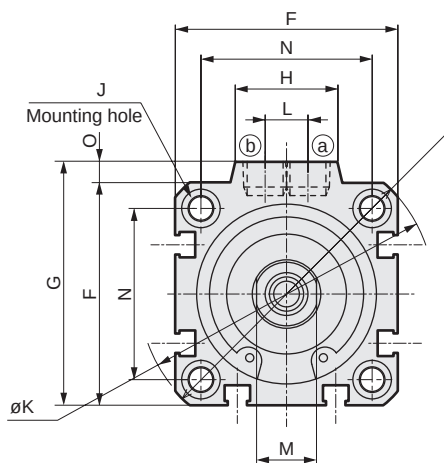


● SSD-ML-32 to 63 (with switch)

● Rod end male thread



● SSD-M-32 to 63 (without switch)



Code	No switch		Common dimensions with switch																				
Bore size (mm)	A ^{*1}	B ^{*1}	A	B	C	D	EE	F	FA ^{*4}	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ø32	40	33	50	43	18	8	Rc1/8	45	23(26.5)	20.5	49.5	24	5.5	9 spot face Depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ø40	41.5	34.5	51.5	44.5	17	8.5	Rc1/8	52	26.5(30)	27.5	57	24	5.5	9 spot face Depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ø50	43.5	35.5	53.5	45.5	15.5	10.5	RC1/4	64	32.5(36)	28.5	71	33	6.9	11 spot face Depth 6.5	86	M8 depth 13	M10 depth 15	15	18	20	50	7	8
ø63	49	41	59	51	18	11	Rc1/4	77	39(42.5)	28.5	84	33	8.7	14 spot face Depth 9	103	M10 depth 25	M10 depth 15	15	18	20	60	7	8
Switch dimensions	Reed T0H/T0V, T5H/T5V						Proximity T2H/T2V, T3H/T3V T2WH/T2WV, T3WH/T3WV						●*1 :To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm. ●*2 :Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches. ●*3 :Refer to page 1313 for the protruding dimensions of the										
	HD ^{*2}		RD ^{*2}		HD ^{*2}		RD ^{*2}																
ø32	3.5		19		3.5		19																
ø40	7		17		7		17																
ø50	7.5		17.5		7.5		17.5																
ø63	12.5		17.5		12.5		17.5																

- *1 : To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : Refer to page 1313 for HD and RD dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *3 : Refer to page 1313 for the protruding dimensions of the 2-color LED, off-delay, AC magnetic field proof, T1* and T8* switches.
- *4 : Dimensions in () of FA are for the L-shaped lead wire.

Dimensions of rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size (mm)								
ø 32	23.5	20.5	22	M14x1.5	14	16	8	5
ø 40	23.5	20.5	22	M14x1.5	14	16	8	5
ø 50	28.5	26	27	M18x1.5	18	20	11	5
ø 63	28.5	26	27	M18x1.5	18	20	11	5

* For dimensions of individual accessories, refer to pages 1108 to 1115.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

SSD-G2/G3 Series

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

JIS symbol



Specifications

Item	SSD-G2/G3								
	SSD-G2L/G3L (With switch)								
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressureMPa	1.0								
Min. working pressureMPa	0.15						0.1		
Proof pressure MPa	1.6								
Ambient temperature °C	-10 to 60(However, no freezing)								
Port size	M5			Rc1/8			Rc1/4		Rc3/8
Stroke tolerance mm	+1.0 0								
Working piston speed mm/s	50 to 500						50 to 300		
Cushion	No								
Lubrication	Not required(Use turbine oil class 1 ISO VG32 if necessary for lubrication.)								
Allowable absorbed energyJ	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	
			No switch	With switch
$\phi 16, \phi 20$	5, 10, 15, 20, 25, 30	30	1	10
$\phi 25, \phi 32$	5, 10, 15, 20, 25	50		
$\phi 40, \phi 50$	30, 40, 50	50		
$\phi 63, \phi 80, \phi 100$	5, 10, 20, 30, 40, 50	50		

*1: The custom stroke 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.

*2: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size(mm)	T*	T*	T*	T*	T*
$\phi 16$	10	10	25	-	-
$\phi 20$	10	10	-	-	-
$\phi 25$	10	10	35	50	-
$\phi 32$	10	10	35	50	-
$\phi 40$	10	10	35	50	-
$\phi 50$	10	10	35	50	-
$\phi 63$	10	10	35	50	-
$\phi 80$	10	10	35	50	-
$\phi 100$	10	10	35	50	-

Switch specifications

● Proximity switch

Type/model No.	Proximity/2-wire	Proximity/3-wire
Item	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	Red/green LED (Lit when ON)	
Leakage current	1 mA or less	10 µA or less
Shock resistance	980 m/S ²	
Weight	g 1 m:33 3 m:87 5 m:142	

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

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

(Unit: g)

Stroke	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø16	62	118	73	118	83	158	94	139	105	150	116	161				
ø20	108	163	120	195	133	208	146	221	158	233	171	246				
ø25	151	242	166	257	182	273	198	289	214	305	229	320	261	352	292	383
ø32	230	344	252	366	274	388	296	410	317	431	339	453	383	497	426	540
ø40	301	444	328	471	354	497	381	524	408	551	434	577	487	630	540	683
ø50	471	665	513	707	555	749	597	791	639	833	682	876	766	960	850	1044
ø63	678	957	733	1012			843	1122			953	1232	1064	1343	1174	1453
ø80	1445	1858	1532	1945			1705	2118			1878	2288	2052	2465	2225	2638
ø100	2098	2665	2212	2779			2439	3006			2667	3234	2894	3461	3122	3689

Theoretical thrust table

(Unit: N)

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

SSD-G2/G3 Series

How to order

How to order

No switch (without magnet for switch)

SSD - G2 - 16 - 30 - N - LB - I

With switch (built-in magnet for switch)

SSD - G2L - 16 - 30 - T2YLH - R - N - LB - I

A Degree of protection level

B Bore size

C Port thread

D Stroke

E Switch model No.
*7

F Switch quantity

G Option

H Mounting bracket
*1
*2
*3

I Accessory
*4

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*6 : Refer to pages 1086 to 1087 for combinations of variations/options.

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

[Example of model No.]

SSD-G2L-32-30-T2YH-R-N

Model: Compact cylinder

A Degree of protection level : Coolant proof scraper + NBR packing, with switch

B Bore size : ø32mm

C Port thread : Rc thread

D Stroke : 30mm

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	Description				
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	ø16				
20	ø20				
25	ø25				
32	ø32				
40	ø40				
50	ø50				
63	ø63				
80	ø80				
100	ø100				
C Port thread					
Blank	Rc thread				
NN	NPT thread (ø32 and over) (made-to-order product)				
GN	G thread (ø32 and over) (made-to-order product)				
D Stroke (mm)					
Refer to the stroke table on the following page.					
E Switch model No.					
Axial lead wire	L-shaped lead	Contact	Voltage		Lead wire
T2YLH*	T2YLV*	Proximity	DC	2-color LED	2-wire
T3YLH*	T3YLV*				3-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				
H Mounting bracket					
LB	Axial foot (ø16 to ø25 made-to-order product)				
LB2	Axial foot (compact) (ø16 to ø25 made-to-order product)				
CB	Clevis bracket (pin and snap ring included)				
CB2	Clevis bracket (compact) (pin and snap ring included)				
FA	Rod side flange (ø16 to ø25 made-to-order product)				
FB	Head side flange				
I Accessory (available when rod end male thread “N” is selected)					
I	Rod eye				
I2	Rod eye (compact)				
Y	Rod clevis (pin and snap ring included)				
Y2	Rod clevis (compact) (pin and snap ring included)				

How to order switch

SW - T2YLH

Switch model No.
(Item **E** on page 1232)

[Stroke table]

Stroke (mm)		Applicable bore size								
		ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●
	40			●	●	●	●	●	●	●
	50			●	●	●	●	●	●	●
Min. stroke (mm) *1		1								
Max. stroke (mm)		30		50						
Custom stroke *2		In 1 mm increments								

*1: Less than 10 mm stroke is not available.

Refer to page 1230 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket									
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

*2: The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Contact CKD for details.

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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

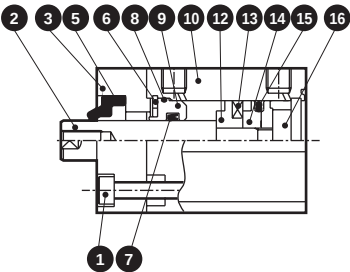
SSD-G2/G3 Series

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

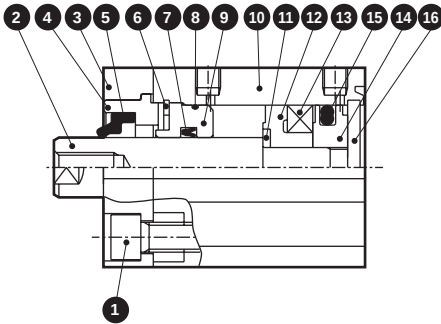
Internal structure and parts list

- Degree of protection: Packing NBR SSD-G2/G2L
- Degree of protection: Packing FKM SSD-G3/G3L

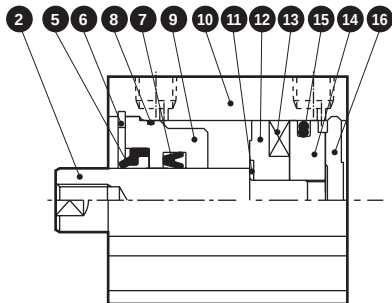
● SSD-G $\frac{2}{3}$ L-16
(with switch)



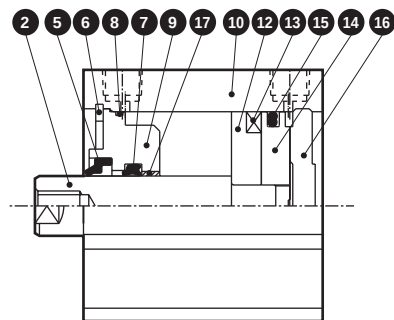
● SSD-G $\frac{2}{3}$ L-20, 25
(with switch)



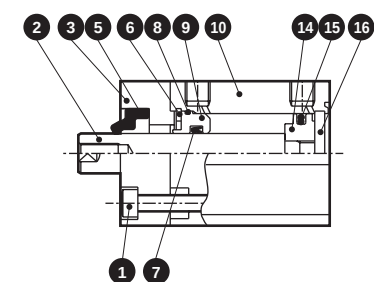
● SSD-G $\frac{2}{3}$ L-32 to 50
(with switch)



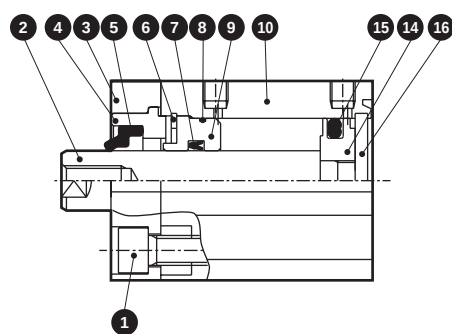
● SSD-G $\frac{2}{3}$ L-63 to 100
(with switch)



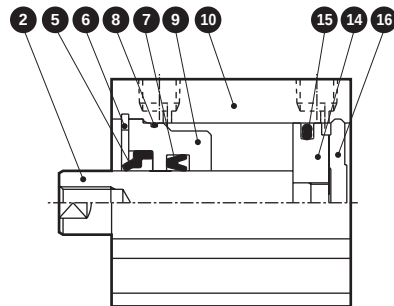
● SSD-G $\frac{2}{3}$ -16
(without switch)



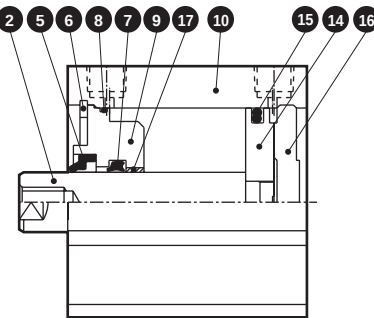
● SSD-G $\frac{2}{3}$ -20, 25
(without switch)



● SSD-G $\frac{2}{3}$ -32 to 50
(without switch)



● SSD-G $\frac{2}{3}$ -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	ø16 to ø25	9	Rod metal	Special aluminum	Alumite
2	Piston rod	Stainless steel	Industrial chrome plating	10	Body	Aluminum alloy	Hard alumite
3	Adaptor (A)	Aluminum alloy	Alumite: ø16 to ø25 only	11	Spacer washer	Stainless steel	ø16 to ø50 only
4	Adaptor (B)	Aluminum alloy	Alumite: ø20/ø25 only	12	Spacer	ø16 to ø50: Special resin ø63 to ø100: Aluminum alloy	
5	Scraper	G2	Nitrile rubber	13	Magnet	Plastic	
		G3	Fluoro rubber	14	Piston	Aluminum alloy	Chromate
6	C-snap ring (for hole)	Stainless steel		15	Piston packing	G2 Nitrile rubber G3 Fluoro rubber	
7	Rod packing	G2	Nitrile rubber	16	Cover	ø16 to ø25: Stainless steel ø32 to ø100: Aluminum alloy	Alumite
		G3	Fluoro rubber				
8	Rod metal gasket	G2	Nitrile rubber	17	Bush	Oiles drymet	ø63 to ø100 only
		G3	Fluoro rubber				

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø16	SSD-G2- 16K	5 7 8 15
	SSD-G3- 16K	
ø20	SSD-G2- 20K	
	SSD-G3- 20K	
ø25	SSD-G2- 25K	
	SSD-G3- 25K	
ø32	SSD-G2- 32K	
	SSD-G3- 32K	
ø40	SSD-G2- 40K	
	SSD-G3- 40K	
ø50	SSD-G2- 50K	
	SSD-G3- 50K	
ø63	SSD-G2- 63K	
	SSD-G3- 63K	
ø80	SSD-G2- 80K	
	SSD-G3- 80K	
ø100	SSD-G2-100K	
	SSD-G3-100K	

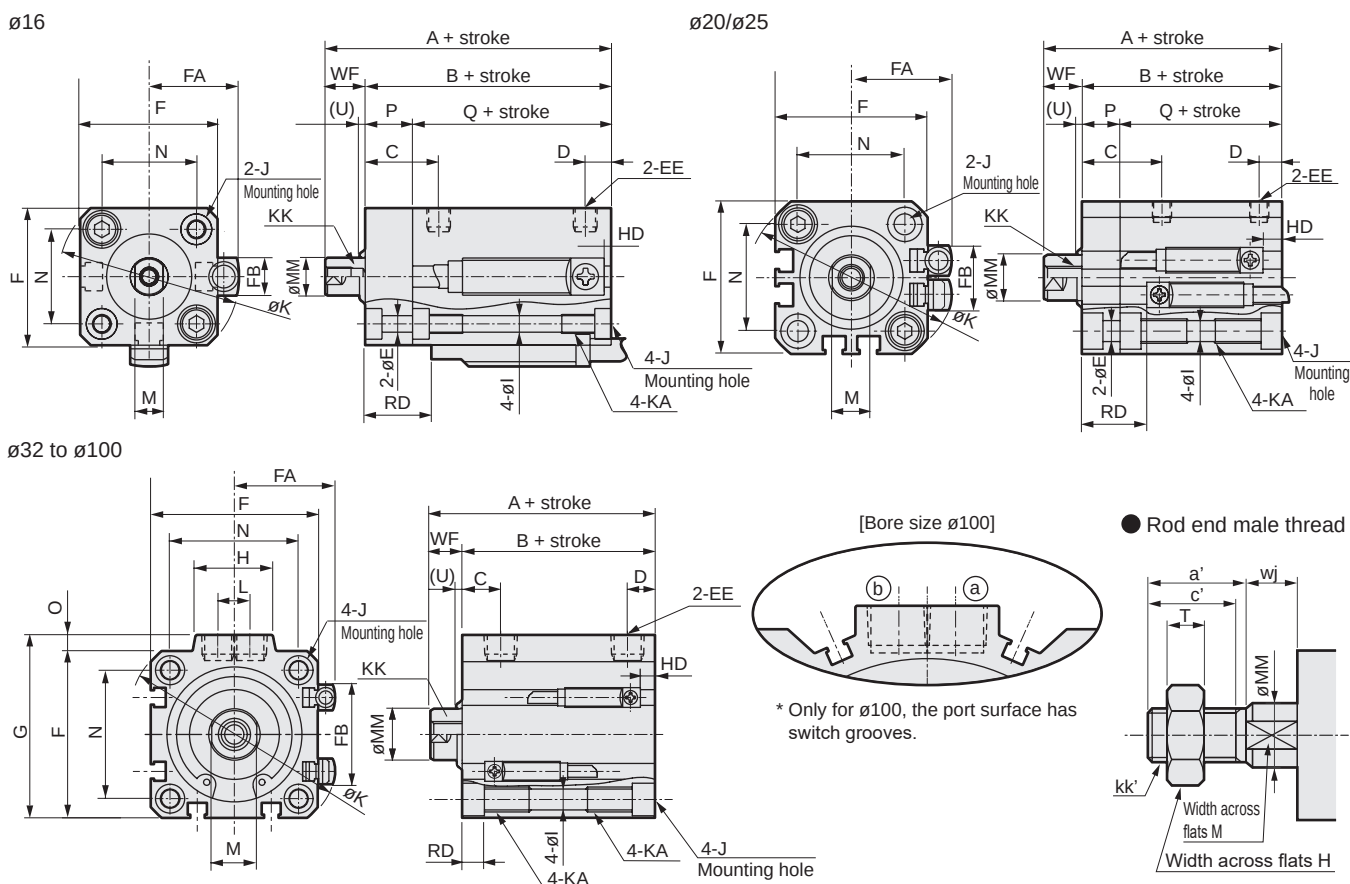
Note: Specify the kit No. when placing an order.

SSD-G2/G3 Series

Dimensions



- Degree of protection: Packing NBR
SSD-G2/G2L
- Degree of protection: Packing FKM
SSD-G3/G3L



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

Code	Dimensions (no switch)			Common dimensions with switch																	
Bore size (mm)	A *1	B *1	Q *1	A *1	B *1	Q *1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK	
ø16	35.5	27	17	45.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	ø6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	
ø20	39	29.5	19.5	49	39.5	29.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	ø9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	
ø25	42.5	32.5	22.5	52.5	42.5	32.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	ø9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	
ø32	45	33	-	55	43	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	ø9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	
ø40	51.5	39.5	-	61.5	49.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	ø9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	
ø50	53.5	40.5	-	63.5	50.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	ø11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	
ø63	59	46	-	69	56	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	ø14 spot face depth 9	103	M10 depth 25	M10 depth 15	
ø80	68.5	53.5	-	78.5	63.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	ø17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	
ø100	80	63	-	90	73	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	ø17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	
Code	Common dimensions with switch									Proximity T2YLH, T2YLV, T3YLH, T3YLV		Dimensions of rod end male thread part									
Bore size (mm)	L	M	MM	N	O	P	U	WF	HD RD		a'	c'	H	kk'		M	MM	T	wj		
ø16	-	6	8	20	-	10	3	8.5	4.5	12.5	12	10	10	M6		6	8	3.6	8.5		
ø20	-	8	10	25.5	-	10	3	9.5	1.5	18.0	14	12	13	M8		8	10	5	9.5		
ø25	-	10	12	28	-	10	3	10	2.0	20.0	17.5	15	17	M10x1.25		10	12	6	10		
ø32	10	14	16	34	4.5	-	0	12	4.5	20.5	23.5	20.5	22	M14x1.5		14	16	8	10		
ø40	10	14	16	40	5	-	2	12	8.0	23.5	23.5	20.5	22	M14x1.5		14	16	8	10		
ø50	15	17	20	50	7	-	2	13	9.0	23.5	28.5	26	27	M18x1.5		17	20	11	10		
ø63	15	17	20	60	7	-	2	13	13.0	24.0	28.5	26	27	M18x1.5		17	20	11	10		
ø80	15	22	25	77	6	-	2	15	19.0	26.5	35.5	32.5	32	M22x1.5		22	25	13	13		
ø100	15	27	30	94	6.5	-	2	17	24.5	30.5	35.5	32.5	41	M26x1.5		27	30	16	13		

* For dimensions of individual accessories, refer to pages 1108 to 1115.

MEMO

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

SSD-KG2/KG3 Series

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

JIS symbol



Specifications

Item	SSD-KG2/KG3								
	SSD-KG2L/KG3L (with switch)								
Bore size mm	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting								
Working fluid	Compressed air								
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)								
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)						0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)								
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)								
Port size	M5x0.8			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

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	
			No switch	With switch
$\varnothing 16, \varnothing 20$	5, 10, 15, 20, 25, 30, 40, 50	100 *2	1	10
$\varnothing 25, \varnothing 32, \varnothing 40, \varnothing 50$	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150 *2		
$\varnothing 63, \varnothing 80, \varnothing 100$	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200 *2		

*1 : The custom stroke 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.

*2 : Stroke over standard to maximum is available in increments of 10. (Example) $\varnothing 16$: 60, 70, 80, 90, 100
Dimensions of custom stroke (example: 64 mm stroke) are the same as the next longer stroke (example: 70 mm stroke).

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)	T*	T*	T*	T*	T*
$\varnothing 16$	10	10	25	-	-
$\varnothing 20$	10	10	35	50	65
$\varnothing 25$	10	10	35	50	65
$\varnothing 32$	10	10	35	50	65
$\varnothing 40$	10	10	35	50	65
$\varnothing 50$	10	10	35	50	65
$\varnothing 63$	10	10	35	50	65
$\varnothing 80$	10	10	35	50	65
$\varnothing 100$	10	10	35	50	65

SSD-KG2/KG3 Series

Specifications

Switch specifications

● Proximity switch

Type/model No.	Proximity/2-wire	Proximity/3-wire
Item	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	Red/green LED (Lit when ON)	
Leakage current	1 mA or less	10 µA or less
Shock resistance	980 m/S ²	
Weight	g 1 m:33 3 m:87 5 m:142	

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

Cylinder weight

(Unit: g)

Stroke	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø16	69	114	79	124	90	135	101	146	112	157	123	168	145	179	167	201	189	223	211	245	233	267	255	289	277	311
ø20	88	163	101	176	114	189	126	201	139	214	151	226	176	251	201	276	226	301	251	326	276	351	301	376	326	401
ø25			134	225	150	241	166	257	181	272	198	289	230	321	262	353	294	385	326	417	358	449	390	481	422	513
ø32			232	346	253	367	275	389	297	411	319	433	362	476	405	519	448	562	491	605	534	648	577	691	620	734
ø40			316	459	343	486	369	512	395	538	422	565	475	618	528	671	581	724	634	777	687	830	740	883	793	936
ø50			509	703	551	745	594	788	637	831	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376	1266	1460
ø63			727	1006			837	1116			948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887	1718	1997
ø80			1274	1687			1447	1860			1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072	2832	3245
ø100			1887	2454			2115	2682			2342	2909	2570	3137	2798	3365	3026	3593	3254	3821	3482	4049	3710	4277	3938	4505

Stroke	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	351	426	376	451	401	476	426	501	451	526										
ø25	454	545	486	577	518	609	550	641	582	673										
ø32	663	777	706	820	749	863	792	906	835	949										
ø40	846	989	899	1042	952	1095	1005	1148	1058	1201										
ø50	1350	1544	1434	1628	1518	1712	1602	1796	1686	1880										
ø63	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987	2818	3097
ø80	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802	4562	4975
ø100	4166	4733	4394	4961	4622	5189	4850	5417	5078	5645	5306	5873	5534	6101	5762	6329	5990	6557	6218	6785

Theoretical thrust table

(Unit: N)

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

SSD-KG2/KG3 Series

How to order

No switch (without magnet for switch)

SSD - KG2 - 16 - 30 - N - LB - I

With switch (built-in magnet for switch)

SSD - KG2L - 16 - 30 - T2YLH - R - N - LB - I

A Degree of protection level

B Bore size

C Stroke

D Switch model No.
*7

E Switch quantity

F Option

G Mounting bracket
*1
*2
*3

H Accessory
*4

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) or flange bracket (FA) on the rod side. Assembly before shipment is available as made to order.

*3 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

*6 : Refer to pages 1088 and 1089 for combinations of variations/options.

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

[Example of model No.]

SSD-KG2L-32-30-T2YLH-R-N

Model: Compact cylinder, high load

A Degree of protection level : Coolant proof scraper + NBR packing, with switch

B Bore size : ø32 mm

C Stroke : 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	Description				
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	ø16				
20	ø20				
25	ø25				
32	ø32				
40	ø40				
50	ø50				
63	ø63				
80	ø80				
100	ø100				
C Stroke (mm)					
Refer to the stroke table on the following page.					
D Switch model No.					
Axial lead wire	L-shaped lead	Contact	Voltage		Lead wire
T2YLH*	T2YLV*	Proximity	DC	2-color LED	2-wire
T3YLH*	T3YLV*				3-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 Mounting bracket					
LB	Axial foot (ø16 to ø25 made-to-order product)				
LB2	Axial foot (compact) (ø16 to ø25 made-to-order product)				
CB	Clevis bracket (pin and snap ring included)				
CB2	Clevis bracket (compact) (pin and snap ring included)				
FA	Rod side flange (ø16 to ø25 made-to-order product)				
FB	Head side flange				
H Accessory (available when rod end male thread “N” is selected)					
I	Rod eye				
I2	Rod eye (compact)				
Y	Rod clevis (pin and snap ring included)				
Y2	Rod clevis (compact) (pin and snap ring included)				

How to order switch

SW - T2YLH

Switch model No.
(Item ④ on page 1240)

[Stroke table]

Stroke (mm)		Applicable bore size								
		ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●							
	10	●	●	●	●	●	●	●	●	●
	15	●	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●	●
	25	●	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●	●
	60			●	●	●	●	●	●	●
	70			●	●	●	●	●	●	●
	80			●	●	●	●	●	●	●
	90			●	●	●	●	●	●	●
	100			●	●	●	●	●	●	●
Min. stroke (mm) *1		1								
Max. stroke (mm)		100		150			200			
Custom stroke *2		In 1 mm increments								

*1: Less than 10 mm stroke is not available.

Refer to page 1238 for the number of installed switches and the min. stroke.

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

How to order mounting bracket

Bore size (mm)	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket									
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

*2: The structure of ø16 to ø25 does not permit retrofitting of the foot bracket (LB, LB2) 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

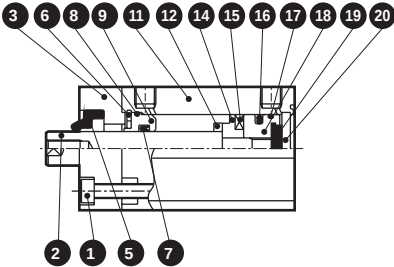
SSD-KG2/KG3 Series

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

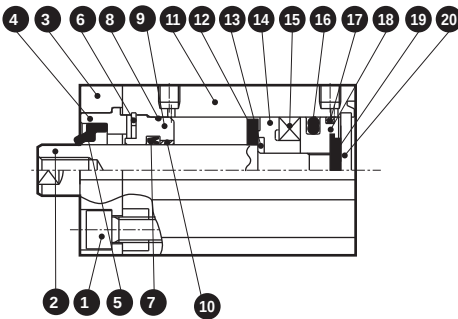
Internal structure and parts list

- Degree of protection: Packing NBR SSD-KG2/KG2L
- Degree of protection: Packing FKM SSD-KG3/KG3L

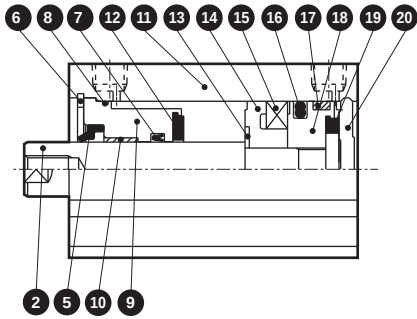
● SSD-KG₃²L-16
(with switch)



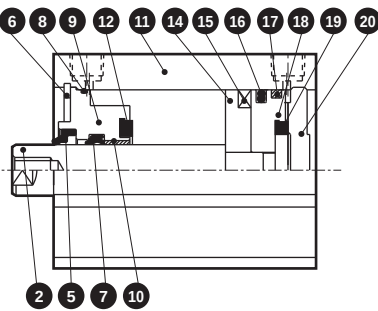
● SSD-KG₃²L-20, 25
(with switch)



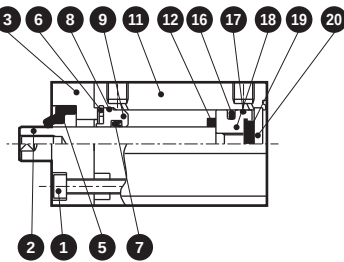
● SSD-KG₃²L-32 to 50
(with switch)



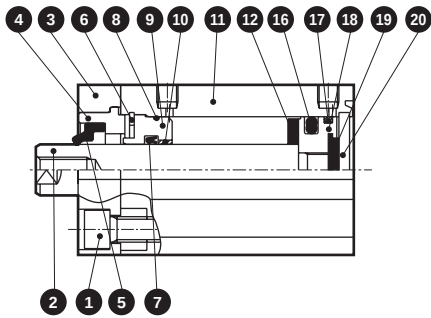
● SSD-KG₃²L-63 to 100
(with switch)



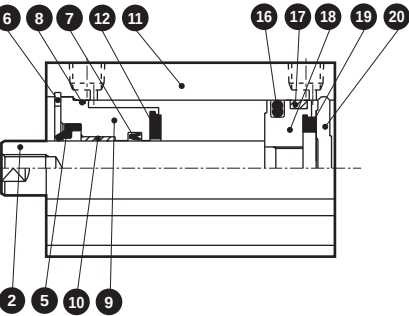
● SSD-KG₃²-16
(without switch)



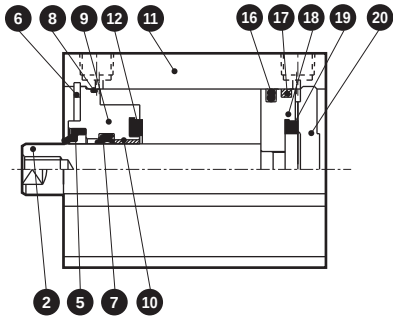
● SSD-KG₃²-20, 25
(without switch)



● SSD-KG₃²-32 to 50
(without switch)



● SSD-KG₃²-63 to 100
(without switch)



SSD-KG2/KG3 Series

Internal structure and parts list

Main parts list

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Hexagon socket head cap screw	Stainless steel	ø16 to ø25 only	11	Body	Aluminum alloy	Hard alumite
2	Piston rod	Stainless steel	Industrial chrome plating	12	Cushion rubber R	Urethane rubber	
3	Adaptor (A)	Aluminum alloy	Alumite: ø16 to ø25 only	13	Spacer washer	Stainless steel	ø16 to ø25 only
4	Adaptor (B)	Aluminum alloy	Alumite: ø20/ø25 only	14	Spacer	ø16 to ø50: Special resin ø63 to ø100: Aluminum alloy	
5	Scraper	G2 Nitrile rubber		15	Magnet	Plastic	
		G3 Fluoro rubber		16	Piston packing	G2 Nitrile rubber G3 Fluoro rubber	
6	C-snap ring (for hole)	Stainless steel		17	Wear ring	Polyacetal resin	
7	Rod packing	G2 Nitrile rubber		18	Piston	Aluminum alloy	Chromate
		G3 Fluoro rubber		19	Cushion rubber H	Urethane rubber	
8	Rod metal gasket	G2 Nitrile rubber G3 Fluoro rubber		20	Cover	ø16 to ø25: Stainless steel	
9	Rod metal	Special aluminum	Alumite			ø32 to ø100: Aluminum alloy	Alumite
10	Bush	Oiles drymet	ø20 to ø100 only				

Repair parts list

Part name Bore size (mm)	Kit No.	Repair parts No.
ø16	SSD-KG2-16K	
	SSD-KG3-16K	
ø20	SSD-KG2-20K	
	SSD-KG3-20K	
ø25	SSD-KG2-25K	
	SSD-KG3-25K	
ø32	SSD-KG2-32K	
	SSD-KG3-32K	
ø40	SSD-KG2-40K	5 7 8 12 16 17 19
	SSD-KG3-40K	
ø50	SSD-KG2-50K	
	SSD-KG3-50K	
ø63	SSD-KG2-63K	
	SSD-KG3-63K	
ø80	SSD-KG2-80K	
	SSD-KG3-80K	
ø100	SSD-KG2-100K	
	SSD-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

SSD-KG2/KG3 Series

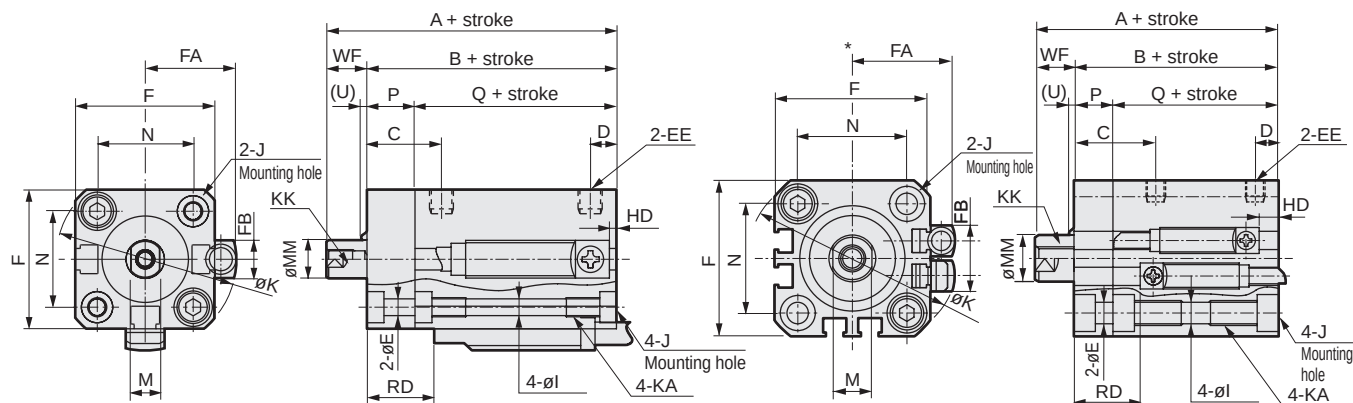
Dimensions



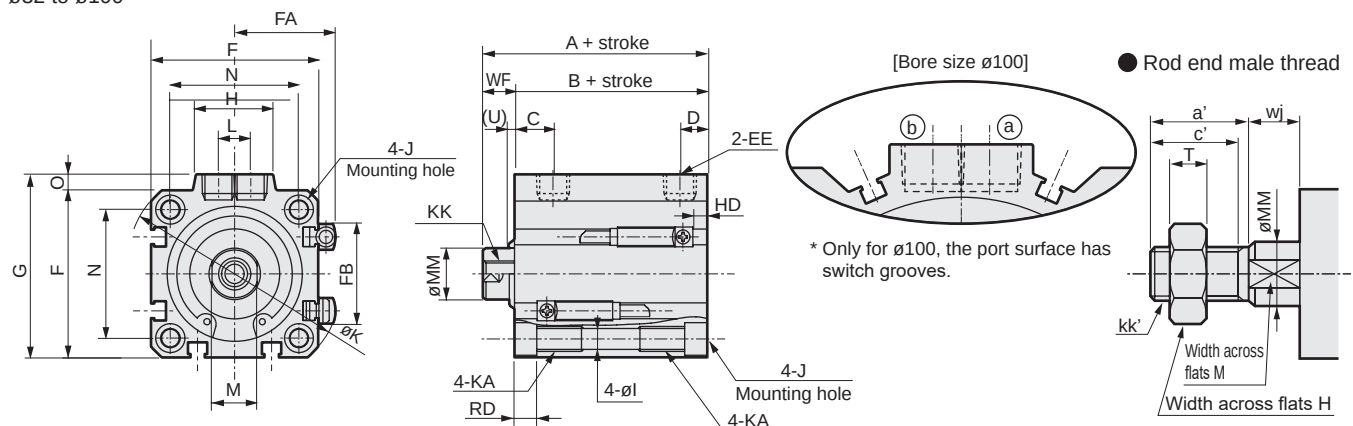
SSD-KG2/KG3

ø16

ø20/ø25



ø32 to ø100



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

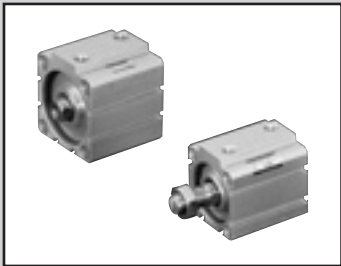
Code	Dimensions (no switch)			Common dimensions with switch																
Bore size (mm)	A *1	B *1	Q *1	A *1	B *1	Q *1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
ø16	40.5	32	22	45.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	ø6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
ø20	44	34.5	24.5	54	44.5	34.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	ø9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
ø25	47.5	37.5	27.5	57.5	47.5	37.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	ø9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
ø32	55	43	-	65	53	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	ø9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
ø40	61.5	49.5	-	71.5	59.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	ø9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ø50	63.5	50.5	-	73.5	60.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	ø11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ø63	69	56	-	79	66	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	ø14 spot face depth 9	103	M10 depth 25	M10 depth 15
ø80	78.5	63.5	-	88.5	73.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	ø17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ø100	90	73	-	100	83	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	ø17.5 spot face depth 11	156	M12 depth 28	M20 depth 27
Code	Common dimensions with switch								Proximity T2YLH, T2YLV, T3YLH, T3YLV		Dimensions of rod end male thread part									
Bore size (mm)	L	M	MM	N	O	P	U	WF	HD	RD	a'	c'	H	kk'	M	MM	T	wj		
ø16	-	6	8	20	-	10	3	8.5	2.5	14.5	12	10	10	M6	6	8	3.6	8.5		
ø20	-	8	10	25.5	-	10	3	9.5	4.5	20.0	14	12	13	M8	8	10	5	9.5		
ø25	-	10	12	28	-	10	3	10	4.5	22.5	17.5	15	17	M10x1.25	10	12	6	10		
ø32	10	14	16	34	4.5	-	0	12	9.5	25.5	23.5	20.5	22	M14x1.5	14	16	8	10		
ø40	10	14	16	40	5	-	2	12	10.5	31.0	23.5	20.5	22	M14x1.5	14	16	8	10		
ø50	15	17	20	50	7	-	2	13	11.5	31.0	28.5	26	27	M18x1.5	17	20	11	10		
ø63	15	17	20	60	7	-	2	13	18.0	29.0	28.5	26	27	M18x1.5	17	20	11	10		
ø80	15	22	25	77	6	-	2	15	24.0	31.5	35.5	32.5	32	M22x1.5	22	25	13	13		
ø100	15	27	30	94	6.5	-	2	17	29.5	35.5	35.5	32.5	41	M26x1.5	27	30	16	13		

* For dimensions of individual accessories, refer to pages 1108 to 1115.

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

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



Compact cylinder
Double acting/single rod/coil scraper

SSD-G1 Series

● Bore size: ø25/ø32/ø40/ø50/ø63/ø80/ø100

JIS symbol



Compact cylinder
Double acting/single rod/anti-spatter adherence

SSD-G4 Series



Specifications

Item	SSD-G1/G4 SSD-G1L/G4L (with switch)							
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100	
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)			
Proof pressure MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size	M5	Rc1/8		Rc1/4		Rc3/8		
Stroke tolerance mm	+1.0							
	0							
Working piston speed mm/s	50 to 500				50 to 300			
Cushion	None							
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56	

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)/strong magnetic field proof switch
ø25	5, 10, 15, 20, 25, 30, 40, 50	*2) 50	1 (10) The value in () is for types with one or two switches.
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	*2) 50	
ø80			
ø100			

*1) The custom stroke is available in 1 mm increments.
 *2) If the standard stroke is exceeded, the high load is used. Refer to page 1116 for specifications.
 *3) Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Switch specifications

Item	2-wire proximity
	T2YD
Applications	Dedicated for programmable controller
Lamp	Red/green LED (Lit when ON)
Load voltage	24 VDC $\pm 10\%$
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0 mA or less
Output delay time *1 (ON delay, OFF delay)	60 ms or less
Lead wire length	1 m (oil resistant vinyl cabtyre cable $\phi 6$, 0.5 mm ² x 2-conductor) *2, *3
Insulation resistance	100 M Ω or more at 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s ²
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*1 : Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2 : 3 m and 5 m lead wires are available as options.

*3 : Flame-resistant lead wires are available as options.

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
$\phi 25$	131	222	146	237	162	253	178	269	194	285	209	300	241	332	272	363
$\phi 32$	184	298	206	320	228	342	250	364	271	385	293	407	337	451	380	494
$\phi 40$	265	408	292	435	318	461	345	488	372	515	398	541	451	594	504	647
$\phi 50$	418	612	460	654	502	696	544	738	586	780	629	823	713	907	797	991
$\phi 63$	603	882	658	937	-	-	768	1047	-	-	878	1157	989	1268	1099	1378
$\phi 80$	1093	1506	1180	1593	-	-	1353	1766	-	-	1526	1939	1700	2113	1873	2286
$\phi 100$	1654	2221	1768	2335	-	-	1995	2562	-	-	2223	2790	2450	3017	2678	3245

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
$\phi 25$	Push	-	73.6	98.2	1.47×10^2	1.96×10^2	2.45×10^2	2.95×10^2	3.44×10^2	3.93×10^2	4.42×10^2	4.91×10^2
	Pull	-	56.7	75.6	1.13×10^2	1.51×10^2	1.89×10^2	2.27×10^2	2.64×10^2	3.02×10^2	3.40×10^2	3.78×10^2
$\phi 32$	Push	-	1.21×10^2	1.61×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	-	90.5	1.21×10^2	1.81×10^2	2.41×10^2	3.02×10^2	3.62×10^2	4.22×10^2	4.83×10^2	5.43×10^2	6.03×10^2
$\phi 40$	Push	-	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
	Pull	-	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
$\phi 50$	Push	-	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
	Pull	-	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
$\phi 63$	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

SSD-G1/G4 Series

How to order

No switch (without magnet for switch)

SSD-G4 - **32** - **10** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-G4L - **32** - **10** - **T2YD** - **R** - **N** - **LB** - **I**

A Model No.

--	--	--	--	--	--	--

B Bore size

--	--	--	--	--	--	--

C Stroke
*1

--	--	--	--	--	--	--

D Switch model No.
*4

--	--	--	--	--	--	--

E Switch quantity

--	--	--	--	--	--	--

F Option

--	--	--	--	--	--	--

G Mounting bracket
*1
*2

--	--	--	--	--	--	--

H Accessory
*3

--	--	--	--	--	--	--

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-G4L-32-10-T2YD-R-N

Model: Compact cylinder double acting/anti-spatter adherence

B Bore size : ø32 mm

C Stroke : 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

Code	Description
A Model No.	
SSD-G1	Double acting/single rod/coil scraper
SSD-G1L	Double acting/single rod/coil scraper/with switch
SSD-G4	Double acting/single rod/anti-spatter adherence
SSD-G4L	Double acting/single rod/anti-spatter adherence/with switch

B Bore size (mm)	
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

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

D Switch model No.					
Axial lead wire	Radial lead wire	Contact	Voltage	Indicator	Lead wire
T2YD*	—	Proximity	DC	2-color LED 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	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring included)
CB2	Clevis bracket (compact) (pin and snap ring included)
FA	Rod side flange
FB	Head side flange

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

How to order switch

SW - **T2YD***

Switch model No.
(Item ① on page 1248)

[Stroke table]

Stroke (mm)		Applicable bore size						
		ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke *1	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke (mm) *2		1						
Max. stroke (mm)		50						
Custom stroke *3		In 1 mm increments						

*1: If the standard stroke is exceeded, the high load (K) is used.
Refer to page 1116 for specifications, and pages 1122 to 1125 for dimensions.

*2: Less than 10 mm stroke with AC magnetic field proof switch is not available.

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

*4: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets
LB and LB2.

How to order mounting bracket

Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket							
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

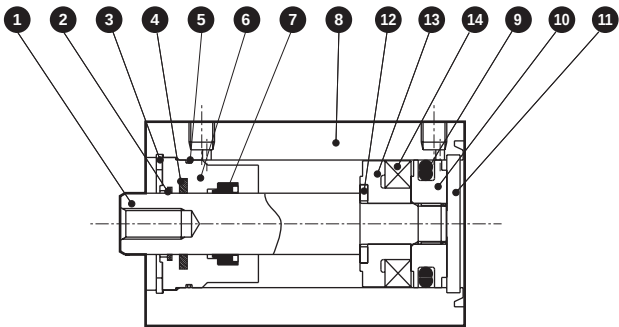
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

SSD-G1/G4 Series

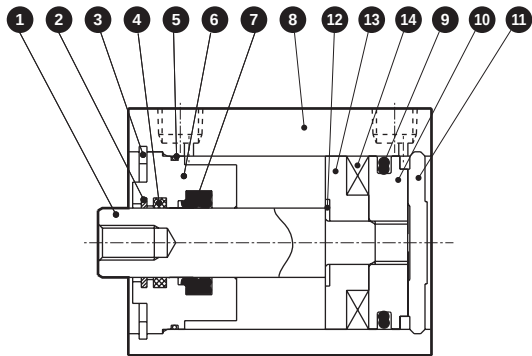
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

Internal structure and parts list

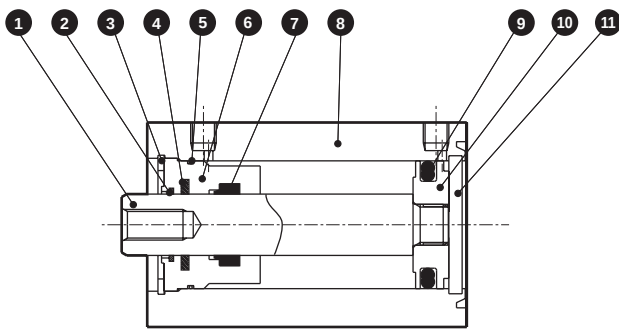
● SSD-G1L/G4L-25 (double acting/anti-spatter adherence/ with switch)



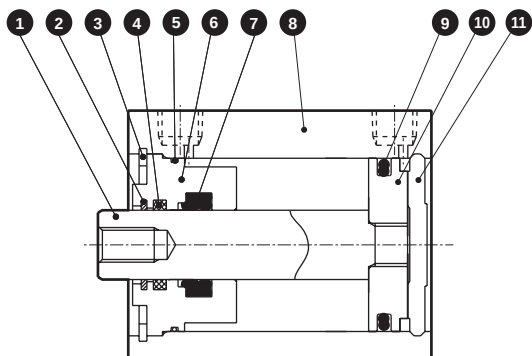
● SSD-G1L/G4L-32 to 50 (double acting/anti-spatter adherence/ with switch)



● SSD-G1/G4-25 (double acting/anti-spatter adherence)



● SSD-G1/G4-32 to 50 (double acting/anti-spatter adherence)



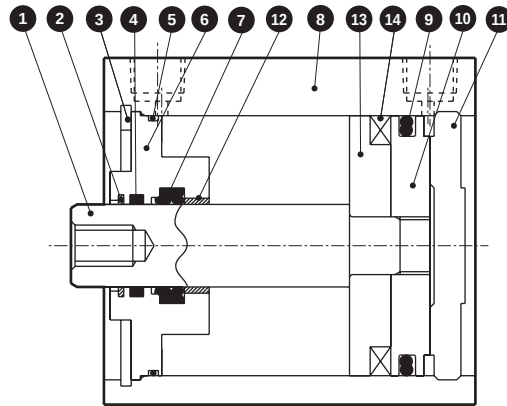
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	ø25: Stainless steel, ø32 to ø50: Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	Coil scraper	Phosphor bronze		9	Piston packing	Nitrile rubber	
3	C-snap ring for hole	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Cover	ø25: Stainless steel ø32 to ø50: Aluminum alloy	Alumite (ø32 to 50)
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	
6	Rod metal	Special aluminum	Alumite	13	Spacer	Special resin	
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

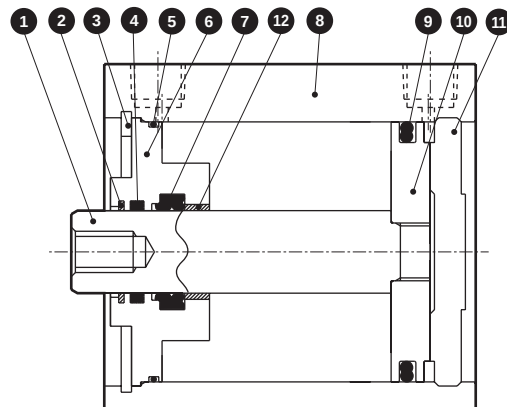
Part name	Kit No.	Repair parts
Bore size (mm)		No.
ø25	SSD-G1-25K	2 5 7 9
ø32	SSD-G1-32K	
ø40	SSD-G1-40K	
ø50	SSD-G1-50K	

Internal structure and parts list

- SSD-G1L/G4L-63 to 100 (double acting/anti-spatter adherence/with switch)



- SSD-G1/G4-63 to 100 (double acting/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	Coil scraper	Phosphor bronze		9	Piston packing	Nitrile rubber	
3	C-snap ring for hole	Steel	Zinc phosphate	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Cover	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
6	Rod metal	Aluminum alloy		13	Spacer	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber	Chromate	14	Magnet	Plastic	

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø63	SSD-G1-63K	2 5 7 9
ø80	SSD-G1-80K	
ø100	SSD-G1-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd
Contr

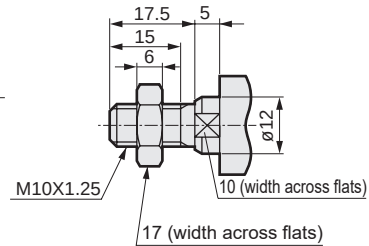
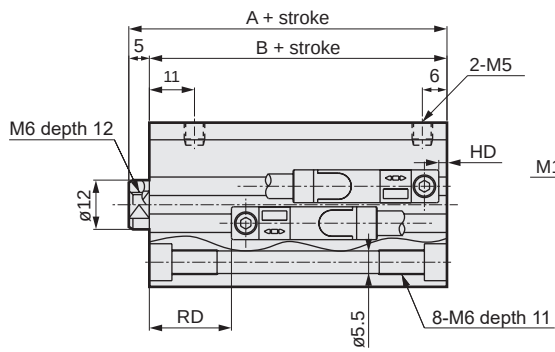
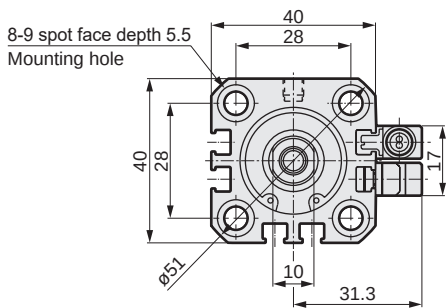
Ending

SSD-G1/G4 Series

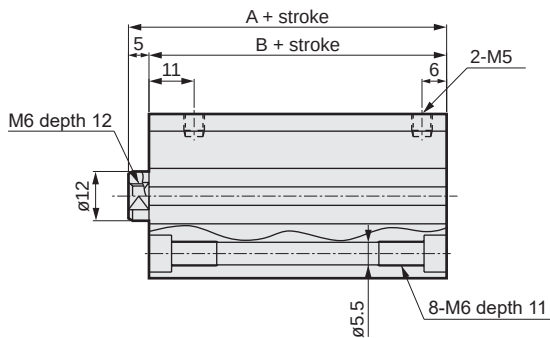
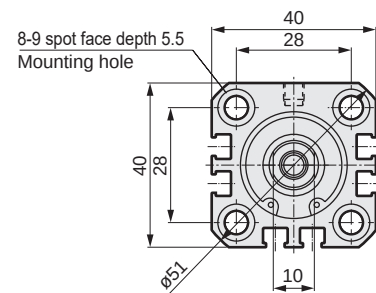
Dimensions

- SSD-G1L/G4L-25 (with switch)

- Rod end male thread



- SSD-G1/G4-25 (without switch)



Code	No switch		Dimensions with switch			
Bore size (mm)	A ⁺¹	B ⁺¹	A ⁺¹	B ⁺¹	RD ⁺²	HD
ø25	37.5	32.5	47.5	42.5	20	2

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

(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.

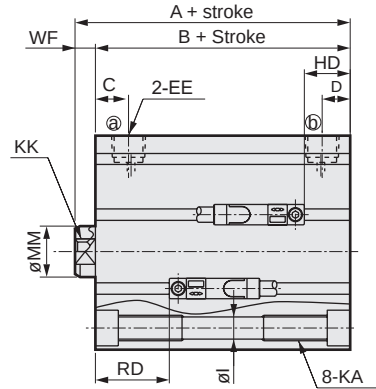
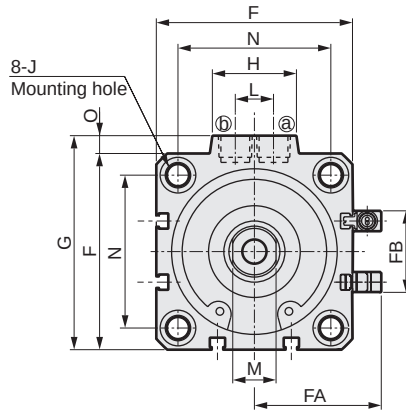
*2 : RD dimensions for custom stroke differ from these dimensions according to the setting.

*3: For dimensions of individual accessories, refer to pages 1108 to 1115.

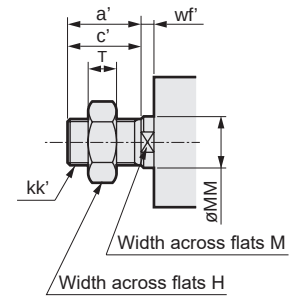
Dimensions



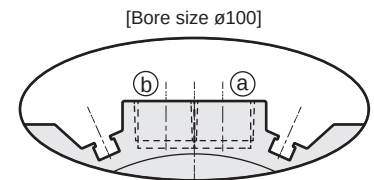
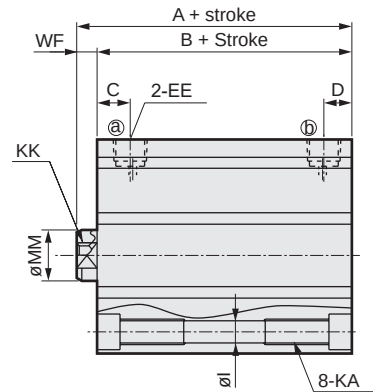
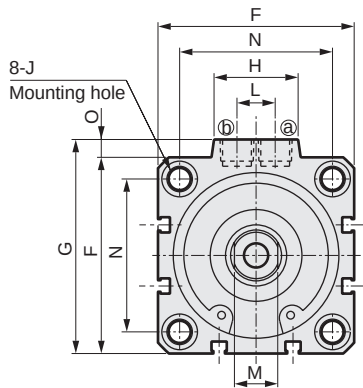
● SSD-G1L/G4L-32 to 100 (with switch)



● Rod end male thread



● SSD-G1/G4-32 to 100 (without switch)



* Only for ø100, the port surface has switch grooves.

Code Bore size (mm)	No switch		Common dimensions with switch															
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA	FB	G	H	I	J	KA	KK		
ø32	40	33	50	43	8	8	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13		
ø40	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13		
ø50	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15		
ø63	54	46	64	56	13	11	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15		
ø80	63.5	53.5	73.5	63.5	16	13	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21		
ø100	75	63	85	73	23	15	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27		

Code Bore size (mm)	Common dimensions with switch					With T2YD type switch	
	M	MM	N	O	WF	RD ^{*2}	HD
ø32	14	16	34	4.5	7	17.5	2
ø40	14	16	40	5	7	20.5	5.5
ø50	17	20	50	7	8	21	6
ø63	17	20	60	7	8	21.5	11
ø80	22	25	77	6	10	24	16
ø100	27	30	94	6.5	12	28	21.5

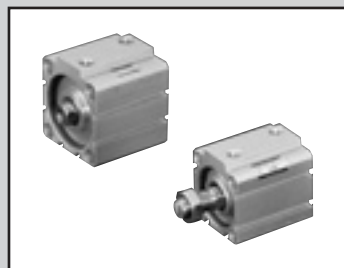
*1: To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.

*2: RD dimensions for custom stroke differ from these dimensions according to the setting.

● Dimensions of rod end male thread part

Code Bore size (mm)	a'	C'	H	kk'	M	MM	T	wf'
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

For dimensions of individual accessories, refer to pages 1108 to 1115.



Compact cylinder
Double acting/single rod/high load/coil scraper

Compact cylinder
Double acting/single rod/high load/anti-spatter adherence

SSD-KG1 Series

SSD-KG4 Series

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

JIS symbol



Specifications

Item	SSD-KG1/KG4						
	SSD-KG1L/KG4L (with switch)						
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)				0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)						
Port size	M5	Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0						
	0						
Working piston speed mm/s	50 to 500				50 to 300		
Cushion	Rubber cushion						
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy J	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)strong magnetic field proof switch
$\varnothing 25$	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90, 100	*2) 300	1(10)
$\varnothing 32$			
$\varnothing 40$			
$\varnothing 50$			
$\varnothing 63$	10, 20, 30, 40, 50 60, 70, 80, 90, 100		
$\varnothing 80$			
$\varnothing 100$			

*1) The custom stroke is available in 1 mm increments.

*2) Stroke over standard to maximum is available in increments of 10.

(Example) $\varnothing 25$: 110, 120, 130, 140, 150...

*3) Dimensions of custom stroke (Example: 64 mm stroke) are the same as the next stroke up (Example: 70 mm stroke).

*4) From 151 to 300 for $\varnothing 25$ to $\varnothing 50$, or 201 to 300 for $\varnothing 63$ to $\varnothing 100$, internal structure and total length are different in some products.

Switch specifications

Item	2-wire proximity	
	T2YD	
Applications	Dedicated for programmable controller	
Lamp	Red/green LED (Lit when ON)	
Load voltage	24 VDC $\pm 10\%$	
Load current	5 to 20 mA	
Internal voltage drop	6V or less	
Leakage current	1.0 mA or less	
Output delay time *1 (ON delay, OFF delay)	60 ms or less	
Lead wire length	1 m (oil resistant vinyl cabtyre cable $\varnothing 6$, 0.5 mm ² x 2-conductor) *2, *3	
Insulation resistance	100 M Ω or more at 500 VDC megger	
Withstand voltage	No failure after 1 minute of 1,000 VAC application.	
Shock resistance	980 m/s ²	
Ambient temperature	-10 to +60 $^{\circ}\text{C}$	
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance	
Weight	g	1 m:61 3 m:166 5 m:272

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

*3: Flame-resistant lead wires are available as options.

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

SSD-KG1/KG4 Series

Specifications

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

(Unit: g)

Stroke (mm)	10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	162	253	178	269	194	285	209	300	226	317	258	349	290	381	322	413	354	445	386	477	418	509	450	541
ø32	249	363	270	384	292	406	314	428	336	450	379	493	422	536	465	579	508	622	551	665	594	708	637	751
ø40	345	488	372	515	398	541	424	567	451	594	504	647	557	700	610	753	663	806	716	859	769	912	822	965
ø50	549	743	591	785	634	828	677	871	718	912	802	996	886	1080	970	1164	1054	1248	1138	1332	1222	1416	1306	1500
ø63	782	1061	-	-	892	1171	-	-	1003	1282	1113	1392	1223	1502	1333	1612	1443	1722	1553	1832	1663	1942	1773	2052
ø80	1382	1795	-	-	1555	1968	-	-	1729	2142	1902	2315	2075	2488	2248	2661	2421	2834	2594	3007	2767	3180	2940	3353
ø100	2029	2596	-	-	2257	2824	-	-	2484	3051	2712	3279	2940	3507	3168	3735	3396	3963	3624	4191	3852	4419	4080	4647

(Unit: g)

Stroke (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	482	573	514	605	546	637	578	669	610	701	642	733	674	765	706	797	738	829	770	861
ø32	680	794	723	837	766	880	809	923	852	966	894	1008	937	1051	980	1094	1023	1137	1066	1180
ø40	875	1018	928	1071	981	1124	1034	1177	1087	1230	1140	1283	1193	1336	1246	1389	1299	1442	1352	1495
ø50	1390	1584	1474	1668	1558	1752	1642	1836	1726	1920	1824	2018	1909	2103	1994	2188	2079	2273	2164	2358
ø63	1883	2162	1993	2272	2103	2382	2213	2492	2323	2602	2433	2712	2543	2822	2653	2932	2763	3042	2873	3152
ø80	3113	3526	3286	3699	3459	3872	3632	4045	3805	4218	3978	4391	4151	4564	4324	4737	4497	4910	4670	5083
ø100	4308	4875	4536	5103	4764	5331	4992	5559	5220	5787	5448	6015	5676	6243	5904	6471	6132	6699	6360	6927

(Unit: g)

Stroke (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	813	893	845	925	877	957	909	989	941	1021	973	1053	1005	1085	1037	1117	1069	1149	1101	1181
ø32	1109	1223	1152	1266	1195	1309	1238	1352	1281	1395	1324	1438	1367	1481	1410	1524	1453	1567	1496	1610
ø40	1405	1548	1458	1601	1511	1654	1564	1707	1617	1760	1670	1813	1723	1866	1776	1919	1829	1972	1882	2025
ø50	2249	2443	2334	2528	2419	2613	2504	2698	2589	2783	2674	2868	2759	2953	2844	3038	2929	3123	3014	3208
ø63	2982	3261	3092	3371	3202	3481	3312	3591	3422	3701	3532	3811	3642	3921	3752	4031	3862	4141	3972	4251
ø80	4842	5255	5015	5428	5188	5601	5361	5774	5534	5947	5707	6120	5880	6293	6053	6466	6226	6639	6399	6812
ø100	6589	7156	6817	7384	7045	7612	7273	7840	7501	8068	7729	8296	7957	8524	8185	8752	8413	8980	8641	9208

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø25	Push	-	73.6	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	56.7	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	1.21x10 ²	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	90.5	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-KG1/KG4 Series

How to order

No switch (without magnet for switch)

SSD-KG4 - **32** - **10** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-KG4L - **32** - **10** - **T2YD** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Stroke

D Switch model No.
*4

E Switch quantity

F Option

G Mounting bracket
*1
*2

H Accessory
*3

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-KG4L-32-10-T2YD-R-N

Model: Compact cylinder

Double acting, high load, anti-spatter adherence

- B** Bore size : ø32 mm
- C** Stroke : 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

Code	Description
A Model No.	
SSD-KG1	Double acting/single rod/high load/coil scraper
SSD-KG1L	Double acting/single rod/high load/coil scraper/with switch
SSD-KG4	Double acting/single rod/high load/anti-spatter adherence
SSD-KG4L	Double acting/single rod/high load/anti-spatter adherence/with switch

Code	Description
B Bore size (mm)	
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

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

D Switch model No.					
Axial lead wire	Radial lead wire	Contact	Voltage	Indicator	Lead wire
T2YD*	—	Proximity	DC	2-color LED 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	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring included)
CB2	Clevis bracket (compact) (pin and snap ring included)
FA	Rod side flange
FB	Head side flange

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

How to order switch

SW - T2YD

Switch model No.
(Item ① on page 1256)

[Stroke table]

Stroke (mm)		Applicable bore size						
		ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
	60	●	●	●	●	●	●	●
	70	●	●	●	●	●	●	●
	80	●	●	●	●	●	●	●
	90	●	●	●	●	●	●	●
	100	●	●	●	●	●	●	●
Min. stroke (mm) *1		1						
Max. stroke (mm)		300						
Custom stroke *2		In 1 mm increments						

*1 : Less than 10 mm stroke with AC magnetic field proof switch is not available.

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

How to order mounting bracket

Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket							
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

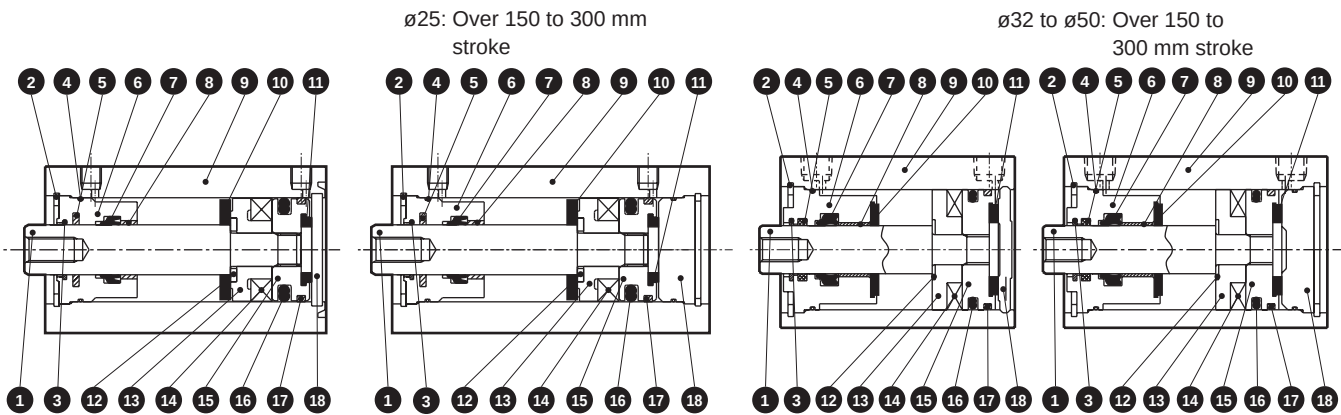
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SSD-KG1/KG4 Series

Internal structure and parts list

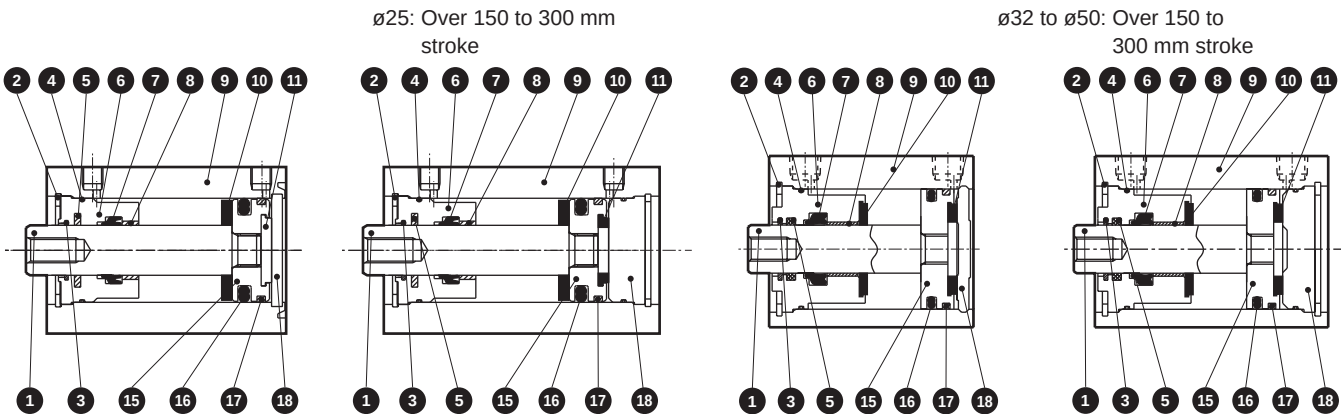
● SSD-KG1L/KG4L-25 (double acting/single rod high load/ anti-spatter adherence/with switch)

● SSD-KG1L/KG4L-32 to 50 (double acting/single rod high load/anti-spatter adherence/with switch)



● SSD-KG1/KG4-25 (double acting/single rod high load/ anti-spatter adherence)

● SSD-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	ø25: Stainless steel, ø32 to ø50: Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C-snap ring for hole	Steel	Zinc phosphate	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer washer	Stainless steel	
4	Rod metal gasket	Nitrile rubber		13	Spacer	Special resin	
5	Lube keeping structure	Special rubber	G4 only	14	Magnet	Plastic	
6	Rod metal	Special aluminum	Alumite	15	Piston	Aluminum alloy	Chromate
7	Rod packing	Nitrile rubber		16	Piston packing	Nitrile rubber	
8	Bush	Oiles drymet		17	Wear ring	Polyacetal resin	
9	Tube body	Aluminum alloy	Hard alumite	18	Cover	ø25: Stainless steel ø32 to ø50: Aluminum alloy	Chromate (ø32 to ø50) (*1)

*1 : For cover of long stroke type for ø25, Material: Aluminum alloy, Remarks: Chromate treatment.
*2 : For dimensions of individual accessories, refer to pages 1108 to 1115.

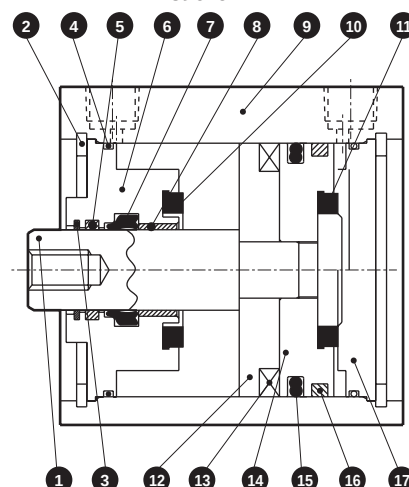
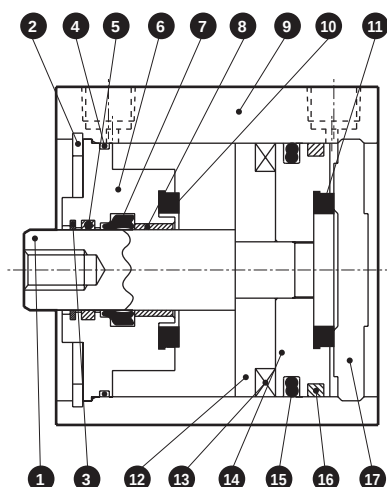
Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø25	SSD-KG1-25K	3 4 7
ø32	SSD-KG1-32K	10 11 16
ø40	SSD-KG1-40K	17
ø50	SSD-KG1-50K	

Internal structure and parts list

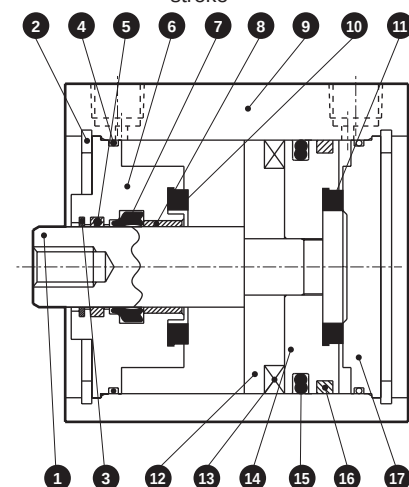
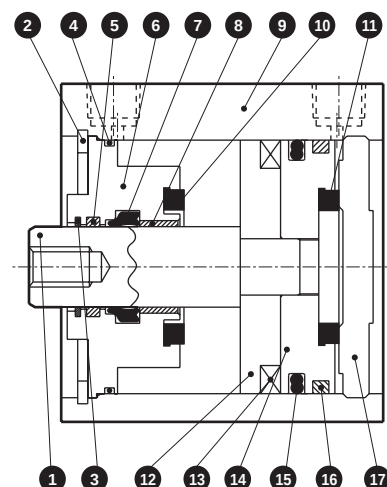
- SSD-KG1L/KG4L-63 to 100 (double acting/single rod high load/anti-spatter adherence/with switch)

ø63 to ø100: Over 200 to 300 mm stroke



- SSD-KG1/KG4-63 to 100 (double acting/single rod high load/anti-spatter adherence)

ø63 to ø100: Over 200 to 300 mm stroke



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-snap ring for hole	Steel	Zinc phosphate	11	Cushion rubber H	Urethane rubber	
3	Coil scraper	Phosphor bronze		12	Spacer	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber	G4 only	14	Piston	Aluminum alloy	Chromate
6	Rod metal	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod packing	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	Oiles drymet		17	Cover	Aluminum alloy	Chromate
9	Tube body	Aluminum alloy	Hard alumite				

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø63	SSD-KG1-63K	3 4 7 10
ø80	SSD-KG1-80K	11 15 16
ø100	SSD-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

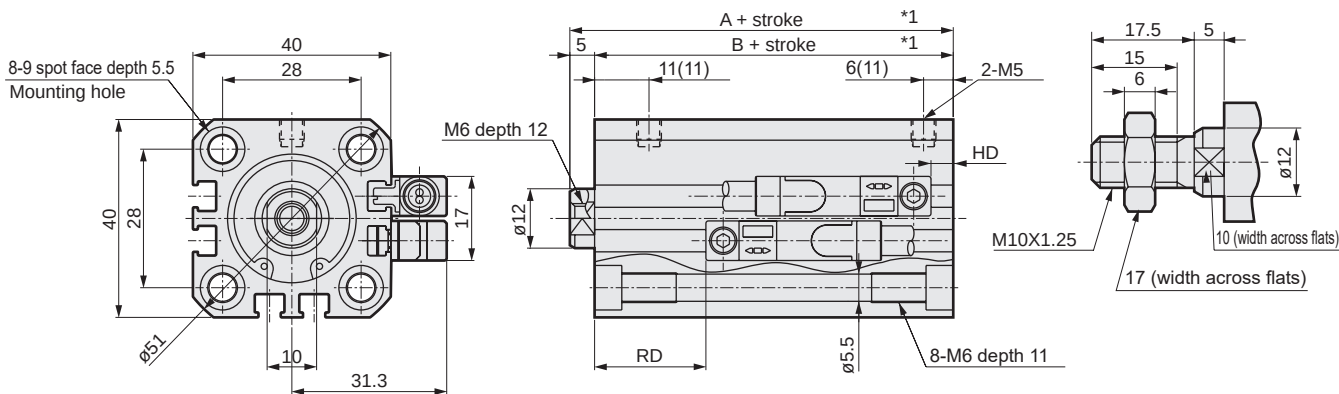
Ending

SSD-KG1/KG4 Series

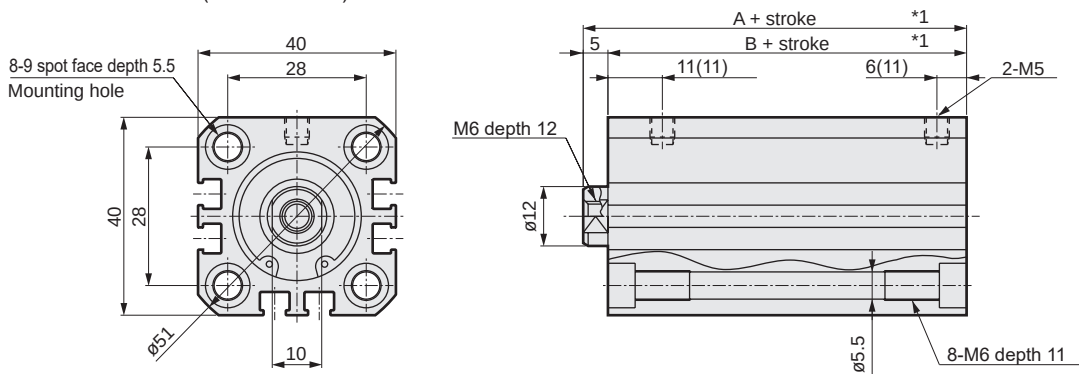
Dimensions

● SSD-KG1L/KG4L-25 (with switch)

● Rod end male thread



● SSD-KG1/KG4-25 (without switch)



Code	No switch		Dimensions with switch			
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	RD ^{*2,*3}	HD ^{*2,*3}
ø25	42.5	37.5	52.5	47.5	22.5(27.5)	4.5(13)

● Table 2

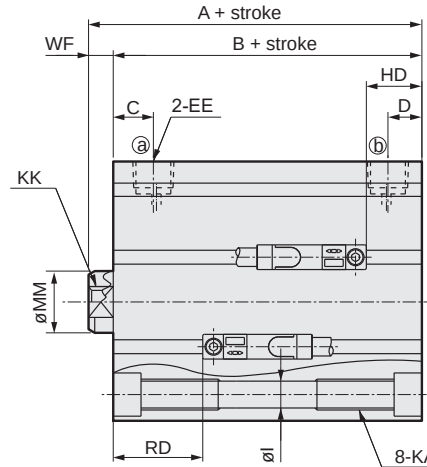
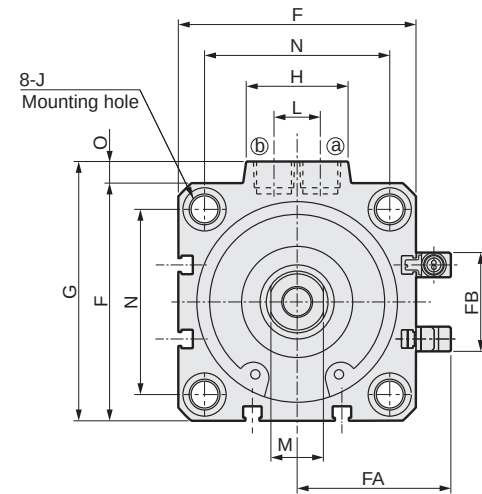
Code	No switch		Dimensions with switch	
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}
ø25	56	51	66	61

*1: To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
When longer than 150 mm stroke, A and B dimensions are indicated in Table 2. In addition, there is no 9 spot face.
(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.
*2: When longer than 150 mm stroke, HD and RD dimensions are indicated in ().
*3: RD dimensions for custom stroke differ from these dimensions according to the setting.
*4: For dimensions of individual accessories, refer to pages 1108 to 1115.

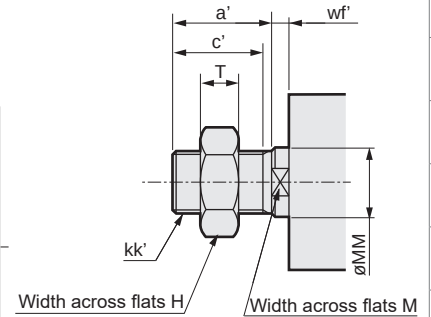
Dimensions



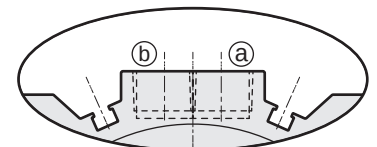
● SSD-KG1L/KG4L-32 to 100 (with switch)



● Rod end male thread



[Bore size ø100]



* Only for ø100, the port surface has switch grooves.

Code	Dimensions with switch													
Bore size (mm)	A ^{*1}	B ^{*1}	C	D ^{*2}	EE	F	FA	FB	G	H	I	J	KA	KK
ø32	60	53	8	8(8)	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ø40	66.5	59.5	12	8.5(12)	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ø50	68.5	60.5	10.5	10.5(10.5)	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
ø63	74	66	13	11(13)	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
ø80	83.5	73.5	16	13(16)	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21
ø100	95	83	23	15(23)	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Code	Dimensions with switch						With T2YD type switch	
Bore size (mm)	L	M	MM	N	O	WF	RD ^{*2,*3}	HD ^{*2}
ø32	10	14	16	34	4.5	7	25.5(25.5)	9.5(17)
ø40	10	14	16	40	5	7	31(31)	10.5(20)
ø50	15	17	20	50	7	8	31(36)	11.5(20.5)
ø63	15	17	20	60	7	8	29(34)	18(23.5)
ø80	15	22	25	77	6	10	31.5(36.5)	24(29.5)
ø100	15	27	30	94	6.5	12	35.5(40.5)	29.5(35)

● Table 2

Code	With switch	
Bore size (mm)	A ^{*1}	B ^{*1}
ø32	67.5	60.5
ø40	76	69
ø50	82	74
ø63	84	76
ø80	93.5	83.5
ø100	105	93

● Dimensions of rod end male thread part

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

*1: To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm. When longer than 150 mm stroke for ø32 to ø50 or longer than 200 mm stroke for ø63 to ø100, AB dimensions are indicated in Table 2. In addition, there is no spot face J.

*2: When longer than 150 mm stroke for ø32 to ø50 or longer than 200 mm stroke for ø63 to ø100, HD, RD, and D dimensions are indicated in ().

*3: RD dimensions for custom stroke differ from these dimensions according to the setting.

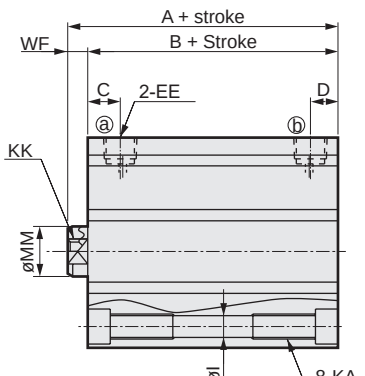
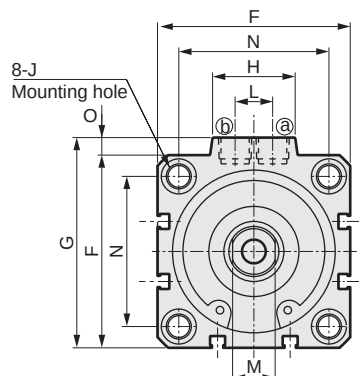
*4: For dimensions of individual accessories, refer to pages 1108 to 1115.

SSD-KG1/KG4 Series

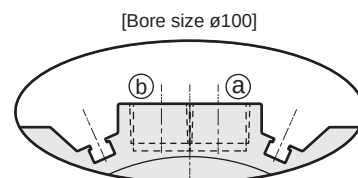
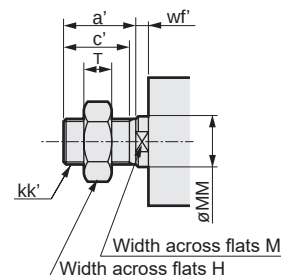
Dimensions



● SSD-KG1/KG4-32 to 100 (without switch)



● Rod end male thread



* Only for ø100, the port surface has switch grooves.

Code	Dimensions without switch																
Bore size (mm)	A ^{*1}	B ^{*1}	C	D ^{*2}	EE	F	G	H	I	J	KA	KK	L	M	MM	N	WF
ø32	50	43	8	8(8)	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	34	4.5
ø40	56.5	49.5	12	8.5(12)	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	40	5
ø50	58.5	50.5	10.5	10.5(10.5)	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15	15	17	20	50	7
ø63	64	56	13	11(13)	Rc1/4	77	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15	15	17	20	60	7
ø80	73.5	63.5	16	13(16)	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21	15	22	25	77	6
ø100	85	73	23	15(23)	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27	15	27	30	94	6.5

● Table 2

Code	Dimensions without switch	
Bore size (mm)	A ^{*1}	B ^{*1}
ø32	57.5	50.5
ø40	66	59
ø50	72	64
ø63	74	66
ø80	83.5	73.5
ø100	95	83

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

(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.

When longer than 150 mm stroke for ø32 to ø50 or longer than 200 mm stroke for ø63 to ø100, AB dimensions are indicated in Table 2. In addition, there is no spot face J.

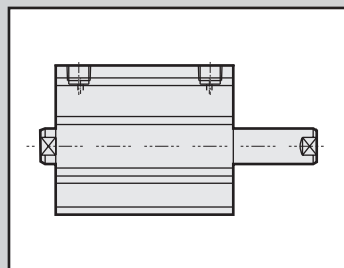
*2: When longer than 150 mm stroke for ø32 to ø50 or longer than 200 mm stroke for ø63 to ø100, D dimensions are indicated in ().

● Dimensions of rod end male thread part

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

Compact cylinder
Double acting/double rod/anti-spatter adherence

SSD-DG1 Series

SSD-DG4 Series

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

JIS symbol



Specifications

Item	SSD-DG1/DG4						
	SSD-DG1L/DG4L (with switch)						
Bore size mm	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)						
Min. working pressure MPa	0.2 (≈29 psi, 2 bar)				0.15 (≈22 psi, 1.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)						
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)						
Port size	Rc1/8			Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0						
	0						
Working piston speed mm/s	50 to 500					50 to 300	
Cushion	None						
Lubrication	Not required (use turbine oil ISO VG32 if necessary for lubrication)						
Allowable absorbed energy J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm) (with strong magnetic field proof switch)
ø25	5, 10, 15, 20, 25, 30, 40, 50	50	1 (10) *1) The value in () is for types with one or two switches.
ø32			
ø40			
ø50			
ø63	5, 10, 20, 30, 40, 50	50	
ø80			
ø100			

*1) The custom stroke is available in 1 mm increments.

Switch specifications

● Proximity switch for strong magnetic field proof

Item	2-wire proximity
	T2YD
Applications	Dedicated for programmable controller
Indicator	Red/green LED (Lit when ON)
Load voltage	24 VDC $\pm 10\%$
Load current	5 to 20 mA
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay time *1 (ON delay, OFF delay)	60 ms or less
Lead wire length	1 m (oil resistant vinyl cabtyre cable $\varnothing 6$, 0.5 mm ² x 2-conductor) *2, *3
Insulation resistance	100 M Ω or more at 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s ²
Ambient temperature	-10 to +60 $^{\circ}\text{C}$
Degree of protection	JIS C0920 (water-tight), IEC standards IP67, oil resistance
Weight	g 1 m:61 3 m:166 5 m:272

*1: Indicates the time from magnetic sensor detection of the piston magnet until switch output.

*2: 3 m and 5 m lead wires are available as options.

*3: Flame-resistant lead wires are available as options.

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø25	234	325	249	340	265	356	281	372	297	388	313	403	344	435	375	466
ø32	308	423	354	468	399	514	446	560	490	605	537	651	631	741	725	831
ø40	446	589	473	616	499	642	526	669	553	696	579	732	632	775	685	828
ø50	696	890	746	940	796	989	846	1041	896	1089	946	1139	1046	1239	1149	1343
ø63	1128	1254	1203	1567	-	-	1353	1717	-	-	1503	1867	1654	2018	1804	2168
ø80	1995	1925	2112	2042	-	-	2345	2798	-	-	2578	3031	2812	3275	3045	3508
ø100	2984	3611	3153	3775	-	-	3490	4072	-	-	3828	4440	4165	4767	4503	5095

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø25	Push	-	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-DG1/DG4 Series

How to order

No switch (without magnet for switch)

SSD-DG4 - 32 - 10 - N - LB - I

With switch (built-in magnet for switch)

SSD-DG4L - 32 - 10 - T2YD - R - N - LB - I

A Model No.

B Bore size

C Stroke

D Switch model No.

*4

E Switch quantity

F Option

G Mounting bracket

*1

*2

H Accessory

*3

Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-DG4L-32-10-T2YD-R-N

Model: Compact cylinder
Double acting double rod
anti-spatter adherence

B Bore size : ø32 mm

C Stroke : 10 mm

D Switch model No.: Proximity switch for strong magnetic field proof T2YD
· Lead wire length 1 m

E Switch quantity : 1 on rod side

F Option : Rod end male thread

[Stroke table]

Stroke (mm)		Applicable bore size						
		ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	●
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	●
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke (mm) *1		1						
Max. stroke (mm)		50						
Custom stroke *2		In 1 mm increments						

*1: Less than 10 mm stroke with AC magnetic field proof switch is not available.

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

Code	Description
A Model No.	
SSD-DG1	Double acting/double rod/coil scraper
SSD-DG1L	Double acting/double rod/coil scraper/with switch
SSD-DG4	Double acting/double rod/anti-spatter adherence
SSD-DG4L	Double acting/double rod/anti-spatter adherence/with switch

B Bore size (mm)	
25	ø25
32	ø32
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

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

D Switch model No.					
Axial lead wire	Radial lead wire	Proximity Contact	Voltage	Indicator	Lead wire
T2YD*	—		DC	2-color LED	2-wire
T2YDT*	—			AC magnetic field	
T2YDU (made-to-order product)				Cable connector SW, magnetic proof	

* 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	
LB	Axial foot
LB2	Axial foot (compact)
FA	Rod side flange

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

How to order switch

SW - T2YD

Switch model No.
(Item D above)

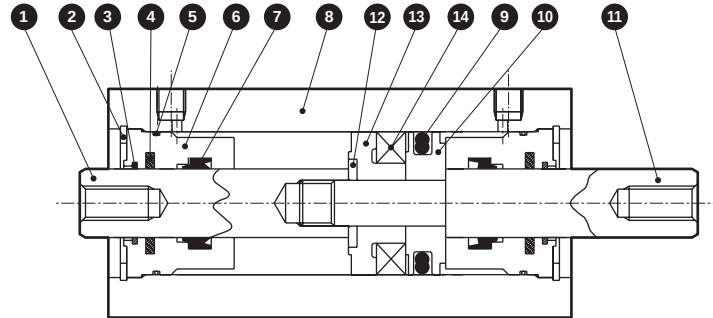
How to order mounting bracket

Bore size (mm)	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket							
Foot (LB)	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA)	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

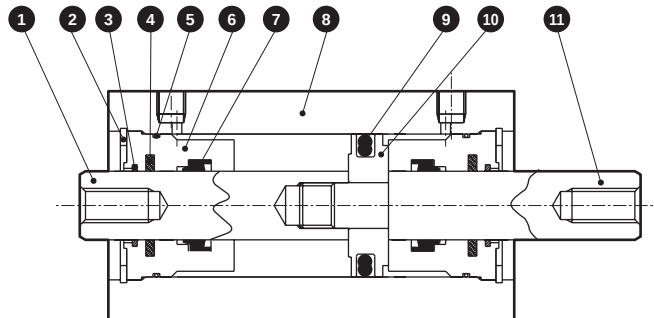
*1: The foot mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

- SSD-DG1L/DG4L-25 (double acting/double rod/anti-spatter adherence/with switch)



- SSD-DG1/DG4-25 (double acting/double rod/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Stainless steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	C-snap ring for hole	Steel	Zinc phosphate	9	Piston packing	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber		11	Piston rod B	Stainless steel	Industrial chrome plating
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	
6	Rod metal	Special aluminum	Alumite	13	Spacer	Special resin	
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø25	SSD-DG1-25K	3 5 7 9

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

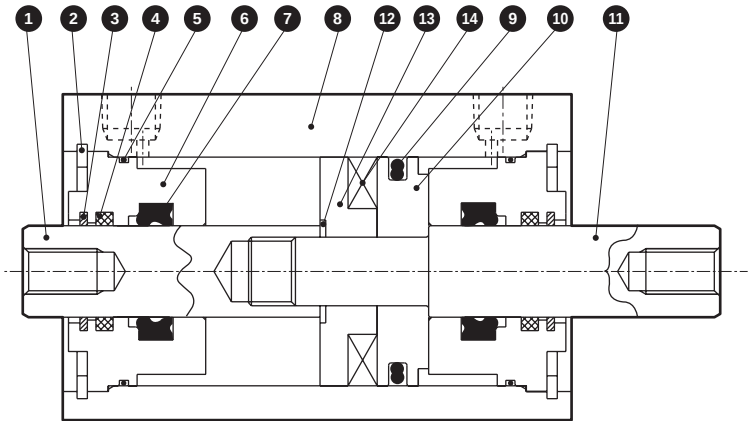
Spd
Contr

Ending

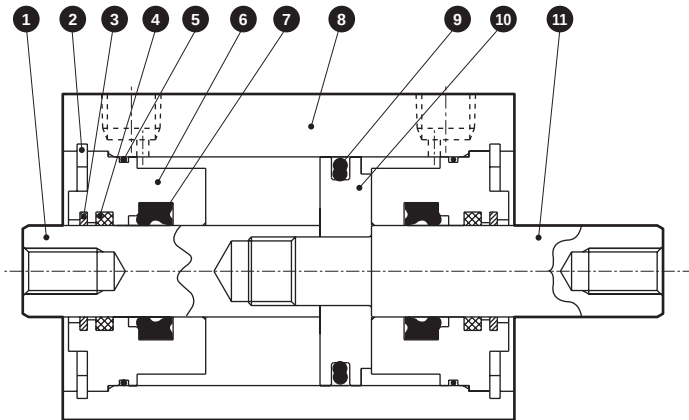
SSD-DG1/DG4 Series

Internal structure and parts list

● SSD-DG1L/DG4L-32 to 50 (double acting/double rod/anti-spatter adherence/with switch)



● SSD-DG1/DG4-32 to 50 (double acting/double rod/anti-spatter adherence)



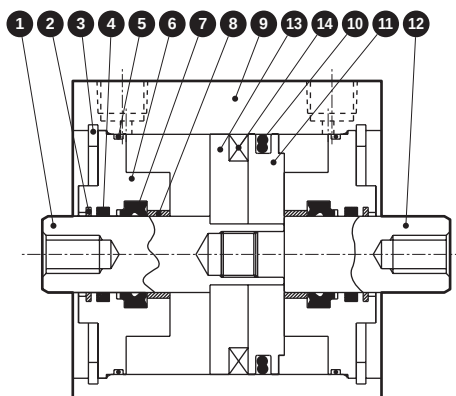
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	C-snap ring for hole	Steel	Zinc phosphate	9	Piston packing	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	G4 only	11	Piston rod B	Steel	Industrial chrome plating
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	ø50
6	Rod metal	Special aluminum	Alumite	13	Spacer	ø32, ø40: Aluminum alloy ø50: Special resin	ø32, ø40: Chromate
7	Rod packing	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

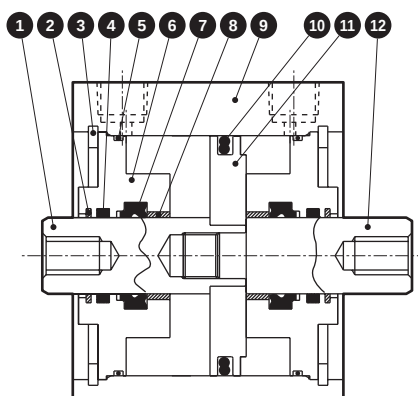
Part name	Kit No.	Repair parts
Bore size (mm)		No.
ø32	SSD-DG1-32K	3 5 7 9
ø40	SSD-DG1-40K	
ø50	SSD-DG1-50K	

Internal structure and parts list

- SSD-DG1L/DG4L-63 to 100 (double acting/double rod/anti-spatter adherence/with switch)



- SSD-DG1/DG4-63 to 100 (double acting/double rod/anti-spatter adherence)



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Bush	Oiles drymet	
2	Coil scraper	Phosphor bronze		9	Tube body	Aluminum alloy	Hard alumite
3	C-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)		
ø63	SSD-DG1-63K	2 5 7
ø80	SSD-DG1-80K	10
ø100	SSD-DG1-100K	

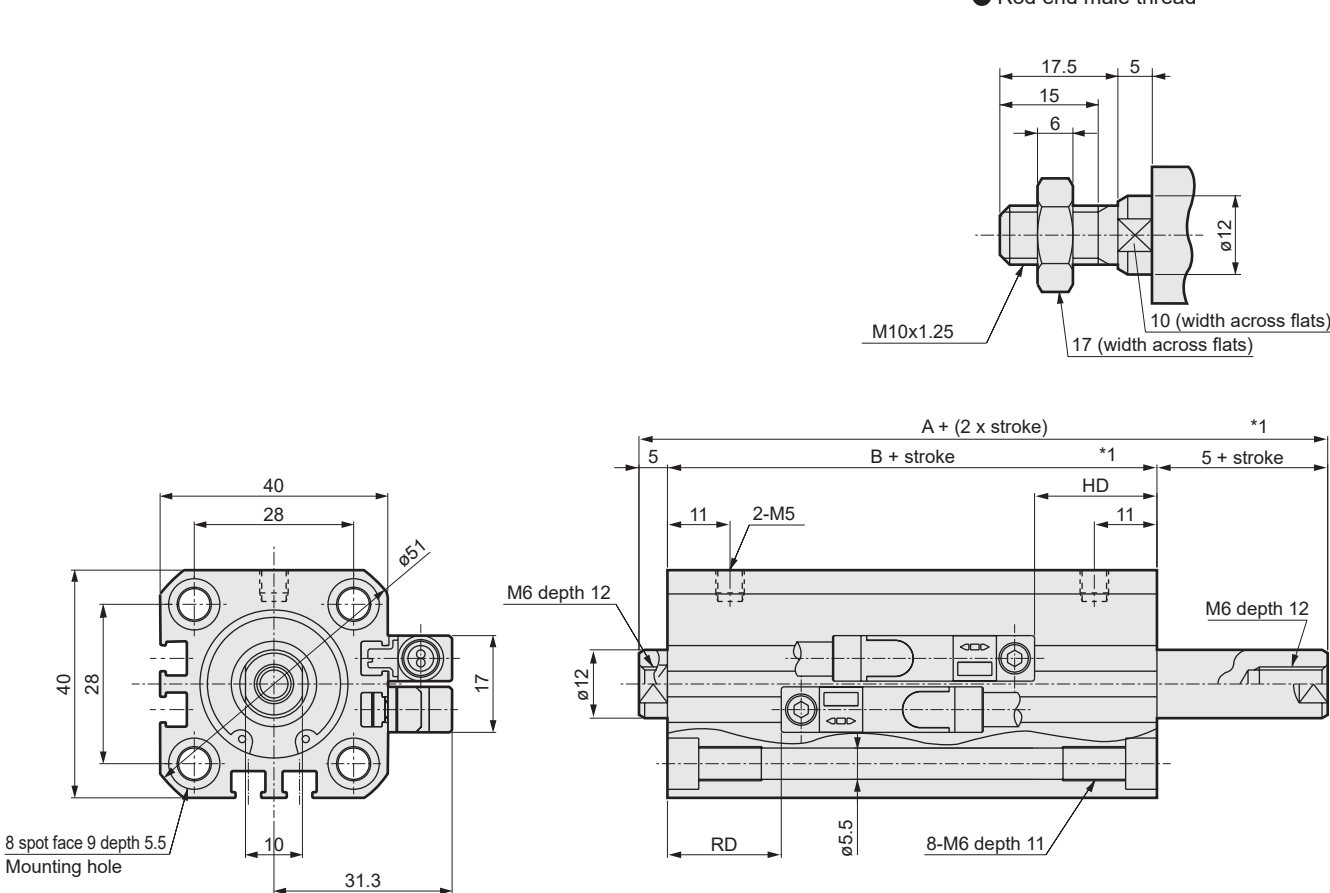
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/N2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending

SSD-DG1/DG4 Series

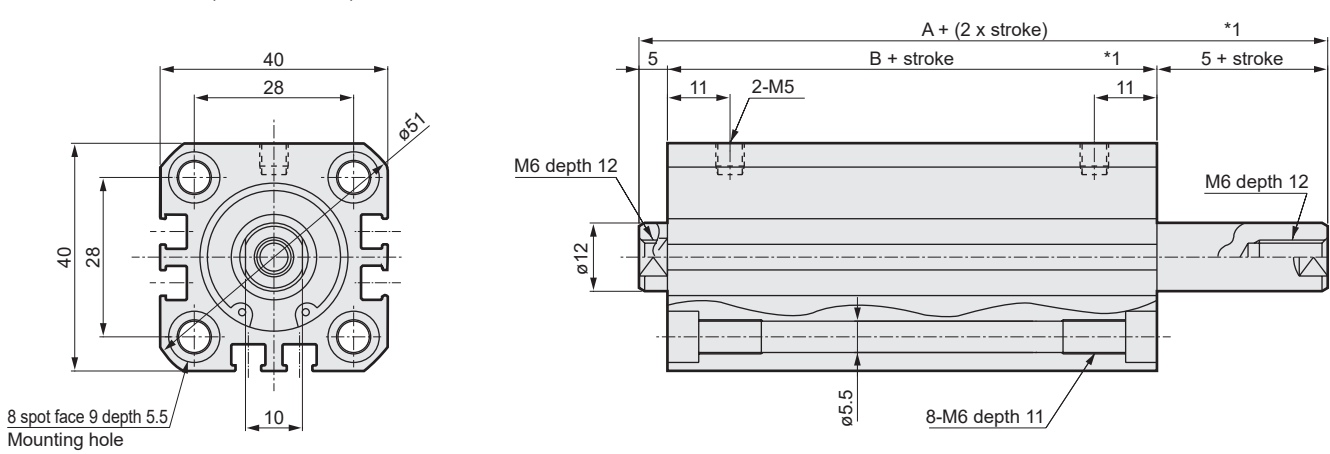
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

Dimensions

● SSD-DG1L/DG4L-25 (with switch)



● SSD-DG1/DG4-25 (without switch)



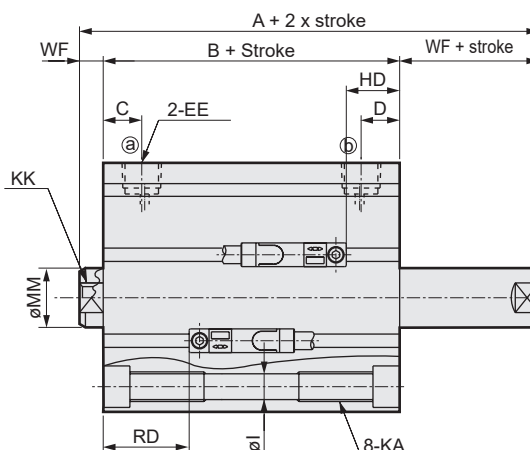
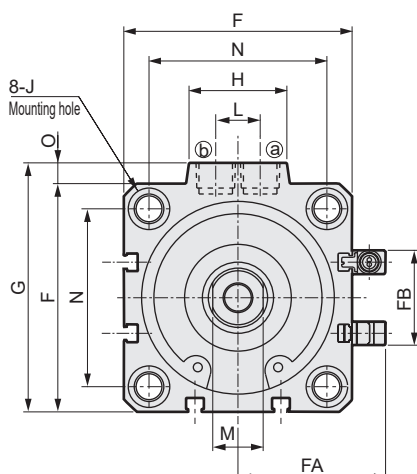
Code	No switch		Dimensions with switch			
Bore size (mm)	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	RD ^{*2}	HD
ø25	61	51	71	61	20	21.5

*1: To calculate A+ (2 x stroke), B+ stroke or 5+ stroke when using a custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.
*2: RD dimensions for custom stroke differ from these dimensions according to the setting.
*3: For dimensions of individual accessories, refer to pages 1108 to 1115.
*4: The positions for the left and right widths across flats are unspecified.

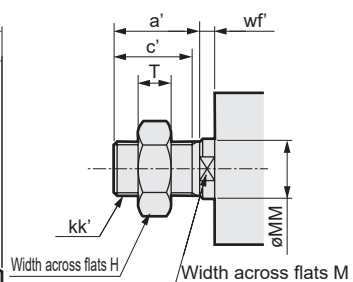
Dimensions



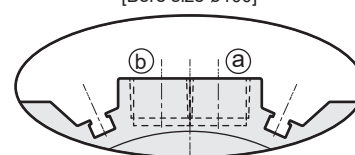
● SSD-DG1L/DG4L-32 to 100 (with switch)



● Rod end male thread

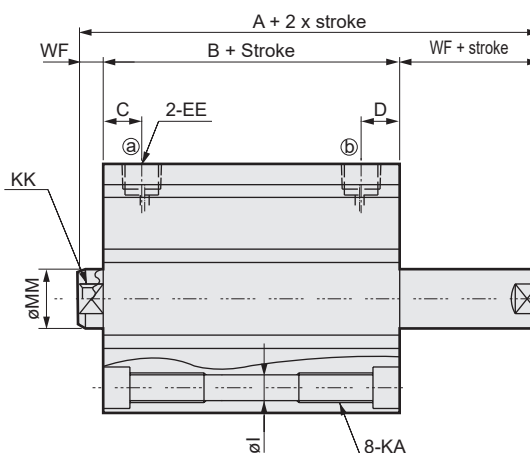
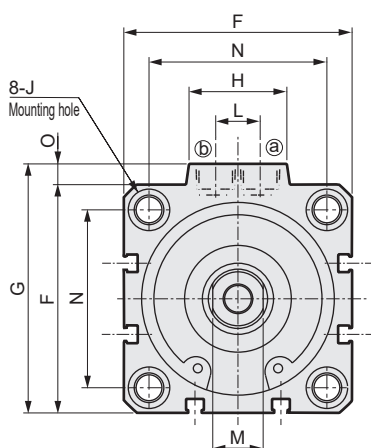


[Bore size ø100]



* Only for ø100, the port surface has switch grooves.

● SSD-DG1/DG4-32 to 100 (without switch)



Code	No switch		Common dimensions with switch														
Bore size (mm)	A [†]	B [†]	A [†]	B [†]	C	D	EE	F	FA	FB	G	H	I	J	KA	KK	
ø32	64.5	50.5	74.5	60.5	8	8	Rc1/8	45	33.8	20.5	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	
ø40	73	59	83	69	12	12	Rc1/8	52	37.3	27.5	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	
ø50	75	59	85	69	10.5	10.5	Rc1/4	64	43.3	28.5	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15	
ø63	77	61	87	71	13	13	Rc1/4	77	49.8	28.5	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15	
ø80	88.5	68.5	98.5	78.5	16	16	Rc3/8	98	60.3	28.5	104	38	10.5	17 spot face depth 11	M12 depth 28	M16 depth 21	
ø100	102	78	112	88	23	23	Rc3/8	117	69.8	28.5	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27	

Code	Common dimensions with switch						With T2YD switch	
Bore size (mm)	L	M	MM	N	O	WF	RD ^{*2}	HD
ø32	10	14	16	34	4.5	7	20.5	22
ø40	10	14	16	40	5	7	23.5	27.5
ø50	15	17	20	50	7	8	23.5	27.5
ø63	15	17	20	60	7	8	24	28.5
ø80	15	22	25	77	6	10	26.5	35
ø100	15	27	30	94	6.5	12	30.5	40.5

*1 : To calculate A+ (2 x stroke), B+ stroke or WF+ stroke when using a custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. Left and right projection dimensions of rod differ.
(Example) If the custom stroke is 17 mm, apply the standard stroke 20 mm.

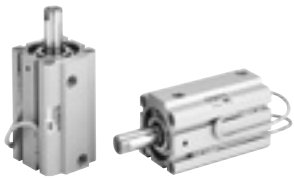
*2 : RD dimensions for custom stroke differ from these dimensions according to the setting.

*3: The positions for the left and right widths across flats are unspecified.

● Dimensions of rod end male thread part

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
ø32	23.5	20.5	22	M14x1.5	14	16	8	5
ø40	23.5	20.5	22	M14x1.5	14	16	8	5
ø50	28.5	26	27	M18x1.5	17	20	11	5
ø63	28.5	26	27	M18x1.5	17	20	11	5
ø80	35.5	32.5	32	M22x1.5	22	25	13	8
ø100	35.5	32.5	41	M26x1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.



Compact cylinder double acting/single rod/environment-resistant scraper

SSD-G5 Series

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

JIS symbol



RoHS

Specifications

* Made-to-order product.

Item		SSD-G5 SSD-G5L (with switch)							
Bore size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)							
Min. working pressure	MPa	0.2 (≈29 psi, 2 bar)					0.15 (≈22 psi, 1.5 bar)		
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size		M5		Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	+1.0 0							
Working piston speed	mm/s	50 to 500					50 to 300		
Cushion		None							
Lubrication		Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)							
Allowable absorbed energy	J	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 20$	5, 10, 15, 20, 25, 30, 40, 50	50	1
$\varnothing 25$			
$\varnothing 32$			
$\varnothing 40$			
$\varnothing 50$			
$\varnothing 63$	5, 10, 20, 30, 40, 50	50	1
$\varnothing 80$			
$\varnothing 100$			

*1: For $\varnothing 12$ to $\varnothing 100$, if the standard stroke is exceeded, the high load is used.

Refer to page 1280 for specifications.

*2: For the type with switch, refer to the table below of installed switch numbers and minimum stroke.

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

*4: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4
Switch model No.	T*	T*	T*	T*
Bore size (mm)				
$\varnothing 20$	5	5	-	-
$\varnothing 25$	5	5	35	50
$\varnothing 32$	5	5	35	50
$\varnothing 40$	5	5	35	50
$\varnothing 50$	5	5	35	50
$\varnothing 63$	5	5	35	50
$\varnothing 80$	5	5	35	50
$\varnothing 100$	5	5	35	50

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

Switch specifications

- 1-color/2-color LED/for AC magnetic field

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed						2-wire proximity	
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V	T8H/T8V			T2YD (*4) T2YDT		
Applications	For programming controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial		For programmable controller, relay			Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	No indicator lamp	LED (Lit when ON)			Red/green LED (Lit when ON)		
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA						1 mA or less	
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80			1 m:33			1 m:61	
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49				3 m:87			3 m:166	
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80				5 m:142			5 m:272	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.

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

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

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

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	95	150	107	182	120	195	133	208	145	220	158	233	183	258	208	283
ø25	131	222	146	237	162	253	178	269	194	285	209	300	241	332	272	363
ø32	185	299	207	321	229	343	251	365	272	386	294	408	338	452	381	495
ø40	269	412	296	439	322	465	349	492	376	519	402	545	455	598	508	651
ø50	434	628	476	670	518	712	560	754	602	796	645	839	729	923	813	1007
ø63	648	927	703	982	-	-	813	1092	-	-	923	1202	1074	1313	1144	1423
ø80	1153	1566	1240	1653	-	-	1413	1826	-	-	1586	1990	1760	2173	1933	2346
ø100	1765	2332	1879	2446	-	-	2106	2673	-	-	2334	2901	2561	3128	2789	3356

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-G5 Series

How to order

No switch (without magnet for switch)

SSD-G5 - **20** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-G5L - **20** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Port thread

D Stroke

E Switch model No.

*1

*4

F Switch quantity

G Option

H Mounting bracket
*2

I Accessory
*3

Precautions for model No. selection

1 : T8 switch cannot be installed on ø20 to ø32.

*2 : The mounting bracket is included at shipment.
WF and wf dimensions of cylinders for "LB2" and "FA" are set 10 mm longer than those of the standard.
Contact CKD for the cylinder model No. when individually ordering cylinders, LB2 brackets and FA brackets.

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

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

[Example of model No.]

SSD-G5L-32-5-T0H-R-N-LB-I

Model: Compact cylinder double acting single rod/environment-resistant scraper

B Bore size : ø32 mm

C Port thread : Type of Rc thread

D Stroke : 5 mm

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

Code		Description				
A Model No.						
SSD-G5		Double acting/single rod/environment-resistant scraper				
SSD-G5L		Double acting/single rod/environment-resistant scraper/with switch				
B Bore size (mm)						
20		ø20				
25		ø25				
32		ø32				
40		ø40				
50		ø50				
63		ø63				
80		ø80				
100		ø100				
C Port thread						
Blank		Rc thread/M5 thread				
NN		NPT thread (ø32 and over) (made-to-order product)				
GN		G thread (ø32 and over) (made-to-order product)				
D Stroke (mm)						
Refer to the stroke table on the following page.						
E Switch model No.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Prox.	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●	1-color LED (PNP output)	3-wire
T3PH*	T3PV*			●		
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		
T3YH*	T3YV*			●	1-color LED off-delay	2-wire
T2JH*	T2JV*			●		
T2YD*	-			●	2-color LED for AC magnetic field	2-wire
T2YDT*	-			●		
* 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						
LB		Axial foot				
LB2		Axial foot (compact)				
CB		Clevis bracket (pin and snap ring included)				
CB2		Clevis bracket (compact) (pin and snap ring included)				
FA		Rod side flange				
FB		Head side flange				
I Accessory (available when rod end male thread “N” is selected)						
I		Rod eye				
I2		Rod eye (compact)				
Y		Rod clevis (pin and snap ring included)				
Y2		Rod clevis (compact) (pin and snap ring included)				

[Stroke table]

Stroke (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60								
	70								
	80								
	90								
	100								
Min. stroke (mm) *1		1							
Max. stroke (mm)		50							
Custom stroke *2		In 1 mm increments							

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

Refer to page 1272 for the number of installed switches and the min. stroke.

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

*3: Refer to pages 1320 and 1321 for the min. stroke with mounting brackets LB and LB2.

How to order switch

SW - T0H

Switch model No.
(Item **E** on page 1274)

How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

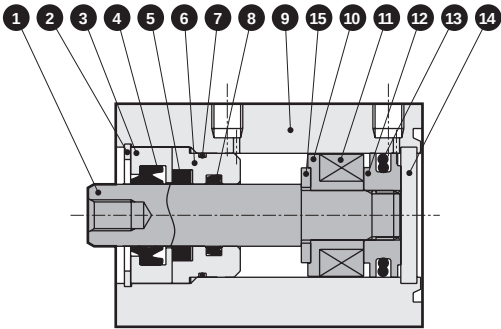
Spd
Contr

Ending

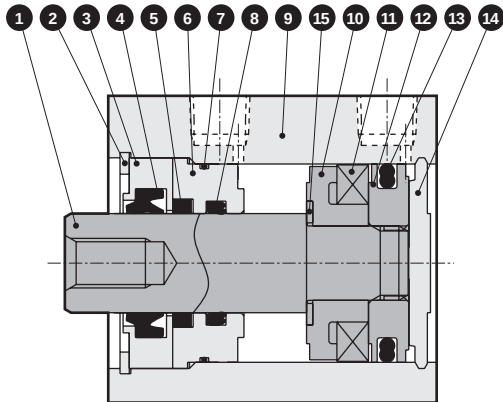
SSD-G5 Series

Internal structure and parts list

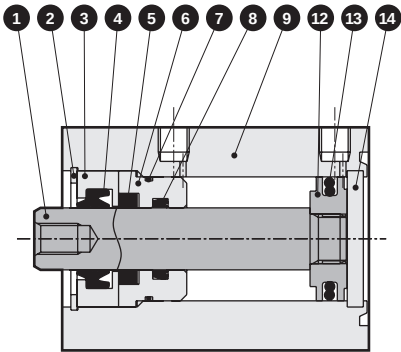
● SSD-G5L-20/25 (double acting/environment-resistant scraper/ with switch)



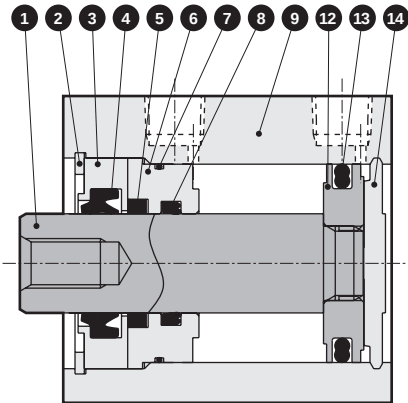
● SSD-G5L-32 to 50 (double acting/environment-resistant scraper/ with switch)



● SSD-G5-20/25 (double acting/environment-resistant scraper)



● SSD-G5-32 to 50 (double acting/environment-resistant scraper)



Main parts list

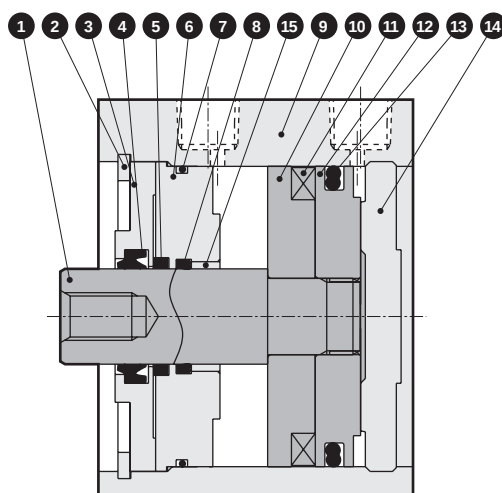
Part No.	Part name	Material	Remarks	Part No.	Part name	Material	Remarks
1	Piston rod	ø20/ø25: Stainless steel ø32 to ø50: Steel	Industrial chrome plating	9	Body	Aluminum alloy	Hard alumite
2	C-snap ring	Steel	Zinc phosphate	10	Spacer	Special resin	
3	Rod metal 1	Special aluminum	Chromate	11	Magnet	Plastic	
4	Scraper	Nitrile rubber		12	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		13	Piston packing	Nitrile rubber	
6	Rod metal 2	Special aluminum	Alumite	14	Cover	ø20/ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
7	Rod metal gasket	Nitrile rubber		15	Spacer washer	Stainless steel	
8	Rod packing	Nitrile rubber					

Consumable parts list

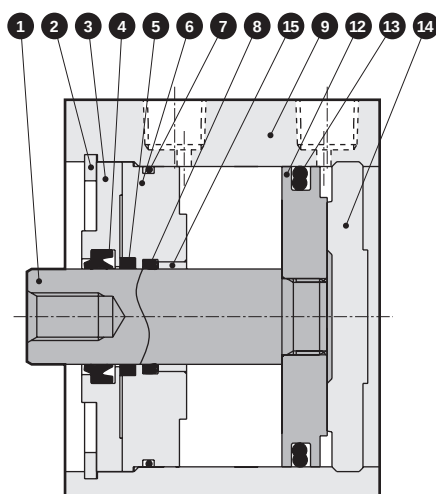
Part name	Kit No.	Consumable parts No.
Bore size (mm)		
ø20	SSD-G5-20K	4 5 7 8 13
ø25	SSD-G5-25K	
ø32	SSD-G5-32K	
ø40	SSD-G5-40K	
ø50	SSD-G5-50K	

Internal structure and parts list

- SSD-G5L-63 to 100 (double acting/environment-resistant scraper/with switch)



- SSD-G5-63 to 100 (double acting/environment-resistant scraper)



Main parts list

Part No.	Part name	Material	Remarks	Part No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Body	Aluminum alloy	Hard alumite
2	C-snap ring	Steel	Zinc phosphate	10	Spacer	Aluminum alloy	Chromate
3	Rod metal 1	Aluminum alloy	Chromate	11	Magnet	Plastic	
4	Scraper	Nitrile rubber		12	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		13	Piston packing	Nitrile rubber	
6	Rod metal 2	Aluminum alloy	Chromate	14	Cover	Aluminum alloy	Alumite
7	Rod metal gasket	Nitrile rubber		15	Bush	Dry bearing	
8	Rod packing	Nitrile rubber					

Consumable parts list

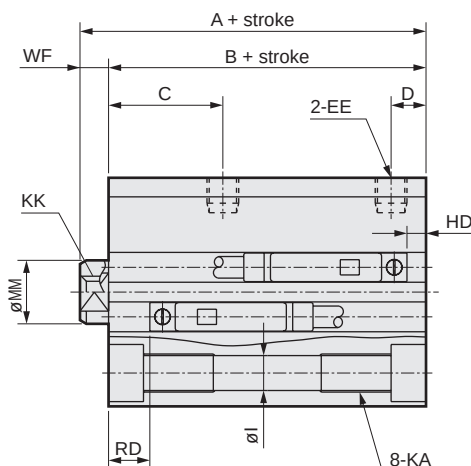
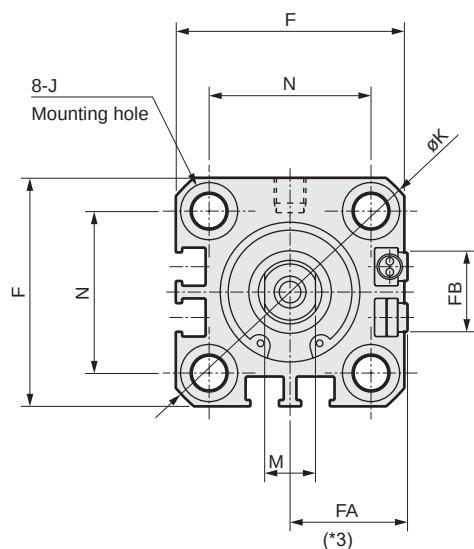
Part name	Kit No.	Consumable parts No.
Bore size (mm)		
ø63	SSD-G5-63K	4 5 7 8 13
ø80	SSD-G5-80K	
ø100	SSD-G5-100K	

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

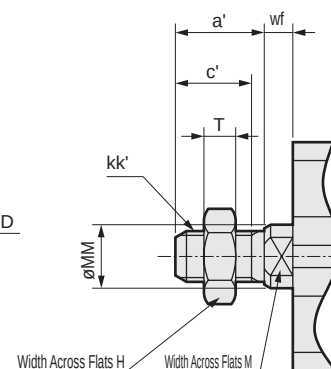
SSD-G5 Series

dimensions

● SSD-G5L-20, 25 (with switch)



● Rod end male thread



Code	No switch		Common dimensions with switch							
Bore size	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*3}	FB
ø20	34	29.5	44	39.5	18	5.5	M5	36	18.5(22)	12.5
ø25	37.5	32.5	47.5	42.5	21	6	M5	40	20.5(24)	13.5

Code	Common dimensions with switch								
Bore size	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimensions	Reed/proximity 1-color		Proximity 2-color	
Bore size	HD	RD	HD	RD
ø20	3	16.5	1.5	15
ø25	3	19.5	1.5	18

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

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

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

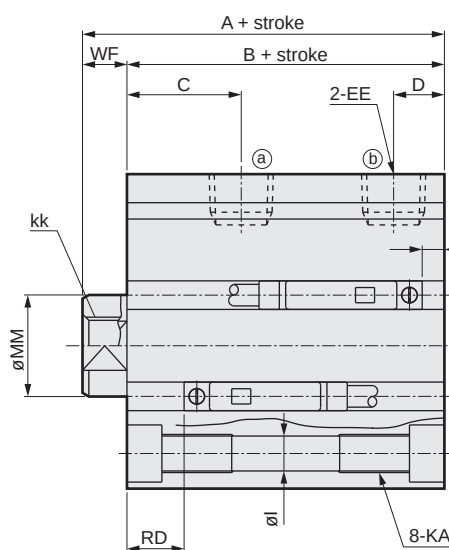
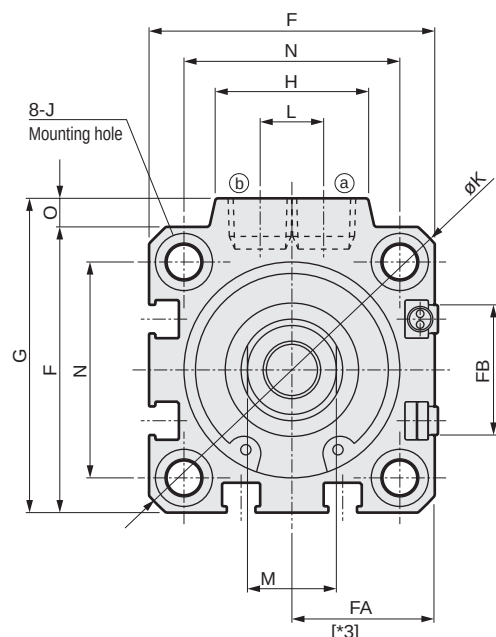
*4: Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

Rod end male thread

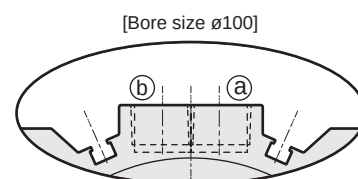
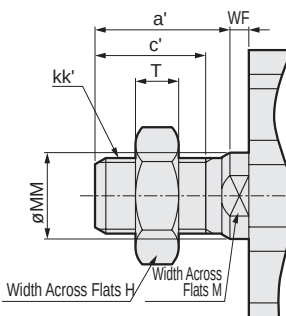
Code	a'	c'	H	kk'	M	MM	T	wf
Bore size								
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M 10 x 1.25	10	12	6	5

dimensions

● SSD-G5L-32 to 100 (with switch)



● Rod end male thread



* Only for Ø100, the port surface has switch grooves.

Code	No switch		Common dimensions with switch									
Bore size	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*3}	FB	G	H
Ø32	40	33	50	43	18	8	Rc1/8	45	23 (26.5)	20.5	49.5	24
Ø40	46.5	39.5	56.5	49.5	22	8.5	Rc1/8	52	26.5(30)	27.5	57	24
Ø50	48.5	40.5	58.5	50.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33
Ø63	54	46	64	56	23	11	Rc1/4	77	39 (42.5)	28.5	84	33
Ø80	63.5	53.5	73.5	63.5	26	13	Rc3/8	98	49.5(53)	28.5	104	38
Ø100	75	63	85	73	33	15	Rc3/8	117	59 (62.5)	28.5	123.5	38

Code	Common dimensions with switch										
Bore size	I	J	K	KA	KK	L	M	MM	N	O	WF
Ø32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
Ø40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
Ø50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
Ø63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
Ø80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
Ø100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	15	27	30	94	6.5	12

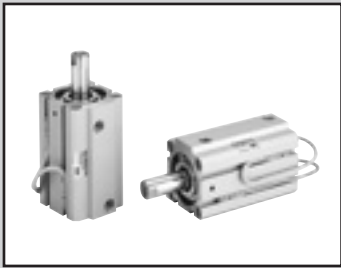
Switch dimensions	Reed/proximity 1-color		Proximity 2-color		T8H/V switch	
Bore size	HD	RD	HD	RD	HD	RD
Ø32	3.5	19	2	17.5	-	-
Ø40	7	22	5.5	20.5	1	16
Ø50	7.5	22.5	6	21	1.5	16.5
Ø63	12.5	23	11	21.5	6.5	17
Ø80	17.5	25.5	16	24	11.5	19.5
Ø100	22	30.5	21.5	28	7	23.5

- *1: To calculate A + stroke or B + stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value. (Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2: HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *3: Dimensions in () of FA are for the L-shaped lead wire type.

Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size								
Ø32	23.5	20.5	22	M 14 x 1.5	14	16	8	5
Ø40	23.5	20.5	22	M 14 x 1.5	14	16	8	5
Ø50	28.5	26	27	M 18 x 1.5	17	20	11	5
Ø63	28.5	26	27	M 18 x 1.5	17	20	11	5
Ø80	35.5	32.5	32	M 22 x 1.5	22	25	13	8
Ø100	35.5	32.5	41	M 26 x 1.5	27	30	16	8

* Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.



Compact cylinder, double acting/single rod/high load/environment-resistant scraper

SSD-KG5 series

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

JIS symbol



Specifications

Item		SSD-KG5 SSD-KG5L (with switch)							
Bore size	mm	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
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, 2 bar)		
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)							
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)							
Port size		M5		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

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø20	5, 10, 15, 20, 25, 30, 40, 50	200 *2	1
ø25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	300	
ø32			
ø40			
ø50			
ø63	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	*2	
ø80			
ø100			

*1 :The custom stroke is available in 1mm increments. However, the total length is the same as that of the next longer standard stroke.
*2 :Stroke over standard to maximum is available in increments of 10.
*3 :From 101 to 200 for $\varnothing 20$, 151 to 300 for $\varnothing 25$ to $\varnothing 50$, or 201 to 300 for $\varnothing 63$ to $\varnothing 100$, internal structure and total length are different in some products.
*4 :For the type with switch, refer to the table below of installed switch numbers and minimum stroke.

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3	4	5
Switch model No.	T*	T*	T*	T*	T*
Bore size (mm)					
$\varnothing 20$	5	5	35	50	65
$\varnothing 25$	5	5	35	50	65
$\varnothing 32$	5	5	35	50	65
$\varnothing 40$	5	5	35	50	65
$\varnothing 50$	5	5	35	50	65
$\varnothing 63$	5	5	35	50	65
$\varnothing 80$	5	5	35	50	65
$\varnothing 100$	5	5	35	50	65

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

Switch specifications

● 1-color/2-color LED/for AC magnetic field

Item	2-wire proximity	2-wire proximity			3-wire proximity				2-wire reed								2-wire proximity
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V	T5H/T5V		T8H/T8V			T2YD (*4) T2YDT		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay	For programmable controller, relay (no lamp), serial			For programmable controller, relay			Dedicated for programmable controller	
Output method	-				NPN output	PNP output	NPN output	NPN output	-								
Pwr. supp. V.	-				10 to 28 VDC				-								
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	30 VDC or less				12/24 VDC	100/110 VAC	5/12/24 VDC	100/110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%	
Load current	5 to 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA	
Indicator	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)	
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA							1 mA or less	
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18 3 m:49 5 m:80					1 m:33		1 m:61	
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49						3 m:87			
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80						5 m:142			

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*4: Switch for AC magnetic field (T2YD/T2YDT) cannot be used in DC magnetic field.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø20	Push	-	62.8	94.2	1.26x10 ²	1.57x10 ²	1.88x10 ²	2.20x10 ²	2.51x10 ²	2.83x10 ²	3.14x10 ²
	Pull	-	47.1	70.7	94.2	1.18x10 ²	1.41x10 ²	1.65x10 ²	1.88x10 ²	2.12x10 ²	2.36x10 ²
ø25	Push	-	98.2	1.47x10 ²	1.96x10 ²	2.45x10 ²	2.95x10 ²	3.44x10 ²	3.93x10 ²	4.42x10 ²	4.91x10 ²
	Pull	-	75.6	1.13x10 ²	1.51x10 ²	1.89x10 ²	2.27x10 ²	2.64x10 ²	3.02x10 ²	3.40x10 ²	3.78x10 ²
ø32	Push	-	1.61x10 ²	2.41x10 ²	3.22x10 ²	4.02x10 ²	4.83x10 ²	5.63x10 ²	6.43x10 ²	7.24x10 ²	8.04x10 ²
	Pull	-	1.21x10 ²	1.81x10 ²	2.41x10 ²	3.02x10 ²	3.62x10 ²	4.22x10 ²	4.83x10 ²	5.43x10 ²	6.03x10 ²
ø40	Push	-	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-KG5 Series

How to order

No switch (without magnet for switch)

SSD-KG5 - **20** - **5** - **N** - **LB** - **I**

With switch (built-in magnet for switch)

SSD-KG5L - **20** - **5** - **T0H** - **R** - **N** - **LB** - **I**

A Model No.

B Bore size

C Port thread

D Stroke

E Switch model No.
*4

F Switch quantity

G Option

H Mounting bracket
*1
*2

I Accessory
*3

Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : WF and wf dimensions of cylinders for "LB2" and "FA" are set 10 mm longer than those of the standard.
Contact CKD for the cylinder model No. when individually ordering cylinders, LB2 brackets and FA brackets.

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

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

[Example of model No.]

SSD-KG5L-32-5-T0H-R-N

Model: Compact cylinder double acting single rod/high load/environment-resistant scraper

B Bore size : ø32 mm

C Port thread : Rc thread

D Stroke : 5 mm

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

F Switch quantity : 1 on rod side

G Option : Rod end male thread

Code	Description
A Model No.	
SSD-KG5	Double acting/single rod/high load/environment-resistant scraper
SSD-KG5L	Double acting/single rod/high load/environment-resistant scraper/switch

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

C Port thread	
Blank	Rc thread/M5 thread
NN	NPT thread (ø32 and over) (made-to-order product)
GN	G thread (ø32 and over) (made-to-order product)

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

E Switch model No.					
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator
			AC	DC	
T0H*	T0V*	Reed	●	●	1-color LED
T5H*	T5V*		●	●	No indicator lamp
T8H*	T8V*		●	●	1-color LED
T1H*	T1V*	Prox.	●	●	1-color LED
T2H*	T2V*		●	●	
T3H*	T3V*		●	●	1-color LED (PNP output)
T3PH*	T3PV*		●	●	
T2WH*	T2WV*		●	●	2-color LED
T2YH*	T2YV*		●	●	
T3WH*	T3WV*		●	●	
T3YH*	T3YV*		●	●	1-color LED off-delay
T2JH*	T2JV*		●	●	
T2YD*	-		●	●	2-color LED for AC magnetic field
T2YDT*	-		●	●	

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

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

[Stroke table]

Stroke (mm)		Applicable bore size							
		ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Standard stroke	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60		●	●	●	●	●	●	●
	70		●	●	●	●	●	●	●
	80		●	●	●	●	●	●	●
	90		●	●	●	●	●	●	●
100		●	●	●	●	●	●	●	
Min. stroke (mm) *1		1							
Max. stroke (mm)		200	300						
Custom stroke *2		In 1 mm increments							

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

Refer to page 1280 for the number of installed switches and the min. stroke.

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

How to order switch

SW - T0H

Switch model No.
(Item **E** on page 1282)

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

(Unit: g)

Stroke (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	107	182	120	195	133	208	145	220	158	233	170	245	195	270	220	295	245	320	270	345	295	370	320	395	345	420
ø25	-	-	162	253	178	269	194	285	209	300	226	317	258	349	290	381	322	413	354	445	386	477	418	509	450	541
ø32	-	-	251	365	272	386	294	408	316	430	338	452	381	495	424	538	467	581	510	624	553	667	596	710	639	753
ø40	-	-	349	492	376	519	402	545	428	571	455	598	508	651	561	704	614	757	667	810	720	863	773	916	826	969
ø50	-	-	560	754	602	796	645	839	688	882	729	923	813	1007	897	1091	981	1175	1065	1259	1149	1343	1233	1427	1317	1481
ø63	-	-	813	1092	-	-	923	1202	-	-	1034	1313	1144	1423	1254	1533	1364	1643	1474	1753	1584	1863	1694	1973	1804	2083
ø80	-	-	1413	1826	-	-	1586	1999	-	-	1760	2173	1933	2346	2106	2519	2279	2692	2452	2865	2625	3038	2798	3211	2971	3384
ø100	-	-	2106	2673	-	-	2334	2901	-	-	2561	3128	2789	3356	3017	3584	3245	3812	3473	4040	3701	4268	3929	4496	4157	4724

Stroke (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	370	445	395	470	420	495	445	520	470	545	495	570	520	595	545	620	570	645	595	670
ø25	482	573	514	605	546	637	581	669	610	701	642	733	674	765	706	797	738	829	770	861
ø32	682	796	725	839	768	882	811	925	854	968	896	1010	939	1053	982	1096	1025	1139	1068	1182
ø40	879	1022	932	1075	985	1128	1038	1181	1091	1234	1144	1287	1197	1340	1250	1393	1303	1446	1356	1499
ø50	1401	1595	1485	1679	1569	1763	1653	1847	1737	1931	1835	2029	1920	2114	2005	2199	2090	2284	2175	2369
ø63	1914	2193	2024	2303	2134	2413	2244	2523	2354	2633	2464	2743	2574	2853	2684	2963	2794	3073	2904	3183
ø80	3144	3557	3317	3730	3490	3903	3663	4076	3836	4249	4009	4422	4182	4595	4355	4768	4528	4941	4701	5112
ø100	4385	4952	4613	5180	4841	5408	5069	5636	5297	5864	5525	6092	5753	6320	5981	6548	6209	6776	6437	7004

Stroke (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch	No switch	Switch
ø20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ø25	813	893	845	925	877	957	909	989	941	1021	973	1053	1005	1085	1037	1117	1069	1149	1101	1181
ø32	1111	1225	1154	1268	1197	1311	1240	1354	1283	1397	1326	1440	1369	1483	1412	1526	1455	1569	1498	1612
ø40	1409	1552	1462	1605	1515	1658	1568	1711	1621	1764	1674	1817	1727	1870	1780	1923	1833	1976	1886	2029
ø50	2260	2454	2345	2539	2430	2624	2515	2709	2600	2794	2685	2879	2770	2964	2855	3049	2940	3134	3025	3219
ø63	3013	3292	3123	3402	3233	3512	3343	3622	3453	3732	3563	3842	3673	3952	3783	4062	3893	4172	4003	4282
ø80	4873	5286	5046	5459	5219	5632	5392	5805	5565	5978	5738	6151	5911	6324	6084	6497	6257	6670	6430	6843
ø100	6666	7233	6894	7461	7122	7689	7350	7917	7578	8145	7806	8373	8034	8601	8262	8829	8490	9057	8718	9285

How to order mounting bracket

Bore size (mm)	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
Mounting bracket								
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/

COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/

MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

Spd

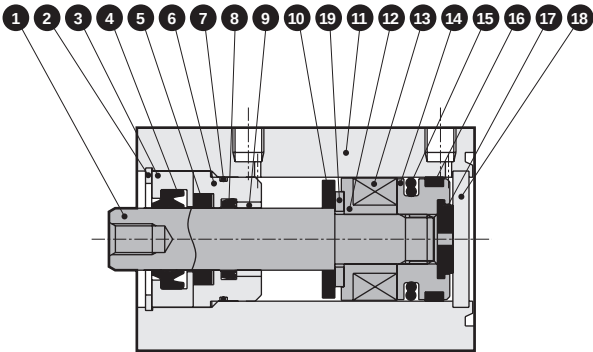
Contr

Ending

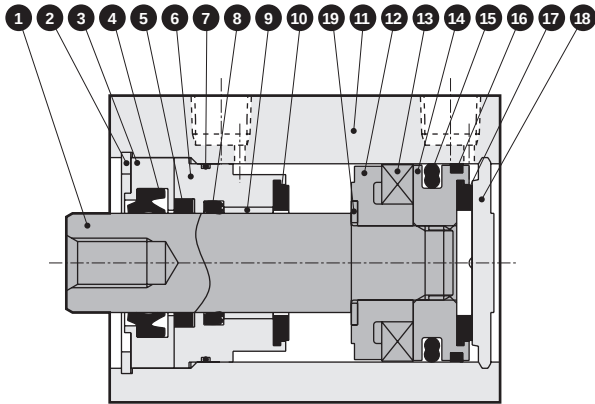
SSD-KG5 Series

Internal structure and parts list

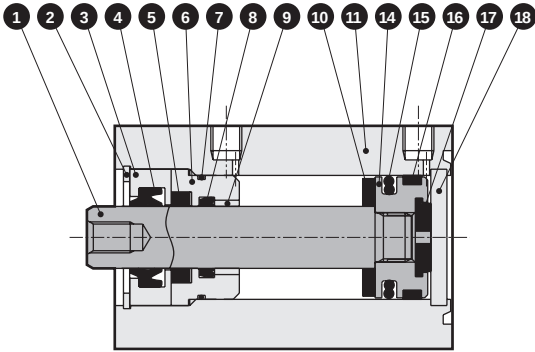
● SSD-KG5L-20/25 (double acting/high load/environment-resistant scraper/with switch)



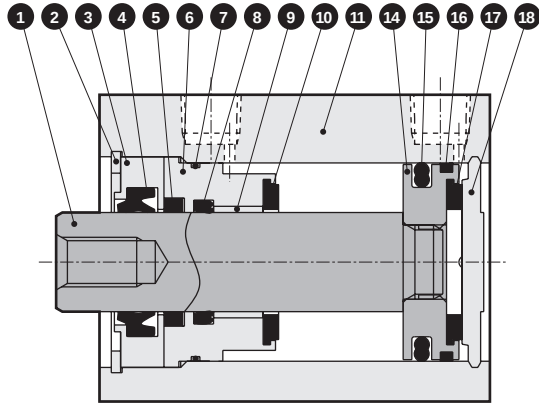
● SSD-KG5L-32 to 50 (double acting/high load/environment-resistant scraper/with switch)



● SSD-KG5-20/25 (double acting/high load/environment-resistant scraper)



● SSD-KG5-32 to 50 (double acting/high load/environment-resistant scraper)



Main parts list

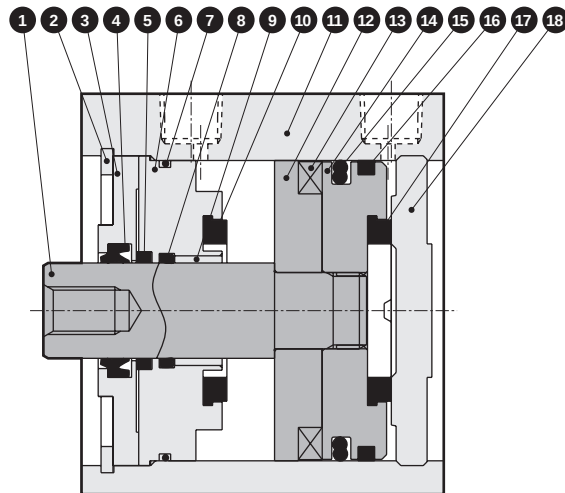
Part No.	Part name	Material	Remarks	Part No.	Part name	Material	Remarks
1	Piston rod	ø20/ø25: Stainless steel ø32 to ø50: Steel	Industrial chrome plating	11	Body	Aluminum alloy	Hard alumite
2	C-snap ring	Steel	Zinc phosphate	12	Spacer	Special resin	
3	Rod metal 1	Special aluminum	Chromate	13	Magnet	Plastic	
4	Scraper	Nitrile rubber		14	Piston	Aluminum alloy	Chromate
5	Lube keeping structure	Special rubber		15	Piston packing	Nitrile rubber	
6	Rod metal 2	Special aluminum	Alumite	16	Wear ring	Polyacetal resin	
7	Rod metal gasket	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
8	Rod packing	Nitrile rubber		18	Cover	ø20/ø25: Stainless steel ø32 to ø50: Aluminum alloy	ø32 to ø50: Alumite
9	Bush	Dry bearing		19	Spacer washer	Stainless steel	
10	Cushion rubber R	Urethane rubber					

Consumable parts list

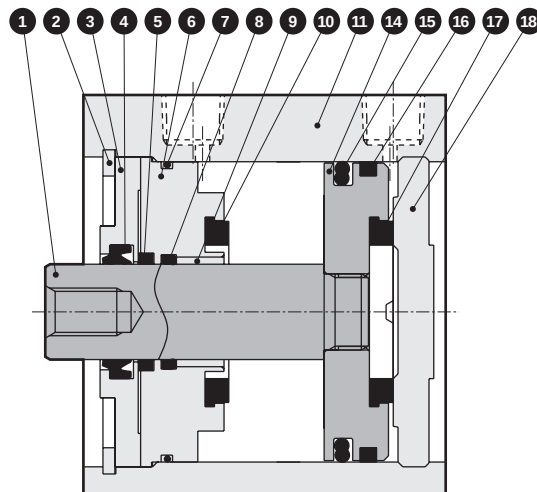
Part name	Kit No.	Consumable parts No.
Bore size (mm)		
ø20	SSD-KG5-20K	
ø25	SSD-KG5-25K	
ø32	SSD-KG5-32K	
ø40	SSD-KG5-40K	
ø50	SSD-KG5-50K	

Internal structure and parts list

- SSD-KG5L-63 to 100 (double acting/high load/environment-resistant scraper/with switch)



- SSD-KG5-63 to 100 (double acting/high load/environment-resistant scraper)



Main parts list

Part No.	Part name	Material	Remarks	Part No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C-snap ring	Steel	Zinc phosphate	11	Body	Aluminum alloy	Hard alumite
3	Rod metal 1	Aluminum alloy	Chromate	12	Spacer	Aluminum alloy	Chromate
4	Scraper	Nitrile rubber		13	Magnet	Plastic	
5	Lube keeping structure	Special rubber		14	Piston	Aluminum alloy	Chromate
6	Rod metal 2	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
7	Rod metal gasket	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Rod packing	Nitrile rubber		17	Cushion rubber H	Urethane rubber	
9	Bush	Dry bearing		18	Cover	Aluminum alloy	Alumite

Consumable parts list

Part name	Kit No.	Consumable parts No.
Bore size (mm)		
ø63	SSD-KG5-63K	4 5 7 8 10 15 16 17
ø80	SSD-KG5-80K	
ø100	SSD-KG5-100K	

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

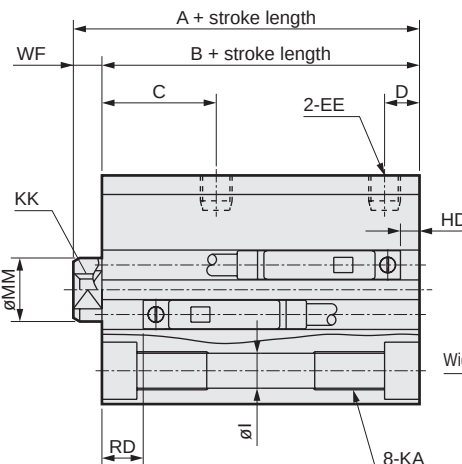
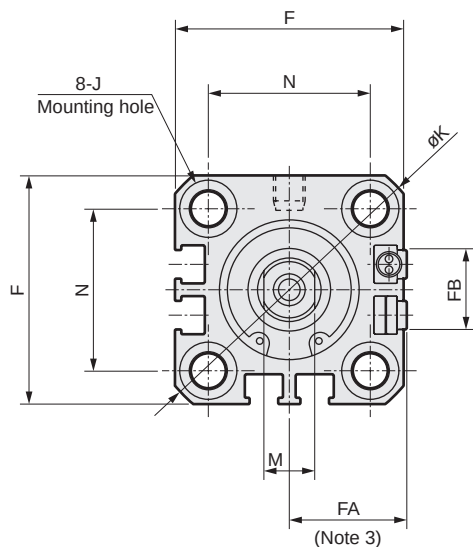
Spd
Contr

Ending

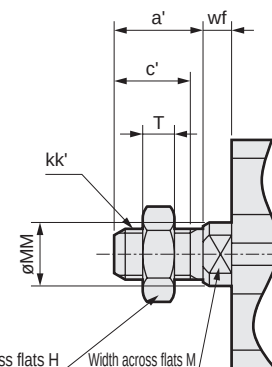
SSD-KG5 Series

dimensions

● SSD-KG5L-20, 25 (with switch)



● Rod end male thread



Code	No switch		Common dimensions with switch							
Bore size	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}	C	D	EE	F	FA ^{*3}	FB
ø20	39	34.5	49	44.5	18	5.5	M5	36	18.5(22)	12.5
ø25	42.5	37.5	52.5	47.5	21	6	M5	40	20.5(24)	13.5

Code	Common dimensions with switch								
Bore size	I	J	K	KA	KK	M	MM	N	WF
ø20	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ø25	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimensions	Reed/proximity 1-color		Proximity 2-color		T8H/V switch	
Bore size	HD ^{*5}	RD ^{*5}	HD ^{*5}	RD ^{*5}	HD ^{*5}	RD ^{*5}
ø20	6 (12.5)	18.5 (23.5)	4.5 (11)	18.5 (23.5)	0 (6.5)	12.5 (17.5)
ø25	5.5 (14)	22 (27)	4 (12.5)	22 (27)	0 (8)	16 (21)

Table 1

Bore size	No switch		With switch	
	A ^{*1}	B ^{*1}	A ^{*1}	B ^{*1}
ø20	50.5	46	60.5	56
ø25	56	51	66	61

Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size								
ø20	14	12	13	M8	8	10	5	4.5
ø25	17.5	15	17	M 10 x 1.25	10	12	6	5

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

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

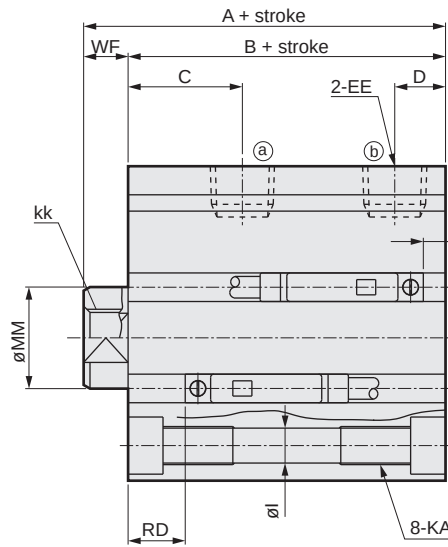
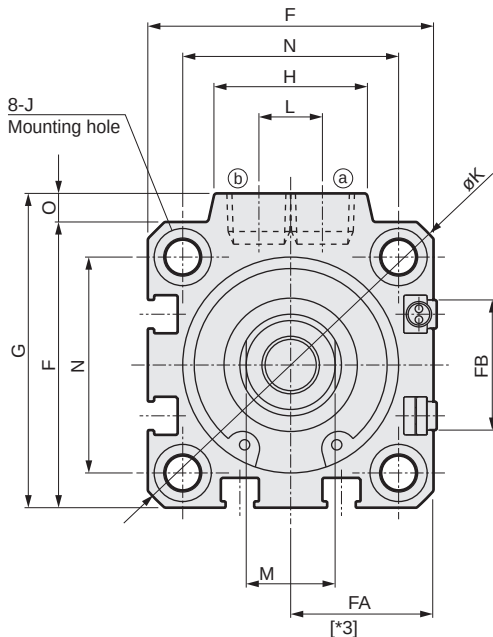
*3 : Dimensions in () of FA are for the L-shaped lead wire.

*4 : Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.

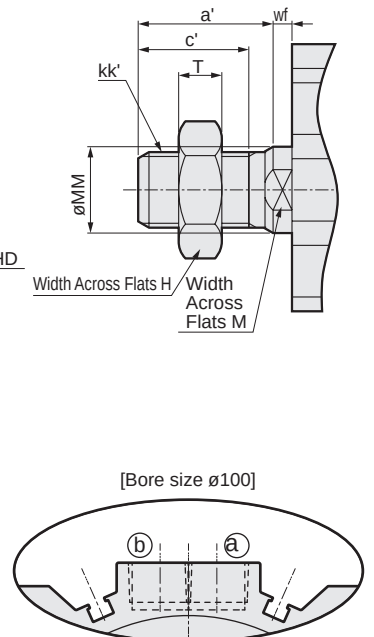
*5 : When longer than 100 mm stroke for ø20 or longer than 150 mm stroke for ø25, A and B dimensions are indicated in Table 1 and there is no spot face J. HD, RD and D dimensions are indicated in ().

dimensions

● SSD-KG5L-32 to 100 (with switch)



● Rod end male thread



* Only for Ø100, the port surface has switch grooves.

Code	No switch		Common dimensions with switch									
Bore size	A ¹	B ¹	A ¹	B ¹	C	D	EE	F	FA ³	FB	G	H
Ø32	50	43	60	53	18	8	Rc1/8	45	23 (26.5)	20.5	49.5	24
Ø40	56.5	49.5	66.5	59.5	22	8.5	Rc1/8	52	26.5(30)	27.5	57	24
Ø50	58.5	50.5	68.5	60.5	20.5	10.5	Rc1/4	64	32.5(36)	28.5	71	33
Ø63	64	56	74	66	23	11	Rc1/4	77	39 (42.5)	28.5	84	33
Ø80	73.5	63.5	83.5	73.5	26	13	Rc3/8	98	49.5(53)	28.5	104	38
Ø100	85	73	95	83	33	15	Rc3/8	117	59 (62.5)	28.5	123.5	38

Code	Common dimensions with switch										
Bore size	I	J	K	KA	KK	L	M	MM	N	O	WF
Ø32	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
Ø40	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
Ø50	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
Ø63	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
Ø80	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
Ø100	10.5	17.5 spot face depth 11	156	M12 depth 29	M20 depth 27	15	27	30	94	6.5	12

Switch dimensions	Reed/proximity 1-color		Proximity 2-color		T8H/V switch	
Bore size	HD ⁴	RD ⁴	HD ⁴	RD ⁴	HD ⁴	RD ⁴
Ø32	8.5 (16)	24 (24)	7 (14.5)	22.5 (22.5)	2.5 (10)	18 (18)
Ø40	9.5 (19)	29.5 (29.5)	8 (17.5)	28 (28)	3.5 (13)	23.5 (23.5)
Ø50	10 (19)	30 (35)	8.5 (17.5)	28.5 (33.5)	4 (13)	24 (29)
Ø63	17.5 (23)	28 (33)	16 (21.5)	26.5 (31.5)	11.5 (17)	22 (27)
Ø80	22 (28)	30.5 (35.5)	20.5 (26.5)	29 (34)	16 (22)	24.5 (29.5)
Ø100	28 (33.5)	34.5 (39.5)	26.5 (32)	33 (38)	22 (27.5)	28.5 (33.5)

- *1 : To calculate A+ stroke or B+ stroke when using custom stroke, apply the next longer standard stroke (instead of the custom stroke) to the stroke value.
(Example) If the custom stroke is 7 mm, apply the standard stroke of 10 mm.
- *2 : HD and RD dimensions for 5 mm stroke differ from these dimensions according to the setting.
- *3 : Dimensions in () of FA are for the L-shaped lead wire.
- *4 : When longer than 150 mm stroke for Ø32 to Ø50 or longer than 200 mm stroke for Ø63 to Ø100, A and B dimensions are indicated in Table 1 and there is no spot face J. HD, RD and D dimensions are indicated in ().

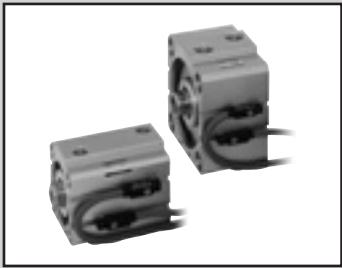
Rod end male thread

Code	a'	c'	H	kk'	M	MM	T	wf
Bore size								
Ø32	23.5	20.5	22	M14x1.5	14	16	8	5
Ø40	23.5	20.5	22	M14x1.5	14	16	8	5
Ø50	28.5	26	27	M18x1.5	17	20	11	5
Ø63	28.5	26	27	M18x1.5	17	20	11	5
Ø80	35.5	32.5	32	M22x1.5	22	25	13	8
Ø100	35.5	32.5	41	M26x1.5	27	30	16	8

Table 1

Bore size	No switch		With switch	
	A ¹	B ¹	A ¹	B ¹
Ø32	57.5	50.5	67.5	60.5
Ø40	66	59	76	69
Ø50	72	64	82	74
Ø63	74	66	84	76
Ø80	83.5	73.5	93.5	83.5
Ø100	95	83	105	93

* Refer to pages 1320 to 1325 for dimensions including the accessories and pages 1108 to 1115 for dimensions of individual accessories.



Compact cylinder double acting/single rod/with strong magnetic field proof switch

SSD-L4 Series

● Bore size: $\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$

JIS symbol



RoHS

Specifications

Item	SSD-L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)		0.05 (≈7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 40$	20, 30, 40, 50	50	20
$\varnothing 50$			
$\varnothing 63$			
$\varnothing 80$			
$\varnothing 100$			

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

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\varnothing 40$	20	20	35
$\varnothing 50$	20	20	35
$\varnothing 63$	20	20	35
$\varnothing 80$	20	20	35
$\varnothing 100$	20	20	35

Switch specifications

Item	2-wire reed	
	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	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 (mm)	20	30	40	50
Bore size (mm)				
ø40	493	546	599	652
ø50	757	841	925	1009
ø63	1089	1200	1311	1422
ø80	1822	1996	2170	2344
ø100	2665	2892	3119	3346

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	-	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.06x10 ²	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	1.56x10 ²	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	1.40x10 ²	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	2.51x10 ²	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	2.27x10 ²	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	3.93x10 ²	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	3.57x10 ²	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-L4 Series

How to order

SSD-L4 - 50 - 40 - V0 - D - N - LB - I

Model No.

A Bore size

B Stroke

C Switch model No.

*4

D Switch quantity

E Option

F Mounting bracket

*1

*2

G Accessory

*3

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/single rod/ with strong magnetic field proof switch

A Bore size : ø50 mm

B Stroke : 40 mm

C Switch model No. : Reed switch V0, lead wire length 1 m

D Switch quantity : 2

E Option : Rod end male thread

F Mounting bracket : Axial foot

G Accessory : Rod eye

Code	Description
A Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

B Stroke (mm)		
Bore size	Stroke *1	Custom stroke *2
ø40 to ø100	20 to 50	In 1 mm increments
*1: Refer to page 1288 for the number of installed switches and the min. stroke.		
*2: The total length is the same as that of the next longer standard stroke.		

C Switch model No.				
Axial lead wire	Contact	Voltage		Indicator
		AC	DC	
V0*	Reed	●	●	1-color LED
* 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	
LB	Axial foot
LB2	Axial foot (compact)
CB	Clevis bracket (pin and snap ring included)
CB2	Clevis bracket (compact) (pin and snap ring included)
FA	Rod side flange
FB	Head side flange

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

How to order switch



Switch model No.
(Item ③ on page 1290)

How to order mounting bracket

Bore size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

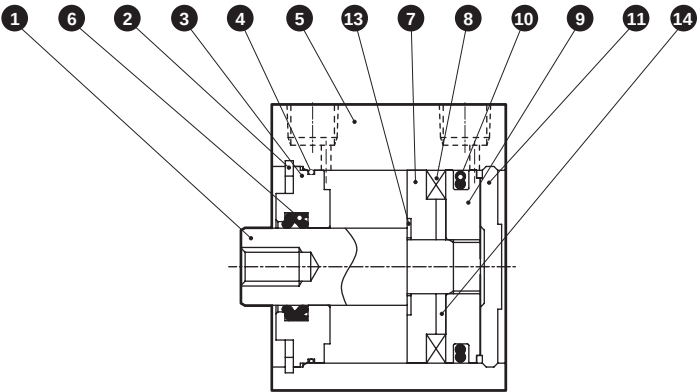
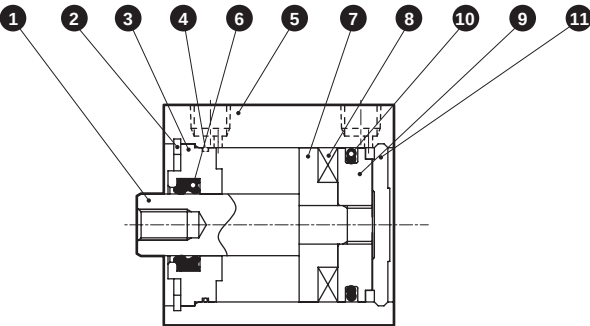
SSD-L4 Series

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

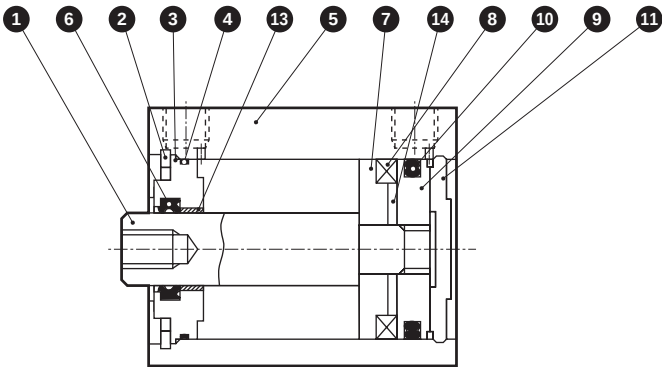
Internal structure and parts list

● SSD-L4-40

● SSD-L4-50



● SSD-L4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C-snap ring	Steel	Zinc phosphate	9	Piston	Aluminum alloy	Chromate
3	Rod metal	ø40, ø50: Special aluminum ø63 to ø100: 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	Oiles drymet	
6	Rod packing	Nitrile rubber		13	Spacer washer	Stainless steel	ø50
7	Spacer	Aluminum alloy (resin for ø50 only)	Chromate	14	Collar	Aluminum alloy	ø50 to ø100

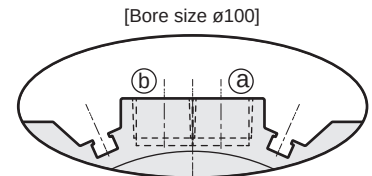
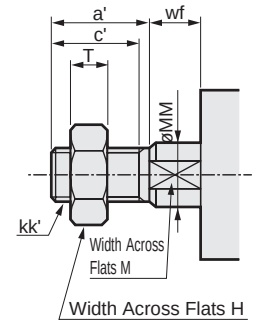
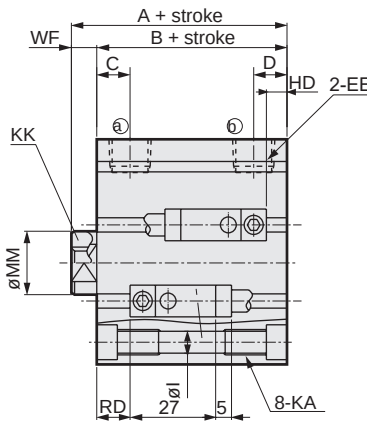
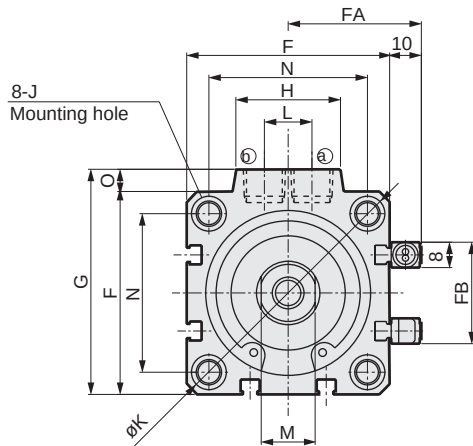
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	SSD-40K	4 6 10
ø50	SSD-50K	
ø63	SSD-63K	
ø80	SSD-80K	
ø100	SSD-100K	

dimensions

● SSD-L4-40 to 100

● Rod end male thread



* Only for ø100, the port surface has switch grooves.

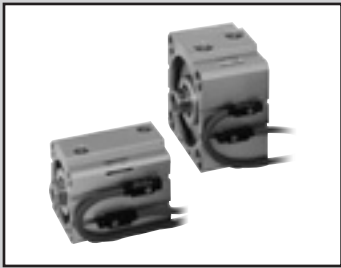
Code	A	B	C	D	EE	F	FA	FB	G	H	I	J	
Bore size													
ø40	56.5	49.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face ø9, depth 5.5, ø5.5 through hole	
ø50	58.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face ø11, depth 6.5, ø6.9 through hole	
ø63	64	56	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face ø14, depth 9, ø8.7 through hole	
ø80	73.5	63.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face ø17.5, depth 11, ø10.5 through hole	
ø100	85	73	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face ø17.5, depth 11, ø10.5 through hole	
Code	K	KA		KK		M	MM	N	O	WF	HD	RD	
Bore size													
ø40	69	M6 depth 11		M8 depth 13		14	16	40	5	7	7.5	13	
ø50	86	M8 depth 13		M10 depth 15		17	20	50	7	8	8.5	13	
ø63	103	M10 depth 25		M10 depth 15		17	20	60	7	8	13.5	13.5	
ø80	132	M12 depth 28		M16 depth 21		22	25	77	6	10	18.5	16	
ø100	156	M12 depth 28		M20 depth 27		27	30	94	6.5	12	24	20	

*1: The A, B dimensions when using a custom stroke are the same as those of when using the next longer standard stroke.

● Dimensions of rod end male thread part

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
ø40	23.5	20.5	22	M 14 x 1.5	14	16	8	5
ø50	28.5	26	27	M 18 x 1.5	17	20	11	5
ø63	28.5	26	27	M 18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M 22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M 26 x 1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.



Compact cylinder double acting/single rod
with strong magnetic field proof switch/with coil scraper

SSD-G1L4 Series

● Bore size: $\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$

JIS symbol



RoHS

Specifications

Item	SSD-G1L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	None				
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy J	0.092	0.1	0.12	0.27	0.56

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
$\varnothing 40$	20, 30, 40, 50	50	20
$\varnothing 50$			
$\varnothing 63$			
$\varnothing 80$			
$\varnothing 100$			

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

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\varnothing 40$	20	20	35
$\varnothing 50$	20	20	35
$\varnothing 63$	20	20	35
$\varnothing 80$	20	20	35
$\varnothing 100$	20	20	35

Switch specifications

Item	2-wire reed	
	VO	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator	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 (mm)	20	30	40	50
Bore size (mm)				
ø40	575	628	681	734
ø50	876	960	1044	1128
ø63	1240	1351	1462	1573
ø80	2074	2248	2422	2596
ø100	3000	3227	3454	3681

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	-	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-G1L4 Series

How to order

SSD-G1L4 - **50** - **40** - **V0** - **D** - **N** - **LB** - **I**

Model No.

A Bore size

B Stroke

C Switch model No.

*4

D Switch quantity

E Option

F Mounting bracket

*1

*2

G Accessory

*3

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-G1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/with coil scraper/
with strong magnetic field proof switch

A Bore size : ø50 mm

B Stroke : 40 mm

C Switch model No. : Reed switch V0, lead wire length 1 m

D Switch quantity : 2

E Option : Rod end male thread

F Mounting bracket : Axial foot

G Accessory : Rod eye

Code	Description
A Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

B Stroke (mm)		
Bore size	Stroke *1	Custom stroke *2
ø40 to ø100	20 to 50	In 1 mm increments
*1: Refer to page 1294 for the number of installed switches and the min. stroke.		
*2: The total length is the same as that of the next longer standard stroke.		

C Switch model No.					
Axial lead wire	Contact	Voltage		Indicator	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color LED	2-wire

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

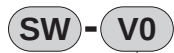
D Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3

E Option	
Blank	Rod end female thread
N	Rod end male thread

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

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

How to order switch



Switch model No.
(Item © on page 1296)

How to order mounting bracket

Bore size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

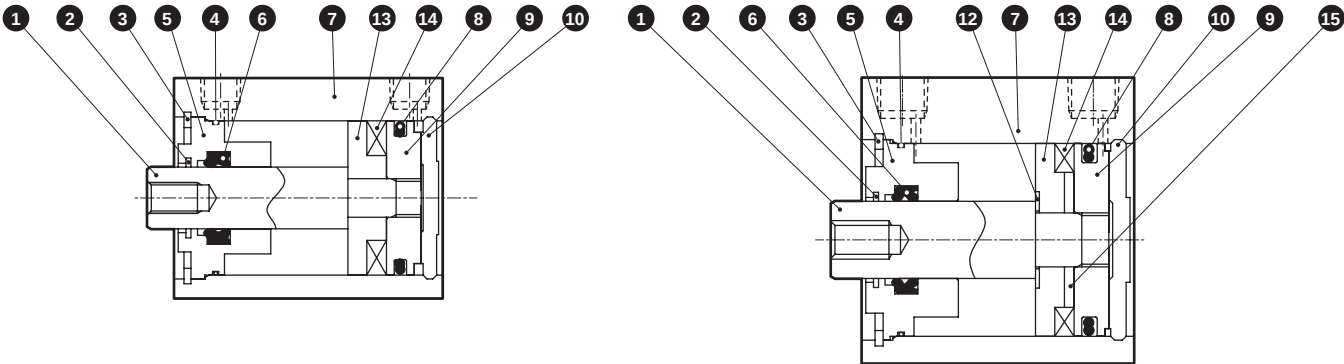
SSD-G1L4 Series

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

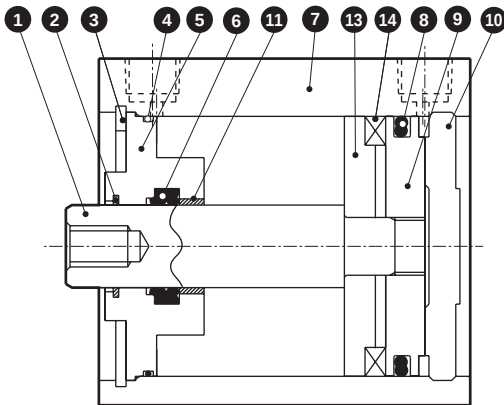
Internal structure and parts list

● SSD-G1L4-40

● SSD-G1L4-50



● SSD-G1L4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	Coil scraper	Phosphor bronze		10	Cover	Aluminum alloy	Chromate
3	C-snap ring for hole	Steel	Zinc phosphate	11	Bush	Oiles drymet	ø63 to ø100
4	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	ø50
5	Rod metal	ø40, ø50: Special aluminum ø63 to ø100: Aluminum alloy		13	Spacer	Aluminum alloy (resin for ø50 only)	Chromate
6	Rod packing	Nitrile rubber	Chromate	14	Magnet	Plastic	
7	Tube body	Aluminum alloy	Hard alumite	15	Collar	Aluminum alloy	ø50 to ø100
8	Piston packing	Nitrile rubber					

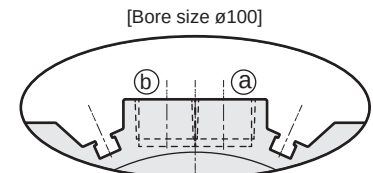
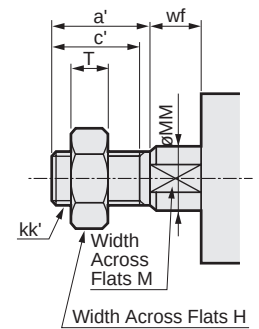
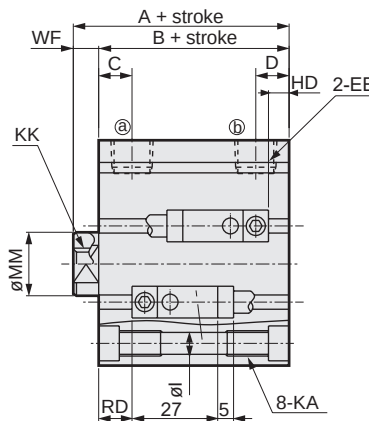
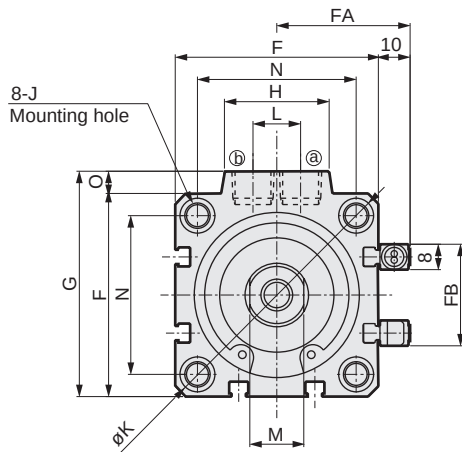
Repair parts list

Part name	Kit No.	Repair parts No.
Bore size (mm)		
ø40	SSD-G1-40K	2 4 6 8
ø50	SSD-G1-50K	
ø63	SSD-G1-63K	
ø80	SSD-G1-80K	
ø100	SSD-G1-100K	

dimensions

● SSD-G1L4-40 to 100

● Rod end male thread



* Only for Ø100, the port surface has switch grooves.

Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size												
Ø40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face Ø9, depth 5.5, Ø5.5 through hole
Ø50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face Ø11, depth 6.5, Ø6.9 through hole
Ø63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face Ø14, depth 9, Ø8.7 through hole
Ø80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face Ø17.5, depth 11, Ø10.5 through hole
Ø100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face Ø17.5, depth 11, Ø10.5 through hole

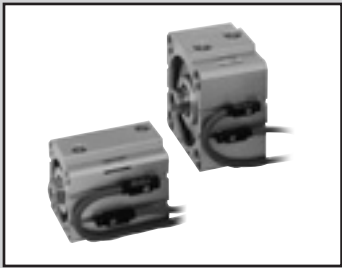
Code	K	KA	KK	L	M	MM	N	O	WF	HD	RD	
Bore size												
Ø40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	7.5	23	
Ø50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	8.5	23	
Ø63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	13.5	23.5	
Ø80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	18.5	26	
Ø100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	24	30	

*1: The A, B dimensions when using a custom stroke are the same as those of when using the next longer standard stroke.

● Dimensions of rod end male thread

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
Ø40	23.5	20.5	22	M 14 x 1.5	14	16	8	5
Ø50	28.5	26	27	M 18 x 1.5	17	20	11	5
Ø63	28.5	26	27	M 18 x 1.5	17	20	11	5
Ø80	35.5	32.5	32	M 22 x 1.5	22	25	13	8
Ø100	35.5	32.5	41	M 26 x 1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.

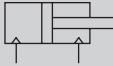


Compact cylinder double acting/high load/
with strong magnetic field proof switch

SSD-KL4 Series

● Bore size: $\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$

JIS symbol



RoHS

Specifications

Item	SSD-KL4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)		0.05 (≈7.3 psi, 0.5 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	Rubber cushion				
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø40	20, 30, 40, 50, 60 70, 80, 90, 100	*2) 150	20
ø50		*2) 200	
ø63			
ø80			
ø100			

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

*2: Stroke over standard to maximum is available in increments of 10.
(Example) $\varnothing 40$: 110, 120, 130, 140, 150

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\varnothing 40$	20	20	35
$\varnothing 50$	20	20	35
$\varnothing 63$	20	20	35
$\varnothing 80$	20	20	35
$\varnothing 100$	20	20	35

Switch specifications

Item	2-wire reed	
	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	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 (mm)	20	30	40	50	60	70	80	90	100
Bore size (mm)									
ø40	546	599	652	705	758	811	864	917	970
ø50	841	925	1009	1093	1177	1261	1345	1429	1513
ø63	1199	1309	1419	1529	1639	1749	1859	1969	2079
ø80	1995	2169	2343	2517	2691	2865	3039	3213	3387
ø100	2893	3120	3347	3574	3801	4028	4255	4482	4709

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa											
		0.05	0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	-	1.26x10 ²	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.06x10 ²	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	1.96x10 ²	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	1.65x10 ²	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	1.56x10 ²	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	1.40x10 ²	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	2.51x10 ²	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	2.27x10 ²	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	3.93x10 ²	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	3.57x10 ²	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-KL4 Series

How to order

SSD-KL4 - **50** - **40** - **V0** - **D** - **N** - **LB** - **I**

Model No.

A Bore size

B Stroke

C Switch model No.

*4

D Switch quantity

E Option

F Mounting bracket

*1

*2

G Accessory

*3

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2 : The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-KL4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/one side high load/with strong magnetic field proof switch

A Bore size : ø50 mm

B Stroke : 40 mm

C Switch model No. : Reed switch V0, lead wire length 1 m

D Switch quantity : 2

E Option : Rod end male thread

F Mounting bracket : Axial foot

G Accessory : Rod eye

[Stroke table]

Stroke (mm)		Applicable bore size				
		ø40	ø50	ø63	ø80	ø100
Standard stroke	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. Stroke(mm) *1		20				
Max. Stroke(mm)		150		200		
Intermediate Stroke *2		In 1 mm increments				

*1: Refer to page 1300 for the number of installed switches and the min. stroke.

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

Code	Description
A Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100

B Stroke (mm)

Refer to the stroke table below.

C Switch model No.

Lead wire Straight type	Contact	Voltage		Indicator	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color LED	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

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

G Accessory (Rod end male thread "N" is selected.)

I	Rod eye
I2	Rod eye (compact)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact)(Pin and snap ring attached)

How to order switch

SW - V0

Switch model No.
(Item © on page 1302)

How to order mounting bracket

Bore size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

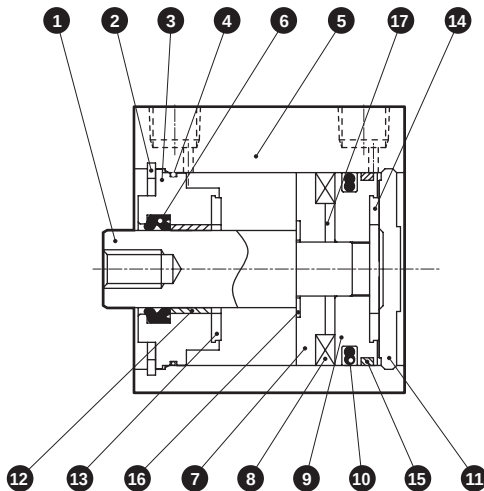
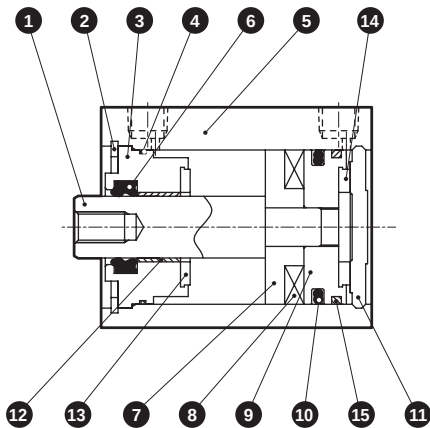
SSD-KL4 Series

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

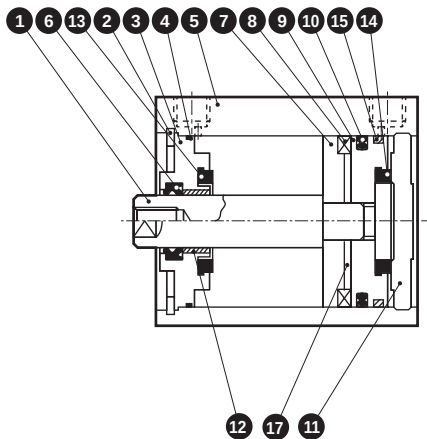
Internal structure and parts list

● SSD-KL4-40

● SSD-KL4-50



● SSD-KL4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	
2	C-snap ring	Steel	Zinc phosphate	10	Piston packing	Nitrile rubber	
3	Rod metal	Aluminum alloy	Alumite	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	Oiles drymet	
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber R	Urethane rubber	
6	Rod packing	Nitrile rubber		14	Cushion rubber H	Urethane rubber	
7	Spacer	Aluminum alloy (resin for ø50 only)	Chromate	15	Wear ring	Polyacetal resin	
8	Magnet	Plastic		16	Spacer washer	Stainless steel	ø50
				17	Collar	Aluminum alloy	ø50 to ø100

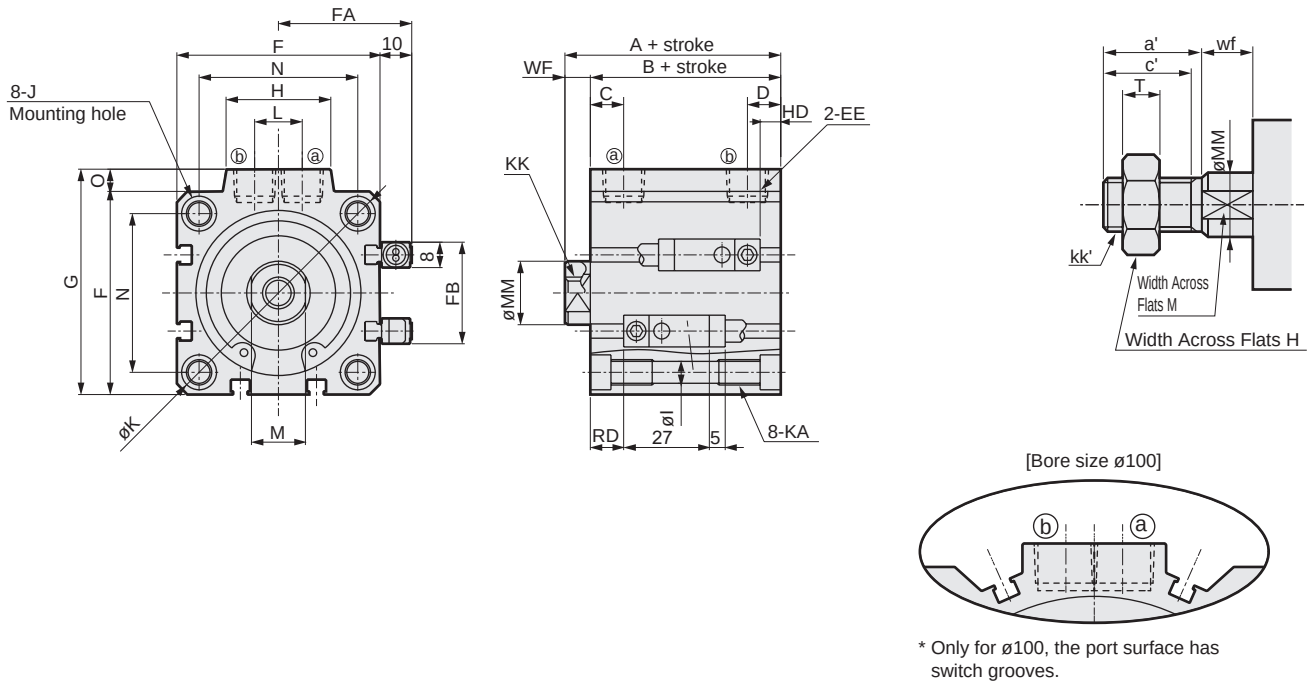
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	SSD-K-40K	4 6 10 13 14 15
ø50	SSD-K-50K	
ø63	SSD-K-63K	
ø80	SSD-K-80K	
ø100	SSD-K-100K	

dimensions

● SSD-KL4-40 to 100

● Rod end male thread



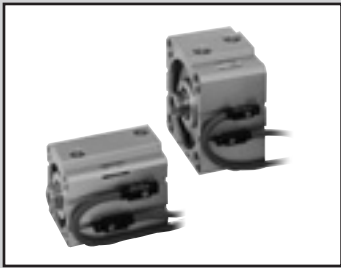
Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size												
ø40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face ø9, depth 5.5, ø5.5 through hole
ø50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face ø11, depth 6.5, ø6.9 through hole
ø63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face ø14, depth 9, ø8.7 through hole
ø80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face ø17.5, depth 11, ø10.5 through hole
ø100	95	83	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face ø17.5, depth 11, ø10.5 through hole
Code	K	KA	KK	L	M	MM	N	O	WF	HD	RD	
Bore size												
ø40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	20.5	
ø50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	20.5	
ø63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	18.5	
ø80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	21	
ø100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	25	

*1: The A, B dimensions when using a custom stroke are the same as those of when using the next longer standard stroke.

● Dimensions of rod end male thread

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
ø40	23.5	20.5	22	M 14 x 1.5	14	16	8	5
ø50	28.5	26	27	M 18 x 1.5	17	20	11	5
ø63	28.5	26	27	M 18 x 1.5	17	20	11	5
ø80	35.5	32.5	32	M 22 x 1.5	22	25	13	8
ø100	35.5	32.5	41	M 26 x 1.5	27	30	16	8

* For dimensions of individual accessories, refer to pages 1108 to 1115.

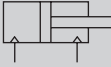


Compact cylinder double acting/high load/with strong magnetic field proof switch/with coil scraper

SSD-KG1L4 Series

● Bore size: $\varnothing 40/\varnothing 50/\varnothing 63/\varnothing 80/\varnothing 100$

JIS symbol



RoHS

Specifications

Item	SSD-KG1L4				
Bore size mm	ø40	ø50	ø63	ø80	ø100
Actuation	Double acting				
Working fluid	Compressed air				
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)				
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)		
Proof pressure MPa	1.6 (≈230 psi, 16 bar)				
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)				
Port size	Rc1/8	Rc1/4		Rc3/8	
Stroke tolerance mm	+2.0 0				
Working piston speed mm/s	50 to 500		50 to 300		
Cushion	Rubber cushion				
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				
Allowable absorbed energy J	0.63	0.98	1.56	2.51	3.92

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)
ø40	20, 30, 40, 50, 60, 70, 80, 90, 100	*2) 150	20
ø50		*2) 200	
ø63			
ø80			
ø100			

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

*2: Stroke over standard to maximum is available in increments of 10.
(Example) $\varnothing 40$: 110, 120, 130, 140, 150

Number of installed switches and min. stroke (mm)

Switch quantity	1	2	3
Switch model No.	V0		
Bore size (mm)			
$\varnothing 40$	20	20	35
$\varnothing 50$	20	20	35
$\varnothing 63$	20	20	35
$\varnothing 80$	20	20	35
$\varnothing 100$	20	20	35

Switch specifications

Item	2-wire reed	
	VO	
Applications	For relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	3.0 V or less (with 40 mA load current)	
Indicator	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 (mm)	20	30	40	50	60	70	80	90	100
Bore size (mm)									
ø40	628	681	734	787	840	893	946	999	1052
ø50	960	1044	1128	1212	1296	1380	1464	1548	1632
ø63	1350	1461	1572	1683	1794	1905	2016	2127	2238
ø80	2247	2421	2595	2769	2943	3117	3291	3465	3639
ø100	3228	3455	3682	3909	4136	4363	4590	4817	5044

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa										
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø40	Push	-	1.88x10 ²	2.51x10 ²	3.77x10 ²	5.03x10 ²	6.28x10 ²	7.54x10 ²	8.80x10 ²	1.01x10 ³	1.13x10 ³	1.26x10 ³
	Pull	-	1.58x10 ²	2.11x10 ²	3.17x10 ²	4.22x10 ²	5.28x10 ²	6.33x10 ²	7.39x10 ²	8.44x10 ²	9.50x10 ²	1.06x10 ³
ø50	Push	-	2.95x10 ²	3.93x10 ²	5.89x10 ²	7.85x10 ²	9.82x10 ²	1.18x10 ³	1.37x10 ³	1.57x10 ³	1.77x10 ³	1.96x10 ³
	Pull	-	2.47x10 ²	3.30x10 ²	4.95x10 ²	6.60x10 ²	8.25x10 ²	9.90x10 ²	1.15x10 ³	1.32x10 ³	1.48x10 ³	1.65x10 ³
ø63	Push	3.12x10 ²	4.68x10 ²	6.23x10 ²	9.35x10 ²	1.25x10 ³	1.56x10 ³	1.87x10 ³	2.18x10 ³	2.49x10 ³	2.81x10 ³	3.12x10 ³
	Pull	2.80x10 ²	4.20x10 ²	5.61x10 ²	8.41x10 ²	1.12x10 ³	1.40x10 ³	1.68x10 ³	1.96x10 ³	2.24x10 ³	2.52x10 ³	2.80x10 ³
ø80	Push	5.03x10 ²	7.54x10 ²	1.01x10 ³	1.51x10 ³	2.01x10 ³	2.51x10 ³	3.02x10 ³	3.52x10 ³	4.02x10 ³	4.52x10 ³	5.03x10 ³
	Pull	4.54x10 ²	6.80x10 ²	9.07x10 ²	1.36x10 ³	1.81x10 ³	2.27x10 ³	2.72x10 ³	3.17x10 ³	3.63x10 ³	4.08x10 ³	4.54x10 ³
ø100	Push	7.85x10 ²	1.18x10 ³	1.57x10 ³	2.36x10 ³	3.14x10 ³	3.93x10 ³	4.71x10 ³	5.50x10 ³	6.28x10 ³	7.07x10 ³	7.85x10 ³
	Pull	7.15x10 ²	1.07x10 ³	1.43x10 ³	2.14x10 ³	2.86x10 ³	3.57x10 ³	4.29x10 ³	5.00x10 ³	5.72x10 ³	6.43x10 ³	7.15x10 ³

SSD-KG1L4 Series

How to order

SSD-KG1L4-50-40-V0-D-N-LB-I

Model No.

A Bore size

B Stroke

C Switch model No.
*4

D Switch quantity

E Option

F Mounting bracket
*1
*2

G Accessory
*3

⚠ Precautions for model No. selection

*1 : The mounting bracket is included at shipment.

*2: The projection dimension of piston rod WF when LB2 or FA is selected is different from that of the standard. Refer to the dimensions on pages 1109 and 1110. The number of the specified protruding dimension will be added at the end of the model No. printed on the metal plate on the body.

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

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

[Example of model No.]

SSD-KG1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting/high load/with coil scraper/with strong magnetic field proof switch

- A** Bore size : ø50 mm
- B** Stroke : 40 mm
- C** Switch model No. : Reed switch V0, lead wire length 1 m
- D** Switch quantity : 2
- E** Option : Rod end male thread
- F** Mounting bracket : Axial foot
- G** Accessory : Rod eye

[Stroke table]

Stroke (mm)		Applicable bore size				
		ø40	ø50	ø63	ø80	ø100
Standard stroke	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. stroke (mm) *1		20				
Max. stroke (mm)		150		200		
Custom stroke *2		In 1 mm increments				

*1: Refer to page 1306 for the number of installed switches and the min. stroke.

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

Code		Description			
A Bore size (mm)					
40	ø40				
50	ø50				
63	ø63				
80	ø80				
100	ø100				
B Stroke (mm)					
Refer to the stroke table below.					
C Switch model No.					
Axial lead wire	Contact	Voltage		Indicator	Lead wire
		AC	DC		
V0*	Reed	●	●	1-color LED	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					
LB	Axial foot				
LB2	Axial foot (compact)				
CB	Clevis bracket (pin and snap ring included)				
CB2	Clevis bracket (compact) (pin and snap ring included)				
FA	Rod side flange				
FB	Head side flange				
G Accessory (available when rod end male thread "N" is selected)					
I	Rod eye				
I2	Rod eye (compact)				
Y	Rod clevis (pin and snap ring included)				
Y2	Rod clevis (compact) (pin and snap ring included)				

How to order switch



Switch model No.
(Item © on page 1308)

How to order mounting bracket

Bore size (mm)	ø40	ø50	ø63	ø80	ø100
Mounting bracket					
Foot (LB)	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-40	SSD-FA-50	SSD-FA-63	SSD-FA-80	SSD-FA-100
Clevis bracket (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis bracket (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

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

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

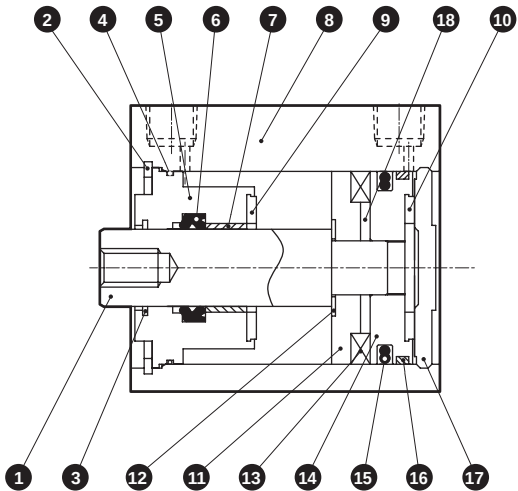
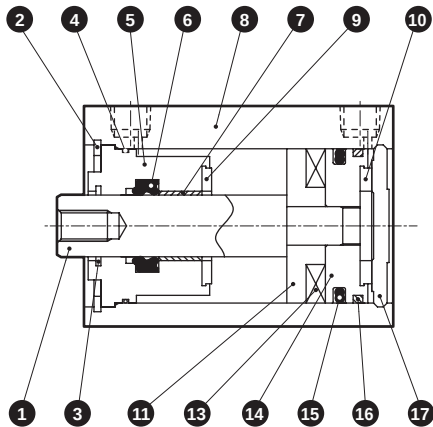
SSD-KG1L4 Series

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

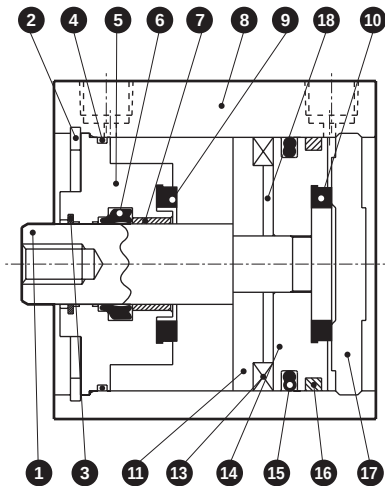
Internal structure and parts list

● SSD-KG1L4-40

● SSD-KG1L4-50



● SSD-KG1L4-63 to 100



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	11	Spacer	Aluminum alloy (resin for ø50 only)	Chromate
2	C-snap ring for hole	Steel	Zinc phosphate	12	Spacer washer	Stainless steel	ø50
3	Coil scraper	Phosphor bronze		13	Magnet	Plastic	
4	Rod metal gasket	Nitrile rubber		14	Piston	Aluminum alloy	Chromate
5	Rod metal	Aluminum alloy	Chromate	15	Piston packing	Nitrile rubber	
6	Rod packing	Nitrile rubber		16	Wear ring	Polyacetal resin	
7	Bush	Oiles drymet		17	Cover	Aluminum alloy	Chromate
8	Tube body	Aluminum alloy	Hard alumite	18	Collar	Aluminum alloy	ø50 to ø100
9	Cushion rubber R	Urethane rubber					
10	Cushion rubber H	Urethane rubber					

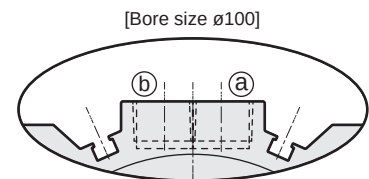
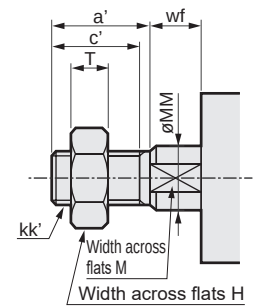
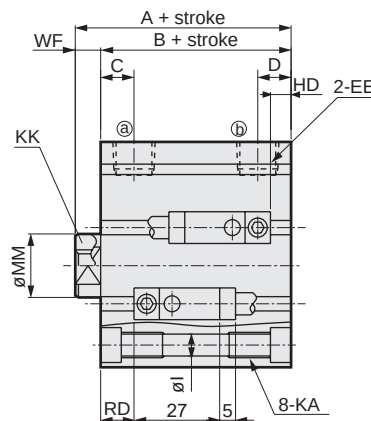
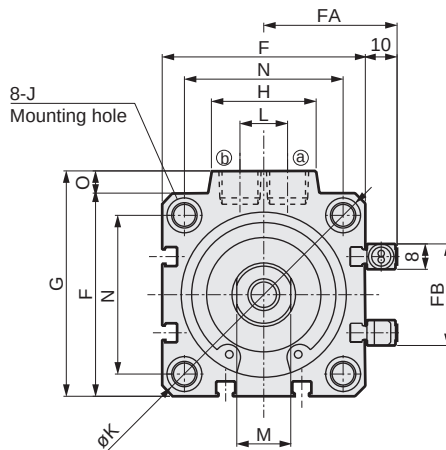
Repair parts list

Part name	Kit No.	Repair parts
Bore size (mm)		No.
ø40	SSD-KG1-40K	3 4 6
ø50	SSD-KG1-50K	9 10 15
ø63	SSD-KG1-63K	16
ø80	SSD-KG1-80K	
ø100	SSD-KG1-100K	

Dimensions

● SSD-KG1L4-40 to 100

● Rod end male thread



* Only for Ø100, the port surface has switch grooves.

Code	A	B	C	D	EE	F	FA	FB	G	H	I	J
Bore size												
Ø40	76.5	69.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face Ø9, depth 5.5, Ø5.5 through hole
Ø50	78.5	70.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face Ø11, depth 6.5, Ø6.9 through hole
Ø63	84	76	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face Ø14, depth 9, Ø8.7 through hole
Ø80	93.5	83.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face Ø17.5, depth 11, Ø10.5 through hole
Ø100	105	93	23	15	Rc3/8	117	68.5	32	123.5	38	10.5	Spot face Ø17.5, depth 11, Ø10.5 through hole

Code	K	KA	KK	L	M	MM	N	O	WF	HD	RD	
Bore size												
Ø40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	30.5	
Ø50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	30.5	
Ø63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	28.5	
Ø80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	31	
Ø100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	35	

*1: The A, B dimensions when using a custom stroke are the same as those of when using the next longer standard stroke.

● Dimensions of rod end male thread

Code	a'	C'	H	kk'	M	MM	T	wf'
Bore size (mm)								
Ø40	23.5	20.5	22	M14x1.5	14	16	8	5
Ø50	28.5	26	27	M18x1.5	17	20	11	5
Ø63	28.5	26	27	M18x1.5	17	20	11	5
Ø80	35.5	32.5	32	M22x1.5	22	25	13	8
Ø100	35.5	32.5	41	M26x1.5	27	30	16	8

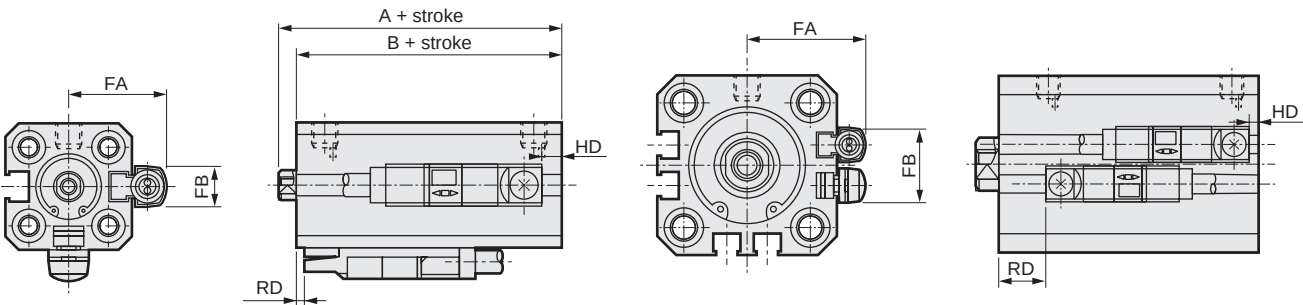
* For dimensions of individual accessories, refer to pages 1108 to 1115.

Common to SSD Series (2-color LED, off-delay, AC magnetic field proof, T1* With switch) dimensions

- SSD-*L1-12, 16 (2-color LED, off-delay, T2Y^H/v, T3Y^H/v, T2J^H/v)
- SSD-*L-20, 25 (2-color LED, off-delay, T2Y^H/v, T3Y^H/v, T2J^H/v)

ø12/ø16

ø20/ø25

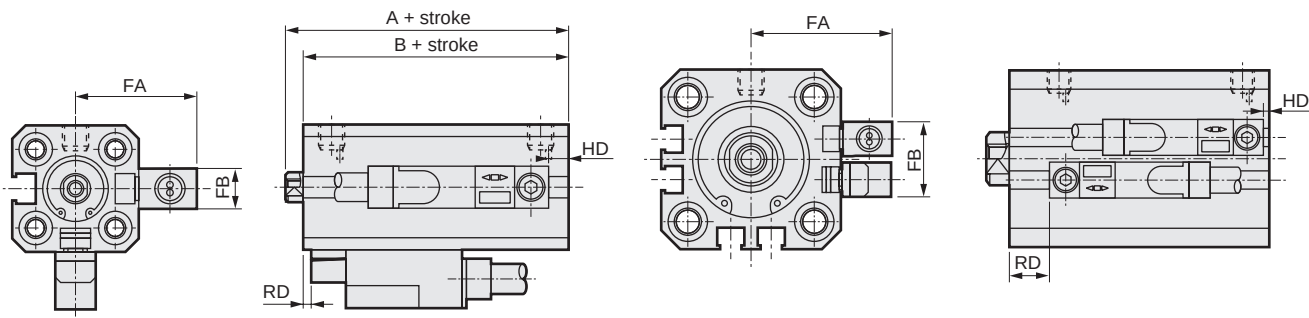


Code	FA	FB	T2Y ^H /v, T3Y ^H /v, T2J ^H /v		SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
			RD	HD	A	B	A	B	A	B
ø12	18.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
ø16	20.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
ø20	24.3	16	5	1.5	-	-	-	-	-	-
ø25	26.3	17	8	1.5	-	-	-	-	-	-

- SSD*-L1-12, 16 (T1* with switch T1^H/v)
- SSD-L-20, 25 (for AC magnetic field, with T1* switch, T2YD, T2YDT, T1^H/v)

ø12/ø16

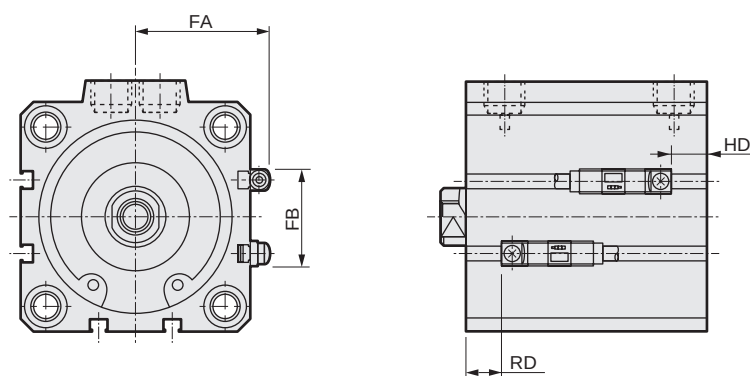
ø20/ø25



Code	FA	FB	RD	HD	SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
					A	B	A	B	A	B
ø12	23.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
ø16	25.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
ø20	29.3	16	5	1.5	-	-	-	-	-	-
ø25	31.3	17	8	1.5	-	-	-	-	-	-

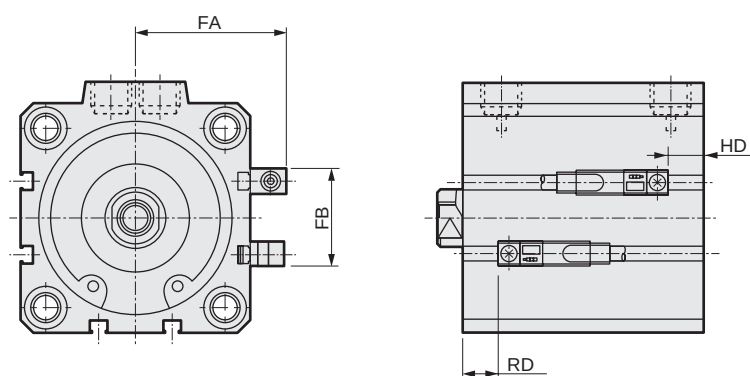
Common to SSD Series (2-color LED, off-delay, AC magnetic field proof, with T1*, T8* switches) dimensions

- SSD-*L-32 to 160 (2-color LED, Off-delay, T8* with switch, T2Y^{H/V}, T3Y^{H/V}, T2J^{H/V}, T8^{H/V})



Code Bore size (mm)	FA	FB	T2Y ^{H/V} , T3Y ^{H/V} , T2J ^{H/V}		T8 ^{H/V}	
			RD	HD	RD	HD
ø32	28.8	24	7.5	2	-	-
ø40	32.3	31	10.5	5.5	6	1
ø50	38.3	32	11	6	6.5	1.5
ø63	44.8	32	11.5	11	7	6.5
ø80	55.3	32	14	16	9.5	11.5
ø100	64.8	32	18	21.5	13.5	17
ø125	77.5	48	28	23	23.5	18.5
ø140	85.5	48	31.5	29.5	27	25
ø160	95.5	52	37.5	32.5	33	28

- SSD-*L-32 to 160 (AC magnetic field, T1* with switch, T2YD, T2YDT, T1^{H/V})



Code Bore size (mm)	FA	FB	RD	HD	
ø32	33.8	24	7.5	2	
ø40	37.3	31	10.5	5.5	
ø50	43.3	32	11	6	
ø63	49.8	32	11.5	11	
ø80	60.3	32	14	16	
ø100	69.8	32	18	21.5	
ø125	82.5	48	28	23	
ø140	90.5	48	31.5	29.5	
ø160	100.5	52	37.5	32.5	

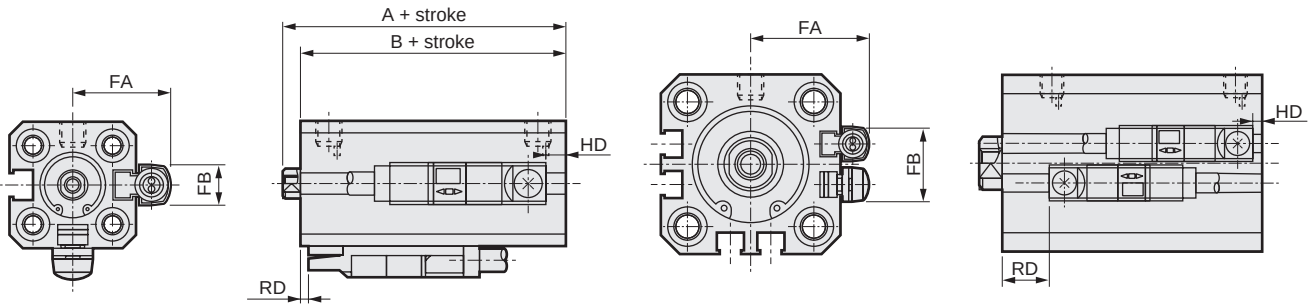
SSD-K Series

Common to SSD-K Series (2-color LED, off-delay, AC magnetic field proof, with T1*, T8* switches) dimensions

● SSD-KL(1)-12 to 25 (2-color LED, off-delay, T8* with switch T2Y^{H/V}, T3Y^{H/V}, T2J^{H/V}, T8^{H/V})

ø12/ø16

ø20/ø25



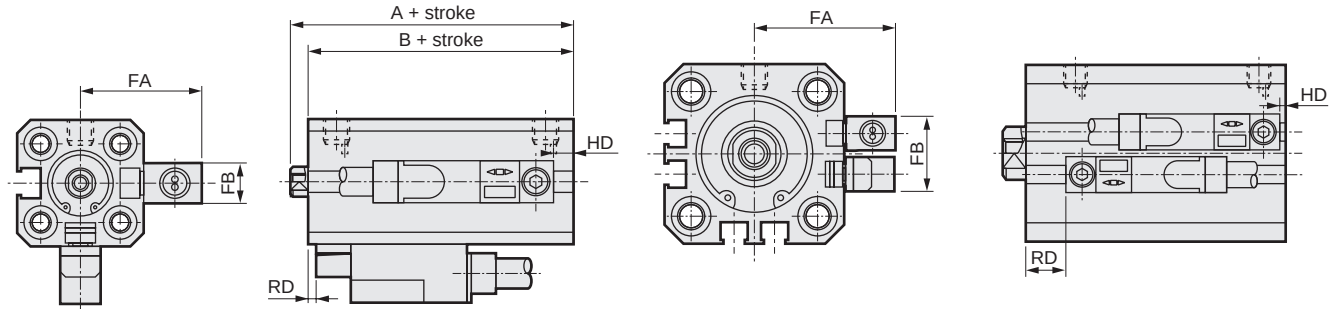
Code	FA	FB	T2Y ^{H/V} , T3Y ^{H/V} , T2J ^{H/V}		T8 ^{H/V}		
Bore size (mm)			RD ^{*1}	HD ^{*1}	RD	HD	
ø12	18.8	8	4.5	1	—	—	
ø16	20.8	8	4	1.5	—	—	
ø20	24.3	16	8.5(13.5)	4.5(11)	2.5(7.5)	0(6.5)	
ø25	26.3	17	12(17)	4(12.5)	6(11)	0(8)	

*1: When longer than ø20: 100 mm stroke or ø25: 150 mm stroke, HD and RD dimensions are indicated in ().

● SSD-KL-12 to 25 (for AC magnetic field, with T1* switch, T2YD, T2YDT, T1^{H/V})

ø12/ø16

ø20/ø25

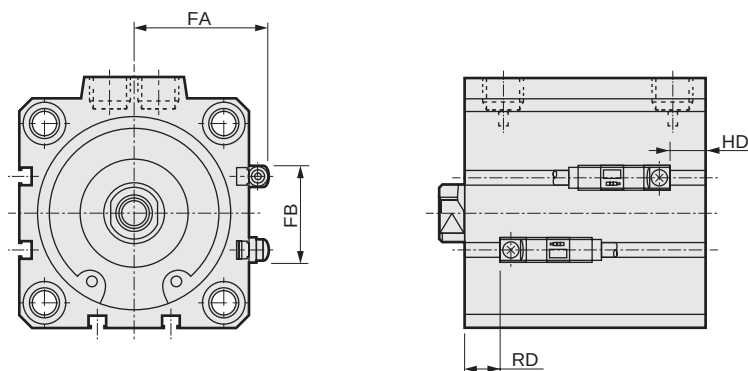


Code	FA	FB	RD ^{*1}	HD ^{*1}	
Bore size (mm)					
ø12	23.8	8	4.5	1	
ø16	25.8	8	4	1.5	
ø20	29.3	16	8.5(13.5)	4.5(11)	
ø25	31.3	17	12(17)	4(12.5)	

*1: When longer than ø20: 100 mm stroke or ø25: 150 mm stroke, HD and RD dimensions are indicated in ().

SSD-K Series common dimensions (with 2-color LED, off-delay, AC magnetic field, T1* and T8* switches)

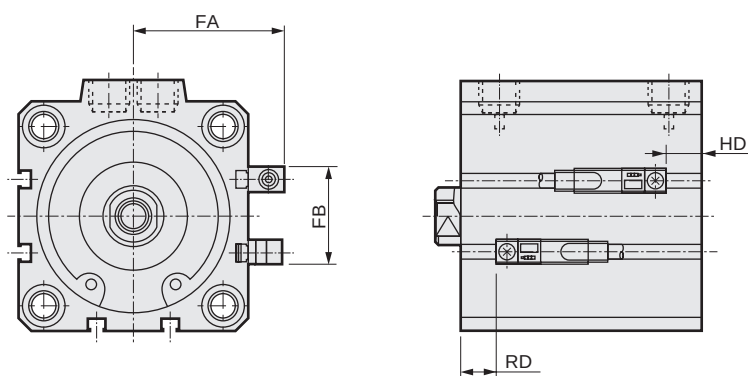
- SSD-KL-32 to 100 (2-color LED, off-delay, With T8* switch, T2Y^{1/2}, T3Y^{1/2}, T2J^{1/2}, T8^{1/2})



Code	FA	FB	T2Y ^{1/2} , T3Y ^{1/2} , T2J ^{1/2}		T8 ^{1/2}	
Bore size (mm)			RD ^{*1}	HD ^{*1}	RD	HD
ø32	28.8	24	12.5 (12.5)	7 (14.5)	8 (8)	3.5 (10)
ø40	32.3	31	18 (18)	8 (17.5)	13.5 (13.5)	3.5 (13)
ø50	38.3	32	18.5 (23.5)	8.5 (17.5)	14 (19)	4 (13)
ø63	44.8	32	16.5 (21.5)	16 (21.5)	12 (17)	11.5 (17)
ø80	55.3	32	19 (24)	20.5 (26.5)	14.5 (19.5)	16 (22)
ø100	64.8	32	23 (28)	26.5 (32)	18.5 (23.5)	22 (27.5)

*1: When longer than ø32 to 50: 150 mm stroke or ø63 to 100: 200 mm stroke, HD and RD dimensions are indicated in ().

- SSD-KL-32 to 100 (for AC magnetic field, T1* with switch, T2YD, T2YDT, T1^{1/2})



Code	FA	FB	RD ^{*1}	HD ^{*1}	
Bore size (mm)					
ø32	33.8	24	12.5 (12.5)	7 (14.5)	
ø40	37.3	31	18 (18)	8 (17.5)	
ø50	43.3	32	18.5 (23.5)	8.5 (17.5)	
ø63	49.8	32	16.5 (21.5)	16 (21.5)	
ø80	60.3	32	19 (24)	20.5 (26.5)	
ø100	69.8	32	23 (28)	26.5 (32)	

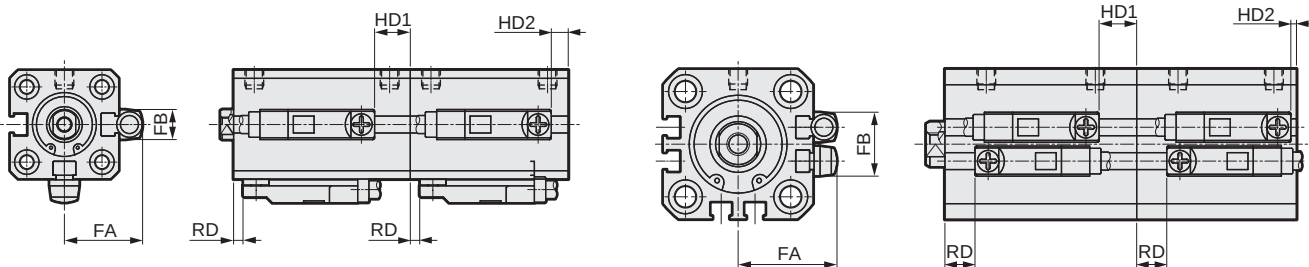
*1: When longer than ø32 to 50: 150 mm stroke or ø63 to 100: 200 mm stroke, HD and RD dimensions are indicated in ().

SSD-WL Series common dimensions (with 2-color LED, off-delay, AC magnetic field, T1* and T8* switches)

● SSD-WL-12 to 25 (2-color LED, off-delay, T8* with switch, T2Y^H/_V, T3Y^H/_V, T2J^H/_V, T8^H/_V)

ø12/ø16

ø20/ø25

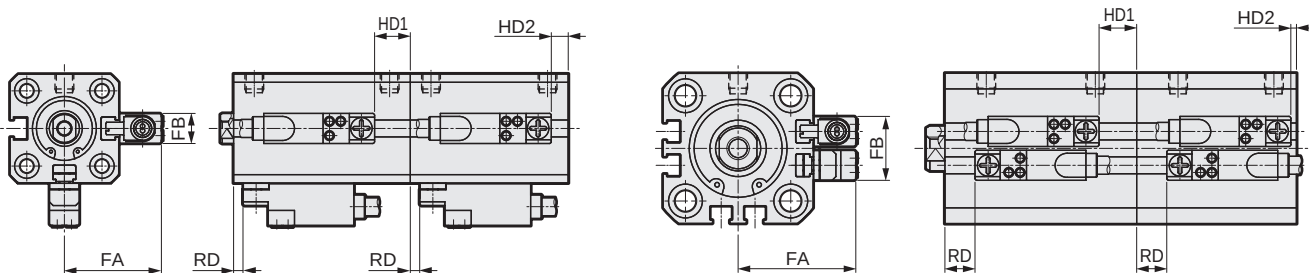


Code	FA	FB	T2Y ^H / _V , T3Y ^H / _V , T2J ^H / _V			T8 ^H / _V			
Bore size (mm)			RD	HD1	HD2	RD	HD1	HD2	
ø12	18.8	8	2.5	9.5	4.5	-	-	-	
ø16	20.8	8	2.5	9.5	4.5	-	-	-	
ø20	24.3	16	5	8	1.5	-	-	-	
ø25	26.3	17	8	10	1.5	-	-	-	

● SSD-WL-12 to 25 (for AC magnetic field, with T1* switch, T2YD, T2YDT, T1^H/_V)

ø12/ø16

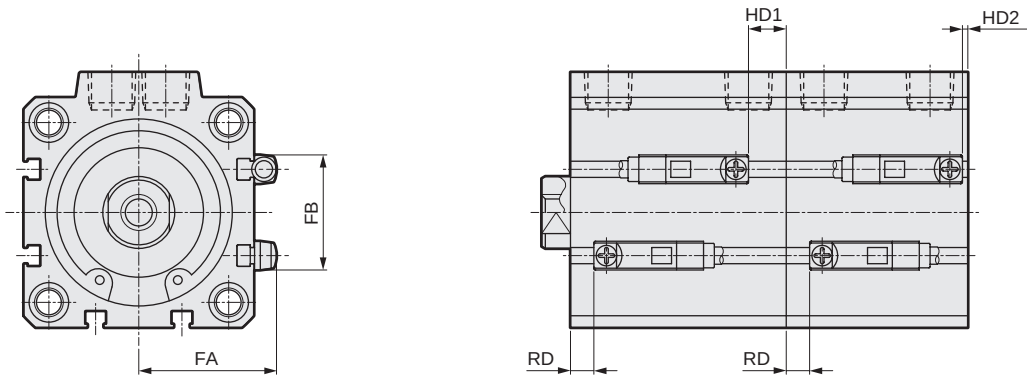
ø20/ø25



Code	FA	FB	RD	HD1	HD2	
Bore size (mm)						
ø12	23.8	8	2.5	9.5	4.5	
ø16	25.8	8	2.5	9.5	4.5	
ø20	29.3	16	5	8	1.5	
ø25	31.3	17	8	10	1.5	

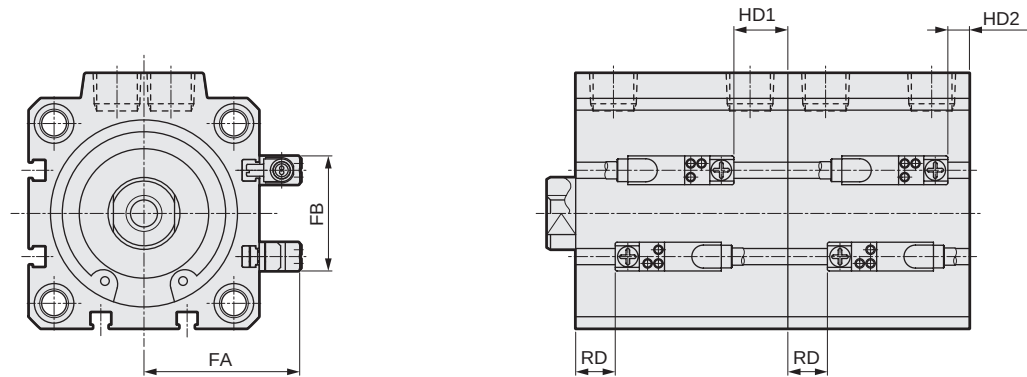
SSD-W Series common (with 2-color LED, off-delay, AC magnetic field, with T1*, T8* switches) Dimensions

● SSD-WL-32 to 100 (2-color LED, off-delay, with T8* switch, T2Y^{H/V}, T3Y^{H/V}, T2J^{H/V}, T8^{H/V})

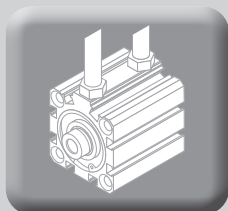


Code	FA	FB	T2Y ^{H/V} , T3Y ^{H/V} , T2J ^{H/V}			T8 ^{H/V}			
Bore size (mm)			RD	HD1	HD2	RD	HD1	HD2	
ø32	28.8	24	7.5	9.5	2	-	-	-	
ø40	32.3	31	10.5	15	5.5	6	10.5	1	
ø50	38.3	32	11	15	6	6.5	10.5	1.5	
ø63	44.8	32	11.5	16.5	11	7	12	6.5	
ø80	55.3	32	14	21.5	16	9.5	17	11.5	
ø100	64.8	32	18	27	21.5	13.5	12.5	7	

● SSD-WL-32 to 100 (for AC magnetic field, T1* with switch, T2YD, T2YDT, T1^{H/V})



Code	FA	FB	RD	HD1	HD2	
Bore size (mm)						
ø32	33.8	24	7.5	9.5	2	
ø40	37.3	31	10.5	15	5.5	
ø50	43.3	32	11	15	6	
ø63	49.8	32	11.5	16.5	11	
ø80	60.3	32	14	21.5	16	
ø100	69.8	32	18	27	21.5	



Introduction to made-to-order products

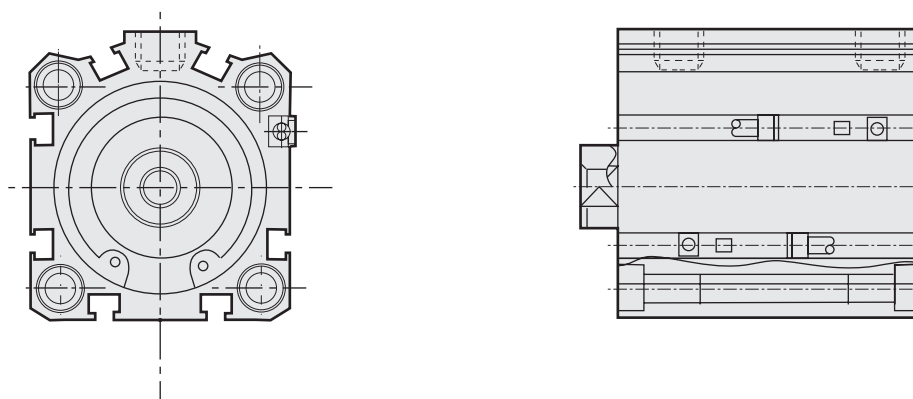
Cylinder switch can be mounted from 4 surfaces!

- Series: All SSD Series
- Corresponding bore size: 25 to $\varnothing 80$ ($\varnothing 100$ or more is 4 surface mounting as standard.)

How to order

Contact CKD for model No.

Dimensions



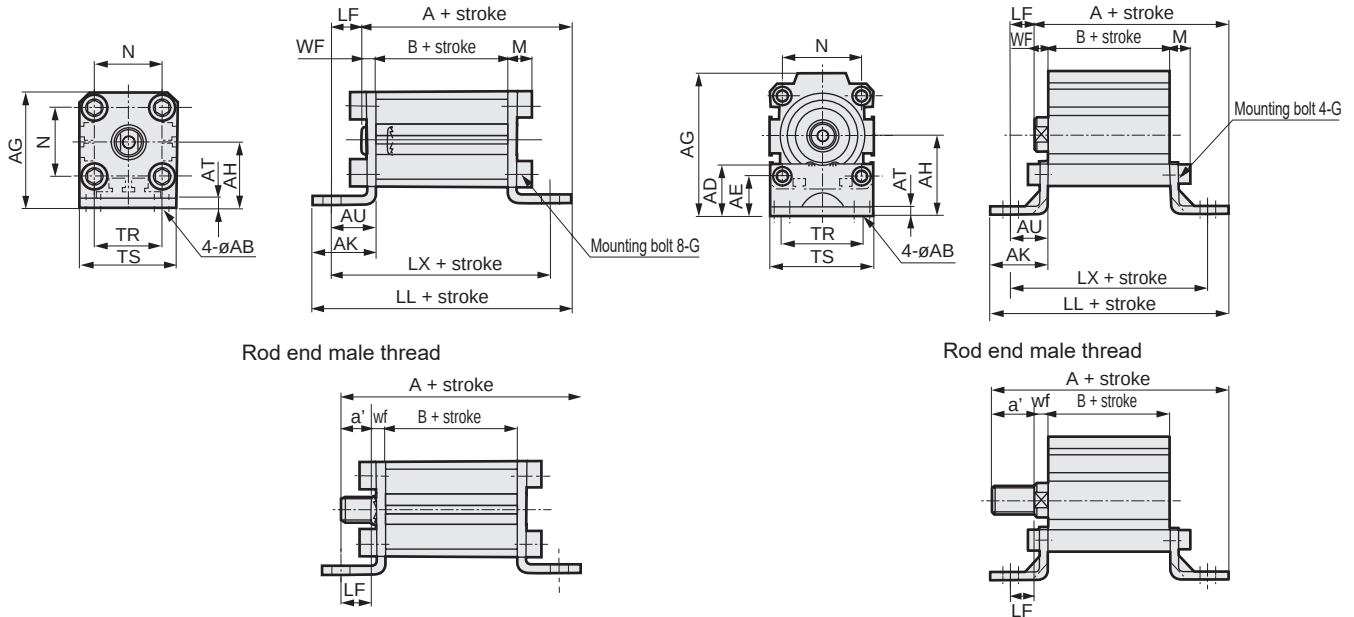
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/ MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd Contr
Ending



Dimensions with accessories (Mounting bracket: LB)

● ø12 to ø32

● ø40 to ø100



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-O (low speed) dimensions table

Code	Common dimensions													Female thread												Male thread											
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	No switch				With switch *1				a'	wf	LF	No switch				With switch *1					
																	A	B	LL	LX	A	B	LL	LX				A	B	LL	LX	A	B	LL	LX		
ø12	6	-	-	29.5	17	18	2.3	12	M4x12	15.5	16	25	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	10.5	3.5	8.5	49	17	53	41	54	22	58	46			
ø16	6	-	-	33.5	19	18	2.3	12	M4x12	20	16	29	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	12	3.5	8.5	50.5	17	53	41	55.5	22	58	46			
ø20	7	-	-	42	24	24	3.2	16	M6x16	25.5	24	36	9.2	4.5	11.5	48	19.5	67.5	51.5	58	29.5	77.5	61.5	14	4.5	11.5	62	19.5	67.5	51.5	72	29.5	77.5	61.5			
ø25	7	-	-	46	26	24	3.2	16	M6x16	28	28	40	9.2	5	11	51.5	22.5	70.5	54.5	61.5	32.5	80.5	64.5	17.5	5	11	69	22.5	70.5	54.5	79	32.5	80.5	64.5			
ø32	7	-	-	53.5	31	24	3.2	16	M6x16	34	34	45	9.2	7	9	54	23	71	55	64	33	81	65	23.5	5	11	75.5	23	71	55	85.5	33	81	65			
ø40	7	26	20	71	40	29	4.5	19	M6x16	40	40	52	10	7	12	65.5	29.5	87.5	67.5	75.5	39.5	97.5	77.5	23.5	5	14	87	29.5	87.5	67.5	97	39.5	97.5	77.5			
ø50	9	23	15	79	40	34	4.5	22	M8x20	50	46	64	13	8	14	72.5	30.5	98.5	74.5	82.5	40.5	108.5	84.5	28.5	5	17	98	30.5	98.5	74.5	108	40.5	108.5	84.5			
ø63	11	33	21	96.5	51	40	4.5	25	M10x25	60	60	77	15	8	17	84	36	116	86	94	46	126	96	28.5	5	20	109.5	36	116	86	119.5	46	126	96			
ø80	13	42	23	116.5	61.5	50	6	35	M12x40	77	77	98	18	10	25	103.5	43.5	143.5	113.5	113.5	53.5	153.5	123.5	35.5	8	27	137	43.5	143.5	113.5	147	53.5	153.5	123.5			
ø100	13	48	22	134	69	50	6	35	M12x40	94	94	117	18	12	23	115	53	153	123	125	63	163	133	35.5	8	27	146.5	53	153	123	156.5	63	163	133			

*2: LB cannot be selected when B + stroke is at or less than the stroke value below.

ø20: 27 or less; ø63: 42 or less; ø80, ø100: 69 or less

The same applies to variations not listed on this page.

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
ø12	48.5	27	63	51	59	27	63	51
ø16	48.5	27	63	51	60.5	27	63	51

SSD-K (double acting/high load), SSD-K-C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions													For female thread										*1 For male thread										*1									
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	No switch				With switch *2				a'	wf	LF	No switch				With switch *2											
																	A	B	LL	LX	A	B	LL	LX				A	B	LL	LX	A	B	LL	LX	A	B	LL	LX				
ø12	6	-	-	29.5	17	18	2.3	12	M4x12	15.5	16	25	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	10.5	3.5	8.5	54	22	58	46	59	27	63	51									
ø16	6	-	-	33.5	19	18	2.3	12	M4x12	20	16	29	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	12	3.5	8.5	55.5	22	58	46	60.5	27	63	51									
ø20	7	-	-	42	24	24	3.2	16	M6x16	25.5	24	36	9.2	4.5	11.5	53	24.5	72.5	56.5	63	34.5	82.5	66.5	14	4.5	11.5	67	24.5	72.5	56.5	77	34.5	82.5	66.5									
ø25	7	-	-	46	26	24	3.2	16	M6x16	28	28	40	9.2	5	11	56.5	27.5	75.5	59.5	66.5	37.5	85.5	69.5	17.5	5	11	74	27.5	75.5	59.5	84	37.5	85.5	69.5									
ø32	7	-	-	53.5	31	24	3.2	16	M6x16	34	34	45	9.2	7	9	64	33	81	65	74	43	91	75	23.5	5	11	85.5	33	81	65	95.5	43	91	75									
ø40	7	28	20	71	40	29	4	19	M6x16	40	40	52	10	7	12	75.5	39.5	97.5	77.5	85.5	49.5	107.5	87.5	23.5	5	14	97	39.5	97.5	77.5	107	49.5	107.5	87.5									
ø50	9	25	15	79	40	34	5	22	M8x20	50	46	64	13	8	14	82.5	40.5	108.5	84.5	92.5	50.5	118.5	94.5	28.5	5	17	108	40.5	108.5	84.5	118	50.5	118.5	94.5									
ø63	11	40	21	96.5	51	40	5	25	M10x25	60	60	77	15	8	17	94	46	126	96	104	56	136	106	28.5	5	20	119.5	46	126	96	129.5	56	136	106									
ø80	13	47	23	116.5	61.5	50	6	35	M12x40	77	77	98	18	10	25	113.5	53.5	153.5	123.5	123.5	63.5	163.5	133.5	35.5	8	27	147	53.5	153.5	123.5	157	63.5	163.5	133.5									
ø100	13	50	22	134	69	50	6	35	M12x40	94	94	117	18	12	23	125	63	163	133	135	73	173	143	35.5	8	27	156.5	63	163	133	166.5	73	173	143									

*1: For the long stroke, dimensions are as below.

Code	Common dimensions													Female thread								Male thread							
	Bore size (mm)	No switch				With switch				No switch				No switch				With switch *2				No switch				With switch *2			
		A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX
ø20	Over 100 st	64.5	36	84	68	74.5	46	94	78	78.5	36	84	68	88.5	46	94	78												
ø25	Over 150 st	70	41	89	73	80	51	99	83	87.5	41	89	73	97.5	51	99	83												
ø32		71.5	40.5	88.5	72.5	81.5	50.5	98.5	82.5	93	40.5	88.5	72.5	103	50.5	98.5	82.5												
ø40		85	49	107	87	95	59	117	97	106.5	49	107	87	116.5	59	117	97												
ø50		96	54	122	98	106	64	132	108	121.5	54	122	98	131.5	64	132	108												
ø63	Over 200 st	104	56	136	106	114	66	146	116	129.5	56	136	106	139.5	66	146	116												
ø80		123.5	63.5	163.5	133.5	133.5	73.5	173.5	143.5	157	63.5	163.5	133.5	167	73.5	173.5	143.5												
ø100		135	73	173	143	145	83	183	153	166.5	73	173	143	176.5	83	183	153												

*2: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
ø12	53.5	32	68	56	64	32	68	56
ø16	53.5	32	68	56	65.5	32	68	56

*3: LB cannot be selected when B + stroke is at or less than the stroke value below.

ø63: 69 or less

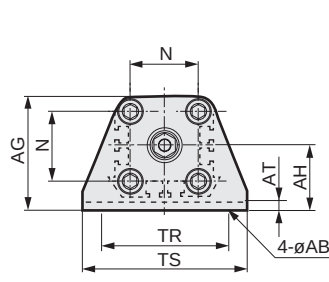
The same applies to variations not listed on this page.

Dimensions with accessories (Mounting bracket: LB2)

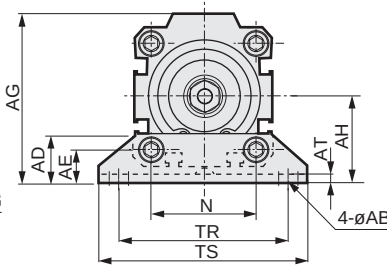
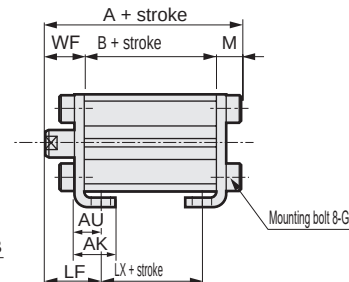


● ø12 to ø25

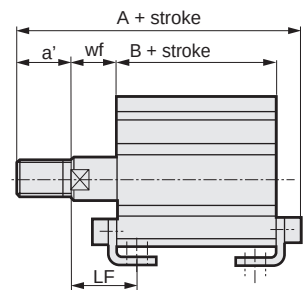
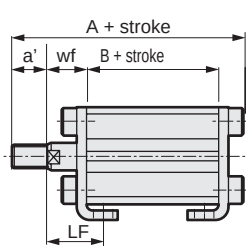
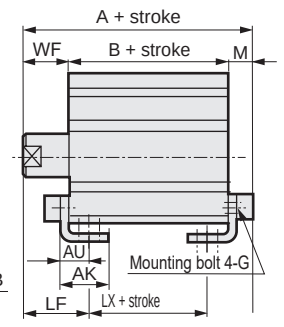
● ø32 to ø100



Rod end male thread



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions													Female thread						Male thread											
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	No switch			With switch *1			a'	wf	LF	No switch			With switch *1		
																	A	B	LX	A	B	LX				A	B	LX	A	B	LX
ø12	5	-	-	29.5	17	12.5	2	8	M4x10	15.5	34	44	6	13.5	19.5	36.5	17	5	41.5	22	10	10.5	13.5	19.5	47	17	5	52	22	10	
ø16	5	-	-	33.5	19	13	2	8	M4x10	20	38	48	6	13.5	19.5	36.5	17	5	41.5	22	10	12	13.5	19.5	48.5	17	5	53.5	22	10	
ø20	7	-	-	42	24	15	3.2	9.2	M6x16	25.5	48	62	9.2	14.5	20.5	43.2	19.5	7.5	53.2	29.5	17.5	14	14.5	20.5	57.2	19.5	7.5	67.2	29.5	17.5	
ø25	7	-	-	46	26	16.5	3.2	10.7	M6x16	28	52	66	9.2	15	22.5	46.7	22.5	7.5	56.7	32.5	17.5	17.5	15	22.5	64.2	22.5	7.5	74.2	32.5	17.5	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6x16	34	57	71	9.2	17	25	49.2	23	7	59.2	33	17	23.5	15	23	70.7	23	7	80.7	33	17	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6x16	40	64	78	9.2	17	25	55.7	29.5	13.5	65.7	39.5	23.5	23.5	15	23	77.2	29.5	13.5	87.2	39.5	23.5	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8x20	50	79	95	11.2	18	29.5	59.7	30.5	7.5	69.7	40.5	17.5	28.5	15	26.5	85.2	30.5	7.5	95.2	40.5	17.5	
ø63	11	26	16	91.5	46	25.2	3.2	16.2	M10x25	60	95	113	13.2	18	31	67.2	36	10	77.2	46	20	28.5	15	28	92.7	36	10	102.7	46	20	
ø80	13	31.5	20.5	114	59	30.5	4.5	19.5	M12x40	77	118	140	16.5	20	35	80	43.5	13.5	90	53.5	23.5	35.5	18	33	113.5	43.5	13.5	123.5	53.5	23.5	
ø100	13	35	24	136	71	35.5	6	23	M12x40	94	137	162	18	22	39	93	53	19	103	63	29	35.5	18	35	124.5	53	19	134.5	63	29	

*2: LB2 cannot be selected when B + stroke is at or less than the value below.
 ø20: 27 or less; ø63: 45 or less; ø80: 72 or less; ø100: 69 or less
 The same applies to variations not listed on this page.

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
ø12	46.5	27	15	57	27	15
ø16	46.5	27	15	58.5	27	15

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions													For female thread						*1 For male thread											
	Bore size (mm)	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	No switch			With switch *2			a'	wf	LF	No switch			With switch *2		
																	A	B	LX	A	B	LX				A	B	LX	A	B	LX
ø12	5	-	-	29.5	17	12.5	2	8	M4x10	15.5	34	44	6	13.5	19.5	41.5	22	10	46.5	27	15	10.5	13.5	19.5	52	22	10	57	27	15	
ø16	5	-	-	33.5	19	13	2	8	M4x10	20	38	48	6	13.5	19.5	41.5	22	10	46.5	27	15	12	13.5	19.5	53.5	22	10	58.5	27	15	
ø20	7	-	-	42	24	15	3.2	9.2	M6x16	25.5	48	62	9.2	14.5	20.5	48.2	24.5	12.5	58.2	34.5	22.5	14	14.5	20.5	62.2	24.5	12.5	72.2	34.5	22.5	
ø25	7	-	-	46	26	16.5	3.2	10.7	M6x16	28	52	66	9.2	15	22.5	51.7	27.5	12.5	61.7	37.5	22.5	17.5	15	22.5	69.2	27.5	12.5	79.2	37.5	22.5	
ø32	7	18.5	13	57	30	17	3.2	11.2	M6x16	34	57	71	9.2	17	25	59.2	33	17	69.2	43	27	23.5	15	23	80.7	33	17	90.7	43	27	
ø40	7	18	13	64	33	18.2	3.2	11.2	M6x16	40	64	78	9.2	17	25	65.7	39.5	23.5	75.7	49.5	33.5	23.5	15	23	87.2	39.5	23.5	97.2	49.5	33.5	
ø50	9	22	14	78	39	22.7	3.2	14.7	M8x20	50	79	95	11.2	18	29.5	69.7	40.5	17.5	79.7	50.5	27.5	28.5	15	26.5	95.2	40.5	17.5	105.2	50.5	27.5	
ø63	11	28	16	91.5	46	25.2	3.2	16.2	M10x25	60	95	113	13.2	18	31	77.2	46	20	87.2	56	30	28.5	15	28	102.7	46	20	112.7	56	30	
ø80	13	39.5	20.5	114	59	30.5	4.5	19.5	M12x40	77	118	140	16.5	20	35	90	53.5	23.5	100	63.5	33.5	35.5	18	33	123.5	53.5	23.5	133.5	63.5	33.5	
ø100	13	50	24	136	71	35.5	6	23	M12x40	94	137	162	18	22	39	103	63	29	113	73	39	35.5	18	35	134.5	63	29	144.5	73	39	

*1: For the long stroke, dimensions are as below.

Code		Female thread									Male thread								
		No switch			With switch			No switch			With switch								
Bore size (mm)		A	B	LX	A	B	LX	A	B	LX	A	B	LX						
ø20	Over 100 st	59.7	36	24	69.7	46	34	73.7	36	24	83.7	46	34						
ø25	Over 150 st	65.2	41	26	75.2	51	36	82.7	41	26	92.7	51	36						
ø32		66.7	40.5	24.5	76.7	50.5	34.5	88.2	40.5	24.5	98.2	50.5	34.5						
ø40		75.2	49	33	85.2	59	43	96.7	49	33	106.7	59	43						
ø50		83.2	54	31	93.2	64	41	108.7	54	31	118.7	64	41						
ø63	Over 200 st	87.2	56	30	97.2	66	40	112.7	56	30	122.7	66	40						
ø80		100	63.5	33.5	110	73.5	43.5	133.5	63.5	33.5	143.5	73.5	43.5						
ø100		113	73	39	123	83	49	144.5	73	39	154.5	83	49						

*2: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
ø12	51.5	32	20	62	32	20
ø16	51.5	32	20	63.5	32	20

*3: LB2 cannot be selected when B + stroke is at or less than the value below.
 ø80: 72 or less
 The same applies to variations not listed on this page.

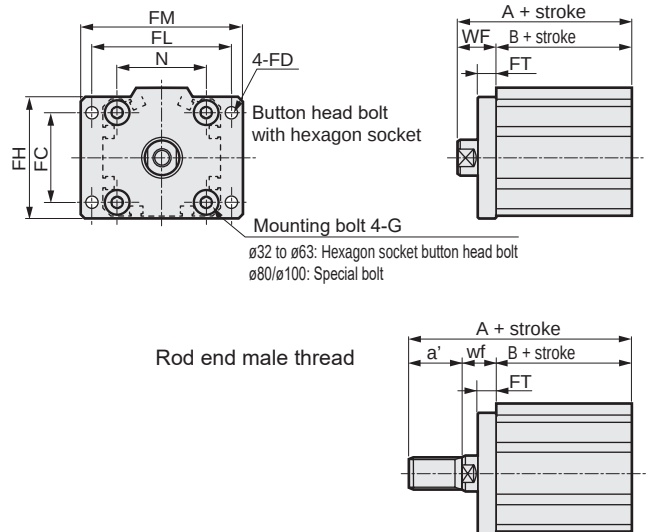
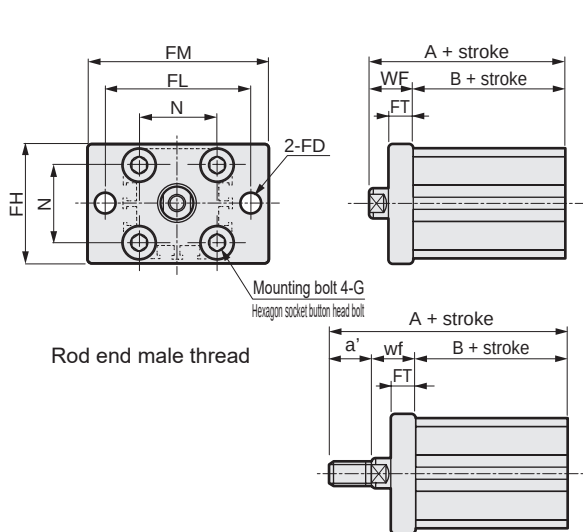
Note: The WF/wf dimension of the cylinder for LB2 is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and LB2 brackets.



Dimensions with accessories (Mounting bracket: FA)

● ø12 to ø25

● ø32 to ø100



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions								Female thread				Male thread			
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	No switch		With switch *1		a'	wf
CAT	ø12	-	4.5	25	45	55	5.5	15.5	M4x12	13.5	30.5	17	35.5	22	10.5	13.5
	ø16	-	4.5	30	45	55	5.5	20	M4x12	13.5	30.5	17	35.5	22	12	13.5
MDC2	ø20	-	6.6	39	48	60	8	25.5	M6x16	14.5	34	19.5	44	29.5	14	14.5
	ø25	-	6.6	42	52	64	8	28	M6x16	15	37.5	22.5	47.5	32.5	17.5	15
MVC	ø32	34	5.5	48	56	65	8	34	M6x16	17	40	23	50	33	23.5	15
	ø40	40	5.5	54	62	72	8	40	M6x16	17	46.5	29.5	56.5	39.5	23.5	15
SMG	ø50	50	6.6	67	76	89	9	50	M8x20	18	48.5	30.5	58.5	40.5	28.5	15
	ø63	60	9	80	92	108	9	60	M10x25	18	54	36	64	46	28.5	15
MSD/MSDG	ø80	77	11	99	116	134	11	77	M12x40	20	63.5	43.5	73.5	53.5	35.5	18
	ø100	94	11	117	136	154	11	94	M12x40	22	75	53	85	63	35.5	18

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread		Male thread	
	A	B	A	B
ø12	40.5	27	51	27
ø16	40.5	27	52.5	27

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions								For female thread				For male thread			
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	No switch		With switch *2		a'	wf
SRG3	ø12	-	4.5	25	45	55	5.5	15.5	M4x12	13.5	35.5	22	40.5	27	10.5	13.5
	ø16	-	4.5	30	45	55	5.5	20	M4x12	13.5	35.5	22	40.5	27	12	13.5
SRM3	ø20	-	6.6	39	48	60	8	25.5	M6x16	14.5	39	24.5	49	34.5	14	14.5
	ø25	-	6.6	42	52	64	8	28	M6x16	15	42.5	27.5	52.5	37.5	17.5	15
SRT3	ø32	34	5.5	48	56	65	8	34	M6x16	17	50	33	60	43	23.5	15
	ø40	40	5.5	54	62	72	8	40	M6x16	17	56.5	39.5	66.5	49.5	23.5	15
MRL2	ø50	50	6.6	67	76	89	9	50	M8x20	18	58.5	40.5	68.5	50.5	28.5	15
	ø63	60	9	80	92	108	9	60	M10x25	18	64	46	74	56	28.5	15
MRG2	ø80	77	11	99	116	134	11	77	M12x40	20	73.5	53.5	83.5	63.5	35.5	18
	ø100	94	11	117	136	154	11	94	M12x40	22	85	63	95	73	35.5	18

*1: For the long stroke, dimensions are as below.

Code	Female thread								Male thread			
	No switch		With switch		No switch		With switch		No switch		With switch	
Bore size (mm)	A	B	A	B	A	B	A	B	A	B	A	B
ø20	Over 100 st	50.5	36	60.5	46	64.5	36	74.5	46			
ø25	Over 150 st	56	41	66	51	73.5	41	83.5	51			
ø32		57.5	40.5	67.5	50.5	79	40.5	89	50.5			
ø40		66	49	76	59	87.5	49	97.5	59			
ø50	Over 200 st	72	54	82	64	97.5	54	107.5	64			
ø63		74	56	84	66	99.5	56	109.5	66			
ø80		83.5	63.5	93.5	73.5	117	63.5	127	73.5			
ø100		95	73	105	83	126.5	73	136.5	83			

*2: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread		Male thread	
	A	B	A	B
ø12	45.5	32	56	32
ø16	45.5	32	57.5	32

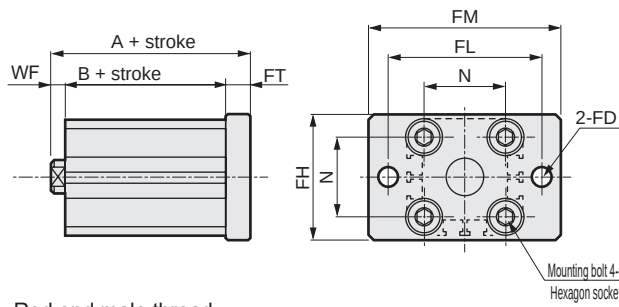
Note: The WF/wf dimension of the cylinder for FA is set 10 mm longer than that of standard products. Contact CKD for the cylinder model No. when ordering individual cylinders and FA brackets.

Dimensions with accessories (Mounting bracket: FB)

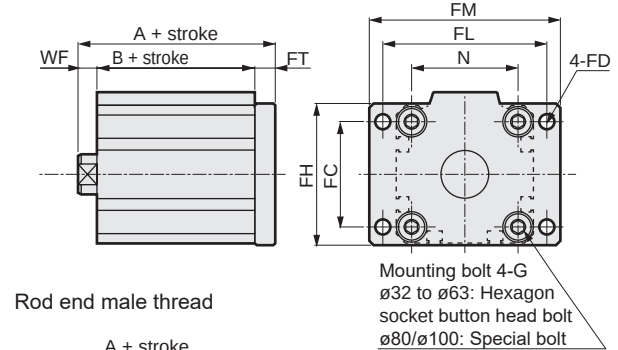
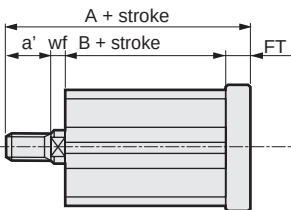


● $\varnothing 12$ to $\varnothing 25$

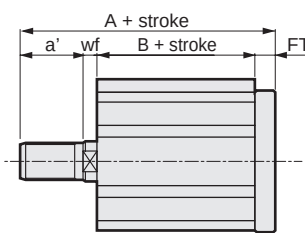
● $\varnothing 32$ to $\varnothing 100$



Rod end male thread



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions								Female thread					Male thread						
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	No switch		With switch *1		a'	wf	No switch		With switch *1	
											A	B	A	B			A	B	A	B
ø12	-	4.5	25	45	55	5.5	15.5	M4x12	3.5	26	17	31	22	10.5	3.5	36.5	17	41.5	22	
ø16	-	4.5	30	45	55	5.5	20	M4x12	3.5	26	17	31	22	12	3.5	38	17	43	22	
ø20	-	6.6	39	48	60	8	25.5	M6x16	4.5	32	19.5	42	29.5	14	4.5	46	19.5	56	29.5	
ø25	-	6.6	42	52	64	8	28	M6x16	5	35.5	22.5	45.5	32.5	17.5	5	53	22.5	63	32.5	
ø32	34	5.5	48	56	65	8	34	M6x16	7	38	23	48	33	23.5	5	59.5	23	69.5	33	
ø40	40	5.5	54	62	72	8	40	M6x16	7	44.5	29.5	54.5	39.5	23.5	5	66	29.5	76	39.5	
ø50	50	6.6	67	76	89	9	50	M8x20	8	47.5	30.5	57.5	40.5	28.5	5	73	30.5	83	40.5	
ø63	60	9	80	92	108	9	60	M10x25	8	53	36	63	46	28.5	5	78.5	36	88.5	46	
ø80	77	11	99	116	134	11	77	M12x40	10	64.5	43.5	74.5	53.5	35.5	8	98	43.5	108	53.5	
ø100	94	11	117	136	154	11	94	M12x40	12	76	53	86	63	35.5	8	107.5	53	117.5	63	

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread		Male thread	
	A	B	A	B
$\varnothing 12$	36	27	46.5	27
$\varnothing 16$	36	27	48	27

SSD-K (double acting/high load), SSD-K* $\varnothing$ C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions								For female thread					For male thread						
	Bore size (mm)	FC	FD	FH	FL	FM	FT	N	G	WF	No switch		With switch *2		a'	wf	No switch		With switch *2	
											A	B	A	B			A	B	A	B
ø12	-	4.5	25	45	55	5.5	15.5	M4x12	3.5	31	22	36	27	10.5	3.5	41.5	22	46.5	27	
ø16	-	4.5	30	45	55	5.5	20	M4x12	3.5	31	22	36	27	12	3.5	43	22	48	27	
ø20	-	6.6	39	48	60	8	25.5	M6x16	4.5	37	24.5	47	34.5	14	4.5	51	24.5	61	34.5	
ø25	-	6.6	42	52	64	8	28	M6x16	5	40.5	27.5	50.5	37.5	17.5	5	58	27.5	68	37.5	
ø32	34	5.5	48	56	65	8	34	M6x16	7	48	33	58	43	23.5	5	69.5	33	79.5	43	
ø40	40	5.5	54	62	72	8	40	M6x16	7	54.5	39.5	64.5	49.5	23.5	5	76	39.5	86	49.5	
ø50	50	6.6	67	76	89	9	50	M8x20	8	57.5	40.5	67.5	50.5	28.5	5	83	40.5	93	50.5	
ø63	60	9	80	92	108	9	60	M10x25	8	63	46	73	56	28.5	5	88.5	46	98.5	56	
ø80	77	11	99	116	134	11	77	M12x40	10	74.5	53.5	84.5	63.5	35.5	8	108	53.5	118	63.5	
ø100	94	11	117	136	154	11	94	M12x40	12	86	63	96	73	35.5	8	117.5	63	127.5	73	

*1: For the long stroke, dimensions are as below.

Code		Female thread				Male thread			
		No switch		With switch		No switch		With switch	
Bore size (mm)		A	B	A	B	A	B	A	B
ø20	Over 100 st	48.5	36	58.5	46	62.5	36	72.5	46
ø25	Over 150 st	54	41	64	51	71.5	41	81.5	51
ø32		55.5	40.5	65.5	50.5	77	40.5	87	50.5
ø40		64	49	74	59	85.5	49	95.5	59
ø50		71	54	81	64	96.5	54	106.5	64
ø63	Over 200 st	73	56	83	66	98.5	56	108.5	66
ø80		84.5	63.5	94.5	73.5	118	63.5	128	73.5
ø100		96	73	106	83	127.5	73	137.5	83

*2: When the stroke with switch is 5 mm, dimensions are as below.

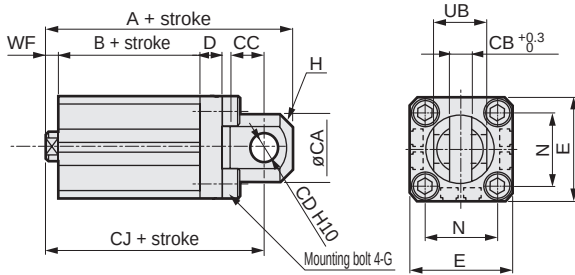
Bore size	Female thread		Male thread	
	A	B	A	B
$\varnothing 12$	41	32	51.5	32
$\varnothing 16$	41	32	53	32



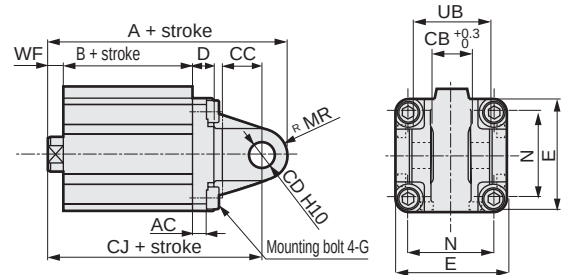
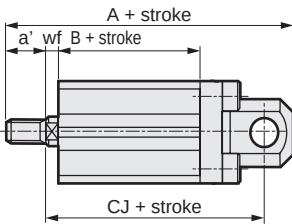
Dimensions with accessories (Mounting bracket: CB)

● ø12 to ø25

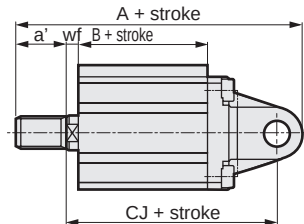
● ø32 to ø100



Rod end male thread



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions												Female thread						Male thread								
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	No switch			With switch *1			a'	wf	No switch			With switch *1		
Bore size (mm)														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
ø12	-	13.5	6.6	7	5	5	25	M4x12	C1.5	-	15.5	12 ^{+0.1 -0.4}	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
ø16	-	15	6.6	8	5	5	29	M4x12	C2	-	20	12 ^{+0.1 -0.4}	3.5	41.5	17	35.5	46.5	22	40.5	12	3.5	53.5	17	35.5	58.5	22	40.5
ø20	-	24	8.1	12	10	8	36	M6x20	C4	-	25.5	19 ^{+0.1 -0.4}	4.5	57	19.5	47	67	29.5	57	14	4.5	71	19.5	47	81	29.5	57
ø25	-	27.5	10.1	16	12	8	40	M6x20	C5	-	28	21 ^{+0.1 -0.4}	5	66.5	22.5	54.5	76.5	32.5	64.5	17.5	5	84	22.5	54.5	94	32.5	64.5
ø32	9.5	-	10.1	16	12	10	45	M6x20	-	12	34	21 ^{+0.1 -0.4}	7	72	23	60	82	33	70	23.5	5	93.5	23	58	103.5	33	68
ø40	6.5	-	18.1	18	12	10	52	M6x20	-	12	40	36 ^{+0.1 -0.4}	7	80.5	29.5	68.5	90.5	39.5	78.5	23.5	5	102	29.5	66.5	112	39.5	76.5
ø50	6.5	-	18.1	18	12	10	64	M8x20	-	12	50	36 ^{+0.1 -0.4}	8	82.5	30.5	70.5	92.5	40.5	80.5	28.5	5	108	30.5	67.5	118	40.5	77.5
ø63	7.5	-	20.1	24	14	10	77	M10x25	-	16	60	40 ^{+0.1 -0.4}	8	97	36	81	107	46	91	28.5	5	122.5	36	78	132.5	46	88
ø80	10.5	-	28.1	30	20	14	98	M12x40	-	20	77	56 ^{+0.1 -0.4}	10	125.5	43.5	105.5	135.5	53.5	115.5	35.5	8	159	43.5	103.5	169	53.5	113.5
ø100	10.5	-	28.1	30	20	16	118	M12x40	-	20	94	56 ^{+0.1 -0.4}	12	137	53	117	147	63	127	35.5	8	168.5	53	113	178.5	63	123

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ø12	50.5	27	44.5	61	27	44.5
ø16	51.5	27	45.5	63.5	27	45.5

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions												Female thread						Male thread								
Bore size (mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	No switch			With switch *2			a'	wf	No switch			With switch *2		
													A	B	CJ	A	B	CJ	A			B	CJ	A	B	CJ	
ø12	-	13.5	6.5 ^{+0.4 -0.1}	7	5	5	25	M4x12	C1.5	-	15.5	12 ^{+0.1 -0.4}	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
ø16	-	15	6.5 ^{+0.4 -0.1}	8	5	5	29	M4x12	C2	-	20	12 ^{+0.1 -0.4}	3.5	46.5	22	40.5	51.5	27	45.5	12	3.5	58.5	22	40.5	63.5	27	45.5
ø20	-	24	8 ^{+0.4 -0.1}	12	10	8	36	M6x20	C4	-	25.5	19 ^{+0.1 -0.4}	4.5	62	24.5	52	72	34.5	62	14	4.5	76	24.5	52	86	34.5	62
ø25	-	27.5	10 ^{+0.4 -0.1}	16	12	8	40	M6x20	C5	-	28	21 ^{+0.1 -0.4}	5	71.5	27.5	59.5	81.5	37.5	69.5	17.5	5	89	27.5	59.5	99	37.5	69.5
ø32	9.5	-	10 ^{+0.4 -0.1}	16	12	10	45	M6x20	-	12	34	21 ^{+0.1 -0.4}	7	82	33	70	92	43	80	23.5	5	103.5	33	68	135	43	78
ø40	6.5	-	18 ^{+0.4 -0.1}	18	12	10	52	M6x20	-	12	40	36 ^{+0.1 -0.4}	7	90.5	39.5	78.5	100.5	49.5	88.5	23.5	5	112	39.5	76.5	122	49.5	86.5
ø50	6.5	-	18 ^{+0.4 -0.1}	18	12	10	64	M8x20	-	12	50	36 ^{+0.1 -0.4}	8	92.5	40.5	80.5	102.5	50.5	90.5	28.5	5	118	40.5	77.5	128	50.5	87.5
ø63	7.5	-	20 ^{+0.4 -0.1}	24	14	10	77	M10x25	-	16	60	40 ^{+0.1 -0.4}	8	107	46	91	117	56	101	28.5	5	132.5	46	88	142.5	56	98
ø80	10.5	-	28 ^{+0.4 -0.1}	30	20	14	98	M12x40	-	20	77	56 ^{+0.1 -0.4}	10	135.5	53.5	115.5	145.5	63.5	125.5	35.5	8	169	53.5	113.5	179	63.5	123.5
ø100	10.5	-	28 ^{+0.4 -0.1}	30	20	16	118	M12x40	-	20	94	56 ^{+0.1 -0.4}	12	147	63	127	157	73	137	35.5	8	178.5	63	123	188.5	73	133

*1: For the long stroke, dimensions are as below.

Code		Female thread						Male thread					
		No switch			With switch *2			No switch			With switch *2		
Bore size (mm)		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
ø20	Over 100 st	80	36	63.5	83.5	46	73.5	87.5	36	63.5	97.5	46	73.5
ø25	Over 150 st	90	41	73	95	51	83	102.5	41	73	112.5	51	83
ø32		91.5	40.5	77.5	99.5	50.5	87.5	111	40.5	75.5	121	50.5	85.5
ø40		101	49	88	110	59	98	121.5	49	86	131.5	59	96
ø50		115	54	94	116	64	104	131.5	54	91	141.5	64	101
ø63	Over 200 st	138	56	101	127	66	111	142.5	56	98	152.5	66	108
ø80		147.5	63.5	125.5	155.5	73.5	135.5	179	63.5	123.5	189	73.5	133.5
ø100		173	73	137	167	83	147	188.5	73	133	198.5	83	143

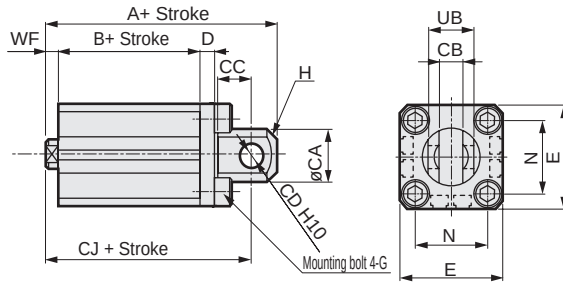
*2: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ø12	55.5	32	49.5	66	32	49.5
ø16	56.5	32	50.5	68.5	32	50.5

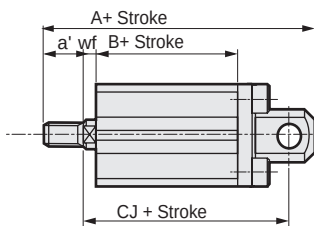
* A pin and a snap ring are included.

Accessory Dimensions (Mounting bracket:)

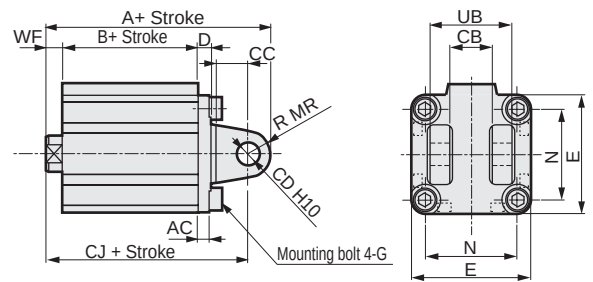
● ø12 to ø25



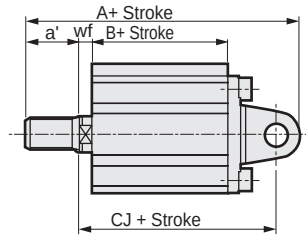
Rod end male thread



● ø32 to ø100



Rod end male thread



SSD (double acting/single rod), SSD-T (heat resistance), SSD-F (fine speed), SSD-0 (low speed) dimensions table

Code	Common dimensions												Female thread						Male thread								
Bore size(mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	No switch			With switch *1			a'	wf	No switch			With switch *1		
													A	B	CJ	A	B	CJ	A			B	CJ	A	B	CJ	
ø12	-	12	5.2 ^{+0.20}	7	5	4	25	M 4 x 12	C1.5	-	15.5	10 ^{+0.1 -0.3}	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
ø16	-	15	6.6 ^{+0.30}	8	5	5	29	M 4 x 12	C2	-	20	12 ^{+0.1 -0.4}	3.5	41.5	17	35.5	46.5	22	40.5	12	3.5	53.5	17	35.5	58.5	22	40.5
ø20	-	20	8.2 ^{+0.20}	12	8	5	36	M 6 x 16	C4	-	25.5	16 ^{+0.1 -0.3}	4.5	51	19.5	42	61	29.5	52	14	4.5	65	19.5	42	75	29.5	52
ø25	-	24	10.2 ^{+0.20}	14	10	5	40	M 6 x 16	C5	-	28	20 ^{+0.1 -0.3}	5	57.5	22.5	47.5	67.5	32.5	57.5	17.5	5	75	22.5	47.5	85	32.5	57.5
ø32	4.5	-	18.2 ^{+0.20}	14	10	5	45	M 6 x 16	-	10	34	36 ^{+0.1 -0.3}	7	60.5	23	50	70	33	60	23.5	5	81.5	23	48	91.5	33	58
ø40	5	-	18.2 ^{+0.20}	14	10	6	52	M 6 x 16	-	10	40	36 ^{+0.1 -0.3}	7	68.5	29.5	58.5	78.5	39.5	68.5	23.5	5	90	29.5	56.5	100	39.5	66.5
ø50	6	-	22.2 ^{+0.20}	20	14	7	64	M 8 x 20	-	14	50	44 ^{+0.1 -0.3}	8	80.5	30.5	66.5	90.5	40.5	76.5	28.5	5	106	30.5	63.5	116	40.5	73.5
ø63	7	-	22.2 ^{+0.20}	20	14	8	77	M 10 x 25	-	14	60	44 ^{+0.1 -0.3}	8	88	36	74	98	46	84	28.5	5	113.5	36	71	123.5	46	81
ø80	9	-	28.2 ^{+0.20}	27	18	10	98	M 12 x 40	-	18	77	56 ^{+0.1 -0.3}	10	109.5	43.5	91.5	119.5	53.5	101.5	35.5	8	143	43.5	89.5	153	53.5	99.5
ø100	12	-	32.2 ^{+0.20}	31	22	13	117	M 12 x 40	-	22	94	64 ^{+0.1 -0.3}	12	132	53	110	142	63	120	35.5	8	163.5	53	106	173.5	63	116

*1: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ø12	50.5	27	44.5	61	27	44.5
ø16	51.5	27	45.5	63.5	27	45.5

SSD-K (double acting/high load), SSD-K-*C (rubber-air cushioned), SSD-KF (high load/fine speed), SSD-KU (low friction) dimensions table

Code	Common dimensions												For female thread *1						For male thread *1									
Bore size(mm)	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	No switch			With switch *2			a'	wf	No switch			With switch *2			
													A	B	CJ	A	B	CJ	A			B	CJ	A	B	CJ		
ø12	-	12	5.2 ^{+0.20}	7	5	4	25	M 4 x 12	C1.5	-	15.5	10	12	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
ø16	-	15	6.6 ^{+0.30}	8	5	5	29	M 4 x 12	C2	-	20	12	12	3.5	46.5	22	40.5	51.5	27	45.5	12	3.5	58.5	22	40.5	63.5	27	45.5
ø20	-	20	8.2 ^{+0.20}	12	8	5	36	M 6 x 16	C4	-	25.5	16	16	4.5	56	24.5	47	66	34.5	57	14	4.5	70	24.5	47	80	34.5	57
ø25	-	24	10.2 ^{+0.20}	14	10	5	40	M 6 x 16	C5	-	28	20	20	5	62.5	27.5	52.5	72.5	37.5	62.5	17.5	5	80	27.5	52.5	90	37.5	62.5
ø32	4.5	-	18.2 ^{+0.20}	14	10	5	45	M 6 x 16	-	10	34	36	10	7	70	33	60	80	43	70	23.5	5	91.5	33	58	101.5	43	68
ø40	5	-	18.2 ^{+0.20}	14	10	6	52	M 6 x 16	-	10	40	36	10	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
ø50	6	-	22.2 ^{+0.20}	20	14	7	64	M 8 x 20	-	14	50	44	16	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
ø63	7	-	22.2 ^{+0.20}	20	14	8	77	M 10 x 25	-	14	60	44	16	8	98	46	84	108	56	94	28.5	5	123.5	46	81	133.5	56	91
ø80	9	-	28.2 ^{+0.20}	27	18	10	98	M 12 x 40	-	18	77	56	16	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
ø100	12	-	32.2 ^{+0.20}	31	22	13	117	M 12 x 40	-	22	94	64	16	12	142	63	120	152	73	130	35.5	8	173.5	63	116	183.5	73	126

*1: For the long stroke, dimensions are as below.

Code		Female thread						Male thread					
		No switch			With switch *2			No switch			With switch *2		
Bore size (mm)		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
ø20	Over 100 st	71	36	58.5	77.5	46	68.5	81.5	36	58.5	91.5	46	68.5
ø25	Over 150 st	78	41	66	86	51	76	93.5	41	66	103.5	51	76
ø32		79.5	40.5	67.5	87.5	50.5	77.5	99	40.5	65.5	109	50.5	75.5
ø40		99	49	78	98	59	88	109.5	49	76	119.5	59	86
ø50		106	54	90	114	64	100	129.5	54	87	139.5	64	97
ø63	Over 200 st	122	56	94	118	66	104	133.5	56	91	143.5	66	101
ø80		142.5	63.5	111.5	139.5	73.5	121.5	163	63.5	109.5	173	73.5	119.5
ø100		73	73	130	162	83	140	183.5	73	126	193.5	83	136

*2: When the stroke with switch is 5 mm, dimensions are as below.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ø12	55.5	32	49.5	66	32	49.5
ø16	56.5	32	50.5	68.5	32	50.5

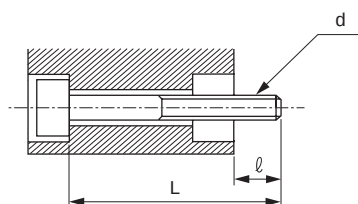
* A pin and a snap ring are attached.

How to order mounting bolts

SSD - BOLT - d x L

Mounting bolts (Bolts are available in units of 4 bolts per set.)

How to read the list



Material: Steel

Treatment: Black finish

d : Mounting bolt screw diameter

L : Mounting bolt length

l : Mating side screw-in available length

(Note) The mounting bolts will be displayed as d x L.

For SSD-

Model No.	ℓ	d x L	Model No.	ℓ	d x L	Model No.	ℓ	d x L
SSD-12- 5	6.5	M3x25	SSD-40- 5	6	M5x 35	SSD-100- 5	18	M10x 65
10		x30	10		x 40	10		x 70
15		x35	15		x 45	20		x 80
20		x40	20		x 50	30		x 90
25		x45	25		x 55	40		x100
30		x50	30		x 60	50		x110
SSD-16- 5	6.5	M3x25	40	11	x 70	SSD-125- 10	21	M12x 90
10		x30	50		x 80	20		x100
15		x35	SSD-50- 5		M6x 40	30		x110
20		x40	10		x 45	40		x120
25		x45	15		x 50	50		x130
30		x50	20		x 55	60		x140
SSD-20- 5	6	M5x25	25		x 60	70		x150
10		x30	30		x 65	80		x160
15		x35	40		x 75	90		x170
20		x40	50		x 85	100		x180
25		x45	SSD-63- 5	13	M8x 45	SSD-140- 10	21	M12 x100
30		x50	10		x 50	20		x110
SSD-25- 5	8	M5x30	20		x 60	30		x120
10		x35	30		x 70	40		x130
15		x40	40		x 80	50		x140
20		x45	50		x 90	60		x150
25		x50	SSD-80- 5	17.5	M10x 55	70		x160
30		x55	10		x 60	80		x170
40		x65	20		x 70	90		x180
50		x75	30		x 80	100		x190
SSD-32- 5	7.5	M5x30	40		x 90	SSD-160- 10	24.2	M14 x100
10		x35	50		x100	20		x110
15		x40				30		x120
20		x45				40		x130
25		x50				50		x140
30		x55				60		x150
40		x65				70		x160
50		x75				80		x170
						90		x180
						100		x190

SSD Series

List of mounting bolts

For SSD-L-

Model No.	ℓ	dxL
SSD-L-12- 5	6.5	M3x35
10		x35
15		x40
20		x45
25		x50
30		x55
SSD-L-16- 5	6.5	M3x35
10		x35
15		x40
20		x45
25		x50
30		x55
SSD-L-20- 5	6	M5x35
10		x40
15		x45
20		x50
25		x55
30		x60
SSD-L-25- 5	8	M5x40
10		x45
15		x50
20		x55
25		x60
30		x65
40		x75
50		x85
SSD-L-32- 5	7.5	M5x40
10		x45
15		x50
20		x55
25		x60
30		x65
40		x75
50		x85

Model No.	ℓ	dxL
SSD-L-40- 5	6	M5x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40	11	x 80
50		x 90
SSD-L-50- 5		M6x 50
10		x 55
15		x 60
20		x 65
25		x 70
30	13	x 75
40		x 85
50		x 95
SSD-L-63- 5		M8x 55
10		x 60
20		x 70
30	17.5	x 80
40		x 90
50		x100
SSD-L-80- 5		M10x 65
10		x 70
20		x 80
30		x 90
40		x100
50		x110

Model No.	ℓ	dxL
SSD-L-100- 5	18	M10x 75
10		x 80
20		x 90
30		x100
40		x110
50		x120
SSD-L-125- 10	21	M12x 90
20		x100
30		x110
40		x120
50		x130
60		x140
70	21	x150
80		x160
90		x170
100		x180
SSD-L-140- 10		M12 x100
20		x110
30	21	x120
40		x130
50		x140
60		x150
70		x160
80	24.2	x170
90		x180
100		x190
SSD-L-160- 10		M14 x100
20		x110
30		x120
40		x130
50		x140
60		x150
70		x160
80		x170
90		x180
100		x190

For SSD- $\frac{x}{y}$ -

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -12- 5	6.5	M3x25
10		x30
-16- 5		M3x25
10	6	x30
-20- 5		M5x25
10		x30

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -25- 5	8	M5x30
10		x35
-32- 5	7.5	M5x30
10		x35
-40-10	6	M5x40
20		x50

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -50-10	11	M6x45
20		x55

For SSD- $\frac{x}{y}$ -

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -12- 5	6.5	M3x35
10		x35
-16- 5		M3x35
10		x35
-20- 5	6	M5x35
10		x40

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -25- 5	8	M5x40
10		x45
-32- 5	7.5	M5x40
10		x45
-40-10	6	M5x50
20		x60

Model No.	ℓ	dxL
SSD- $\frac{x}{y}$ -50-10	11	M6x55
20		x65

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVP/IN2
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

SSD Series

SCP*3 For SSD-D-

	Model No.	ℓ	dxL
CMK2	SSD-D-12- 5	6.5	M3x30
	10		x35
	15		x40
CMA2	20		x45
	25		x50
	30		x55
SCM	SSD-D-16- 5	6.5	M3x30
	10		x35
SCG	15		x40
	20		x45
SCA2	25		x50
	30		x55
SCS2	SSD-D-20- 5	9.5	M5x35
	10		x40
	15		x45
CKV2	20		x50
	25		x55
CAV2/ COVPIN2	30		x60
SSD2	SSD-D-25- 5	9.5	M5x40
	10		x45
	15		x50
	20		x55
SSG	25		x60
	30		x65
SSD	40	10	x75
	50		x85
CAT	SSD-D-32- 5		M5x40
	10		x45
	15		x50
MDC2	20		x55
	25		x60
MVC	30	10	x65
	40		x75
	50		x85

Model No.	ℓ	dxL
SSD-D-40- 5	6.5	M5x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
	7.5	x 80
		x 90
SSD-D-50- 5		M6x 45
10		x 50
15		x 55
20		x 60
25	13	x 65
30		x 70
40		x 80
50		x 90
SSD-D-63- 5		M8x 50
10	12.5	x 55
20		x 65
30		x 75
40		x 85
50		x 95
SSD-D-80- 5		M10x 55
10	13	x 60
20		x 70
30		x 80
40		x 90
50		x100
SSD-D-100- 5		M10x 65
10	13	x 70
20		x 80
30		x 90
40		x100
50		x110

Model No.	ℓ	dxL
SSD-D-125- 10	21	M12x 90
20		x100
30		x110
40		x120
50		x130
60		x140
70	21	x150
80		x160
90		x170
100		x180
SSD-D-140- 10		M12 x100
20	24.2	x110
30		x120
40		x130
50		x140
60		x150
70		x160
80	24.2	x170
90		x180
100		x190
SSD-D-160- 10		M14 x100
20	24.2	x110
30		x120
40		x130
50		x140
60		x150
70		x160
80	24.2	x170
90		x180
100		x190

For SSD-DL-

MSD/ MSDG	Model No.	ℓ	d $\times$ L	
FC*	SSD-DL-12- 5	6.5	M3x 35	
	10		x 40	
	15		x 45	
STK	20		x 50	
	25		x 55	
	30		x 60	
SRL3	SSD-DL-16- 5	6.5	M3x 35	
SRG3	10		x 40	
	15		x 45	
	20		x 50	
SRM3	25		x 55	
	30		x 60	
	SRT3	SSD-DL-20- 5	9.5	M5x 45
10		x 50		
15		x 55		
MRL2	20	x 60		
	25	x 65		
	30	x 70		
MRG2	SSD-DL-25- 5	9.5		M5x 50
SM-25	10			x 55
	15			x 60
	20			x 65
ShkAbs	25			x 70
	30			x 75
	40	x 85		
FJ	50	14.5	x100	
FK	SSD-DL-32- 5	10	M5x 50	
	10		x 55	
	15		x 60	
Spd Contr	20		x 65	
	25		x 70	
	30		x 75	
Ending	40	15	x 85	
	50		x100	

Model No.	ℓ	dxL
SSD-DL-40- 5	6.5	M5x 55
10		x 60
15		x 65
20		x 70
25		x 75
30		x 80
40	7.5	x 90
50		x100
SSD-DL-50- 5		M6x 55
10		x 60
15		x 65
20		x 70
25	13	x 75
30		x 80
40		x 90
50		x100
SSD-DL-63- 5		M8x 60
10	18	x 65
20		x 75
30		x 85
40		x 95
50		x110
SSD-DL-80- 5		M10x 65
10	12.5	x 70
20		x 80
30		x 90
40		x100
50		x110
SSD-DL-100- 5		M10x 75
10	13	x 80
20		x 90
30		x100
40		x110
50		x120

Model No.	ℓ	dxL
SSD-DL-125- 10	21	M12x 90
20		x100
30		x110
40		x120
50		x130
60		x140
70	21	x150
80		x160
90		x170
100		x180
SSD-DL-140- 10		M12 x100
20	21	x110
30		x120
40		x130
50		x140
60		x150
70		x160
80	24.2	x170
90		x180
100		x190
SSD-DL-160- 10		M14 x100
20	24.2	x110
30		x120
40		x130
50		x140
60		x150
70		x160
80	24.2	x170
90		x180
100		x190

SSD Series

List of mounting bolts

For SSD-K-

Model No.	ℓ	dxL	Model No.	ℓ	dxL	Model No.	ℓ	dxL
SSD-K-12- 5	6.5	M3x 30	SSD-K-32- 10	12.5	M5x 50	SSD-K-63- 10	13	M8x 60
10		x 35	15		x 55	20		x 70
15		x 40	20		x 60	30		x 80
20		x 45	25		x 65	40		x 90
25		x 50	30		x 70	50		x100
30		x 55	40		x 80	60		x110
40		x 65	50		x 90	70		x120
50		x 75	60		x100	80		x130
SSD-K-16- 5	6.5	M3x 30	70		x110	90		x140
10		x 35	80		x120	100		x150
15		x 40	90		x130	SSD-K-80- 10	17.5	M10x 70
20		x 45	100		x140	20		x 80
25		x 50	SSD-K-40- 10	6	M5x 50	30		x 90
30		x 55	15		x 55	40		x100
40		x 65	20		x 60	50		x110
50		x 75	25		x 65	60		x120
SSD-K-20- 5	6	M5x 30	30		x 70	70		x130
10		x 35	40		x 80	80		x140
15		x 40	50		x 90	90		x150
20		x 45	60		x100	100		x160
25		x 50	70		x110	SSD-K-100- 10	18	M10x 80
30		x 55	80		x120	20		x 90
40		x 65	90		x130	30		x100
50		x 75	100		x140	40		x110
SSD-K-25- 10	8	M5x 40	SSD-K-50- 10	11	M6x 55	50		x120
15		x 45	15		x 60	60		x130
20		x 50	20		x 65	70		x140
25		x 55	25		x 70	80		x150
30		x 60	30		x 75	90		x160
40		x 70	40		x 85	100		x170
50		x 80	50	16	x 95			
60		x 90	60		x110			
70		x100	70		x120			
80		x110	80		x130			
90		x120	90		x140			
100		x130	100		x150			

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

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

SSD Series

SCP*3	For SSD-KL-								
CMK2	Model No.	ℓ	d×L	Model No.	ℓ	d×L	Model No.	ℓ	d×L
CMA2	SSD-KL-12- 5	6.5	M3x 35	SSD-KL-32- 10	12.5	M5x 60	SSD-KL-63- 10	13	M8x 70
SCM	10		x 40	15		x 65	20		x 80
SCG	15		x 45	20		x 70	30		x 90
SCA2	20		x 50	25		x 75	40		x100
SCS2	25		x 55	30		x 80	50		x110
CKV2	30		x 60	40		x 90	60		x120
CAV2/ COVPIN2	40		x 70	50		x100	70		x130
SSD2	50		x 80	60		x110	80		x140
SSG	SSD-KL-16- 5	6.5	M3x 35	70		x120	90		x150
SSD	10		x 40	80		x130	100		x160
CAT	15		x 45	90		x140	SSD-KL-80- 10	17.5	M10x 80
MDC2	20		x 50	100		x150	20		x 90
MVC	25		x 55	SSD-KL-40- 10	6	M5x 60	30		x100
SMG	30		x 60	15		x 65	40		x110
MSD/ MSDG	40		x 70	20		x 70	50		x120
FC*	50		x 80	25		x 75	60		x130
STK	SSD-KL-20- 5	6	M5x 40	30		x 80	70		x140
SRL3	10		x 45	40		x 90	80		x150
SRG3	15		x 50	50		x100	90		x160
SRM3	20		x 55	60		x110	100		x170
SRT3	25		x 60	70		x120	SSD-KL-100- 10	18	M10x 90
MRL2	30		x 65	80		x130	20		x100
MRG2	40		x 75	90		x140	30		x110
SM-25	50		x 85	100		x150	40		x120
ShkAbs	SSD-KL-25- 10	8	M5x 50	SSD-KL-50- 10	11	M6x 65	50		x130
FJ	15		x 55	15		x 70	60		x140
FK	20		x 60	20		x 75	70		x150
Spd Contr	25		x 65	25		x 80	80		x160
Ending	30		x 70	30		x 85	90		x170
	40		x 80	40		x 95	100		x180
	50		x 90	50		x110			
	60		x100	60		x120			
	70		x110	70		x130			
	80		x120	80	16	x140			
	90		x130	90		x150			
	100		x140	100		x160			

SSD Series

List of mounting bolts

For SSD-M-

Model No.	ℓ	dxL
SSD-M-12- 5	6.5	M3x30
10		x35
15		x40
20		x45
25		x50
30		x55
SSD-M-16- 5	6.5	M3x30
10		x35
15		x40
20		x45
25		x50
30		x55
SSD-M-20- 5	6	M5x30
10		x35
15		x40
20		x45
25		x50
30		x55
SSD-M-25- 5	8	M5x35
10		x40
15		x45
20		x50
25		x55
30		x60
40		x70
50		x80

For SSD-ML-

Model No.	ℓ	dxL
SSD-ML-12- 5	6.5	M3x40
10		x40
15		x45
20		x50
25		x55
30		x60
SSD-ML-16- 5	6.5	M3x40
10		x40
15		x45
20		x50
25		x55
30		x60
SSD-ML-20- 5	6	M5x40
10		x45
15		x50
20		x55
25		x60
30		x65
SSD-ML-25- 5	8	M5x45
10		x50
15		x55
20		x60
25		x65
30		x70
40		x80
50		x90

Model No.	ℓ	dxL
SSD-M-32- 5	7.5	M5x40
10		x45
15		x50
20		x55
25		x60
30		x65
40	6	x75
50		x85
SSD-M-40- 5	6	M5x40
10		x45
15		x50
20		x55
25		x60
30		x65
40	11	x75
50		x85
SSD-M-50- 5	11	M6x45
10		x50
15		x55
20		x60
25		x65
30		x70
40	11	x80
50		x90

Model No.	ℓ	dxL
SSD-M-63- 5	13	M8x50
10		x55
20		x65
30		x75
40		x85
50		x95

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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

For SSD-Q□□H/R

Model No.	ℓ	dxL
SSD-Q-16- 5	5.5	M3x 60
10		x 65
15		x 70
20		x 75
25	10.5	x 80
30		x 90
40		x100
50		When bolts are not available, screw-mount the body.
SSD-Q-20- 5	12.5	M5x 65
10		x 70
15		x 75
20		x 80
25		x 85
30		x 90
40		x100
50		x110

Model No.	ℓ	dxL
SSD-Q-25- 10	9.5	M5x 70
15		x 75
20		x 80
25		x 85
30		x 90
40		x100
50		x110
60		x120
70		x130
80		x140
90	13.5	x150
100		x160
SSD-Q-32- 10		M5x 80
15		x 85
20		x 90
25		x 95
30		x100
40		x110
50		x120
60		x130
70		x140
80		x150
90		x160
100		x170

Model No.	ℓ	dxL
SSD-Q-40- 10	10	M5x 90
15		x 95
20		x100
25		x105
30		x110
40		x120
50		x130
60		x140
70		x150
80		x160
90	12	x170
100		x180
SSD-Q-50- 10		M6x110
15		x115
20		x120
25		x125
30		x130
40		x140
50		x150
60		x160
70		x170
80		x180
90		x190
100		x200

Model No.	ℓ	dxL
SSD-Q-63- 10	19	M8x120
20		x130
30		x140
40		x150
50		x160
60		x170
70		x180
80		x190
90		x200
100		x210
SSD-Q-80- 10	12	M10x140
20		x150
30		x160
40		x170
50		x180
60		x190
70		x200
80		x210
90		x220
100		x230
SSD-Q-100- 10	12	M10x140
20		x150
30		x160
40		x170
50		x180
60		x190
70		x200
80		x210
90		x220
100		x230

For SSD-QL□□H/R

Model No.	ℓ	dxL
SSD-QL-16- 5	5.5	M3x 65
10		x 70
15		x 75
20		x 80
25	10.5	x 90
30		x 90
40		x100
50		When bolts are not available, screw-mount the body.
SSD-QL-20- 5	12.5	M5x 75
10		x 80
15		x 85
20		x 90
25		x 95
30		x100
40		x110
50		x120

Model No.	ℓ	dxL
SSD-QL-25- 10	9.5	M5x 80
15		x 85
20		x 90
25		x 95
30		x100
40		x110
50		x120
60		x130
70		x140
80		x150
90	13.5	x160
100		x170
SSD-QL-32- 10		M5x 90
15		x 95
20		x100
25		x105
30		x110
40		x120
50		x130
60		x140
70		x150
80		x160
90		x170
100		x180

Model No.	ℓ	dxL
SSD-QL-40- 10	10	M5x100
15		x105
20		x110
25		x115
30		x120
40		x130
50		x140
60		x150
70		x160
80		x170
90	12	x180
100		x190
SSD-QL-50- 10		M6x120
15		x125
20		x130
25		x135
30		x140
40		x150
50		x160
60		x170
70		x180
80		x190
90		x200
100		x210

Model No.	ℓ	dxL
SSD-QL-63- 10	19	M8x130
20		x140
30		x150
40		x160
50		x170
60		x180
70		x190
80		x200
90		x210
100		x220
SSD-QL-80- 10	12	M10x150
20		x160
30		x170
40		x180
50		x190
60		x200
70		x210
80		x220
90		x230
100		x240
SSD-QL-100- 10	12	M10x150
20		x160
30		x170
40		x180
50		x190
60		x200
70		x210
80		x220
90		x230
100		x240

MEMO

SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/ COVP/IN2
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 SSD Series

Design/selection

1. With heat resistant cylinder switch SSD-T1L

⚠ WARNING

■ Cylinder

At an ambient temperature of 150°C, external leakage will occur gradually after approximately 500,000 uses.

■ Heat resistant cylinder switch

Indicator uses LEDs. 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 turns OFF.

2. Rubber-air cushion with SSD-K-*C

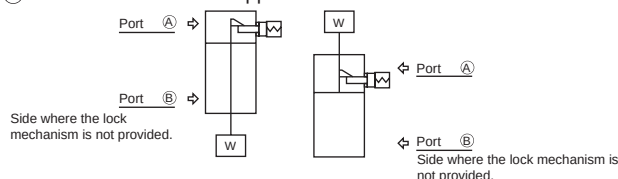
⚠ CAUTION

- Note that, structurally, the stroke end position cannot be retained if air supply is cut off. When detecting the stroke end by switch, set the switch position with pneumatic pressure applied, as otherwise the position may be out of the detection range.

3. Position locking SSD-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 lock mechanism, make sure to supply pressure to port (B). Check that load is not applied to the lock mechanism.



- 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. Position locking cylinder does 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 discrete 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.

4. Fine speed SSD-F/SSD-KF

⚠ CAUTION

■ Use without lubrication.

Applying lubrication may cause changes in characteristics.

■ Assemble the speed controller near the cylinder.

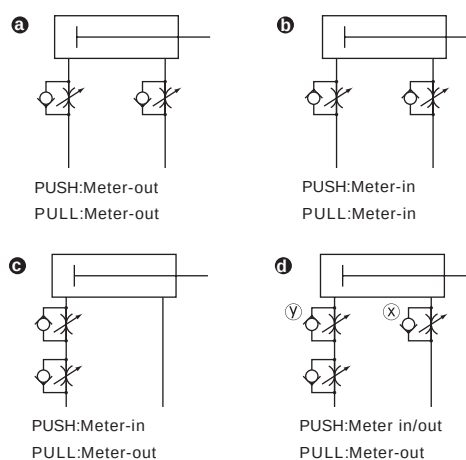
When installed far from the cylinder, the speed becomes unstable. Use SC-M3/M5, SC3W, SCD-M3/M5, SC3U Series speed controllers.

■ At the higher air pressure, the speed is more stable at lower load factor.

Use at a 50% or less load factor.

■ Stable 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.

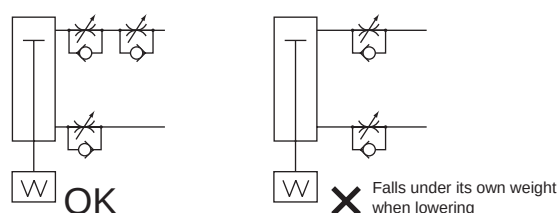


① Speed adjustment method for PUSH operation of (d) circuit:

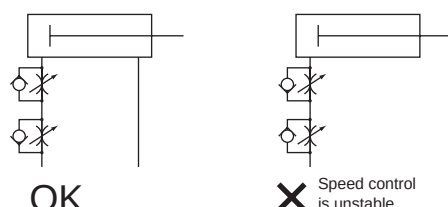
1. Set the speed with the speed controller x.
2. Restrict the speed with the speed controller y until there is no popping out.
3. Check the speed again.

(*1) When comparing (b) (c) (d), the circuit (d) is the most stable.

(*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.

5. Low friction SSD-KU

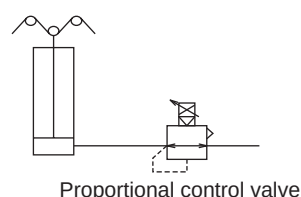
⚠ WARNING

- Durability differs based on working conditions and model characteristics.
This cylinder has internal leakage.
Refer to specifications (page 1184) for amount of leakage.

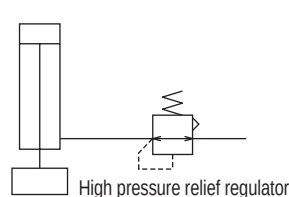
⚠ CAUTION

- 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.

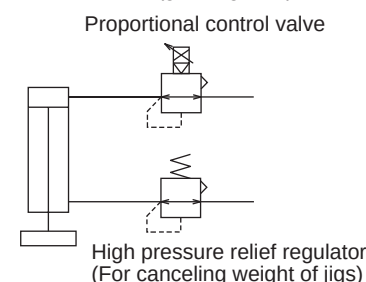
a Tension control (winding machine, etc.)



b Balancer (processing machine Z-axis, etc.)

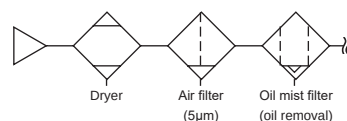


c Load control (grinding, etc.)



* 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 stabler 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 high load. The table on page 1336 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

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

Bore size (mm)	Allowable absorbed energy (J)	
	SSD-K	SSD-KU
ø12	0.04	-
ø16	0.09	-
ø20	0.16	
ø25	0.16	
ø32	0.40	
ø40	0.63	
ø50	0.98	
ø63	1.56	
ø80	2.51	
ø100	3.92	

$$\text{Kinetic energy (J)} = \frac{1}{2} \times \text{Weight (kg)} \times \{\text{Speed (m/s)}\}^2$$

(Note) Calculating kinetic energy

Average cylinder speed is $V_a = \frac{L}{T}$ is obtained with.

V_a : Average speed (m/s)

L : Cylinder stroke (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.

$$V_m = \frac{L}{T} \times (1 + 1.5 \times \frac{\omega}{100})$$

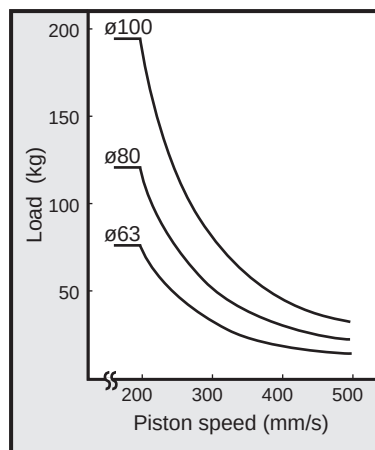
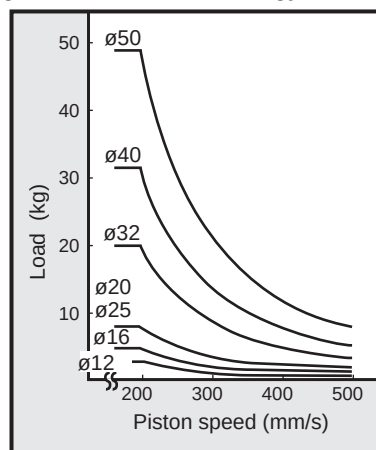
V_m : Speed immediately prior to stroke end (m/s)

ω : Cylinder load factor (%)

Use this V_m value as speed to calculate kinetic energy.

The following is a graph which shows the allowable energy values of the compact cylinder high load 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.

6. Coolant proof SSD-G2/G3 / SSD-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 coolant or water, use the G or G1 Series.
In the case that the G2 or G3 Series are not exposed to splattering of coolant 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.

7. Anti-spatter adherence SSD-G4/SSD-KG4/SSD-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.

Mounting, installation and adjustment

SCP*3

CMK2

CMA2

SCM

SCG

SCA2

SCS2

CKV2

CAV2/
COVP/IN2

SSD2

SSG

SSD

CAT

MDC2

MVC

SMG

MSD/
MSDG

FC*

STK

SRL3

SRG3

SRM3

SRT3

MRL2

MRG2

SM-25

ShkAbs

FJ

FK

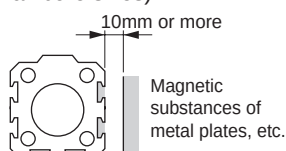
Spd
Contr

Ending

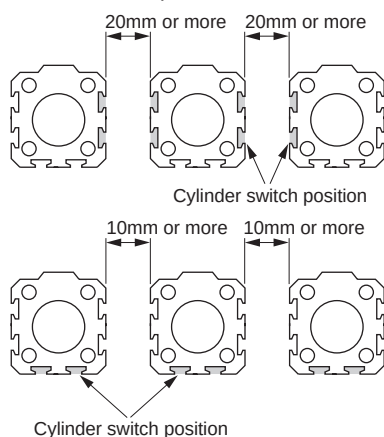
1. Common

⚠ CAUTION

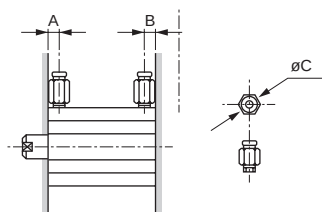
- The cylinder switch may malfunction if there is a magnetic substance such as a metal plate installed adjacently. Confirm that a distance of at least 10 mm is allocated from the surface of the cylinders. (Same clearance for all bore sizes)



- 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.



Item Bore size (mm)	Port size	Port position		Applicable fittings	Fitting O.D. øC	Inapplicable fittings
		A	B			
ø12	M5	5.5	5.5	SC3W-M5-4 SC3W-M5-6	ø11 or less	GWS6-M5
ø16			5.5	GWS4-M5-S		
ø20		8	5.5	GWS4-M5 GWL4-M5		
ø25		11	6	GWL6-M5		
ø32	Rc1/8	8	8	SC3W-6-4, 6, 8 GWS4-6 GWS6-6	ø15 or less	GWS10-6 GWL8-6 GWL10-6
ø40		12	8.5	GWS8-6 GWL4-6 GWL6-6		
ø50	Rc1/4	10.5	10.5	SC3W-8-6, 8, 10 GWS4-8 GWS6-8	ø21 or less	GWS12-8
ø63		13	11	GWS10-8 GWL4 to 12-8		
ø80	Rc3/8	16	13	SC3W-10-6, 8, 10 GWS6-10 GWS8-10	ø21 or less	-
ø100		23	15	GWS10-10 GWL6 to 12-10		

2. Single acting SSD-X/SSD-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 SSD-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 SSD-F/SSD-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 SSD-KU

⚠ CAUTION

- Perform adjustment such as centering so that 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.
 - For the long stroke type, the piston rod's own 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.

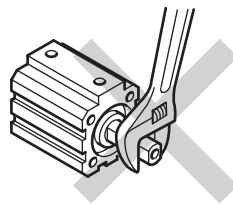
SCP*3
CMK2
CMA2
SCM
SCG
SCA2
SCS2
CKV2
CAV2/
COVPIN2
SSD2
SSG
SSD
CAT
MDC2
MVC
SMG
MSD/
MSDG
FC*
STK
SRL3
SRG3
SRM3
SRT3
MRL2
MRG2
SM-25
ShkAbs
FJ
FK
Spd
Contr
Ending

6. Rotation-stop SSD-M

⚠ 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.

- 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.



Use/maintenance

1. Common

⚠ WARNING

- Use appropriate pliers (C-snap ring mounting tool) to install and remove rod metal.
- Even in cases when appropriate pliers (C-snap ring mounting tool) are used, be careful as the snap ring may pop out at the tip of the pliers (C-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. Rubber-air cushioned SSD-K-*C

⚠ CAUTION

- Do not rapidly discharge air from the cylinder after performing low speed operation outside the catalog specifications range. (Example: Removing piping or coupler, etc.) The rubber air cushion may become detached. Be careful that the possibility of occurrence of this may increase especially when the air pressure is high.

3. Position locking SSD-Q

⚠ WARNING

- For safety purposes, prevent the load from falling under its own weight during maintenance.
- 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.

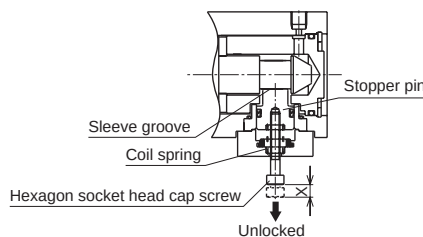
- Use the speed controller with meter-out.

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
ø16	M3x20	2.5
ø20	M3x20	3
ø25	M3x20	3
ø32	M3x20	3
ø40	M3x20	3
ø50	M4x30	4
ø63	M4x30	4
ø80	M4x30	4
ø100	M4x30	4

4. Low friction SSD-U

⚠ CAUTION

- Do not disassemble the product. Once disassembled, the performance may not be retained.
For this product, repair parts only are not available.

5. Coolant proof SSD-G2/G3 / SSD-KG2/KG3

⚠ CAUTION

- Smoking with hands smeared with the fluorine grease used for the G3 Series could generate harmful gases and cause physical harm.