●: Standard ◎: Option ○: Custom order, ■: Not available

Variation	Model no. JIS symbol	Bore size (mm)	Standard stroke length (mm) 5	10	15	20	25	30	40	Standard stroke length (mm) 50	60	70	80	90	100	Min. stroke length (mm)	Max. stroke length (mm)	Custom stroke length (per mm)	Option: Rod end male thread N	Custom stroke dedicating body S	Copper and PTFE free P6	Mounting bracket: Axial foot LB	Axial foot (Compact type) LB2	Clevis CB	Clevis (Compact type) CB2	Rod end flange FA	Head end flange FB	Switch	Page
Double acting single rod type with switch 2 color indicator, preventive maintenance switch	SSD SSD-L SSD-L1	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●		■	■	■	■	■	■	1	30	1	◎	◎	●	◎	◎	◎	◎	◎	◎	734
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	◎	●	◎	◎	◎	◎	◎	◎	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	◎	◎	◎	◎	◎	◎	◎	◎	
		ϕ125, ϕ140, ϕ160	■	●	■	●	■	●	●	●	●	●	●	●	●	10	300		◎	●	○	◎	◎	◎	◎	◎	◎	
Single acting extend type with switch 2 color indicator, preventive maintenance switch	SSD-X SSD-XL SSD-XL1	ϕ12, ϕ16, ϕ20	●	●	■	■	■	■	■	■	■	■	■	■	■	5	10	-	◎	■	●	◎	◎	◎	◎	◎	◎	758
		ϕ25, ϕ32	●	●	■	■	■	■	■	■	■	■	■	■	■		10		◎	■	●	◎	◎	◎	◎	◎	◎	
		ϕ40, ϕ50	■	●	■	●	■	■	■	■	■	■	■	■	■		20		◎	■	●	◎	◎	◎	◎	◎	◎	
Single acting retract type with switch 2 color indicator, preventive maintenance switch	SSD-Y SSD-YL SSD-YL1	ϕ12, ϕ16, ϕ20	●	●	■	■	■	■	■	■	■	■	■	■	■	5	10	-	◎	■	●	◎	◎	◎	◎	◎	◎	758
		ϕ25, ϕ32	●	●	■	■	■	■	■	■	■	■	■	■	■		10		◎	■	●	◎	◎	◎	◎	◎	◎	
		ϕ40, ϕ50	■	●	■	●	■	■	■	■	■	■	■	■	■		20		◎	■	●	◎	◎	◎	◎	◎	◎	
Double acting heat resistance type	SSD-T	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	■	◎	◎	◎	◎	◎	◎	770
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting heat resistance type with cylinder switch	SSD-T1L	ϕ16, ϕ20	■	●	●	●	●	●	■	■	■	■	■	■	■	7	30	1	◎	■	■	◎	◎	◎	◎	◎	◎	774
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
		ϕ63	■	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting position locking type with switch	SSD-Q SSD-QL	ϕ16, ϕ20	●	●	●	●	●	●	●	●	■	■	■	■	■	1	100	1	◎	■	○	◎	◎	◎	◎	◎	◎	790
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		200		◎	■	○	◎	◎	◎	◎	◎	◎	
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		300		◎	■	○	◎	◎	◎	◎	◎	◎	
Double acting fine speed type with switch 2 color indicator, preventive maintenance switch	SSD-F SSD-LF SSD-L1F	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	■	◎	◎	◎	◎	◎	◎	802
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting low speed type with switch 2 color indicator, preventive maintenance switch	SSD-O SSD-OL SSD-OL1	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	■	◎	◎	◎	◎	◎	◎	808
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting double rod type with switch	SSD-D SSD-DL	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	●	◎	◎	■	■	◎	■	818
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	●	◎	◎	■	■	◎	■	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	◎	◎	◎	■	■	◎	■	
		ϕ125, ϕ140, ϕ160	■	●	■	●	■	●	●	●	●	●	●	●	●	10	300		◎	■	○	◎	◎	■	■	◎	■	
Double acting back to back type with switch	SSD-B SSD-BL SSD-BL1 (Symbol)	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	●	■	■	■	■	■	■	830
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	●	■	■	■	■	■	■	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	○	■	■	■	■	■	■	
Double acting two stage type with switch	SSD-W SSD-WL SSD-WL1 (Symbol)	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	●	■	■	■	■	■	■	840
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	●	■	■	■	■	■	■	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	○	■	■	■	■	■	■	
Double acting non-rotating type with switch 2 color indicator, preventive maintenance switch	SSD-M SSD-ML SSD-ML1	ϕ12, ϕ16, ϕ20, ϕ25	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	●	◎	◎	◎	◎	◎	◎	850
		ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
		ϕ63	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting / coolant proof type with switch	SSD-G2/G3 SSD-G2L/G3L	ϕ16, ϕ20	●	●	●	●	●	●	■	■	■	■	■	■	■	1	30	1	◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎	860
		ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■		50		◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎	
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎	
Double acting / spatter adherence prevention type with switch	SSD-G1/G4 SSD-G1L/G4L	ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■	1	50	1	◎	■	■	◎	◎	◎	◎	◎	◎	876
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	◎	◎	◎	◎	
Double acting double rod spatter adherence prevention type with switch	SSD-DG1/DG4 SSD-DG1L/DG4L	ϕ25, ϕ32, ϕ40, ϕ50	●	●	●	●	●	●	●	●	■	■	■	■	■	1	50	1	◎	■	■	◎	◎	■	■	◎	■	894
		ϕ63, ϕ80, ϕ100	●	●	■	●	■	●	●	●	■	■	■	■	■		50		◎	■	■	◎	◎	■	■	◎	■	

Note 1: With ϕ16 to ϕ25 structure, a foot fitting (LB, LB2) and flange fitting (FA) cannot be retrofit on the rod side. Assembly when the product is shipped is available as a custom-order.

SCP*2 CMK2 CMA2 SCM SCG SCA2 SCS CKV2 CA/OV2 SSD CAT MDC2 MVC SMD2 MSD* FC* STK ULK* JSK/M2 JSG JSC3 USSD USC JSB3 LMB STG STS/L LCS LCG LCM LCT LCY STR2 UCA2 HCM HCA SRL2 SRG SRM SRT MRL2 MRG2 SM-25 CAC3 UCAC RCC2 MFC SHC GLC Ending

<High load type>

●: Standard ◎: Option ○: Custom order ■: Not available

Variation	Model no. / JIS symbol	Bore size (mm)	Standard stroke length (mm) 5	10	15	20	25	30	40	50	60	Standard stroke length (mm) 70	80	90	100	Min. stroke length (mm)	Max. stroke length (mm)	Custom stroke length (per mm)	Option: Rod end male thread N	Custom stroke length dedicating body S	Copper and PTFE free P6	Mounting bracket: Axial foot LB	Axial foot (compact type) LB2	Clevis CB	Clevis (compact type) CB2	Rod end flange FA	Head end flange FB	Switch	Page
Double acting single rod high load type with switch	SSD-K SSD-KL	ϕ12, ϕ16	●	●	●	●	●	●	●	●	■	■	■	■	■	1	100	1	◎	◎	●	◎	◎	◎	◎	◎	◎	748
		ϕ20	●	●	●	●	●	●	●	●	■	■	■	■	■		200		◎	◎	◎	◎	◎	◎	◎	◎		
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		300		◎	◎	◎	◎	◎	◎	◎	◎		
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		300		◎	◎	◎	◎	◎	◎	◎	◎		
Double acting rubber air cushioned	SSD-K-*C	ϕ20	●	●	●	●	●	●	●	●	●	●	●	●	●	5	200		◎	■	■	◎	◎	◎	◎	◎	◎	780
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		300	1	◎	■	○	◎	◎	◎	◎	◎		
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●	10	300		◎	■	○	◎	◎	◎	◎	◎		
Double acting high load type fine speed type with switch	SSD-KF SSD-KLF	ϕ12, ϕ16, ϕ20	●	●	●	●	●	●	●	●	■	■	■	■	■	1	100	1	◎	■	■	◎	◎	◎	◎	◎	◎	802
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		150		◎	■	■	◎	◎	◎	◎	◎		
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		200		◎	■	■	◎	◎	◎	◎	◎		
Double acting high load type low friction type with switch	SSD-KU SSD-KUL	ϕ20	●	●	●	●	●	●	●	●	■	■	■	■	■	1	200	1	◎	■	■	◎	◎	◎	◎	◎	◎	814
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		300		◎	■	■	◎	◎	◎	◎	◎		
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		300		◎	■	■	◎	◎	◎	◎	◎		
Double acting high load type coolant proof type with switch	SSD-KG2/KG3 SSD-KG2L/KG3L	ϕ16, ϕ20	●	●	●	●	●	●	●	●	■	■	■	■	■	1	100	1	◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎	◎	868
		ϕ25, ϕ32, ϕ40, ϕ50	■	●	●	●	●	●	●	●	●	●	●	●	●		150		◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎		
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		200		◎	■	○	◎ Note 1	◎ Note 1	◎	◎	◎ Note 1	◎		
Double acting high load type spatter adherence prevention type with switch	SSD-KG1/KG4 SSD-KG1L/KG4L	ϕ25, ϕ32	■	●	●	●	●	●	●	●	●	●	●	●	●	1	300	1	◎	■	■	◎	◎	◎	◎	◎	◎	884
		ϕ40, ϕ50																										
		ϕ63, ϕ80, ϕ100	■	●	■	●	■	●	●	●	●	●	●	●	●		300		◎	■	■	◎	◎	◎	◎	◎		

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

Note 1: With ϕ16 to ϕ25 structure, a foot fitting (LB, LB2) and flange fitting (FA) cannot be retrofit on the rod side. Assembly when the product is shipped is available as a custom-order.

<With strong magnetic field proof switch>

Double acting single rod type with strong magnetic field proof switch	SSD-L4	ϕ40, ϕ50	■	■	■	●	■	●	●	●	■	■	■	■	■	20	50	1	◎	■	○	◎	◎	◎	◎	◎	◎	902
		ϕ63, ϕ80, ϕ100	■	■	■	●	■	●	●	●	■	■	■	■	■				◎	■	○	◎	◎	◎	◎	◎		
Double acting single rod type w/ strong magnetic field proof switch with coil scraper	SSD-G1L4	ϕ40, ϕ50	■	■	■	●	■	●	●	●	■	■	■	■	■	20	50	1	◎	■	■	◎	◎	◎	◎	◎	◎	908
		ϕ63, ϕ80, ϕ100	■	■	■	●	■	●	●	●	■	■	■	■	■				◎	■	■	◎	◎	◎	◎	◎		
Double acting high load type w/ strong magnetic field proof switch	SSD-KL4	ϕ40, ϕ50	■	■	■	●	■	●	●	●	●	●	●	●	●	20	150	1	◎	■	○	◎	◎	◎	◎	◎	◎	914
		ϕ63, ϕ80, ϕ100	■	■	■	●	■	●	●	●	●	●	●	●	●		200		◎	■	○	◎	◎	◎	◎	◎		
Double acting high load type w/ strong magnetic field proof switch with coil scraper	SSD-KG1L4	ϕ40, ϕ50	■	■	■	●	■	●	●	●	●	●	●	●	●	20	150	1	◎	■	■	◎	◎	◎	◎	◎	◎	920
		ϕ63, ϕ80, ϕ100	■	■	■	●	■	●	●	●	●	●	●	●	●		200		◎	■	■	◎	◎	◎	◎	◎		

Variation/option selection table

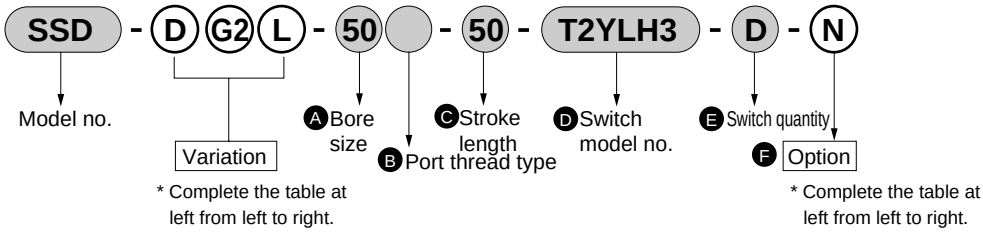
SSD (ϕ 100 or less)

◎ : Option
○ : Available (custom order)
△ : Available deppending on conditions (consult with CKD.)
X : Not available

Code		Code	Variation																				Port thread		Option					
			Double acting single rod type	Single acting extend type	Single acting retract types	Double acting double rod type	Back to back type	Two stage type	Position locking	Non-rotating type	Heat resistance type (120℃)	Low speed type	With rubber scraper	With metal scraper	(NBR) with coolant proof scraper	(FKM)with coolant proof scraper	Spatter adherence prevention type	With cylinder switch	With cylinder switch (strong magnetic field proof)	With cylinder switch (heat resistance)	Fine speed type	NPT (ϕ 32 to ϕ 100)	G (ϕ 32 to ϕ 100)		Piston rod material stainless steel	Piston rod end male thread	Copper and PTFE free type	Clean room specifications (exhaust treatment)	Clean room specifications (vacuum treatment)	Customized piston rod end form
		Symbol	No	X	Y	D	B	W	Q	M	T	O	G	G1	G2	G3	G4	L	L4	T1L	F	N	G		M	N	P6	P7	P71	N
Variation	Double acting single rod type	Blank																				○	○		◎	◎	◎	◎	◎	○
	Single acting extend type	X				△	○	X	X	△	○	X	△	△	△	△	△	◎	○	○	X	○	○		◎	◎	Note 5	X	X	○
	Single acting retract type	Y				X	○	X	X	△	○	X	△	△	△	△	△	◎	○	○	X	○	○		◎	◎	Note 5	X	X	△
	Double acting double rod type	D					X	X	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○		◎	◎	Note 6	○	○	○
	Back to back type	B						X	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○		◎	◎	Note 7	○	○	○
	Two stage type	W							X	○	○	○	△	△	△	△	△	◎	○	○	○	○	○		◎	◎	Note 7	○	△	○
	Position locking	Q								△	X	△	△	△	△	△	△	◎	○	X	△	○	○		○	◎	○	△	△	○
	Non-rotating type	M									X	○	X	X	X	X	X	◎	○	X	○	○	○		◎	◎	Note 1	○	○	○
	Heat resistance type (120℃)	T										X	X	○	X	X	X	X	X	Note 4	X	○	○		◎	◎	X	X	X	○
	Low speed type	O											X	X	X	X	X	◎	○	X	X	○	○		◎	◎	X	△	△	○
	With rubber scraper	G												X	X	X	X	○	○	X	X	○	○		○	○	○	X	X	○
	With metal scraper	G1													X	X	Note 7	◎	○	○	X	○	○		○	○	X	X	X	○
	With coolant proof scraper (NBR)	G2														X	X	◎	X	X	X	○	○		Note 2	◎	○	X	X	○
	With coolant proof scraper (FKM)	G3															X	◎	X	X	X	○	○		Note 2	◎	○	X	X	○
	Spatter adherence prevention type	G4																○	○	X	X	○	○		○	○	X	X	X	○
	With cylinder switch	L																	X	X	◎	○	○		◎	◎	◎	◎	◎	○
	With cylinder switch (strong magnetic field proof)	L4																		X	○	○	○		○	◎	○	○	○	○
	With cylinder switch (heat resistance)	T1L																			X	○	○		○	◎	X	X	X	○
	Fine speed type	F																				○	○		○	◎	X	○	○	○
Port thread	NPT (ϕ 32 to ϕ 100)	N																					X		X	○	○	○	○	○
	G (ϕ 32 to ϕ 100)	G																							X	○	○	○	○	○
Option	Piston rod material stainless steel (including C ring)	M																								◎	○	Note 3	Note 3	○
	Piston rod end male thread	N																									◎	◎	◎	X
	Copper and PTFE free type	P6																										X	X	○
	Clean room specifications (exhaust treatment)	P7																											X	○
	Clean room specifications (vacuum treatment)	P71																												○
	Customized piston rod end form	N																												
Accessory	Cylinder switch	Listed on another section	◎	◎	◎	◎	◎	◎	◎	◎	X	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○		◎	◎	◎	◎	◎	○
	Mounting bracket LB with bolt	LB	◎	◎	◎	◎	△	△	◎	◎	◎	◎	○	◎	Note 10	Note 10	◎	◎	◎	◎	◎	○	○		◎	◎	◎	△	△	○
	Mounting bracket LB2 with bolt	LB2	◎	◎	◎	◎	△	△	◎	◎	◎	◎	○	◎	Note 10	Note 10	◎	◎	◎	◎	◎	○	○		◎	◎	◎	△	△	○
	Mounting bracket C with bolt and pin	CB	◎	◎	◎	X	X	△	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○		◎	◎	◎	X	X	○
	Mounting bracket CB2 with bolt and pin	CB2	◎	◎	◎	X	X	△	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○		◎	◎	◎	X	X	○
	Rod end flange	FA	◎	◎	◎	◎	○	○	◎	◎	◎	◎	○	◎	Note 10	Note 10	◎	◎	◎	◎	◎	○	○		◎	◎	◎	△	△	○
	Head end flange	FB	◎	◎	◎	X	X	X	◎	◎	◎	◎	○	◎	◎	◎	◎	◎	◎	◎	◎	○	○		◎	◎	◎	△	△	○
	Installation bolt	Listed on another section	◎	◎	◎	◎	X	X	◎	◎	◎	◎	○	◎	△	△	◎	◎	◎	◎	◎	○	○		△	◎	◎	△	△	○

Cautions
Consult with CKD for the dimensions when variations and options are combined.
Note 1: The P6 specifications apply as a standard only for ϕ12 to 25. Not available for ϕ32 to 63
Note 2: When "G2" or "G3" is selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
Note 3: When "P7" or "P71" female threads are selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
A combination with "M" is required to use a stainless steel male rod nut.
Note 4: "T1L" has heat-resistant specifications.
Note 5: P6 specifications are applied even if not indicated.
Note 6: The P6 specifications are applied for ϕ12 to ϕ50. These are an option for ϕ63 to ϕ100.
Note 7: The P6 specifications are applied for ϕ12 to ϕ50. ϕ63 to ϕ80 are available as a custom-order.
Note 8: Refer to the Clean Component System (Catalog No. CB-033SA) for the clean specifications P7 and P71.
Note 9: The "G4" type has a structure which includes as a metal scraper.
Note 10: With ϕ16 to ϕ25 structure, a foot fitting (LB, LB2) and flange fitting (FA) cannot be retrofit on the rod side. Assembly when the product is shipped is available as a custom-order.

<Example of model number>



Model no.: Compact cylinder
Variation: Double rod coolant proof scraper type with switch
A Bore size: ϕ50 mm
B Port thread type: Rc thread
C Stroke length: 50 mm
D Switch model no.: Coolant proof, lead wire 3 m
E With switch quantity: Two
F Option: Rod end male thread

Note 1.For a back to back type, 2 cylinders are attached. In order to indicate variation, follow the procedures below.

When variation is only selected for S1, indicate a variation symbol before stroke length of S1.
(Example) SSD-B-32- M10-30: Only S1 is non-rotating type.

When variation is only selected for S2, indicate a variation symbol before stroke length of S2.
(Example) SSD-B-32-10- M30: Only S2 is non-rotating type.

When same variation is selected for S1 and S2, indicate a variation symbol before bore size.
(Example) SSD- MB-32-10-30: Both S1 and S2 are non-rotating type.

Variation/option selection table

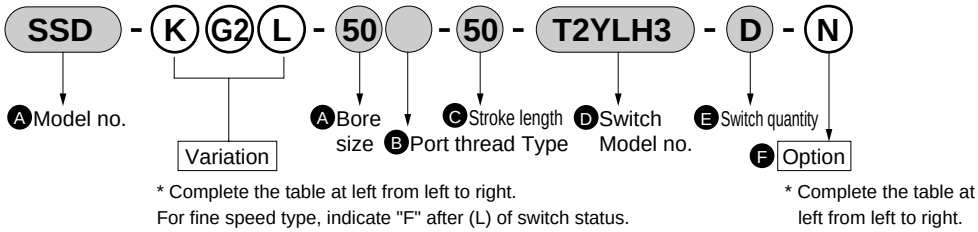
High load type SSD-K (ϕ 100 or less)

◎: Option
○: Available (custom order)
△: Available deppending on conditions (consult with CKD.)
X : Not available

Code		Code	Variation																		Port thread			Cushion				Option						
			Double acting high load type	Double acting double rod type	Back to back type	Two stage type	Non-rotating type	Heat resistance type (120℃)	Low speed type	Low friction type	With rubber scraper	With metal scraper	(NBR) with coolant proof scraper	(FKM) with coolant proof scraper	Spatter adherence prevention type	With cylinder switch	With cylinder switch (strong magnetic field proof)	With cylinder switch (heat resistance)	Fine speed type	NPT (ϕ32 to ϕ100)	G (ϕ32 to ϕ100)		Rubber-air cushioned			Piston rod material stainless steel	Piston rod end male thread	Copper and PTFE free type	Clean room specifications (exhaust treatment)	Clean room specifications (vacuum treatment)	Customized piston rod end form			
		Symbol	K	D	B	W	M	T	0	U	G	G1	G2	G3	G4	L	L4	T1L	F	N	G		C			M	N	P6	P7	P71	N			
Variation	Double acting high load type	K		○	○	○	○	○	○	◎	○	◎	◎	○	○	◎	◎	○	○	○	○		◎			◎	◎	◎	◎	◎	○			
	Double acting double rod type	D			X	X	○	○	○	X	○	○	○	○	○	○	○	○	○	○	○		○			○	○	○	○	○	○			
	Back to back type	B				X	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		○			○	○	○	○	○	○			
	Two stage type	W					○	○	○	X	△	△	△	△	△	○	○	○	○	○	○		X			○	○	○	○	△	○			
	Non-rotating type	M						X	○	X	X	X	X	X	X	○	○	X	○	○	○		○			○	○	Note 1	○	○	○			
	Heat resistance type (120℃)	T							X	X	X	○	X	X	X	X	X	Note 4	X	○	○		X			○	○	X	X	X	○			
	Low speed type	O								X	X	X	X	X	X	○	○	X	X	○	○		○			○	○	X	○	○	○			
	Low friction type	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	Note 9	◎	○	○	○	○	○		○			○	○	X	X	X	○			
	With coolant proof scraper (NBR)	G2												X	X	◎	X	X	X	○	○		○			Note 2	◎	○	X	X	○			
	With coolant proof scraper (FKM)	G3													X	◎	X	X	X	○	○		X			Note 2	◎	○	X	X	○			
	Spatter adherence prevention type	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 (heat resistance)	T1L																	X	○	○		X			○	○	X	X	X	○			
	Fine speed type	F																		○	○		○			○	○	X	○	○	○			
Port thread	NPT (ϕ 32 to ϕ100)	N																			X		○			○	○	○	○	○	○			
	G (ϕ 32 to ϕ100)	G																					○			○	○	○	○	○	○			
Cushion	Rubber-air cushioned	C																								○	◎	○	○	○	○			
Option	Piston rod material stainless steel	M																									◎	○	Note 3	Note 3	○			
	Piston rod end male thread	N																										◎	○	○	X			
	Copper and PTFE free type	P6																											X	X	○			
	Clean room specifications (exhaust treatment)	P7																												X	○			
	Clean room specifications (vacuum treatment)	P71																													○			
	Customized piston rod end form	N**																																
Accessory	Cylinder switch	Listed on another section	◎	○	○	○	○	X	○	◎	○	◎	◎	◎	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	○	○	○			
	Mounting bracket LB with bolt	LB	◎	○	△	△	○	○	○	◎	○	◎	Note 10	Note 10	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	△	△	○			
	Mounting bracket LB2 with bolt	LB2	◎	○	△	△	○	○	○	◎	○	◎	Note 10	Note 10	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	△	△	○			
	Mounting bracket CB with bolt and pin	CB	◎	X	X	△	○	○	○	◎	○	◎	◎	◎	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	X	X	○			
	Mounting bracket CB2 with bolt and pin	CB2	◎	X	X	△	○	○	○	◎	○	◎	◎	◎	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	X	X	○			
	Rod end flange	FA	◎	○	○	○	○	○	○	◎	○	◎	Note 10	Note 10	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	△	△	○			
	Head end flange	FB	◎	X	X	X	○	○	○	◎	○	◎	◎	◎	◎	◎	◎	○	◎	○	○		◎			◎	◎	◎	△	△	○			
	Installation bolt	Listed on another section	◎	○	X	X	○	○	○	◎	○	◎	△	◎	◎	◎	◎	○	◎	○	○		◎			△	◎	◎	△	△	○			

Cautions
Consult with CKD for the dimensions when variations and options are combined.
Note 1: Available for ϕ 12 to 25. Not available for ϕ32 to 63
Note 2: When "G2" or "G3" is selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
Note 3: When "P7" or "P71" female threads are selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
A combination with "M" is required to use a stainless steel male rod nut.
Note 4: "T1L" has heat-resistant specifications.
Note 5: Heat resistance type is without rubber cushion.
Note 6: If the standard stroke is exceeded, the double rod type is available as a standard double rod type instead of a high load type.
Note 7: The two-step type is available as a high load type only for the S1 side cylinder.
Note 8: Refer to the Clean Component System (Catalog No. CB-033SA) for the clean specifications P7 and P71.
Note 9: The "G4" type has a structure which includes as a metal scraper.
Note 10: With ϕ16 to ϕ25 structure, a foot fitting (LB, LB2) and flange fitting (FA) cannot be retrofit on the rod side. Assembly when the product is shipped is available as a custom-order.

<Example of model number>



Model no.: Compact cylinder
Variation: High load, coolant proof scraper type with switch
A Bore size: ϕ 50 mm
B Port thread type: Rc thread
C Stroke length: 50 mm
D Switch model no.: Coolant proof, lead wire 3 m
E With switch quantity: Two
F Option: Rod end male thread

Note 1.For a back to back type, 2 cylinders are attached. In order to indicate variation, follow the procedures below.
When variation is only selected for S1, indicate a variation symbol before stroke length of S1.
(Example) SSD-B-32- K100-30: Only S1 is high load type.

When variation is only selected for S2, indicate a variation symbol before stroke length of S2.
(Example) SSD-B-32-30- K100: Only S2 is high load type.

When same variation is selected for S1 and S2, indicate a variation symbol before bore size.
(Example) SSD- KB-32-30-100: Both S1 and S2 are high load type.

Variation/option selection table

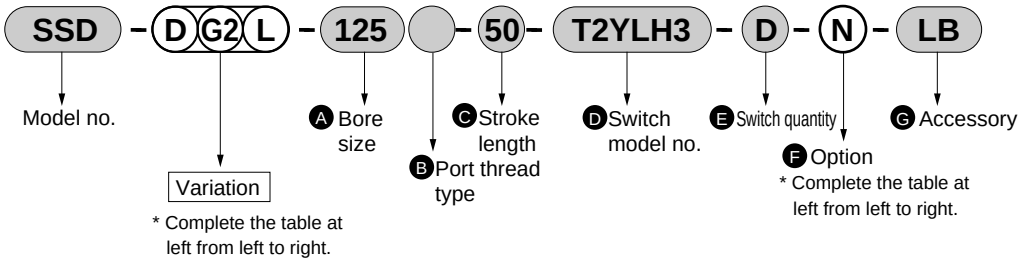
SSD (ϕ 125 and over)

◎: Option
○: Available (custom order)
△: Available deppending on conditions (consult with CKD.)
X : Not available

Code		Code	Variation												Port thread			Option						
			Double acting single rod type	Double acting double rod type	Back to back type	Two stage type	Heat resistance type (120℃)	Low speed type	With rubber scraper	With metal scraper	(NBR) with coolant proof scraper	(FKM) with coolant proof scraper	With cylinder switch	Fine speed type	NPT	G		Piston rod material stainless steel	Piston rod and C ring material stainless steel	Piston rod end male thread	Copper and PTFE free type	Clean room specifications (exhaust treatment)	Clean room specifications (vacuum treatment)	Customized piston rod end form
		Symbol	No	D	B	W	T	O	G	G1	G2	G3	L	F	N	G		M	M1	N	P6	P7	P71	N
Variation	Double acting single rod type	Blank			○	○	○	○	○	○	○	○		○	○	○		○	○	◎	○	○	○	○
	Double acting double rod type	D			X	X	○	○	○	○	○	○	◎	○	○	○		○	○	◎	○	○	○	○
	Back to back type	B				X	○	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○	○
	Two stage type	W					○	○	△	△	△	△	○	○	○	○		○	○	○	○	○	△	○
	Heat resistance type (120℃)	T						X	X	○	X	X	X	X	○	○		○	○	○	X	X	X	○
	Low speed type	O							X	X	X	X	○	X	○	○		○	○	○	X	○	○	○
	With rubber scraper	G								X	X	X	○	X	○	○		○	○	○	○	X	X	○
	With metal scraper	G1									X	X	○	X	○	○		○	○	○	X	X	X	○
	With coolant proof scraper (NBR)	G2										X	○	X	○	○		Note 1	○	○	○	X	X	○
	With coolant proof scraper (FKM)	G3											○	X	○	○		Note 1	○	○	○	X	X	○
	With cylinder switch	L												○	○	○		○	○	◎	○	○	○	○
	Fine speed type	F													○	○		○	○	○	X	○	○	○
Port thread	NPT	N														X		○	○	○	○	○	○	○
	G	G																○	○	○	○	○	○	○
Option	Piston rod material stainless steel	M																	X	○	○	Note 2	Note 2	○
	Piston rod and C ring material stainless steel	M1																		○	○	○	○	○
	Piston rod end male thread	N																			○	○	○	X
	Copper and PTFE free type	P6																				X	X	○
	Clean room specifications (exhaust treatment)	P7																					X	○
	Clean room specifications (vacuum treatment)	P71																						○
	Customized piston rod end form	N																						
Accessory	Cylinder switch	Listed on another section	◎	◎	○	○	X	○	○	○	○	○	◎	○	○	○		○	○	◎	○	○	○	○
	Mounting bracket LB with bolt	LB	◎	○	△	△	○	○	○	○	△	△	◎	○	○	○		○	○	◎	○	△	△	○
	Mounting bracket CB with bolt and pin	CB	◎	X	X	△	○	○	○	○	△	△	◎	○	○	○		○	○	◎	○	X	X	○
	Installation bolt	Listed on another section	◎	○	X	X	○	○	○	○	△	△	◎	○	○	○		△	△	◎	○	△	△	○

Cautions
Consult with CKD for the dimensions when variations and options are combined.
Note 1: When "G2" or "G3" is selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
Note 2: When "P7" or "P71" is selected, the material for the piston rod and C ring is stainless steel. Symbol "M" is not required.
A combination with "M" is required to use a stainless steel male rod nut.
Note 3: Refer to the Clean Component System (Catalog No. CB-033SA) for the clean specifications P7 and P71.

<Example of model number>



Model no.: Compact cylinder

● Variation: Double rod coolant proof scraper type with switch

Ⓐ Bore size : ϕ125 mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 50 mm
Ⓓ Switch model no. : Switch for proximity coolant proof, lead wire 3 m
Ⓔ Switch quantity : 2
Ⓕ Option : Rod end male thread
Ⓖ Accessory : Axial foot

Note 1.For a back to back type, 2 cylinders are attached. In order to indicate variation, follow the procedures below.

When variation is only selected for S1, indicate a variation symbol before stroke length of S1.
(Example) SSD-B-125-010-30: Only S1 is low speed type.

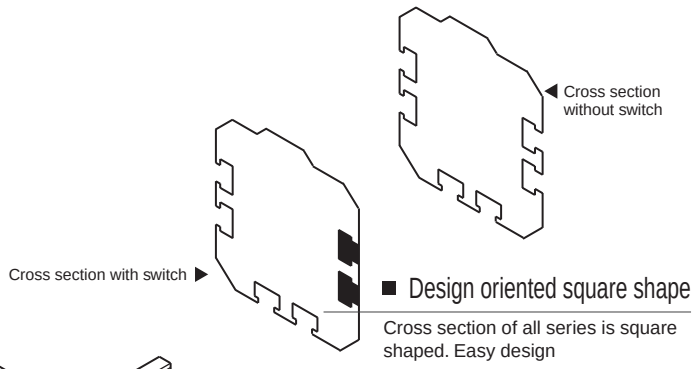
When variation is only selected for S2, indicate a variation symbol before stroke length of S2.
(Example) SSD-B-125-10-030: Only S2 is low speed type.

When same variation is selected for S1 and S2, indicate a variation symbol before bore size.
(Example) SSD-B0-125-10-30: Both S1 and S2 are low speed type.

Switch integrated design

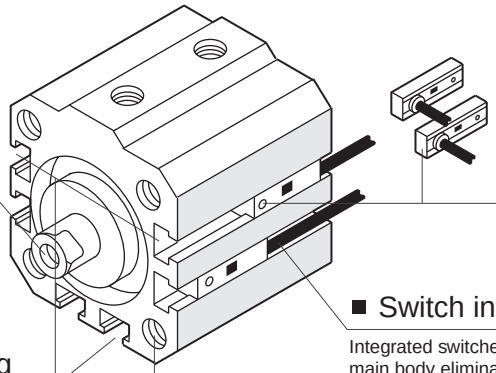
Miniature switches are simply integrated into main body.
Space saving compact cylinder.
Compact cylinder
(ϕ 12 to ϕ 160)

Switch can be installed from 3 sides.



■ Design oriented square shape

Cross section of all series is square shaped. Easy design



■ Easy installation to fixture, etc

Rod end female thread is standard.
Male thread type is available.

■ Wide switch variations

Both proximity and reed types are available.
For lead wire fetch direction, radial and axial types are available.

■ Switch integrated

Integrated switches into grooves on main body eliminate projecting sections.
This realized a simple and compact body.
(T2Y*/T3Y* is excluded.)

■ Possible with 3 chamfering

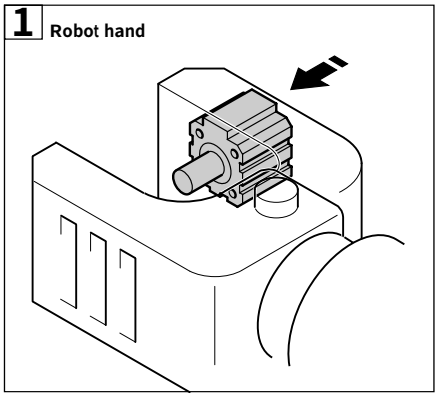
Cylinder switch can be installed on 3 different surfaces.

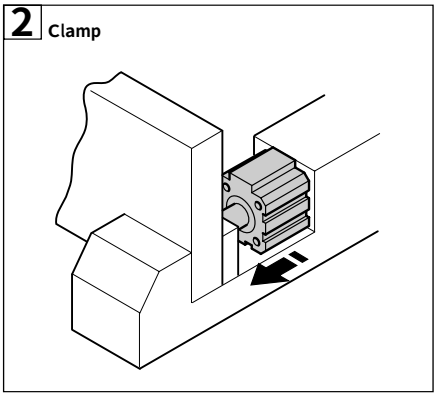
■ Fixing hole

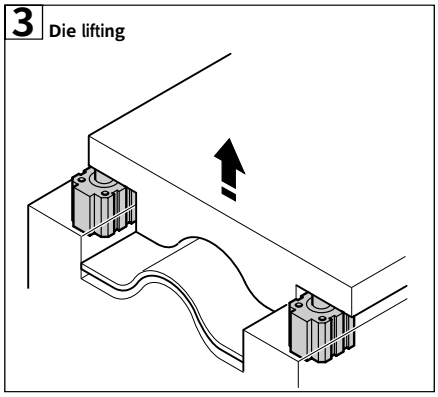
Both through bolt and threaded are available.

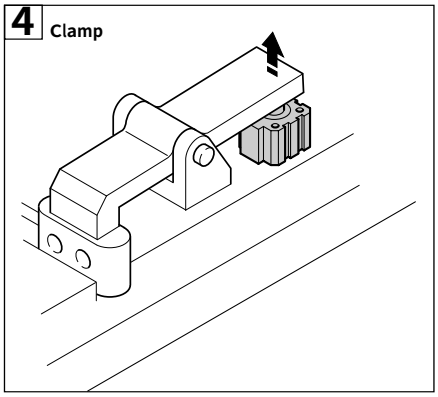
* 4 sides cylinder switch mounting is also available. Refer to page 930 for details.

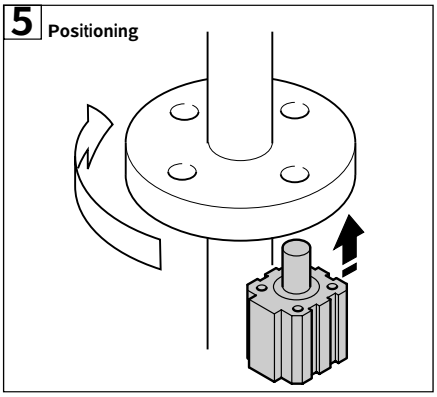
Applications

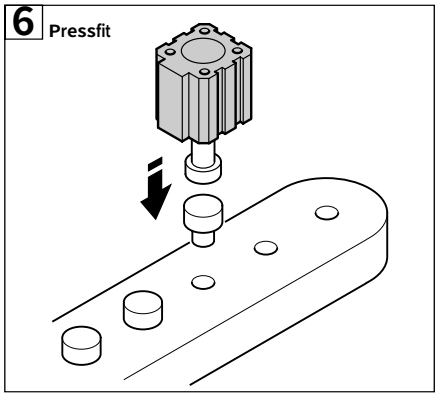


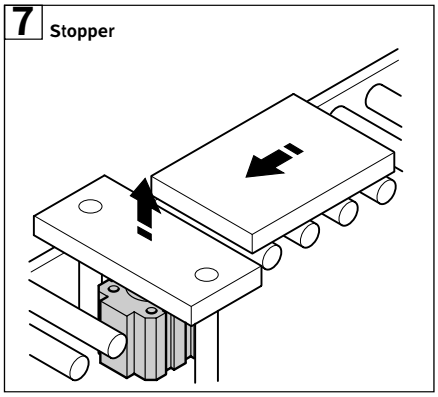


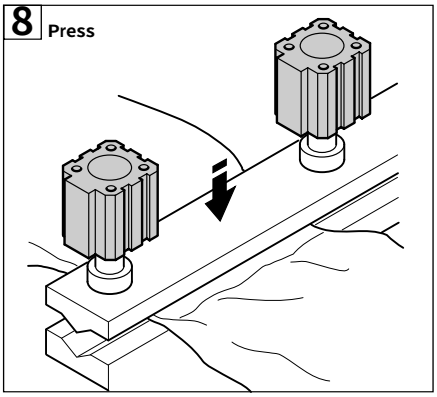


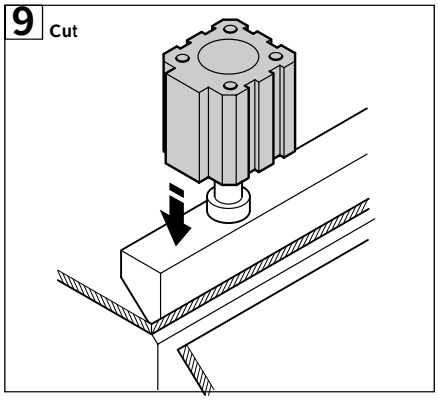












Pneumatic components

Safety precautions

Always read this section before starting use.
Refer to Intro 71 for general notes of cylinders and Intro 78 for cylinder switches.

Compact cylinder SSD Series

Design & Selection

1. SSD-T1L with heat resistance cylinder switch

⚠ WARNING

■ Cylinder

External leakage occurs gradually after 500 thousand cycles at ambient temperature 150 ℃.

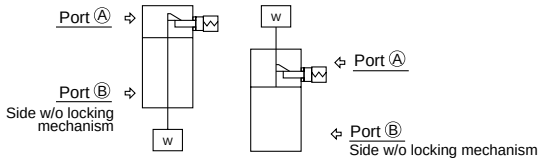
■ Heat resistance cylinder switch

LED is used for a light.
Using this product at high temperature gradually decreases visibility. Even LED does not light, the switch output circuit works correctly because the switch output line is separated.

2. Position locking type SSD-Q

⚠ WARNING

■ If pressure is supplied to port (A) in the locked state with neither port pressurized, locks may not be releasable or may be released suddenly, causing the piston rod to pop out, which is extremely dangerous.
When releasing locking mechanism, always supply pressure to Port (B) and confirm the state if no load is applied to the locking mechanism before releasing the lock.



■ If lowering speed is to be increased with the quick exhaust valve, the cylinder may move out faster than the lock pin and prevent the locking pin from being released correctly. Do not use a quick exhaust valve with the cylinder with position locking.

■ Do not use a 3-position valve.

Do not use this together with 3-position solenoid valve (especially with closed center metal seal type). This kind of use closes the pressure at the locking mechanism side, and is unable to lock the position. Even if the lock is applied, air leaking from the valve may enter the cylinder or the lock may be released over 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 could be damaged.

■ If back pressure is applied to the locking mechanism, the lock may be released. Use the solenoid valve as a discrete unit, or use an independently exhausted manifold.

■ Do not use multiple cylinders synchronized.

Do not move one workpiece using more than one position locking cylinders synchronized. One of the cylinder's locks may not be released.

3. Fine speed type SSD-F/SSD-KF

⚠ CAUTION

■ Use by oil-free.

The characteristics will vary if lubricates.

■ Assemble the flow control valve near cylinder.

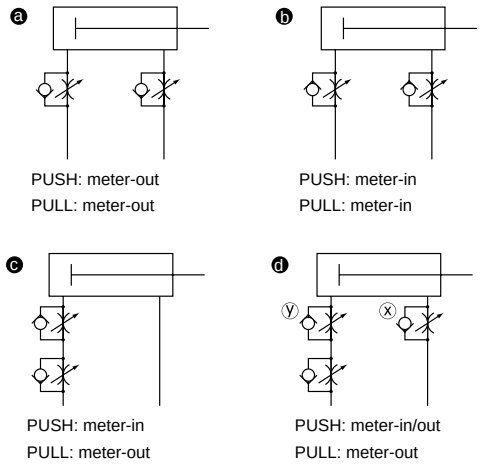
Adjustment become unstable if assembled away from the cylinder.
Use the SC-M3/M5, SC3W, SCD-M3/M5, SC3WU Series flow control valve.

■ Generally, the higher air pressure, and the smaller load result in the more stable operation.

Keep the load factor at 50% or less.

■ Stable speed control is achieved with a meter-out circuit.

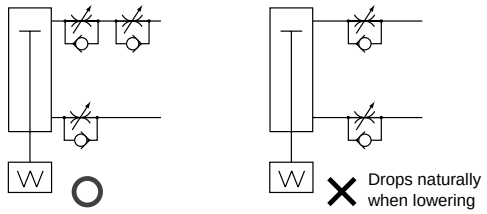
When driving the single rod cylinder at fine speed with the operation direction set to PUSH, popping out may occur if operation is started when load resistance is small. As a corrective action, use a (b), (c) or (d) circuit. Note that (d) circuit is the most stable.



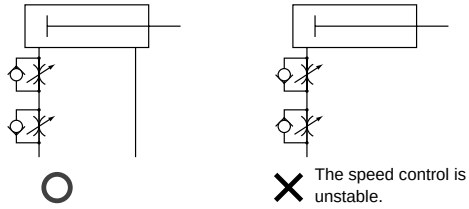
ⓓHow to adjust the speed of PUSH operation for d circuit
1. Set the speed with the x flow control valve.
2. Lower the flow rate w/ y flow control valve until popping out no longer occurs.
3. Reconfirm speed

(Note 1) When circuits b, c and d are compared, d circuit operation is most stable.

(Note 2) When installed vertically, the unit will drop naturally if the meter-in circuit is used. Use the meter-out circuit in this case.



(Note 3) Connect the flow control valve in parallel with the following circuit:



(Cause of popping out)
The meter-out circuit slows the flow so fine speed is attained on the exhaust side. Both sides reach the same pressure immediately after the valve is changed and the thrust of the piston pressurized area difference functions in the PUSH direction, causing popping out. When the piston moves, the exhaust pressure rises and decelerates the piston, attaining the set speed.

(Guide for popping out occurrence)
Popping out occurs when the piston rod area × air pressure > load resistance.

■ Do not apply a lateral load on the cylinder.
Install the cylinder to avoid the sliding guide to be twisted.
Operation may become unstable due to fluctuations in load and resistance.
Operation of a guide having a large difference in stationary and moving friction may become resistance.

■ Avoid use with vibration.
Operation may become unstable due to vibration.

4. Low friction type SSD-KU

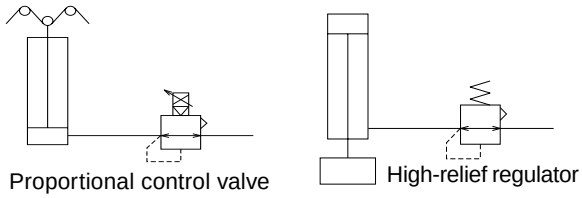
⚠ WARNING

■ Durability differs based on working conditions and model features.
This cylinder has internal leakage.
Refer to the specification on page 814 for the internal leakage volume.

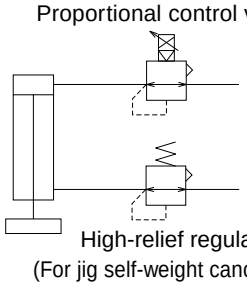
⚠ CAUTION

■ Install a flow control valve on the cylinder.
Install a flow control valve on the cylinder.
Use within piston speed suitable for each cylinder.
When a balancer, etc., is used, a flow control valve should not be installed if supply and exhaust efficiency are impaired.
Use of circuit a to c below is recommended based on the application.

ⓐ Tension control (winding machine, etc) ⓑ Balancer (finishing machine Z axis, etc)



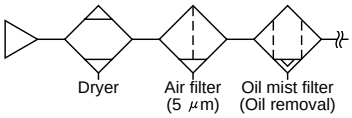
ⓒ Load control (grinding, etc)



*Maximize piping volume to improve supply and exhaust.

■ Do not lubricate this product or features may be adversely affected.

■ Poor air quality worsens features and adversely affects durability. Always Use clean air with the following piping.



■ Assemble the flow control valve near the cylinder.
Adjustment become unstable if assembled away from the cylinder.

■ Generally, the higher air pressure, and the smaller load result in the more stable operation.
Keep the load factor at 50% or less.

■ The compact cylinder has a built-in rubber cushion. The table below shows kinetic energy absorbed by the cushion. If kinetic energy exceeds these values, consider using another shock absorber.

Bore size (mm)	Allowable absorbed energy (J)	
	SSD-K	SSD-KU
ϕ12	0.04	-
ϕ16	0.09	-
ϕ20	0.16	
ϕ25	0.16	
ϕ32	0.40	
ϕ40	0.63	
ϕ50	0.98	
ϕ63	1.56	
ϕ80	2.51	
ϕ100	3.92	

$$\text{Kinetic energy (J)} = \frac{1}{2} \times \text{weight} \times \{\text{speed(m/s)}\}^2$$

(Note) Calculating kinetic energy:

Cylinder average speed is obtained with $Va = \frac{L}{T}$

Va: Average speed (m/s)
L: Cylinder stroke (m)
T: Operation time (s)

Cylinder speed just before the stroke end is obtained with the following simple expression.

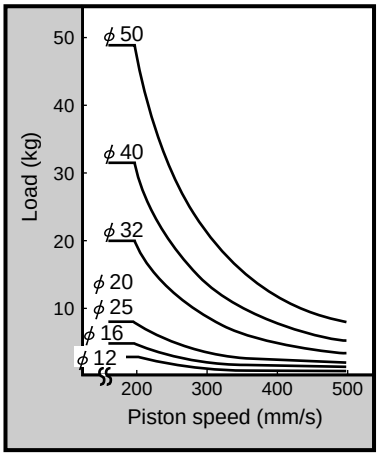
$$Vm = \frac{L}{T} \times \left(1 + 1.5 \times \frac{\omega}{100}\right)$$

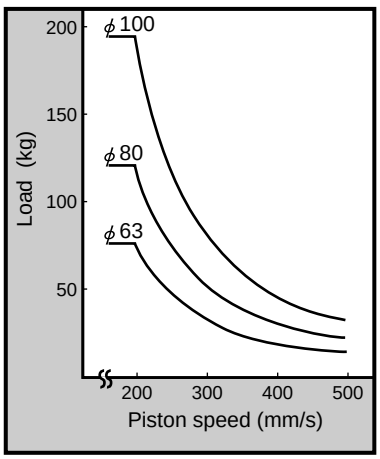
Vm: Speed just before stroke end (m/s)
ω : Cylinder load (%)

When calculating kinetic energy, use Vm as speed.

The graph below shows the tolerable energy value of the super compact cylinder as the relationship between piston speed and load.

The graph below shows allowable energy for the compact cylinder.





● Note: Use in the range at lower left of the curve is possible.
An external cushion is required for use in the range at upper right.

5. Coolant proof type SSD-G2/G3, SSD-KG2/KG3

⚠ CAUTION

■ Do not apply the deviated load onto the piston rod.It could shorten scraper and bearing life.

■ If the coolant or water does not splatter, use the G or the G1 series.
When using the G2 or G3 series and the coolant or water does not splatter, the piston rod's lubrication could be spent and cause the life to shorten.

■ Install a flow control valve on the cylinder.
● Install a flow control valve on the cylinder. Use within piston speed suitable for each cylinder.

6. Spatter proof adhesion prevention type SSD-G4/SSD-KG4/SSD-DG4

⚠ WARNING

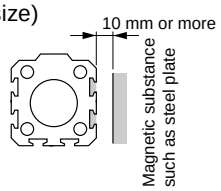
■ The durability of this cylinder in an environment containing spatter is higher than the general cylinder, but durability may be shorter than the general cylinder when used in other environments.

Installation & Adjustment

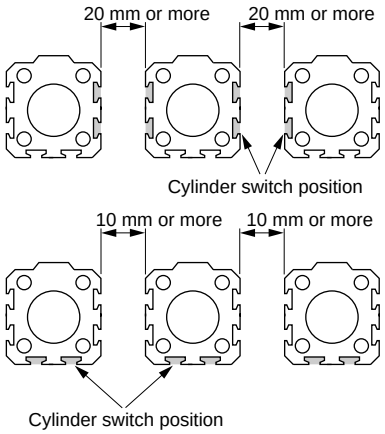
1. Common

⚠ CAUTION

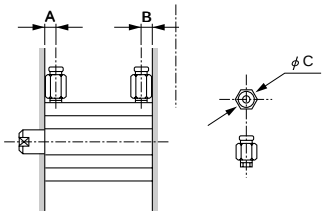
■ The cylinder switch may malfunction if a magnetized device, such as a steel plate, is near the cylinder switch. Separate from the magnetized device by at least 10 mm from the cylinder surface. (Same for all bore size)



■ The cylinder switch could malfunction if cylinders are installed next to each other. Check that the following distances are provided between cylinder surfaces. (Same for all bore size)



■ Usable pipe joints are limited, so see the following table to select the joint.



Item / Bore size (mm)	Port size	Port dimension A	Port dimension B	Compatible joint	Joint O.D. ϕC	Incompatible joint
ϕ12	M5	5.5	5.5	SC3W-M5-4 SC3W-M5-6 GWS4-M5-S GWS4-M5 GWL4-M5 GWL6-M5	ϕ11 or less	GWS6-M5
ϕ16						
ϕ20		8	5.5			
ϕ25		11	6			
ϕ32	Rc1/8	8	8	SC3W-6-4/6/8, GWS4-6, GWS6-6, GWS8-6, GWL4-6, GWL6-6	ϕ15 or less	GWS10-6 GWL8-6 GWL10-6
ϕ40		12	8.5			
ϕ50	Rc1/4	10.5	10.5	SC3W-8-6/8/10, GWS4-8, GWS6-8, GWS10-8, GWL4 to 12-8	ϕ21 or less	GWS12-8
ϕ63		13	11			
ϕ80	Rc3/8	16	13	SC3W-10-6/8/10, GWS6-10, GWS8-10, GWS10-10, GWL6 to 12-10	ϕ21 or less	-
ϕ100		23	15			

2. Single acting SSD-X/SSD-Y

⚠ CAUTION

■ Do not leave the single acting cylinder in the pressurized state. If left in the pressurized state, the piston rod may not return with spring force when pressure is released.If use under elevated pressure is required, use the double acting type.

3. Position locking type SSD-Q

⚠ CAUTION

■ The lock functions at the stroke end. If the stopper is applied with an external stopper in the middle of the stroke, the lock may not function and result in dropping. Before setting the load, check that the locking mechanism functions correctly.

■ Supply a pressure higher than the minimum working pressure to the port having the locking mechanism.

■ If piping on the side with the lock is thin and long, or if the speed controller is separated from the cylinder port, exhaust may slow, taking time for the lock to function. This may also occur if the silencer on the valve's EXH. port is clogged.

4. Fine speed type SSD-F/SSD-KF

⚠ CAUTION

■ Adjust the alignment, etc., so lateral load is not applied to the cylinder.
Adjust and install so the sliding guide is not twisted.
- Operation may become unstable due to fluctuations in load and residence.
- Large differential between static friction and dynamic friction of guide results in unstable operation.

5. Low friction type SSD-KU

⚠ CAUTION

■ Do not apply a lateral load on the cylinder.
Install sliding guide without twist and biting.
- Operation may become unstable due to fluctuations in load and residence.
- When using a long stroke, speed may become unstable because of the piston rod's own weight. Install and use a guide.
- Large differential between static friction and dynamic friction of guide results in unstable operation.

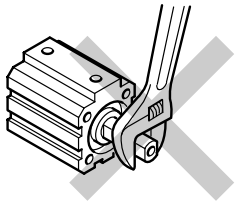
6. Non-rotating type SSD-M

⚠ CAUTION

■ Check that rotating torque is not applied to the piston rod.
Non-rotating bushing may be deformed and the service life remarkably shortened.

■ Check that load is applied in the axial direction of the piston rod.

■ When fixing a workpiece to the end of the piston rod, pull the piston rod into the stroke end. Attach a wrench to the section protruding outside the parallel section of the rod, and tighten while checking that tightening torque is not applied to the cylinder.



During Use & Maintenance

1. Common

⚠ WARNING

■ Use appropriate pliers (snap ring installation tool) to install and remove rod bushing.

■ Even if appropriate pliers (snap ring installation pliers) are used, the snap ring could be dislocated and cause injury to personnel or damage peripheral devices.
When installing the snap ring, make sure that it fits securely into the snap ring groove before supplying air.

2. Position locking type SSD-Q

⚠ WARNING

■ For safety purposes, prevent the load from dropping under its own weight during maintenance.

■ When stopping with an external shock absorber, etc., adjust in the same way to prevent bouncing. Bouncing could cause the sleeve and stopper to contact on impact, damaging the lock mechanism.
Regularly (once/twice a year) check that the holding section is not damaged by this symptom.

⚠ CAUTION

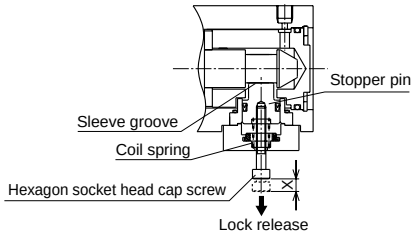
■ After manually operating the locking mechanism, return the locking mechanism to the original position. Do not use a manual override except during adjustment, because this may be dangerous.

■ Release the lock when installing or adjusting the cylinder.
The lock could be damaged if the cylinder is installed while the lock is applied.

■ Use the flow control valve with meter-out control.
Locks may not be released during meter-in control.

■ On the side of locking mechanism, the piston rod must reach the stroke limit.
If the cylinder's piston does not reach stroke limit, the lock may not be applied or released.

■ How to release manual override non-locking
The stopper pin moves and the lock is released when the hexagon socket head bolt is screwed into the stopper piston and the bolt is pulled up Xmm with a force of 20 N or more. (During no-load horizontal installation or when counter side port is pressurized). When the hand is released, if the stopper piston returns by the internal spring and enters the piston rod groove, the piston is locked.



Dimensions and movement for hexagon socket head cap bolt Unit: mm

Bore size	Dimensions	Movement X
ϕ16	M3 x 20	2.5
ϕ20	M3 x 20	3
ϕ25	M3 x 20	3
ϕ32	M3 x 20	3
ϕ40	M3 x 20	3
ϕ50	M4 x 30	4
ϕ63	M4 x 30	4
ϕ80	M4 x 30	4
ϕ100	M4 x 30	4

3. Low friction type SSD-U

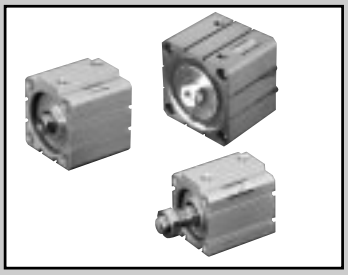
⚠ CAUTION

■ Do not disassemble this product. The performance may be compromised.
This product cannot be purchased as a repair part.

4. Coolant proof type SSD-G2/G3, SSD-KG2/KG3

⚠ CAUTION

■ The 3G Series uses fluorine-based grease. If an operator smokes while his or her hands smeared with fluorine-based grease, toxic gases could be generated and adversely affect the human body.

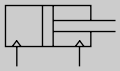


Compact cylinder Double acting single rod type

SSD Series

● Bore size: ϕ 12, ϕ 16, ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100, ϕ 125, ϕ 140, ϕ 160

JIS symbol



RoHS CAD

Specifications

Descriptions		SSD SSD-L (with switch)												
Bore size mm		ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ160
Actuation		Double acting												
Working fluid		Compressed air												
Max. working pressure MPa		1.0												
Min. working pressure MPa		0.1							0.05					
Withstanding pressure MPa		1.6												
Ambient temperature ℃		-10 to 60 (no freezing)												
Port size		M5				Rc1/8		Rc1/4		Rc3/8				
Stroke length tolerance mm	Rubber cushioned	+2.0 0												
	No cushion	+1.0 0										-		
Working piston speed mm/s		50 to 500							50 to 300					
Cushion		The type with rubber cushion or without rubber cushion can be selected.										Rubber cushioned (standard)		
Lubrication		Not required (when lubrication, use turbine oil Class 1 ISO VG32.)												
Allowable energy absorption J	Rubber cushioned	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
	No cushion	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	-		

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 12	5, 10, 15, 20, 25, 30	Note 1) 30	1
ϕ 16			
ϕ 20	5, 10, 15, 20, 25, 30, 40, 50	Note 1) 50	
ϕ 25			
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	5, 10, 20, 30, 40, 50	Note 1) 50	
ϕ 80			
ϕ 100			
ϕ 125	10, 20, 30, 40 50, 60, 70, 80 90, 100	300	
ϕ 140			
ϕ 160			

Note 1: If the standard stroke is exceeded, ϕ12 to ϕ 100 diameter types will be high-load. Refer to page 748 for specifications.

Note 2: Refer to the switch quantity and min. stroke length on the next page when using cylinder with switch.

Clean room specifications

(catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

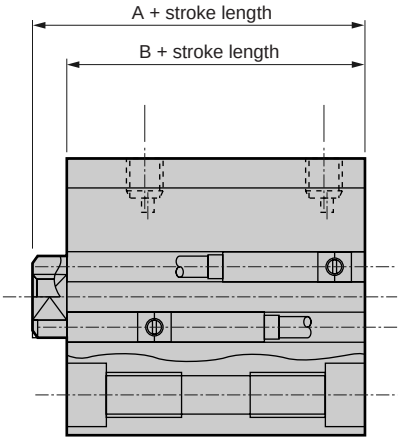
SSD: P7*

SSD: P5*

Custom stroke length

● SSD Series

Descriptions	Standard products		Options	
	Standard stroke length spacer type		Dedicating body type (-S)	
Model no. display	Refer to how to order.		Indicate "S" in "Option" of how to order	
Manufacturing descriptions	A 1mm unit stroke is manufactured by using a spacer on the standard stroke unit.		A dedicated unit can be manufactured for the designated stroke.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12, 16	1 to 29	12, 16	6 (11) to 29 (Note 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 (Note 2)	125 to 160	1 to 299 (Note 2)
Example of model no.	Model no.: SSD-32-38 +2 mm spacer is provided on the standard cylinder SSD-32-40 to attain 38 mm stroke. B dimension is 63 mm.		Model no.: SSD-32-38-S Dedicating body for 38 stroke length is available. B dimension is 61 mm.	



Note 1: Values in parentheses apply to cylinders with switches.

Note 2: The dedicated type is used as standard for ϕ 125 to ϕ160.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switches.

Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

220 VAC is available for T0/T5 switches. Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H, T1V	T2H, T2V, T2JH, T2JV	T2YH, T2YV	T3H, T3V	T3PH, T3PV (Custom order)	T3YH, T3YV	T0H, T0V		T5H, T5V		T8H, /T8V			T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay			Programmable controller dedicated
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

Cylinder weight table (weight with switch includes weight with two cylinder switches)

● ϕ12 to ϕ100

(Unit: g)

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

● ϕ125 to ϕ160

(Unit: kg)

Stroke length (mm) / Bore size (mm)	10		20		30		40		50		60		70		80		90		100	
	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ125	4.35	4.45	4.62	4.72	4.88	4.98	5.15	5.25	5.41	5.51	5.68	5.78	5.94	6.04	6.21	6.31	6.47	6.57	6.74	6.84
ϕ140	6.33	6.44	6.63	6.74	6.94	7.05	7.24	7.35	7.55	7.66	7.85	7.96	8.16	8.27	8.46	8.57	8.77	8.88	9.07	9.18
ϕ160	8.64	8.76	9.02	9.14	9.4	9.52	9.78	9.9	10.16	10.28	10.54	10.66	10.92	11.04	11.3	11.42	11.68	11.8	12.06	12.18

How to order

Without switch

SSD – 12 ○ ○ - 5 ——— N - LB - I

With switch

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

2 color indicator type, off-delay type, with T1* switch (only ϕ12, ϕ16)

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

Ⓐ Model no.

Ⓑ Bore size

Ⓒ Port thread type

Ⓓ Cushion

Ⓔ Stroke length

Ⓕ Switch model no.
Note 1
Note 2
Note 3

Ⓖ Switch quantity

Ⓗ Option
Note 4

Ⓘ Mounting bracket
Note 5
Note 6

Ⓙ Accessory
Note 7

⚠ Caution for model No. selection

Note 1: Switches other than listed Ⓕ switch model No. are available. (cunstom order) Please refer to Ending 1 about details.

Note 2: Strong magnetic field proof switches are not available for ϕ12, ϕ16.

Note 3: T8* switch is not available for ϕ12 to ϕ32

Note 4: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The snap ring is changed from copper to stainless steel.
When the male thread rod end is selected, stainless steel nuts are provided.

Note 5: Mounting bracket is attached at shipment.

Note 6: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 7: "I" and "Y" can not be selected at the same time.

Note 8: Refer to Ending 89 about custom specifications of rod end form.

Note 9: Refer to page 720 to 725 about available variation and positions.

<Example of model number>

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

Model: Compact cylinder standard type

- Ⓑ Bore size : ϕ 12 mm
- Ⓒ Port thread type : Rc thread type
- Ⓓ Cushion : No cushion
- Ⓔ Stroke length : 5 mm
- Ⓕ Switch model no. : Reed switch T0H, lead wire length 1 m
- Ⓖ Switch quantity : One on rod end
- Ⓗ Option : Rod end male thread
- Ⓘ Mounting bracket : Axial foot
- Ⓙ Accessory : Rod eye

Symbol	Descriptions
Ⓐ Model no.	
SSD	Double acting single rod type
SSD-L	Double acting single rod type with switch
SSD-L1	ϕ12, ϕ16, 2 color indicator, off-delay type, with T1* switch
Ⓑ Bore size (mm)	
12	ϕ12
16	ϕ16
20	ϕ20
25	ϕ25
32	ϕ32
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100
125	ϕ125
140	ϕ140
160	ϕ160
Ⓒ Port thread type	
Blank	Rc thread
NN	NPT thread (ϕ32 and over) (custom order)
GN	G thread (ϕ32 and over) (custom order)
Ⓓ Cushion	
Blank	No cushion (ϕ125 and over is rubber cushioned.)
D	Rubber cushioned (ϕ12 to ϕ100)
Ⓔ Stroke length (mm)	
Refer to the following page stroke length table.	

Ⓕ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	T0V*	Reed	1 color indicator	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator	
T1H*	T1V*	Proximity	1 color indicator	2-wire
T2H*	T2V*			
T3H*	T3V*			3-wire
T3PH*	T3PV*		1 color indicator (custom order)	
T2YH*	T2YV*		2 color indicator	2-wire
T3YH*	T3YV*			3-wire
T2YFH*	T2YFV*		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	T3YFV*			4-wire
T2YMH*	T2YMV*		2 color indicator (w/ light for preventive mainte. output (1 color))	3-wire
T3YMH*	T3YMV*			4-wire
T2JH*	T2JV*		Off-delay type	2-wire
T2YD*	-		Switch for strong magnetic field	2-wire
T2YDT*	-			

***Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓖ Switch quantity	
R	One on rod side
H	One on head side
D	2

Ⓗ Option

	Bore size (mm)	12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female	●	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male	●	●	●	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free specifications	Standard							●	●	●			
S	Custom stroke dedicating body	●	●	●	●	●	●	●	●	●	●	Standard		
M	Piston rod (stainless steel)	●	●	●	●	●	●	●	●	●	●			

Ⓘ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact type)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type
Ⓙ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

(Stroke length table)

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

High load (K) applies if the standard stroke is exceeded. Refer to page 748 for the specifications and pages 754 to 757 for the dimensions.

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switches.
Refer to page 735 for switch quantity and min. stroke length.
Note 2: Custom stroke availability for ϕ12 to ϕ100 and ϕ125 to ϕ160 differs as shown below.
(ϕ12 to ϕ100)
Total length of the custom stroke is the same as the next larger standard stroke.
(ϕ125 to ϕ160)
When custom stroke is selected, total length dimensions will be dedicated for the custom stroke.

How to order switch

SW - **T0H**

Switch model no.
(Item Ⓕ on previous page)

How to order mounting bracket

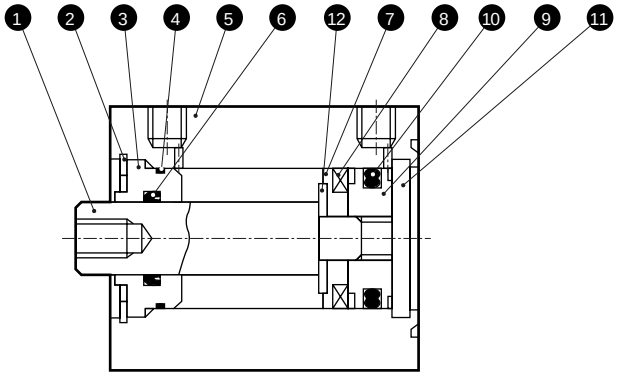
Bore size (mm) / Mounting bracket	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50
Flange (FA/FB)	SSD-FA-12	SSD-FA-16	SSD-FA-20	SSD-FA-25	SSD-FA-32	SSD-FA-40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

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

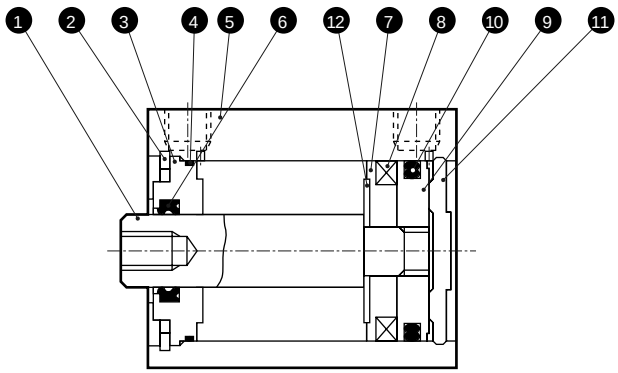
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list (ϕ12 to ϕ50) (without cushion)

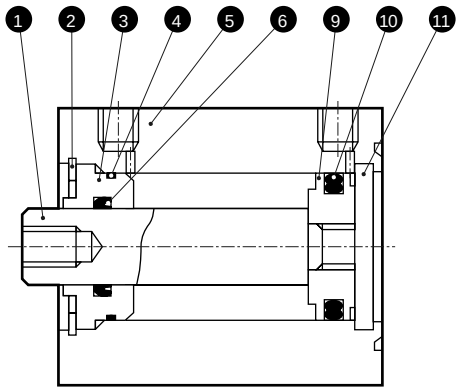
● SSD-L-12 to 25 (double acting with switch)



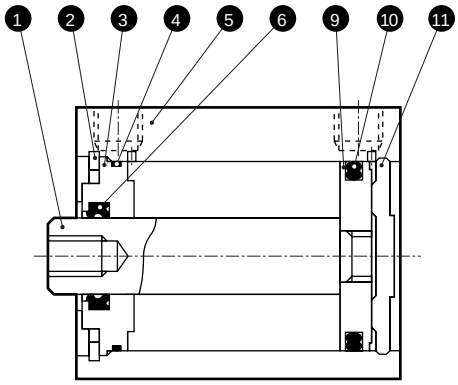
● SSD-L-32 to 50 (double acting with switch)



● SSD-12 to 25 (double acting)



● SSD-32 to 50 (double acting)



No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	ϕ 16 to ϕ 50: Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Main body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	

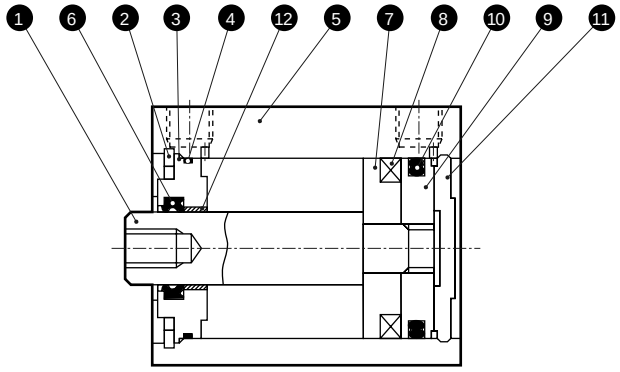
No.	Parts name	Material	Remarks
7	Spacer	ϕ12: aluminum alloy ϕ16 to ϕ50: Special plastic	Chromate (ϕ12)
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	ϕ 12 to ϕ 25: Stainless steel ϕ 32 to ϕ 50: Aluminum alloy	ϕ32 to ϕ50: Alumite
12	Spacer washer	Stainless steel	ϕ20 to ϕ50

Repair parts list

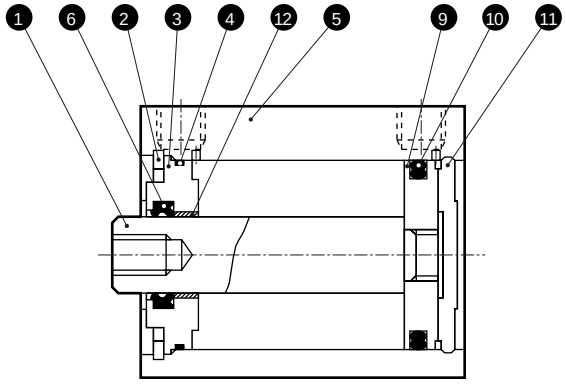
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-12K	❹ ❻ ❿
ϕ16	SSD-16K	
ϕ20	SSD-20K	
ϕ25	SSD-25K	
ϕ32	SSD-32K	
ϕ40	SSD-40K	
ϕ50	SSD-50K	

Internal structure and parts list (ϕ63 to ϕ100) (Without cushion)

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



● SSD-63 to 100 (double acting)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Aluminum alloy	Chromate	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Main body	Aluminum alloy	Hard alumite	11	Cover	Aluminum alloy	Alumite
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	Note 1

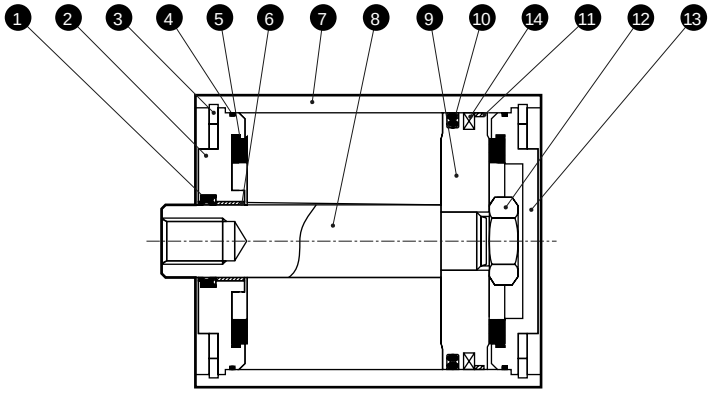
Note 1 : For copper and PTFF free specifications, steel is used.

Repair parts list

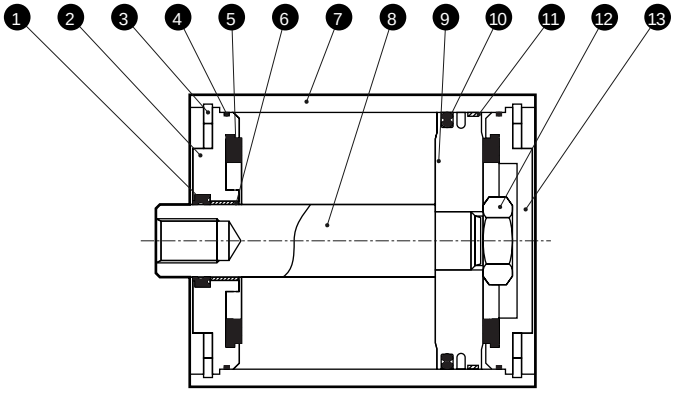
Bore size (mm)	Kit No.	Repair parts number
ϕ63	SSD-63K	❹ ❻ ❿
ϕ80	SSD-80K	
ϕ100	SSD-100K	

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

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



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



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		9	Piston	Aluminum alloy die-casting	
2	Rod bushing	Aluminum alloy	Chromate	10	Piston packing seal	Nitrile rubber	
3	C type snap ring	Steel	Phosphoric acid zinc	11	Wear ring	Acetar resin	
4	Metal gasket	Nitrile rubber		12	Hexagon nut	Steel	Zinc chromate
5	Cushion rubber	Urethane rubber		13	Base plate	Aluminum alloy	Chromate
6	Bush	Oilless dry met		14	Magnet	Rubber	Only SSD-L
7	Body	Aluminum alloy	Hard alumite				
8	Piston rod	Steel	Industrial chrome plated				

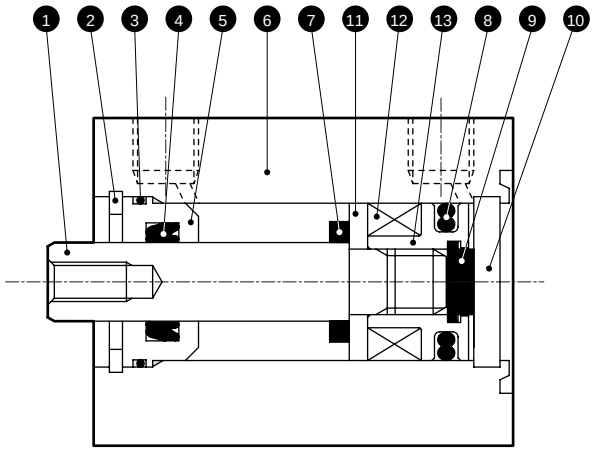
Repair parts list

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

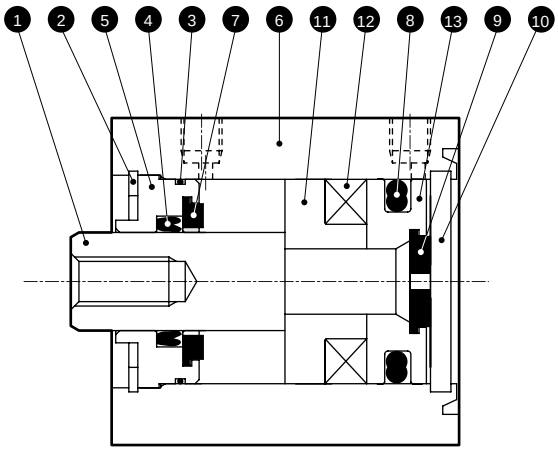
Note 1: Specify kit No. when placing an order.

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

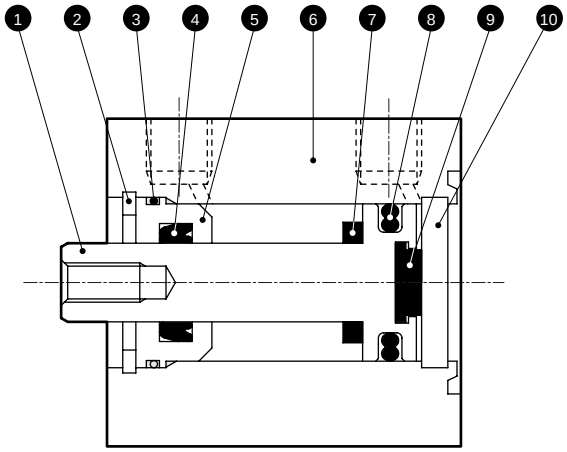
● SSD-L-12D (double acting with switch)



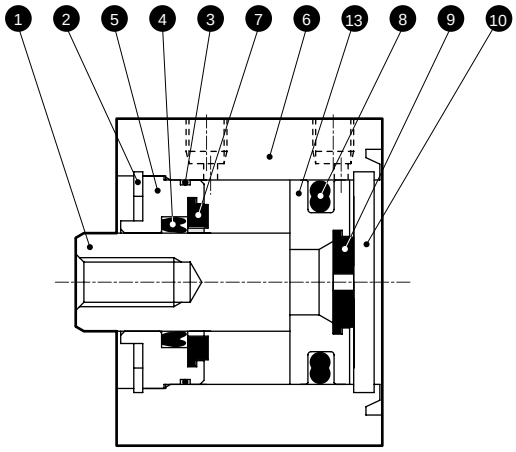
● SSD-L-16D to 32D (double acting with switch)



● SSD-12D (double acting)



● SSD-16D to 32D (double acting)



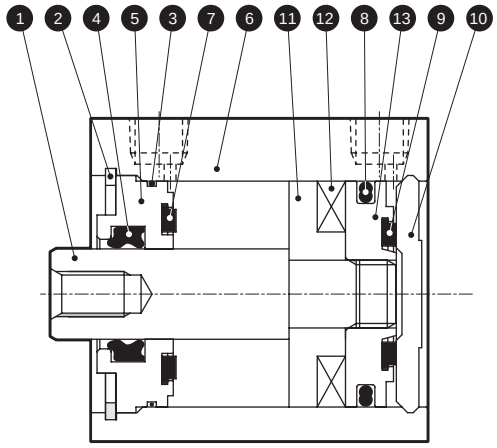
No.	Parts name	Material	Remarks
1	Piston rod	ϕ 12 to ϕ 25: Stainless steel ϕ 32: Steel	ϕ 16 to ϕ 32 Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod metal gasket	Nitrile rubber	
4	Rod packing seal	Nitrile rubber	
5	Rod bushing	Aluminum alloy	Alumite
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber (R)	Urethane rubber	
8	Piston packing seal	Nitrile rubber	
9	Cushion rubber (H)	Urethane rubber	
10	Cover	ϕ 12 to ϕ 25: Stainless steel ϕ 32: Aluminum alloy	ϕ 32: Alumite
11	Spacer	Aluminum alloy	Chromate
12	Magnet	Plastic	
13	Piston	Aluminum alloy	Chromate

Repair parts list

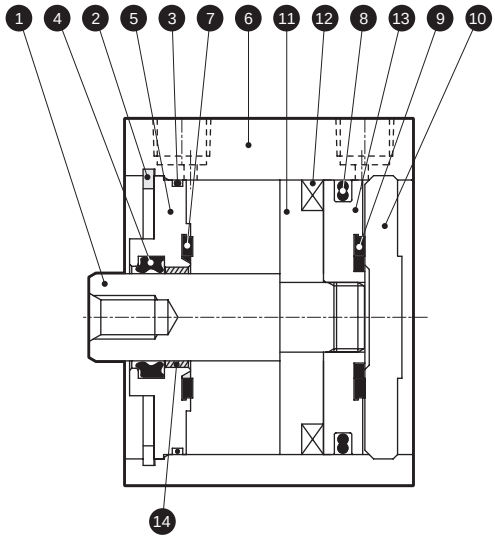
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-12DK	3, 4, 7, 8, 9
ϕ16	SSD-16DK	
ϕ20	SSD-20DK	
ϕ25	SSD-25DK	
ϕ32	SSD-32DK	

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

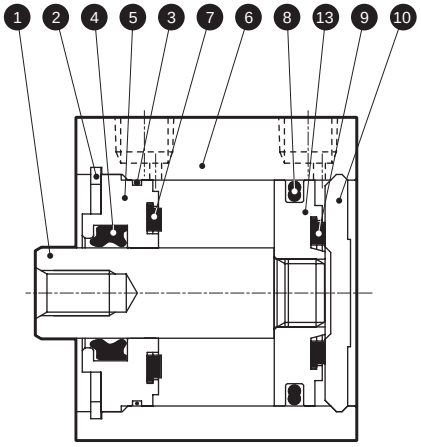
● SSD-L-40D and 50D (double acting with switch)



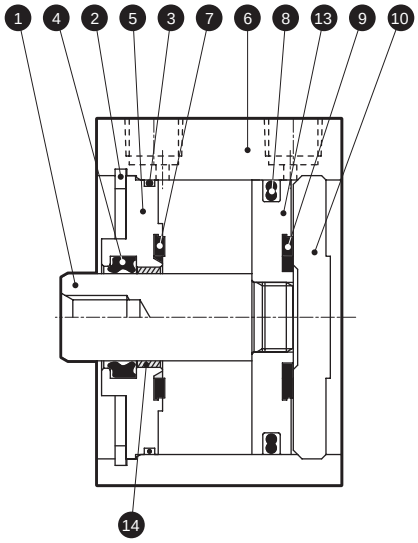
● SSD-L-63D to 100D (double acting with switch)



● SSD-40/50D (double acting)



● SSD-63D to 100D (double acting)



No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod metal gasket	Nitrile rubber	
4	Rod packing seal	Nitrile rubber	
5	Rod bushing	Aluminum alloy	ϕ40 to ϕ50: Alumite ϕ63 to ϕ100: Chromate
6	Body	Aluminum alloy	Hard alumite
7	Cushion rubber (R)	Urethane rubber	

No.	Parts name	Material	Remarks
8	Piston packing seal	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	DU dry bearing	ϕ 63 to ϕ 100

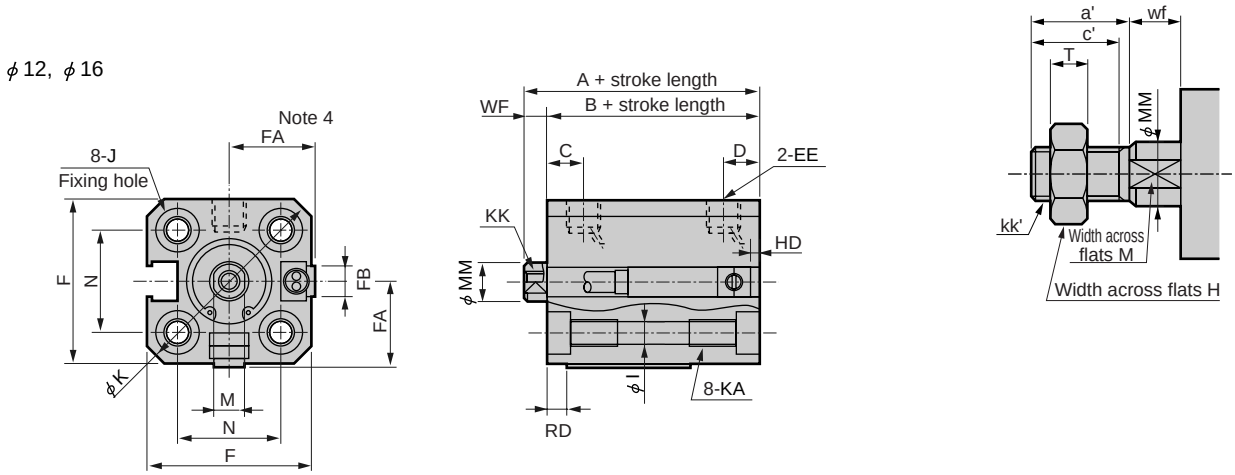
Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-40DK	3, 4, 7, 8, 9
ϕ50	SSD-50DK	
ϕ63	SSD-63DK	
ϕ80	SSD-80DK	
ϕ100	SSD-100DK	

Dimensions

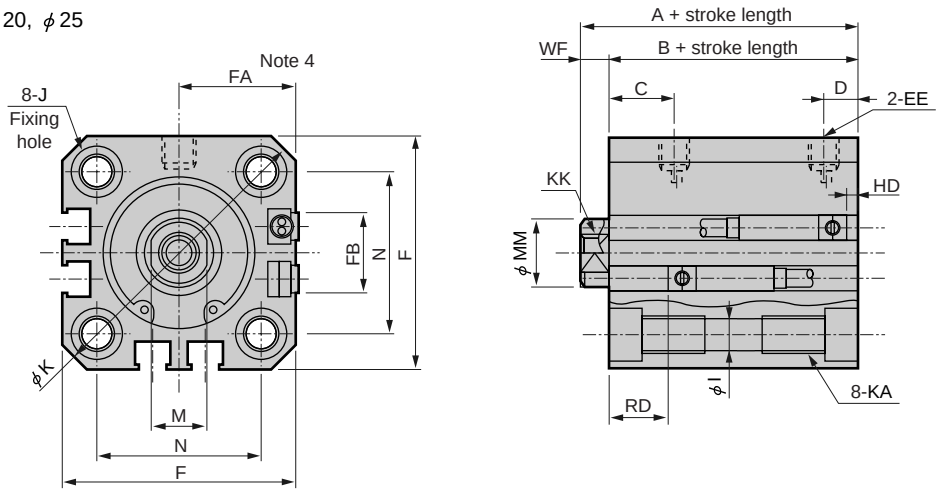
● SSD-L-12 to 25 (with T0H/V, T5H/V, T2H/V, T3H/V switch)

● Rod end male thread



ϕ12, ϕ16

ϕ20, ϕ25



Symbol / Bore size (mm)	A Note 1	B Note 1	C	D	EE	F	FA Note 4	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	25.5	22	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	25.5	22	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	34	29.5	8	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	37.5	32.5	11	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

Switch dimension	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ12	0	2.5	0	2.5
ϕ16	0	2	0	2
ϕ20	3	6.5	3	6.5
ϕ25	3	9.5	3	9.5

Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.
(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: For ϕ12, ϕ16 cylinders with switch and stroke length 5mm, refer to the table about <A+stroke length> and <B+stroke length> .

Note 3: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 4: Refer to page 926 for HD/RD, and projection dimensions of the 2 color indicator, off delay, strong magnetic field proof, or T1* and T8* switch.

Note 5: Dimensions in ( ) are the values when radial lead wire.

Note 6: Refer to pages 935 to 942 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

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

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

● Rod end male thread

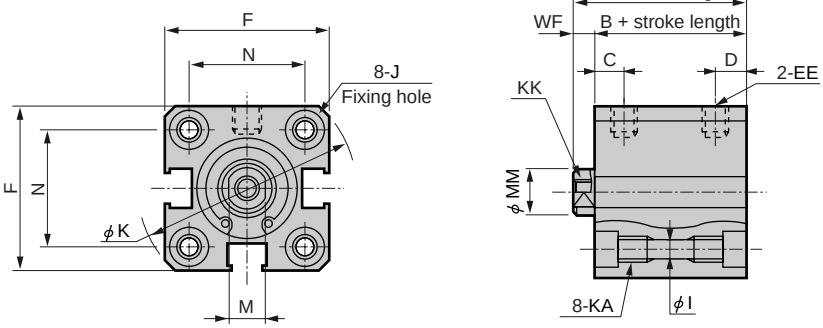
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

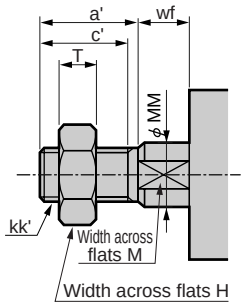
Dimensions

● SSD-12 to 25 (without switch)

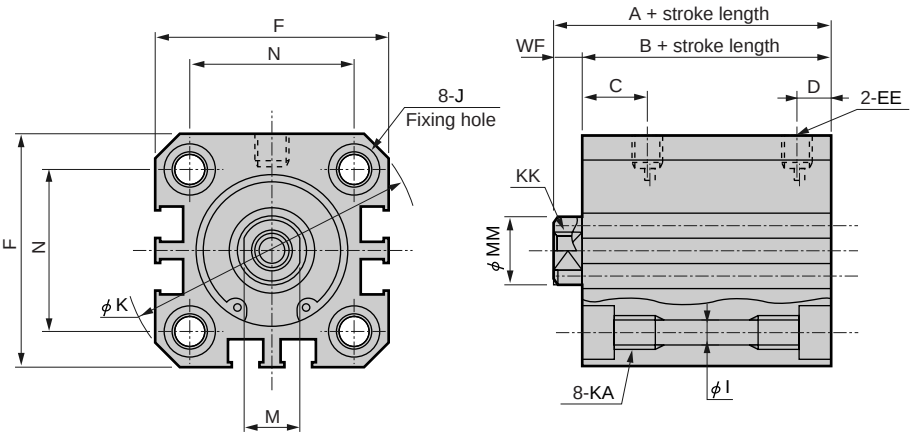
● Rod end male thread

ϕ12, ϕ16





ϕ20, ϕ25



Symbol / Bore size (mm)	Dimensions for types without switch, common														
	A Note 1	B Note 1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ϕ12	20.5	17	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	20.5	17	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	24	19.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	27.5	22.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 11	10	12	28	5

● Rod end male thread

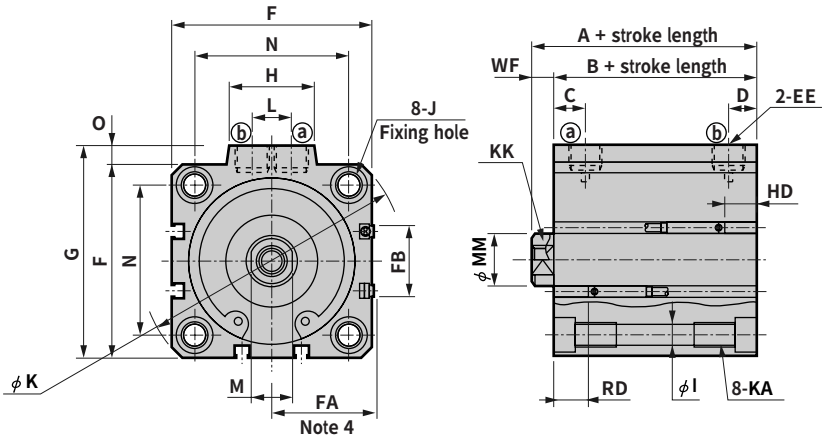
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.
(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

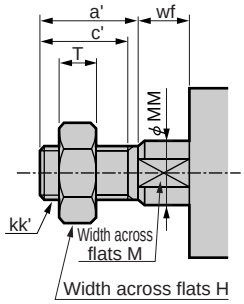
Note 2: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

Dimensions CAD

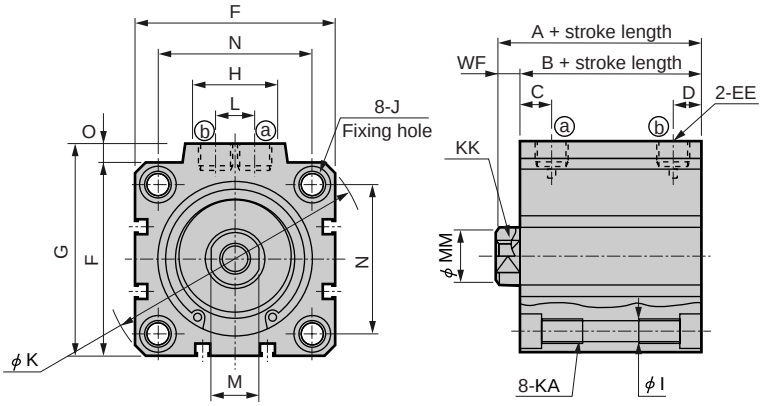
● SSD-L-32 to 100 (with T0H/V, T5H/V, T2H/V, T3H/V switch)



● Rod end male thread



● SSD-32 to 100 (without switch)



Symbol / Bore size (mm)	Without switch A *1	Without switch B *1	A *1	B *1	C	D	EE	F	FA Note 4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	30	23	40	33	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40	36.5	29.5	46.5	39.5	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
ϕ50	38.5	30.5	48.5	40.5	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
ϕ63	44	36	54	46	13	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	17	20	60	7	8
ϕ80	53.5	43.5	63.5	53.5	16	13	Rc3/8	98	49.5 (53)	28.5	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ϕ100	65	53	75	63	23	15	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

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

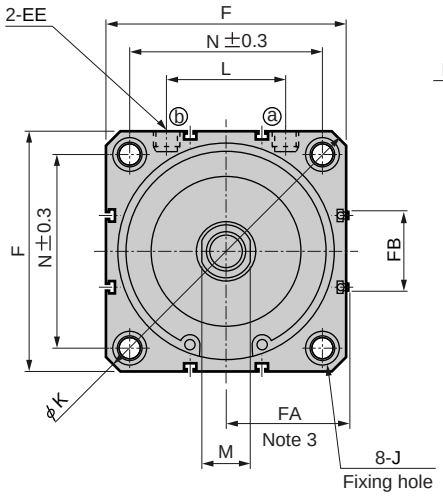
Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. (E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.
Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
Note 3: Refer to page 927 for HD/RD, and projection dimensions of the 2 color indicator, off delay, strong magnetic field proof, or T1* and T8* switch.
Note 4: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
Note 5: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

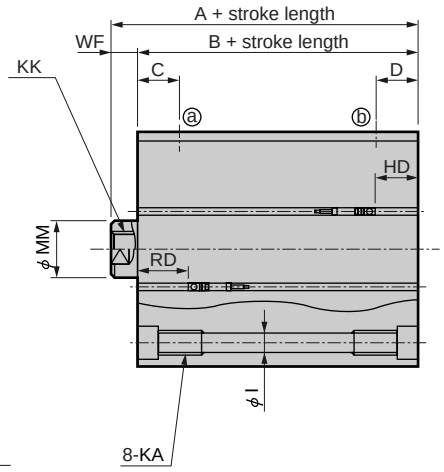
● Rod end male thread

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

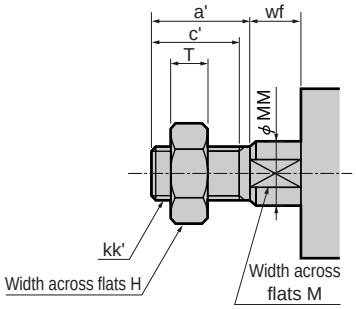
Dimensions CAD

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

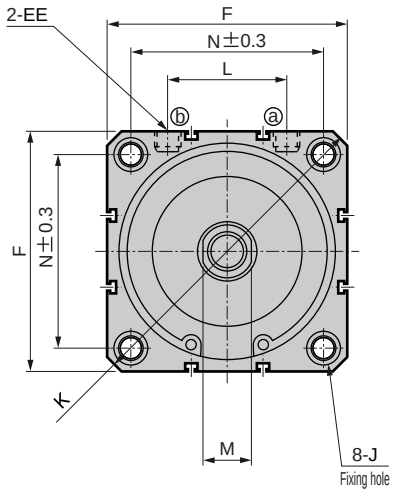


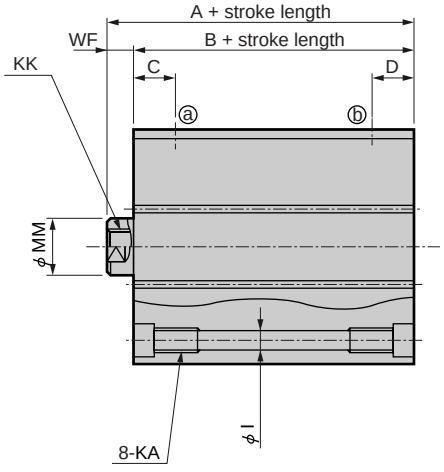


● Rod end male thread



● SSD-125 to 160 (double acting)





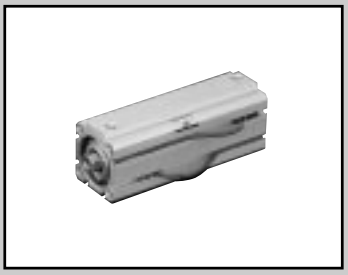
Symbol / Bore size (mm)	Dimensions for common, types with switch												
	A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK
ϕ125	88	72	23.5	23.5	Rc3/8	142	71.5 (75)	44.5	12.5	20 spot face depth 13	190	M14 depth 25	M22 depth 30
ϕ140	98	82	27	27	Rc3/8	158	79.5 (83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 depth 30
ϕ160	108	91	30	30	Rc3/8	178	89.5 (93)	48.5	14.5	23 spot face depth 15.2	238	M16 depth 28	M24 depth 33

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

● Note 1: Refer to Ending 36 for the HD/RD and projecting dimensions of 2 color indicators with preventive maintenance output.
● Note 2: Consult with CKD for projecting dimensions of 2 color indicators with preventive maintenance output.
● Note 3: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
● Note 4: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

Rod end male thread section dimensions table

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

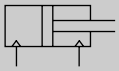


Compact cylinder Double acting single rod high load type

SSD-K Series

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

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-K SSD-KL (with switch)									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.1							0.05		
Withstanding pressure MPa	1.6									
Ambient temperature ℃	-10 to 60 (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 (when lubricating, use turbine oil ISO VG32.)									
Allowable absorbed energy J	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ12	5, 10, 15, 20, 25, 30, 40, 50	Note 2) 100	1
ϕ16			
ϕ20		Note 2) 200	
ϕ25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90,100	Note 2) 300	
ϕ32			
ϕ40			
ϕ50			
ϕ63	10, 20, 30, 40, 50 60, 70, 80, 90,100		
ϕ80			
ϕ100			

Note 1) Custom stroke length is available per 1 mm increment. Note that the total length is the same as the next larger standard stroke.
Note 2) Lengths exceeding the standard stroke are available in increments of 10 to the maximum stroke. (Example) ϕ16: 60, 70, 80, 90,100
Note 3) If 100 to 200 mm stroke for ϕ20, 150 to 300 mm stroke for ϕ25 to ϕ50, or 200 to 300 mm stroke for ϕ63 to ϕ100, some internal structure and overall length dimensions are different from a standard type.
Note 4) Refer to the switch quantity and min. stroke table on the next page when using a cylinder with a switch.

Clean room specifications

● Dust generation preventing structure for use in cleanrooms

SSD-K: P7*

SSD-K: P5*

Oil-prohibited specifications

(Ending 126)

● Grease splash prevented

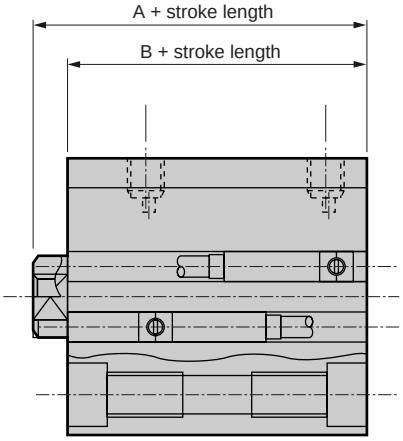
SSD-K: P12

Custom stroke length

● SSD-K Series

Descriptions	Standard products Standard stroke length spacer type		Options Dedicating body type (-S)	
Model no. display	Refer to how to order.		Indicate "S" in "Option" of how to order	
Manufacturing descriptions	A 1mm unit stroke is manufactured by using a spacer on the standard stroke unit.		A dedicated unit can be manufactured for the designated stroke.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	12 to 20	1 to 49	12, 16	6 (11) to 100 (Note 1)
			20	6 to 200
	25 to 100	1 to 99	25 to 100	11 to 300
Example of model no.	Model no.: SSD-K-32-81 +9 mm spacer is provided on the standard cylinder SSD-32-90 to attain a 90 mm stroke. B dimension is 123 mm.		Model no.: SSD-K-32-81-S Dedicating body for 81 stroke length is available. B dimension is 114 mm.	

Note 1: Values in parentheses apply to cylinders with switches.



Switch quantity and min. stroke length (mm)

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

Note: 2 color indicator, off-delay, strong magnetic field proof, or 10 mm or shorter types with T1* or T8* switch is not available.

Switch specifications

220 VAC is available for T0/T5 switches.
Consult with CKD for conditions.

● 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H, T1V	T2H, T2V, T2JH, T2JV	T2YH, T2YV	T3H, T3V	T3PH, T3PV (Custom order)	T3YH, T3YV	T0H, T0V		T5H, T5V		T8H, T8V			T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay			Programmable controller dedicated
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

How to order

Without switch

SSD-K - 12 ○ - 5 ——— N - LB - I

With switch

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

Ⓐ Bore size

Ⓑ Port thread type

Ⓒ Stroke length

Ⓓ Switch model no.
Note 1
Note 2

Ⓔ Switch quantity

Ⓕ Option
Note 3

Ⓖ Mounting bracket
Note 4
Note 5

Ⓗ Accessory
Note 6

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

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

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

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive mainte. output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

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

Ⓕ Option

Bore size (ϕ)		12	16	20	25	32	40	50	63	80	100
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●
M	Piston rod (stainless steel)	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free	Standard		●	●	●	●	●	●	●	●

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than listed Ⓓ switch model No. are available. (cunstom order) Please refer to Ending 1 about details.
Refer to Ending 1 for details.

Note 2: Strong magnetic field proof switch and T8* switch cannot be installed on ϕ12, ϕ16

Note 3: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The snap ring is changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.

Note 4: Mounting bracket is attached at shipment.

Note 5: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 6: "I" and "Y" can not be selected at the same time.

Note 7: Refer to Ending 89 about custom specifications of rod end form.

Note 8: Refer to page 722, 723 for variation and option selection.

<Example of model number>

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

Model: Compact cylinder high load type
Ⓐ Bore size : ϕ12 mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Switch model no. : Reed switch T0H, lead wire 1 m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

(Stroke length table)

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

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switches.
Refer to page 749 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next larger standard stroke.

How to order switch

SW - T0H

Switch model no.
(Item Ⓓ on previous page)

Cylinder weight table (Weight with switch is with two cylinder switch.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ12	44	86	53	95	61	103	70	112	78	121	87	129	104	146	121	163	138	180	155	197	172	214	189	231	206	248
ϕ16	59	104	69	114	80	125	91	136	102	147	113	158	135	169	157	191	179	213	201	235	223	257	245	279	267	301
ϕ20	75	150	88	163	101	176	113	188	126	201	138	213	163	238	188	263	213	288	238	313	263	338	288	363	313	388
ϕ25	-	-	118	209	134	225	150	241	165	256	182	273	214	305	246	337	278	369	310	401	342	433	374	465	406	497
ϕ32	-	-	188	302	209	323	231	345	253	367	275	389	318	432	361	475	404	518	447	561	490	604	533	647	576	690
ϕ40	-	-	263	406	290	433	316	459	342	485	369	512	422	565	475	618	528	671	581	724	634	777	687	830	740	883
ϕ50	-	-	425	619	467	661	510	704	553	747	594	788	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376
ϕ63	-	-	617	896	-	-	727	1006	-	-	838	1117	948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887
ϕ80	-	-	1101	1514	-	-	1274	1687	-	-	1448	1861	1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072
ϕ100	-	-	1660	2227	-	-	1888	2455	-	-	2115	2682	2343	2910	2571	3138	2799	3366	3027	3594	3255	3822	3483	4050	3711	4278

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

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

How to order mounting bracket

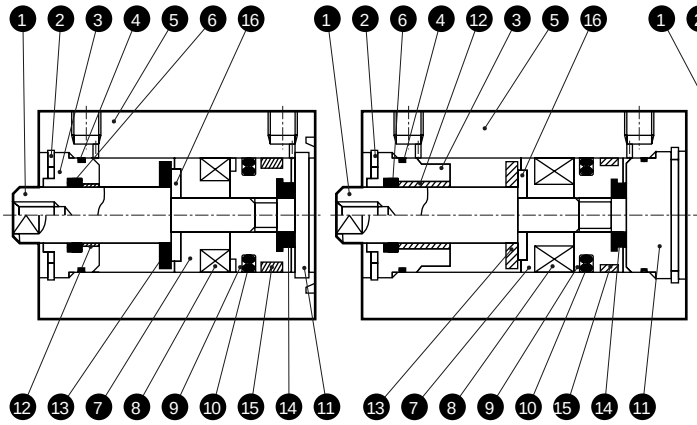
Bore size (mm) / Mounting bracket	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Foot (LB)	SSD-LB-12	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-12	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100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

Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list

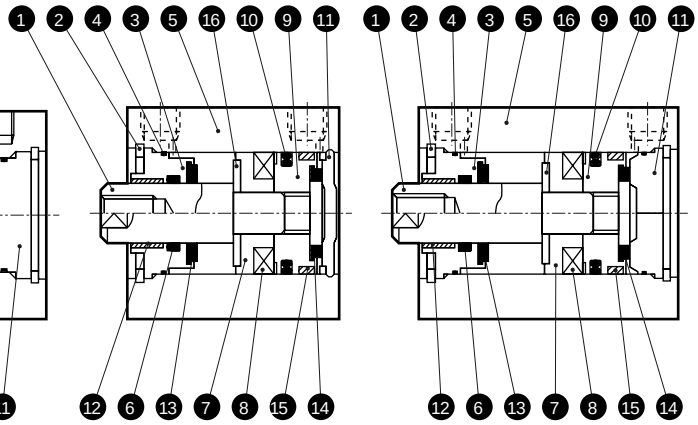
● SSD-KL-12 to 25 (double acting single rod high load type/with switch)

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



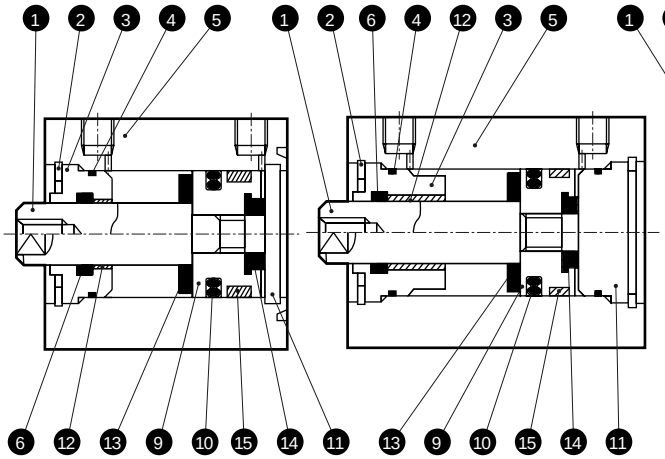
● SSD-KL-32 (double acting single rod high load type with switch)

ϕ32: 150 to 300 mm stroke length



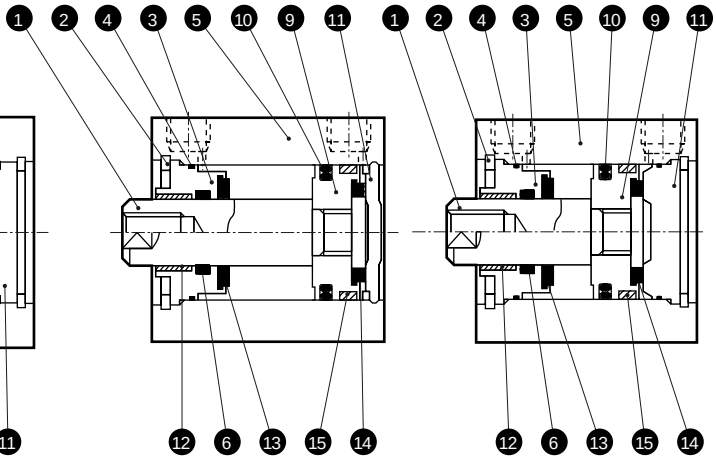
● SSD-K-12 to 25 (double acting single rod high load type)

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



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

ϕ32: 150 to 300 mm stroke length



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32: Steel	ϕ16 to ϕ32 Industrial chrome plated	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum	Alumite	11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32: Aluminum alloy	ϕ32: Alumite (Note 1)
4	Rod metal gasket	Nitrile rubber					
5	Book body	Aluminum alloy	Hard alumite	12	Bush	Oilless dry met	ϕ20 to ϕ32 (Note 2)
6	Rod packing seal	Nitrile rubber		13	Cushion rubber (R)	Urethane rubber	
7	Spacer	ϕ12: Aluminum alloy ϕ16 to ϕ32: Special plastic	12: Chromate	14	Cushion rubber (H)	Urethane rubber	
				15	Wear ring	Polyacetal resin	
8	Magnet	Plastic		16	Spacer washer	Stainless steel	ϕ20 to ϕ32

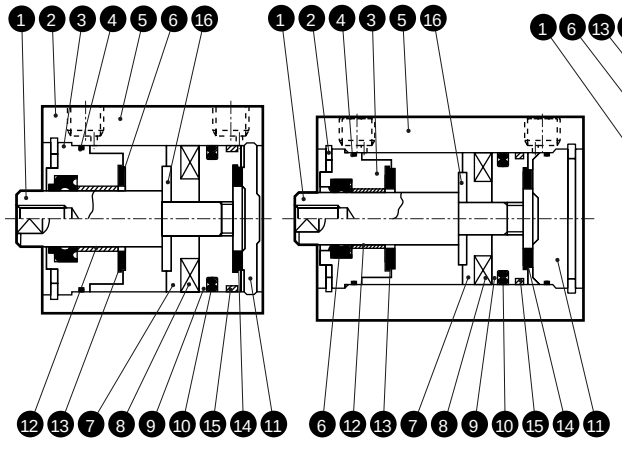
(Note 1) The cover of the long stroke type (longer than 100 for ϕ20, longer than 150 for ϕ25 and ϕ32) is made of aluminum alloy and treated with alumite.
(Note 2) Steel is used for copper and PTFE free.

Repair parts list

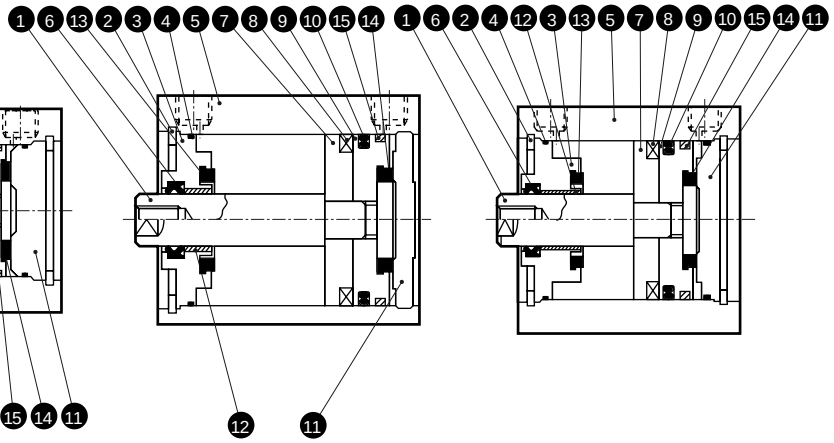
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-K-12K	❹ ❻ ❿ ⓭ ⓮ ⓯
ϕ16	SSD-K-16K	
ϕ20	SSD-K-20K	
ϕ25	SSD-K-25K	
ϕ32	SSD-K-32K	

Internal structure and parts list

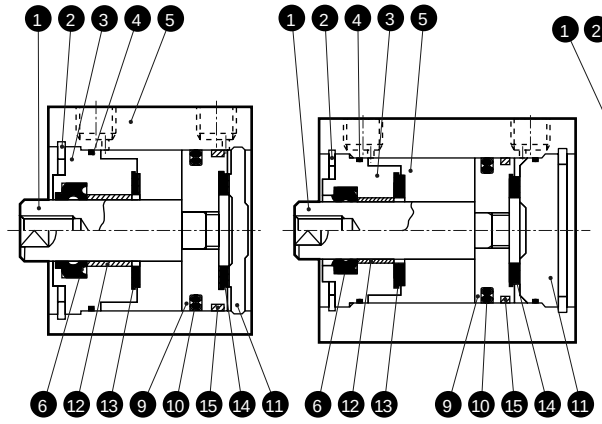
● SSD-KL-40/50 (double acting single rod high load type with switch)
ϕ40, ϕ50: 150 to 300 mm stroke length



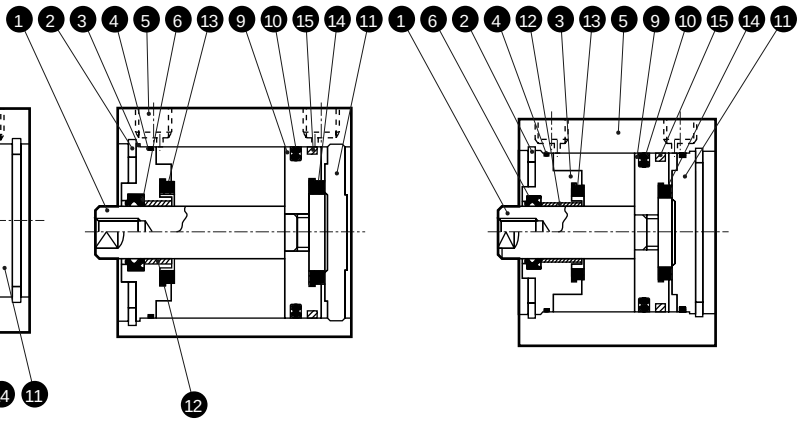
● SSD-KL-63 to 100 (double acting single rod high load type with switch)
ϕ63 to ϕ100: 200 to 300 mm stroke length



● SSD-K-40/50 (double acting single rod high load type)
ϕ40, ϕ50: 150 to 300 mm stroke length



● SSD-K-63 to 100 (double acting single rod high load type)
ϕ63 to ϕ100: 200 to 300 mm stroke length



No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Book body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	
7	Spacer	ϕ 40, ϕ 50: Special plastic ϕ 63 to ϕ 100: Aluminum alloy	ϕ 63 to ϕ 100: Chromate
8	Magnet	Plastic	

No.	Parts name	Material	Remarks
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	Oilless dry met	Note 1
13	Cushion rubber (R)	Urethane rubber	
14	Cushion rubber (H)	Urethane rubber	
15	Wear ring	Polyacetal resin	
16	Spacer washer	Stainless steel	ϕ 40 to ϕ 50

(Note 1) Steel is used for copper and PTFE free.

Repair parts list

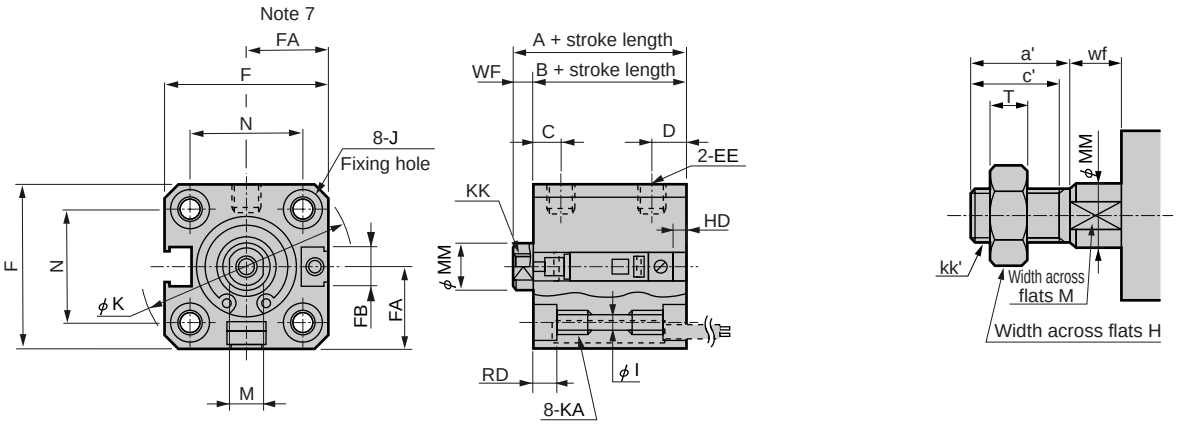
Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-K-40K	4 6 10 13 14 15
ϕ50	SSD-K-50K	
ϕ63	SSD-K-63K	
ϕ80	SSD-K-80K	
ϕ100	SSD-K-100K	

Dimensions

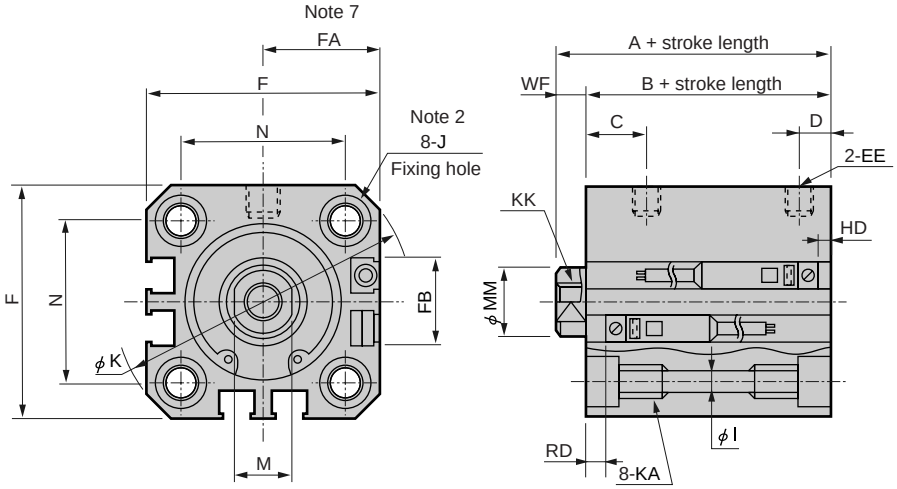
● SSD-KL-12 to 25 (with switch)

● Rod end male thread

ϕ12, ϕ16



ϕ20, ϕ25



Symbol / Bore size (mm)	Dimensions for common, types with switch																
	A*1	B*1	C	D*2	EE	F	FA Note 6	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	30.5	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	30.5	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	39	34.5	8	5.5 (8)	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	42.5	37.5	11	6 (11)	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

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

Table 1

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

Table 2

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

● Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

● Note 2: Values in Table 1 apply to dimensions A and B when the ϕ20 stroke exceeds 100 and the ϕ25 stroke exceeds 150. Spot facing J is not provided in this case. HD, RD, and D dimensions are shown in ( ).

● Note 3: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

● Note 4: For ϕ12, ϕ16 cylinders with switches and stroke length 5 mm, refer to the table about <A+stroke length> and <B+stroke length> .

● Note 5: Refer to page 928 for HD/RD dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.

● Note 6: Refer to page 928 for projection dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.

● Note 7: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.

● Note 8: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

● Rod end male thread section dimensions table

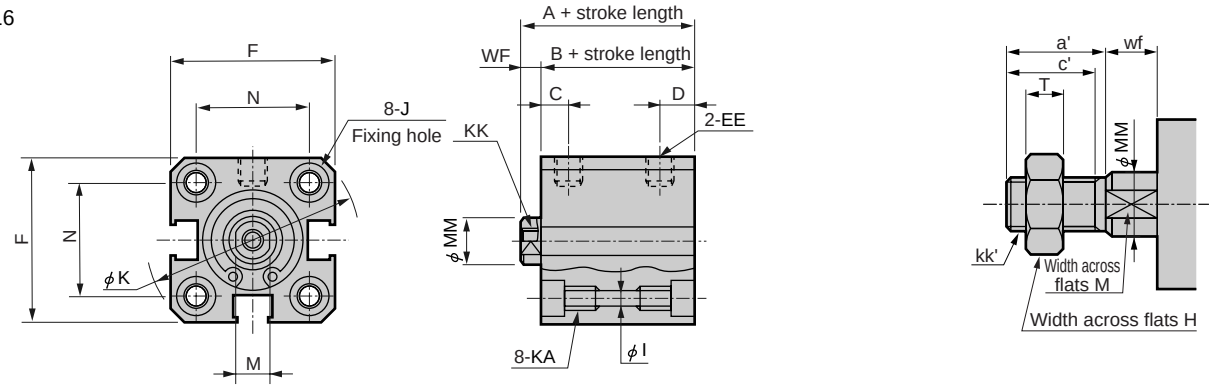
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions CAD

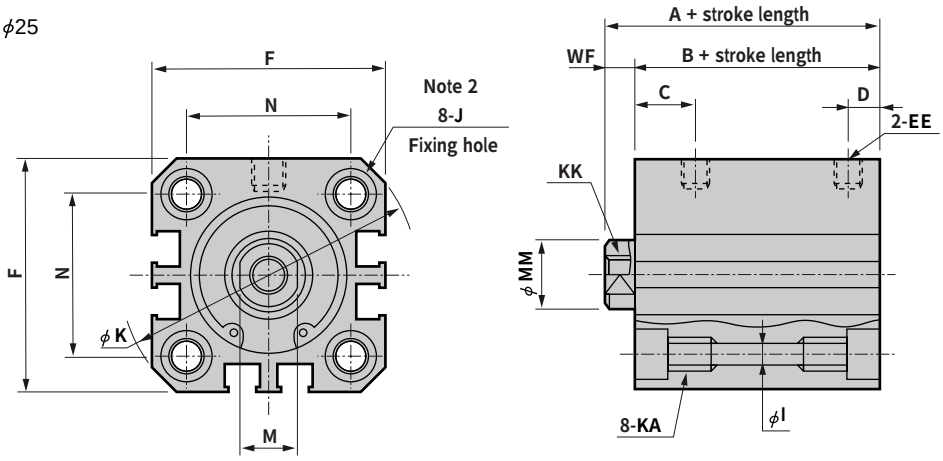
● SSD-K-12 to 25 (without switch)

● Rod end male thread

ϕ12, ϕ16



ϕ20, ϕ25



Symbol / Bore size (mm)	Dimensions for types without switch, common														
	A Note 1	B Note 1	C	D	EE	F	I	J	K	KA	KK	M	MM	N	WF
ϕ12	25.5	22	5.5	5.5	M5	25	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	25.5	22	5.5	5.5	M5	29	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	29	24.5	8	5.5	M5	36	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	32.5	27.5	11	6	M5	40	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

● Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.
(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

● Note 2: Values in Table 1 apply to dimensions A and B when ϕ 20 stroke exceeds 100 and ϕ 25 stroke exceeds 150. Spot facing J is not provided in this case.

● Note 3: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

Table 1

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

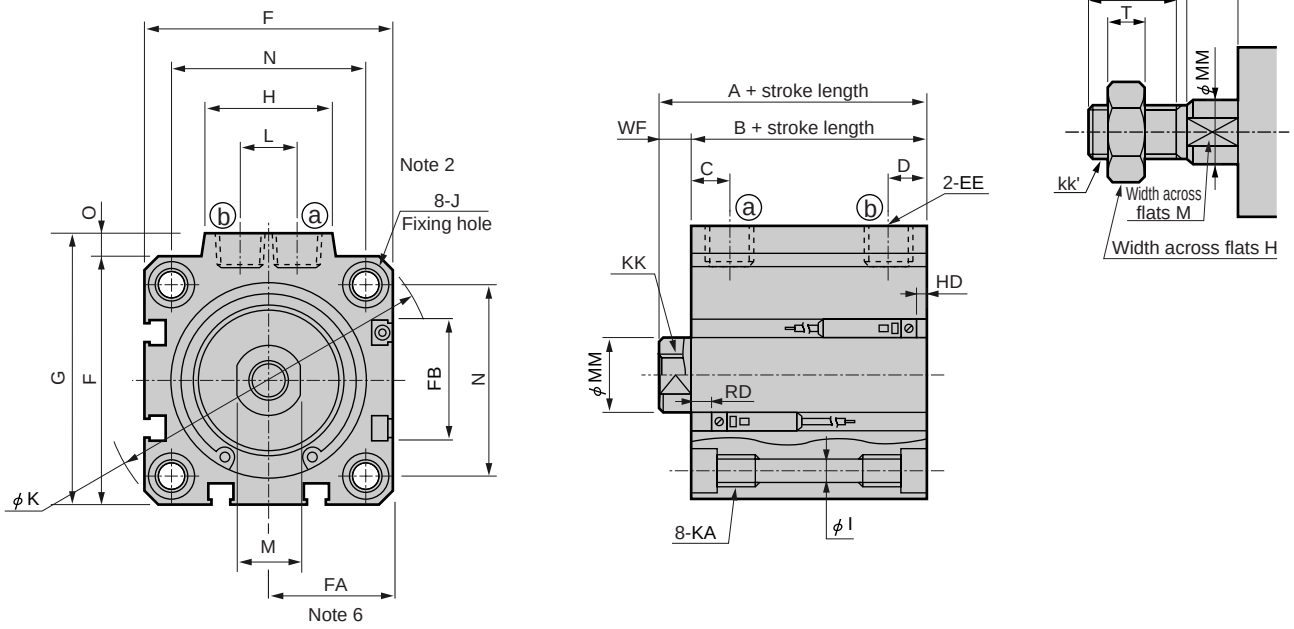
● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions CAD

● SSD-KL-32 to 100 (with switch)

● Rod end male thread



Symbol / Bore size (mm)	Dimensions for common, types with switch																				
	A*1	B*1	C	D Note 2	EE	F	FA Note 6	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	50	43	8	8 (8)	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40	56.5	49.5	12	8.5 (12)	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ϕ50	58.5	50.5	10.5	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
ϕ63	64	56	13	11 (13)	Rc1/4	77	39 (42.5)	28.5	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ϕ80	73.5	63.5	16	13 (16)	Rc3/8	98	49.5 (53)	28.5	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ϕ100	85	73	23	15 (23)	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

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

Table 2

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

● Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

● Note 2: Values in Table 2 apply to dimensions A and B when stroke length exceeds 150 for ϕ32 to ϕ50 and 200 for ϕ63 to ϕ100. Spot facing J is not provided in this case. HD, RD and D and dimension are the value in the ( ).

● Note 3: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

Note 4: Refer to page 929 for the HD/RD dimensions of 2 color indicators with preventive maintenance output.

Note 5: Refer to page 929 for projecting dimensions of 2-color indicators with preventive maintenance output.

Note 6: Dimensions shown in ( ) of FA are for dimension of radial lead wire.

● Note 7: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

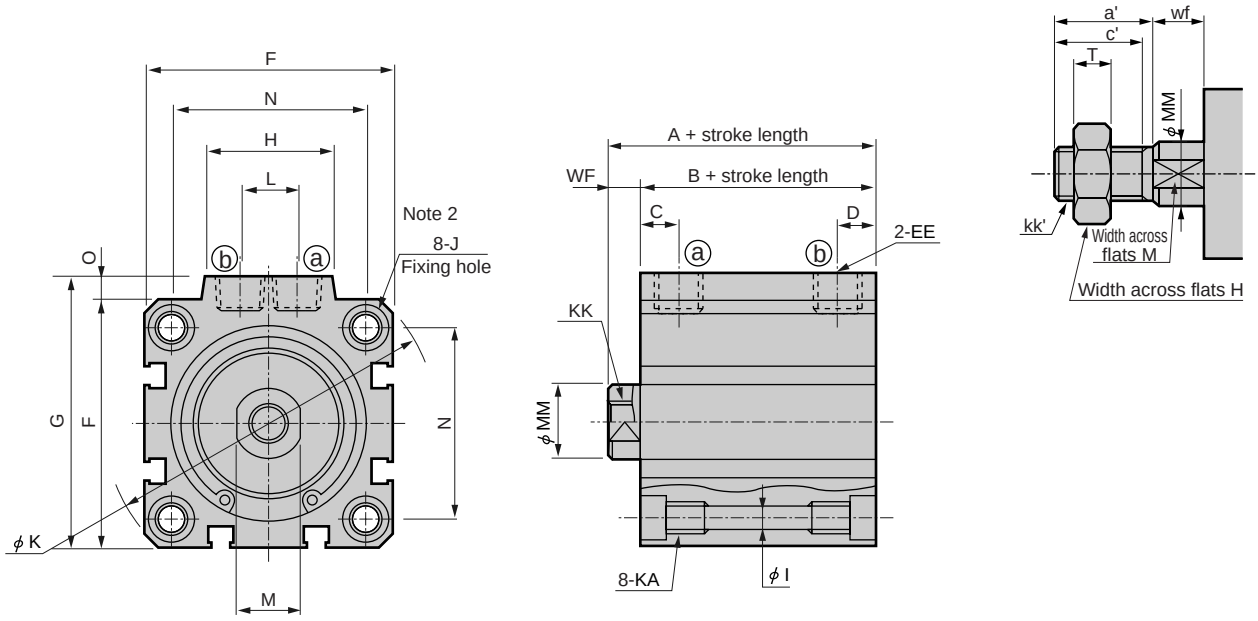
● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ 32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ 40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ 50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ 63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ 80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ 100	35.5	32.5	41	M26 x 1.5	27	30	16	8

Dimensions CAD

● SSD-K-32 to 100 (without switch)

● Rod end male thread



Symbol / Bore size (mm)	Dimensions for types without switch, common																			
	A*1	B*1	C	D*2	EE	F	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	40	33	8	8 (8)	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40	46.5	39.5	12	8.5 (12)	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ϕ50	48.5	40.5	10.5	10.5 (10.5)	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ϕ63	54	46	13	11 (13)	Rc1/4	77	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ϕ80	63.5	53.5	16	13 (16)	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ϕ100	75	63	23	15 (23)	Rc3/8	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 Note 2	B Note 2
ϕ32	47.5	40.5
ϕ40	56	49
ϕ50	62	54
ϕ63	64	56
ϕ80	73.5	63.5
ϕ100	85	73

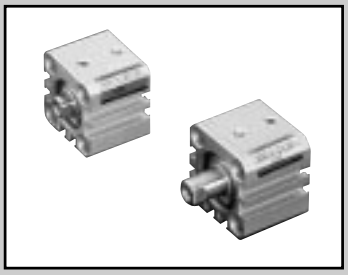
● Note 1: When calculating A+ and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

● Note 2: Values in Table 2 apply to dimensions A and B when ϕ 32 to ϕ 50 stroke exceeds 150 and ϕ 63 to ϕ 100 stroke exceeds 200. Spot facing J is not provided in this case. D dimension is the value in the ( ).

● Note 3: Refer to pages 932 to 945 for dimension drawings of types with accessories and dimension drawings of discrete accessories.

● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ 32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ 40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ 50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ 63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ 80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ 100	35.5	32.5	41	M26 x 1.5	27	30	16	8



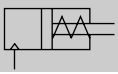
Compact cylinder
Single acting extend type

SSD-X Series

Single acting retract type with switch

SSD-Y Series

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

JIS symbol SSD-X  SSD-Y 

RoHS CAD

Specifications

Descriptions		SSD-X SSD-XL (with switch)			SSD-Y SSD-YL (with switch)			
Bore size	mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50
Actuation		SSD-X/XL: Single acting extend, SSD-Y/YL: Single acting retract type						
Working fluid		Compressed air						
Max. working pressure	MPa	1.0						
Min. working pressure	MPa	0.2		0.17		0.12		
Withstanding pressure	MPa	1.6						
Ambient temperature	℃	-10 to 60 (no freezing)						
Port size		M5				Rc1/8		Rc1/4
Stroke tolerance	mm	+1.0 0						
Working piston speed	mm/s	50 to 500						
Cushion		None						
Lubrication		Not required (when lubricating, use turbine oil ISO VG32.)						
Allowable absorbed energy	J	0.004	0.01	0.016	0.021	0.025	0.092	0.1

Note: Do not leave the single acting cylinder in the pressurized state. If left in the pressurized state, the piston rod may not return with spring force when pressure is released. Use the double acting if use is required at leaving under elevated pressure.

Stroke length

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

Note: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

220 VAC is available for T0/T5 switches.
Consult with CKD for conditions.

● 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H, T1V	T2H, T2V, T2JH, T2JV	T2YH, T2YV	T3H, T3V	T3PH, T3PV (Custom order)	T3YH, T3YV	T0H, T0V	T5H, T5V		T8H, T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay				Programmable controller dedicated
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

Cylinder weight table (weight with switch includes weight with two cylinder switches)

(Unit: g)

Stroke length (mm)	5		10		20	
Bore size (mm)	w/o SW	With switch	w/o SW	With switch	w/o SW	With switch
ϕ12	40	80	49	89	-	-
ϕ16	52	92	64	104	-	-
ϕ20	74	114	89	129	-	-
ϕ25	107	147	127	167	-	-
ϕ32	155	195	183	223	-	-
ϕ40	-	-	285	325	358	398
ϕ50	-	-	459	499	572	612

SSD-X/SSD-Y spring load

(Unit: N)

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

How to order

Without switch

SSD-X — 12 ○ - 5 ——— N - LB - I

With switch

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

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

SSD-XL1 - 12 ○ - 5 - T2YH - R - N - LB - I

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

Symbol	Descriptions
Ⓐ Model no.	
SSD-X	Single acting extend type
SSD-XL	Single acting extend type with switch
SSD-XL1	ϕ12, ϕ16, 2 color indicator with preventive maintenance switch
SSD-Y	Single acting retract type
SSD-YL	Single acting retract type with switch
SSD-YL1	ϕ12, ϕ16, 2 color indicator, off-delay type, with T1* switch

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

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

Ⓓ Stroke length (mm)

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

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive mainte. output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

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

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than listed Ⓔ switch model No. are available. (cunstom order)
Refer to Ending 1 for details.
Note 2: Strong magnetic field proof switches are not available for ϕ12, ϕ16. T8* switch cannot be installed on ϕ12 to ϕ32.
Note 3: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The snap ring is changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.
Note 4: **Copper and PTFE free as standard**
Note 5: Mounting bracket is attached at shipment.
Note 6: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 7: "I" and "Y" can not be selected at the same time.
Note 8: Refer to Ending 89 for custom specifications of rod end form.
Note 9: Refer to pages 720, 721 for the variation and option combination.
Note 10: 2 color indicator, off-delay, strong magnetic field proof, 10 mm or shorter type with T1* or T8* switch is not available.

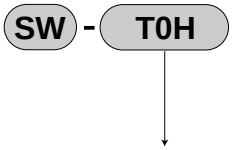
<Example of model number>

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

Model: Compact cylinder

Ⓐ Model no. : Single acting spring return type
Ⓑ Bore size : ϕ12 mm
Ⓒ Port thread type : Rc thread
Ⓓ Stroke length : 5 mm
Ⓔ Switch model no. : Reed switch T0H, lead wire length 1m
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread

How to order switch



Switch model no.
(Item (E) on previous page)

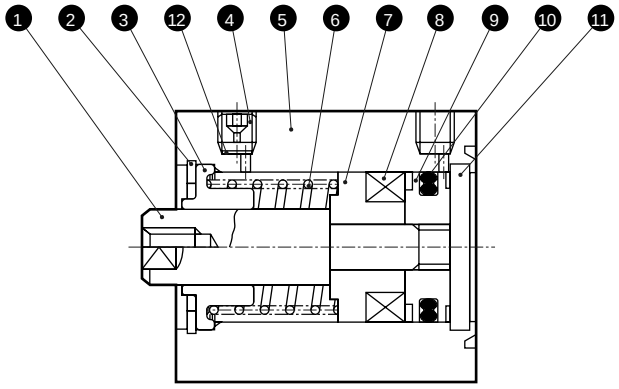
How to order mounting bracket

Bore size (mm) / Mounting bracket	ϕ 12	ϕ 16	ϕ 20	ϕ 25	ϕ 32	ϕ 40	ϕ 50
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 (CB)	SSD-CB-12	SSD-CB-16	SSD-CB-20	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50
Clevis (CB2)	SSD-CB2-12	SSD-CB2-16	SSD-CB2-20	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50

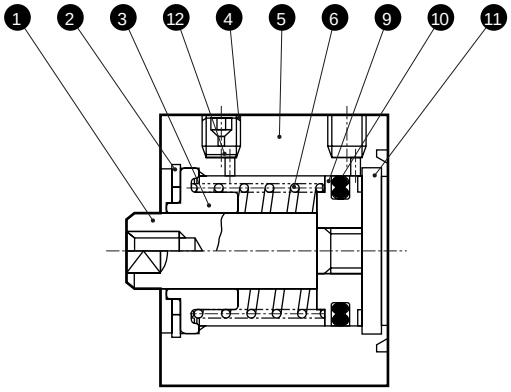
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list

● SSD-XL (single acting extend type with switch)



● SSD-X (single acting extend type)



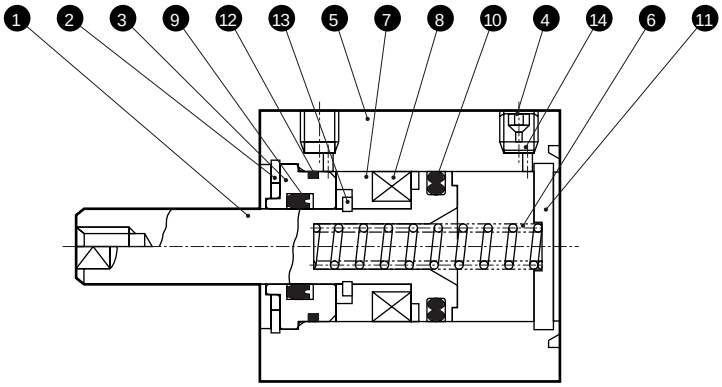
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	ϕ16 to ϕ50:Industrial chrome plating	7	Spacer	Aluminum alloy	Chromate
				8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Special aluminum	Alumite	10	Piston packing seal	Nitrile rubber	
4	Plug	Stainless steel		11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Aluminum alloy	ϕ32 to ϕ50: Alumite
5	Main body	Aluminum alloy	Hard alumite				
6	Spring	Piano wire	Electrode position coating	12	Stainless steel wire net	Stainless steel	

Repair parts list

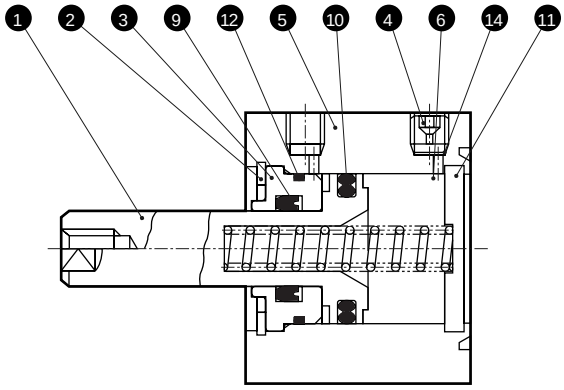
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-X-12K	⑩
ϕ16	SSD-X-16K	
ϕ20	SSD-X-20K	
ϕ25	SSD-X-25K	
ϕ32	SSD-X-32K	
ϕ40	SSD-X-40K	
ϕ50	SSD-X-50K	

Internal structure and parts list

● SSD-YL (single acting retract type with switch)



● SSD-Y (single acting retract type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston	Stainless steel		8	Magnet	Plastic	
				9	Rod packing seal	Nitrile rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum alloy	Alumite	11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Aluminum alloy	ϕ 32 to ϕ50: Alumite
4	Plug	Stainless steel					
5	Body	Aluminum alloy	Hard alumite	12	Metal gasket	Nitrile rubber	
6	Spring	Piano wire	Electrode position coating	13	Round S type snap ring	Steel	Phosphoric acid zinc
7	Spacer	Aluminum alloy	Chromate	14	Stainless steel wire net	Stainless steel	

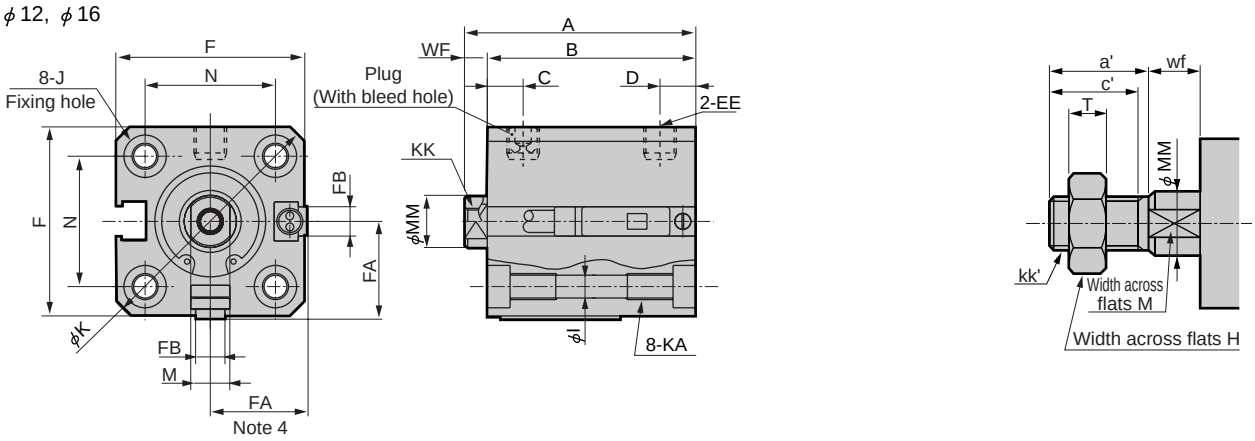
Repair parts list

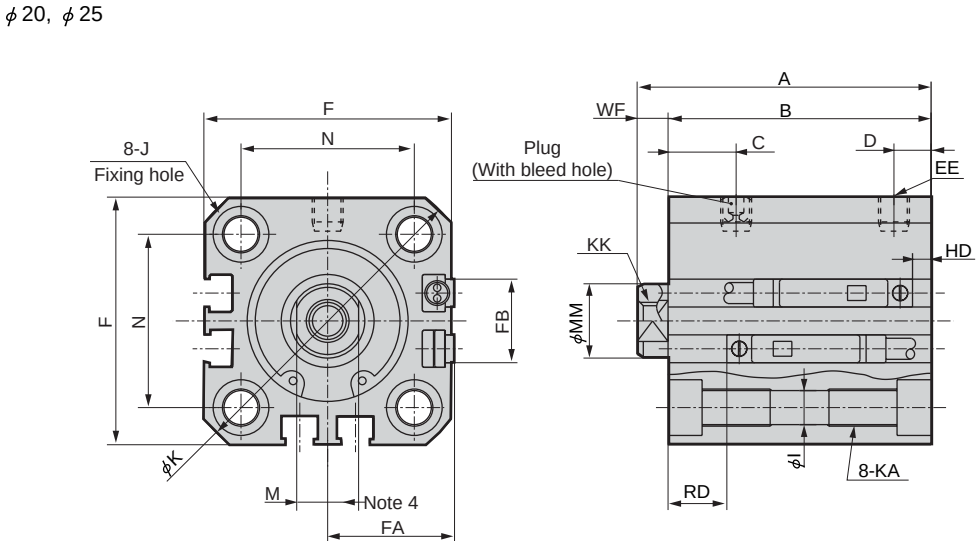
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-Y-12K	
ϕ16	SSD-Y-16K	
ϕ20	SSD-Y-20K	
ϕ25	SSD-Y-25K	9 10 12
ϕ32	SSD-Y-32K	
ϕ40	SSD-Y-40K	
ϕ50	SSD-Y-50K	

Dimensions

● SSD-XL-12 to 25 (with switch)

● Rod end male thread





Symbol / Bore size (mm)			A	B	C	D	EE	F	FA Note 4	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	Stroke length	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																	
ϕ16	Stroke length	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																	
ϕ20	Stroke length	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															
ϕ25	Stroke length	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															

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

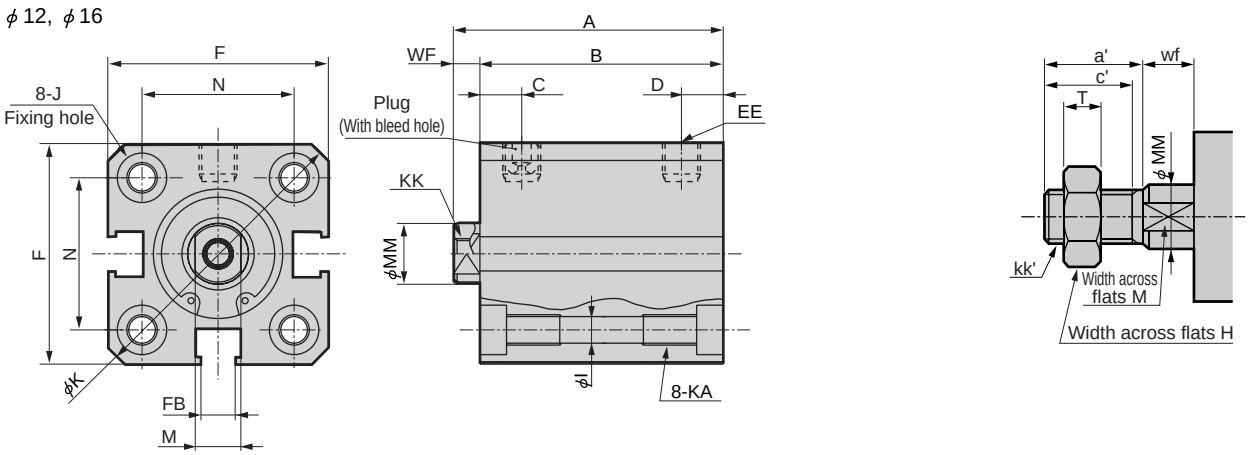
Switch dimension / Bore size (mm)	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
	HD Note 1	RD Note 1	HD Note 1	RD Note 1
ϕ12	0	2.5	0	2.5
ϕ16	0	2	0	2
ϕ20	3	6.5	3	6.5
ϕ25	3	9.5	3	9.5

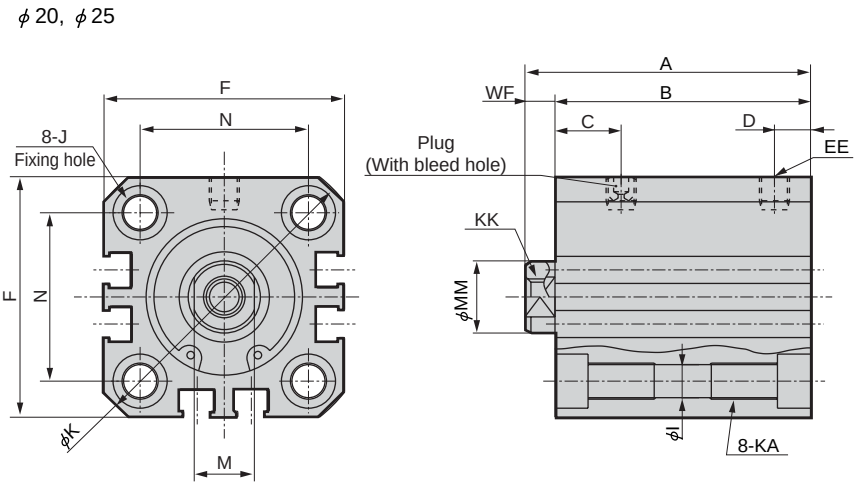
Note 1: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
Note 2: Refer to page 926 for HD/RD dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
Note 3: Refer to page 926 for projection dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
Note 4: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
Note 5: Refer to pages 938 to 945 for accessory dimensions.

Dimensions CAD

● SSD-X-12 to 25 (without switch)

● Rod end male thread





Symbol / Bore size (mm)			Dimensions for types without switch, common																	
			A	B	C	D	EE	F	FA	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	Stroke length	5	25.5	22	5.5	5.5	M5	25	13	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10	35.5	27															
ϕ16	Stroke length	5	25.5	22	5.5	5.5	M5	29	15	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10	30.5	27															
ϕ20	Stroke length	5	29	24.5	8	5.5	M5	36	18.5	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	34	29.5															
ϕ25	Stroke length	5	32.5	27.5	11	6	M5	40	20.5	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	37.5	32.5															

Rod end male thread section dimensions table

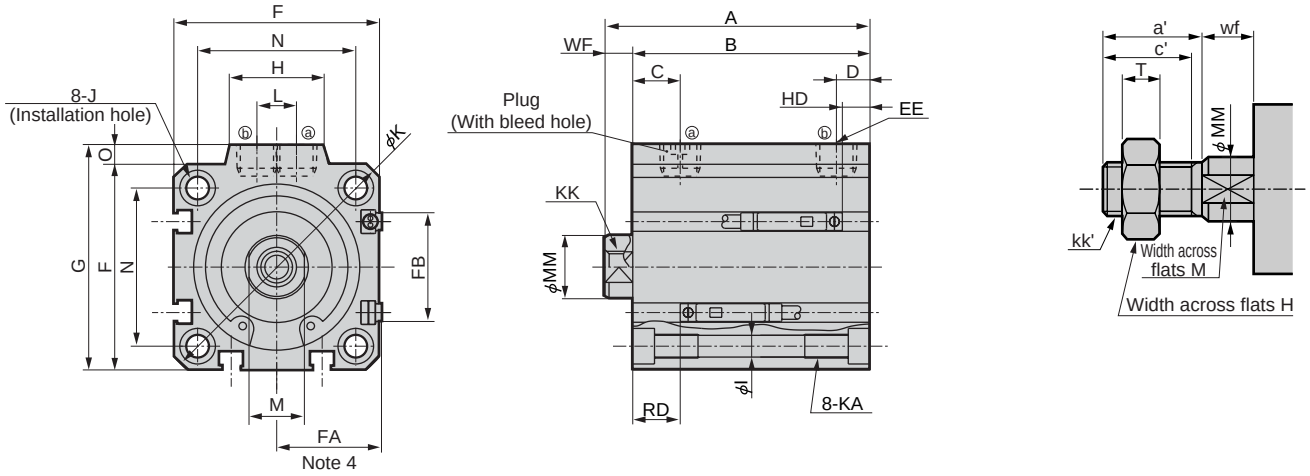
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: Refer to pages 938 to 945 for accessory dimensions.

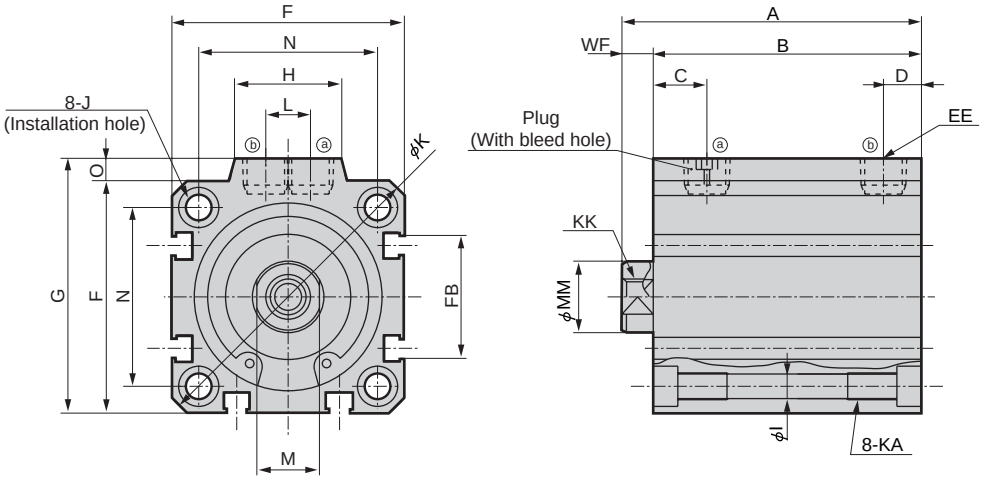
Dimensions

● SSD-XL-32 to 50 (with switch)

● Rod end male thread



● SSD-X-32 to 50 (without switch)



Symbol / Bore size (mm)			Without switch A	Without switch B	Dimensions for common, types with switch A	B	C	D	EE	F	FA Note 4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	Stroke length	5	35	28	45	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
		10	40	33	50	43																			
ϕ40	Stroke length	10	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
		20	56.5	49.5	66.5	59.5																			
ϕ50	Stroke length	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																			

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5

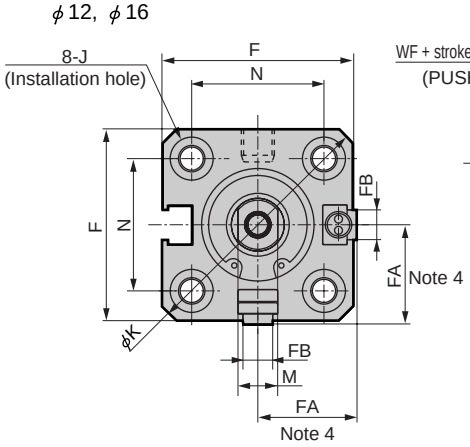
Switch dimension / Bore size (mm)	Reed T0H/T0V, T5H/T5V HD Note 1	Reed T0H/T0V, T5H/T5V RD Note 1	Proximity T2H/T2V, T3H/T3V HD Note 1	Proximity T2H/T2V, T3H/T3V RD Note 1
ϕ32	3.5	9	3.5	9
ϕ40	7	12	7	12
ϕ50	7.5	12.5	7.5	12.5

- Note 1: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
- Note 2: Refer to page 927 for HD/RD dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 3: Refer to page 927 for projection dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 4: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
- Note 5: Refer to pages 938 to 945 for accessory dimensions.

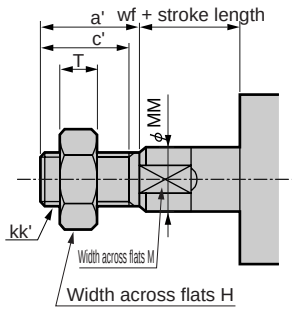
Dimensions CAD

● SSD-YL-12 to 25 (with switch)

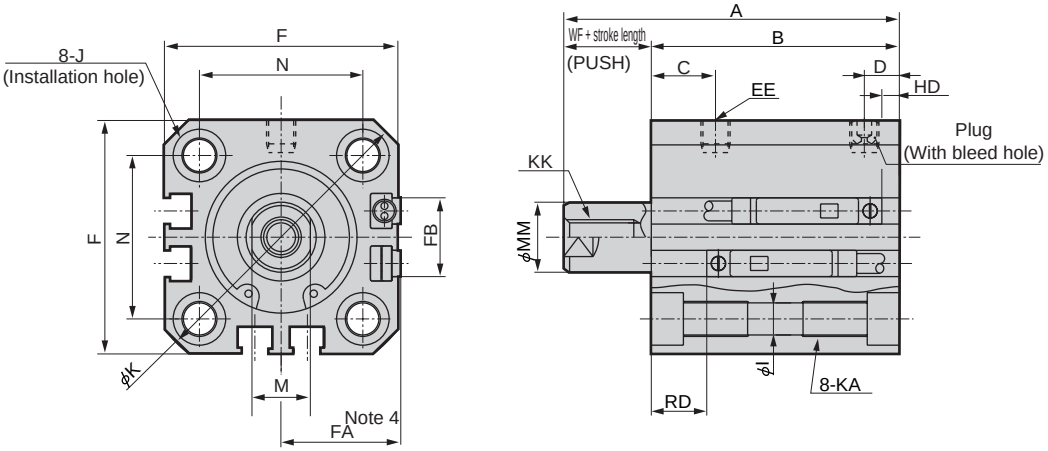
ϕ12, ϕ16



● Rod end male thread



ϕ20, ϕ25



Symbol / Bore size (mm)			Without switch A	Without switch B	Dimensions for common, types with switch A	B	C	D	EE	F	FA Note 4	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	Stroke length	5	30.5	22	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	40.5	27	45.5																3.5
ϕ16	Stroke length	5	30.5	22	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	40.5	27	45.5																3.5
ϕ20	Stroke length	5	34	24.5	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	44	29.5	54	39.5															4.5
ϕ25	Stroke length	5	37.5	27.5	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	47.5	32.5	57.5	42.5															5

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Switch dimension / Bore size (mm)	Reed T0H/T0V, T5H/T5V HD Note 1	Reed T0H/T0V, T5H/T5V RD Note 1	Proximity T2H/T2V, T3H/T3V HD Note 1	Proximity T2H/T2V, T3H/T3V RD Note 1
ϕ12	0	2.5	0	2.5
ϕ16	0	2	0	2
ϕ20	3	6.5	3	6.5
ϕ25	3	9.5	3	9.5

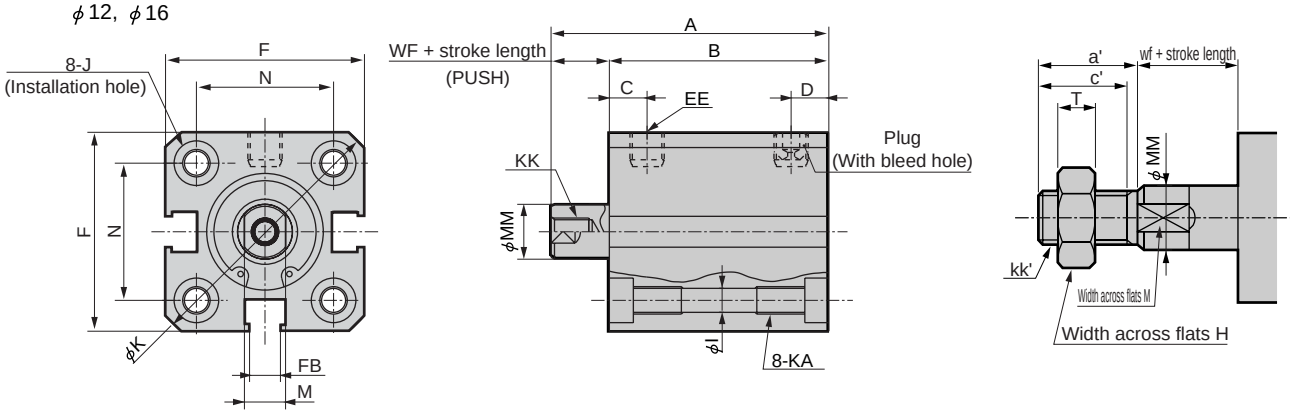
- Note 1: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
- Note 2: Refer to page 926 for HD/RD dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 3: Refer to page 926 for projection dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 4: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
- Note 5: Refer to pages 938 to 945 for accessory dimensions.

Dimensions

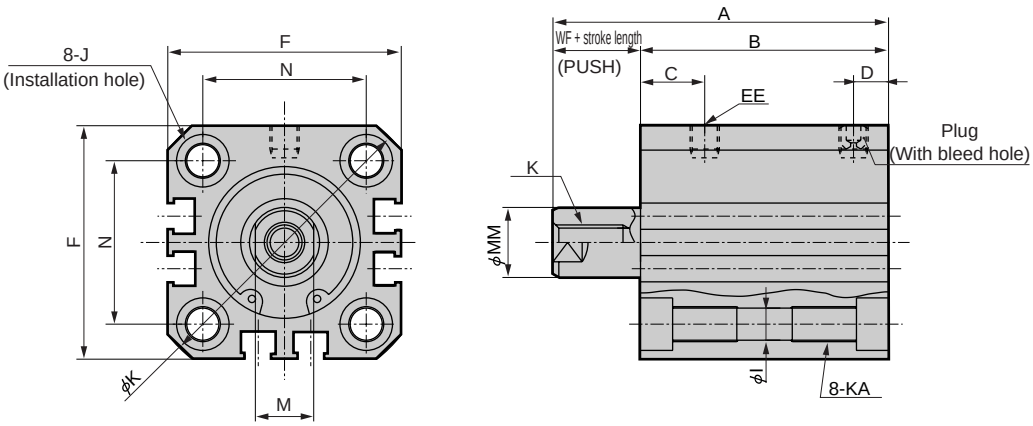
● SSD-Y-12 to 25 (without switch)

● Rod end male thread

ϕ12, ϕ16



ϕ20, ϕ25



Symbol / Bore size (mm)			Without switch A	B	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	Stroke length	5	30.5	22	5.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
		10	40.5	27														3.5
ϕ16	Stroke length	5	30.5	22	5.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
		10	40.5	27														3.5
ϕ20	Stroke length	5	34	24.5	8	5.5	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
		10	44	29.5														4.5
ϕ25	Stroke length	5	37.5	27.5	11	6	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5
		10	47.5	32.5														5

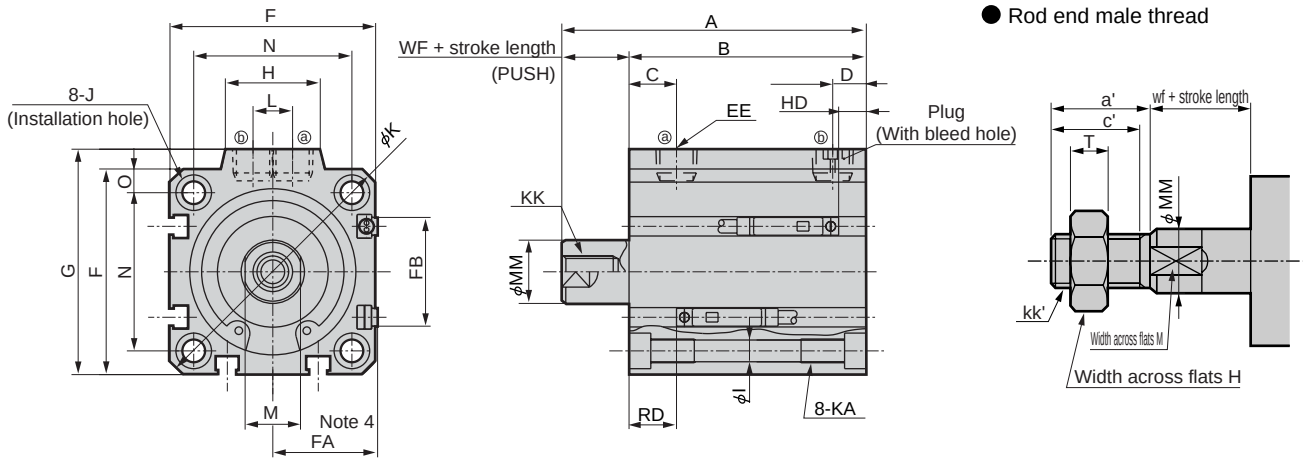
Rod end male thread section dimensions table

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

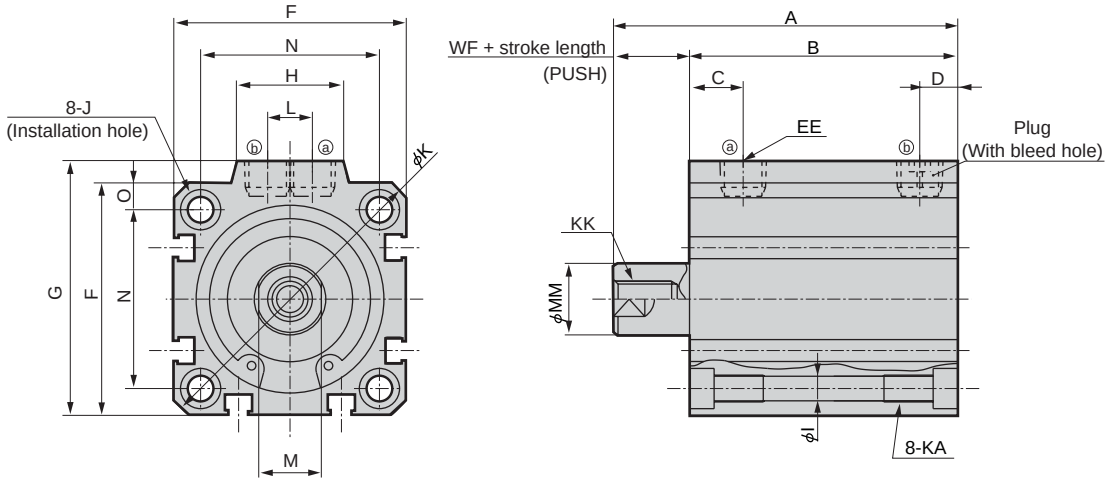
Note 1: Refer to pages 938 to 945 for accessory dimensions.

Dimensions

● SSD-YL-32 to 50 (with switch)



● SSD-Y-32 to 50 (without switch)



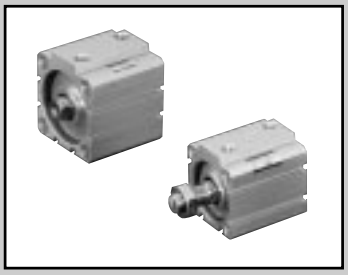
Symbol / Bore size (mm)		Without switch A	Without switch B	Dimensions for common, types with switch A	B	C	D	EE	F	FA Note 4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	Stroke length 5	40	28	50	38	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
	Stroke length 10	50	33	60	43																			7
ϕ40	Stroke length 10	56.5	39.5	66.5	49.5	12	8.5	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	11 spot face depth 6.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
	Stroke length 20	76.5	49.5	86.5	59.5																			7
ϕ50	Stroke length 10	58.5	40.5	68.5	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
	Stroke length 20	78.5	50.5	88.5	60.5																			8

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5

Switch dimension / Bore size (mm)	Reed T0H/T0V, T5H/T5V HD Note 1	Reed T0H/T0V, T5H/T5V RD Note 1	Proximity T2H/T2V, T3H/T3V HD Note 1	Proximity T2H/T2V, T3H/T3V RD Note 1
ϕ32	3.5	9	3.5	9
ϕ40	7	12	7	12
ϕ50	7.5	12.5	7.5	12.5

● Note 1: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
● Note 2: Refer to page 927 for HD/RD dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
● Note 3: Refer to page 927 for projection dimensions of 2 color indicator, off-delay, strong magnetic field proof, or T1* and T8* switch.
● Note 4: Dimensions shown in ( ) of FA are for a dimension of radial lead wire.
● Note 5: Refer to pages 938 to 945 for accessory dimensions.

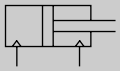


Compact cylinder Double acting heat resistance type

SSD-T Series

● Bore size: ϕ 12, ϕ 16, ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 83, ϕ 100

JIS symbol



RoHS CAD

Specifications

Descriptions	SSD-T									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.1							0.05		
Withstanding pressure MPa	1.6									
Ambient temperature℃	5 to 120									
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 Note 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

Note 1: Apply heat proof grease periodically.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 12	5, 10, 15, 20, 25, 30	30	1
ϕ 16			
ϕ 20			
ϕ 25	5, 10, 15, 20, 25, 30, 40, 50	50	
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	5, 10, 20, 30, 40, 50	50	
ϕ 80			
ϕ100			

Note 1) Custom stroke length is available per 1 mm increment. Note that the total length is the same as the next longer standard stroke length.

How to order

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

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

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

⚠ Caution for model No. selection

Note 1: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The snap ring is changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.
Note 2: The mounting bracket is attached at shipment.
Note 3: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 4: "I" and "Y" can not be selected at the same time.
Note 5: Refer to Ending 89 for custom specifications of rod end form.
Note 6: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

SSD-T-12-5-N

Model: Compact cylinder heat resistance type
Ⓐ Bore size : ϕ12 mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Option : Rod end male thread

(Stroke length table)

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

Note 1: The total length is the same as the next larger standard stroke.

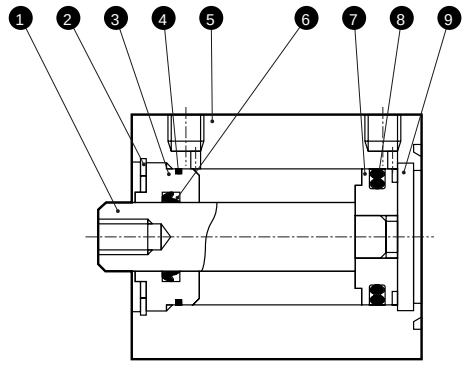
How to order mounting bracket

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

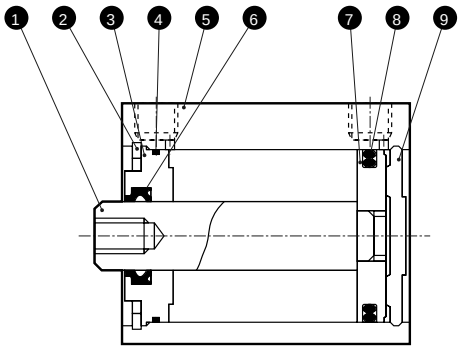
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list

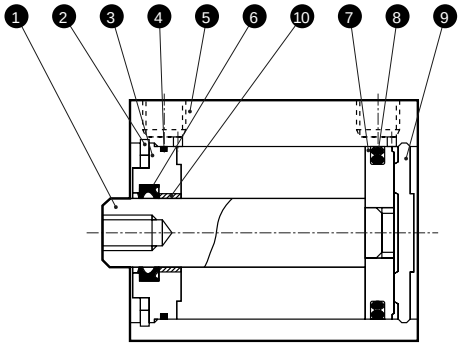
● SSD-T-12 to 25



● SSD-T-32 to 50



● SSD-T-63 to 100



No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ100: Steel	ϕ16 to ϕ100: Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	ϕ12 to ϕ50: Special aluminum ϕ63 to ϕ100: Aluminum alloy	Alumite
4	Rod metal gasket	Fluoro rubber	
5	Book body	Aluminum alloy	Hard alumite
6	Rod packing seal	Fluoro rubber	

No.	Parts name	Material	Remarks
7	Piston	ϕ12 to ϕ25: Aluminum alloy ϕ32 to ϕ100: Stainless steel	ϕ12 to ϕ25: Chromate
8	Piston packing seal	Fluoro rubber	
9	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ100: Aluminum alloy	ϕ32 to ϕ100: Alumite
10	Bush	Oilless dry met	ϕ63 to ϕ100

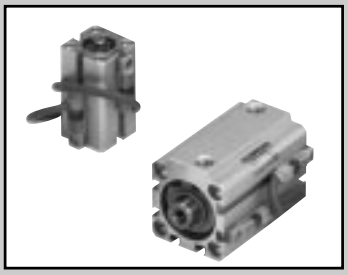
Fluorine system grease is used for grease.

Repair parts list

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

Dimensions

It is the same as the double acting single rod type. Refer to pages 743 to 745.

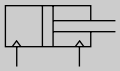


Compact cylinder Double acting heat resistance type with cylinder switch

SSD-T1L Series

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

JIS symbol



RoHS

Specifications

Descriptions	SSD-T1L						
Bore size mm	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0						
Min. working pressure MPa	0.1						0.05
Withstanding pressure MPa	1.6						
Ambient temperature ℃	5 to 150 (Note 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 (Note 2)	—						

Note 1: External leakage occurs gradually after 500 thousand cycles at ambient temperature 150 ℃.
Note 2: Apply heat proof grease periodically.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)		
			With 1 switch	With 2 switches	With 3 switches
ϕ16	10, 15, 20, 25, 30	30	10	20	35
ϕ20			15	25	45
ϕ25	10, 20, 30, 40, 50	50		20	40
ϕ32			10		
ϕ40					
ϕ50					
ϕ63	10, 20, 30, 40, 50				

Note: Custom stroke length is available per 1 mm increment. (7 mm or less not available) The total length is the same dimension as the next longer standard stroke length.

Cylinder switch specifications

Descriptions	Reed 2-wire	
	ET0H, ET0V	
Applications	Relay, programmable controller	
Load voltage	12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA
Internal voltage drop	2.4 V or less	
Leakage current	0 mA	
Light	LED ON lighting (note)	
Lead wire	Heat proof fluorine insulation sheath electric wire 1 m (0.5SQ (100/0.08) annealed copper wire x 2C)	
Insulation resistance	100 MΩ and over at 500 VDC megger	
Withstand voltage	No failure at 1000 VAC for 1 minute	
Max. shock resistance	294 m/s^2	
Ambient temperature	-10 to 150℃	
Protective structure	IEC standards IP67, JIS C0920 (water tight type)	

(Note)For indicator light, LED is used.
Using this product at high temperature gradually decreases visibility.
Even LED does not light, the switch output circuit works correctly because the switch output line is separated.

How to order

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

- SSD-T1L: Double acting heat resistance type with small heat-resistance switch
- Ⓐ Bore size
- Ⓑ Port thread type
- Ⓒ Stroke length
- Ⓓ Switch model no.
- Ⓔ Switch quantity
- Ⓕ Option Note 1
- Ⓖ Mounting bracket Note 2 Note 3
- Ⓗ Accessory Note 4

Symbol	Descriptions
Ⓐ Bore size (mm)	
16	ϕ 16
20	ϕ 20
25	ϕ 25
32	ϕ 32
40	ϕ 40
50	ϕ 50
63	ϕ 63
Ⓑ Port thread type	
Blank	Rc thread
NN	NPT thread (ϕ 32 and over) (custom order)
GN	G thread (ϕ 32 and over) (custom order)
Ⓒ Stroke length (mm)	
Refer to the table below for stroke length.	
Ⓓ Switch model no.	
ET0H	Reed, 2-wire, Axial lead wire
ET0V	Reed, 2-wire, Radial lead wire
Ⓔ Switch quantity	
R	One on rod side
H	One on head side
D	2
Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread
M	Piston rod material (stainless steel)
Ⓖ Mounting bracket	
LB	Axial foot
LB2	Axial foot (compact type)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type
Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The snap ring is changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.
Note 2: Mounting bracket is attached at shipment.
Note 3: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 4: "I" and "Y" can not be selected at the same time.
Note 5: Refer to Ending 89 about custom specifications of rod end form.
Note 6: Refer to pages 720 to 723 for variation and option combination.

<Example of model number>

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

Model: Compact cylinder
Double acting heat resistance type with cylinder switch
Ⓐ Bore size : ϕ16
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 10 mm
Ⓓ Switch model no. : Reed switch ET0H, lead wire length 1 m
Ⓔ Switch quantity : 2
Ⓕ Option : Rod end male thread

How to order switch

SW - ET0H

Switch model no.
(Item D above)

(Stroke length table)

Stroke length (mm)		Applicable bore size						
		ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63
Standard stroke length	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●	●	●	
	20	●	●	●	●	●	●	●
	25	●	●	●	●	●	●	
	30	●	●	●	●	●	●	●
	40			●	●	●	●	●
	50			●	●	●	●	●
Min. stroke length (mm) Note 1		7 (15)		10 (20)		7 (15)		
Max. stroke length (mm)		30				50		
Custom stroke length Note 2		Per 1 mm increment						

Note 1: Value in ( ) is the type with two switches.
Refer to page 774 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next larger standard stroke.

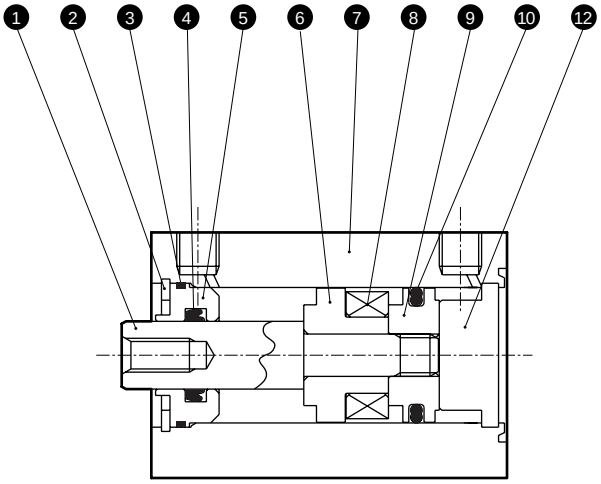
How to order mounting bracket

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

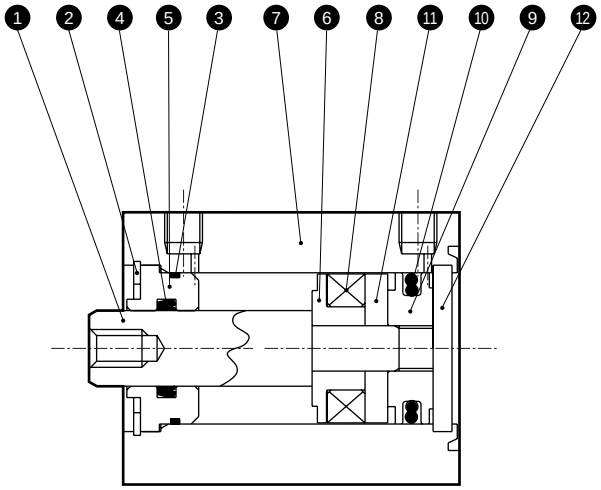
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list (ϕ 16 to ϕ 32)

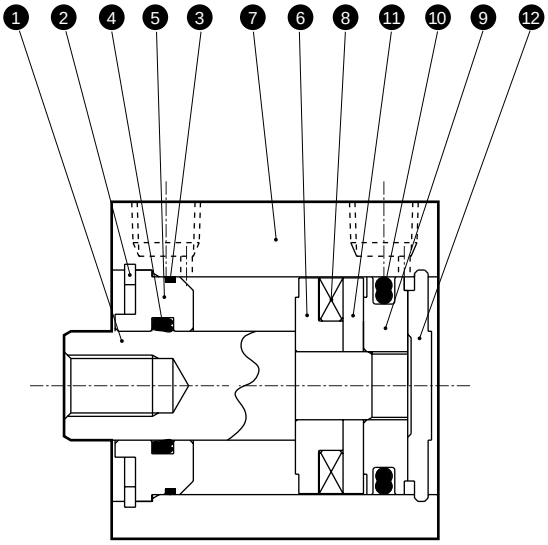
● SSD-T1L-16



● SSD-T1L-20/25



● SSD-T1L-32



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

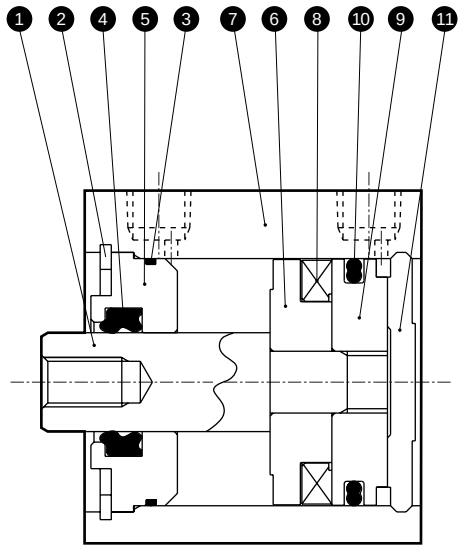
Fluorine system grease is used for grease.

Repair parts list (ϕ 16 to ϕ 32)

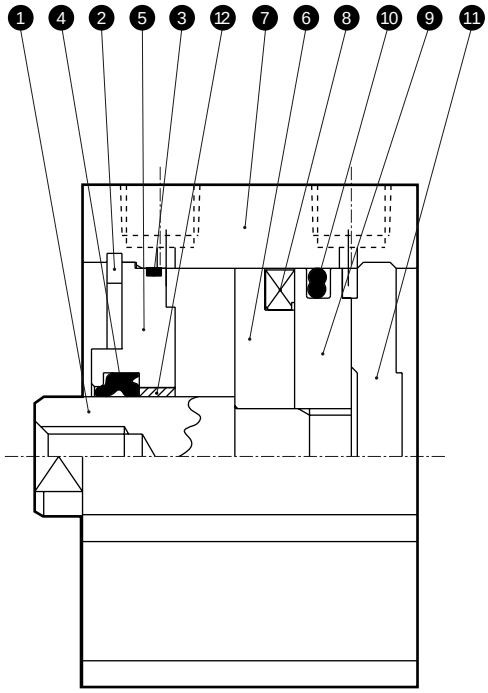
Bore size (mm)	Kit No.	Repair parts number
ϕ16	SSD-T-16K	❸ ❹ ❿
ϕ20	SSD-T-20K	
ϕ25	SSD-T-25K	
ϕ32	SSD-T-32K	

Internal structure and parts list (ϕ 40 to ϕ 63)

● SSD-T1L-40/50



● SSD-T1L-63



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated	7	Cylinder body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod metal gasket	Fluoro rubber		9	Piston	Stainless steel	
4	Rod packing seal	Fluoro rubber		10	Piston packing seal	Fluoro rubber	
5	Rod bushing	ϕ40, 50: Special aluminum ϕ63: Aluminum alloy	Chromate	11	Cover	Aluminum alloy	Alumite
				12	Bush	Oilless dry met	
6	Spacer (magnet)	Aluminum alloy	Chromate				

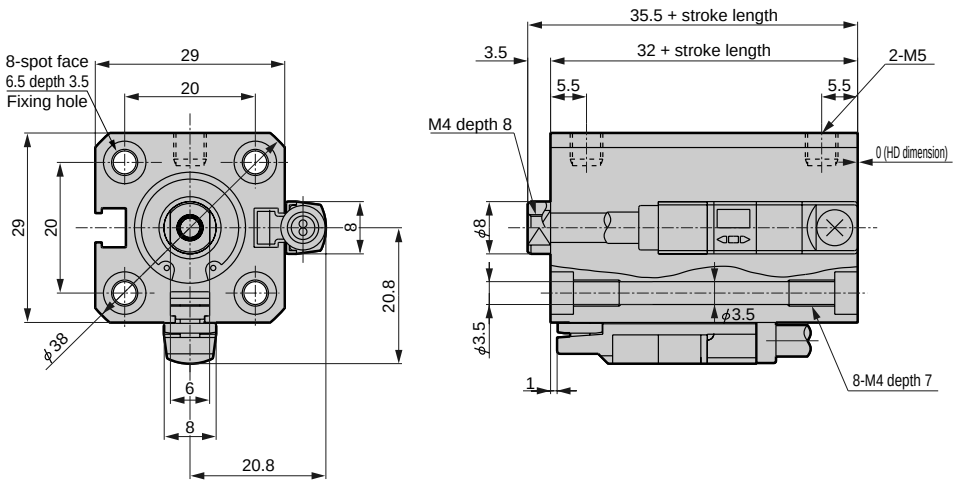
Fluorine system grease is used for grease.

Consumable part list (ϕ40 to ϕ63)

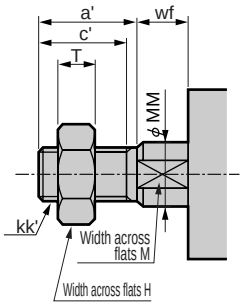
Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-T-40K	❸ ❹ ❿
ϕ50	SSD-T-50K	
ϕ63	SSD-T-63K	

Dimensions (ϕ16 to ϕ25)

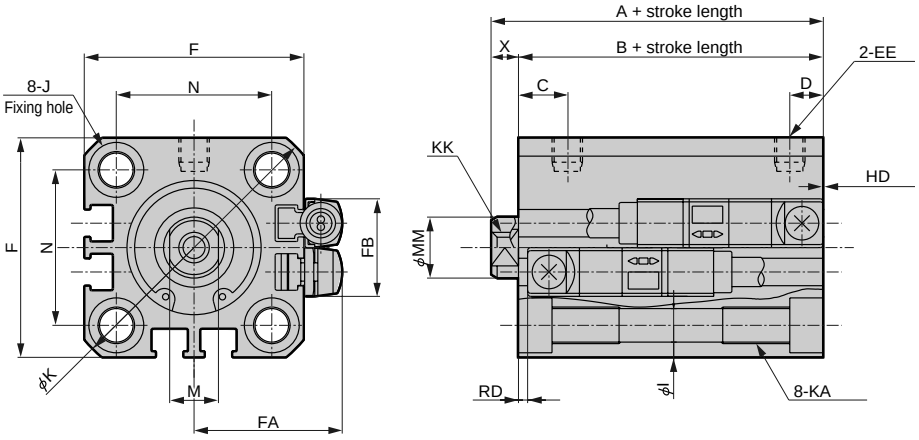
● SSD-T1L-16



● Rod end male thread



● SSD-T1L-20/25



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

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

Note 1: Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, the length is calculated by inputting the following increment of standard stroke length instead of the custom stroke length.
(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.

Note 2: The total length of φ16 is longer than φ20 due to heat-resistant magnet manufacturing.

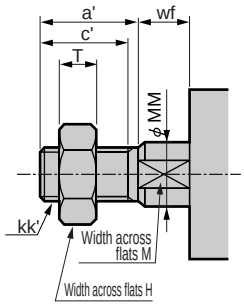
Note 3: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

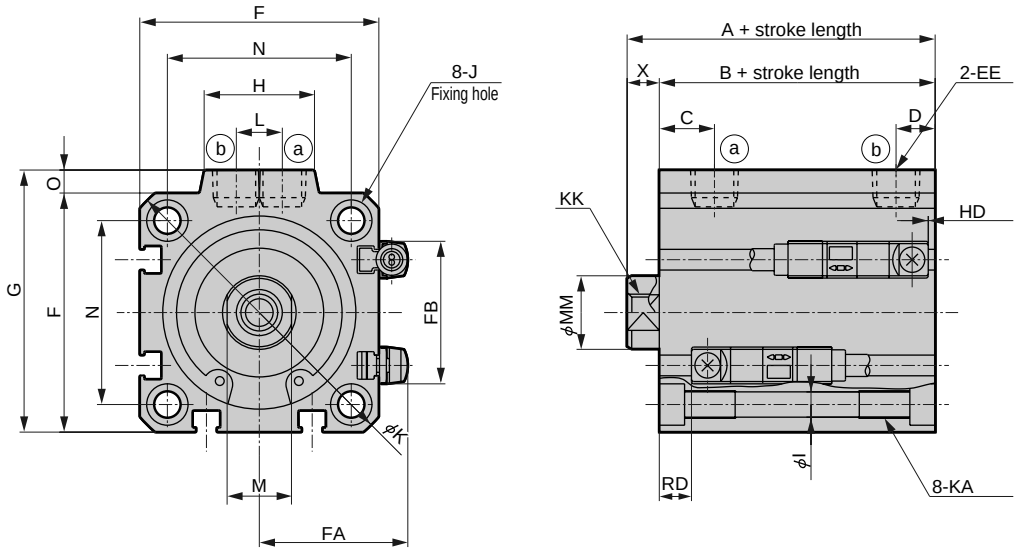
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ16	12	10	8	M6	6	8	3.6	3.5
φ20	14	12	13	M8	8	10	5	4.5
φ25	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions (ϕ 32 to ϕ 63)

● Rod end male thread



● SSD-T1L-32 to 63



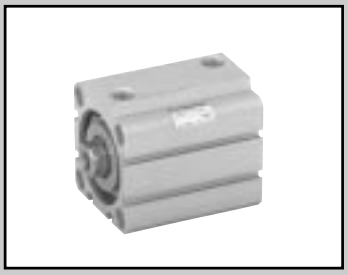
Symbol / Bore size	Basic dimensions														
	A (Note 1)	B (Note 1)	C	D	EE	F	FA	FB	G	H	I	J	K	KA	KK
φ 32	40	33	8	8	Rc1/8	45	28.8	24	49.5	24	5.5	Spot face 9 depth 5.5	60	M6 x depth 11	M8 x depth 13
φ 40	46.5	39.5	12	8.5	Rc1/8	52	32.3	31	57	24	5.5	Spot face 9 depth 5.5	69	M6 x depth 11	M8 x depth 13
φ 50	48.5	40.5	10.5	10.5	Rc1/4	64	38.3	32	71	33	6.9	Spot face 11 depth 6.5	86	M8 x depth 13	M10 x depth 15
φ 63	54	46	13	11	Rc1/4	77	44.8	32	84	33	8.7	Spot face 14 depth 9	103	M10 x depth 25	M10 x depth 15

Symbol / Bore size	Basic dimensions						Dimension with switch reed ET0H/ET0V	
	L	M	MM	N	O	X	HD	RD
φ 32	10	14	16	34	4.5	7	0.5	2.0
φ 40	10	14	16	40	5	7	1.5	7.0
φ 50	15	17	20	50	7	8	1.5	6.0
φ 63	15	17	20	60	7	8	5.5	5.5

Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, the length is calculated by inputting the following increment of standard stroke length instead of the custom stroke length.
(E.g.) For 7 mm custom stroke, the length is calculated by inputting standard stroke length 10 mm.
Note 2: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
φ50	28.5	26	27	M18 x 1.5	17	20	11	5
φ63	28.5	26	27	M18 x 1.5	17	20	11	5

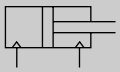


Compact cylinder High load type rubber-air cushioned

SSD-K-*C Series

● Bore size: ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS CAD

Specifications

Descriptions		SSD-K							
Bore size	mm	ϕ 20	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	1.0							
Min. working pressure	MPa	0.25		0.2					
Withstanding pressure	MPa	1.6							
Ambient temperature	℃	-10 to 60 (no freezing)							
Port size		Rc1/8				Rc1/4		Rc3/8	
Stroke tolerance	mm	+2.0 0							
Working piston speed	mm/s	50 to 500					50 to 300		
Cushion		Rubber-air cushion							
Lubrication		Not required (when lubricating, use turbine oil ISO VG32.)							
Allowable absorbed energy	J	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 20	5, 10, 15, 20, 25, 30, 40, 50	200	5 mm (ϕ 20 to ϕ 50) 10 mm (ϕ 63 to ϕ 100)
ϕ 25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90,100	300	
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	10, 20, 30, 40, 50, 60, 70, 80, 90,100		
ϕ 80			
ϕ 100			

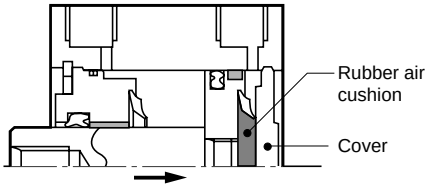
Note 1: Custom stroke length is available per 1 mm increment. Note that the total length is the same as the next longer standard stroke length.
Note 2: Refer to the following table when a switch is used.

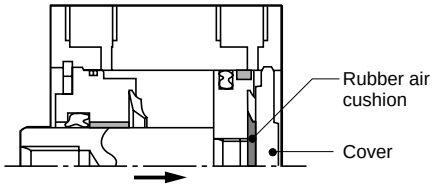
Switch quantity and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model no. / Bore size (mm)	T*	T*	T*	T*	T*
ϕ 20	5	5	35	50	65
ϕ 25	5	5	35	50	65
ϕ 32	5	5	35	50	65
ϕ 40	5	5	35	50	65
ϕ 50	5	5	35	50	65
ϕ 63	10	10	35	50	65
ϕ 80	10	10	35	50	65
ϕ 100	10	10	35	50	65

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

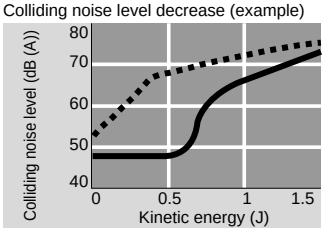
Rubber-air cushion mechanism



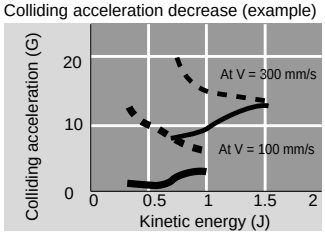


Rubber cushioned cylinder
Rubber-air cushioned cylinder

Colliding noise level decrease (example)



Colliding acceleration decrease (example)



Explanation at PULL

When the piston moves and the rubber-air cushion and cover contact, a sealed air space is formed in the shaded section in which air is compressed as the piston moves and energy is absorbed by the rubber air cushion's compression strain, calculated at the stroke end.

Switch specifications

220 VAC is available for T0/T5 switches.
Consult with CKD for conditions.

● 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H, T1V	T2H, T2V, T2JH, T2JV	T2YH, T2YV	T3H, T3V	T3PH, T3PV (Custom order)	T3YH, T3YV	T0H, T0V	T5H, T5V		T8H, /T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay				Programmable controller dedicated
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

How to order

Without switch

SSD-K — 40 ☐ C - 10 ——— N - LB - I

With switch

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

Ⓐ Bore size

Rubber air cushioned

Ⓑ Port thread type

Ⓒ Stroke length

Ⓓ Switch model no. Note 1

Ⓔ Switch quantity

Ⓕ Option Note 2

Ⓖ Mounting bracket Note 3 Note 4

Ⓗ Accessory Note 5

Symbol	Descriptions
Ⓐ Bore size (mm)	
20	ϕ 20
25	ϕ 25
32	ϕ 32
40	ϕ 40
50	ϕ 50
63	ϕ 63
80	ϕ 80
100	ϕ 100

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

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

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive mainte. output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

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

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

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than listed Ⓓ switch model No. are available.(cunstom order) Please refer to Ending 1 about details.

Note 2: Piston rod material of ϕ20, ϕ25 is stainless steel as standard. The snap ring is changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.

Note 3: The mounting bracket is attached at shipment.

Note 4: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 5: "I" and "Y" can not be selected at the same time.

Note 6: Refer to Ending 89 for custom specifications of rod end form.

Note 7: Refer to pages 722 to 723 for the variation and option combination.

<Example of model number>

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

Model: Compact cylinder rubber-air cushioned

Ⓐ Bore size : ϕ 32 mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 10 mm
Ⓓ Switch model no. : Reed switch T0H, lead wire length 1 m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

How to order switch

SW - T0H

(Item Ⓓ above)

(Stroke length table)

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

Note 1: 2 color indicator, off-delay, strong magnetic field proof, or 10 mm or shorter types with T1* or T8* switch is not available.
Refer to page 780 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next larger standard stroke.

How to order mounting bracket

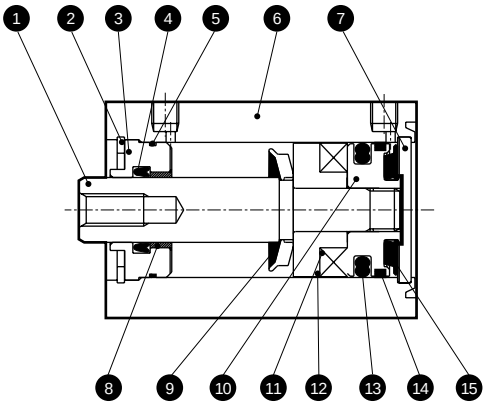
Bore size (mm) / Mounting bracket	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32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

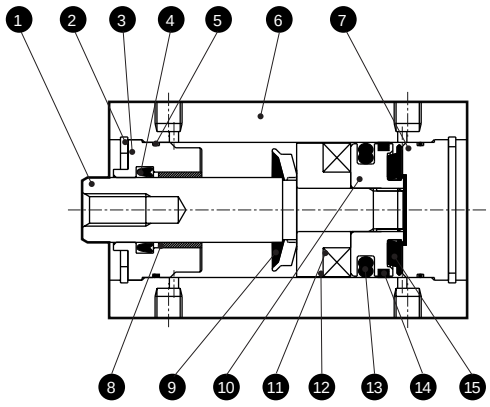
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list

● SSD-KL-20C/25C
(Double acting single rod high load type rubber-air cushion with switch)

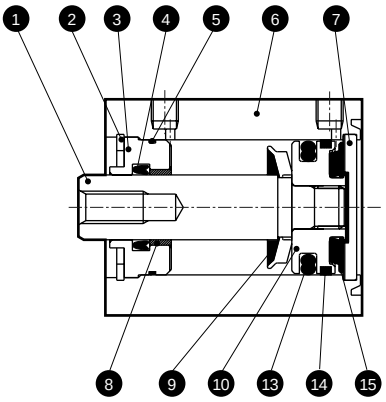
· ϕ 20: 100 to 200 stroke length
· ϕ 25: 150 to 300 stroke length

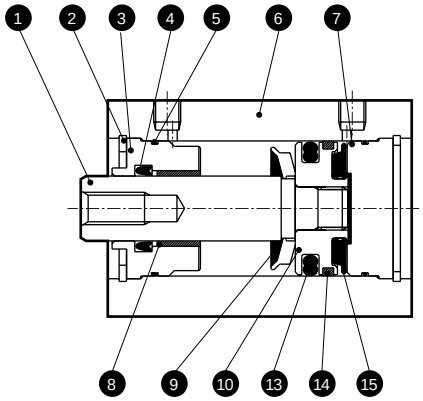




● SSD-K-20C/25C
(Double acting single rod high load type rubber-air cushioned)

· ϕ 20: 100 to 200 stroke length
· ϕ 25: 150 to 300 stroke length





No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated	9	Rubber-air cushion (R)	Special rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston	Aluminum alloy	Alumite
3	Rod bushing	Aluminum alloy	Alumite	11	Magnet	Plastic	
4	Rod packing seal	Nitrile rubber		12	Spacer	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		13	Piston packing seal	Nitrile rubber	
6	Book body	Aluminum alloy	Hard alumite	14	Wear ring	Polyacetal resin	
7	Cover	Aluminum alloy		15	Rubber-air cushion (H)	Special rubber	
8	Bush	Oilless dry met					

Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ϕ20	SSD-K-20CK	4 5 9
ϕ25	SSD-K-25CK	13 14 15

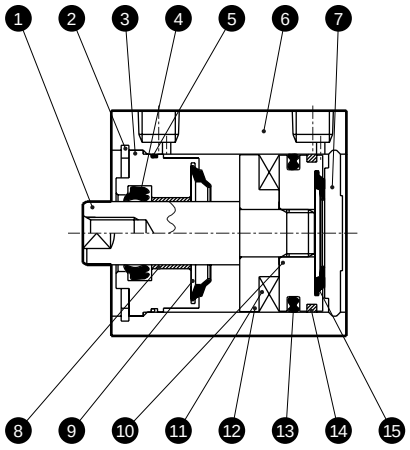
Dimensions

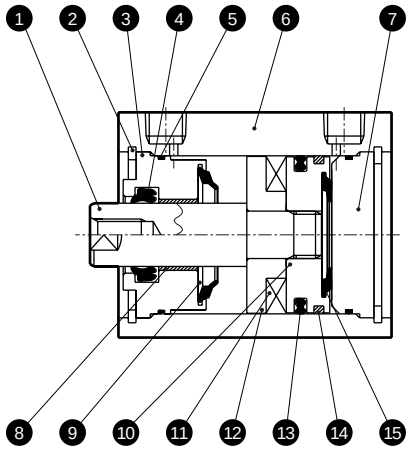
It is the same as the double acting high load type SSD-K Series. Refer to pages 754 to 757.

Internal structure and parts list

● SSD-KL-32C to 100C
(Double acting single rod high load type rubber-air cushion with switch)

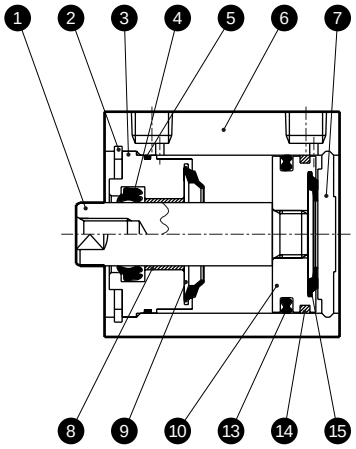
·ϕ32 to ϕ50: 150 to 300 stroke length
·ϕ63 to ϕ100: 200 to 300 stroke length

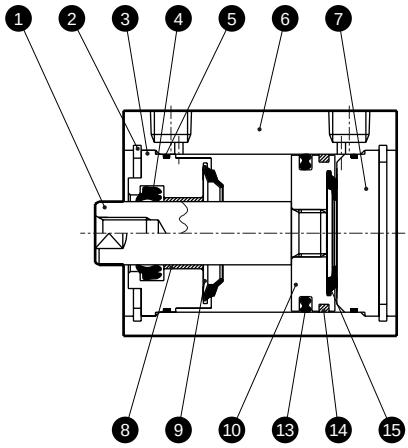




● SSD-K-32C to 100C
(Double acting single rod high load type rubber-air cushioned)

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





No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated	9	Rubber-air cushion (R)	Special rubber	
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston	Aluminum alloy	Alumite
3	Rod bushing	Aluminum alloy	Alumite	11	Magnet	Plastic	
4	Rod packing seal	Nitrile rubber		12	Spacer	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		13	Piston packing seal	Nitrile rubber	
6	Book body	Aluminum alloy	Hard alumite	14	Wear ring	Polyacetal resin	
7	Cover	Aluminum alloy	Alumite	15	Rubber-air cushion (H)	Special rubber	
8	Bush	Oilless dry met					

Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ϕ 32	SSD-K-32CK	4 5 9 13 14 15
ϕ 40	SSD-K-40CK	
ϕ 50	SSD-K-50CK	
ϕ 63	SSD-K-63CK	
ϕ 80	SSD-K-80CK	
ϕ100	SSD-K-100CK	

Technical data

(Comparative colliding noise levels)

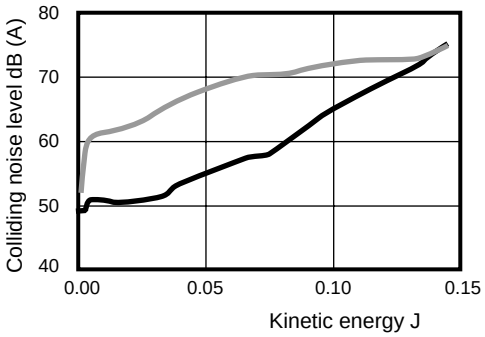
Standard rubber cushion :
Rubber-air cushion :

Example data are compared at following conditions.
The value is not guaranteed because the value may differ depending on platform rigidity etc.

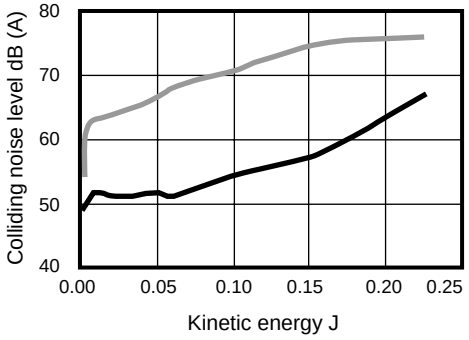
(Test conditions)

Cylinder type	: SSD
Cylinder installation attitude	: Vertical rod upward
Cylinder supply pressure	: 0.5 MPa
Noise mater measurement position	: 1 m from sample

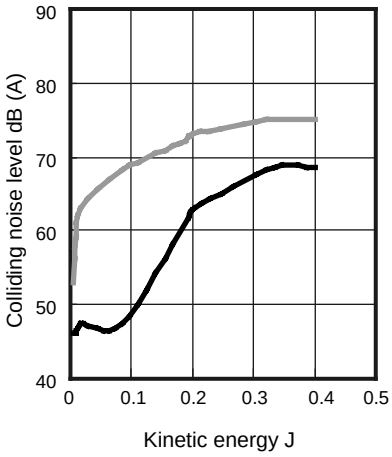
ϕ 20



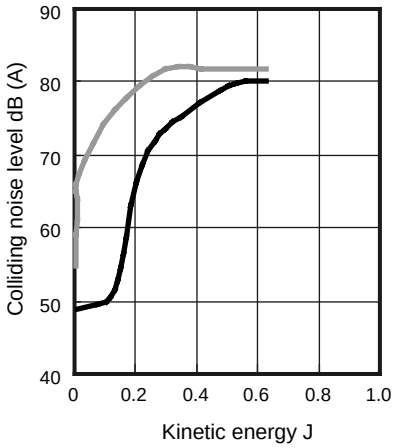
ϕ 25



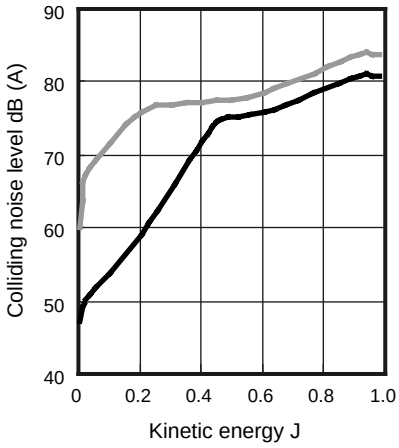
ϕ 32



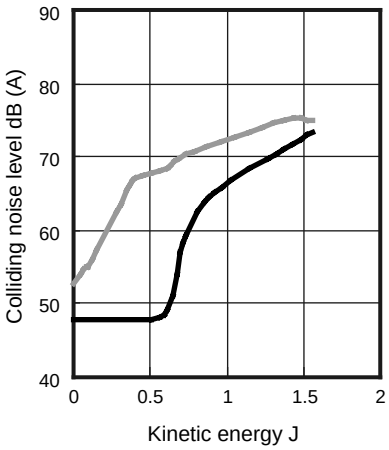
ϕ 40



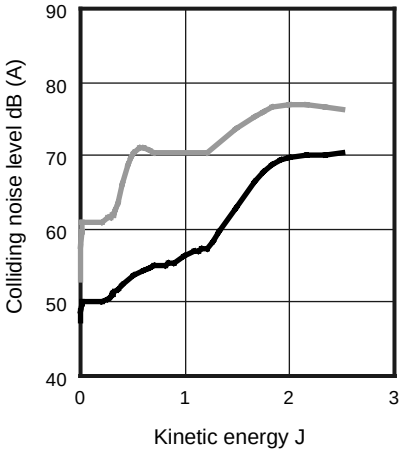
ϕ 50



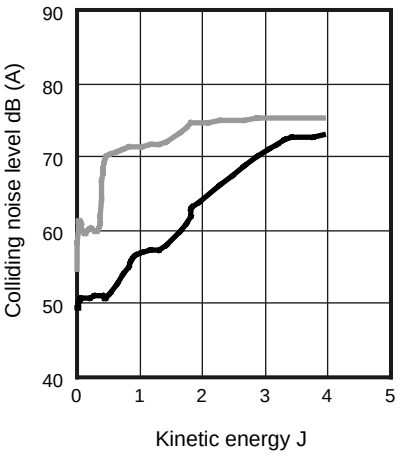
ϕ 63



ϕ 80



ϕ 100

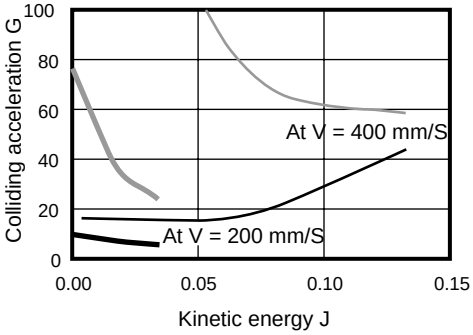


Technical data

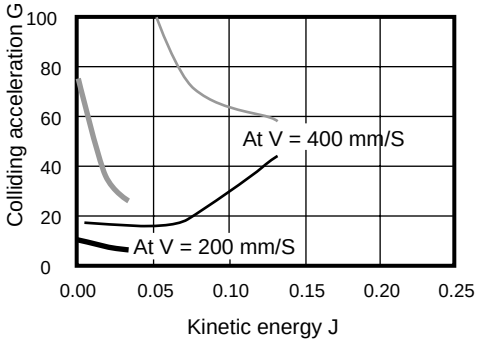
(Comparative colliding acceleration)

Standard rubber cushion :
Rubber-air cushion :

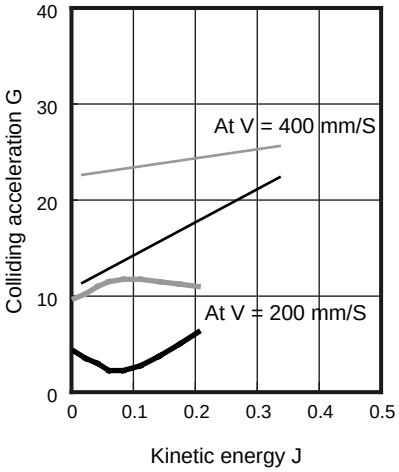
ϕ 20



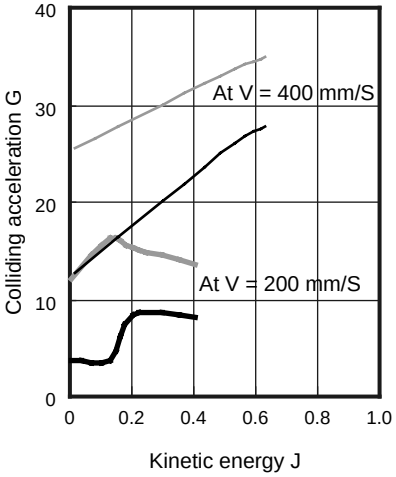
ϕ 25



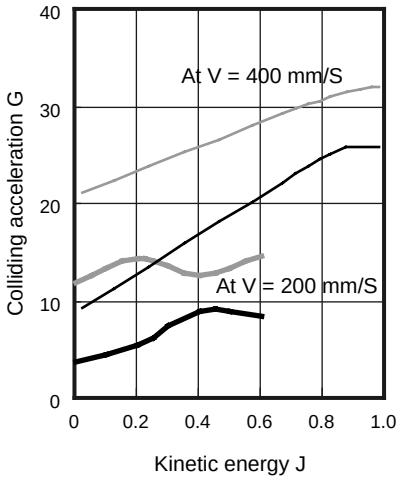
ϕ 32



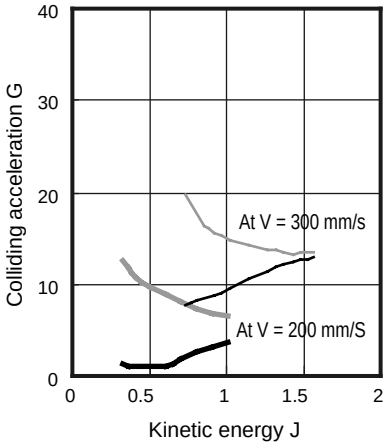
ϕ 40



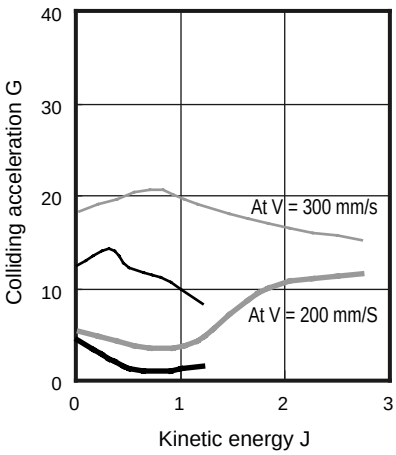
ϕ 50



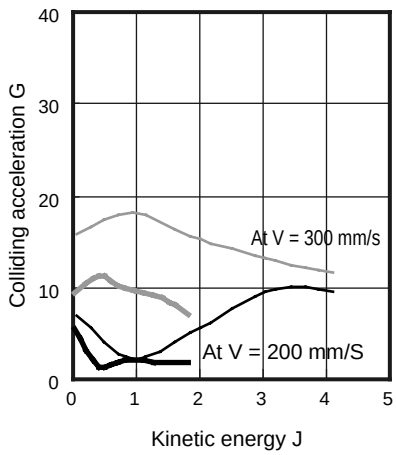
ϕ 63



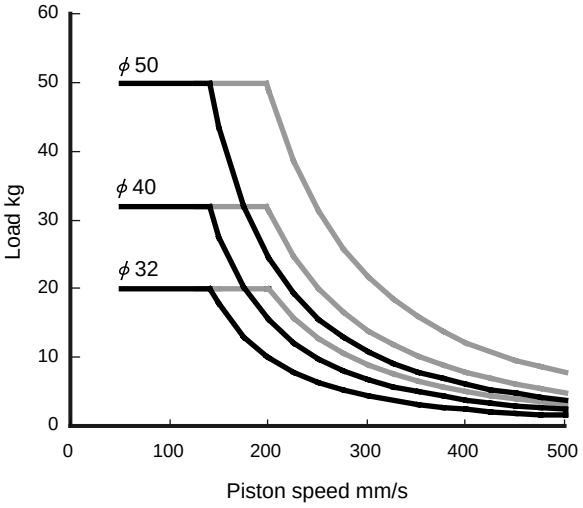
ϕ 80

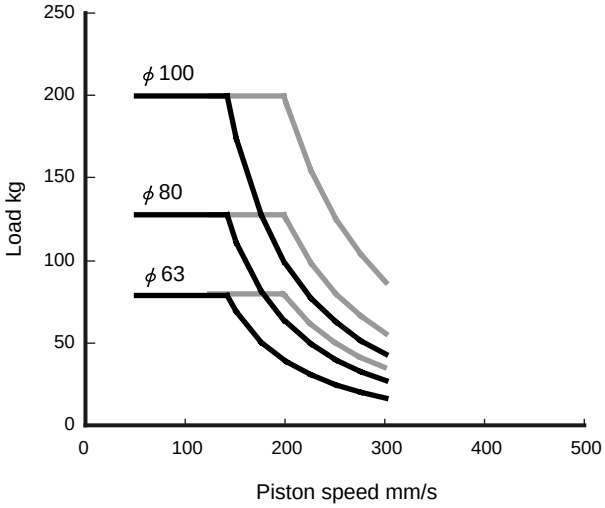


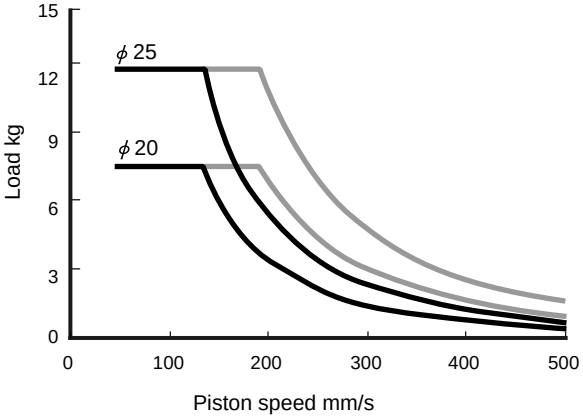
ϕ 100



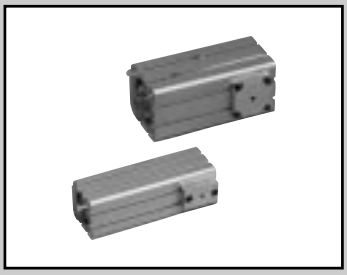
(Allowable energy)







Left and below curve is usable range.
This can be used in the range indicated by ——— in the graph. In order to draw an effective performance, we recommend to use this in the range indicated by continuous line.

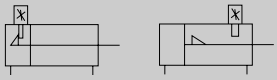


Compact cylinder Double acting position locking

SSD-Q Series

● Bore size: ϕ 16, ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS CAD

Specifications

Item	SSD-Q SSD-QL (with switch)								
Bore size mm	ϕ16	ϕ 20	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ100
Actuation	Double acting position locking type								
Working fluid	Compressed air								
Max. working pressure MPa	1.0								
Min. working pressure MPa	0.15								
Withstanding pressure MPa	1.6								
Ambient temperature ℃	-10 to 60 (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 (when lubrication, use turbine oil Class 1 ISO VG32.)								
Position locking mechanism	Head end or rod end								
Holding force N	Maximum thrust x 0.7								
Allowable absorbed energy J	0.09	0.157	0.157	0.402	0.628	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 16	5, 10, 15, 20, 25, 30, 40, 50	100 (Note 1)	1
ϕ 20		200 (Note 1)	
ϕ 25	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	300 (Note 1)	
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	10, 20, 30, 40, 50, 60, 70 80, 90, 100		
ϕ 80			
ϕ 100			

Note 1: The custom stroke (example: 64 stroke) is the dimension of the custom stroke value (64). The custom stroke length is available per 1mm increment.
Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model no. / Bore size (mm)	T*	T*	T*	T*	T*
ϕ 16	5	5	25	-	-
ϕ 20	5	5	35	50	65
ϕ 25	5	5	35	50	65
ϕ 32	5	5	35	50	65
ϕ 40	5	5	35	50	65
ϕ 50	5	5	35	50	65
ϕ 63	5	5	35	50	65
ϕ 80	5	5	35	50	65
ϕ100	5	5	35	50	65

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

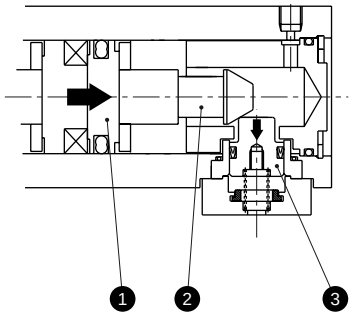
⚠ Refer to Safety Precautions for position locking mechanism on pages 728 to 732 before use.

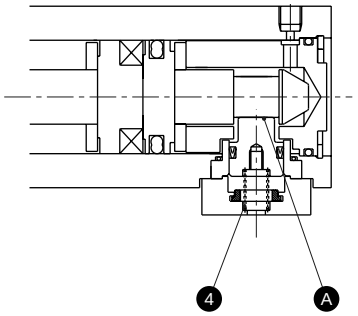
Operational explanation

● When locking

Piston (1) approaching to the stroke end results in the rise of stopper piston (3) along to sleeve (3).

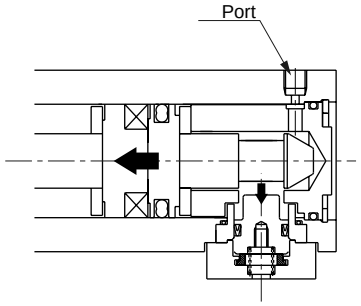
Farther approaching of cylinder piston to the stroke end until the sleeve groove (A) reaches the position of stopper piston, results in push back of the stopper pin by spring (4). After this, the stopper pin comes into the groove and locks the position.





● Unlocking operation

Pressure supply to the port allows the stopper piston to push back the spring, then the stopper piston comes out from the groove. This releases locking.



Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

220 VAC is available for T0/T5 switches. Consult with CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H, T1V	T2H, T2V, T2JH, T2JV	T2YH, T2YV	T3H, T3V	T3PH, T3PV (Custom order)	T3YH, T3YV	T0H, T0V	T5H, T5V		T8H, /T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay				Programmable controller dedicated
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		LED (ON lighting)				Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

Cylinder weight table

(Weight with switch is with two cylinder switch.) Unit: g

Bore size (mm)	Product weight when stroke length 0		Additional weight per St = 10 mm
	w/o SW	With switch	
φ 16	119	164	21
φ 20	164	239	25
φ 25	227	318	32
φ 32	377	491	43
φ 40	599	742	53
φ 50	1197	1391	84
φ 63	1703	1982	110
φ 80	3651	4064	173
φ 100	5291	5858	228

Discrete cylinder switch weight table

Unit: g

Name	Model no.	Lead wire length		
		1 m	3 m	5 m
Cylinder switch	T0	18	52	86
	T2	18	52	86
	T3	18	52	86
	T5	18	52	86

(Example) product weight

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

- Product weight when stroke length 0mm ··· 742 g
- Additional weight when stroke length 50 mm ··· 53 x 5 = 265 g
- Product weight ··· 742 + 265 = 1007 g

How to order

● Without switch

SSD-Q - 16 ( ) - 5 - R ——— N - LB - I

● With switch

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

Ⓐ Bore size

Ⓑ Port thread type

Ⓒ Stroke length

Ⓓ Position locking mechanism

Ⓔ Switch model no. Note 1

Ⓕ Switch quantity

Ⓖ Option

Ⓗ Mounting bracket Note 2 Note 3

Ⓘ Accessory Note 4

Symbol	Descriptions
Ⓐ Bore size (mm)	
16	ϕ 16
20	ϕ 20
25	ϕ 25
32	ϕ 32
40	ϕ 40
50	ϕ 50
63	ϕ 63
80	ϕ 80
100	ϕ 100

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

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

Ⓓ Position locking mechanism	
R	Rod end position locking
H	head end position locking

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive mainte. output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

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

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Strong magnetic field proof switch, T8* switch cannot be installed on ϕ16.
Note 2: Mounting bracket is attached at shipment.
Note 3: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 4: "I" and "Y" can not be selected at the same time.
Note 5: Refer to Ending 89 for custom specifications of rod end form.
Note 6: Refer to pages 720 to 721 for the variation and option combination.

<Example of model number>

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

Model: Compact cylinder position locking type

Ⓐ Bore size : ϕ 16 mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 5 mm
Ⓓ Position locking mechanism : Rod end position locking
Ⓔ Switch model no. : Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model no. (Item Ⓔ above)

(Stroke length table)

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

Note 1: Stroke less than 5 mm for 1 color indicator and stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch. Refer to page 790 for switch quantity and min. stroke length.
Note 2: The total length dimensions include the original custom stroke value.

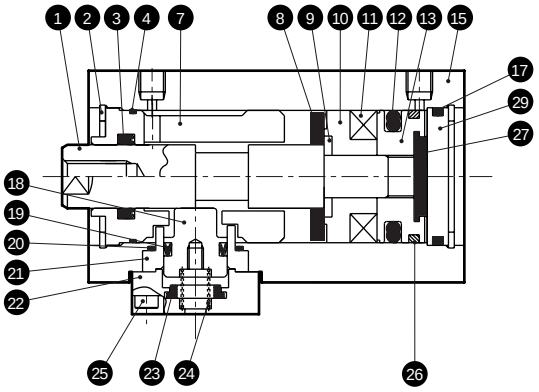
How to order mounting bracket

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

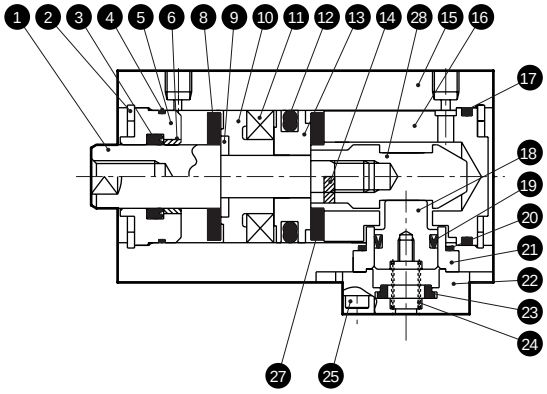
Note 1: 2 pcs./set is applied for a foot type mounting bracket.

Internal structure and parts list (ϕ16 to ϕ25)

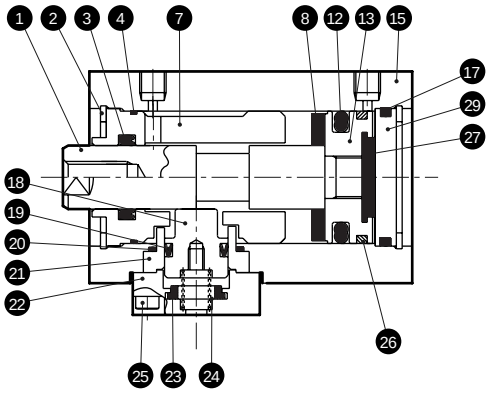
● SSD-QL-16 to 25-R
(Double acting single rod type with switch rod end position locking)



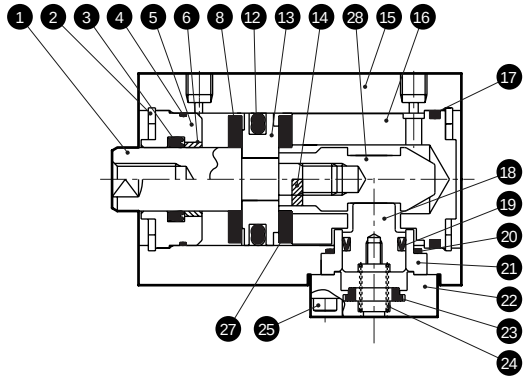
● SSD-QL-16 to 25-H
(Double acting single rod type with switch head end position locking)



● SSD-Q-16 to 25-R
(Double acting single rod type rod end position locking)



● SSD-Q-16 to 25-H
(Double acting single rod type head end position locking)



Part list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Stainless steel	Industrial chrome plated	15	Body	Aluminum alloy	Hard alumite
2	C type snap ring	Steel	Phosphoric acid zinc	16	Head cover	Aluminum alloy	Chromate
3	Rod packing seal	Nitrile rubber		17	O ring	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		18	Stopper piston	Steel	Nitriding
5	Rod bushing	Special aluminum	Alumite	19	Stopper packing seal	Nitrile rubber	
6	Bush	Oilless dry met	ϕ 20, ϕ25 H side only	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 guard	Aluminum alloy	Alumite
9	Spacer washer	Stainless steel		23	Cushion rubber	Urethane rubber	
10	Spacer	Special plastic		24	Coil spring	Piano wire	Electrode position coating
11	Magnet	Plastic		25	Hexagon socket head cap screw	Steel	Black galvanizing
12	Piston packing seal	Nitrile rubber		26	Wear ring	Polyacetal	
13	Piston	Aluminum alloy	Chromate	27	Cushion rubber (H)	Urethane rubber	
				28	Sleeve	Steel	Nitriding
14	Spring pin	Steel	Blackening ϕ 20, ϕ25	29	Cover	Aluminum alloy	Chromate

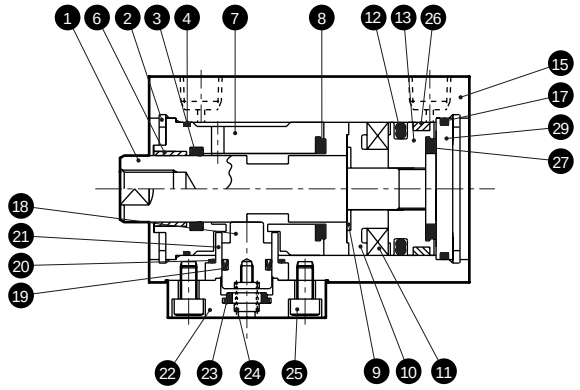
Repair parts list

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

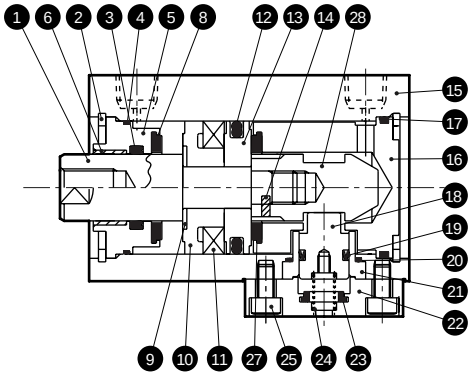
Note 1: Part (26) is not provided with head side position locking.

Internal structure and parts list (ϕ 32 to ϕ 40)

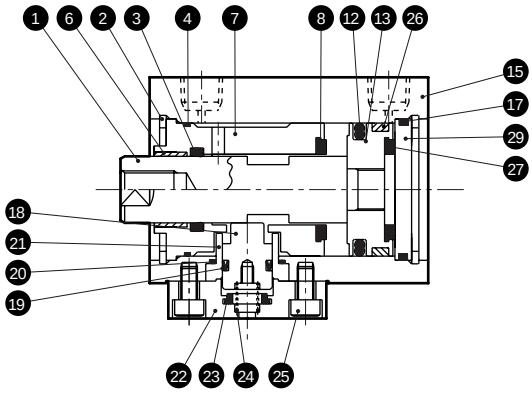
● SSD-QL-32 to 40-R
(Double acting single rod type with switch rod end position locking)



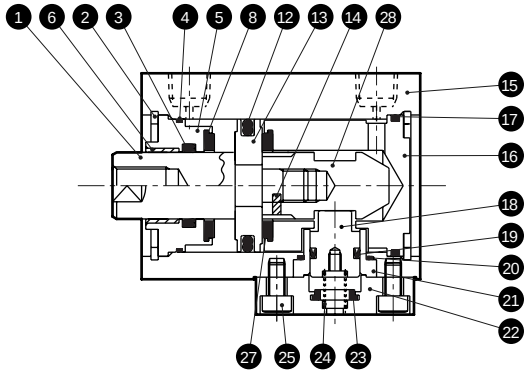
● SSD-QL-32 to 40-H
(Double acting single rod type with switch head end position locking)



● SSD-Q-32 to 40-R
(Double acting single rod type rod end position locking)



● SSD-Q-32 to 40-H
(Double acting single rod type head end position locking)



Part list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated	16	Head cover	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	17	O ring	Nitrile rubber	
3	Rod packing seal	Nitrile rubber		18	Stopper piston	Steel	Nitriding
4	Rod metal gasket	Nitrile rubber		19	Stopper packing seal	Nitrile rubber	
5	Rod bushing	Special aluminum	Alumite	20	O ring	Nitrile rubber	
6	Bush	Oilless dry met		21	Stopper housing	Aluminum alloy	Alumite
7	Rod cover	Aluminum alloy	Alumite	22	Stopper guard	Aluminum alloy	Alumite
8	Cushion rubber (R)	Urethane rubber		23	Cushion rubber	Urethane rubber	
9	Spacer washer	Stainless steel		24	Coil spring	Piano wire	Electrode position coating
10	Spacer	Special plastic		25	Hexagon socket head cap screw	Steel	Black galvanizing
11	Magnet	Plastic		26	Wear ring	Polyacetal	
12	Piston packing seal	Nitrile rubber		27	Cushion rubber (H)	Urethane rubber	
13	Piston	Aluminum alloy	Chromate	28	Sleeve	Steel	Nitriding
14	Spring pin	Steel	Blackening	29	Cover	Aluminum alloy	Chromate
15	Body	Aluminum alloy	Hard alumite				

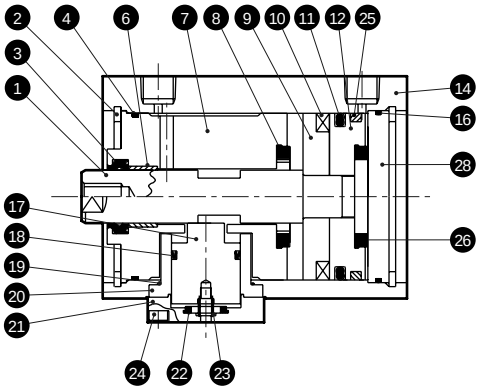
Repair parts list

Bore size (mm)	Kit No.		Repair parts number
	Rod end position locking	Head end position locking	
ϕ 32	SSD-Q-R-32K	SSD-Q-H-32K	3 4 8 12 17
ϕ 40	SSD-Q-R-40K	SSD-Q-H-40K	19 20 23 26 27

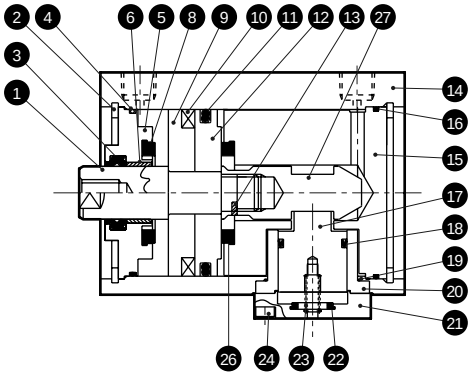
Note 1: Part (26) is not provided with head side position locking.

Internal structure and parts list (ϕ 50 to ϕ100)

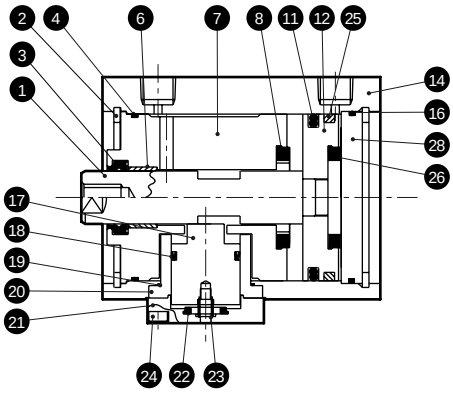
● SSD-QL-50 to 100-R
(Double acting single rod type with switch rod end position locking)



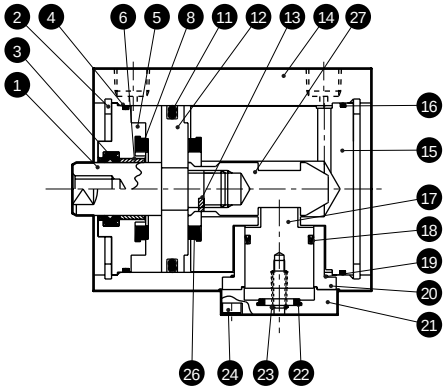
● SSD-QL-50 to 100-H
(Double acting single rod type with switch head end position locking)



● SSD-Q-50 to 100-R
(Double acting single rod type rod end position locking)



● SSD-Q-50 to 100-H
(Double acting single rod type head end position locking)



Part list

No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber	
5	Rod bushing	Special aluminum	Chromate
6	Bush	Oilless dry met	
7	Rod cover	Aluminum alloy	Chromate
8	Cushion rubber (R)	Urethane rubber	
9	Spacer	ϕ50: Special plastic ϕ 63 to ϕ100: Aluminum alloy	ϕ63 to ϕ100: Chromate
10	Magnet	Plastic	
11	Piston packing seal	Nitrile rubber	
12	Piston	Aluminum alloy	Chromate
13	Spring pin	Steel	Blackening
14	Body	Aluminum alloy	Hard alumite

No.	Parts name	Material	Remarks
15	Head cover	Aluminum alloy	Chromate
16	O ring	Nitrile rubber	
17	Stopper piston	Steel	Nitriding
18	Stopper packing seal	Nitrile rubber	
19	O ring	Nitrile rubber	
20	Stopper housing	Aluminum alloy	Alumite
21	Stopper guard	Aluminum alloy	Alumite
22	Cushion rubber	Urethane rubber	
23	Coil spring	Piano wire	Electrode position coating
24	Hexagon socket head cap screw	Steel	Black galvanizing
25	Wear ring	Polyacetal	
26	Cushion rubber (H)	Urethane rubber	
27	Sleeve	Steel	Nitriding
28	Cover	Aluminum alloy	Chromate

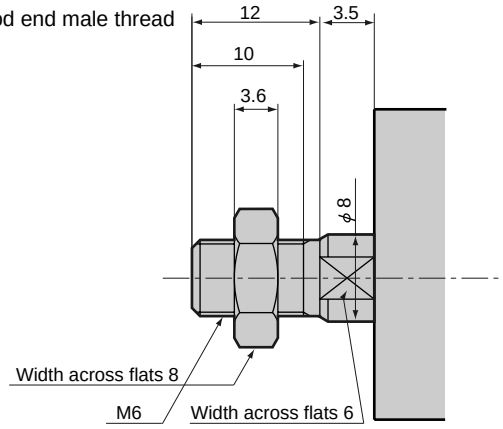
Repair parts list

Bore size (mm)	Kit No.		Repair parts number
	Rod end position locking	Head end position locking	
ϕ 50	SSD-Q-R-50K	SSD-Q-H-50K	3 4 8 11 16 18 19 22 25 26
ϕ 63	SSD-Q-R-63K	SSD-Q-H-63K	
ϕ 80	SSD-Q-R-80K	SSD-Q-H-80K	
ϕ 100	SSD-Q-R-100K	SSD-Q-H-100K	

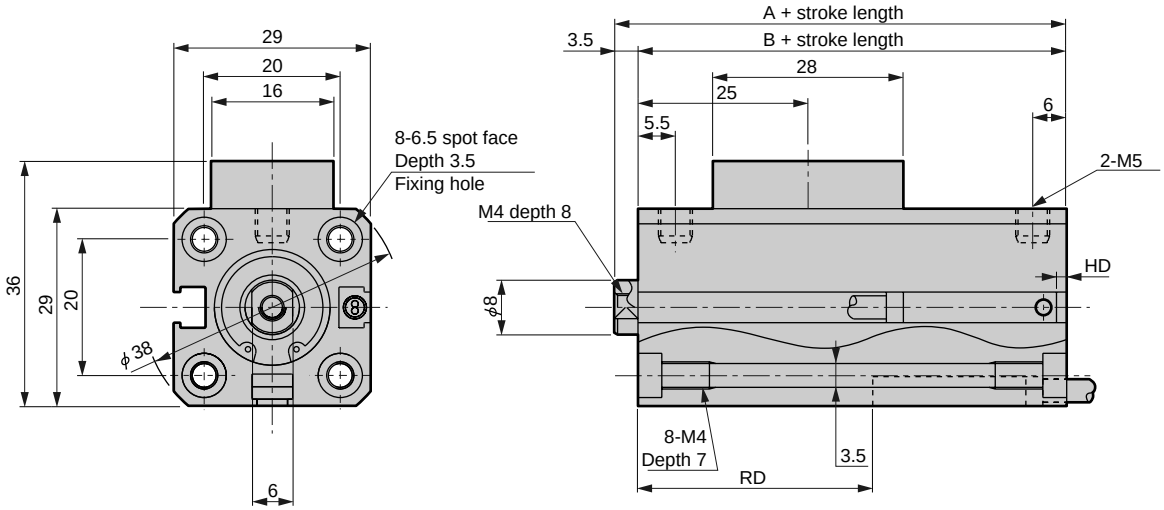
Note 1: Part (25) is not provided with head side position locking.

Dimensions (ϕ16)

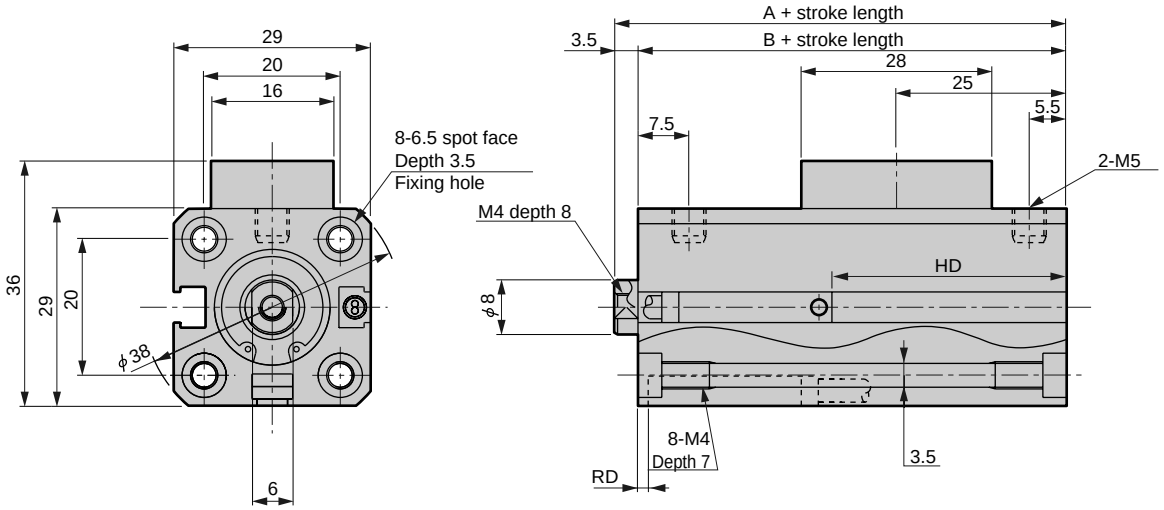
● Rod end male thread



● SSD-Q (L)-16-R
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with rod end position locking)



● SSD-Q (L)-16-H
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with head end position locking)

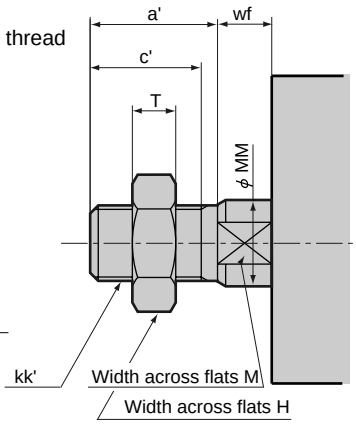


Symbol	Without switch		With switch Common dimension		Rod end position locking				Head end position locking			
					T2, T3		T0, T5		T2, T3		T0, T5	
Bore size (mm)	A Note 1	B Note 1	A Note 1	B Note 1	RD Note 2	HD Note 2	RD Note 2	HD Note 2	RD Note 2	HD Note 2	RD Note 2	HD Note 2
ϕ16	56.5	53	61.5	58	33	6.5	33	6.5	5	34.5	5	34.5

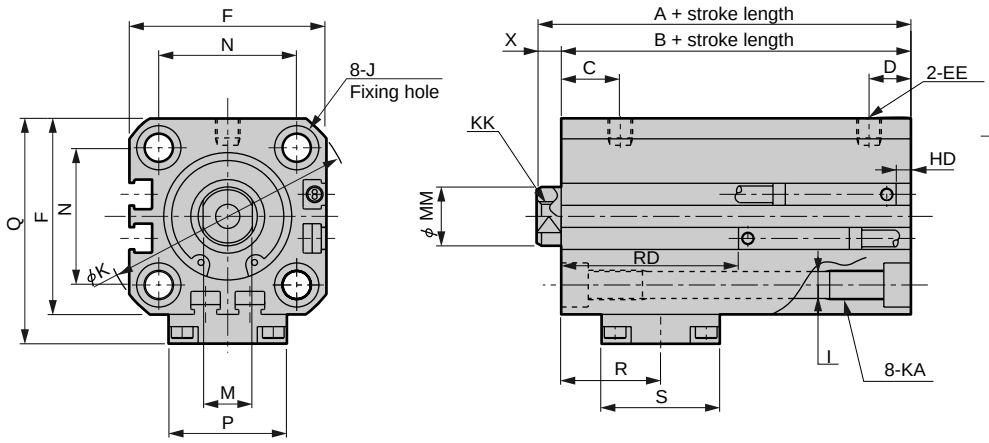
Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, input the custom stroke length directly.
(E.g.) For 7 mm custom stroke length, the length is decided by inputting 7 mm to the formula.
Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
Note 3: Refer to pages 938 to 945 for accessory dimensions.

Dimensions (ϕ 20, ϕ 25)

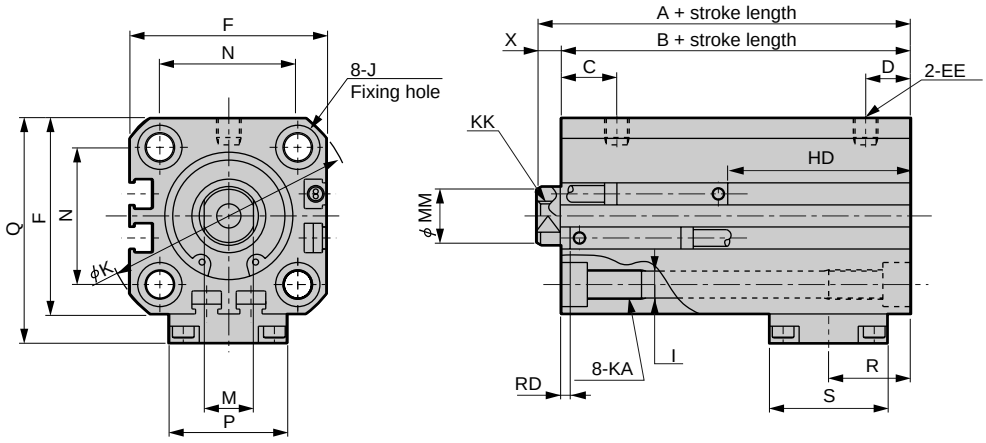
● Rod end male thread



● SSD-Q (L)-20 to 25-R
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with rod end position locking)



● SSD-Q (L)-20 to 25-H
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with head end position locking)



Symbol	Without switch		Dimensions for common, types with switch								
Bore size (mm)	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	I	J Note 3	K
ϕ 20	58	53.5	68	63.5	9.5	8.5	M5	36	5.5	9 spot face depth 5.5	47
ϕ 25	63.5	58.5	73.5	68.5	12	10.5	M5	40	5.5	9 spot face depth 5.5	51

Symbol	Dimensions for common, types with switch								
Bore size (mm)	KA Note 3	KK	M	MM	N	P	Q	S	X
ϕ 20	M6 depth 11	M5 depth 7	8	10	25.5	21	43	23.2	4.5
ϕ 25	M6 depth 11	M6 depth 12	10	12	28	24	46	24	5

Dimension with switch	Rod end position locking					Head end position locking				
Symbol	R	T2, T3		T0, T5		R	T2, T3		T0, T5	
Bore size (mm)		RD Note 2	HD Note 2	RD Note 2	HD Note 2		RD Note 2	HD Note 2	RD Note 2	HD Note 2
ϕ 20	18.6	34.5	10	34.5	10	18	9.5	35	9.5	35
ϕ 25	20.5	37.5	9.5	37.5	9.5	18.8	12.5	34.5	12.5	34.5

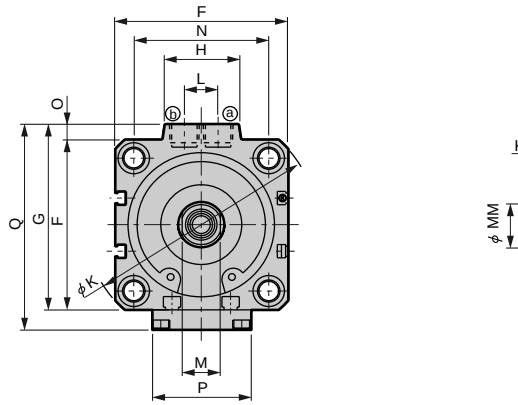
● Rod end male thread section dimension

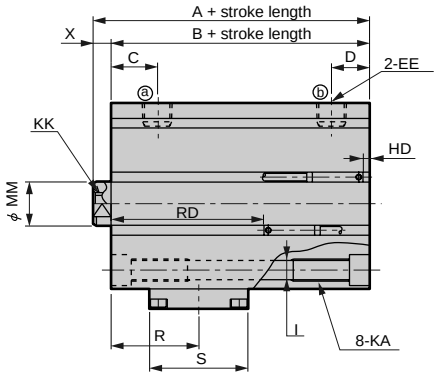
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ 20	14	12	13	M8	8	10	5	4.5
ϕ 25	17.5	15	17	M10 x 1.25	10	12	6	5

Note 1: When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, input the custom stroke length directly.
(E.g.) For 7 mm custom stroke length, the length is decided by inputting 7 mm to the formula.
Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
Note 3: For ϕ 25 cylinder, spot face J is not available if stroke length exceed 150 mm. KA dimension is 17 at that time.
Note 4: Refer to pages 938 to 945 for accessory dimensions.

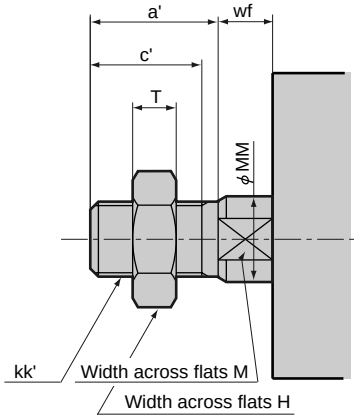
Dimensions (ϕ 32 to ϕ 100)

● SSD-Q (L)-32 to 100-R
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with rod end position locking)

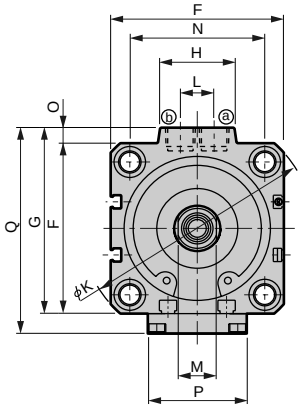


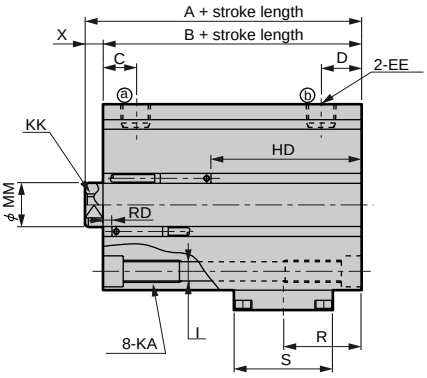


● Rod end male thread



● SSD-Q (L)-32 to 100-H
(with switch, T0H/V, T5H/V, T2H/V, T3H/V, with head end position locking)





Symbol	Without switch		Dimensions for common, types with switch										
Bore size (mm)	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	G	H	I	J Note 2	K
ϕ 32	69	62	79	72	11	10	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	60
ϕ 40	83	76	93	86	14	11	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	69
ϕ 50	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
ϕ 63	108	100	118	110	18.5	17	Rc1/4	77	84	33	8.7	14 spot face depth 9	103
ϕ 80	139	129	149	139	18	17	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	132
ϕ 100	141	129	151	139	23	21	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	156

Symbol	Dimensions for common, types with switch										
Bore size (mm)	KA Note 2	KK	L	M	MM	N	O	P	Q	S	X
ϕ 32	M6 depth 11	M8 depth 13	10	14	16	34	4.5	24	58	38	7
ϕ 40	M6 depth 11	M8 depth 13	10	14	16	40	5	24	65.5	38	7
ϕ 50	M8 depth 13	M10 depth 15	15	17	20	50	7	44	79.5	43	8
ϕ 63	M10 depth 25	M10 depth 15	15	17	20	60	7	47	92.5	47	8
ϕ 80	M12 depth 28	M16 depth 21	15	22	25	77	6	47	112.5	47	10
ϕ 100	M12 depth 28	M20 depth 27	15	27	30	94	6.5	55	133.5	55	12

Dimension with switch symbol	Rod end position locking					Head end position locking				
	R	T2, T3		T0, T5		R	T2, T3		T0, T5	
Bore size (mm)		RD Note 2	HD Note 2	RD Note 2	HD Note 2		RD Note 2	HD Note 2	RD Note 2	HD Note 2
ϕ 32	23.2	40.5	13	40.5	13	20.9	15.5	38	15.5	38
ϕ 40	36.2	53	14	53	14	23.9	21	46	21	46
ϕ 50	39.1	70.5	15	70.5	15	33.4	20.5	65	20.5	65
ϕ 63	39	69	22.5	69	22.5	34.8	19	73	19	73
ϕ 80	60	96	24	96	24	52	21.5	99	21.5	99
ϕ 100	57	91	29.5	91	29.5	50	25.5	95	25.5	95

Table 1

Bore size	J	KA
ϕ 32	-	17
ϕ 40	-	17
ϕ 50	-	20
ϕ 63	-	34
ϕ 80	-	35
ϕ 100	-	35

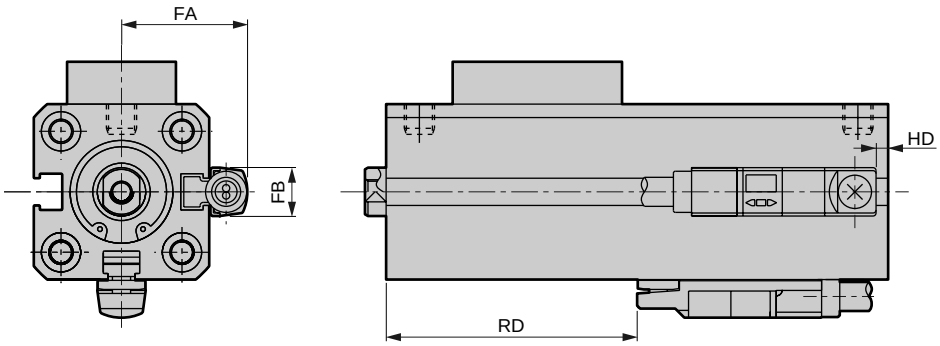
● Rod end male thread section dimension

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

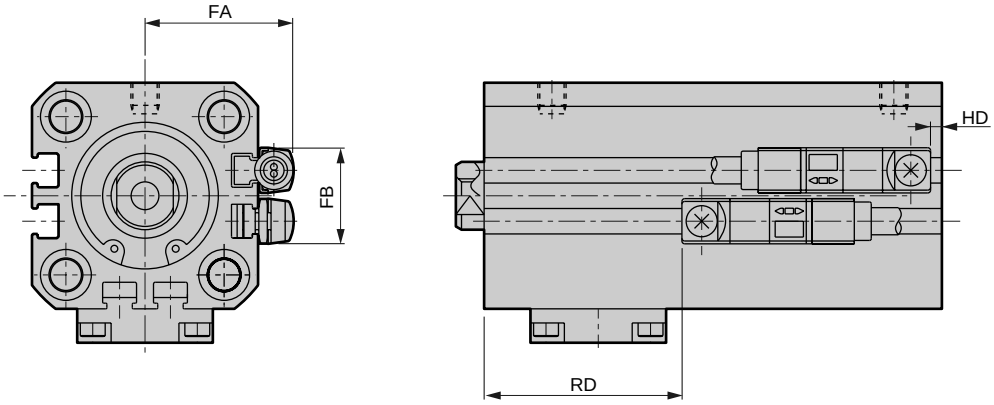
Note 1) When calculating custom stroke dimensions of <A+stroke length> and <B+stroke length>, input the custom stroke length directly. (E.g.) For 7 mm custom stroke length, the length is decided by inputting 7 mm to the formula.
Note 2: Spot face J is not available if the stroke length exceeds 150 mm for ϕ 32 to ϕ 63, or 130 mm for ϕ 80, ϕ 100. At that time, KA dimension is as Table 1.
Note 3: Refer to page 926 for HD/RD, and projection dimensions of the 2 color indicator, off delay, strong magnetic field proof, or T1* and T8* switch.
Note 4: Refer to pages 938 to 945 for accessory dimensions.

Dimensions (2 color indicator type, off-delay type, strong magnetic field, with T1*, T8* switch)

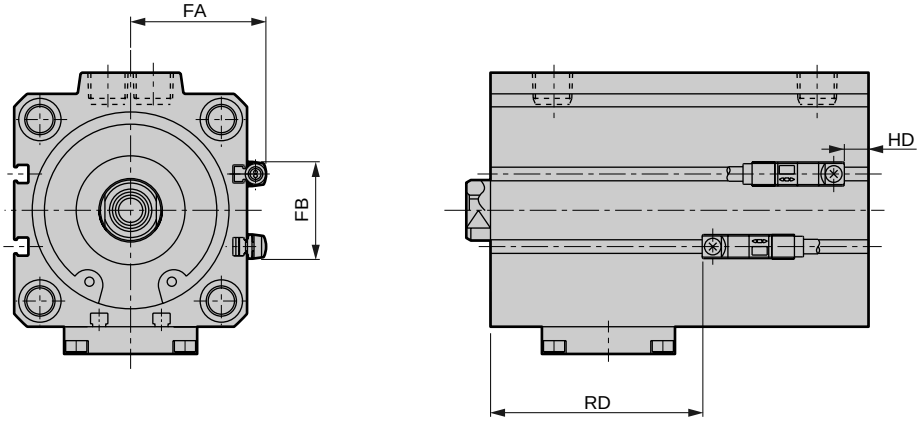
● SSD-QL-16-R (with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V, with rod end position locking)



● SSD-QL-20 to 25-R (with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V, with rod end position locking)



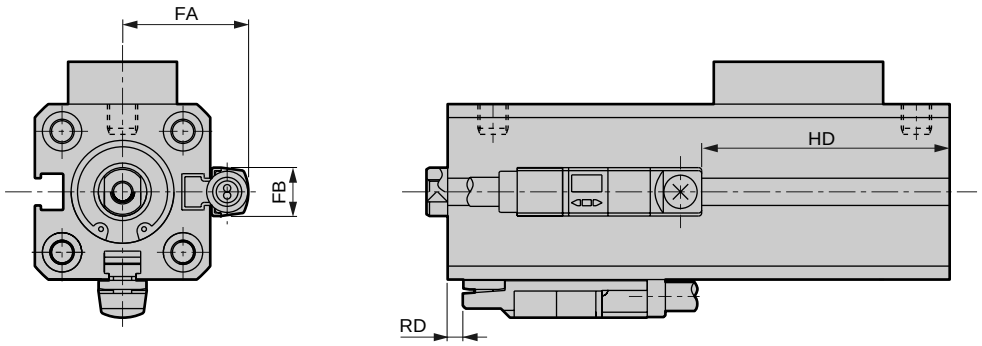
● SSD-QL-32 to 100-R(with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V, with rod end position locking)



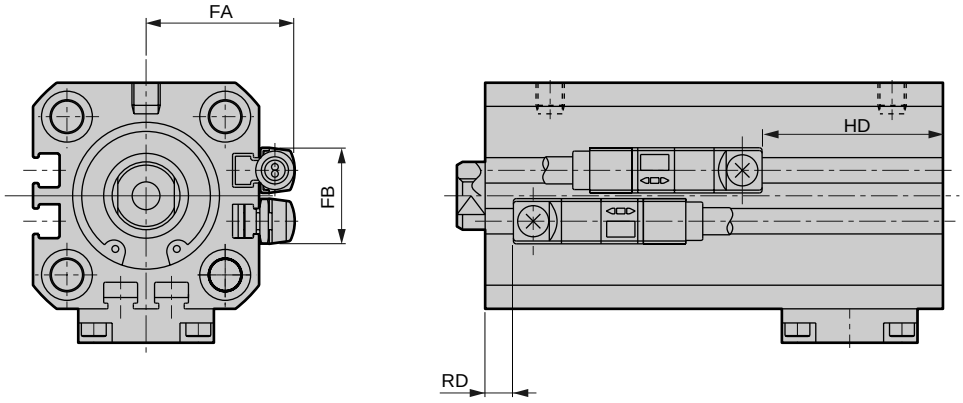
Symbol	T2/3YH/V, T2JH/V				T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V				T8H/V			
Bore size (mm)	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ϕ 16	20.8	8	31.5	5	25.8	8	31.5	5	-	-	-	-
ϕ 20	24.3	16	33	8.5	29.3	16	33	8.5	24.3	16	28.5	4
ϕ 25	26.3	17	36.5	8	31.3	17	36.5	8	26.3	17	31.5	3.5
ϕ 32	28.8	24	39	11.5	33.8	24	39	11.5	28.8	24	34.5	7
ϕ 40	32.3	31	51.5	12.5	37.3	31	51.5	12.5	32.3	31	47	8
ϕ 50	38.3	32	69.5	13.5	43.3	32	69.5	13.5	38.3	32	64.5	9
ϕ 63	44.8	32	67.5	21	49.8	32	67.5	21	44.8	32	63	16.5
ϕ 80	55.3	32	94.5	22.5	60.3	32	94.5	22.5	55.3	32	90	18
ϕ 100	64.8	32	89.5	28	69.8	32	89.5	28	64.8	32	85	23.5

Dimensions (2 color indicator type, off-delay type, strong magnetic field, with T1*, T8* switch)

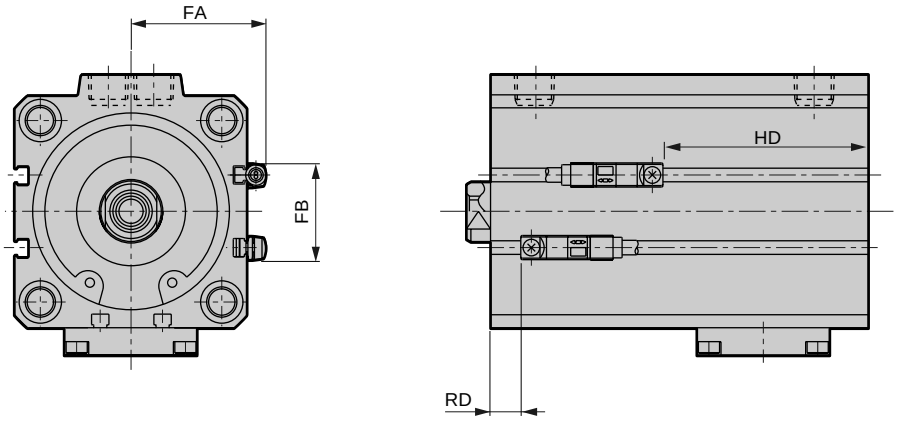
● SSD-QL-16-H (with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V, with head end position locking)



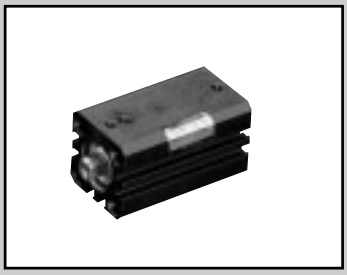
● SSD-QL-20 to 25-H (with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V, with head end position locking)



● SSD-QL-32 to 100-H (with switch, T2/3YH/V, T2JH/V, T8H/V, T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V with head end position locking)



Symbol / Bore size (mm)	T2/3YH/V, T2JH/V				T2/3YFH/V, T2/3YMH/V, T2YD, T2YDT, T1H/V				T8H/V			
	FA	FB	RD	HD	FA	FB	RD	HD	FA	FB	RD	HD
ϕ 16	20.8	8	3.5	33	25.8	8	3.5	33	20.8	8	-	-
ϕ 20	24.3	16	8	33.5	29.3	16	8	33.5	24.3	16	3.5	29
ϕ 25	26.3	17	11.5	33	31.3	17	11.5	33	26.3	17	6.5	28.5
ϕ 32	28.8	24	14	36.5	33.8	24	14	36.5	28.8	24	9.5	32
ϕ 40	32.3	31	20	44	37.3	31	20	44	32.3	31	15	40
ϕ 50	38.3	32	19.5	63.5	43.3	32	19.5	63.5	38.3	32	14.5	59
ϕ 63	44.8	32	17.5	71.5	49.8	32	17.5	71.5	44.8	32	13	67
ϕ 80	55.3	32	20	97.5	60.3	32	20	97.5	55.3	32	15.5	93
ϕ 100	64.8	32	24	93.5	69.8	32	24	93.5	64.8	32	19.5	89

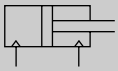


Compact cylinder Double acting fine speed type

SSD-F/SSD-KF Series

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

JIS symbol



RoHS CAD

Specifications

Item	SSD-F, SSD-LF (with switch)										SSD-KF, SSD-KLF (with switch)									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting																			
Working fluid	Compressed air																			
Max. working pressure MPa	1.0																			
Min. working pressure MPa	0.1							0.05			0.1							0.05		
Withstanding pressure MPa	1.6																			
Ambient temperature ℃	5 to 60																			
Port size	M5				Rc1/8		Rc1/4		Rc3/8		M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	+1.0 0										+2.0 0									
Working piston speed mm/s	1 to 200																			
Cushion	None										Rubber cushion									
Lubrication	Not available																			
Allowable absorbed energy J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	0.04	0.09	0.16	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

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

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.
Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

●SSD-LF

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

Note: Stroke less than 10mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

● SSD-KLF

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

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

220 VAC is available for T0/T5 switches. Consult with CKD for working conditions.

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light	LED (ON lighting)				Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Item		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25℃. (5 to 10 mA at 60℃)

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

● Dust preventive structure for inside the clean room

SSD-F····· P7*
SSD-KF····· P7*

Dimensions

It is the same as the double acting single rod type SSD Series and the double acting high load type SSD-K Series. Refer to pages 743 to 745 and 754 to 757.

How to order

● Without switch

SSD-F – **12** ( ) – **5** ——— **N** – **LB** – **I**

● With switch

SSD-LF – **12** ( ) – **5** – **T0H** – **R** – **N** – LB – **I**

● 2 color indicator and off-delay type, T1* with switch (only double acting single rod type ϕ12, ϕ16)

SSD-L1F – **12** ( ) – **5** – **T2YH** – **R** – **N** – LB – **I**

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

Symbol	Descriptions
Ⓐ Model no.	
SSD-F	Double acting single rod type
SSD-LF	Double acting single rod type with switch
SSD-L1F	ϕ12, ϕ16, 2 color indicator, off-delay type, with T1* switch
SSD-KF	Double acting high load type
SSD-KLF	Double acting high load type with switch

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

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

Ⓓ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	-		Switch for strong magnetic field	2-wire
T2YDT*	-			

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

Ⓕ Switch quantity	
R	One on rod end
H	One on head end
D	Two

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than Ⓔ switch model no. are also available. (Custom order) Refer to Ending 1 for details.
Note 2: Strong magnetic field proof switch cannot be installed on ϕ12, ϕ16.
Note 3: When selecting the T8* switch, the switch cannot be mounted on the tube bore sizes below.
· SSD-L1F: ϕ12 to ϕ32
· SSD-KLF: ϕ12, ϕ16
Note 4: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The C type snap-ring is stainless steel instead of steel. A nut material is stainless steel when a rod end male thread type.
Note 5: The mounting bracket is attached at shipment.
Note 6: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 7: "I" and "Y" can not be selected at the same time.
Note 8: Refer to Ending 89 for custom specifications of rod end form.
Note 9: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

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

Model: Compact cylinder fine speed type

Ⓐ Model no. : Double acting single rod type
Ⓑ Bore size : ϕ 12mm
Ⓒ Port thread type : Rc thread
Ⓓ Stroke length : 5mm
Ⓔ Switch model no. : Reed switch T0H, lead wire 1 m
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread

How to order switch

SW – **T0H**

Switch model no. (Item Ⓔ above)

(Stroke length table)

● SSD-F

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

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available. Refer to page 802 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

● SSD-KF

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

Note 1: The 1 color indication type is not available with a stroke less than 5mm, and the 2 color indication type or strong magnetic field proof type with a stroke less than 10mm are not available. Refer to page 802 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

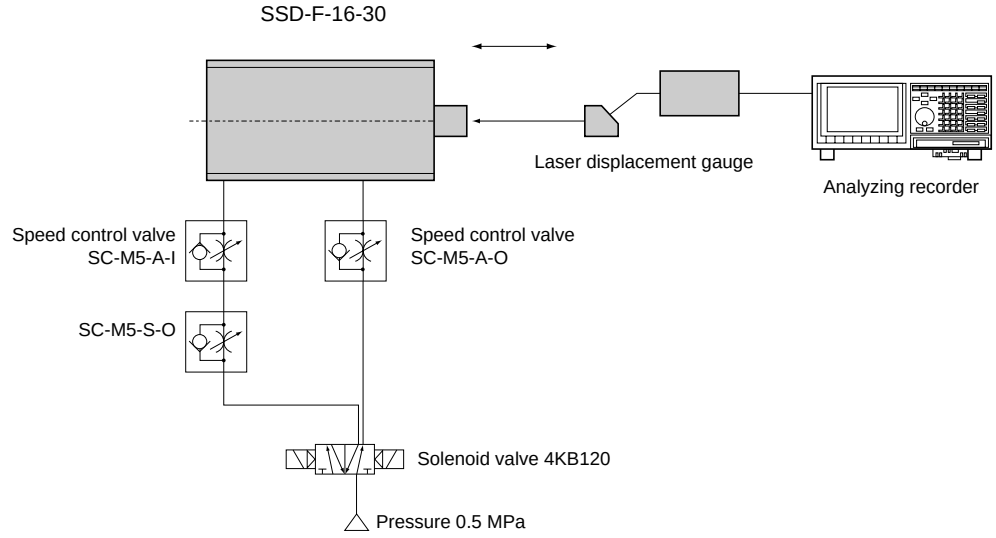
How to order mounting bracket

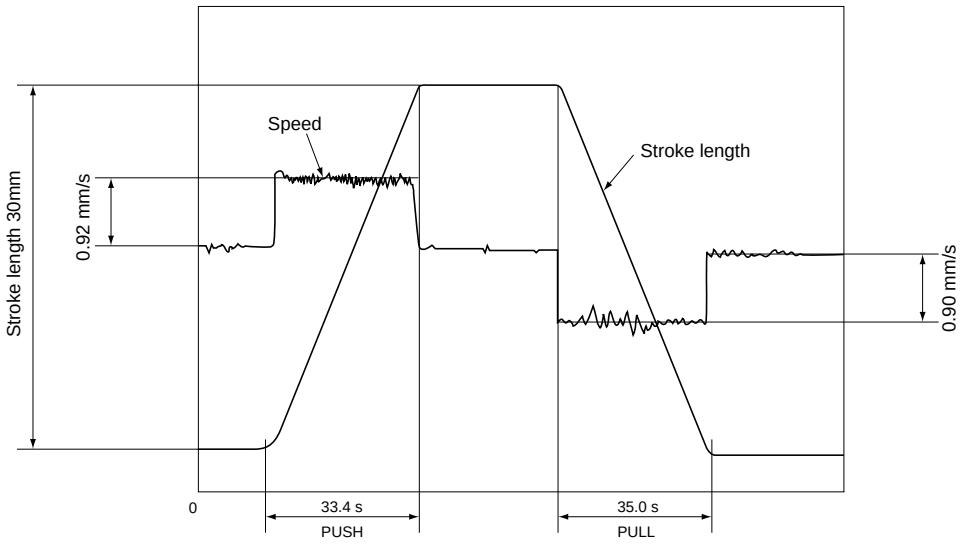
Bore size (mm) / Mounting bracket	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Foot (LB)	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-20	SSD-FA-25	SSD-FA-32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

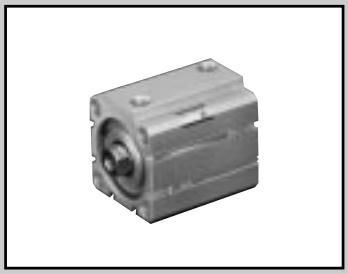
Note 1: Foot type mounting bracket is a two-piece/set.

Measuring data

Measuring method





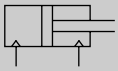


Compact cylinder Double acting low speed type

SSD-O Series

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

JIS symbol



RoHS CAD

Specifications

Item	SSD-O SSD-OL (with switch)									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.1							0.05		
Withstanding pressure MPa	1.6									
Ambient temperature ℃	-10 to 60 (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 energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

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

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.
Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10mm is not available for 2 color indicator type, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

* The T0/T5 switch can be used with 220 VAC. Consult with CKD for conditions.

●1 color/2 color indicator/strong magnetic field proof

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

●With preventive maintenance output

Item		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃ .
(5 to 10 mA at 60 ℃)

Cylinder weight table (weight with switch includes weight with two cylinder switches)

(Unit: g)

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

Dimensions

It is the same as the double acting single rod type SSD Series. Refer to pages 743 to 745.

How to order

Without switch

SSD-O — 12 ○ - 5 ———— N - LB - I

With switch

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

2 color indicator type, off-delay type, with T1* switch (only ϕ12, ϕ16)

SSD-OL1 - 12 ○ - 5 - T2YH - R - N - LB - I

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

Symbol	Descriptions
Ⓐ Model no.	
SSD-O	Double acting low speed type
SSD-OL	Double acting low speed type with switch
SSD-OL1	ϕ12, ϕ16, 2 color indicator, off-delay type, with T1* switch

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

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

Ⓓ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead Wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

Ⓕ Switch quantity	
R	One on rod end
H	One on head end
D	Two

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than listed Ⓔ switch model No. (cunstom order) are available. Refer to Ending 1 for details.
Note 2: Strong magnetic field proof switches are not available for ϕ12, ϕ16. T8* switch cannot be installed on ϕ12 to ϕ32.
Note 3: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The C type snap-ring is stainless steel instead of steel. A nut material is stainless steel when a rod end male thread type.
Note 4: Mounting bracket is attached at shipment.
Note 5: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.
Note 6: "I" and "Y" can not be selected at the same time.
Note 7: Refer to Ending 89 for custom specifications of rod end form.
Note 8: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

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

Model: Compact cylinder
Double acting low speed type
Ⓑ Bore size : ϕ12mm
Ⓒ Port thread type : Rc thread
Ⓓ Stroke length : 5mm
Ⓔ Switch model no. : Reed switch T0H
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread

Switch model no. How to indicate

SW - T0H

Switch model no. (Item Ⓔ above)

(Stroke length table)

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

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available. Refer to page 808 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

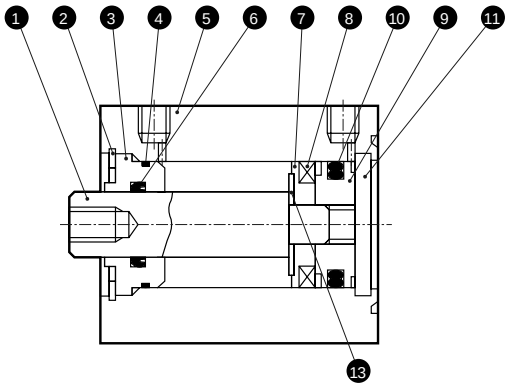
How to order mounting bracket

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

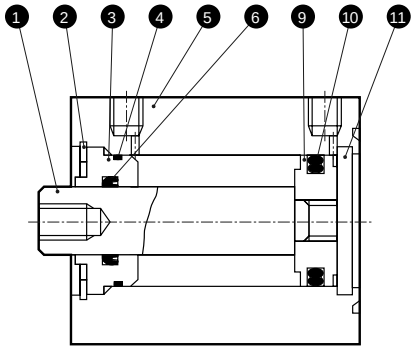
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

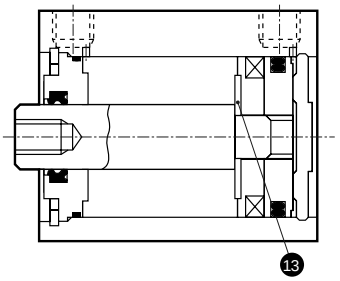
● SSD-OL-12 to 25 (double acting low speed type with switch)



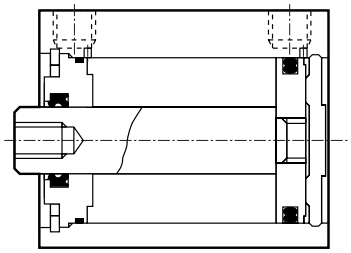
● SSD-O-12 to 25 (double acting low speed type)



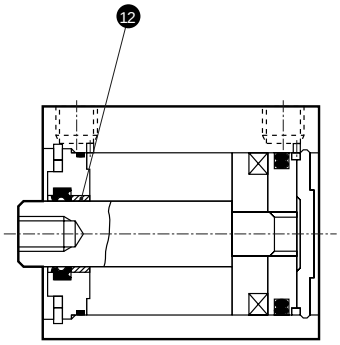
● SSD-OL-32 to 50 (double acting low speed type with switch)



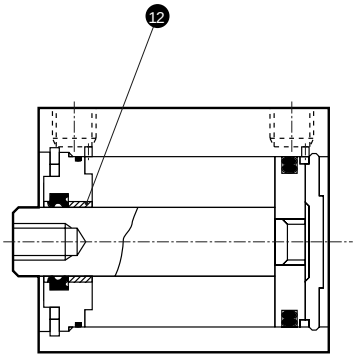
● SSD-O-32 to 50 (double acting low speed type)



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



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



No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	ϕ 16 to ϕ 100: Industrial chrome plated
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	ϕ12 to ϕ50: Special aluminum ϕ63 to ϕ100: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	

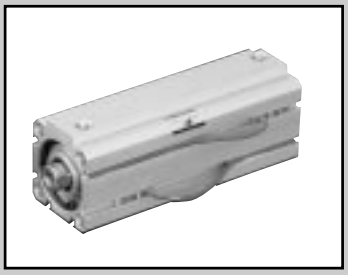
No.	Parts name	Material	Remarks
7	Spacer	ϕ12, ϕ63 to ϕ100: Aluminum alloy ϕ16 to ϕ50: Special plastic	ϕ12, ϕ63 to 100: Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Aluminum alloy	ϕ32 to ϕ100: Alumite
12	Bush	Oilless dry met	ϕ63 to ϕ100
13	Spacer washer	Stainless steel	ϕ20 to ϕ50

Fluorine system grease is used for grease.

Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-O-12K	④ ⑥ ⑩
ϕ16	SSD-O-16K	
ϕ20	SSD-O-20K	
ϕ25	SSD-O-25K	
ϕ32	SSD-O-32K	

Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-O-40K	④ ⑥ ⑩
ϕ50	SSD-O-50K	
ϕ63	SSD-O-63K	
ϕ80	SSD-O-80K	
ϕ100	SSD-O-100K	

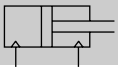


Compact cylinder Double acting low friction type

SSD-KU Series

● Bore size: ϕ 20, ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS CAD

Specifications

Item		SSD-KU SSD-KUL (with switch)							
Bore size	mm	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting							
Working fluid		Compressed air							
Max. working pressure	MPa	0.7							
Min. working pressure	MPa	0.03							
Withstanding pressure	MPa	1.0							
Ambient temperature	℃	5 to 60							
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 energy absorption	J	0.16	0.16	0.40	0.62	0.98	1.56	2.51	3.92
Internal leakage volume	ℓ/min.	5						8	

Stroke length

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

Note 1: Custom stroke length is available per 1 mm increment. The total length is the same as the next longer standard stroke length.
Note 2: Lengths exceeding the standard stroke are available in increments of 10 to the maximum stroke. (Example) ϕ 20: 60, 70, 80, 90,100
Note 3: Dimensions for the custom stroke (e.g.: 64) are the same as the next longer stroke (e.g.: 70).
Note 4: If 100 to 200 mm stroke for ϕ20, 150 to 300 mm stroke for ϕ25 to ϕ50, or 200 to 300 mm stroke for ϕ 63 to ϕ100, some internal structure and overall length dimensions are different from a standard type.
Note 5: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10 mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

* The T0/T5 switch can be used with 220 VAC. Consult with CKD for conditions.

●1 color/2 color indicator/strong magnetic field proof

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

●With preventive maintenance output

Item		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃. (5 to 10 mA at 60 ℃)

Dimensions

It is the same as the double acting high load type SSD-K Series. Refer to pages 754 to 757.

Technical data

Refer to page 294 for technical data of a sliding resistance value.
Data on page 294 is for the "SCM-U Series", but similar trends apply to the SSD-KU Series.

How to order

Without switch

SSD-KU - 20 ( ) - 5 ——— N - LB - I

With switch

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

Ⓐ Bore size

Ⓑ Port thread type

Ⓒ Stroke length

Ⓓ Switch model no.

Ⓔ Switch quantity

Ⓕ Option Note 2

Ⓖ Mounting bracket Note 3 Note 4

Ⓗ Accessory Note 5

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

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

Ⓒ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	-		Switch for strong magnetic field	2-wire
T2YDT*	-			

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

Ⓔ Switch quantity	
R	One on rod end
H	One on head end
D	Two

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

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Caution for model No. selection

Note 1: Switches other than Ⓓ switch model no. are also available. (Custom order) Refer to Ending 1 for the details.

Note 2: Piston rod material of ϕ20, ϕ25 is stainless steel as standard. The C type snap-ring is stainless steel instead of steel. A nut material is stainless steel when a rod end male thread type.

Note 3: The mounting bracket is attached at shipment.

Note 4: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 5: "I" and "Y" can not be selected at the same time.

Note 6: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

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

Model: Compact cylinder
High load type low friction type

Ⓐ Bore size : ϕ20mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 5mm
Ⓓ Switch model no. : Reed switch T0H, lead wire 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

How to order switch

SW – T0H*

Switch model no. (Item Ⓓ above)

(Stroke length table)

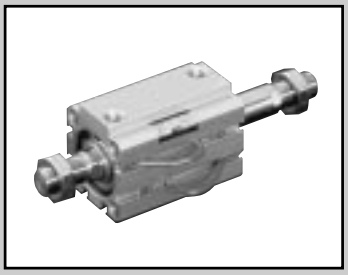
Stroke length (mm)		Applicable bore size							
		ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Standard stroke length	5	●							
	10	●	●	●	●	●	●	●	●
	15	●	●	●	●	●			
	20	●	●	●	●	●	●	●	●
	25	●	●	●	●	●			
	30	●	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●	●
	60		●	●	●	●	●	●	●
	70		●	●	●	●	●	●	●
	80		●	●	●	●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

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available. Refer to page 814 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

How to order mounting bracket

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

Note 1: Foot type mounting bracket is a two-piece/set.

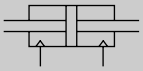


Compact cylinder Double acting double rod type

SSD-D Series

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

JIS symbol



RoHS CAD

Specifications

Item	SSD-D SSD-DL (with switch)												
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100	ϕ125	ϕ140	ϕ160
Actuation	Double acting												
Working fluid	Compressed air												
Max. working pressure MPa	1.0												
Min. working pressure MPa	0.15							0.1			0.05		
Withstanding pressure MPa	1.6												
Ambient temperature ℃	-10 to 60 (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 (when lubricating, use turbine oil ISO VG32)												
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56	6.52	6.52	7.78

Stroke length

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

Note 1: The availability of the custom stroke differs for the ϕ12 to ϕ100 and ϕ125 to ϕ160.
(ϕ12 to ϕ100)
The total length of the custom stroke is the same as the next longer standard stroke.
(ϕ125 to ϕ160)
When custom stroke is selected, total length dimensions will be dedicated for the custom stroke.
Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

220 VAC is available for T0/T5 switches.
Consult with CKD for conditions.

● 1 color/2 color indicator/strong magnetic field proof

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Item		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10 mA at 60 ℃)

Cylinder weight table (weight with switch includes weight with two cylinder switches)

● φ12 to φ100

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
φ12	52	105	60	105	69	115	77	124	86	134	95	147	-	-	-	-
φ16	74	133	85	133	95	144	106	156	117	168	128	177	-	-	-	-
φ20	131	187	143	222	161	238	179	254	196	269	214	285	-	-	-	-
φ25	147	238	162	253	178	269	194	285	210	301	226	316	257	348	288	379
φ32	184	299	230	344	275	390	322	436	366	481	413	527	507	617	601	707
φ40	283	426	310	453	336	479	363	506	390	533	416	569	469	612	522	665
φ50	458	652	508	702	558	751	608	803	658	851	708	901	808	1001	911	1105
φ63	827	953	902	1266	-	-	1052	1416	-	-	1202	1566	1353	1717	1503	1867
φ80	1491	1421	1608	1538	-	-	1841	2294	-	-	2074	2527	2308	2771	2541	3004
φ100	2314	2941	2483	3105	-	-	2820	3402	-	-	3158	3770	3495	4097	3833	4425

Cylinder weight table (weight with switch includes weight with two cylinder switches)

● φ125 to φ160

(Unit: kg)

Stroke length (mm) / Bore size (mm)	10		20		30		40		50		60		70		80		90		100	
	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
φ125	4.64	4.74	4.98	5.08	5.32	5.42	5.66	5.76	6	6.1	6.64	6.44	6.68	6.78	7.02	7.12	7.36	7.46	7.7	7.8
φ140	6.62	6.73	7	7.11	7.93	7.5	7.77	7.88	8.15	8.26	8.54	8.65	8.92	9.03	9.3	9.41	9.68	9.79	10.07	10.18
φ160	9.1	9.22	9.58	9.7	10.06	10.18	10.54	10.66	11.02	11.14	11.5	11.62	11.97	12.09	12.45	12.57	12.93	13.05	13.41	13.53

How to order

Without switch

SSD-D - 12 ( ) - 5 ——— N - LB - I

With switch

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

Ⓐ Bore size

Ⓑ Port thread type

Ⓒ Stroke length

Ⓓ Switch model no.
Note 1
Note 2

Ⓔ Switch quantity

Ⓕ Option
Note 3

Ⓖ Mounting bracket
Note 4
Note 5

Ⓗ Accessory
Note 6

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

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

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

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

Ⓔ Switch quantity	
R	One on rod side
H	One on head side
D	Two

Ⓕ Option

Bore size (ϕ)		12	16	20	25	32	40	50	63	80	100	125	140	160
Blank	Rod end female thread	●	●	●	●	●	●	●	●	●	●	●	●	●
N	Rod end male thread	●	●	●	●	●	●	●	●	●	●	●	●	●
P6	Copper and PTFE free specifications	Standard							●	●	●			
M	Piston rod (stainless steel)	●	●	●	●	●	●	●	●	●	●			

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

Caution for model No. selection

Note 1: Switches other than Ⓓ switch model no. are also available. (Custom order)
Refer to Ending 1 for details.

Note 2: Strong magnetic field proof switch and T8* switch cannot be installed on ϕ12, ϕ16.

Note 3: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The C type snap-ring is stainless steel instead of steel. A nut material is stainless steel when a rod end male thread type.

Note 4: The mounting bracket is attached at shipment.

Note 5: When selecting LB2, FA, piston rod projecting dimension WF differs from standard. Refer to the dimensions on pages 939 to 940.

Note 6: Two pieces are enclosed when "I" or "Y" is selected. 1 pc. each is enclosed when "IY" is selected.

Note 7: Refer to Ending 89 for custom specifications of rod end form.

Note 8: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

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

Model: Compact cylinder double acting double rod type
Ⓐ Bore size : ϕ12mm
Ⓑ Port thread type : Rc thread
Ⓒ Stroke length : 5mm
Ⓓ Switch model no. : Reed switch T0H, lead wire length 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

How to order switch

SW - T0H

Switch model no.
(Item Ⓓ above)

(Stroke length table)

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

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available.
Refer to page 818 for switch quantity and min. stroke length.

Note 2: Custom stroke availability for ϕ12 to ϕ100 and ϕ125 to ϕ160 differs as shown below.
(ϕ12 to ϕ100)
The total length of the custom stroke is the same as the next longer standard stroke.
(ϕ125 to ϕ160)
When custom stroke is selected, total length dimensions will be dedicated for the custom stroke.

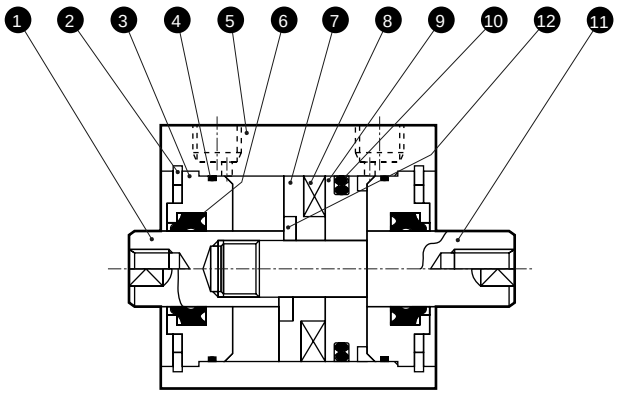
How to order mounting bracket

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

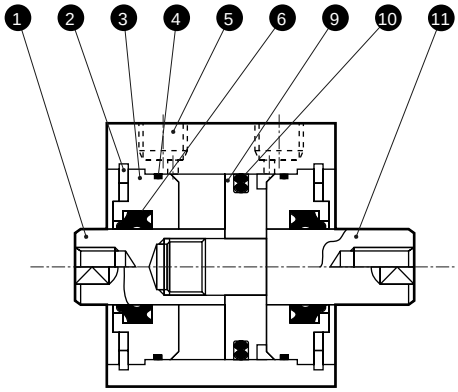
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

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



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



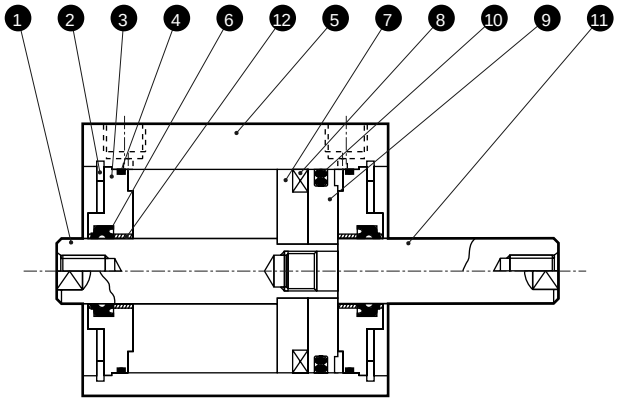
No.	Parts name	Material	Remarks
1	Piston rod A	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	ϕ16 to ϕ50: Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal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

Repair parts list

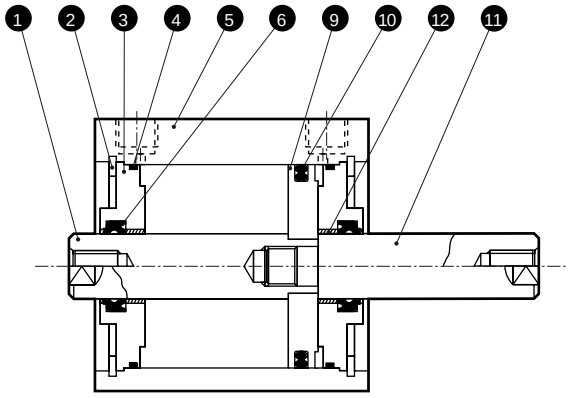
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-D-12K	4 6 10
ϕ16	SSD-D-16K	
ϕ20	SSD-D-20K	
ϕ25	SSD-D-25K	
ϕ32	SSD-D-32K	
ϕ40	SSD-D-40K	
ϕ50	SSD-D-50K	

Internal structure and parts list

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



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



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plated	7	Spacer	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	8	Magnet	Plastic	
3	Rod bushing	Aluminum alloy	Alumite	9	Piston	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		10	Piston packing seal	Nitrile rubber	
5	Main body	Aluminum alloy	Hard alumite	11	Piston rod B	Steel	Industrial chrome plated
6	Rod packing seal	Nitrile rubber		12	Bush	Oilless dry met	Note 1

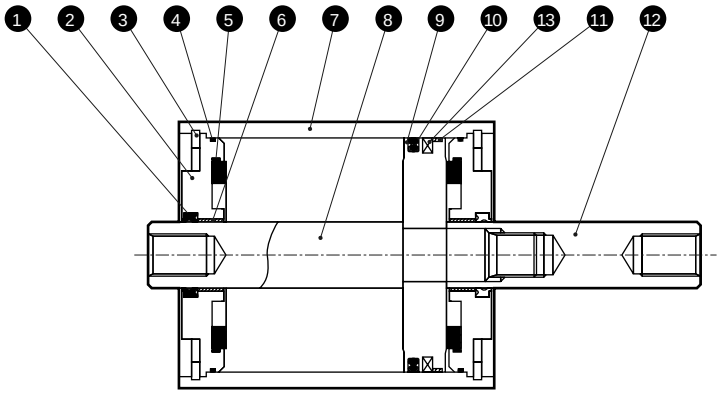
Note 1 : For copper and PTFF free specifications, steel is used.

Repair parts list

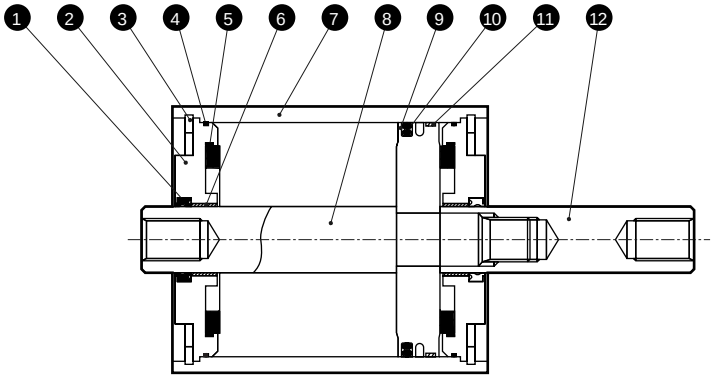
Bore size (mm)	Kit No.	Repair parts number
ϕ63	SSD-D-63K	④ ⑥ ⑩
ϕ80	SSD-D-80K	
ϕ100	SSD-D-100K	

Internal structure and parts list

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



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



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Rod packing seal	Nitrile rubber		8	Piston rod A	Steel	Industrial chrome plated
2	Rod bushing	Aluminum alloy	Chromate	9	Piston	Aluminum alloy die-casting	
3	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
4	Metal gasket	Nitrile rubber		11	Wear ring	Polyacetal	
5	Cushion rubber	Urethane rubber		12	Piston rod B	Steel	Industrial chrome plated
6	Bush	Oilless dry met		13	Magnet	Rubber	Only SSD-DL
7	Body	Aluminum alloy	Hard alumite				

Repair kits

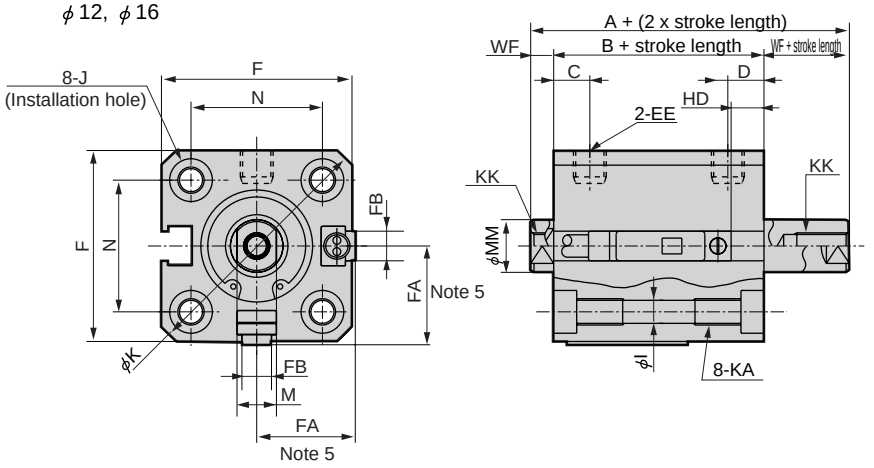
Bore size (mm)	Kit No.	Repair parts number
ϕ125	SSD-D-125K	❶ ❹ ❺ ❿ ⓫
ϕ140	SSD-D-140K	
ϕ160	SSD-D-160K	

Note 1: Specify kit no. when placing an order.

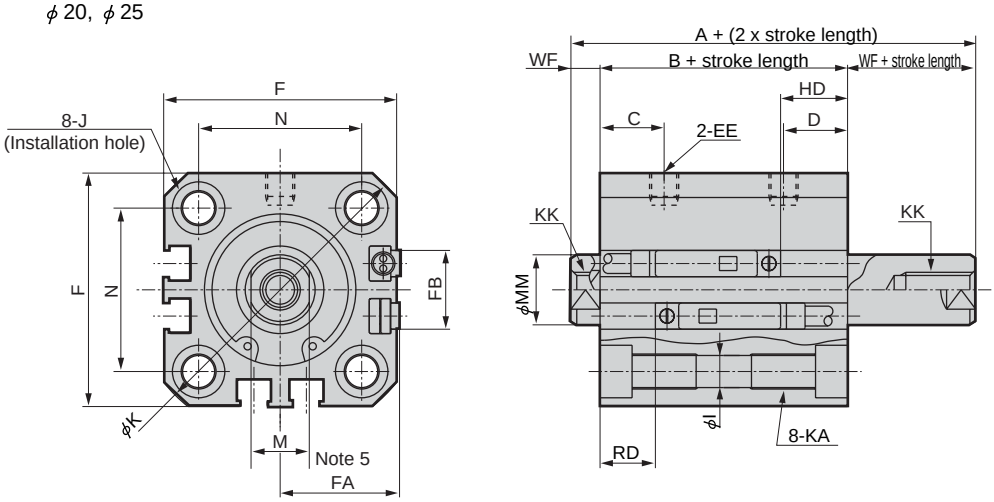
Dimensions CAD

● SSD-DL-12 to 25 (with switch)

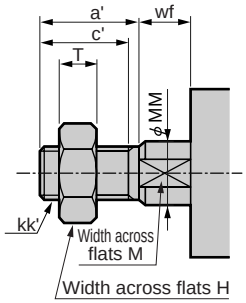
ϕ12, ϕ16



ϕ20, ϕ25



● Rod end male thread



Note: The position of the width across flat for catching the wrench on the left and right is not specified.

Symbol	Common dimensions for types with switches																
Bore size (mm)	A Note 1	B Note 1	C	D	EE	F	FA Note 5	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	34	27	5.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	34	27	5.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	45	36	8	8	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	51	41	11	11	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimension	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ12	5	2.5	5	2.5
ϕ16	5	2	5	2
ϕ20	9.5	6.5	9.5	6.5
ϕ25	11.5	9.5	11.5	9.5

- Note 1: When calculating custom stroke dimensions of A + (2 x stroke length) , B + stroke length and WF+stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. Rod dimensions of projecting section differ by left or right.
  (E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.
- Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.
- Note 3: Refer to page 926 for HD/RD dimensions of 2 color indicator type, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 4: Refer to page 926 for projection dimensions of 2 color indicator type, off-delay, strong magnetic field proof, or T1* and T8* switch.
- Note 5: Dimensions in ( ) are the values when radial lead wire.
- Note 6: Refer to pages 938 to 945 for accessory dimensions.

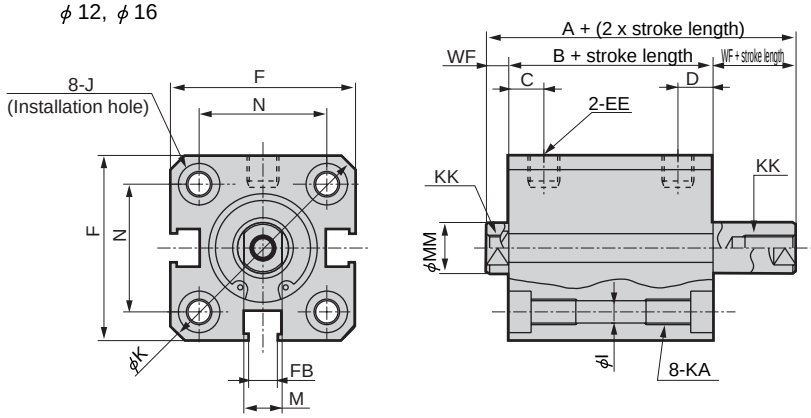
Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

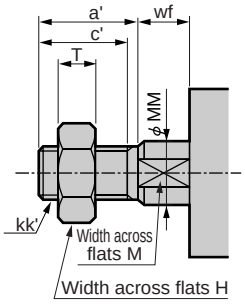
Dimensions

● SSD-D-12 to 25 (without switch)

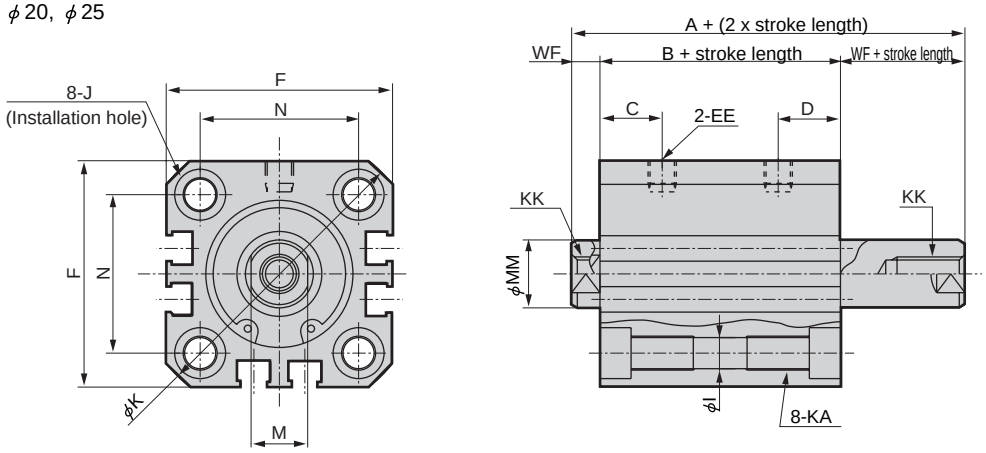
ϕ12, ϕ16



● Rod end male thread



ϕ20, ϕ25



Note: The position of the width across flat for catching the wrench on the left and right is not specified.

Symbol	Common dimensions for types without switches															
Bore size (mm)	A Note 1	B Note 1	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	29	22	5.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	29	22	5.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	35	26	8	8	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	41	31	11	11	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Rod end male thread section dimensions table

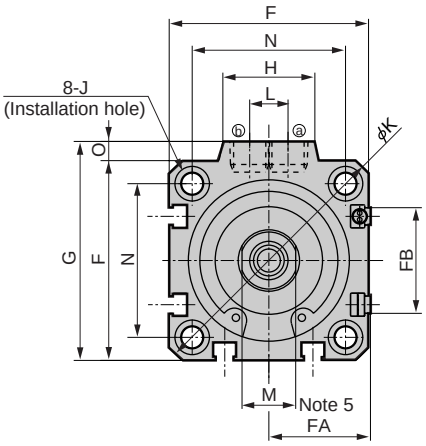
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

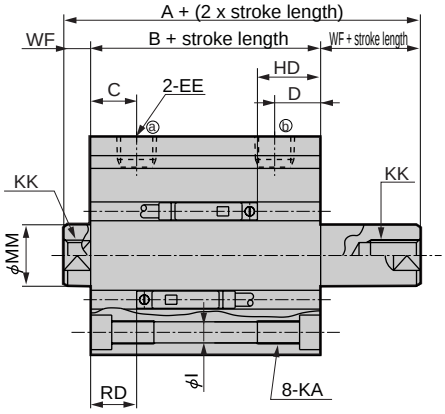
● Note 1: When calculating custom stroke dimensions of A + (2 x stroke length) , B + stroke length and WF+ stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. Rod dimensions of projecting section differ by left or right.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: Refer to pages 938 to 945 for accessory dimensions.

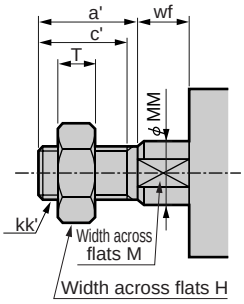
Dimensions

● SSD-DL-32 to 100 (with switch)

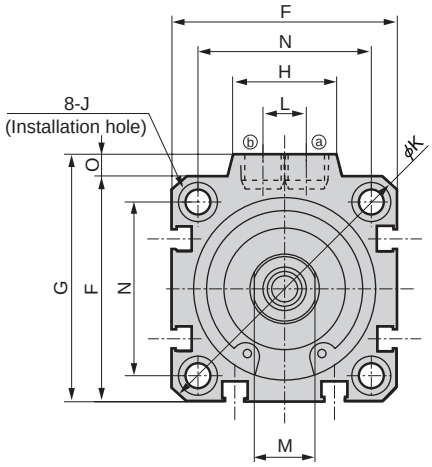


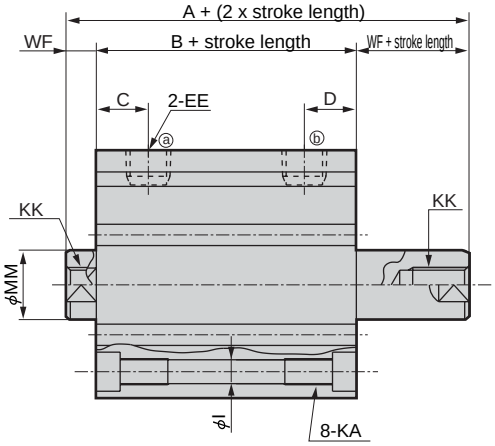


● Rod end male thread



● SSD-D-32 to 100 (without switch)





Note: The position of the width across flat for catching the wrench on the left and right is not specified.

Symbol	Without switch		Common dimensions for types with switches																				
Bore size (mm)	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	FA Note 5	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	44.5	30.5	54.5	40.5	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40	53	39	63	49	12	12	Rc1/8	52	26.5 (30)	27.5	57	24	5.5	9 spot face depth 5.5	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ϕ50	55	39	65	49	10.5	10.5	Rc1/4	64	32.5 (36)	28.5	71	33	6.9	11 spot face depth 6.5	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ϕ63	57	41	67	51	13	13	Rc1/4	77	39 (42.5)	28.5	84	33	8.7	14 spot face depth 9	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ϕ80	68.5	48.5	78.5	58.5	16	16	Rc3/8	98	49.5 (53)	28.5	104	38	10.5	17.5 spot face depth 11	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ϕ100	82	58	92	68	23	23	Rc3/8	117	59 (62.5)	28.5	123.5	38	10.5	17.5 spot face depth 11	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

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

● Note 1: When calculating custom stroke dimensions of A + (2 x stroke length), B + stroke length and WF+stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. Rod dimensions of projecting section differ by left or right. (E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: HD and RD dimensions for the 5 stroke will differ from these due to manufacturing.

● Note 3: Refer to page 927 for HD, RD dimensions of 2 color indicatior type, off-delay, strong magnetic field proof, or T1* and T8* switch.

● Note 4: Refer to page 927 for projection dimensions of 2 color indicator type, off-delay, strong magnetic field proof, or T1* and T8* switch.

● Note 5: Dimensions in ( ) are the values when radial lead wire.

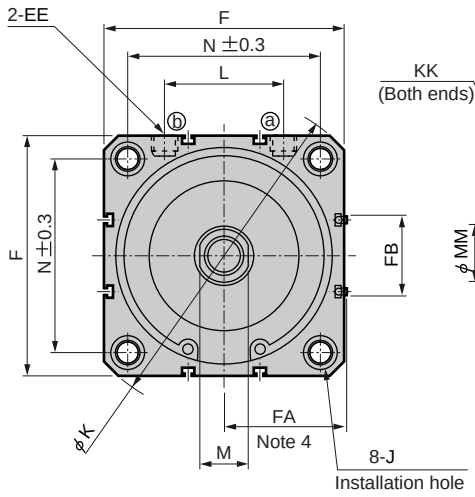
● Note 6: Refer to pages 938 to 945 for accessory dimensions.

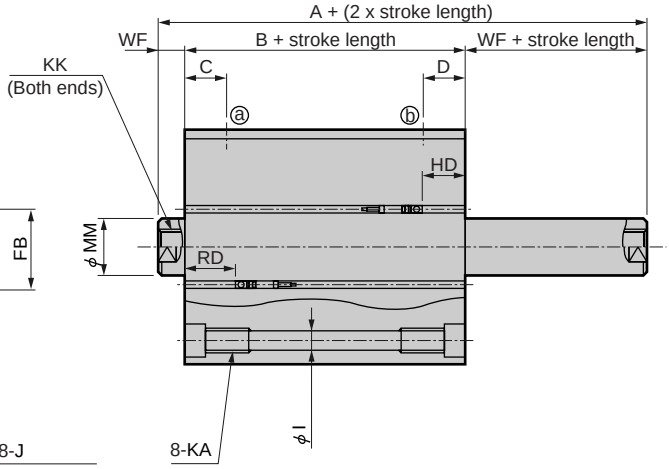
Rod end male thread section dimensions table

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

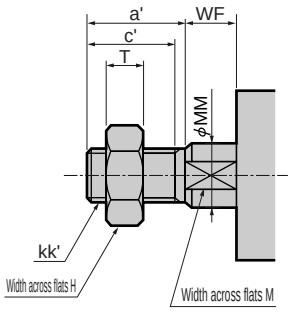
Dimensions

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

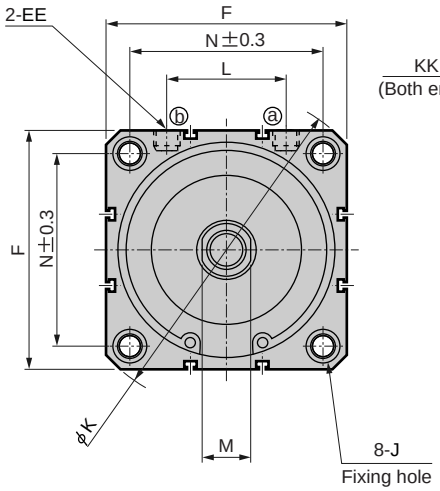


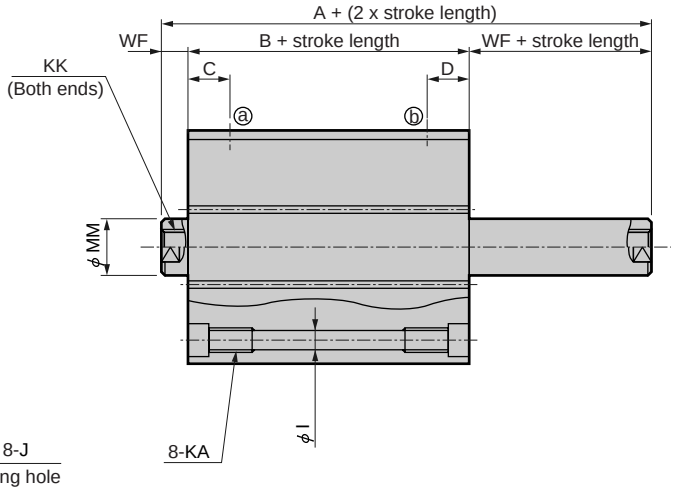


● Rod end male thread



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





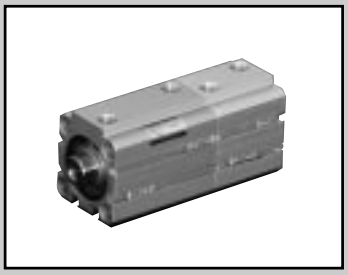
Symbol	Common dimensions for types with switches												
Bore size (mm)	A	B	C	D	EE	F	FA (Note 4)	FB	I	J	K	KA	KK (Note 3)
φ125	104	72	23.5	23.5	Rc3/8	142	71.5 (75)	44.5	12.5	20 spot face depth 13	190	M14 depth 25	M22 x 2.5 depth 30 (22)
φ140	114	82	27	27	Rc3/8	158	79.5 (83)	44.5	12.5	20 spot face depth 13	210	M14 depth 25	M22 x 2.5 depth 30 (22)
φ160	125	91	30	30	Rc3/8	178	89.5 (93)	48.5	14.5	23 spot face depth 15.2	238	M16 depth 28	M24 x 3 depth 33 (24)

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

Note 1: Refer to Ending 36 for the HD and RD dimensions of the 2 color indicator, off-delay, and strong magnetic field proof types.
Note 2: Contact CKD for projection dimensions of the 2 color indicator type, off-delay, and strong magnetic field proof types.
Note 3: Values in ( ) for KK dimensions indicate the effective thread length on one side for the 10 stroke.
Note 4: Dimensions in ( ) are the values when radial lead wire.
Note 5: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

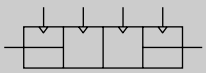
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
φ125	45	42	46	M30 x 1.5	30	35	18	13
φ140	45	42	46	M30 x 1.5	30	35	18	13
φ160	50	47	55	M36 x 1.5	36	40	21	14



Compact cylinder Double acting back to back type

SSD-B Series

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

JIS symbol 

RoHS CAD

Specifications

Item	SSD-B SSD-BL (with switch)									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting back to back type									
Working fluid	Compressed air									
Max. working pressure MPa	1.0									
Min. working pressure MPa	0.1							0.05		
Withstanding pressure MPa	1.6									
Ambient temperature ℃	-10 to 60 (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = {}^{+1.0}_{0}$						$S_2 = {}^{+1.0}_{0}$			
Working piston speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not required (when lubricating, use turbine oil ISO VG32)									
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

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

Note 1: Custom stroke length is available per 1 mm increment. Note that the total length is the same as the next longer standard stroke length.
Note 2: Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10mm is not available for 2 color indicator type, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

* The T0/T5 switch can be used with 220 VAC. Consult with CKD for conditions.

●1 color/2 color indicator/strong magnetic field proof

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less

● With preventive maintenance output

Item		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

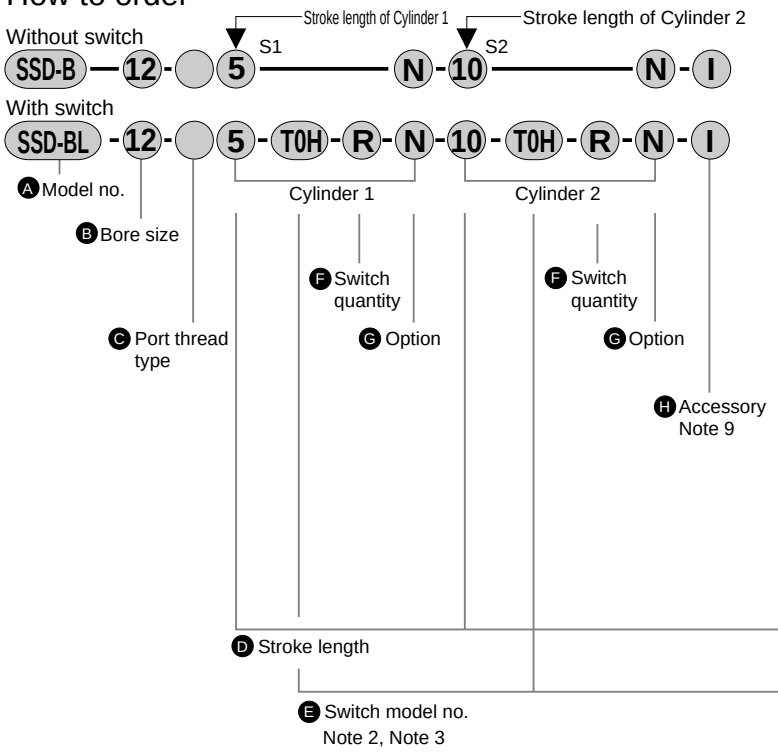
Note 1: Refer to Ending 1 for other switches.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃. (5 to 10 mA at 60 ℃)

Cylinder weight table (weight with switch includes weight with two cylinder switches)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ 12	84	188	102	188	122	208	140	226	160	246	178	264	-	-	-	-
ϕ 16	108	224	132	224	154	246	178	270	202	294	226	318	-	-	-	-
ϕ 20	160	278	188	346	218	376	248	406	276	434	306	464	-	-	-	-
ϕ 25	212	402	246	436	282	472	318	508	354	544	388	578	460	650	530	720
ϕ 32	282	518	330	566	378	614	426	662	472	708	520	756	616	852	710	946
ϕ 40	404	698	462	756	518	812	578	870	634	928	690	984	804	1098	918	1212
ϕ 50	682	1086	774	1178	866	1270	958	1362	1050	1454	1144	1548	1328	1732	1512	1916
ϕ 63	1044	1626	1166	1748	-	-	1410	1992	-	-	1654	2236	1900	2482	2144	2726
ϕ 80	1920	2778	2110	2968	-	-	2488	3348	-	-	2868	3730	3252	4114	3634	4500
ϕ 100	2908	4074	3152	4320	-	-	3640	4810	-	-	4132	5302	4622	5796	5118	6292

How to order



Symbol	Descriptions
A Model no.	
SSD-B	Double acting back to back type
SSD-BL	Double acting back to back type with switch
SSD-BL1	ϕ12, ϕ16, 2 color indicator, off-delay type, with T1* switch

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

C Port thread type	
Blank	Rc thread
NN	NPT thread (ϕ 32 and over) (custom order)
GN	G thread (ϕ 32 and over) (custom order)

D Stroke length (mm)

Refer to the stroke length table on the following page.

E Switch model no.

Axial lead wire	Radial lead wire	contact	Display	Lead wire
T0H*	**T0V***	Reed	1 color indicator	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator	
T1H*	**T1V***	Proximity	1 color indicator	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator (custom order)	
T2YH*	**T2YV***		2 color indicator	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator (w/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator (w/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Switch for strong magnetic field	2-wire
T2YDT*	**-**			

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

F Switch quantity	
R	One on rod end
H	One on head end
D	Two

G Option	
Blank	Rod end female thread
N	Rod end male thread
M Note 8	Piston rod material (stainless steel)

H Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

Caution for model No. selection

Note 1: Two cylinders are combined from cylinder 2 side. (Refer to the dimensions)
Consider installation method and decide cylinder 1 and 2.

Note 2: Switches other than switch model no. are available.
(Custom order)
Refer to Ending 1 for details.

Note 3: Strong magnetic field proof switches cannot be installed on ϕ 12 and ϕ 16. T8* switch can not be installed on ϕ 12 to ϕ 32.

Note 4: For SSD-B-12 to 50, copper and PTFE free specifications are provided as standard.

Note 5: The mounting bracket is attached at shipment.

Note 6: Refer to Ending 89 for custom specifications of rod end form.

Note 7: Refer to pages 720 to 725 for the variation and option combination.

Note 8: Option symbol "N" is indicated for both S1 and S2, but other option symbols are indicated only for S2.

Note 9: 2 pcs. are enclosed when accessories are selected. 1pc. each is enclosed when "IY" is selected.

<Example of model number>

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

Model: Compact cylinder back to back type

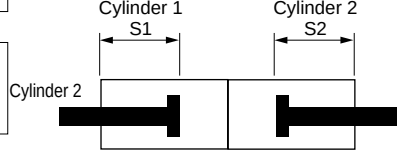
- B Bore size : ϕ12 mm
- C Port thread type : Rc thread
- D Stroke length S1 : 5 mm
- E Switch model no. : Reed switch T0H, lead wire 1 m
- F Switch quantity : One on rod end
- G Option : Rod end male thread

Cylinder 1

Cylinder 1 stroke length 5 mm displayed by S1
+ Cylinder 2 stroke length 10 mm displayed by S2
Total stroke length 15 mm S1 + S2

- D Stroke length S2 : 10 mm
- E Switch model no. : Reed switch T0H, lead wire 1 m
- F Switch quantity : One on rod end
- G Option : Rod end male thread

Cylinder 2



How to order switch

SW - T0H

Switch model no.
(Item Ⓔ previous page)

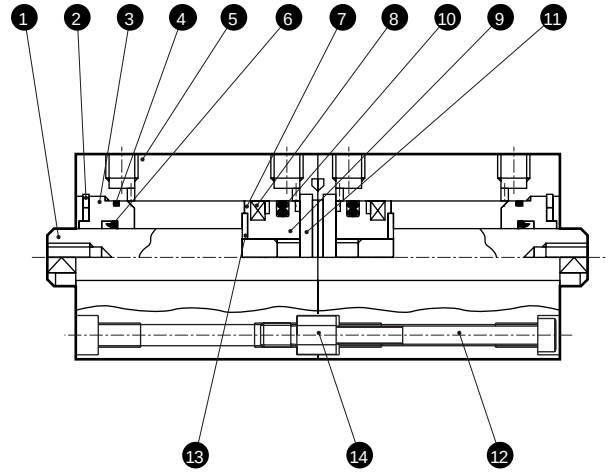
(Stroke length table)

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

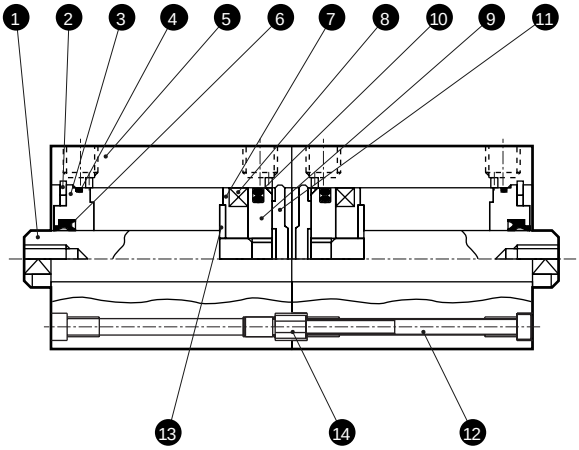
Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available. Refer to page 830 for switch installation quantity and min. stroke length.
Note 2: The total length is the same dimension as the next longer standard stroke length.

Internal structure and parts list

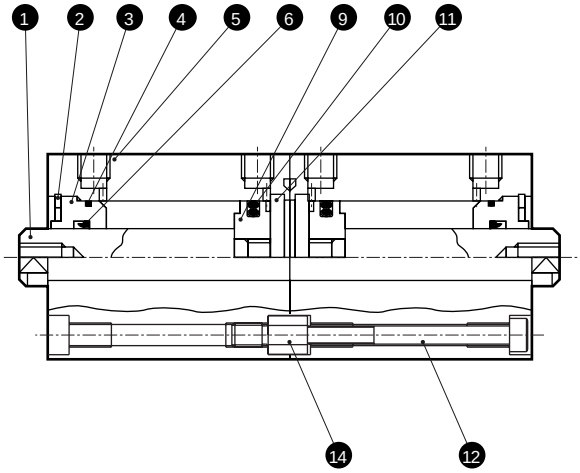
● SSD-BL-12 to 25 (double acting back to back type with switch)



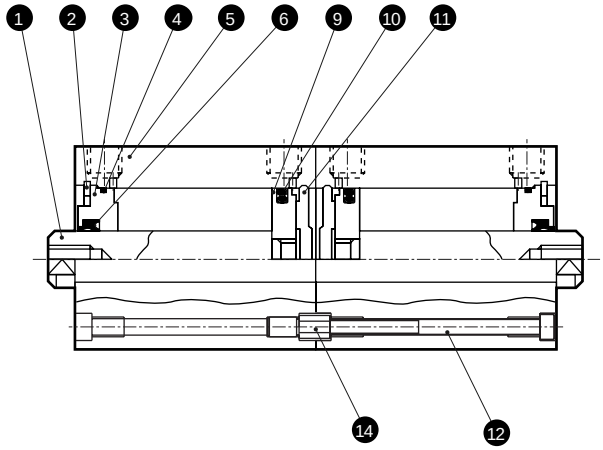
● SSD-BL-32 to 50 (double acting back to back type with switch)



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



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



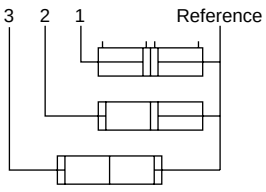
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	Industrial chrome plating	8	Magnet	Plastic	
2	C type snap ring	Steel	Phosphoric acid zinc	9	Piston	Aluminum alloy	Chromate
3	Rod bushing	Special aluminum	Alumite	10	Piston packing seal	Nitrile rubber	
4	Rod metal gasket	Nitrile rubber		11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Aluminum alloy	ϕ32 to ϕ50: Alumite
5	Body	Aluminum alloy	Hard alumite				
6	Rod packing seal	Nitrile rubber		12	Hexagon socket head cap bolt	Alloy steel	Blackening
7	Spacer	ϕ12: Aluminum alloy ϕ16 to ϕ50: Special plastic	ϕ12: Chromate	13	Spacer washer	Stainless steel	ϕ12 to ϕ50
				14	Connector	Steel	Zinc chromate

Repair parts list

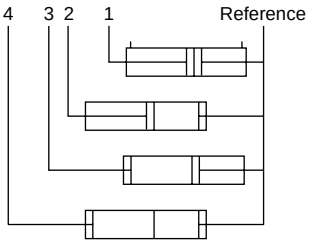
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-B-12K	④ ⑥ ⑩
ϕ16	SSD-B-16K	
ϕ20	SSD-B-20K	
ϕ25	SSD-B-25K	
ϕ32	SSD-B-32K	
ϕ40	SSD-B-40K	
ϕ50	SSD-B-50K	

Example of SSD-B

Three positions are available when the same stroke is combined.

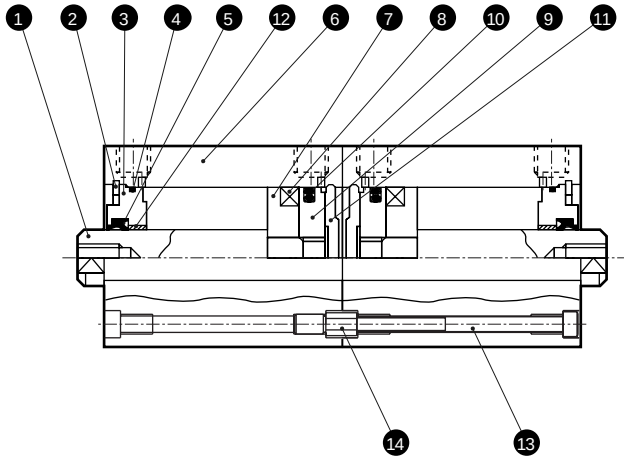


Four positions are available when different strokes are combined.

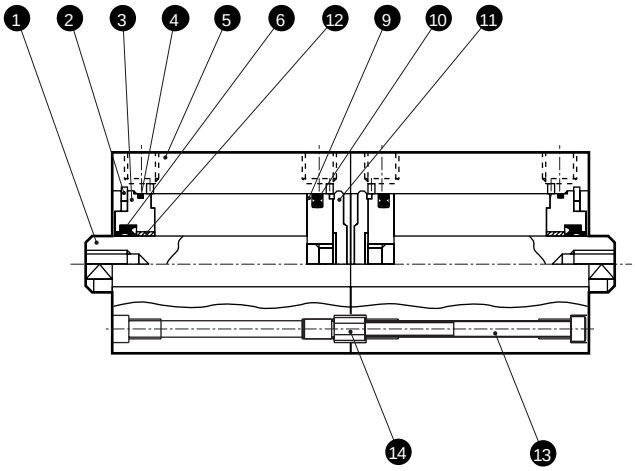


Internal structure and parts list

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



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



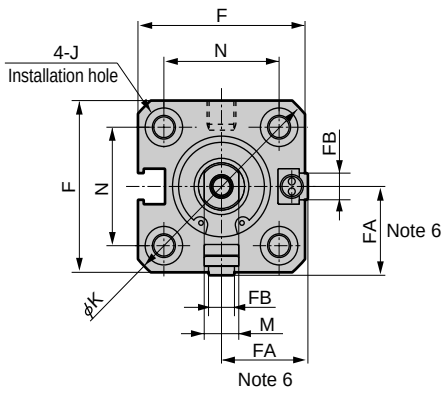
No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	
7	Spacer	Aluminum alloy	Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	Oilless dry met	
13	Hexagon socket head cap bolt	Alloy steel	Blackening
14	Connector	Steel	Zinc chromate

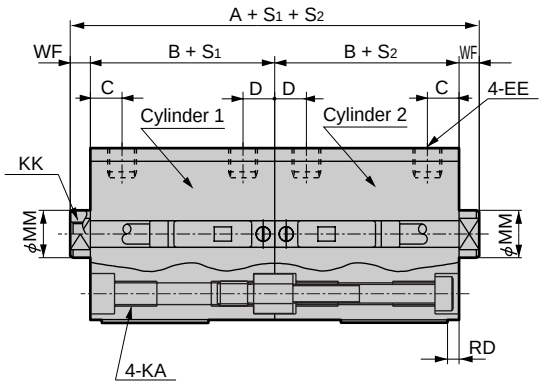
Repair parts list

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

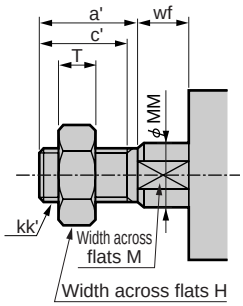
Dimensions

● SSD-BL-12/16 (with switch)

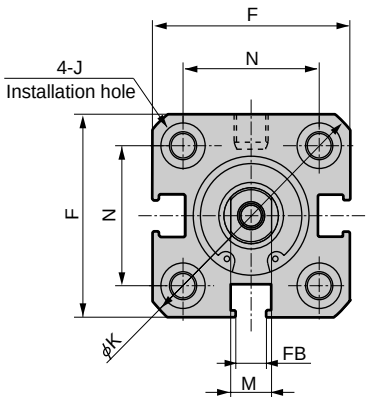


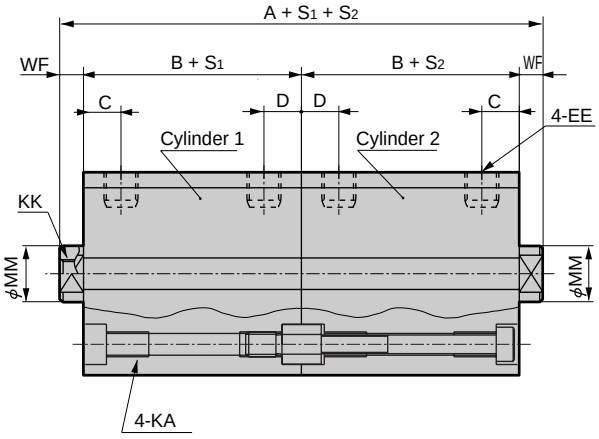


● Rod end male thread



● SSD-B-12/16 (without switch)





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

Switch dimension	Reed T0H/TOV, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ12	0	2.5	0	2.5
ϕ16	0	2	0	2

● Note 1: When calculating custom stroke dimensions of <A + S_1 + S_2>, <B + S_1> and <B + S_2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: For 5mm stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.

● Note 3: On the above dimensions table, when stroke length S_1 or S_2 of ϕ12 and ϕ16 with switches is 5mm, (B + S_1), (B + S_2) and (A + S_1 + S_2) are as following.

● Note 4: Refer to page 926 for HD, RD dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* switch.

● Note 5: Refer to page 926 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* switch.

Bore \ Symbol	Conditions	B + S_1	B + S_2	A + S_1 + S_2
ϕ12 ϕ16	For S_1 = 5	32	22+S_2	61+S_2
	For S_2 = 5	22+S_1	32	61+S_2
	For S_1 = S_2 = 5	32	32	71

S_1, S_2 dimensions of custom stroke length is same as the next longer standard stroke length.

● Note 6: Dimensions in ( ) are the values when radial lead wire.

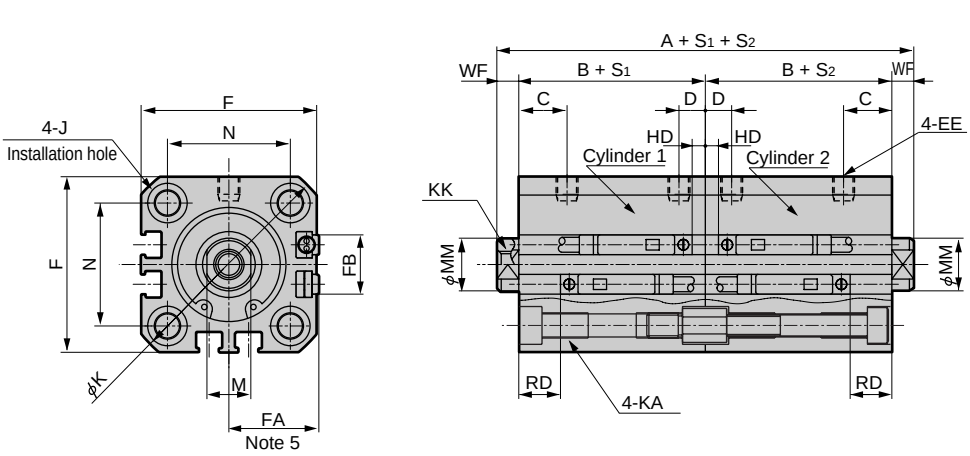
● Note 7: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

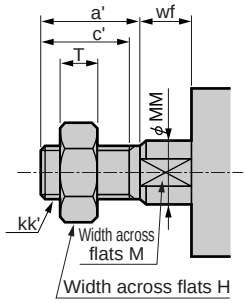
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5

Dimensions

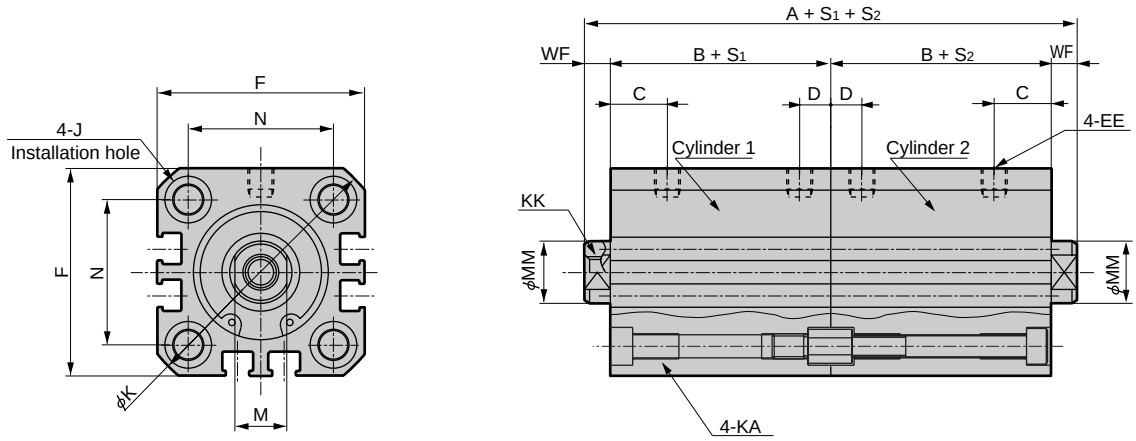
● SSD-BL-20/25 (with switch)



● Rod end male thread



● SSD-B-20/25 (without switch)



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

Switch dimension	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ20	3	6.5	3	6.5
ϕ25	3	9.5	3	9.5

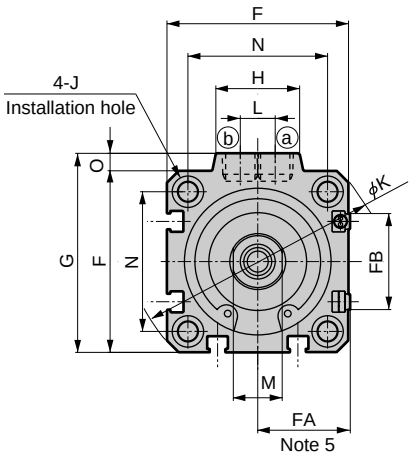
● Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B + S1> and <B + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length10mm.
● Note 2: For 5mm stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.
● Note 3: Refer to page 926 for HD/RD dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* or T8* switch.
● Note 4: Refer to page 926 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.
● Note 5: Dimensions in ( ) are the values when radial lead wire.
● Note 6: Refer to pages 938 to 945 for accessory dimensions.

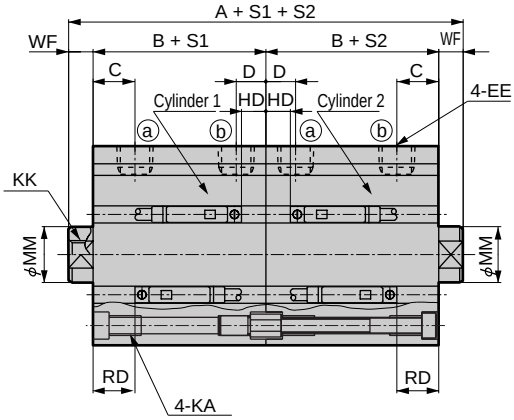
Rod end male thread section dimensions table

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

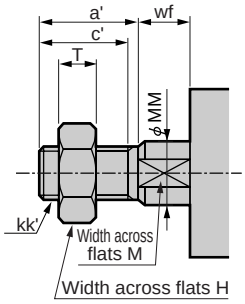
Dimensions

● SSD-BL-32 to 100 (with switch)

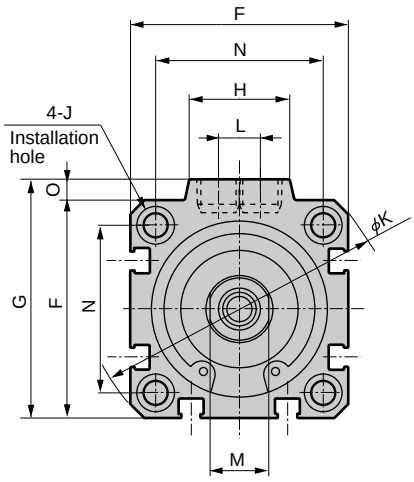


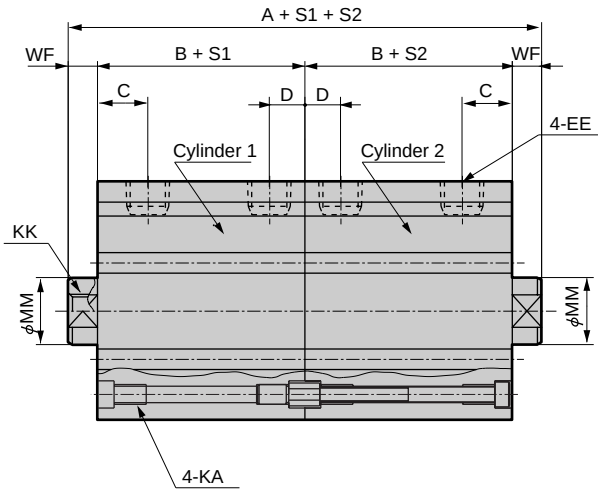


● Rod end male thread



● SSD-B-32 to 100 (without switch)





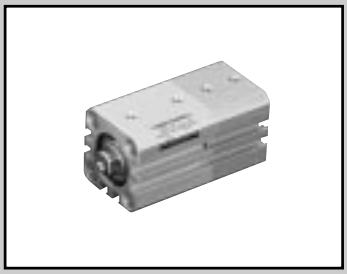
Symbol	Without switch		Common dimensions for types with switches																			
Bore size (mm)	A Note 1	B Note 1	A Note 1	B Note 1	C	D	EE	F	FA Note 5	FB	G	H	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	60	23	80	33	8	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5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

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

● Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B + S1> and <B + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.
● Note 2: For 5mm stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.
● Note 3: Refer to page 927 for HD, RD dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* switch.
● Note 4: Refer to page 927 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* switch.
● Note 5: Dimensions in ( ) are the values when radial lead wire.
● Note 6: Refer to pages, 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

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



Compact cylinder Double acting two stage type

SSD-W Series

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

RoHS CAD

Specifications

Descriptions	SSD-W SSD-WL (with switch)									
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting two stage type									
Working fluid	Compressed air									
Max. working pressure MPa	1.0 (Note)									
Min. working pressure MPa	0.15							0.1		
Withstanding pressure MPa	1.6									
Ambient temperature ℃	-10 to 60 (no freezing)									
Port size	M5				Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance mm	$S_1 = {}^{+1.0}_{0}$						$S_2 = {}^{0}_{-1.5}$			
Working piston speed mm/s	50 to 500							50 to 300		
Cushion	None									
Lubrication	Not required (when lubricating, use turbine oil ISO VG32)									
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Note: If S1 and S2 are the same, the maximum working pressure is 0.5 MPa.

Stroke length

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

Note 1) Custom stroke length is available per 1mm increment. The same dimension as next longer standard stroke length applies to the total length.
Note 2) Refer to the following table when a switch is used.

Switch quantity and min. stroke length (mm)

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

Note: Stroke less than 10mm is not available for 2 color indicator, off-delay, strong magnetic field proof, or types with T1* or T8* switch.

Switch specifications

*The T0/T5 switch can be used with 220 VAC . Consult with CKD for working conditions.

● 1 color/2 color indicator/strong magnetic field proof

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire							Proximity 2 wire
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controlle, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), Serial connection		Programmable controller, relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)			Red/green LED (ON lighting)
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA							1mA or less

● With preventive maintenance output

Descriptions		Proximity 3 wire	Proximity 4 wire	Proximity 3 wire	Proximity 4 wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20mA	50mA or less	5 to 20mA	50mA or less
	Leakage current	1mA or less	10 μA or less	1.2mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20mA or less	50mA or less	5 to 20mA or less	50mA or less
	Leakage current	10 μA or less			

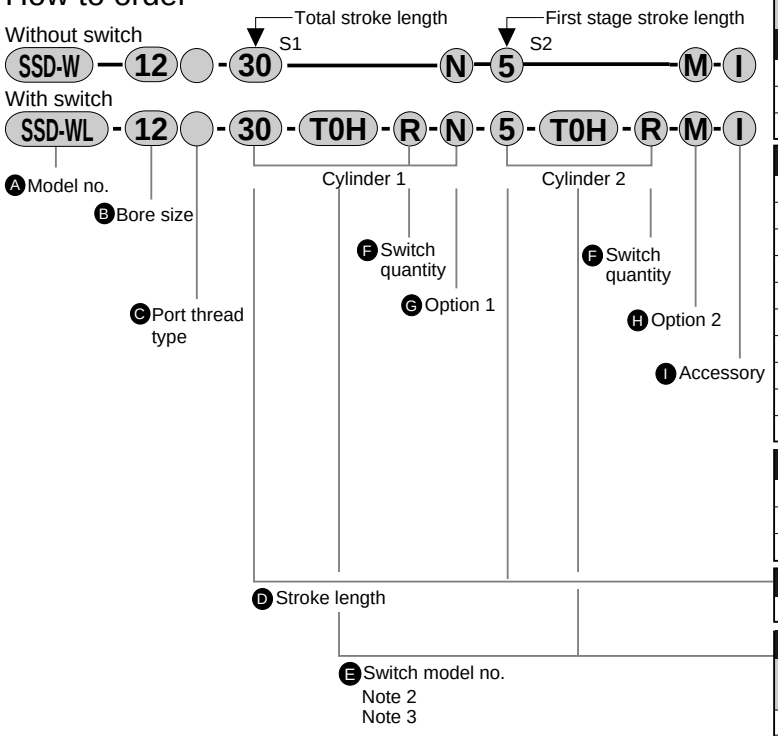
Note 1: Refer to Ending 1 for other switches.
Note 2: Max load current above: 20mA at 25℃. The current will be lower than 20mA if ambient temperature around switch is higher than 25 ℃. (5 to 10mA when 60℃)

Cylinder weight table (weight with switch is with two cylinder switches.)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ12	88	191	104	191	122	210	138	227	156	246	163	267	-	-	-	-
ϕ16	122	237	144	237	164	258	186	281	208	304	230	324	-	-	-	-
ϕ20	194	305	218	372	249	401	280	430	309	457	340	486	-	-	-	-
ϕ25	234	416	264	446	296	478	328	510	360	542	391	572	454	636	516	698
ϕ32	306	535	374	602	441	670	510	738	575	804	644	872	782	1006	919	1139
ϕ40	466	752	520	806	572	858	626	912	680	966	732	1028	838	1124	944	1230
ϕ50	757	1145	849	1237	941	1328	1033	1422	1125	1512	1218	1605	1402	1789	1589	1977
ϕ63	1279	1684	1409	2052	-	-	1669	2312	-	-	1929	2572	2191	2834	2451	3094
ϕ80	2332	2675	2536	2879	-	-	2942	3808	-	-	3348	4214	3756	4632	4162	5038
ϕ100	3633	4827	3916	5105	-	-	4480	5629	-	-	5046	6225	5610	6779	6176	7335

How to order



Symbol	Descriptions
Ⓐ Model no.	
SSD-W	Double acting two stage type
SSD-WL	Double acting two stage type with switch
SSD-WL1	ϕ12, ϕ16、2 color indicator, off-delay type, with T1*switch

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

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

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

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indication	Lead wire
T0H*	**T0V***	Reed	1 color indicator type	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator type	
T1H*	**T1V***	Proximity	1 color indicator type	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator type (custom order)	
T2YH*	**T2YV***		2 color indicator type	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator type (without light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator type (with light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Strong magnetic field proof switch	2-wire
T2YDT*	**-**			

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

Ⓕ Switch quantity	
R	One on rod end
H	One head end
D	Two

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

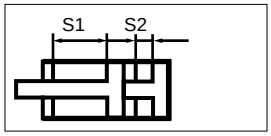
Note 1: The two cylinders are coupled at four places with cylinder 2 (head), preventing mounting on the head. Mounting on the head comes as a customized order. Contact CKD for information.
Note 2: Switches other than Ⓔ switch model no. are available. (Custom order) Refer to Ending 1 for the details.
Note 3: Strong magnetic field proof switch cannot be installed to ϕ12, ϕ16. T8* switch cannot be installed to ϕ12 to ϕ32.
Note 4: The material of 12 to 25 dimension piston rods is stainless steel as a standard. The C type snap ring was changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.
Note 5: SSD-W12 to 50 is copper and PTFE free as standard.
Note 6: Refer to Ending 89 for custom specifications of rod end form.
Note 7: Refer to pages 720 to 725 for variation and combinations of options.

<Example of model number>

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

Model: Compact cylinder two stage type
Ⓑ Bore size : ϕ12mm
Ⓒ Port thread type : Rc thread
Ⓓ Total stroke length S1 : 30mm
Ⓔ Switch model no. : Reed switch T0H, lead wire 1m
Ⓕ Switch quantity : One on rod end
Cylinder 1
Ⓖ Option 1 : Rod end male thread
Ⓓ First stage stroke length S2 : 5mm
Second stage mm stroke : 25mm
Ⓔ Switch model no. : Reed switch T0H, lead wire 1m
Ⓕ Switch quantity : One on rod end
Ⓘ Accessory : Rod eye
Cylinder 2

First stage stroke length 5mm display by S2
+ Second stage stroke length 25mm
Total stroke length 30mm display by S1



How to order switch

SW - T0H

Switch model no.
(Item (E) previous page)

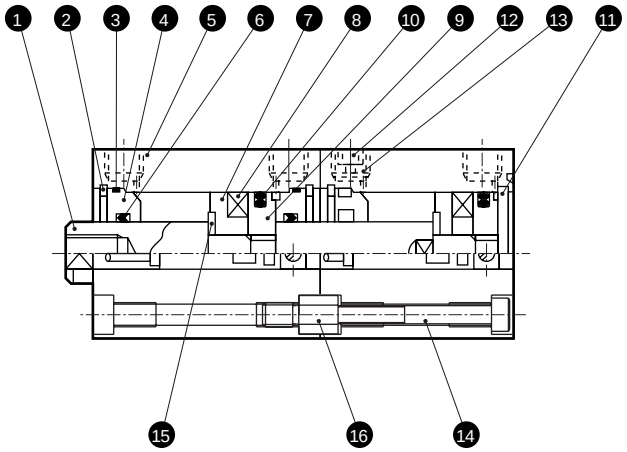
(Stroke length table)

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

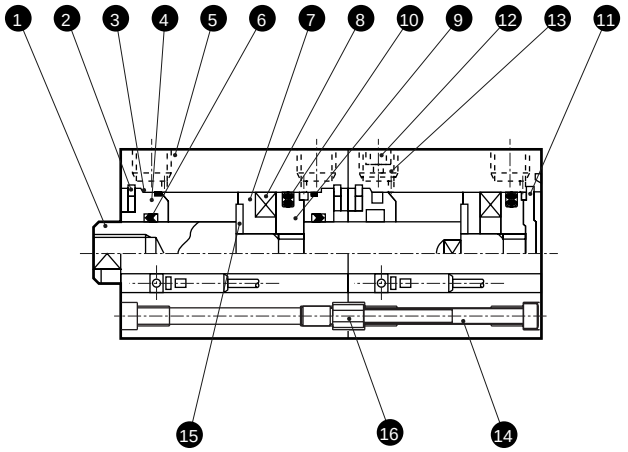
Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available.
Refer to page 840 for switch installation number and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

Internal structure and parts list

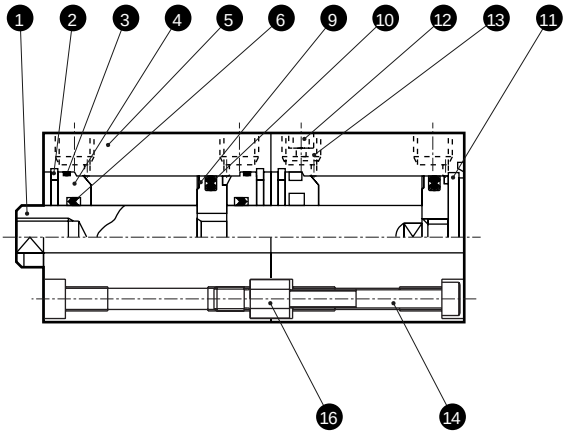
● SSD-WL-12 to 25 (double acting two stage type with switch)



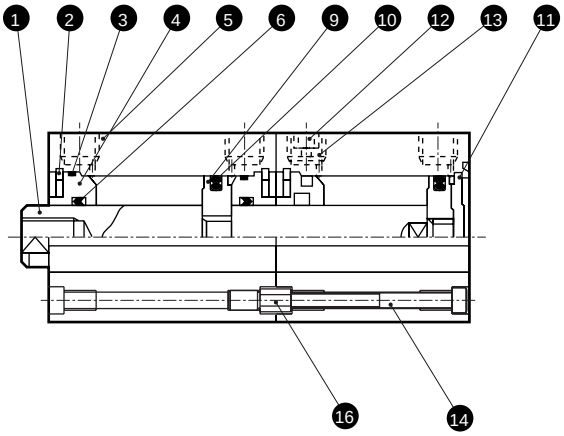
● SSD-WL-32 to 50 (double acting two stage type with switch)



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



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



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Steel	ϕ16 to ϕ50: Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Special aluminum	Alumite	11	Cover	ϕ12 to ϕ25: Stainless steel ϕ32 to ϕ50: Aluminum alloy	ϕ32 to ϕ50: Alumite
4	Rod metal gasket	Nitrile rubber					
5	Body	Aluminum alloy	Hard alumite	12	Plug	Stainless steel	
6	Rod packing seal	Nitrile rubber		13	Stainless steel wire net	Stainless steel	
7	Spacer	ϕ12: Aluminum alloy ϕ16 to ϕ50: Special plastic	ϕ12: Chromate	14	Hexagon socket head cap bolt	Steel	Blackening
				15	Spacer washer	Stainless steel	ϕ12 to ϕ50
8	Magnet	Plastic		16	Connector	Steel	

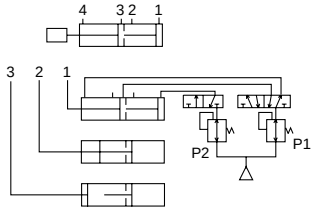
Repair parts list

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

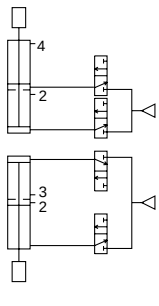
Example of SSD-W

The set pressure should be P2 > P1.

- First stage: push-out Pressurize Port 1 at the state that Port 4 is pressurized.
- Second stage: push-out Pressurize Port 3 at the state that Port 1 is pressurized.

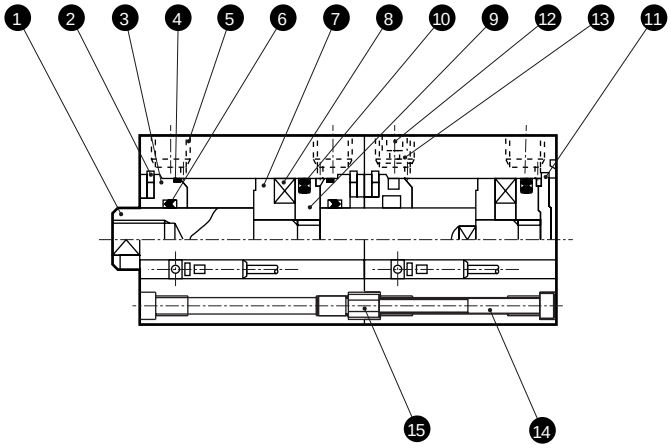


Not always P2 = P1 depending on direction of load. When using a single acting cylinder with falling down of load by its self weight, in the case of the figure above, Port 2 and 4 are bleeding Ports, while in the case of figure below, Port 2 and 3 are bleeding port. Basically, Port 2 which is unnecessary to pipe is plugged with a plug with filter.

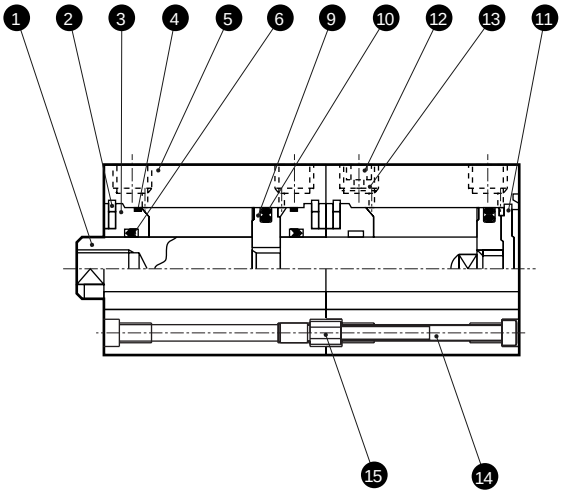


Internal structure and parts list

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



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



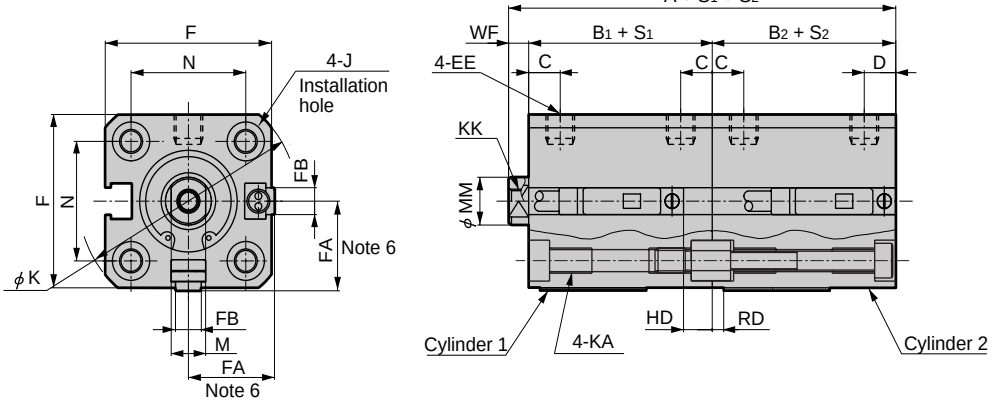
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	Chromate
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Aluminum alloy	Alumite	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Plug	Stainless steel	
5	Body	Aluminum alloy	Hard alumite	13	Stainless steel wire net	Stainless steel	
6	Rod packing seal	Nitrile rubber		14	Hexagon socket head cap bolt	Steel	Blackening
7	Spacer	Aluminum alloy	Chromate	15	Connector	Steel	
8	Magnet	Plastic					

Repair parts list

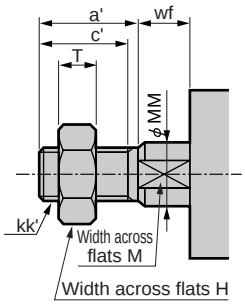
Bore size (mm)	Kit No.	Repair parts number
ϕ63	SSD-W-63K	④ ⑥ ⑩
ϕ80	SSD-W-80K	
ϕ100	SSD-W-100K	

Dimensions

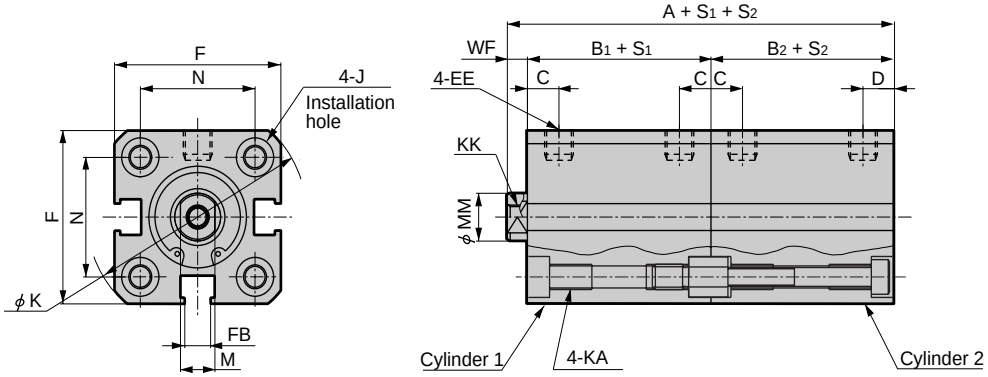
● SSD-WL-12/16 (with switch)



● Rod end male thread



● SSD-W-12/16 (without switch)



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

Switch dimension	Reed T0H/T0V, T5H/T5V			Proximity T2H/T2V, T3H/T3V		
Bore size (mm)	HD1 Note 2	HD2 Note 2	RD Note 2	HD1 Note 2	HD2 Note 2	RD Note 2
ϕ12	5	0	2.5	5	0	2.5
ϕ16	5	0	2	5	0	2

● Note 1: When calculating custom stroke dimensions of <A+S1+S2>, <B1+S1> and <B2+S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: For 5mm stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.

● Note 3: If stroke S2 for the 12 or 16 diameters with a switch is 5mm, (B2 + S2) and (A + S1 + S2) are as shown below.

● Note 4: Refer to page 926 for HD, RD dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.

● Note 5: Refer to page 926 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.

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

S1, S2 dimensions of custom stroke is the same as the next larger standard stroke.

● Note 6: Dimensions in ( ) are the values when radial lead wire.

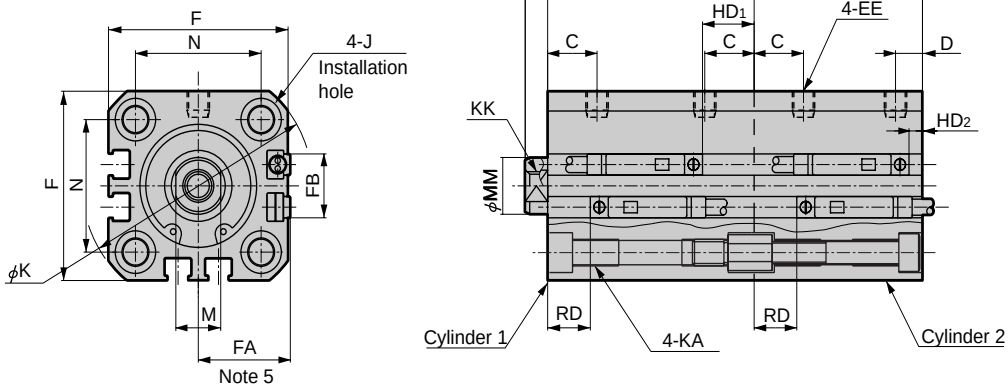
● Note 7: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

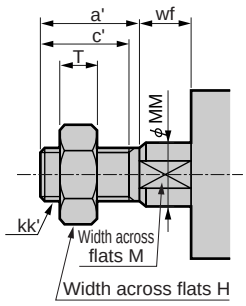
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5

Dimensions

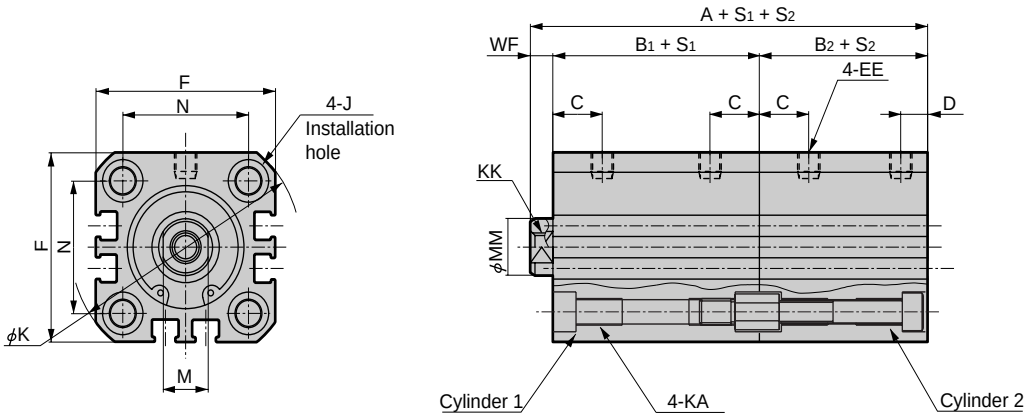
● SSD-WL-20/25 (with switch)



● Rod end male thread



● SSD-WL-20/25 (with switch)



Symbol	Without switch			Common dimensions for types with switches																
Bore size (mm)	A Note 1	B1 Note 1	B2 Note 1	A Note 1	B1 Note 1	B2 Note 1	C	D	EE	F	FA Note 5	FB	J	K	KA	KK	M	MM	N	WF
ϕ20	50	26	19.5	70	36	29.5	8	5.5	M5	36	18.5 (22)	12.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	58.5	31	22.5	78.5	41	32.5	11	6	M5	40	20.5 (24)	13.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimension	Reed T0H/T0V, T5H/T5V			Proximity T2H/T2V, T3H/T3V		
Bore size (mm)	HD1 Note 2	HD2 Note 2	RD Note 2	HD1 Note 2	HD2 Note 2	RD Note 2
ϕ20	9.5	3	6.5	9.5	3	6.5
ϕ25	11.5	3	9.5	11.5	3	9.5

● Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B1 + S1> and <B2 + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: For 5mm stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.

● Note 3: Refer to page 926 for HD/RD dimensions for 2 color indicator, off-delay, strong magnetic field, T1* or T8* switch.

● Note 4: Refer to page 926 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.

● Note 5: Dimensions in ( ) are the values when radial lead wire.

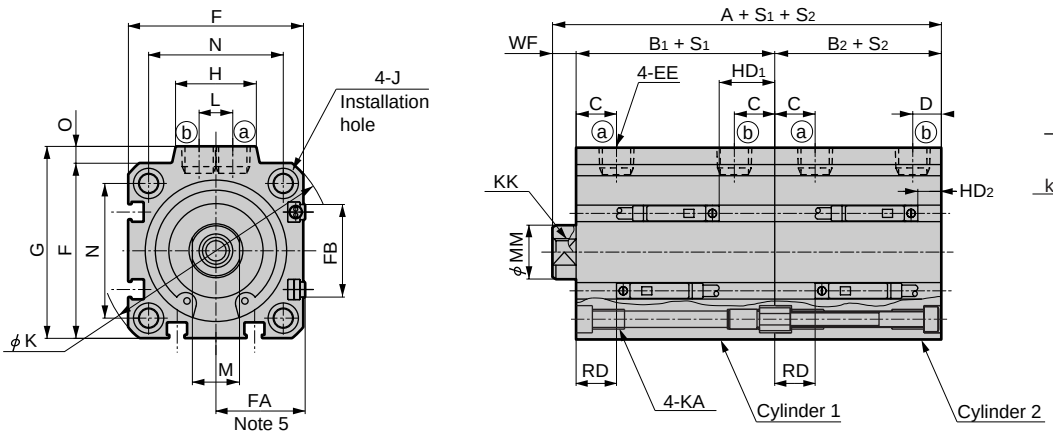
● Note 6: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

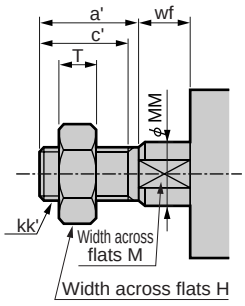
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions CAD

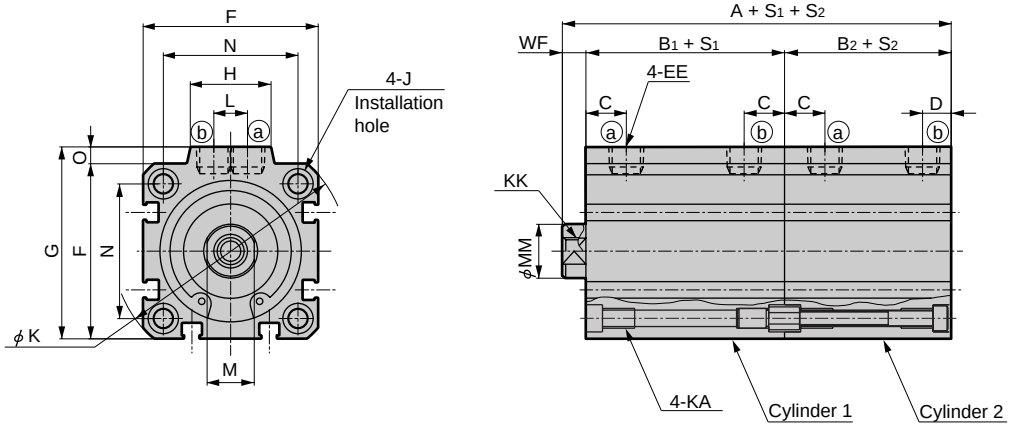
● SSD-WL-32 to 100 (with switch)



● Rod end male thread



● SSD-W-32 to 100 (without switch)



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

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

●Note 1: When calculating custom stroke dimensions of <A + S1 + S2>, <B1 + S1 + B2 + S2>, the length is calculated by inputting the following standard stroke length increment but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

● Note 2: For a cylinder stroke, HD/RD dimensions are different from these dimensions depending on case-by-case setting.

● Note 3: Refer to page 927 for HD, RD dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.

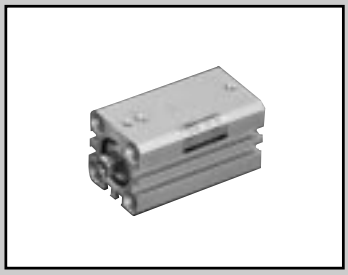
● Note 4: Refer to page 927 for projecting dimensions for the types of 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.

● Note 5: Dimensions in ( ) are the values when radial lead wire.

● Note 6: Refer to page 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

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



Compact cylinder Double acting non-rotating type

SSD-M Series

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

JIS symbol

RoHS CAD

Specifications

Descriptions	SSD-M SSD-ML (with switch)							
Bore size mm	ϕ12	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63
Actuation	Double acting							
Working fluid	Compressed air							
Max. working pressure MPa	1.0							
Min. working pressure MPa	0.1							0.05
Withstanding pressure MPa	1.6							
Ambient temperature ℃	-10 to 60 (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 (when lubricating, use turbine oil ISO VG32)							
Revolvable angle tolerance	±2°		±1.5°			±1°		
Allowable energy absorption J	0.004	0.01	0.016	0.021	0.025	0.092	0.1	0.12

Stroke length

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

Note 1) Custom stroke length is available per 1mm increment. The same dimension as next longer standard stroke length applies to the total length.
Note 2) Refer to the following table for the type with switch. For 2 color indicator, off-delay, strong magnetic field, T1* or T8* switch, the stroke length less than 10mm is not available.

Switch quantity and min. stroke length (mm)

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

Note: For 2 color indicator, off-delay, strong magnetic field, T1* or T8* switch, the stroke length less than 10mm are not available.

Switch specifications

● 1 color/2 color indicator/strong magnetic field proof

*The T0/T5 switch can be used with 220 VAC . Consult with CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire							Proximity 2 wire
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V	T5H/T5V		T8H/T8V				T2YD
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (without light), serial connection		Programmable controller and relay				Programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		LED (ON lighting)				Red/green LED (ON lighting)
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA							1mA or less

● With preventive maintenance output

Descriptions		Proximity 3 wire	Proximity 4 wire	Proximity 3 wire	Proximity 4 wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment section	Red/green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20mA	50mA or less	5 to 20mA	50mA or less
	Leakage current	1mA or less	10 μA or less	1.2mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20mA or less	50mA or less	5 to 20mA or less	50mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switches.
Note 2: Max load current above: 20mA at 25℃. The current will be lower than 20mA if ambient temperature around switch is higher than 25 ℃. (5 to 10mA at 60℃)

Cylinder weight table (weight with switch includes weight with two switches)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ12	44	94	52	94	61	103	69	111	78	120	80	122	-	-	-	-
ϕ16	58	114	69	114	79	124	90	135	101	146	112	157	-	-	-	-
ϕ20	76	131	88	163	101	176	114	189	126	201	139	214	-	-	-	-
ϕ25	102	193	117	208	133	224	149	240	165	256	180	271	212	303	243	334
ϕ32	166	280	188	302	210	324	232	346	253	367	275	389	319	433	362	476
ϕ40	210	353	237	380	263	406	290	433	317	460	343	486	396	539	449	592
ϕ50	341	535	383	577	425	619	467	661	509	703	552	746	636	830	720	914
ϕ63	507	786	562	841	-	-	672	951	-	-	782	1061	893	1172	1003	1282

How to order

Without switch

SSD-M — 12 ○ - 5 ——— N - LB - I

With switch

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

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

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

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

Symbol	Descriptions
Ⓐ Model no.	
SSD-M	Double acting non-rotating type
SSD-ML	Double acting non-rotating type/with switch
SSD-ML1	ϕ12, ϕ16、2 color indicator, off-delay type, with T1* switch

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

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

Ⓓ Stroke length (mm)

Refer to the stroke length table on the following page.

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indication	Lead wire
T0H*	**T0V***	Reed	1 color indicator type	2-wire
T5H*	**T5V***		Without indicator light	
T8H*	**T8V***		1 color indicator type	
T1H*	**T1V***	Proximity	1 color indicator type	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator type (custom order)	
T2YH*	**T2YV***		2 color indicator type	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator type (without light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator type (with light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2JH*	**T2JV***		Off-delay type	2-wire
T2YD*	**-**		Strong magnetic field proof switch	2-wire
T2YDT*	**-**			

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

Ⓕ Switch quantity	
R	One on rod end
H	One on head end
D	Two

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

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

Ⓘ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: Switches other than Ⓔ switch model no. are available. (custom order) Refer to Ending 4, 5 for details.

Note 2: Strong magnetic field proof switches cannot be installed on ϕ12 and ϕ16. T8*switches can not be installed on ϕ12 to ϕ32.

Note 3: ϕ12 to ϕ25 piston rod material is stainless steel as standard. The C type snap ring was changed from copper to stainless steel. When the male thread rod end is selected, stainless steel nuts are provided.

Note 4: SSD-M-12 to 25 is copper and PTFE free as standard.

Note 5: The mounting bracket is attached at shipment.

Note 6: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.

Note 7: "I" and "Y" can not be selected at the same time.

Note 8: Refer to Ending 89 for custom specifications of rod end form.

Note 9: Refer to pages 720 to 723 for the variation and

<Example of model number>

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

Model: Compact cylinder non-rotating type

Ⓑ Bore size : ϕ12mm
Ⓒ Port thread type : Rc thread
Ⓓ Stroke length : 5mm
Ⓔ Switch model no. : Reed switch T0H
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread

How to order switch

SW - T0H

Switch model no.
(Item (E) previous page)

(Stroke length table)

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

Note 1: The 1 color indicator is not available with a stroke less than 5mm, 2 color indicator type, off delay, strong magnetic field proof, or 10mm or shorter type with T1* or T8* switch is not available.
Refer to page 850 for switch installation quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

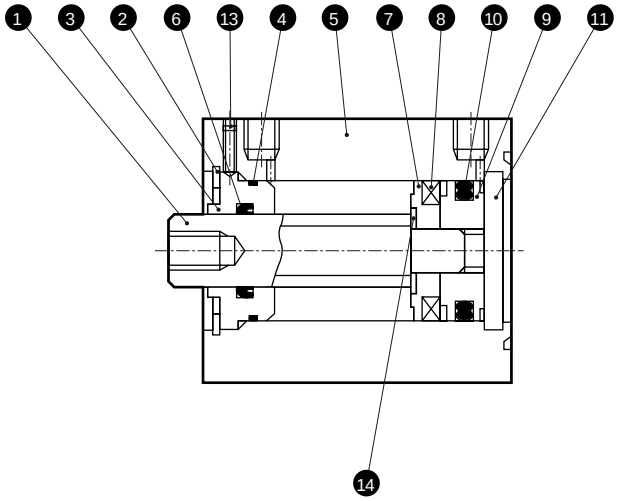
How to order mounting bracket

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

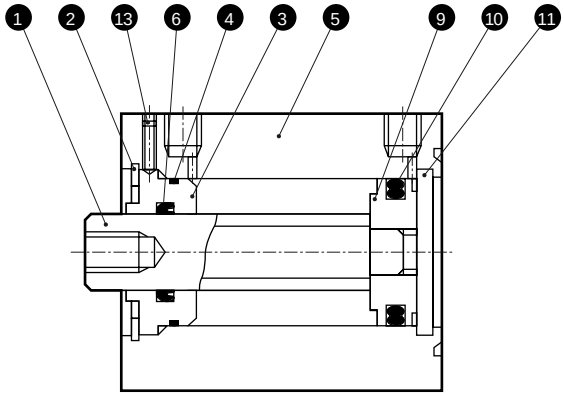
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

● SSD-ML-12 to 25 (double acting non-rotating type with switch)



● SSD-M-12 to 25 (double acting non-rotating type)



No.	Parts name	Material	Remarks
1	Piston rod	Stainless steel	
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	Special aluminum	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	
7	Spacer	ϕ12: Aluminum alloy ϕ16 to ϕ25: Special plastic	ϕ 12: Chromate

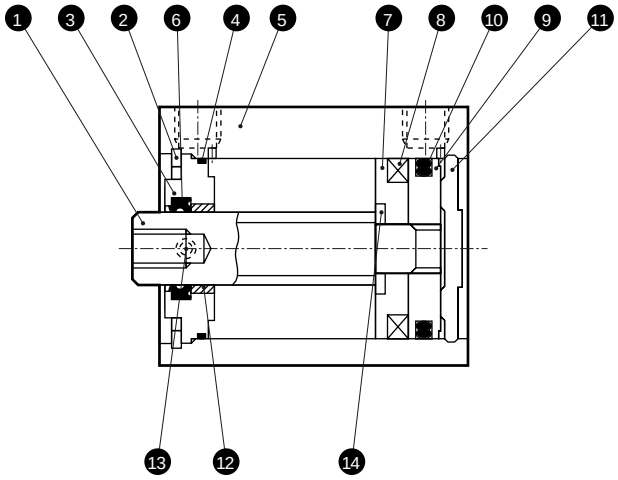
No.	Parts name	Material	Remarks
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	Stainless steel	
13	Hexagon socket head set screw	Steel	
14	Spacer washer	Stainless steel	ϕ20 to ϕ25

Repair parts list

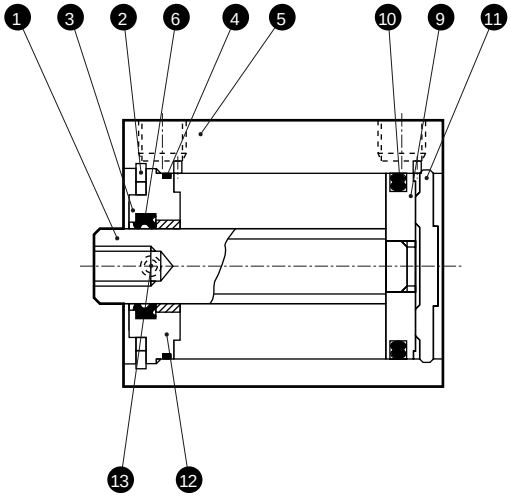
Bore size (mm)	Kit No.	Repair parts number
ϕ12	SSD-M-12K	❹ ❻ ❿
ϕ16	SSD-M-16K	
ϕ20	SSD-M-20K	
ϕ25	SSD-M-25K	

Internal structure and parts list

● SSD-ML-32 to 63 (double acting non-rotating type with switch)



● SSD-M-32 to 63 (double acting non-rotating type)



No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	ϕ32 to ϕ50: Special aluminum ϕ63: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	
7	Spacer	ϕ32 to ϕ50: Special plastic ϕ63: Aluminum alloy	ϕ63: Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	Oil impregnated bearing alloy	
13	Hexagon socket head set screw	Steel	
14	Spacer washer	Stainless steel	ϕ32 to ϕ50

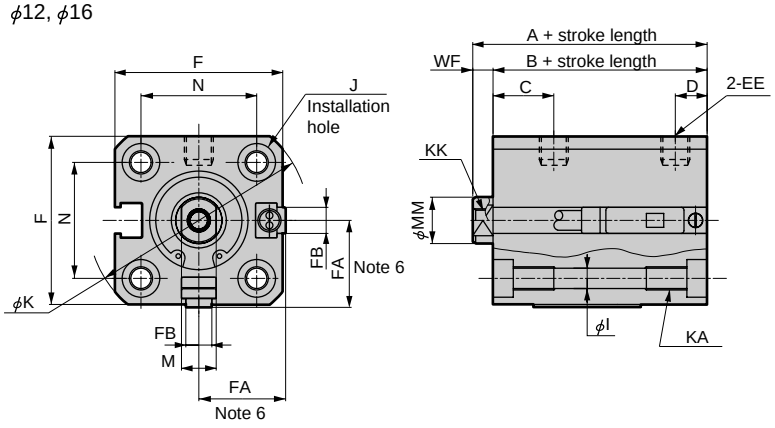
Repair parts list

Bore size (mm)	Kit No.	Repair parts number
ϕ32	SSD-M-32K	④ ⑥ ⑩
ϕ40	SSD-M-40K	
ϕ50	SSD-M-50K	
ϕ63	SSD-M-63K	

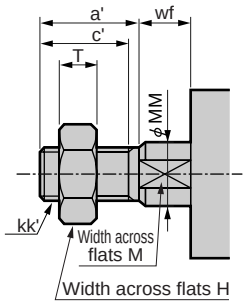
Dimensions

● SSD-ML-12 to 25 (with switch)

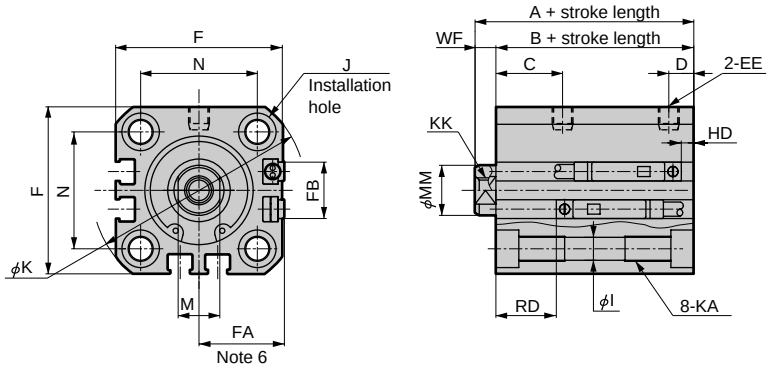
ϕ12, ϕ16



● Rod end male thread



ϕ20, ϕ25



Symbol	Common dimensions for types with switches																
Bore size (mm)	A Note 1	B Note 1	C	D	EE	F	FA Note 6	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	30.5	27	10.5	5.5	M5	25	13 (16.5)	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	30.5	27	10.5	5.5	M5	29	15 (18.5)	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	39	34.5	13	5.5	M5	36	18.5 (22)	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	42.5	37.5	16	6	M5	40	20.5 (24)	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Switch dimension	Reed T0H/T0V, T5H/T5V		Proximity T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ12	0	7.5	0	7.5
ϕ16	0	7	0	7
ϕ20	3	11.5	3	11.5
ϕ25	3	14.5	3	14.5

Table 1

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

- Note 1: When calculating custom stroke dimensions of <A + stroke length> and <B + stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.
  (E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.
- Note 2: HD and RD dimensions for 5 stroke will differ from these due to manufacturing.
- Note 3: For 12, 16mm bore cylinders with switches and stroke length 5mm, refer to the table about <A + stroke length> and <B + stroke length>.
- Note 4: Refer to page 926 for HD, RD dimensions for the 2 color indicator type, off delay, strong magnetic field, T1* and T8* with switch.
- Note 5: Refer to page 926 for projecting dimensions for the 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.
- Note 6: Dimensions in ( ) are the values when radial lead wire.
- Note 7: Refer to pages 938 to 945 for accessory dimensions.

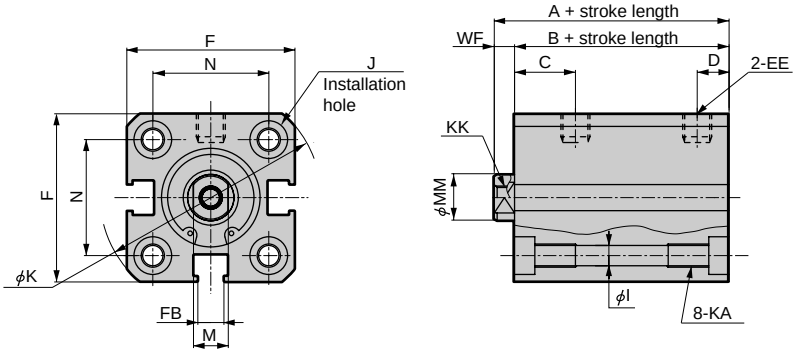
Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

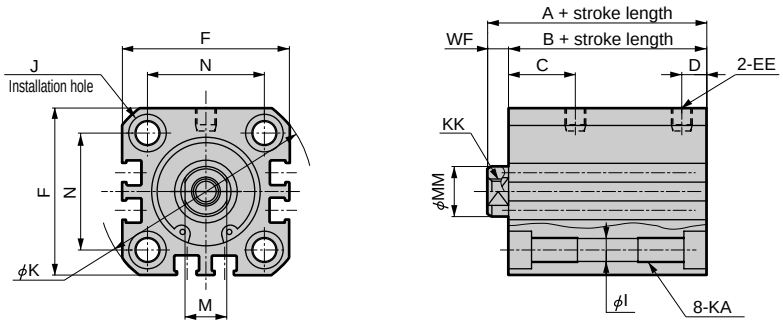
Dimensions

● SSD-M-12 to 25 (without switch)

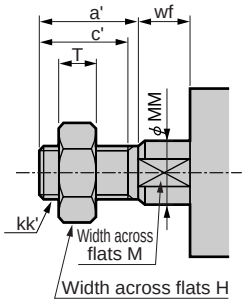
ϕ12, ϕ16



ϕ20, ϕ25



● Rod end male thread



Symbol / Bore size (mm)	Without switch															
	A Note 1	B Note 1	C	D	EE	F	FB	I	J	K	KA	KK	M	MM	N	WF
ϕ12	25.5	22	10.5	5.5	M5	25	4.5	3.5	6.5 spot face depth 3.5	32	M4 depth 7	M3 depth 6	5	6	15.5	3.5
ϕ16	25.5	22	10.5	5.5	M5	29	4.5	3.5	6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8	6	8	20	3.5
ϕ20	29	24.5	13	5.5	M5	36	12.5	5.5	9 spot face depth 5.5	47	M6 depth 11	M5 depth 7	8	10	25.5	4.5
ϕ25	32.5	27.5	16	6	M5	40	13.5	5.5	9 spot face depth 5.5	51	M6 depth 11	M6 depth 12	10	12	28	5

Note 1: When calculating custom stroke dimensions of <A + stroke length> and <B + stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

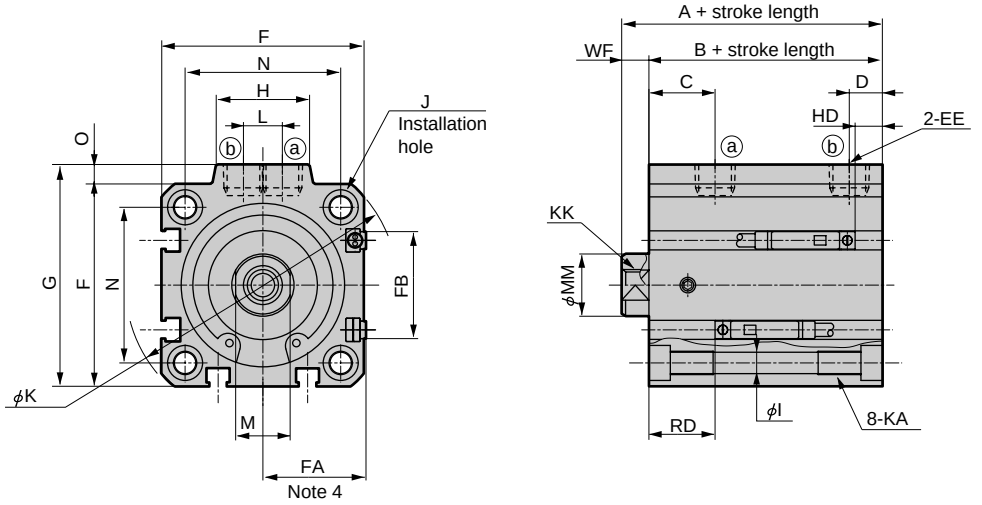
Note 2: Refer to pages 938 to 945 for dimensions with accessory and accessory dimensions.

Rod end male thread section dimensions table

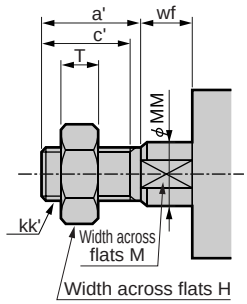
Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ12	10.5	9	8	M5	5	6	3.2	3.5
ϕ16	12	10	8	M6	6	8	3.6	3.5
ϕ20	14	12	13	M8	8	10	5	4.5
ϕ25	17.5	15	17	M10 x 1.25	10	12	6	5

Dimensions CAD

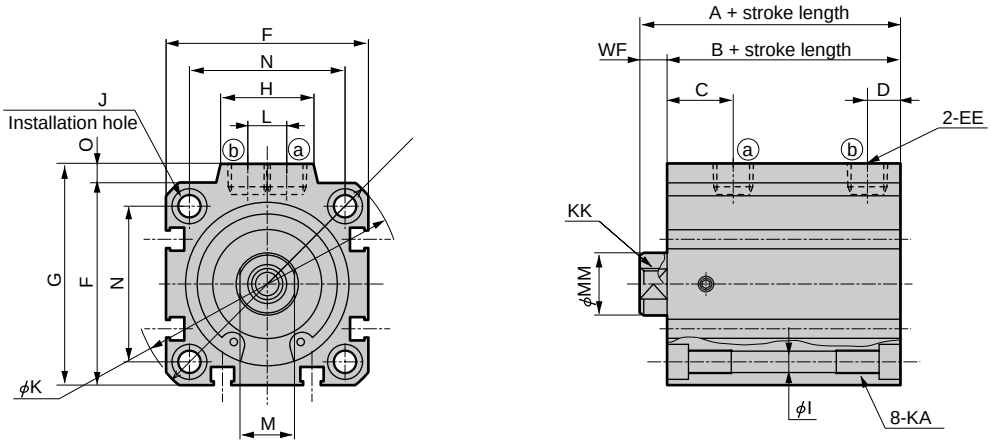
● SSD-ML-32 to 63 (with switch)



● Rod end male thread



● SSD-M-32 to 63 (without switch)



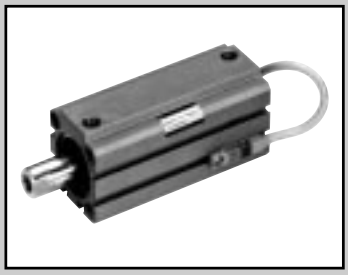
Symbol	Without switch		Common dimensions for types with switches																				
Bore size (mm)	A Note 1	B Note 1	A	B	C	D	EE	F	FA Note 4	FB	G	H	I	J	K	KA	KK	L	M	MM	N	O	WF
ϕ32	40	33	50	43	18	8	Rc1/8	45	23 (26.5)	20.5	49.5	24	5.5	9 spot face depth 5.5	60	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40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

Switch dimension	Reed T0H/T0V, T5H/T5V		Reed T2H/T2V, T3H/T3V	
Bore size (mm)	HD Note 2	RD Note 2	HD Note 2	RD Note 2
ϕ32	3.5	19	3.5	19
ϕ40	7	17	7	17
ϕ50	7.5	17.5	7.5	17.5
ϕ63	12.5	17.5	12.5	17.5

● Note 1: When calculating custom stroke dimensions of <A + stroke length> and <B + stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length.
(E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.
● Note 2: Refer to page 927 for HD, RD dimensions for the types of 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.
● Note 3: Refer to page 927 for projecting dimensions for the types of 2 color indicator type, off-delay, strong magnetic field, T1* and T8* with switch.
● Note 4: Dimensions in ( ) are the values when radial lead wire.
● Note 5: Refer to pages 938 to 945 for accessory dimensions.

Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	c'	H	kk'	M	MM	T	wf
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ63	28.5	26	27	M18 x 1.5	17	20	11	5

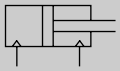


Compact cylinder Double acting coolant proof type

SSD-G2/G3 Series

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

JIS symbol



RoHS

Specifications

Descriptions		SSD-G2/G3 SSD-G2L/G3L (with switch)								
Bore size	mm	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressure	MPa	1.0								
Min. working pressure	MPa	0.15						0.1		
Withstanding pressure	MPa	1.6								
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISO VG32)								

Stroke length

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

Note 1: Custom stroke length is available per 1mm increment. (For types with switch, the stroke length less than 10mm is not available)
Note that the total length is the same as the next longer standard stroke length.

Switch quantity and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model no. / Bore size (mm)	T*	T*	T*	T*	T*
ϕ16	10	10	25	-	-
ϕ20	10	10	-	-	-
ϕ25	10	10	35	50	-
ϕ32	10	10	35	50	-
ϕ40	10	10	35	50	-
ϕ50	10	10	35	50	-
ϕ63	10	10	35	50	-
ϕ80	10	10	35	50	-
ϕ100	10	10	35	50	-

Switch specifications

● Proximity switch

Type/model no.	Proximity 2 wire	Proximity 3 wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Programmable controller	Programmable controller, relay
Power voltage	-	10 to 28 VDC
Load voltage and current	10 to 30 VDC, 5 to 20mA Note 1	30 VDC or less, 50mA or less
Light	Red/green LED (ON lighting)	
Leakage current	1mA or less	10 μA or less
Maximum shock resistance	980m/S^2	

Note 1: Max load current above: 20mA at 25℃. The current will be lower than 20mA if ambient temperature around switch is higher than 25 ℃.
(5 to 10mA with 60℃)

Cylinder weight table (weight with switch includes weight with two switches)

Stroke length	5		10		15		20		25		30		40		50	
Bore size (mm)	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch	W/o switch	With switch
ϕ16	62	118	73	118	83	158	94	139	105	150	116	161				
ϕ20	108	163	120	195	133	208	146	221	158	233	171	246				
ϕ25	151	242	166	257	182	273	198	289	214	305	229	320	261	352	292	383
ϕ32	230	344	252	366	274	388	296	410	317	431	339	453	383	497	426	540
ϕ40	301	444	328	471	354	497	381	524	408	551	434	577	487	630	540	683
ϕ50	471	665	513	707	555	749	597	791	639	833	682	876	766	960	850	1044
ϕ63	678	957	733	1012			843	1122			953	1232	1064	1343	1174	1453
ϕ80	1445	1858	1532	1945			1705	2118			1878	2288	2052	2465	2225	2638
ϕ100	2098	2665	2212	2779			2439	3006			2667	3234	2894	3461	3122	3689

How to order

Without switch

SSD - G2 - 16 ( ) - 30 ——— N - LB - I

With switch

SSD - G2L - 16 ( ) - 30 - T2YLH - R - N - LB - I

Ⓐ Protective structure

Ⓑ Bore size

Ⓒ Port thread type

Ⓓ Stroke length

Ⓔ Switch model no.

Ⓕ Switch quantity

Ⓖ Option

Ⓗ Mounting bracket
Note 1
Note 2
Note 3

Ⓘ Accessory
Note 4

Symbol	Descriptions
Ⓐ Protective structure	
G2	Coolant proof scraper + packing seal NBR
G3	Coolant proof scraper + packing seal FKM
G2L	Coolant proof scraper + packing seal NBR with switch
G3L	Coolant proof scraper + packing seal FKM with switch
Ⓑ Bore size (mm)	
16	ϕ16
20	ϕ20
25	ϕ25
32	ϕ32
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100
Ⓒ Port thread type	
Blank	Rc thread
NN	NPT thread (ϕ32 and over) (custom order)
GN	G thread (ϕ32 and over) (custom order)
Ⓓ Stroke length (mm)	
Refer to the following page for stroke length table.	

Ⓔ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T2YLH*	**T2YLV***	Proximity	2 color indicator type	2-wire
T3YLH*	**T3YLV***			3-wire

***Lead wire length**	
Blank	1m (standard)
3	3m (option)
5	5m (option)
Ⓕ Switch quantity	
R	One on rod end
H	One on head end
D	Two
Ⓖ Option	
Blank	Rod end female thread
N	Rod end male thread
Ⓗ Mounting bracket	
LB	Axial foot (ϕ16 to ϕ25 custom order)
LB2	Axial foot (compact type) (ϕ16 to ϕ25 custom order)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type (ϕ16 to ϕ25 custom order)
FB	Head end flange type
Ⓘ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is attached at shipment.
Note 2: Structurally, the foot bracket (LB, LB2) and flange bracket (FA) cannot be retrofitted on 16 to 25 diameters. Assembly when the product is shipped comes as a customized order.
Note 3: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 4: "I" and "Y" can not be selected at the same time.
Note 5: Refer to Ending 89 for custom specifications of rod end form.
Note 6: Refer to pages 720 to 725 for the variation and option combination.

<Example of model number>

SSD-G2L-32-30-T2YH-R-N

Model: Compact cylinder
Ⓐ Protective structure : Coolant proof scraper + packing seal NBR with switch
Ⓑ Bore size : ϕ32mm
Ⓒ Port thread type : Rc thread
Ⓓ Stroke length : 30mm
Ⓔ Switch model no. : Proximity switch T2YLH, lead wire 1m
Ⓕ Switch quantity : One on rod end
Ⓖ Option : Rod end male thread
Ⓗ Mounting bracket : Axial foot

How to order switch

SW - T2YLH

Switch model no.
(Item Ⓔ previous page)

(Stroke length table)

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

Note 1: For the types with switch, stroke length less than 10mm is not available.
Refer to page 860 for switch quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

How to order mounting bracket

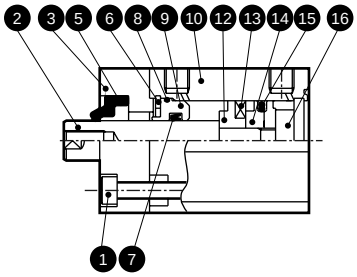
Bore size (mm) / Mounting bracket	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16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

Note 1: Foot type mounting bracket is a two-piece/set.
Note 2: Structurally, the foot bracket (LB, LB2) and flange bracket (FA) cannot be retrofitted on 16 to 25 diameters. Consult with CKD.

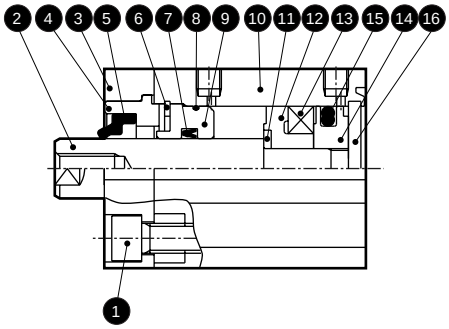
Internal structure and parts list

- Protective structure: Packing seal NBR SSD-G2/G2L
- Protective structure: Packing seal FKM SSD-G3/G3L

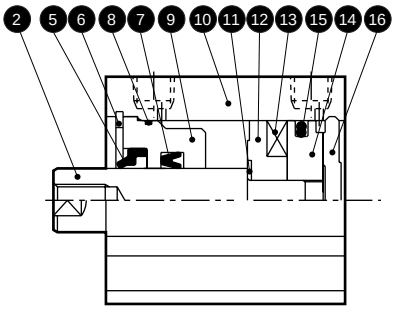
● SSD-G$^{2}_{3}$L-16
(With switch)



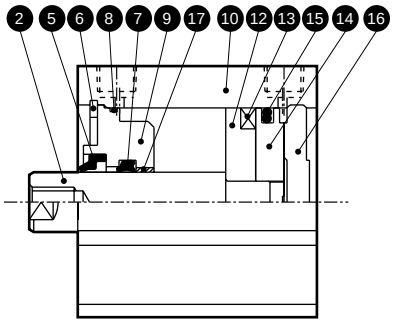
● SSD-G$^{2}_{3}$L-20, 25
(With switch)



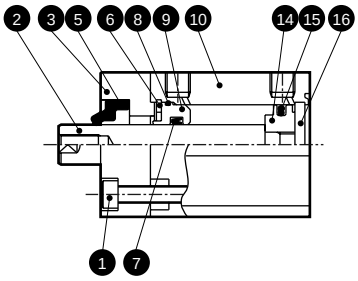
● SSD-G$^{2}_{3}$L-32 to 50
(With switch)



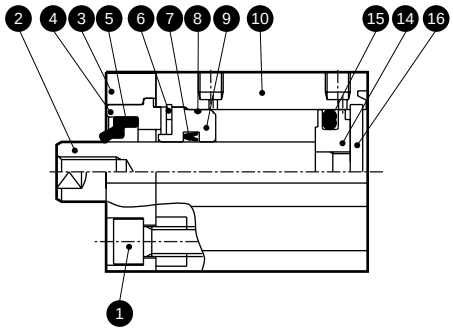
● SSD-G$^{2}_{3}$L-63 to 100
(With switch)



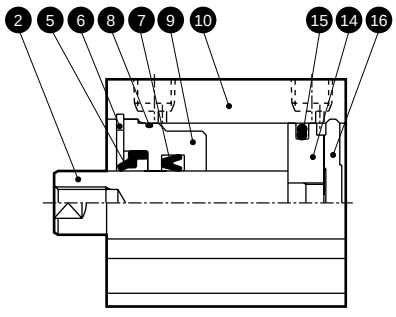
● SSD-G$^{2}_{3}$-16
(Without switch)



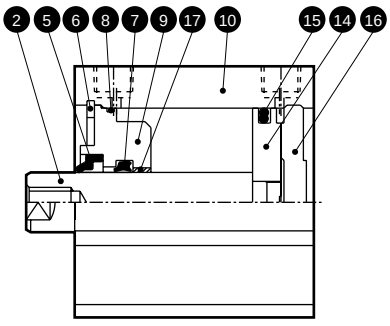
● SSD-G$^{2}_{3}$-20, 25
(Without switch)



● SSD-G$^{2}_{3}$-32 to 50
(Without switch)



● SSD-G$^{2}_{3}$-63 to 100
(Without switch)



Main parts list

No.	Parts name		Material	Remarks
1	Hexagon socket head cap bolt		Stainless steel	ϕ16 to ϕ25
2	Piston rod		Stainless steel	Industrial chrome plating
3	Adaptor (A)		Aluminum alloy	Alumite only ϕ16 to ϕ25
4	Adaptor (B)		Aluminum alloy	Alumite only ϕ20, ϕ25
5	Scraper	G2	Nitrile rubber	
		G3	Fluoro rubber	
6	C type snap ring (hole)		Stainless steel	
7	Rod packing seal	G2	Nitrile rubber	
		G3	Fluoro rubber	
8	Rod metal gasket	G2	Nitrile rubber	
		G3	Fluoro rubber	

No.	Parts name		Material	Remarks
9	Rod bushing		Special aluminum	Alumite
10	Body		Aluminum alloy	Hard alumite
11	Spacer washer		Stainless steel	Only ϕ16 to ϕ50
12	Spacer		ϕ16 to ϕ50: Special plastic ϕ63 to ϕ100: Aluminum alloy	
13	Magnet		Plastic	
14	Piston		Aluminum alloy	Chromate
15	Piston packing seal	G2	Nitrile rubber	
		G3	Fluoro rubber	
16	Cover		ϕ16 to ϕ25: Stainless steel	
			ϕ32 to ϕ100: Aluminum alloy	Alumite
17	Bush		Oilless dry met	Only ϕ63 to ϕ100

Repair parts list

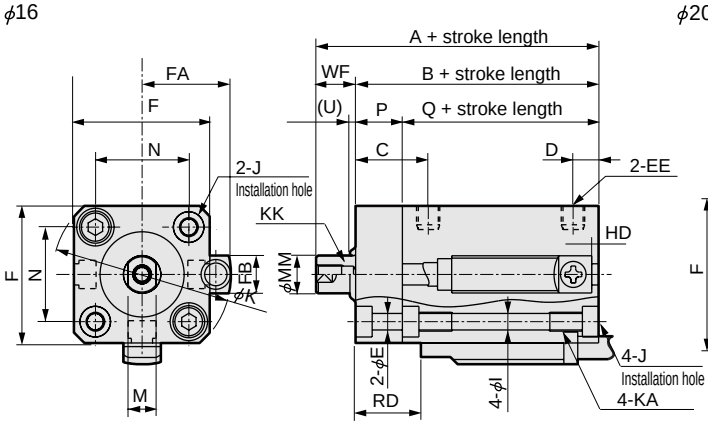
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ16	SSD-G2- 16K	❺ ❼ ❽ ⓯
	SSD-G3- 16K	
ϕ20	SSD-G2- 20K	
	SSD-G3- 20K	
ϕ25	SSD-G2- 25K	
	SSD-G3- 25K	
ϕ32	SSD-G2- 32K	
	SSD-G3- 32K	
ϕ40	SSD-G2- 40K	
	SSD-G3- 40K	
ϕ50	SSD-G2- 50K	
	SSD-G3- 50K	
ϕ63	SSD-G2- 63K	
	SSD-G3- 63K	
ϕ80	SSD-G2- 80K	
	SSD-G3- 80K	
ϕ100	SSD-G2-100K	
	SSD-G3-100K	

Note: Specify the kit No. when placing an order.

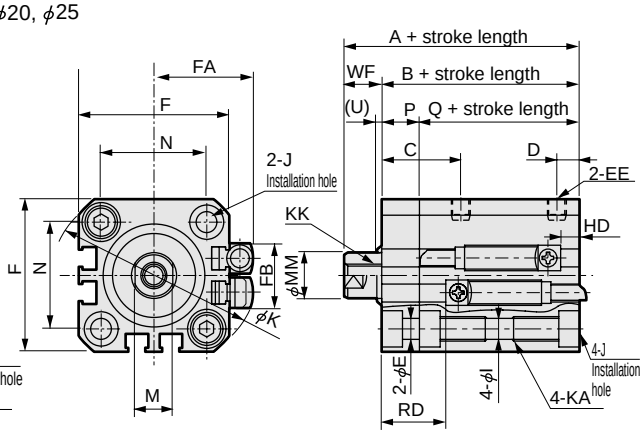
Dimensions

- Protective structure: Packing seal NBR
  SSD-G2/G2L
- Protective structure: Packing seal FKM
  SSD-G3/G3L

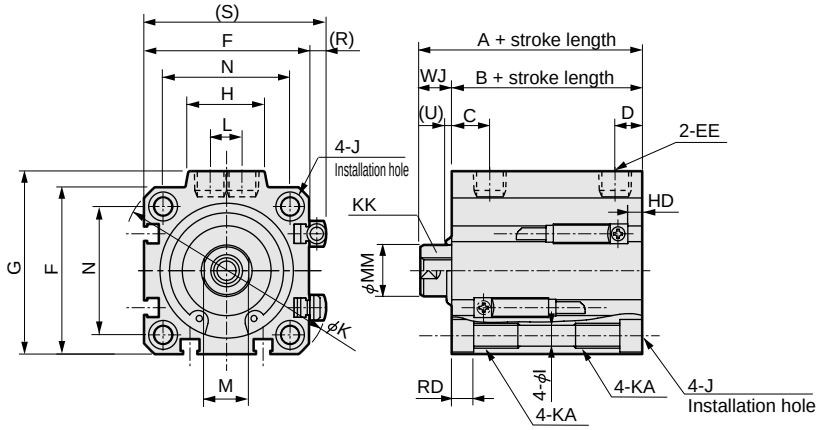
ϕ16



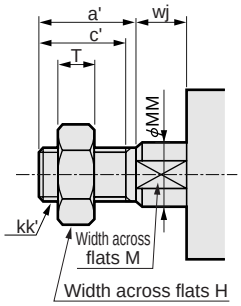
ϕ20, ϕ25



ϕ32 to ϕ100



● Rod end male thread

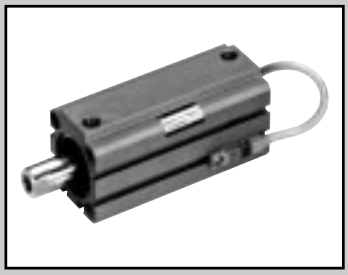


Note 1: When calculating custom stroke dimensions of <A + stroke length> and <B + stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. (E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 938 to 945 for accessory dimensions.

Symbol / Bore size (mm)	Without switch			Common dimensions for types with switches																	
	A Note 1	B Note 1	Q Note 1	A Note 1	B Note 1	Q Note 1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
ϕ16	35.5	27	17	40.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	ϕ6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
ϕ20	39	29.5	19.5	49	39.5	29.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	ϕ9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
ϕ25	42.5	32.5	22.5	52.5	42.5	32.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	ϕ9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
ϕ32	45	33	-	55	43	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	ϕ9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
ϕ40	51.5	39.5	-	61.5	49.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	ϕ9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ϕ50	53.5	40.5	-	63.5	50.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	ϕ11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ϕ63	59	46	-	69	56	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	ϕ14 spot face depth 9	103	M10 depth 25	M10 depth 15
ϕ80	68.5	53.5	-	78.5	63.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	ϕ17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ϕ100	80	63	-	90	73	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	ϕ17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Symbol / Bore size (mm)	Common dimensions for types with switches								Proximity T2YLH/T2YLV/ T3YLH/T3YLV		Rod end male thread section dimensions							
	L	M	MM	N	O	P	U	WF	HD	RD	a'	c'	H	kk'	M	MM	T	wj
ϕ16	-	6	8	20	-	10	3	8.5	4.5	12.5	12	10	8	M6	6	8	3.6	8.5
ϕ20	-	8	10	25.5	-	10	3	9.5	1.5	18.0	14	12	13	M8	8	10	5	9.5
ϕ25	-	10	12	28	-	10	3	10	2.0	20.0	17.5	15	17	M10 x 1.25	10	12	6	10
ϕ32	10	14	16	34	4.5	-	0	12	4.5	20.5	23.5	20.5	22	M14 x 1.5	14	16	8	10
ϕ40	10	14	16	40	5	-	2	12	8.0	23.5	23.5	20.5	22	M14 x 1.5	14	16	8	10
ϕ50	15	17	20	50	7	-	2	13	9.0	23.5	28.5	26	27	M18 x 1.5	17	20	11	10
ϕ63	15	17	20	60	7	-	2	13	13.0	24.0	28.5	26	27	M18 x 1.5	17	20	1	10
ϕ80	15	22	25	77	6	-	2	15	19.0	26.5	35.5	32.5	32	M22 x 1.5	22	25	13	13
ϕ100	15	27	30	94	6.5	-	2	17	24.5	30.5	35.5	32.5	41	M26 x 1.5	27	30	16	13

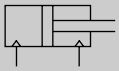


Compact cylinder Double acting high load coolant proof type

SSD-KG2,KG3 Series

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

JIS symbol



RoHS

Specifications

Descriptions		SSD-KG2/KG3 SSD-KG2L/KG3L (with switch)								
Bore size	mm	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting								
Working fluid		Compressed air								
Max. working pressure	MPa	1.0								
Min. working pressure	MPa	0.15						0.1		
Withstanding pressure	MPa	1.6								
Ambient temperature	℃	-10 to 60 (no freezing)								
Port size		M5 x 0.8			Rc1/8		Rc1/4		Rc3/8	
Stroke tolerance	mm	$^{+2.0}_{0}$								
Working piston speed	mm/s	50 to 500						50 to 300		
Cushion		Rubber cushion								
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISO VG32)								
Allowable energy absorption	J	0.09	0.16	0.16	0.4	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	
			Without switch	With switch
ϕ16, ϕ20	5, 10, 15, 20, 25, 30, 40, 50	100 Note 2	1	10
ϕ25, ϕ32, ϕ40, ϕ50	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100	150 Note 2		
ϕ63, ϕ80, ϕ100	10, 20, 30, 40, 50, 60, 70, 80, 90, 100	200 Note 2		

Note 1: Custom stroke length is available per 1mm increment. (For types with switch, the stroke length less than 10mm is not available)
The total length is the same as the next longer standard stroke length.
Note 2: Strokes past the standard stroke to the maximum stroke are available in increments of 10. (Example) ϕ16: 60, 70, 80, 90,100,
Dimensions for the custom stroke (e.g.: 64 stroke) are the same as the next higher stroke (e.g.: 70 stroke)

Switch quantity and min. stroke length (mm)

Switch quantity	1	2	3	4	5
Switch model no. / Bore size (mm)	T*	T*	T*	T*	T*
ϕ16	10	10	25	-	-
ϕ20	10	10	35	50	65
ϕ25	10	10	35	50	65
ϕ32	10	10	35	50	65
ϕ40	10	10	35	50	65
ϕ50	10	10	35	50	65
ϕ63	10	10	35	50	65
ϕ80	10	10	35	50	65
ϕ100	10	10	35	50	65

Switch specifications

● Proximity switch

Type/model no.	Proximity 2 wire	Proximity 3 wire
Descriptions	T2YLH/T2YLV	T3YLH/T3YLV
Applications	Programmable controller	Programmable controller, relay
Power voltage	-	10 to 28 VDC
Load voltage and current	10 to 30 VDC, 5 to 20mA Note 1	30 VDC or less, 50mA or less
Light	Red/green LED (ON lighting)	
Leakage current	1mA or less	10 μA or less
Maximum shock resistance	980m/S^2	

Note 1: Max load current above: 20mA at 25℃. The current will be lower than 20mA if ambient temperature around switch is higher than 25℃. (5 to 10mA with 60℃)

Stroke length	5		10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ16	69	114	79	124	90	135	101	146	112	157	123	168	145	179	167	201	189	223	211	245	233	267	255	289	277	311
ϕ20	88	163	101	176	114	189	126	201	139	214	151	226	176	251	201	276	226	301	251	326	276	351	301	376	326	401
ϕ25			134	225	150	241	166	257	181	272	198	289	230	321	262	353	294	385	326	417	358	449	390	481	422	513
ϕ32			232	346	253	367	275	389	297	411	319	433	362	476	405	519	448	562	491	605	534	648	577	691	620	734
ϕ40			316	459	343	486	369	512	395	538	422	565	475	618	528	671	581	724	634	777	687	830	740	883	793	936
ϕ50			509	703	551	745	594	788	637	831	678	872	762	956	846	1040	930	1124	1014	1208	1098	1292	1182	1376	1266	1460
ϕ63			727	1006			837	1116			948	1227	1058	1337	1168	1447	1278	1557	1388	1667	1498	1777	1608	1887	1718	1997
ϕ80			1274	1687			1447	1860			1621	2034	1794	2207	1967	2380	2140	2553	2313	2726	2486	2899	2659	3072	2832	3245
ϕ100			1887	2454			2115	2682			2342	2909	2570	3137	2798	3365	3026	3593	3254	3821	3482	4049	3710	4277	3938	4505

Stroke length	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW	w/o SW	w/ SW
ϕ20	351	426	376	451	401	476	426	501	451	526										
ϕ25	454	545	486	577	518	609	550	641	582	673										
ϕ32	663	777	706	820	749	863	792	906	835	949										
ϕ40	846	989	899	1042	952	1095	1005	1148	1058	1201										
ϕ50	1350	1544	1434	1628	1518	1712	1602	1796	1686	1880										
ϕ63	1828	2107	1938	2217	2048	2327	2158	2437	2268	2547	2378	2657	2488	2767	2598	2877	2708	2987	2818	3097
ϕ80	3005	3418	3178	3591	3351	3764	3524	3937	3697	4110	3870	4283	4043	4456	4216	4629	4389	4802	4562	4975
ϕ100	4166	4733	4394	4961	4622	5189	4850	5417	5078	5645	5306	5873	5534	6101	5762	6329	5990	6557	6218	6785

How to order

Without switch

SSD-KG2 - 16 - 30 ——— N - LB - I

With switch

SSD-KG2L - 16 - 30 - T2YLH - R - N - LB - I

Ⓐ Protective structure

Symbol	Descriptions
Ⓐ Protective structure	
G2	Coolant proof scraper + packing seal NBR
G3	Coolant proof scraper + packing seal FKM
G2L	Coolant proof scraper + packing seal NBR with switch
G3L	Coolant proof scraper + packing seal FKM with switch

Ⓑ Bore size

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

Ⓒ Stroke length

Ⓒ Stroke length (mm)

Refer to the following page for stroke length table.

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T2YLH*	**T2YLV***	Proximity	2 color indicator type	2-wire
T3YLH*	**T3YLV***			3-wire

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

Ⓔ Switch quantity

Ⓔ Switch quantity	
R	One on rod end
H	One on head end
D	Two

Ⓕ Option

Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread

Ⓖ Mounting bracket
Note 1
Note 2
Note 3

Ⓖ Mounting bracket	
LB	Axial foot (ϕ16 to ϕ25 custom order)
LB2	Axial foot (compact type) (ϕ16 to ϕ25 custom order)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type (ϕ16 to ϕ25 custom order)
FB	Head end flange type

Ⓗ Accessory
Note 4

Ⓗ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is attached at shipment.
Note 2: Structurally, the foot bracket (LB, LB2) and flange bracket (FA) cannot be retrofitted on 16 to 25 diameters. Assembly when the product is shipped comes as a customized order.
Note 3: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 4: "I" and "Y" can not be selected at the same time.
Note 5: Refer to Ending 89 for custom specifications of rod end form.
Note 6: Refer to pages 722, 723 for the variation and option combination.

<Example of model number>

SSD-KG2L-32-30-T2YLH-R-N

Model: Compact cylinder high load type
Ⓐ Protective structure : Coolant proof scraper + packing seal NBR with switch
Ⓑ Tube descriptions : ϕ32mm
Ⓒ Stroke length : 30mm
Ⓓ Switch model no. : Proximity switch T2YLH, lead wire 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread
Ⓖ Mounting bracket : Axial foot

How to order switch

SW - T2YLH

Switch model no.
(Item Ⓓ previous page)

(Stroke length table)

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

Note 1: For the types with switch, stroke length less than 10mm is not available.
Refer to page 868 for switch installation quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

How to order mounting bracket

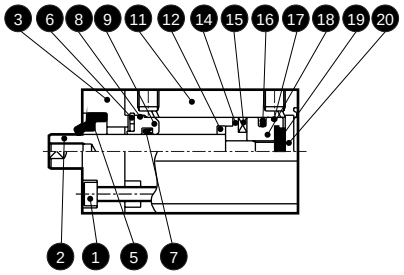
Bore size (mm) / Mounting bracket	ϕ16	ϕ20	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Foot (LB)	SSD-LB-16	SSD-LB-20	SSD-LB-25	SSD-LB-32	SSD-LB-40	SSD-LB-50	SSD-LB-63	SSD-LB-80	SSD-LB-100
Foot (LB2)	SSD-LB2-16	SSD-LB2-20	SSD-LB2-25	SSD-LB2-32	SSD-LB2-40	SSD-LB2-50	SSD-LB2-63	SSD-LB2-80	SSD-LB2-100
Flange (FA/FB)	SSD-FA-16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

Note 1: Foot type mounting bracket is a two-piece/set.
Note 2: Structurally, the foot bracket (LB, LB2) and flange bracket (FA) cannot be retrofitted on 16 to 25 diameters. Consult with CKD.

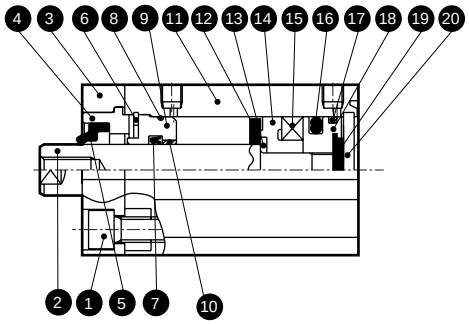
Internal structure and parts list

- Protective structure: Packing seal NBR SSD-KG2/KG2L
- Protective structure: Packing seal FKM SSD-KG3/KG3L

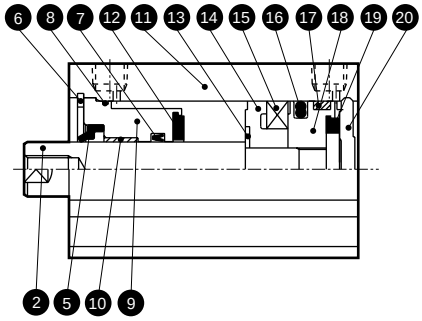
● SSD-KG$\frac{2}{3}$L-16
(With switch)



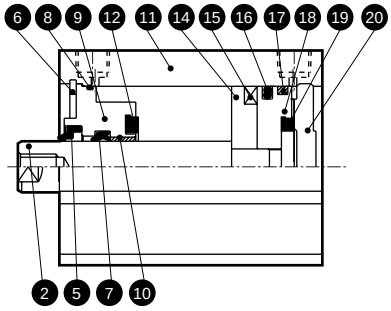
● SSD-KG$\frac{2}{3}$L-20, 25
(With switch)



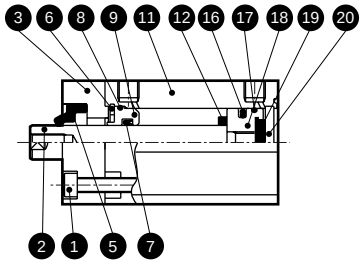
● SSD-KG$\frac{2}{3}$L-32 to 50
(With switch)



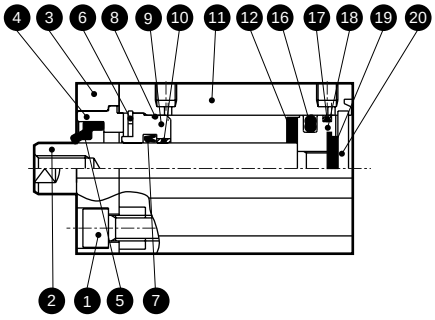
● SSD-KG$\frac{2}{3}$L63 to 100
(With switch)



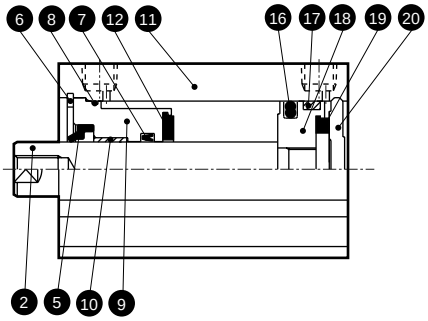
● SSD-KG$\frac{2}{3}$-16
(Without switch)



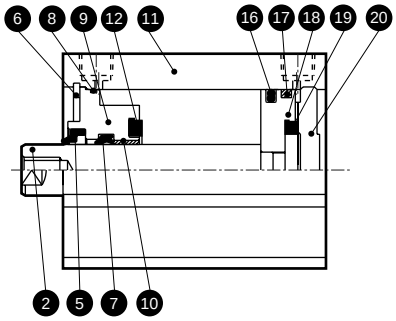
● SSD-KG$\frac{2}{3}$-20, 25
(Without switch)



● SSD-KG$\frac{2}{3}$-32 to 50
(Without switch)



● SSD-KG$\frac{2}{3}$-63 to 100
(Without switch)



Main parts list

No.	Parts name		Material	Remarks
1	Hexagon socket head cap bolt		Stainless steel	Only ϕ16 to ϕ25
2	Piston rod		Stainless steel	Industrial chrome plating
3	Adaptor (A)		Aluminum alloy	Alumite only ϕ16 to ϕ25
4	Adaptor (B)		Aluminum alloy	Alumite only ϕ20, ϕ25
5	Scraper	G2	Nitrile rubber	
		G3	Fluoro rubber	
6	C type snap ring (hole)		Stainless steel	
7	Rod packing seal	G2	Nitrile rubber	
		G3	Fluoro rubber	
8	Rod metal gasket	G2	Nitrile rubber	
		G3	Fluoro rubber	
9	Rod bushing		Special aluminum	Alumite
10	Bush		Oilless dry met	Only ϕ 20 to ϕ100
11	Body		Aluminum alloy	Hard alumite
12	Cushion rubber (R)		Urethane rubber	
13	Spacer washer		Stainless steel	Only ϕ16 to ϕ25
14	Spacer		ϕ16 to ϕ50: Special plastic ϕ63 to ϕ100: Aluminum alloy	
15	Magnet		Plastic	
16	Piston packing seal	G2	Nitrile rubber	
		G3	Fluoro rubber	
17	Wear ring		Polyacetal	
18	Piston		Aluminum alloy	Chromate
19	Cushion rubber (H)		Urethane rubber	
20	Cover		ϕ16 to ϕ25: Stainless steel	
			ϕ32 to ϕ100: Aluminum alloy	Alumite

Repair parts list

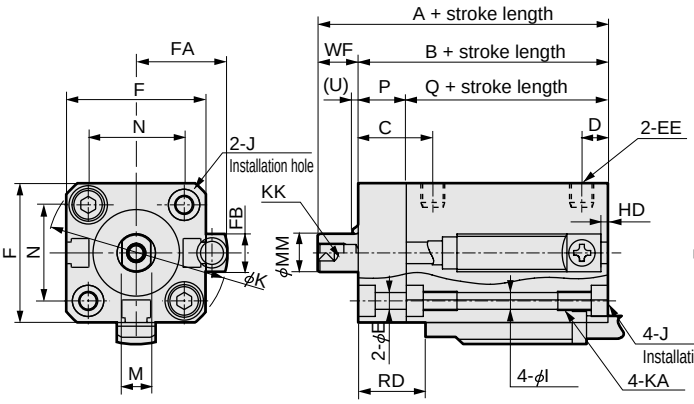
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ16	SSD-KG2-16K	❺ ❼ ❽ ⓬ ⓰ ⓱ ⓳
	SSD-KG3-16K	
ϕ20	SSD-KG2-20K	
	SSD-KG3-20K	
ϕ25	SSD-KG2-25K	
	SSD-KG3-25K	
ϕ32	SSD-KG2-32K	
	SSD-KG3-32K	
ϕ40	SSD-KG2-40K	
	SSD-KG3-40K	
ϕ50	SSD-KG2-50K	
	SSD-KG3-50K	
ϕ63	SSD-KG2-63K	
	SSD-KG3-63K	
ϕ80	SSD-KG2-80K	
	SSD-KG3-80K	
ϕ100	SSD-KG2-100K	
	SSD-KG3-100K	

Note: Specify the kit No. when ordering.

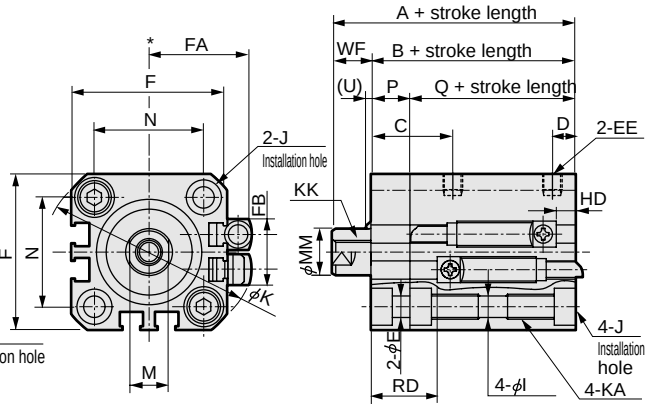
Dimensions

SSD-KG2/KG3

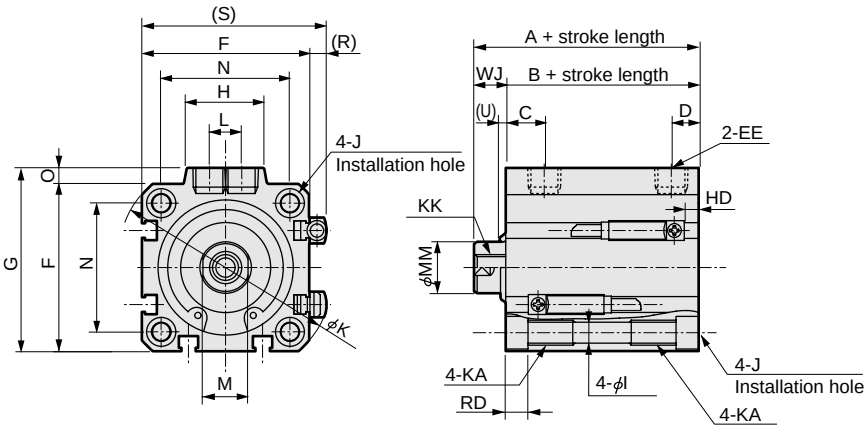
ϕ16



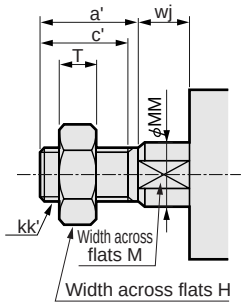
ϕ20, ϕ25



ϕ32 to ϕ100



● Rod end male thread

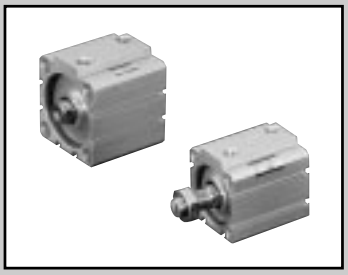


Note 1: When calculating custom stroke dimensions of <A + stroke length> and <B + stroke length>, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. (E.g.) For 7mm custom stroke, the length is calculated by inputting standard stroke length 10mm.

Note 2: Refer to pages 938 to 945 for accessory dimensions.

Symbol / Bore size (mm)	Without switch			Common dimensions for types with switches																
	A Note 1	B Note 1	Q Note 1	A Note 1	B Note 1	Q Note 1	C	D	E	EE	F	FA	FB	G	H	I	J	K	KA	KK
ϕ16	40.5	32	22	45.5	37	27	15.5	5.5	3.4	M5	29	20.8	8	-	-	3.5	ϕ6.5 spot face depth 3.5	38	M4 depth 7	M4 depth 8
ϕ20	44	34.5	24.5	54	44.5	34.5	18	5.5	5.5	M5	36	24.3	16	-	-	5.5	ϕ9 spot face depth 5.5	47	M6 depth 11	M5 depth 7
ϕ25	47.5	37.5	27.5	57.5	47.5	37.5	21	6	5.5	M5	40	26.3	17	-	-	5.5	ϕ9 spot face depth 5.5	51	M6 depth 11	M6 depth 12
ϕ32	55	43	-	65	53	-	8	8	5.5	Rc1/8	45	28.8	24	49.5	24	5.5	ϕ9 spot face depth 5.5	60	M6 depth 11	M8 depth 13
ϕ40	61.5	49.5	-	71.5	59.5	-	12	8.5	5.5	Rc1/8	52	32.3	31	57	24	5.5	ϕ9 spot face depth 5.5	69	M6 depth 11	M8 depth 13
ϕ50	63.5	50.5	-	73.5	60.5	-	10.5	10.5	5.5	Rc1/4	64	38.3	32	71	33	6.9	ϕ11 spot face depth 6.5	86	M8 depth 13	M10 depth 15
ϕ63	69	56	-	79	66	-	13	11	5.5	Rc1/4	77	44.8	32	84	33	8.7	ϕ14 spot face depth 9	103	M10 depth 25	M10 depth 15
ϕ80	78.5	63.5	-	88.5	73.5	-	16	13	5.5	Rc3/8	98	55.3	32	104	38	10.5	ϕ17.5 spot face depth 11	132	M12 depth 28	M16 depth 21
ϕ100	90	73	-	100	83	-	23	15	5.5	Rc3/8	117	64.8	32	123.5	38	10.5	ϕ17.5 spot face depth 11	156	M12 depth 28	M20 depth 27

Symbol / Bore size (mm)	Common dimensions for types with switches								Proximity T2YLH/T2YLV/ T3YLH/T3YLV		Rod end male thread section dimensions							
	L	M	MM	N	O	P	U	WF	HD	RD	a'	c'	H	kk'	M	MM	T	wj
ϕ16	-	6	8	20	-	10	3	8.5	2.5	14.5	12	10	8	M6	6	8	3.6	8.5
ϕ20	-	8	10	25.5	-	10	3	9.5	4.5	20.0	14	12	13	M8	8	10	5	9.5
ϕ25	-	10	12	28	-	10	3	10	4.5	22.5	17.5	15	17	M10 x 1.25	10	12	6	10
ϕ32	10	14	16	34	4.5	-	0	12	9.5	25.5	23.5	20.5	22	M14 x 1.5	14	16	8	10
ϕ40	10	14	16	40	5	-	2	12	10.5	31.0	23.5	20.5	22	M14 x 1.5	14	16	8	10
ϕ50	15	17	20	50	7	-	2	13	11.5	31.0	28.5	26	27	M18 x 1.5	17	20	11	10
ϕ63	15	17	20	60	7	-	2	13	18.0	29.0	28.5	26	27	M18 x 1.5	17	20	1	10
ϕ80	15	22	25	77	6	-	2	15	24.0	31.5	35.5	32.5	32	M22 x 1.5	22	25	13	13
ϕ100	15	27	30	94	6.5	-	2	17	29.5	35.5	35.5	32.5	41	M26 x 1.5	27	30	16	13



Compact cylinder
Double acting single rod coil scraper type

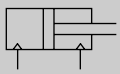
SSD-G1 Series

Compact cylinder
Double acting single rod spatter adherence prevention type

SSD-G4 Series

● Bore size: ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS

Specifications

Descriptions	SSD-G1/G4 SSD-G1L/G4L (with switch)						
Bore size mm	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0						
Min. working pressure MPa	0.15				0.1		
Withstanding pressure MPa	1.6						
Ambient temperature ℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISOVG 32.)						
Allowable energy absorption J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm) (with strong magnetic field proof switch)
ϕ 25	5, 10, 15, 20, 25, 30, 40, 50	Note 2) 50	1 (10) The value in ( ) is for type with one switch or two switches.
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	5, 10, 20, 30, 40, 50	Note 2) 50	
ϕ 80			
ϕ 100			

Note 1) Custom stroke length is available per 1mm increment.
Note 2) When exceeding the range of standard stroke length, high load type will be applied. Refer to Page 748 for the specifications.

Switch specifications

Descriptions	Proximity 2 wire
	T2YD
Applications	Programmable controller
Light	Red/green LED (ON lighting)
Load voltage	24 VDC ±10%
Load current	5 to 20mA DC
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay hour Note 1 (ON/OFF delay)	30 to 60ms
Lead wire length	1m (oil resistant vinyl cabtire cable ϕ6, 0.5mm² x 2 conductor) Note 2, Note 3
Insulation resistance	100MΩ and over with 500 VDC megger
Withstand voltage	No failure when 1000 VAC is applied for one minute
Maximum shock resistance	980m/s²
Ambient temperature	-10 to + 60℃
Protective structure	JIS C0920 (water tight type), IEC standards IP67, oil registance

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.
Note 2: For lead wire length, 3m and 5m are available as an option.
Note 3: For lead wire material, flame resistance type is available as an option.

Cylinder weight table (weight with switch includes weight with two switches)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch	w/o switch	w/ switch
ϕ25	131	222	146	237	162	253	178	269	194	285	209	300	241	332	272	363
ϕ32	184	298	206	320	228	342	250	364	271	385	293	407	337	451	380	494
ϕ40	265	408	292	435	318	461	345	488	372	515	398	541	451	594	504	647
ϕ50	418	612	460	654	502	696	544	738	586	780	629	823	713	907	797	991
ϕ63	603	882	658	937	-	-	768	1047	-	-	878	1157	989	1268	1099	1378
ϕ80	1093	1506	1180	1593	-	-	1353	1766	-	-	1526	1939	1700	2113	1873	2286
ϕ100	1654	2221	1768	2335	-	-	1995	2562	-	-	2223	2790	2450	3017	2678	3245

How to order

Without switch

SSD-G4 - 32 - 10 ——— N - LB - I

With switch

SSD-G4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model no.

Ⓑ Bore size

Ⓒ Stroke length Note 1

Ⓓ Switch model no.

Ⓔ Switch quantity

Ⓕ Option

Ⓖ Mounting bracket Note 1 Note 2

Ⓗ Accessory Note 3

Symbol	Descriptions
Ⓐ Model no.	
SSD-G1	Double acting single rod coil scraper type
SSD-G1L	Double acting single rod coil scraper type with switch
SSD-G4	Double acting single rod spatter adherence prevention type
SSD-G4L	Double acting single rod spatter adherence prevention type with switch

Ⓑ Bore size (mm)	
25	ϕ25
32	ϕ32
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

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

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indication	Lead wire
T2YD*	**-**	Proximity	Strong magnetic field proof switch	2-wire
T2YDT*	**-**			

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

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

Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1:The mounting bracket is enclosed when shipped.
Note 2:When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to Pages 939 to 940 for the dimentions.
Note 3:"I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-G4L-32-10-T2YD-R-N

Model: Compact cylinder double acting spatter adherence prevention type
Ⓑ Bore size : ϕ 32mm
Ⓒ Stroke length : 10mm
Ⓓ Switch model no. : Strong magnetic field proof proximity switch T2YD
· Lead wire length 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

How to order switch

SW - **T2YD***

Switch model no.
(Item Ⓓ previous page)

(Stroke length table)

Stroke length (mm)		Applicable bore size						
		ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Standard stroke length Note 1	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke length (mm) Note 2		1						
Max. stroke length (mm)		50						
Custom stroke length Note 3		Per 1 mm increment						

Note 1: When exceeding the range of standard stroke length, high load type (K) will be applied.
Refer to Page 884 for the specifications and to Pages 890 to 892 for the dimentions.
Note 2: The type of 10 mm or less with strong magnetic field proof switch is not available.
Note 3: The same dimension as next longer standard stroke length applies to the total length.

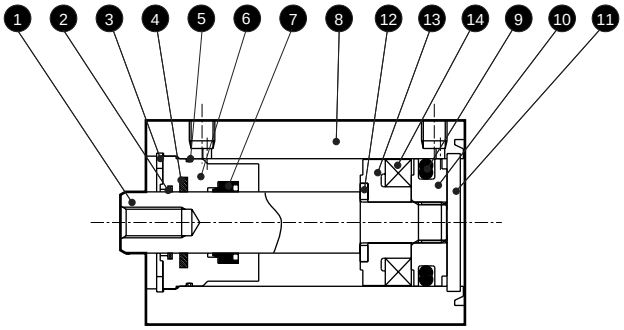
How to order mounting bracket

Bore size (mm) / Mounting bracket	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
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 (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

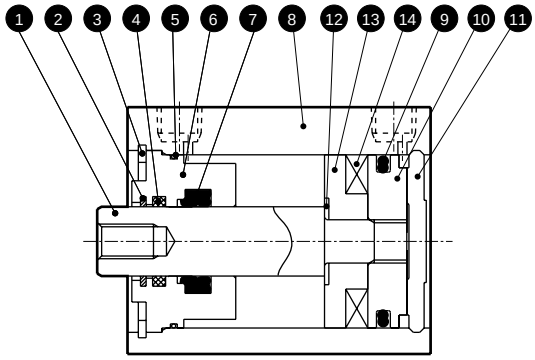
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

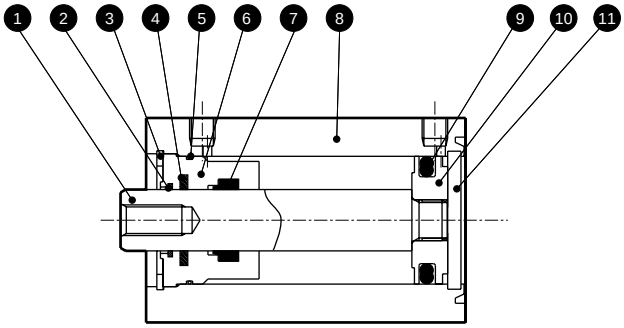
● SSD-G1L/G4L-25 (double acting/spatter adherence prevention type/with switch)



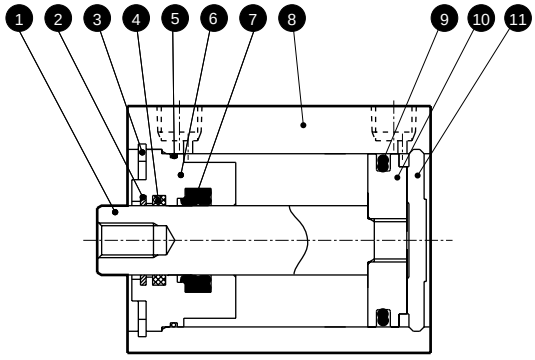
● SSD-G1L/G4L-32 to 50 (double acting/spatter adherence prevention type/with switch)



● SSD-G1/G4-25 (double acting/spatter adherence prevention type)



● SSD-G1/G4-32 to 50 (double acting/spatter adherence prevention type)



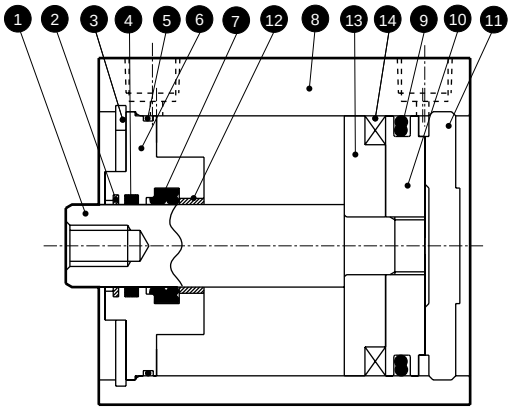
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ 25: stainless steel ϕ 32 to 50: steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
				9	Piston packing seal	Nitrile rubber	
2	Coil scraper	Phosphor bronze		10	Piston	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Phosphoric acid zinc	11	Cover	ϕ 25: stainless steel ϕ 32 to 50: aluminum alloy	Alumite (ϕ 32 to 50)
4	Lube keeping structure	Special rubber	Only G4				
5	Rod metal gasket	Nitrile rubber		12	Spacer washer	Stainless steel	
6	Rod bushing	Special aluminum	Alumite	13	Spacer	Special plastic	
7	Rod packing seal	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

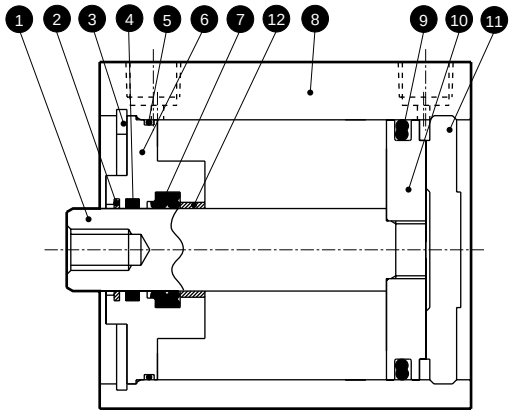
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ25	SSD-G1-25K	❷ ❺ ❼ ❾
ϕ32	SSD-G1-32K	
ϕ40	SSD-G1-40K	
ϕ50	SSD-G1-50K	

Internal structure and parts list

● SSD-G1L/G4L-63 to 100 (double acting/spatter adherence prevention type/with switch)



● SSD--G1/G4-63 to 100 (double acting/spatter adherence prevention type)



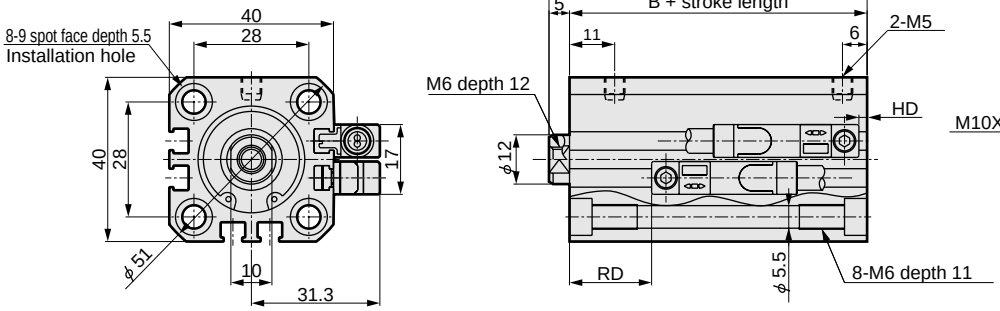
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	Coil scraper	Phosphor bronze		9	Piston packing seal	Nitrile rubber	
3	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Piston	Aluminum alloy	Chromate
4	Lube keeping structure	Special rubber	Only G4	11	Cover	Aluminum alloy	Alumite
5	Rod metal gasket	Nitrile rubber		12	Bush	DU dry bearing	
6	Rod bushing	Aluminum alloy		13	Spacer	Aluminum alloy	Chromate
7	Rod packing seal	Nitrile rubber	Chromate	14	Magnet	Plastic	

Repair parts list

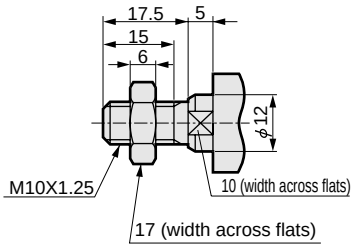
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ63	SSD-G1-63K	❷ ❺ ❼ ❾
ϕ80	SSD-G1-80K	
ϕ100	SSD-G1-100K	

Dimensions

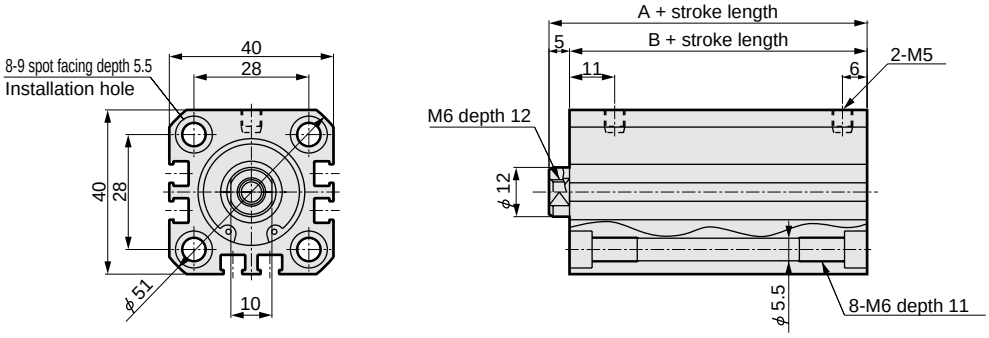
● SSD-G1L/G4L-25 (with switch)



● Rod end male thread



● SSD-G1/G4-25 (without switch)

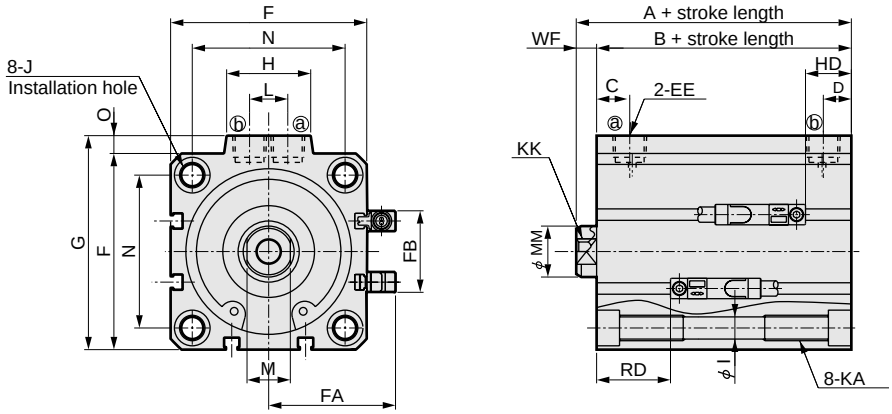


Symbol / Bore size (mm)	Without switch		Dimension with switch			
	A Note 1	B Note 1	A Note 1	B Note 1	RD Note 2	HD
ϕ 25	37.5	32.5	47.5	42.5	20	2

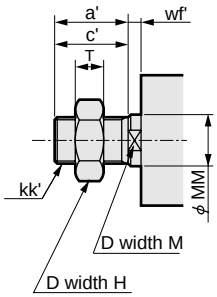
Note 1: When calculating A + stroke and B + stroke dimensions for the custom stroke, do not set the stroke in the stroke. Instead, set the next longer standard stroke.
(E.g.) If the custom stroke is 17 mm, calculate including standard stroke 20 mm.
Note 2: RD dimensions for the custom stroke differ from these to manufacturing.
Note 3: Refer to Pages 938 to 945 for the dimentions of attachment.

Dimensions

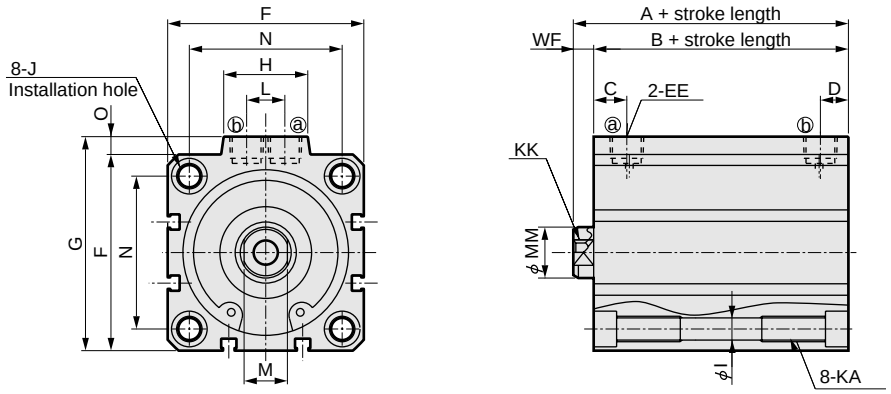
● SSD-G1L/G4L-32 to 100 (with switch)



● Rod end male thread



● SSD-G1/G4-32 to 100 (without switch)



Symbol / Bore size (mm)	Without switch A Note 1	Without switch B Note 1	Common dimension with switch A Note 1	Common dimension with switch B Note 1	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
ϕ32	40	33	50	43	8	8	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ40	46.5	39.5	56.5	49.5	12	8.5	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ50	48.5	40.5	58.5	50.5	10.5	10.5	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
ϕ63	54	46	64	56	13	11	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
ϕ80	63.5	53.5	73.5	63.5	16	13	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21
ϕ100	75	63	85	73	23	15	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M12 depth 27

Symbol / Bore size (mm)	Common dimension with switch M	MM	N	O	WF	T2YD type with switch RD Note 2	HD
ϕ32	14	16	34	4.5	7	20.5	4.5
ϕ40	14	16	40	5	7	23.5	8
ϕ50	17	20	50	7	8	23.5	9
ϕ63	17	20	60	7	8	24	13
ϕ80	22	25	77	6	10	26.5	19
ϕ100	27	30	94	6.5	12	30.5	24.5

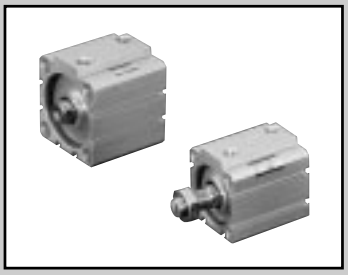
Note 1: When calculating A+ stroke and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. (E.g.) If the custom stroke is 17 mm, calculate including standard stroke 20 mm.

Note 2: RD dimensions for the custom stroke differ from these to manufacturing.

Note 3: Refer to Pages 938 to 945 for the dimentions of attachment.

● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	C'	H	kk'	M	MM	T	wf'
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ100	35.5	32.5	41	M26 x 1.5	27	30	16	8



Compact cylinder
Double acting single rod high load coil scraper type

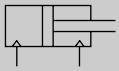
SSD-KG1 Series

Compact cylinder
Double acting single rod high load spatter adherence prevention type

SSD-KG4 Series

● Bore size: ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS

Specifications

Descriptions	SSD-KG1/KG4 SSD-KG1L/KG4L (with switch)						
Bore size mm	ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation	Double acting						
Working fluid	Compressed air						
Max. working pressure MPa	1.0						
Min. working pressure MPa	0.15				0.1		
Withstanding pressure MPa	1.6						
Ambient temperature ℃	-10 to 60 (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 (when lubricating, use turbine oil ISO VG32.)						
Allowable energy absorption J	0.16	0.40	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm) (with strong magnetic field proof switch)
ϕ 25	10, 15, 20, 25, 30, 40 50, 60, 70, 80, 90,100	Note 2) 300	1 (10)
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	10, 20, 30, 40, 50 60, 70, 80, 90,100		
ϕ 80			
ϕ 100			

Note 1) Custom stroke length is available per 1mm increment.
Note 2) Lengths exceeding the standard stroke are available in increments of 10 to the maximum stroke.
(Example) ϕ16: 60, 70, 80, 90,100
Note 3) Custom stroke length (E.g. 64 stroke) is the same as the next longer (E.g. 70 stroke).
Note 4) ϕ 25 to ϕ50: ϕ 63 to ϕ100 150 to 300: Some structure and the total length differ for 200 to 300.

Switch specifications

Descriptions	Proximity 2 wire
	T2YD
Applications	Programmable controller
Light	Red/green LED (ON lighting)
Load voltage	24 VDC ±10%
Load current	5 to 20mA DC
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay hour Note 1 (ON/OFF delay)	30 to 60ms
Lead wire length	1m (oil resistant vinyl cabtire cable ϕ 6, 0.5mm² x 2 conductor) Note 2, Note 3
Insulation resistance	100MΩ and over with 500 VDC megger
Withstand voltage	No failure when 1000 VAC is applied for one minute
Maximum shock resistance	980m/s²
Ambient temperature	-10 to + 60℃
Protective structure	JIS C0920 (water tight type), IEC standards IP67, oil registance

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.
Note 2: For lead wire length, 3m and 5m are available as an option.
Note 3: For lead wire material, flame resistance type is available as an option.

Cylinder weight table (weight with switch includes weight with two switches)

(Unit: g)

Stroke length (mm)	10		15		20		25		30		40		50		60		70		80		90		100	
Bore size (mm)	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch
ϕ25	162	253	178	269	194	285	209	300	226	317	258	349	290	381	322	413	354	445	386	477	418	509	450	541
ϕ32	249	363	270	384	292	406	314	428	336	450	379	493	422	536	465	579	508	622	551	665	594	708	637	751
ϕ40	345	488	372	515	398	541	424	567	451	594	504	647	557	700	610	753	663	806	716	859	769	912	822	965
ϕ50	549	743	591	785	634	828	677	871	718	912	802	996	886	1080	970	1164	1054	1248	1138	1332	1222	1416	1306	1500
ϕ63	782	1061	-	-	892	1171	-	-	1003	1282	1113	1392	1223	1502	1333	1612	1443	1722	1553	1832	1663	1942	1773	2052
ϕ80	1382	1795	-	-	1555	1968	-	-	1729	2142	1902	2315	2075	2488	2248	2661	2421	2834	2594	3007	2767	3180	2940	3353
ϕ100	2029	2596	-	-	2257	2824	-	-	2484	3051	2712	3279	2940	3507	3168	3735	3396	3963	3624	4191	3852	4419	4080	4647

(Unit: g)

Stroke length (mm)	110		120		130		140		150		160		170		180		190		200	
Bore size (mm)	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch
ϕ25	482	573	514	605	546	637	578	669	610	701	642	733	674	765	706	797	738	829	770	861
ϕ32	680	794	723	837	766	880	809	923	852	966	894	1008	937	1051	980	1094	1023	1137	1066	1180
ϕ40	875	1018	928	1071	981	1124	1034	1177	1087	1230	1140	1283	1193	1336	1246	1389	1299	1442	1352	1495
ϕ50	1390	1584	1474	1668	1558	1752	1642	1836	1726	1920	1824	2018	1909	2103	1994	2188	2079	2273	2164	2358
ϕ63	1883	2162	1993	2272	2103	2382	2213	2492	2323	2602	2433	2712	2543	2822	2653	2932	2763	3042	2873	3152
ϕ80	3113	3526	3286	3699	3459	3872	3632	4045	3805	4218	3978	4391	4151	4564	4324	4737	4497	4910	4670	5083
ϕ100	4308	4875	4536	5103	4764	5331	4992	5559	5220	5787	5448	6015	5676	6243	5904	6471	6132	6699	6360	6927

(Unit: g)

Stroke length (mm)	210		220		230		240		250		260		270		280		290		300	
Bore size (mm)	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch	No switch	w/ switch
ϕ25	813	893	845	925	877	957	909	989	941	1021	973	1053	1005	1085	1037	1117	1069	1149	1101	1181
ϕ32	1109	1223	1152	1266	1195	1309	1238	1352	1281	1395	1324	1438	1367	1481	1410	1524	1453	1567	1496	1610
ϕ40	1405	1548	1458	1601	1511	1654	1564	1707	1617	1760	1670	1813	1723	1866	1776	1919	1829	1972	1882	2025
ϕ50	2249	2443	2334	2528	2419	2613	2504	2698	2589	2783	2674	2868	2759	2953	2844	3038	2929	3123	3014	3208
ϕ63	2982	3261	3092	3371	3202	3481	3312	3591	3422	3701	3532	3811	3642	3921	3752	4031	3862	4141	3972	4251
ϕ80	4842	5255	5015	5428	5188	5601	5361	5774	5534	5947	5707	6120	5880	6293	6053	6466	6226	6639	6399	6812
ϕ100	6589	7156	6817	7384	7045	7612	7273	7840	7501	8068	7729	8296	7957	8524	8185	8752	8413	8980	8641	9208

How to order

Without switch

SSD-KG4 – 32 - 10 ——— N - LB - I

With switch

SSD-KG4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model no.

Ⓑ Bore size

Ⓒ Stroke length

Ⓓ Switch model no.

Ⓔ Switch quantity

Ⓕ Option

Ⓖ Mounting bracket
Note 1
Note 2

Ⓗ Accessory
Note 3

Symbol	Descriptions
Ⓐ Model no.	
SSD-KG1	Double acting single rod high load coil scraper type
SSD-KG1L	Double acting single rod high load, coil scraper type/with switch
SSD-KG4	Double acting single rod high load spatter adherence prevention type
SSD-KG4L	Double acting single rod high load spatter adherence prevention type/with switch

Symbol	Descriptions
Ⓑ Bore size (mm)	
25	ϕ25
32	ϕ32
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓒ Stroke length (mm)

Refer to the stroke length table on following page.

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indication	Lead wire
T2YD*	**-**	Proximity	Strong magnetic field proof switch	2-wire
T2YDT*	**-**			

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

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

Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.

Note 2: When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to Pages 939 to 940 for the dimentions.

Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-KG4L-32-10-T2YD-R-N

Model: Compact cylinder
Double actiong with spatter adherence ploof

Ⓑ Bore size : ϕ 32mm
Ⓒ Stroke length : 10mm
Ⓓ Switch model no. : Strong magnetic field proof proximity switch T2YD
· Lead wire length 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

How to order switch

SW - T2YD

Switch model no.
(Item (D) previous page)

(Stroke length table)

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

Note 1: Less than 10mm of the type with a strong magnetic field proof switch is not available.
Note 2: The total length is the same as the next longer standard stroke length.

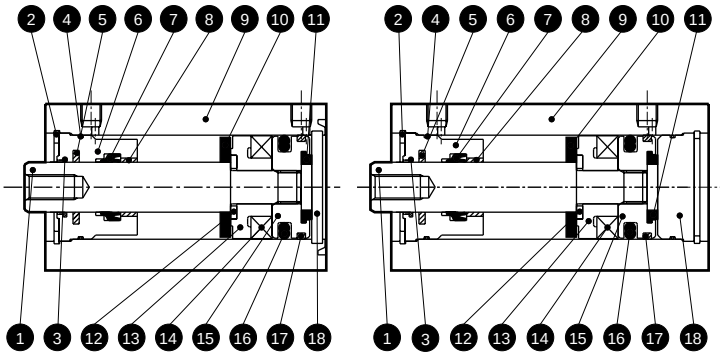
How to order mounting bracket

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

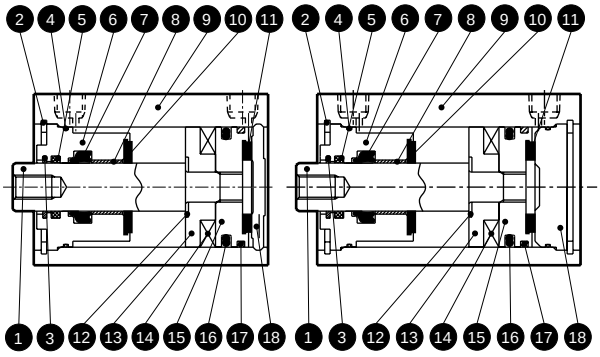
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

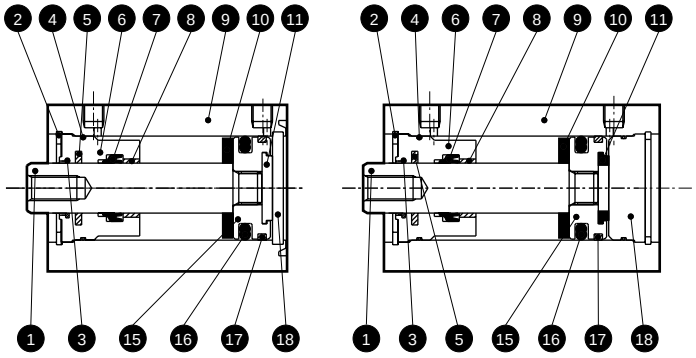
● SSD-KG1L/KG4L-25 (double acting/single rod high load/spatter adherence prevention types/with switch)



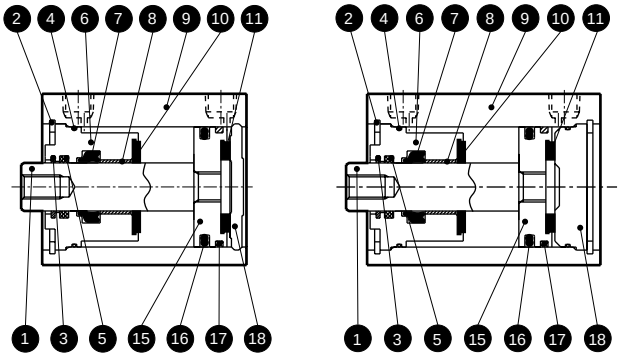
● SSD-KG1L/KG4L-32 to 50 (double acting/single rod high load/spatter adherence prevention types/with switch)



● SSD-KG1/KG4-25 (double acting/single rod high load/spatter adherence prevention types)



● SSD-KG1/KG4-32 to 50 (double acting/single rod high load/spatter adherence prevention types)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	ϕ 25: stainless steel ϕ 32 to 50: steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
				11	Cushion rubber H	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	12	Spacer washer	Stainless steel	
3	Coil scraper	Phosphor bronze		13	Spacer	Special plastic	
4	Rod metal gasket	Nitrile rubber		14	Magnet	Plastic	
5	Lube keeping structure	Special rubber	Only G4	15	Piston	Aluminum alloy	Chromate
6	Rod bushing	Special aluminum	Alumite	16	Piston packing seal	Nitrile rubber	
7	Rod packing seal	Nitrile rubber		17	Wear ring	Polyacetal resin	
8	Bush	DU dry bearing		18	Cover	ϕ 25: stainless steel ϕ 32 to 50: aluminum alloy	Chromate (ϕ 32 to ϕ 50) (Note 1)
9	Tube body	Aluminum alloy	Hard alumite				

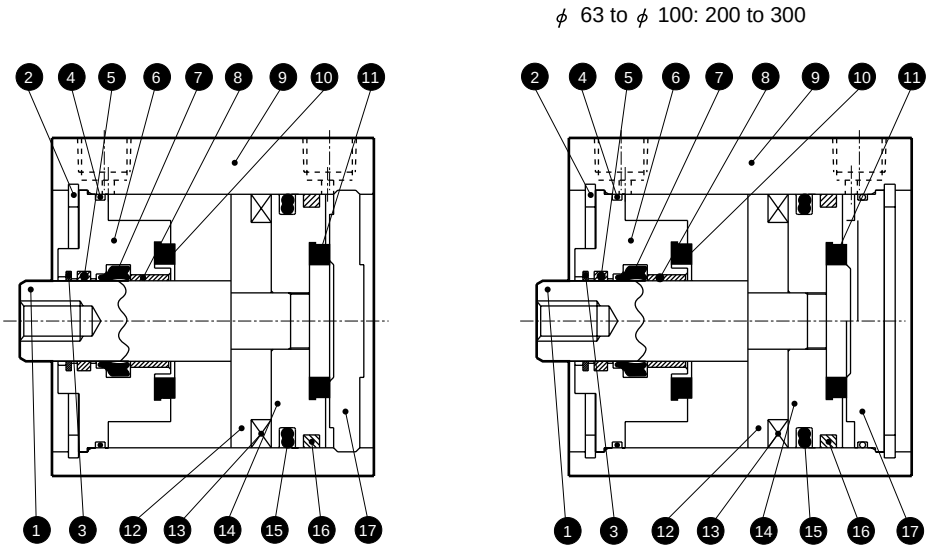
Note 1: The ϕ24 long stroke type cover is made of aluminum alloy, and treated with chromate.
Note 2: Refer to Pages 938 to 945 for the dimentions of attachment.

Repair parts list

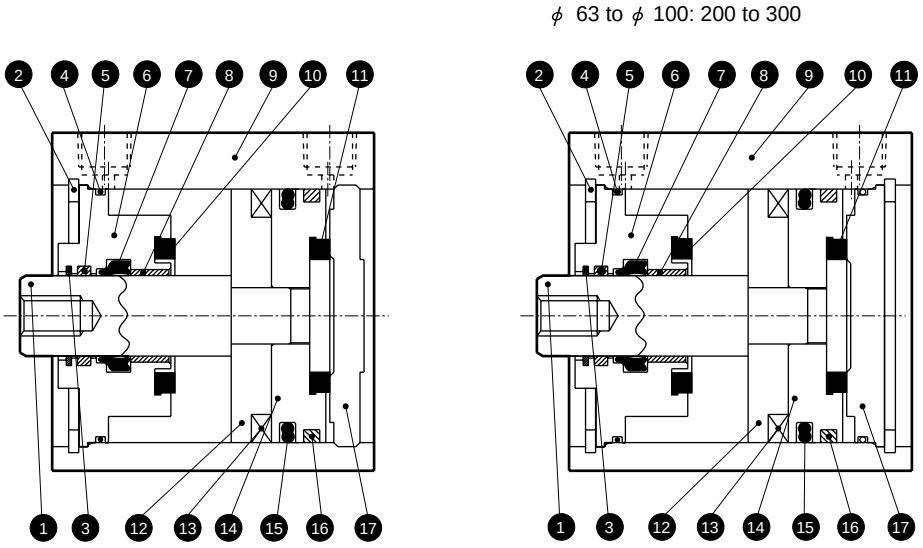
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ25	SSD-KG1-25K	❸ ❹ ❼ ❿ ⓫ ⓰ ⓱
ϕ32	SSD-KG1-32K	
ϕ40	SSD-KG1-40K	
ϕ50	SSD-KG1-50K	

Internal structure and parts list

● SSD-KG1L/KG4L-63 to 100 (double acting/single rod high load/spatter adherence prevention types/with switch)



● SSD-KG1/KG4-63 to 100 (double acting/single rod high load/spatter adherence prevention types)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber R	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	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	Only G4	14	Piston	Aluminum alloy	Chromate
6	Rod bushing	Aluminum alloy	Chromate	15	Piston packing seal	Nitrile rubber	
7	Rod packing seal	Nitrile rubber		16	Wear ring	Polyacetal resin	
8	Bush	DU dry bearing		17	Cover	Aluminum alloy	Chromate
9	Tube body	Aluminum alloy	Hard alumite				

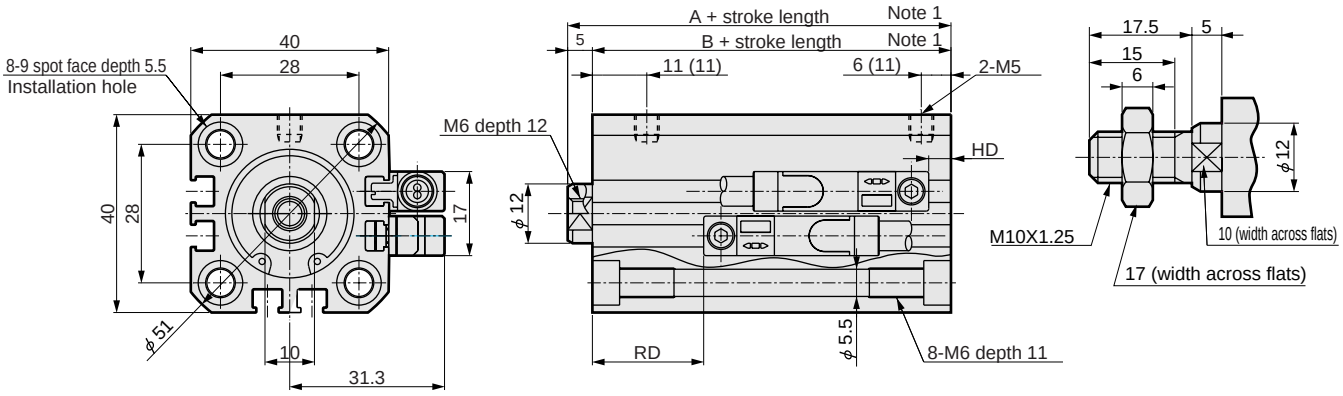
Repair parts list

Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ 63	SSD-KG1-63K	❸ ❹ ❼ ❿ ⓫ ⓯ ⓰
ϕ 80	SSD-KG1-80K	
ϕ 100	SSD-KG1-100K	

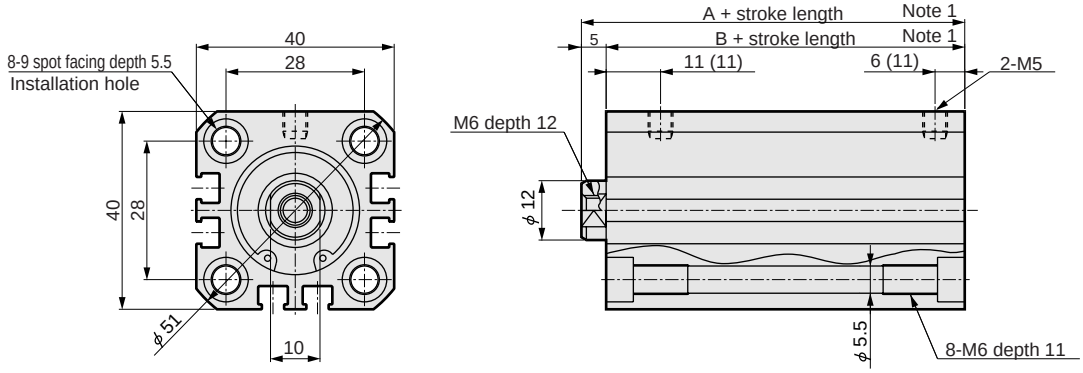
Dimensions

● SSD-KG1L/KG4L-25 (with switch)

● Rod end male thread



● SSD-KG1/KG4-25 (without switch)



Symbol / Bore size (mm)	Without switch A Note 1	Without switch B Note 1	Dimension with switch A Note 1	Dimension with switch B Note 1	Dimension with switch RD Note 2, 3	Dimension with switch HD Note 2, 3
ϕ 25	42.5	37.5	52.5	47.5	22.5 (27.5)	4.5 (13)

● Table 2

Symbol / Bore size (mm)	Without switch A Note 1	Without switch B Note 1	Dimension with switch A Note 1	Dimension with switch B Note 1
ϕ 25	56	51	66	61

Note 1: When calculating A+ stroke and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. When longer than 150 mm stroke, refer to A and B dimensions on Table 2. 9 spot face is not available.
If the custom stroke is 17 mm, calculate including standard stroke 20 mm.

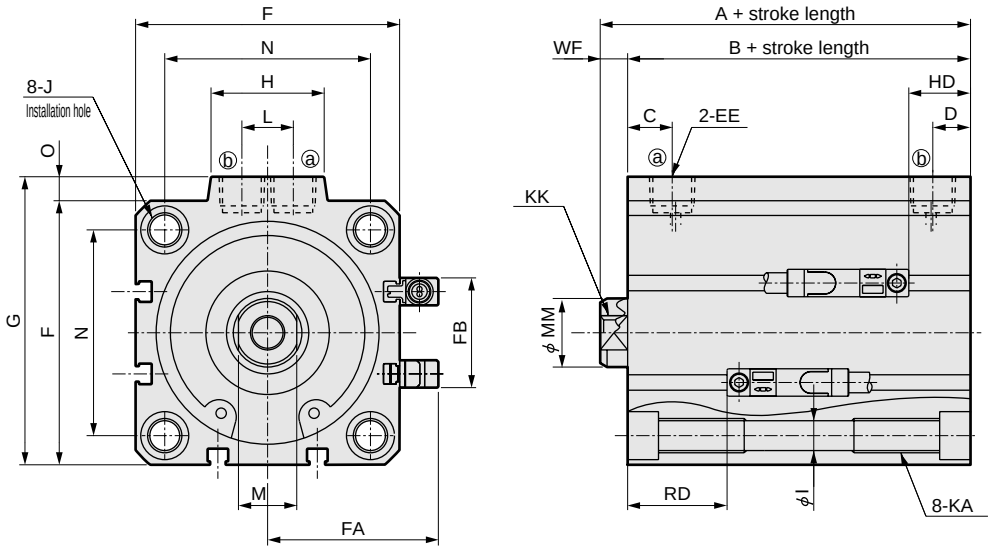
Note 2: The value in ( ) shows the HD/RD dimentions when stroke length is 150 and more.

Note 3: RD dimensions for the custom stroke differ from these to manufacturing.

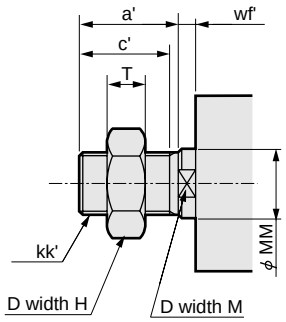
Note 4: Refer to Pages 938 to 947 for the dimentions of attachment.

Dimensions

● SSD-KG1L/KG4L-32 to 100 (with switch)



● Rod end male thread



Symbol / Bore size (mm)	Dimension with switch A Note 1	B Note 1	C	D Note 2	EE	F	FA	FB	G	H	I	J	KA	KK
ϕ32	60	53	8	8 (8)	Rc1/8	45	33.8	24	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ40	66.5	59.5	12	8.5 (12)	Rc1/8	52	37.3	31	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ50	68.5	60.5	10.5	10.5 (10.5)	Rc1/4	64	43.3	32	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
ϕ63	74	66	13	11 (13)	Rc1/4	77	49.8	32	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
ϕ80	83.5	73.5	16	13 (16)	Rc3/8	98	60.3	32	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21
ϕ100	95	83	23	15 (23)	Rc3/8	117	69.8	32	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Symbol / Bore size (mm)	Dimension with switch L	M	MM	N	O	WF	T2YD type with switch RD Note 2.3	HD Note 2
ϕ32	10	14	16	34	4.5	7	25.5 (25.5)	9.5 (17)
ϕ40	10	14	16	40	5	7	31 (31)	10.5 (20)
ϕ50	15	17	20	50	7	8	31 (36)	11.5 (20.5)
ϕ63	15	17	20	60	7	8	29 (34)	18 (23.5)
ϕ80	15	22	25	77	6	10	31.5 (36.5)	24 (29.5)
ϕ100	15	27	30	94	6.5	12	35.5 (40.5)	29.5 (35)

Note 1: When calculating A+ stroke and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke.
If the custom stroke is 17 mm, calculate including standard stroke 20 mm. Note that Table 2 shows A/B dimentions when over ϕ32 to ϕ50: 150 stroke length and ϕ63 to ϕ100: 200 stroke length. In this case, spot face J is not available.

Note 2: The values in ( ) show HD/RD dimentions when over ϕ32 to ϕ50: 150 stroke length and ϕ63 to ϕ100: 200 stroke length.

Note 3: RD dimensions for the custom stroke differ from these to manufacturing.

Note 4: Refer to Pages 938 to 945 for the dimentions of attachment.

● Table 2

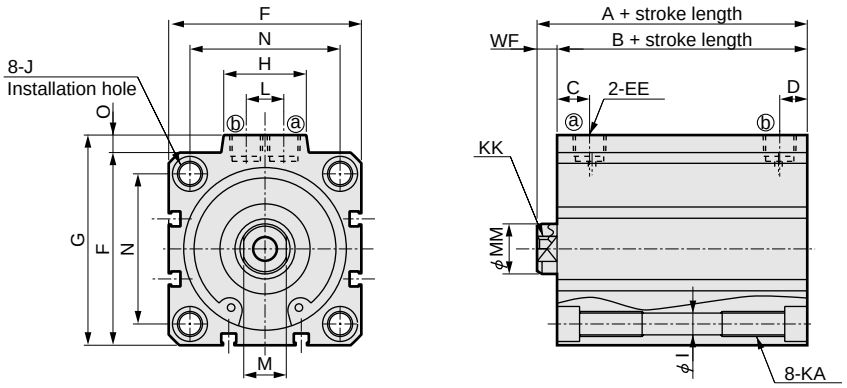
Symbol / Bore size (mm)	With switch A Note 1	B Note 1
ϕ32	67.5	60.5
ϕ40	76	69
ϕ50	82	74
ϕ63	84	76
ϕ80	93.5	83.5
ϕ100	105	93

● Rod end male thread section dimensions table

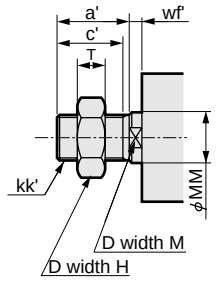
Symbol / Bore size (mm)	a'	C'	H	kk'	M	MM	T	wf'
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ100	35.5	32.5	41	M26 x 1.5	27	30	16	8

Dimensions

● SSD-KG1/KG4-32 to 100 (without switch)



● Rod end male thread



Symbol / Bore size (mm)	Without switch dimension A Note 1	B Note 1	C	D Note 2	EE	F	G	H	I	J	KA	KK	L	M	MM	N	O	WF
ϕ32	50	43	8	8 (8)	Rc1/8	45	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	34	4.5	7
ϕ40	56.5	49.5	12	8.5 (12)	Rc1/8	52	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13	10	14	16	40	5	7
ϕ50	58.5	50.5	10.5	10.5 (10.5)	Rc1/4	64	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15	15	17	20	50	7	8
ϕ63	64	56	13	11 (13)	Rc1/4	77	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15	15	17	20	60	7	8
ϕ80	73.5	63.5	16	13 (16)	Rc3/8	98	104	38	10.5	17.5 spot face depth 11	M12 depth 28	M16 depth 21	15	22	25	77	6	10
ϕ100	85	73	23	15 (23)	Rc3/8	117	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12

● Table 2

Symbol / Bore size (mm)	Without switch dimension A Note 1	B Note 1
ϕ32	57.5	50.5
ϕ40	66	59
ϕ50	72	64
ϕ63	74	66
ϕ80	83.5	73.5
ϕ100	95	83

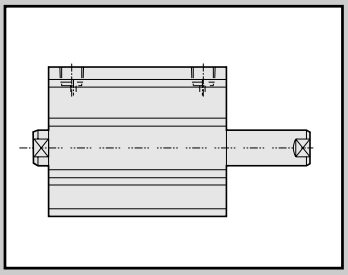
Note 1: When calculating A+ stroke and B+ stroke dimensions for the custom stroke, do not set the custom stroke in the stroke. Instead, set the next longer standard stroke. If the custom stroke is 17 mm, calculate including standard stroke 20 mm.
Note that Table 2 shows A/B dimentions when over ϕ32 to ϕ50: 150 stroke length and ϕ63 to ϕ100: 200 stroke length. In this case, spot face J is not available.

Note 2: The values in ( ) show D dimentions when over ϕ32 to ϕ50: 150 stroke length and ϕ63 to ϕ100: 200 stroke length.

Note 3: Refer to Pages 938 to 945 for the dimentions of attachment.

● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	C'	H	kk'	M	MM	T	wf'
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ100	35.5	32.5	41	M26 x 1.5	27	30	16	8



Compact cylinder
Double acting double rod coil scraper type

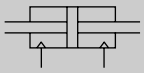
SSD-DG1 Series

Compact cylinder
Double acting double rod spatter adherence prevention type

SSD-DG4 Series

● Bore size: ϕ 25, ϕ 32, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS CAD

Specifications

Descriptions		SSD-DG1/DG4 SSD-DG1L/DG4L (with switch)						
Bore size	mm	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
Actuation		Double acting						
Working fluid		Compressed air						
Max. working pressure	MPa	1.0						
Min. working pressure	MPa	0.2				0.15		
Withstanding pressure	MPa	1.6						
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil ISOVG32.)						
Allowable energy absorption	J	0.021	0.025	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm) (with strong magnetic field proof switch)
ϕ 25	5, 10, 15, 20, 25, 30, 40, 50	50	1 (10) Note 1) The value in ( ) is for type with one switch or two switches.
ϕ 32			
ϕ 40			
ϕ 50			
ϕ 63	5, 10, 20, 30, 40, 50	50	
ϕ 80			
ϕ 100			

Note 1) Custom stroke length is available per 1mm increment.

Switch specifications

● Strong magnetic field proof proximity

Descriptions	Proximity 2 wire
	T2YD
Applications	Programmable controller
Light	Red/green LED (ON lighting)
Load voltage	24 VDC ±10%
Load current	5 to 20mA DC
Internal voltage drop	6V or less
Leakage current	1.0mA or less
Output delay hour Note 1 (ON/OFF delay)	30 to 60ms
Lead wire length	1m (oil resistant vinyl cabtire cable ϕ6, 0.5mm² x 2 conductor) Note 2, Note 3
Insulation resistance	100MΩ and over with 500 VDC megger
Withstand voltage	No failure when 1000 VAC is applied for one minute
Maximum shock resistance	980m/s²
Ambient temperature	-10 to + 60℃
Protective structure	JIS C0920 (water tight type), IEC standards IP67, oil registance

Note 1: This shows the time from magnetic sensor detects piston magnet until outputs a signal.
Note 2: For lead wire length, 3m and 5m are available as an option.
Note 3: For lead wire material, flame resistance type is available as an option.

Cylinder weight table (weight with switch includes weight with two switches)

(Unit: g)

Stroke length (mm)	5		10		15		20		25		30		40		50	
Bore size (mm)	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch	No switch	With switch
ϕ25	234	325	249	340	265	356	281	372	297	388	313	403	344	435	375	466
ϕ32	308	423	354	468	399	514	446	560	490	605	537	651	631	741	725	831
ϕ40	446	589	473	616	499	642	526	669	553	696	579	732	632	775	685	828
ϕ50	696	890	746	940	796	989	846	1041	896	1089	946	1139	1046	1239	1149	1343
ϕ63	1128	1254	1203	1567	-	-	1353	1717	-	-	1503	1867	1654	2018	1804	2168
ϕ80	1995	1925	2112	2042	-	-	2345	2798	-	-	2578	3031	2812	3275	3045	3508
ϕ100	2984	3611	3153	3775	-	-	3490	4072	-	-	3828	4440	4165	4767	4503	5095

How to order

Without switch

SSD-DG4 – 32 - 10 ——— N - LB - I

With switch

SSD-DG4L - 32 - 10 - T2YD - R - N - LB - I

Ⓐ Model no.
Ⓑ Bore size
Ⓒ Stroke length
Ⓓ Switch model no.
Ⓔ Switch quantity
Ⓕ Option
Ⓖ Mounting bracket Note 1 Note 2
Ⓗ Accessory Note 3

Symbol	Descriptions
Ⓐ Model no.	
SSD-DG1	Double acting double rod coil scraper type
SSD-DG1L	Double acting double rod coil scraper type/with switch
SSD-DG4	Double acting double rod spatter adherence prevention type
SSD-DG4L	Double acting double rod spatter adherence prevention type/with switch

Ⓑ Bore size (mm)	
25	ϕ25
32	ϕ32
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓒ Stroke length (mm)

Refer to the stroke length table on following page.

Ⓓ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indication	Lead wire
T2YD*	-	Proximity	Strong magnetic field proof switch	2-wire
T2YDT*	-			
T2YDU (custom order)			Strong magnetic field proof cable connector switch	

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

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

Ⓕ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓗ Accessory (permissible if rod end male thread "N" was selected.)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is enclosed when shipped.
Note 2: When LB2 or FA is selected, the piston rod end thread length dimensions WF are different from the standard dimensions. Refer to Pages 939 to 940 for the dimentions.
Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-DG4L-32-10-T2YD-R-N

Model: Compact cylinder
Double acting double rod spatter adherence prevention types
Ⓑ Bore size : ϕ32mm
Ⓒ Stroke length : 10mm
Ⓓ Switch model no. : Strong magnetic field proof proximity switch T2YD
· Lead wire length 1m
Ⓔ Switch quantity : One on rod end
Ⓕ Option : Rod end male thread

(Stroke length table)

Stroke length (mm)		Applicable bore size						
		ϕ25	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Standard stroke length	5	●	●	●	●	●	●	●
	10	●	●	●	●	●	●	●
	15	●	●	●	●			
	20	●	●	●	●	●	●	●
	25	●	●	●	●			
	30	●	●	●	●	●	●	●
	40	●	●	●	●	●	●	●
	50	●	●	●	●	●	●	●
Min. stroke length (mm) Note 1		1						
Max. stroke length (mm)		50						
Custom stroke length Note 2		Per 1 mm increment						

Note 1: Less than 10mm of the type with a strong magnetic field proof switch is not available.
Note 2: The total length is the same as the next longer standard stroke length.

How to order switch

SW - T2YD

Switch model no.
(Item Ⓓ above)

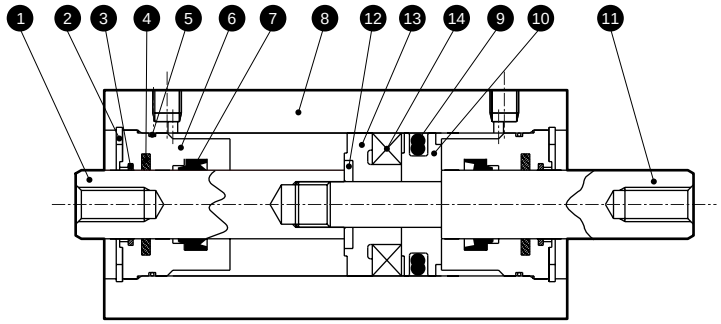
How to order mounting bracket

Bore size (mm) / Mounting bracket	ϕ 25	ϕ 32	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
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 (CB)	SSD-CB-25	SSD-CB-32	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis (CB2)	SSD-CB2-25	SSD-CB2-32	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

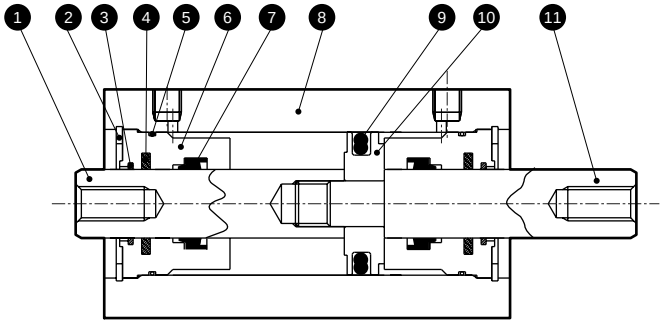
Note 1: The foot type mounting bracket is provided as 2 pcs./set.

Internal structure and parts list

● SSD-DG1L/DG4L-25 (double acting/double rod/spatter adherence prevention type/with switch)



● SSD-DG1/DG4-25 (double acting/double rod/spatter adherence prevention type)



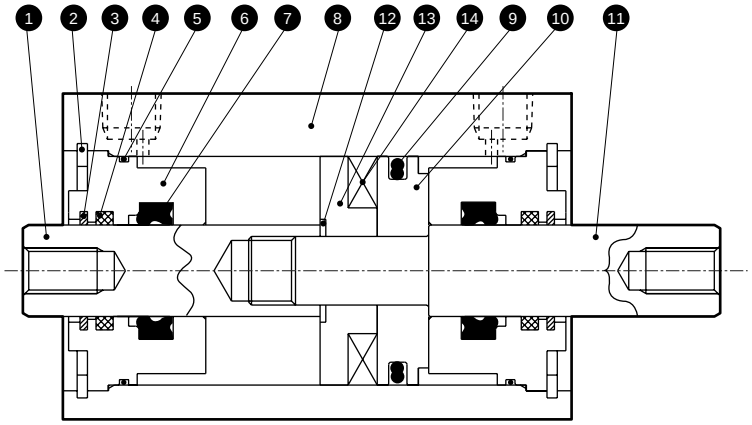
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	Stainless steel	Industrial chrome plating	8	Tube body	Aluminum alloy	Hard alumite
2	C type snap ring for hole	Steel	Phosphoric acid zinc	9	Piston packing seal	Nitrile rubber	
3	Coil scraper	Phosphor bronze		10	Piston	Aluminum 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 bushing	Special aluminum	Alumite	13	Spacer	Special plastic	
7	Rod packing seal	Nitrile rubber		14	Magnet	Plastic	

Repair parts list

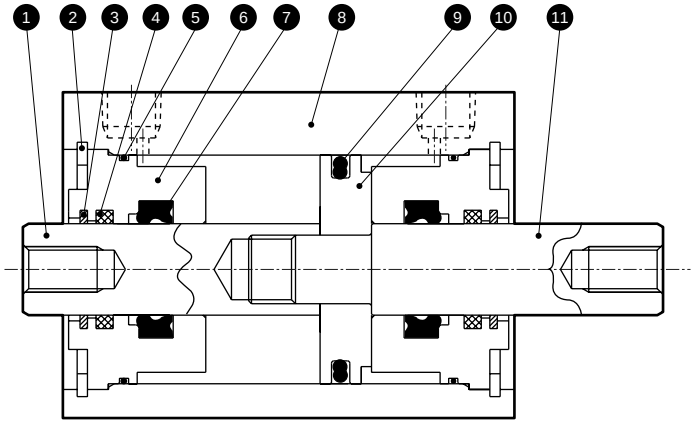
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ 25	SSD-DG1-25K	❸ ❺ ❼ ❾

Internal structure and parts list

● SSD-DG1L/DG4L-32 to 50 (double acting/double rod/spatter adherence prevention type/with switch)



● SSD-DG1/DG4-32 to 50 (double acting/double rod/spatter adherence prevention type)



No.	Parts name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating
2	C type snap ring for hole	Steel	Phosphoric acid zinc
3	Coil scraper	Phosphor bronze	
4	Lube keeping structure	Special rubber	Only G4
5	Rod metal gasket	Nitrile rubber	
6	Rod bushing	Special aluminum	Alumite
7	Rod packing seal	Nitrile rubber	

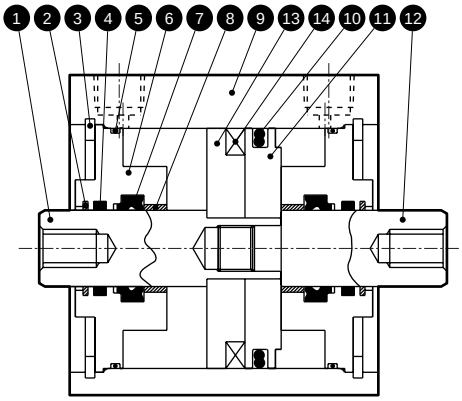
No.	Parts name	Material	Remarks
8	Tube body	Aluminum alloy	Hard alumite
9	Piston packing seal	Nitrile rubber	
10	Piston	Aluminum alloy	Chromate
11	Piston rod B	Steel	Industrial chrome plating
12	Spacer washer	Stainless steel	ϕ 50
13	Spacer	ϕ 32, ϕ 40: aluminum alloy ϕ 50: special plastic	ϕ 32, ϕ 40: chromate
14	Magnet	Plastic	

Repair parts list

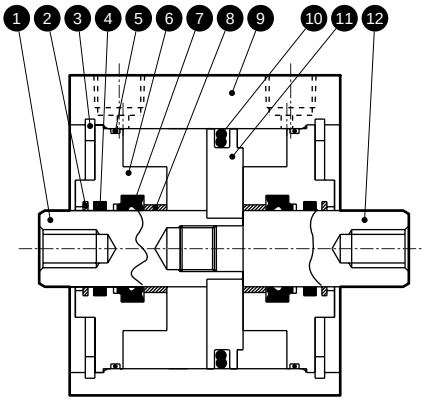
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ32	SSD-DG1-32K	❸ ❺ ❼ ❾
ϕ40	SSD-DG1-40K	
ϕ50	SSD-DG1-50K	

Internal structure and parts list

● SSD-DG1L/DG4L-63 to 100 (double acting/double rod/spatter adherence prevention type/with switch)



● SSD-DG1/DG4-63 to 100 (double acting/double rod/spatter adherence prevention type)



No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod A	Steel	Industrial chrome plating	8	Bush	Oilless dry met	
2	Coil scraper	Phosphor bronze		9	Tube body	Aluminum alloy	Hard alumite
3	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	Chromate
4	Lube keeping structure	Special rubber	Only G4	11	Piston	Aluminum alloy	Chromate
5	Rod metal gasket	Nitrile rubber		12	Piston rod B	Steel	Industrial chrome plating
6	Rod bushing	Aluminum alloy	Chromate	13	Spacer	Aluminum alloy	Chromate
7	Rod packing seal	Nitrile rubber		14	Magnet	Plastic	

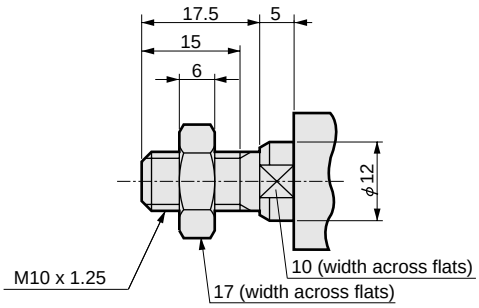
Repair parts list

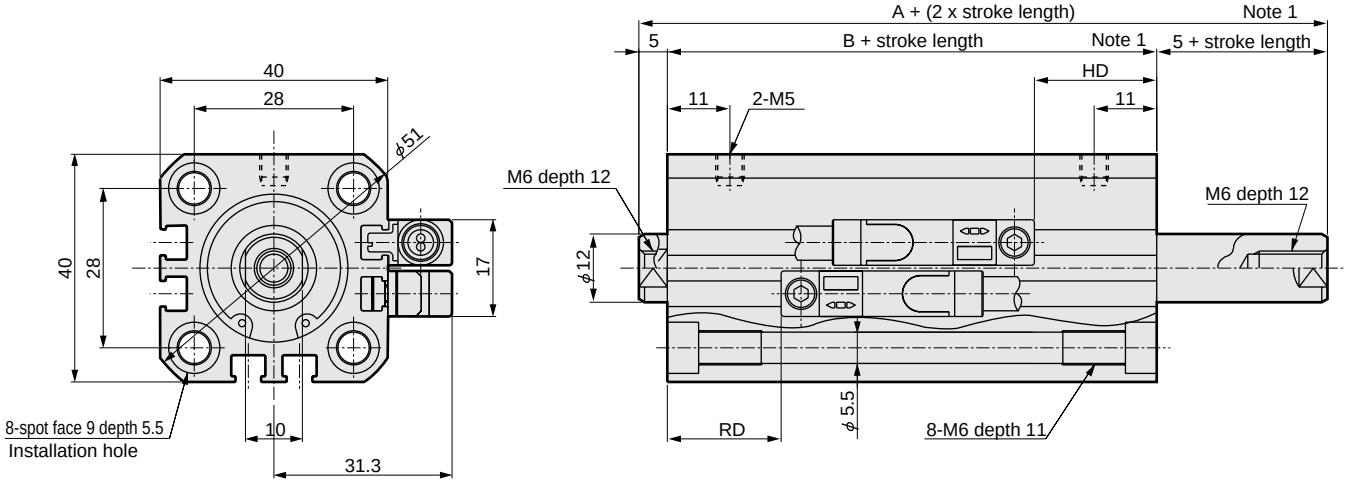
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ63	SSD-DG1-63K	❷ ❺ ❼ ❿
ϕ80	SSD-DG1-80K	
ϕ100	SSD-DG1-100K	

Dimensions

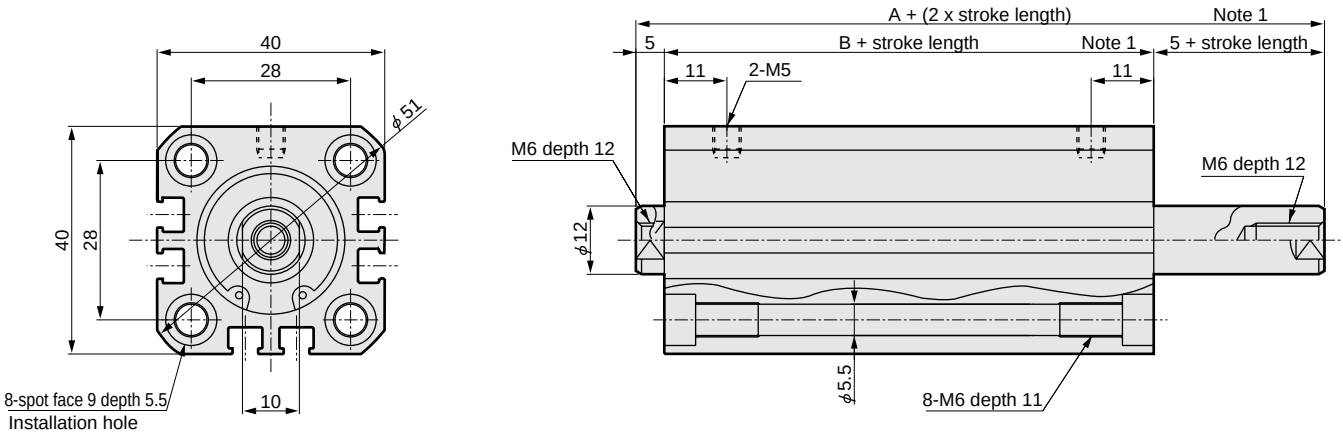
● SSD-DG1L/DG4L-25 (with switch)

● Rod end male thread





● SSD-DG1/DG4-25 (without switch)



Symbol / Bore size (mm)	Without switch		Dimension with switch			
	A Note 1	B Note 1	A Note 1	B Note 1	RD Note 2	HD
ϕ 25	61	51	71	61	20	21.5

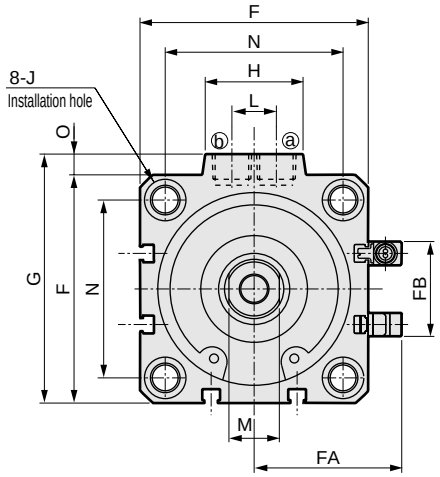
Note 1: When calculating custom stroke dimensions of A + (2 x stroke length), B + stroke length, and 5 + stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. Rod dimensions of projecting section differ by left right.
(E.g.) If the custom stroke is 17 mm, calculate including standard stroke 20 mm.

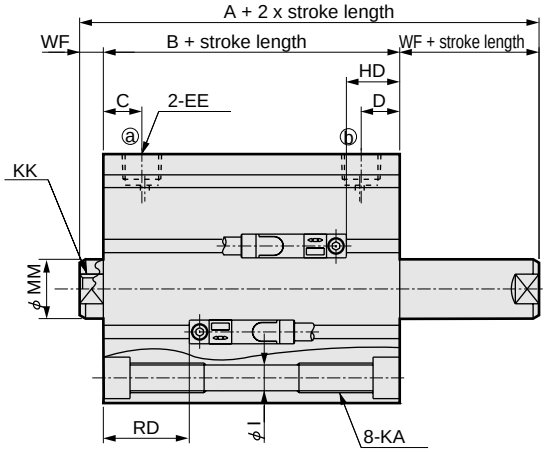
Note 2: RD dimensions for the custom stroke differ from these to manufacturing.

Note 3: Refer to Pages 938 to 945 for the dimentions od attachment.

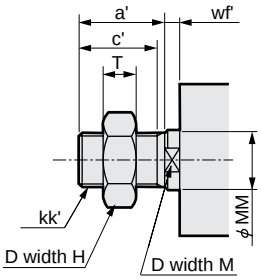
Dimensions

● SSD-DG1L/DG4L-32 to 100 (with switch)

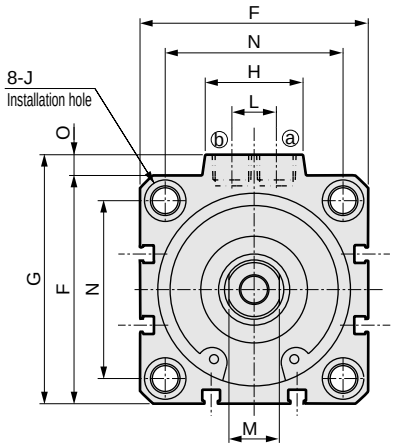


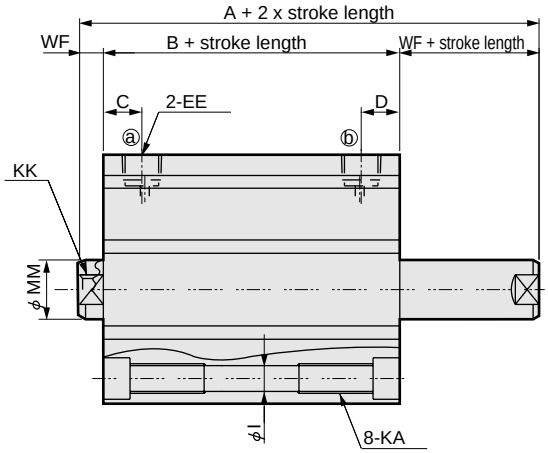


● Rod end male thread



● SSD-DG1/DG4-32 to 100 (without switch)





Symbol / Bore size (mm)	Without switch A[Note 1]	Without switch B[Note 1]	Common dimension with switch A[Note 1]	Common dimension with switch B[Note 1]	C	D	EE	F	FA	FB	G	H	I	J	KA	KK
ϕ32	64.5	50.5	74.5	60.5	8	8	Rc1/8	45	33.8	20.5	49.5	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ40	73	59	83	69	12	12	Rc1/8	52	37.3	27.5	57	24	5.5	9 spot face depth 5.5	M6 depth 11	M8 depth 13
ϕ50	75	59	85	69	10.5	10.5	Rc1/4	64	43.3	28.5	71	33	6.9	11 spot face depth 6.5	M8 depth 13	M10 depth 15
ϕ63	77	61	87	71	13	13	Rc1/4	77	49.8	28.5	84	33	8.7	14 spot face depth 9	M10 depth 25	M10 depth 15
ϕ80	88.5	68.5	98.5	78.5	16	16	Rc3/8	98	60.3	28.5	104	38	10.5	17 spot face depth 11	M12 depth 28	M16 depth 21
ϕ100	102	78	112	88	23	23	Rc3/8	117	69.8	28.5	123.5	38	10.5	17.5 spot face depth 11	M12 depth 28	M20 depth 27

Symbol / Bore size (mm)	Common dimension with switch L	M	MM	N	O	WF	T2YD type with switch RD[Note 2]	HD
ϕ32	10	14	16	34	4.5	7	20.5	22
ϕ40	10	14	16	40	5	7	23.5	27.5
ϕ50	15	17	20	50	7	8	23.5	27.5
ϕ63	15	17	20	60	7	8	24	28.5
ϕ80	15	22	25	77	6	10	26.5	35
ϕ100	15	27	30	94	6.5	12	30.5	40.5

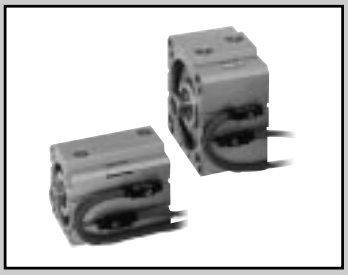
Note 1: When calculating custom stroke dimensions of A + (2 x stroke length), B + stroke length, and WF + stroke length, the length is calculated by inputting the following increment of standard stroke length but not inputting the custom stroke length. Rod dimensions of projecting section differ by left right. (E.g.) Calculate with standard stoke length 20mm when custom stroke length 17mm.

Note 2: RD dimensions for the custom stroke differ from these to manufacturing.

Note 3: Refer to Pages 938 to 945 for the dimentions od attachment.

● Rod end male thread section dimensions table

Symbol / Bore size (mm)	a'	C'	H	kk'	M	MM	T	wf'
ϕ32	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ40	23.5	20.5	22	M14 x 1.5	14	16	8	5
ϕ50	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ63	28.5	26	27	M18 x 1.5	17	20	11	5
ϕ80	35.5	32.5	32	M22 x 1.5	22	25	13	8
ϕ100	35.5	32.5	41	M26 x 1.5	27	30	16	8

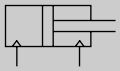


Compact cylinder Double acting single rod type with strong magnetic field proof switch

SSD-L4 Series

● Bore size: ϕ 40, ϕ 50, ϕ 63, ϕ 83, ϕ 100

JIS symbol



RoHS

Specifications

Descriptions		SSD-L4				
Bore size	mm	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting				
Working fluid		Compressed air				
Max. working pressure	MPa	1.0				
Min. working pressure	MPa	0.1		0.05		
Withstanding pressure	MPa	1.6				
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISO VG32)				
Allowable energy absorption	J	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 40	20, 30, 40, 50	50	20
ϕ 50			
ϕ 63			
ϕ 80			
ϕ 100			

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Switch quantiry and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no. / Bore size (mm)	V0	V7	V0	V7	V0	V7
ϕ 40	20	20	20	20	35	35
ϕ 50	20	20	20	20	35	35
ϕ 63	20	20	20	20	35	35
ϕ 80	20	20	20	20	35	35
ϕ 100	20	20	20	20	35	35

Switch specifications

Descriptions	Reed 2 wire		
	VO		V7
Applications	Relay, programmable controller		
Load voltage	12/24 VAC	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

Cylinder weight table (weight with switch includes weight with two switches)

Stroke length (mm) / Bore size (mm)	20	30	40	50
ϕ40	493	546	599	652
ϕ50	757	841	925	1009
ϕ63	1089	1200	1311	1422
ϕ80	1822	1996	2170	2344
ϕ100	2665	2892	3119	3346

How to order

SSD-L4 - 50 - 40 - V0 - D - N - LB - I

- Model no.
- Ⓐ Bore size
- Ⓑ Stroke length
- Ⓒ Switch model no.
- Ⓓ Switch quantity
- Ⓔ Option
- Ⓕ Mounting bracket Note 1 Note 2
- Ⓖ Accessory Note 3

Symbol	Descriptions
Ⓐ Bore size (mm)	
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓑ Stroke length (mm)

Bore size	Stroke length Note 1	Custom stroke length Note 2
ϕ40 to ϕ100	**20 to 50**	**Per 1 mm increment**

Note 1: Refer to page 902 for switch installation quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

Ⓒ Switch model no.

Axial lead wire	Contact	Indicator	Lead wire
V0*	Reed	1 color indicator type	2-wire
V7*			

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

Ⓓ Switch quantity	
R	One on rod end
H	One on head end
D	Two
T	Three

Ⓔ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓖ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is attached at shipment.
Note 2: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting single rod type with strong magnetic field proof switch
Ⓐ Bore size : ϕ 50mm
Ⓑ Stroke length : 40mm
Ⓒ Switch model no. : Reed switch V0, lead wire length 1m
Ⓓ Switch quantity : Two
Ⓔ Option : Rod end male thread
Ⓕ Mounting bracket : Axial foot
Ⓖ Accessory : Rod eye

How to order switch

SW - V0

Switch model no.
(Item Ⓒ previous page)

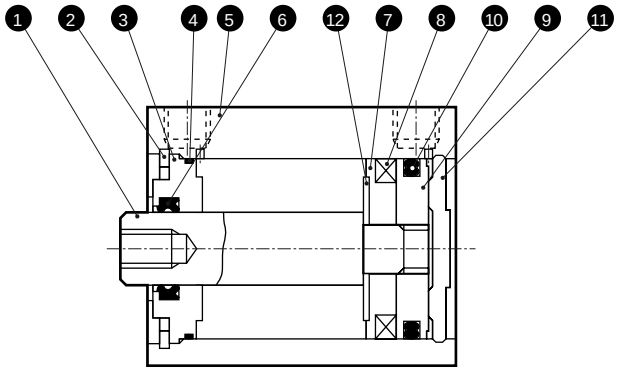
How to order mounting bracket

Bore size (mm) / Mounting bracket	ϕ 40	ϕ 50	ϕ 63	ϕ 80	ϕ 100
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 (CB)	SSD-CB-40	SSD-CB-50	SSD-CB-63	SSD-CB-80	SSD-CB-100
Clevis (CB2)	SSD-CB2-40	SSD-CB2-50	SSD-CB2-63	SSD-CB2-80	SSD-CB2-100

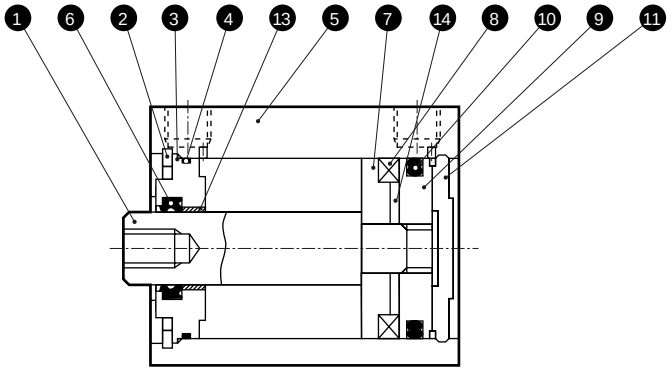
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

● SSD-L4-40, 50



● SSD-L4-63 to 100



No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating
2	C type snap ring	Steel	Phosphoric acid zinc
3	Rod bushing	ϕ40, ϕ50: Special aluminum ϕ63 to ϕ100: Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber	
5	Body	Aluminum alloy	Hard alumite
6	Rod packing seal	Nitrile rubber	

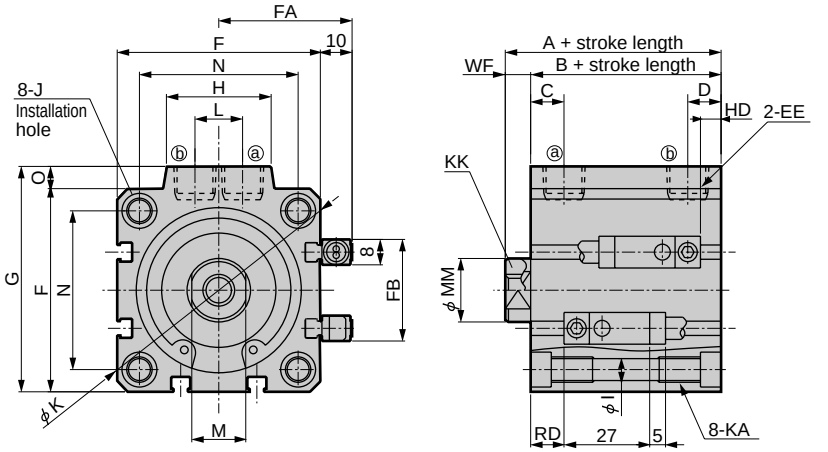
No.	Parts name	Material	Remarks
7	Spacer	Aluminum alloy	Chromate
8	Magnet	Plastic	
9	Piston	Aluminum alloy	Chromate
10	Piston packing seal	Nitrile rubber	
11	Cover	Aluminum alloy	Alumite
12	Bush	DU dry bearing	Note 1
13	Spacer washer	Stainless steel	ϕ 40, ϕ 50
14	Collar	Aluminum alloy	ϕ 63 to ϕ 100

Repair parts list

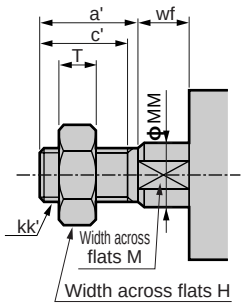
Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-40K	❹ ❻ ❿
ϕ50	SSD-50K	
ϕ63	SSD-63K	
ϕ80	SSD-80K	
ϕ100	SSD-100K	

Dimensions

● SSD-L4-40 to 100



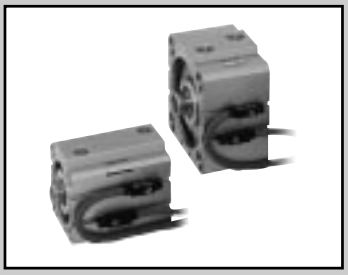
● Rod end male thread



Symbol / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	56.5	49.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9 depth 5.5 φ5.5 hole penetrating
φ50	58.5	50.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11 depth 6.5 φ6.9 hole penetrating
φ63	64	56	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14 depth 9 φ8.7 hole penetrating
φ80	73.5	63.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating
φ100	85	73	23	15	Rc3/8	117	59.5	32	123.5	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating

Symbol / Bore size	K	KA	KK	M	MM	N	O	WF	HD	RD	
φ40	69	M6 depth 11	M8 depth 13	14	16	40	5	7	7.5	13	
φ50	86	M8 depth 13	M10 depth 15	17	20	50	7	8	8.5	13	
φ63	103	M10 depth 25	M10 depth 15	17	20	60	7	8	13.5	13.5	
φ80	132	M12 depth 28	M16 depth 21	22	25	77	6	10	18.5	16	
φ100	156	M12 depth 28	M20 depth 27	27	30	94	6.5	12	24	20	

Note 1: Dimension A and B of the custom stroke is the same as the next larger standard stroke.
Note 2: Refer to pages 938 to 945 for accessory dimensions.

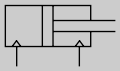


Compact cylinder Double acting single rod with strong magnetic field proof switch coil scraper type

SSD-G1L4 Series

● Bore size: ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100

JIS symbol



RoHS

Specifications

Descriptions		SSD-G1L4				
Bore size	mm	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting				
Working fluid		Compressed air				
Max. working pressure	MPa	1.0				
Min. working pressure	MPa	0.15		0.1		
Withstanding pressure	MPa	1.6				
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISO VG32)				
Allowable energy absorption	J	0.092	0.1	0.12	0.27	0.56

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 40	20, 30, 40, 50	50	20
ϕ 50			
ϕ 63			
ϕ 80			
ϕ 100			

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no. / Bore size (mm)	V0	V7	V0	V7	V0	V7
ϕ 40	20	20	20	20	35	35
ϕ 50	20	20	20	20	35	35
ϕ 63	20	20	20	20	35	35
ϕ 80	20	20	20	20	35	35
ϕ 100	20	20	20	20	35	35

Switch specifications

Descriptions	Reed 2 wire		
	VO		V7
Applications	Relay, programmable controller		
Load voltage	12/24 VAC	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

Cylinder weight table (weight with switch includes weight with two switches)

Stroke length (mm) / Bore size (mm)	20	30	40	50
ϕ 40	575	628	681	734
ϕ 50	876	960	1044	1128
ϕ 63	1240	1351	1462	1573
ϕ 80	2074	2248	2422	2596
ϕ 100	3000	3227	3454	3681

How to order

SSD-G1L4 - 50 - 40 - V0 - D - N - LB - I

- Model no.
- Ⓐ Bore size
- Ⓑ Stroke length
- Ⓒ Switch model no.
- Ⓓ Switch quantity
- Ⓔ Option
- Ⓕ Mounting bracket Note 1 Note 2
- Ⓖ Accessory Note 3

Symbol	Descriptions
Ⓐ Bore size (mm)	
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓑ Stroke length (mm)

Bore size	Stroke length Note 1	Custom stroke length Note 2
ϕ40 to ϕ100	**20 to 50**	**Per 1 mm increment**

Note 1: Refer to page 908 for switch installation quantity min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

Ⓒ Switch model no.

Axial lead wire	Contact	Indicator	Lead wire
V0*	Reed	1 color indicator type	2-wire
V7*			

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

Ⓓ Switch quantity	
R	One on rod end
H	One on head end
D	Two
T	Three

Ⓔ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓖ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

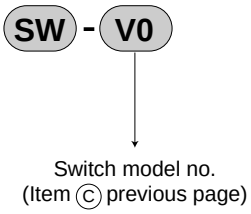
Note 1: The mounting bracket is attached at shipment.
Note 2: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-G1L4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting with coil scraper with strong magnetic field proof switch
Ⓐ Bore size : ϕ50mm
Ⓑ Stroke length : 40mm
Ⓒ Switch model no. : Reed switch V0, lead wire length 1m
Ⓓ Switch quantity : Two
Ⓔ Option : Rod end male thread
Ⓕ Mounting bracket : Axial foot
Ⓖ Accessory : Rod eye

How to order switch



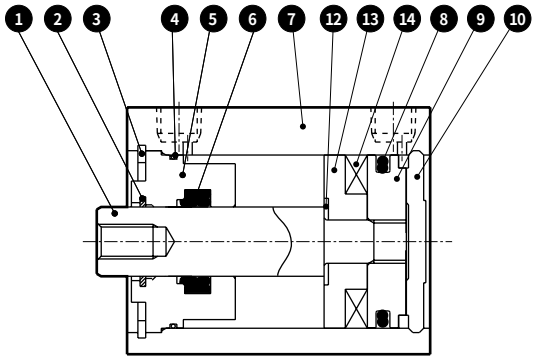
How to order mounting bracket

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

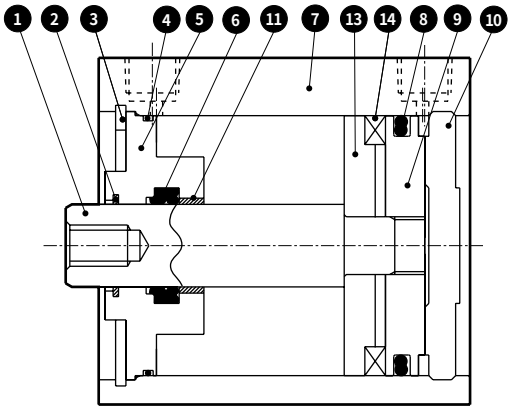
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

● **SSD-G1L4-40, 50**



● **SSD-G1L4-63 to 100**



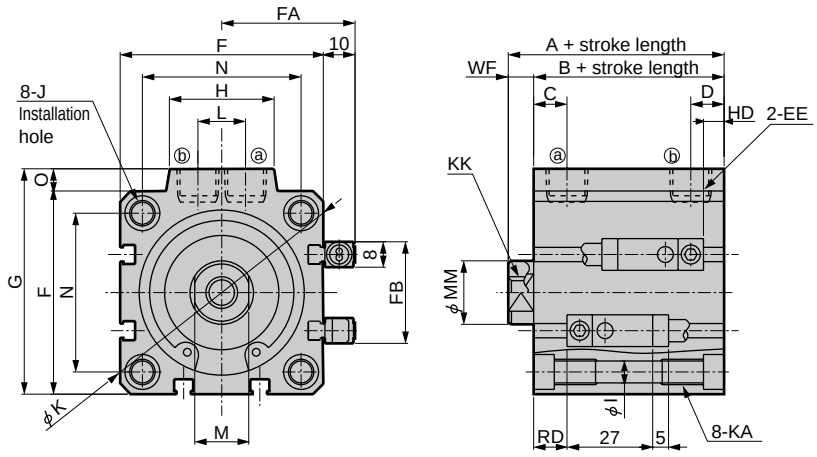
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	8	Piston packing seal	Nitrile rubber	
2	Coil scraper	Phosphor bronze		9	Piston	Aluminum alloy	Chromate
3	C type snap ring for hole	Steel	Phosphoric acid zinc	10	Cover	Aluminum alloy	Chromate
4	Rod metal gasket	Nitrile rubber		11	Bush	DU dry bearing	ϕ63 to ϕ100
5	Rod bushing	ϕ40, ϕ50: Special aluminum ϕ63 to ϕ100: Aluminum alloy		12	Spacer washer	Stainless steel	ϕ40, ϕ50
6	Rod packing seal	Nitrile rubber	Chromate	13	Spacer	ϕ40, ϕ50: Special plastic ϕ63 to ϕ100: Aluminum alloy	Chromate (ϕ63 to ϕ100)
7	Tube body	Aluminum alloy	Hard alumite	14	Magnet	Plastic	

Repair parts list

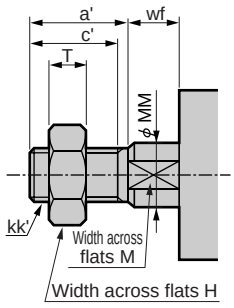
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-G1-40K	❷ ❹ ❻ ❽
ϕ50	SSD-G1-50K	
ϕ63	SSD-G1-63K	
ϕ80	SSD-G1-80K	
ϕ100	SSD-G1-100K	

Dimensions

● SSD-G1L4-40 to 100



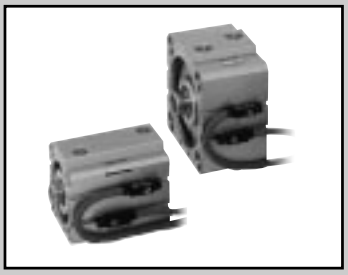
● Rod end male thread



Symbol / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
ϕ40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face ϕ9 depth 5.5 ϕ5.5 hole penetrating
ϕ50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face ϕ11 depth 6.5 ϕ6.9 hole penetrating
ϕ63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face ϕ14 depth 9 ϕ8.7 hole penetrating
ϕ80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face ϕ17.5 depth 11 ϕ10.5 hole penetrating
ϕ100	95	83	23	15	Rc3/8	117	59.5	32	123.5	38	10.5	Spot face ϕ17.5 depth 11 ϕ10.5 hole penetrating

Symbol / Bore size	K	KA	KK	L	M	MM	N	O	X	HD	RD	
ϕ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	7.5	23	
ϕ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	8.5	23	
ϕ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	13.5	23.5	
ϕ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	18.5	26	
ϕ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	24	30	

Note 1: Dimension A and B of the custom stroke is the same as the next larger standard stroke.
Note 2: Refer to pages 938 to 945 for accessory dimensions.

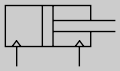


Compact cylinder Double acting high load type with strong magnetic field proof switch

SSD-KL4 Series

● Bore size: ϕ40, ϕ50, ϕ63, ϕ83, ϕ100

JIS symbol



RoHS

Specifications

Descriptions		SSD-KL4				
Bore size	mm	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting				
Working fluid		Compressed air				
Max. working pressure	MPa	1.0				
Min. working pressure	MPa	0.1		0.05		
Withstanding pressure	MPa	1.6				
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISO VG32)				
Allowable energy absorption	J	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ40	20, 30, 40, 50, 60, 70, 80, 90, 100	150	20
ϕ50			
ϕ63		200	
ϕ80			
ϕ100			

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no. / Bore size (mm)	V0	V7	V0	V7	V0	V7
ϕ40	20	20	20	20	35	35
ϕ50	20	20	20	20	35	35
ϕ63	20	20	20	20	35	35
ϕ80	20	20	20	20	35	35
ϕ100	20	20	20	20	35	35

Switch specifications

Descriptions	Reed 2 wire		
	VO		V7
Applications	Relay, programmable controller		
Load voltage	12/24 VAC	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

Cylinder weight table (weight with switch includes weight with two switches)

Stroke length (mm) / Bore size (mm)	20	30	40	50	60	70	80	90	100
ϕ 40	546	599	652	705	758	811	864	917	970
ϕ 50	841	925	1009	1093	1177	1261	1345	1429	1513
ϕ 63	1199	1309	1419	1529	1639	1749	1859	1969	2079
ϕ 80	1995	2169	2343	2517	2691	2865	3039	3213	3387
ϕ 100	2893	3120	3347	3574	3801	4028	4255	4482	4709

How to order

SSD-KL4 - 50 - 40 - V0 - D - N - LB - I

- Model no.
- Ⓐ Bore size
- Ⓑ Stroke length
- Ⓒ Switch model no.
- Ⓓ Switch quantity
- Ⓔ Option
- Ⓕ Mounting bracket Note 1 Note 2
- Ⓖ Accessory Note 3

Symbol	Descriptions
Ⓐ Bore size (mm)	
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓑ Stroke length (mm)
Refer to the following stroke length table.

Ⓒ Switch model no.			
Axial lead wire	**Contact**	**Indicator**	**Lead wire**
V0*	Reed	1 color indicator type	2-wire
V7*			

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

Ⓓ Switch quantity	
R	One on rod end
H	One on head end
D	Two
T	Three

Ⓔ Option	
Blank	Rod end female thread
N	Rod end male thread

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

Ⓖ Accessory (permissible if rod end male thread "N" was selected)	
I	Rod eye
I2	Rod eye (compact type)
Y	Rod clevis (pin and snap ring attached)
Y2	Rod clevis (compact type) (pin and snap ring attached)

⚠ Note on model no. selection

Note 1: The mounting bracket is attached at shipment.
Note 2: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-KL4-50-40-V0-D-N-LB-I

Model: Compact cylinder double acting single high load type with strong magnetic field proof switch

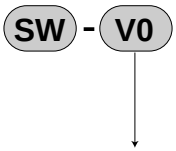
- Ⓐ Bore size : ϕ 50mm
- Ⓑ Stroke length : 40mm
- Ⓒ Switch model no. : Reed switch V0, lead wire length 1m
- Ⓓ Switch quantity : Two
- Ⓔ Option : Rod end male thread
- Ⓕ Mounting bracket : Axial foot
- Ⓖ Accessory : Rod eye

(Stroke length table)

Stroke length (mm)		Applicable bore size				
		ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Standard stroke length	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. stroke length (mm) Note 1		20				
Max. stroke length (mm)		150		200		
Custom stroke length Note 2		Per 1 mm increment				

Note 1: Refer to page 914 for switch installation quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

How to order switch



Switch model no.
(Item Ⓒ previous page)

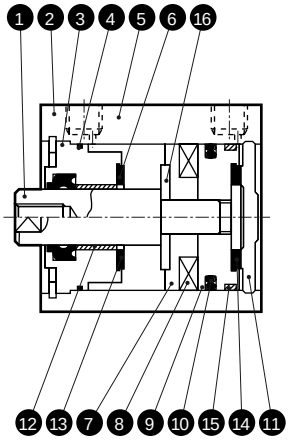
How to order mounting bracket

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

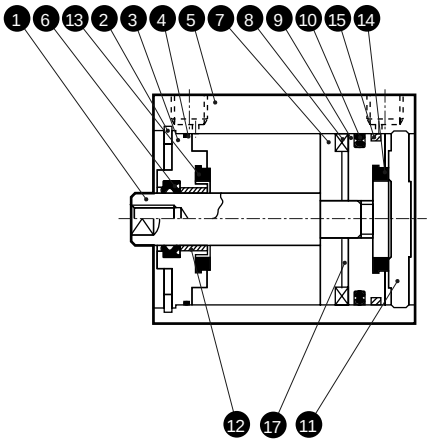
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

● SSD-KL4-40, 50



● SSD-KL4-63 to 100



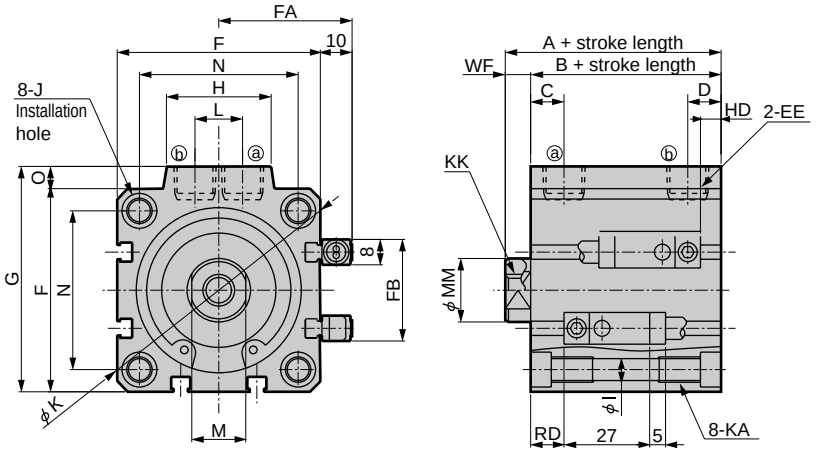
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	9	Piston	Aluminum alloy	
2	C type snap ring	Steel	Phosphoric acid zinc	10	Piston packing seal	Nitrile rubber	
3	Rod bushing	Aluminum alloy	Alumite	11	Cover	Aluminum alloy	Alumite
4	Rod metal gasket	Nitrile rubber		12	Bush	DU dry bearing	Note 1
5	Body	Aluminum alloy	Hard alumite	13	Cushion rubber (R)	Urethane rubber	
6	Rod packing seal	Nitrile rubber		14	Cushion rubber (H)	Urethane rubber	
7	Spacer	ϕ 40, ϕ 50: Special plastic ϕ 63 to ϕ 100: Stainless steel	ϕ 63 to ϕ 100: Chromate	15	Wear ring	Polyacetal resin	
				16	Spacer washer	Stainless steel	ϕ 40 to ϕ 50
8	Magnet	Plastic		17	Collar	Aluminum alloy	

Repair parts list

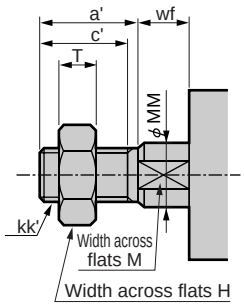
Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-K-40K	4 6 10 13 14 15
ϕ50	SSD-K-50K	
ϕ63	SSD-K-63K	
ϕ80	SSD-K-80K	
ϕ100	SSD-K-100K	

Dimensions

● SSD-KL4-40 to 100



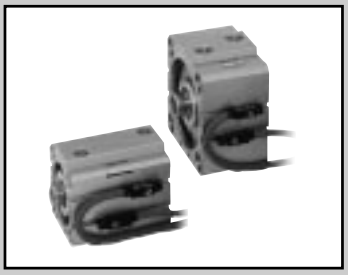
● Rod end male thread



Symbol / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	66.5	59.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9 depth 5.5 φ5.5 hole penetrating
φ50	68.5	60.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11 depth 6.5 φ6.9 hole penetrating
φ63	74	66	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14 depth 9 φ8.7 hole penetrating
φ80	83.5	73.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating
φ100	95	83	23	15	Rc3/8	117	59.5	32	123.5	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating

Symbol / Bore size	K	KA	KK	L	M	MM	N	O	X	HD	RD	
φ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	20.5	
φ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	20.5	
φ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	18.5	
φ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	21	
φ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	25	

Note 1: Dimension A and B of the custom stroke is the same as the next larger standard stroke.
Note 2: Refer to pages 938 to 945 for accessory dimensions.

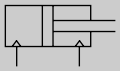


Compact cylinder Double acting high load with strong magnetic field proof switch coil scraper type

SSD-KG1L4 Series

● Bore size: ϕ40, ϕ50, ϕ63, ϕ83, ϕ100

JIS symbol



RoHS

Specifications

Descriptions		SSD-KG1L4				
Bore size	mm	ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Actuation		Double acting				
Working fluid		Compressed air				
Max. working pressure	MPa	1.0				
Min. working pressure	MPa	0.15		0.1		
Withstanding pressure	MPa	1.6				
Ambient temperature	℃	-10 to 60 (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 (when lubricating, use turbine oil Class 1 ISO VG32)				
Allowable energy absorption	J	0.63	0.98	1.56	2.51	3.92

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ40	20, 30, 40, 50, 60, 70, 80, 90, 100	150	20
ϕ50			
ϕ63		200	
ϕ80			
ϕ100			

Note 1: Custom stroke length is available per 1mm increment. Note that the total length is the same as the next longer standard stroke length.

Switch quantity and min. stroke length (mm)

Switch quantity	1		2		3	
Switch model no. / Bore size (mm)	V0	V7	V0	V7	V0	V7
ϕ40	20	20	20	20	35	35
ϕ50	20	20	20	20	35	35
ϕ63	20	20	20	20	35	35
ϕ80	20	20	20	20	35	35
ϕ100	20	20	20	20	35	35

Switch specifications

Descriptions	Reed 2 wire		
	VO		V7
Applications	Relay, programmable controller		
Load voltage	12/24 VAC	110 VAC	24 VDC
Load current	5 to 50mA	7 to 20mA	50mA or less
Internal voltage drop	2.4V or less (load current 40mA)		0V
Light	LED (ON lighting)		LED (OFF lighting)
Leakage current	0mA		1mA or less

Cylinder weight table (weight with switch includes weight with two switches)

Stroke length (mm) / Bore size (mm)	20	30	40	50	60	70	80	90	100
ϕ40	628	681	734	787	840	893	946	999	1052
ϕ50	960	1044	1128	1212	1296	1380	1464	1548	1632
ϕ63	1350	1461	1572	1683	1794	1905	2016	2127	2238
ϕ80	2247	2421	2595	2769	2943	3117	3291	3465	3639
ϕ100	3228	3455	3682	3909	4136	4363	4590	4817	5044

How to order

SSD-KG1L4 - 50 - 40 - V0 - D - N - LB - I

- Model no.
- Ⓐ Bore size
- Ⓑ Stroke length
- Ⓒ Switch model no.
- Ⓓ Switch quantity
- Ⓔ Option
- Ⓕ Mounting bracket Note 1 Note 2
- Ⓖ Accessory Note 3

Symbol	Descriptions
Ⓐ Bore size (mm)	
40	ϕ40
50	ϕ50
63	ϕ63
80	ϕ80
100	ϕ100

Ⓑ Stroke length (mm)
Refer to the following stroke length table.

Ⓒ Switch model no.

Axial lead wire	Contact	Indicator	Lead wire
V0*	Reed	1 color indicator type	2-wire
V7*			

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

Ⓓ Switch quantity

R	One on rod end
H	One on head end
D	Two
T	Three

Ⓔ Option

Blank	Rod end female thread
N	Rod end male thread

Ⓕ Mounting bracket

LB	Axial foot
LB2	Axial foot (compact type)
CB	Clevis (pin and snap ring attached)
CB2	Clevis (compact type) (pin and snap ring attached)
FA	Rod end flange type
FB	Head end flange type

Ⓖ Accessory (permissible if rod end male thread "N" was selected)

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

⚠ Note on model no. selection

Note 1: The mounting bracket is attached at shipment.
Note 2: Piston rod projecting dimensions WF differs from standard when selecting LB2, FA. Refer to pages 939 to 940 for dimensions.
Note 3: "I" and "Y" can not be selected at the same time.

<Example of model number>

SSD-KG1L4-50-40-V0-D-N-LB-I

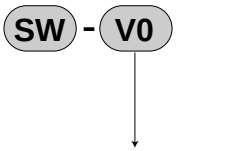
Model: Compact cylinder double acting high load type with coil scraper and strong magnetic field proof switch
Ⓐ Bore size : ϕ 50mm
Ⓑ Stroke length : 40mm
Ⓒ Switch model no. : Reed switch V0, lead wire length 1m
Ⓓ Switch quantity : Two
Ⓔ Option : Rod end male thread
Ⓕ Mounting bracket : Axial foot
Ⓖ Accessory : Rod eye

(Stroke length table)

Stroke length (mm)		Applicable bore size				
		ϕ40	ϕ50	ϕ63	ϕ80	ϕ100
Standard stroke length	20	●	●	●	●	●
	30	●	●	●	●	●
	40	●	●	●	●	●
	50	●	●	●	●	●
	60	●	●	●	●	●
	70	●	●	●	●	●
	80	●	●	●	●	●
	90	●	●	●	●	●
	100	●	●	●	●	●
Min. stroke length (mm) Note 1		20				
Max. stroke length (mm)		150		200		
Custom stroke length Note 2		Per 1 mm increment				

Note 1: Refer to page 920 for switch installation quantity and min. stroke length.
Note 2: The total length is the same as the next longer standard stroke length.

How to order switch



Switch model no.
(Item Ⓒ previous page)

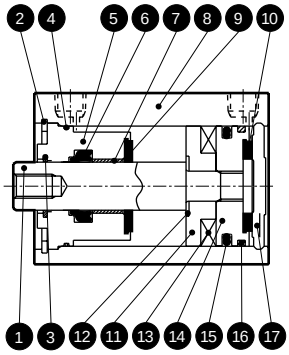
How to order mounting bracket

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

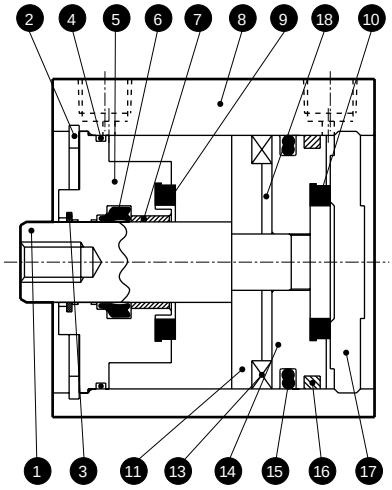
Note 1: Foot type mounting bracket is a two-piece/set.

Internal structure and parts list

● SSD-KG1L4-40, 50



● SSD-KG1L4-63 to 100



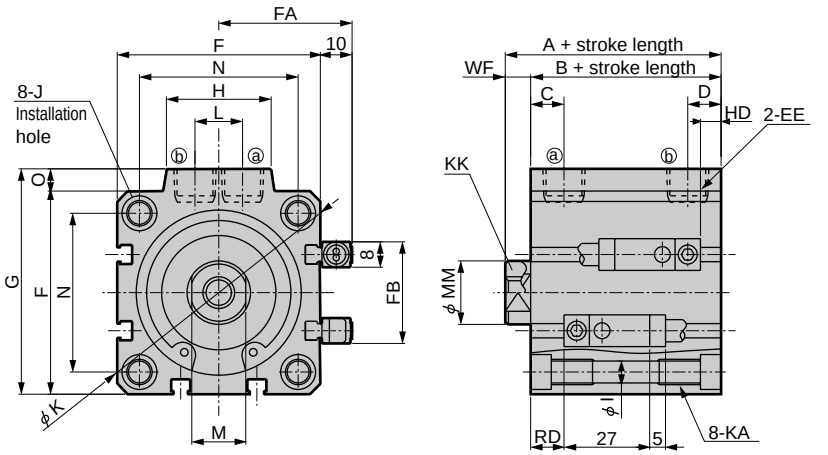
No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Piston rod	Steel	Industrial chrome plating	10	Cushion rubber H	Urethane rubber	
2	C type snap ring for hole	Steel	Phosphoric acid zinc	11	Spacer	Aluminum alloy	Chromate
3	Coil scraper	Phosphor bronze		12	Spacer washer	Stainless steel	
4	Rod metal gasket	Nitrile rubber		13	Magnet	Plastic	
5	Rod bushing	Aluminum alloy	Chromate	14	Piston	Aluminum alloy	Chromate
6	Rod packing seal	Nitrile rubber		15	Piston packing seal	Nitrile rubber	
7	Bush	DU dry bearing		16	Wear ring	Polyacetal resin	
8	Tube body	Aluminum alloy	Hard alumite	17	Cover	Aluminum alloy	Chromate
9	Cushion rubber R	Urethane rubber		18	Collar	Aluminum alloy	

Repair parts list

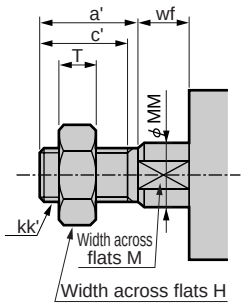
Parts name / Bore size (mm)	Kit No.	Repair parts number
ϕ40	SSD-KG1-40K	❸ ❹ ❻ ❾ ❿ ⓯ ⓰
ϕ50	SSD-KG1-50K	
ϕ63	SSD-KG1-63K	
ϕ80	SSD-KG1-80K	
ϕ100	SSD-KG1-100K	

Dimensions

● SSD-KG1L4-40 to 100



● Rod end male thread



Symbol / Bore size	A	B	C	D	EE	F	FA	FB	G	H	I	J
φ40	76.5	69.5	12	8.5	Rc1/8	52	36	31	57	24	5.5	Spot face φ9 depth 5.5 φ5.5 hole penetrating
φ50	78.5	70.5	10.5	10.5	Rc1/4	64	42	32	71	33	6.9	Spot face φ11 depth 6.5 φ6.9 hole penetrating
φ63	84	76	13	11	Rc1/4	77	48.5	32	84	33	8.7	Spot face φ14 depth 9 φ8.7 hole penetrating
φ80	93.5	83.5	16	13	Rc3/8	98	59	32	104	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating
φ100	105	93	23	15	Rc3/8	117	59.5	32	123.5	38	10.5	Spot face φ17.5 depth 11 φ10.5 hole penetrating

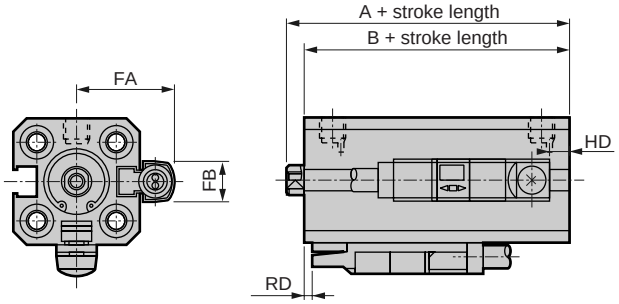
Symbol / Bore size	K	KA	KK	L	M	MM	N	O	X	HD	RD	
φ40	69	M6 depth 11	M8 depth 13	10	14	16	40	5	7	10	30.5	
φ50	86	M8 depth 13	M10 depth 15	15	17	20	50	7	8	11	30.5	
φ63	103	M10 depth 25	M10 depth 15	15	17	20	60	7	8	18.5	28.5	
φ80	132	M12 depth 28	M16 depth 21	15	22	25	77	6	10	23.5	31	
φ100	156	M12 depth 28	M20 depth 27	15	27	30	94	6.5	12	29	35	

Note 1: Dimension A and B of the custom stroke is the same as the next larger standard stroke.
Note 2: Refer to pages 938 to 945 for accessory dimensions.

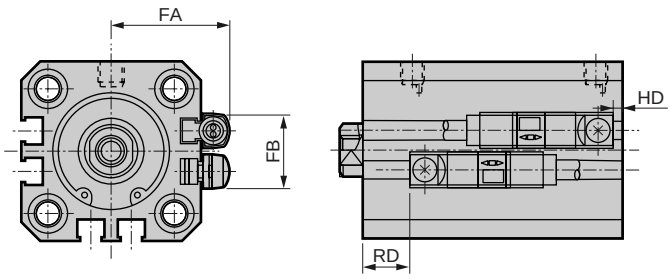
SSD Series common (2 color indicator type, off-delay type, strong magnetic field, T1*, T8*with switch) dimensions

● SSD-*L1-12, 16 (2 color indicator type, off-delay type, T2YH / V, T3YH / V, T2JH / V)
SSD-*L-20, 25 (2 color indicator type, off-delay type, T2YH / V, T3YH / V, T2JH / V)

ϕ12, ϕ16



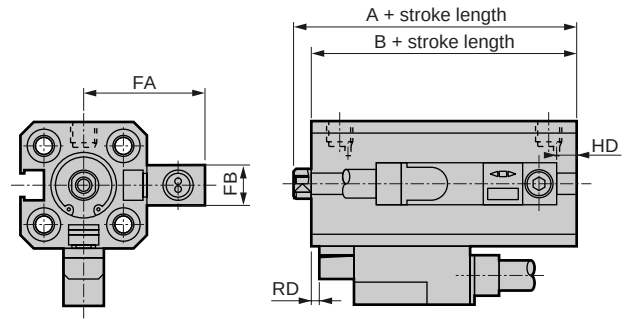
ϕ20, ϕ25



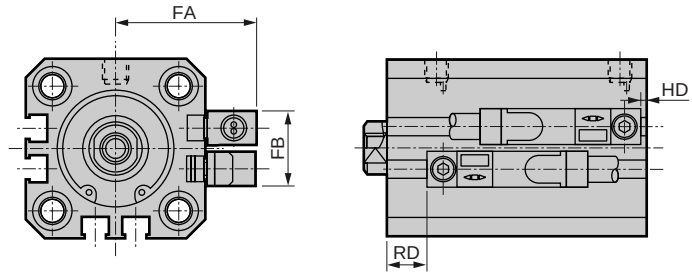
Symbol / Bore size (mm)	FA	FB	T2YH/V, T3YH/V, T2JH/V		SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
			RD	HD	A	B	A	B	A	B
ϕ12	18.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
ϕ16	20.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
ϕ20	24.3	16	5	1.5	-	-	-	-	-	-
ϕ25	26.3	17	8	1.5	-	-	-	-	-	-

● SSD-*L1-12,16 (2 color indicator type (with preventive maintenance output) ,T1* with switch T2YFH/V, T3YFH/V, T2YMH/V, T3YMH/V, T1H/V)
SSD-L-20, 25 (2 color indicator (with preventive maintenance output) , strong magnetic field, T1* with switch T2YFH/V, T3YFH/V, T2YMH/V, T3YMH/V, T2YD, T2YDT, T1H/V)

ϕ12, ϕ16



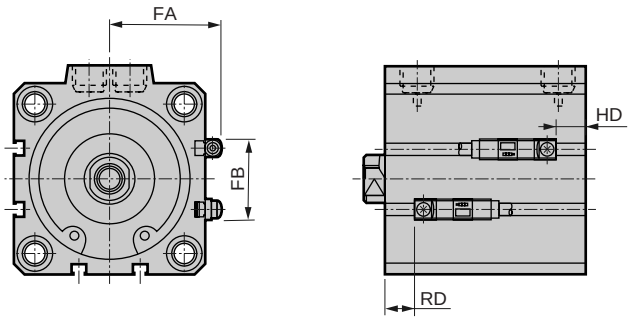
ϕ 20, ϕ25



Symbol / Bore size (mm)	FA	FB	RD	HD	SSD-*L1 SSD-XL1 SSD-OL1		SSD-YL1		SSD-ML1	
					A	B	A	B	A	B
ϕ 12	23.8	8	2.5	4.5	30.5	27	40.5	37	35.5	32
ϕ 16	25.8	8	2.5	4.5	30.5	27	40.5	27	35.5	32
ϕ 20	29.3	16	5	1.5	-	-	-	-	-	-
ϕ 25	31.3	17	8	1.5	-	-	-	-	-	-

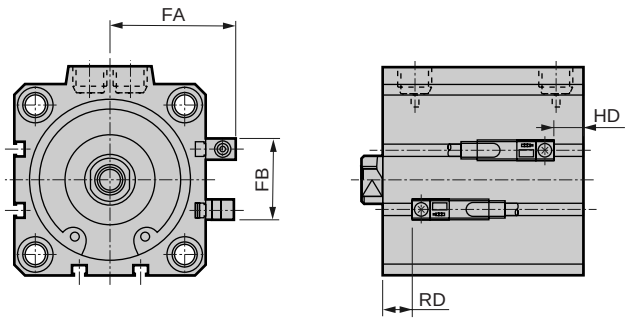
SSD Series common (2 color indicator type, off-delay type, strong magnetic field, T1*, T8*with switch) dimensions

● SSD-*L-32 to 100 (2 color indicator type, off-delay type, T8* with switch T2YH/V, T3YH/V, T2JH/V, T8H/V)



Symbol / Bore size (mm)	FA	FB	T2YH/V, T3YH/V, T2JH/V		T8H/V	
			RD	HD	RD	HD
ϕ32	28.8	24	7.5	2	-	-
ϕ40	32.3	31	10.5	5.5	6	1
ϕ50	38.3	32	11	6	6.5	1.5
ϕ63	44.8	32	11.5	11	7	6.5
ϕ80	55.3	32	14	16	9.5	11.5
ϕ100	64.8	32	18	21.5	13.5	7

● SSD-*L-32 to 100 (2 color indicator type (with preventive maintenance output),
strong magnetic field, T1* with switch T2YFH/V,T3YFH/V, T2YMH/V,T3YMH/V, T2YD, T2YDT, T1H/V)

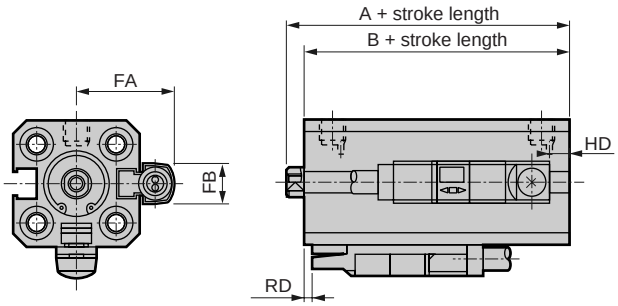


Symbol / Bore size (mm)	FA	FB	RD	HD	
ϕ32	33.8	24	7.5	2	
ϕ40	37.3	31	10.5	5.5	
ϕ50	43.3	32	11	6	
ϕ63	49.8	32	11.5	11	
ϕ80	60.3	32	14	16	
ϕ100	60.8	32	18	21.5	

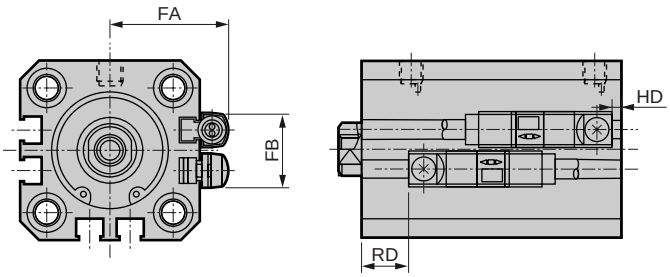
SSD-K Series common (2 color indicator type, off-delay type, strong magnetic field, T1*, T8*with switch) dimensions

● SSD-KL (1)-12 to 25 (2 color indicator type, off-delay type, T8*with switch T2YH/V, T3YH/V, T2JH/V, T8H/V)

ϕ12, ϕ16



ϕ 20, ϕ25

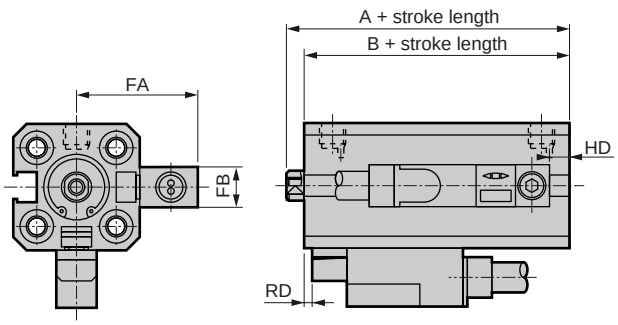


Symbol / Bore size (mm)	FA	FB	T2YH/V, T3YH/V, T2JH/V		T8H/V	
			RD Note 1	HD Note 1	RD	HD
ϕ 12	18.8	8	4.5	1	-	-
ϕ 16	20.8	8	4	1.5	-	-
ϕ 20	24.3	16	8.5 (13.5)	4.5 (11)	2.5 (7.5)	0 (6.5)
ϕ 25	26.3	17	12 (17)	4 (12.5)	6 (11)	0 (8)

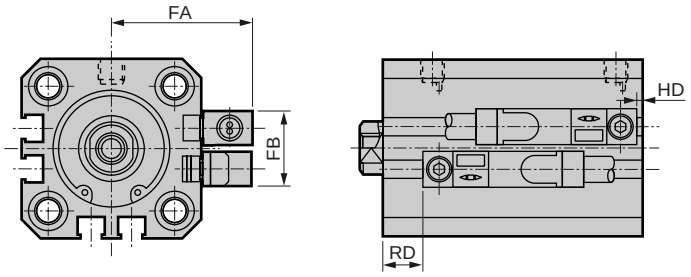
Note 1: When longer than 100mm stroke for 20mm bore or 150mm for 25mm bore, refer to the values in ( ).

● SSD-KL (1)-12 to 25 (2 color indicator type (with preventive maintenance output), strong magnetic field, T1*with switch T2YFH/V, T3YFH/V, T2YMH/V, T3YMH/V, T2YD, T2YDT, T1H/V)

ϕ12, ϕ16



ϕ 20, ϕ25

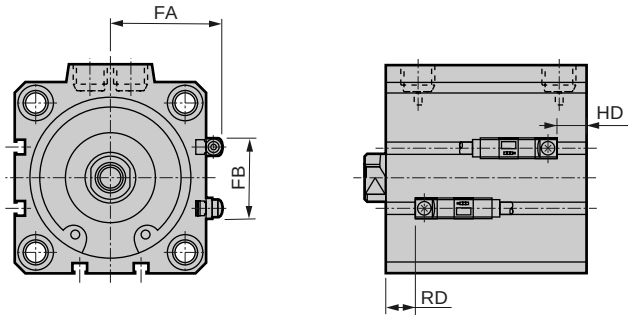


Symbol / Bore size (mm)	FA	FB	RD Note 1	HD Note 1
ϕ12	23.8	8	4.5	1
ϕ16	25.8	8	4	1.5
ϕ20	29.3	16	8.5 (13.5)	4.5 (11)
ϕ25	31.3	17	12 (17)	4 (12.5)

Note 1: When longer than 100mm stroke for 20mm bore or 150mm for 25mm bore, refer to the values in ( ).

SSD-K Series common (2 color indicator type, off-delay type, strong magnetic field, T1*, T8*with switch) dimensions

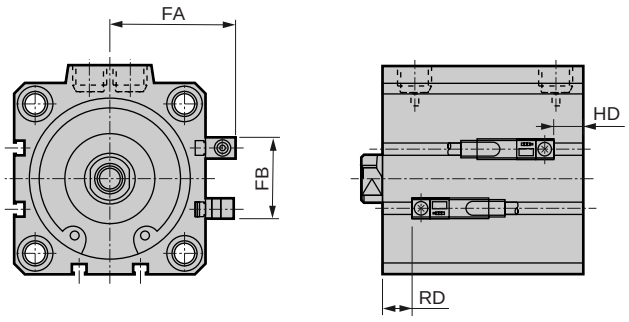
● SSD-KL-32 to 100 (2 color indicator type, off-delay type, T8*with switch T2YH/V, T3YH/V, T2JH/V, T8H/V)



Symbol / Bore size (mm)	FA	FB	T2YH/V, T3YH/V, T2JH/V		T8H/V	
			RD Note 1	HD Note 1	RD	HD
ϕ32	28.8	24	12.5 (12.5)	7 (14.5)	8 (8)	(10)
ϕ40	32.3	31	18 (18)	8 (17.5)	13.5 (13.5)	3.5 (13)
ϕ50	38.3	32	18.5 (23.5)	8.5 (17.5)	14 (19)	4 (13)
ϕ63	44.8	32	16.5 (21.5)	16 (21.5)	12 (17)	11.5 (17)
ϕ80	55.3	32	19 (24)	20.5 (26.5)	14.5 (19.5)	16 (22)
ϕ100	64.8	32	23 (28)	26.5 (32)	18.5 (23.5)	22 (27.5)

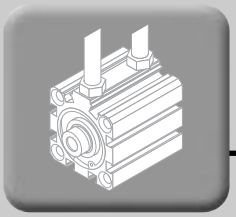
Note1: When longer than 150mm stroke for ϕ32 to 50, or longer than 200mm stroke for ϕ63 to 100, refer to the values in ( ).

● SSD-KL-32 to 100 (2 color indicator type (with preventive maintenance output) ,
strong magnetic field, T1*switch, T2YFH/V, T3YFH/V, T2YMH/V, T3YMH/V, T2YD, T2YDT, T1H/V)



Symbol / Bore size (mm)	FA	FB	RD Note 1	HD Note 1	
ϕ32	33.8	24	12.5 (12.5)	7 (14.5)	
ϕ40	37.3	31	18 (18)	8 (17.5)	
ϕ50	43.3	32	18.5 (23.5)	8.5 (17.5)	
ϕ63	49.8	32	16.5 (21.5)	16 (21.5)	
ϕ80	60.3	32	19 (24)	20.5 (26.5)	
ϕ100	60.8	32	23 (28)	26.5 (32)	

Note1: When longer than 150mm stroke for ϕ32 to 50, or longer than 200mm stroke for ϕ63 to 100, refer to the values in ( ).



Introduction of custom order parts

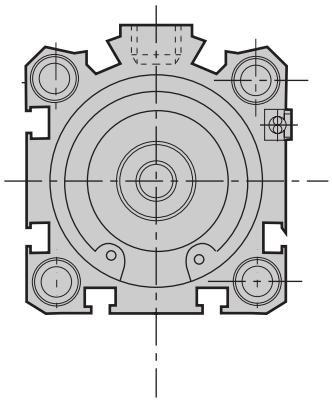
Mount cylinder switches on four faces!

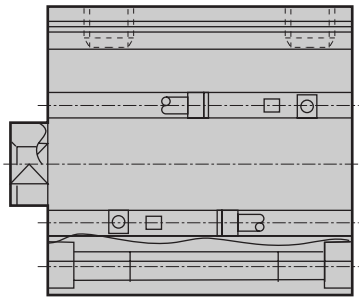
- Series: SSD all series
- Subject bore size: ϕ 25 to ϕ100

How to order

Consult with CKD sales office for the model no.

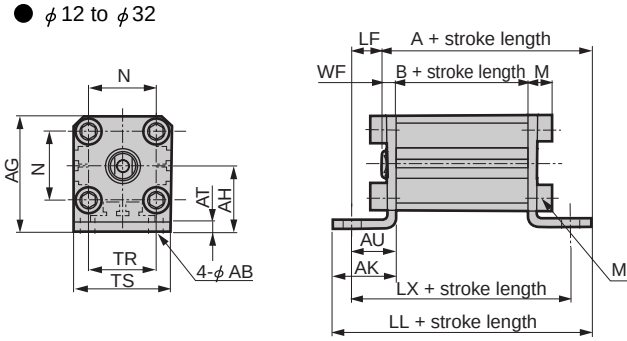
Dimensions



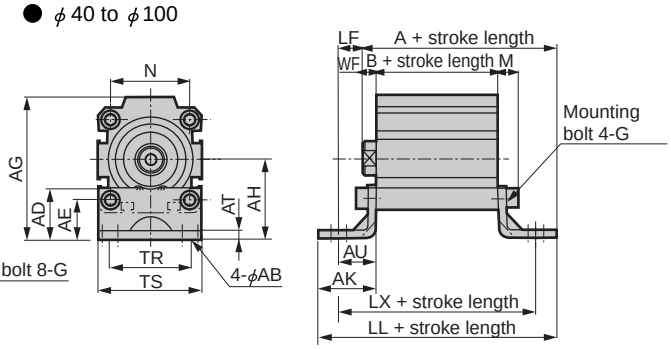


Accessory dimensions (mounting bracket: LB) CAD

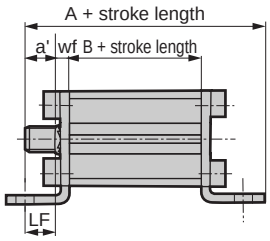
● ϕ12 to ϕ32



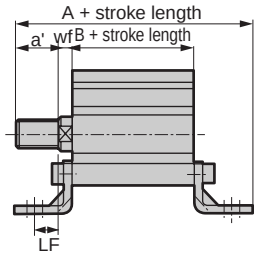
● ϕ40 to ϕ100



For rod end male thread



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-T(low speed type)

Symbol / Bore size (mm)	Common dimensions													Female thread								Male thread							
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch				With switch Note 1				a'	wf	LF	Without switch				With switch Note 1			
																A	B	LL	LX	A	B	LL	LX				A	B	LL	LX	A	B	LL	LX
ϕ12	6	-	-	29.5	17	18	2.3	12	M4 x 12	15.5	16	25	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	10.5	3.5	8.5	49	17	53	41	54	22	58	46
ϕ16	6	-	-	33.5	19	18	2.3	12	M4 x 12	20	16	29	6.3	3.5	8.5	38.5	17	53	41	43.5	22	58	46	12	3.5	8.5	50.5	17	53	41	55.5	22	58	46
ϕ20	7	-	-	42	24	24	3.2	16	M6 x 16	25.5	24	36	9.2	4.5	11.5	48	19.5	67.5	51.5	58	29.5	77.5	61.5	14	4.5	11.5	62	19.5	67.5	51.5	72	29.5	77.5	61.5
ϕ25	7	-	-	46	26	24	3.2	16	M6 x 16	28	28	40	9.2	5	11	51.5	22.5	70.5	54.5	61.5	32.5	80.5	64.5	17.5	5	11	69	22.5	70.5	54.5	79	32.5	80.5	64.5
ϕ32	7	-	-	53.5	31	24	3.2	16	M6 x 16	34	34	45	9.2	7	9	54	23	71	55	64	33	81	65	23.5	5	11	75.5	23	71	55	85.5	33	81	65
ϕ40	7	26	20	71	40	29	4.5	19	M6 x 16	40	40	52	10	7	12	65.5	29.5	87.5	67.5	75.5	39.5	97.5	77.5	23.5	5	14	87	29.5	87.5	67.5	97	39.5	97.5	77.5
ϕ50	9	23	15	79	40	34	4.5	22	M8 x 20	50	46	64	13	8	14	72.5	30.5	98.5	74.5	82.5	40.5	108.5	84.5	28.5	5	17	98	30.5	98.5	74.5	108	40.5	108.5	84.5
ϕ63	11	33	21	96.5	51	40	4.5	25	M10 x 25	60	60	77	15	8	17	84	36	116	86	94	46	126	96	28.5	5	20	109.5	36	116	86	119.5	46	126	96
ϕ80	13	42	23	116.5	61.5	50	6	35	M12 x 40	77	77	98	18	10	25	103.5	43.5	143.5	113.5	113.5	53.5	153.5	123.5	35.5	8	27	137	43.5	143.5	113.5	147	53.5	153.5	123.5
ϕ100	13	48	22	134	69	50	6	35	M12 x 40	94	94	117	18	12	23	115	53	153	123	125	63	163	133	35.5	8	27	146.5	53	153	123	156.5	63	163	133

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
ϕ12	48.5	27	63	51	59	27	63	51
ϕ16	48.5	27	63	51	60.5	27	63	51

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load/fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions													Female thread								Male thread							
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch				With switch Note 2				a'	wf	LF	Without switch				With switch Note 2			
																A	B	LL	LX	A	B	LL	LX				A	B	LL	LX	A	B	LL	LX
ϕ12	6	-	-	29.5	17	18	2.3	12	M4 x 12	15.5	16	25	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	10.5	3.5	8.5	54	22	58	46	59	27	63	51
ϕ16	6	-	-	33.5	19	18	2.3	12	M4 x 12	20	16	29	6.3	3.5	8.5	43.5	22	58	46	48.5	27	63	51	12	3.5	8.5	55.5	22	58	46	60.5	27	63	51
ϕ20	7	-	-	42	24	24	3.2	16	M6 x 16	25.5	24	36	9.2	4.5	11.5	53	24.5	72.5	56.5	63	34.5	82.5	66.5	14	4.5	11.5	67	24.5	72.5	56.5	77	34.5	82.5	66.5
ϕ25	7	-	-	46	26	24	3.2	16	M6 x 16	28	28	40	9.2	5	11	56.5	27.5	75.5	59.5	66.5	37.5	85.5	69.5	17.5	5	11	74	27.5	75.5	59.5	84	37.5	85.5	69.5
ϕ32	7	-	-	53.5	31	24	3.2	16	M6 x 16	34	34	45	9.2	7	9	64	33	81	65	74	43	91	75	23.5	5	11	85.5	33	81	65	95.5	43	91	75
ϕ40	7	28	20	71	40	29	4	19	M6 x 16	40	40	52	10	7	12	75.5	39.5	97.5	77.5	85.5	49.5	107.5	87.5	23.5	5	14	97	39.5	97.5	77.5	107	49.5	107.5	87.5
ϕ50	9	25	15	79	40	34	5	22	M8 x 20	50	46	64	13	8	14	82.5	40.5	108.5	84.5	92.5	50.5	118.5	94.5	28.5	5	17	108	40.5	108.5	84.5	118	50.5	118.5	94.5
ϕ63	11	40	21	96.5	51	40	5	25	M10 x 25	60	60	77	15	8	17	94	46	126	96	104	56	136	106	28.5	5	20	119.5	46	126	96	129.5	56	136	106
ϕ80	13	47	23	116.5	61.5	50	6	35	M12 x 40	77	77	98	18	10	25	113.5	53.5	153.5	123.5	123.5	63.5	163.5	133.5	35.5	8	27	147	53.5	153.5	123.5	157	63.5	163.5	133.5
ϕ100	13	50	22	134	69	50	6	35	M12 x 40	94	94	117	18	12	23	125	63	163	133	135	73	173	143	35.5	8	27	156.5	63	163	133	166.5	73	173	143

Note 1: The following dimensions apply for the long stroke.

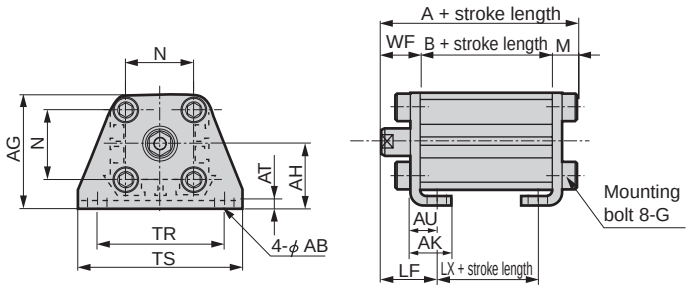
Symbol / Bore size (mm)		Female thread								Male thread							
		Without switch				With switch				Without switch				With switch Note 2			
		A	B	LL	LX	A	B	LL	LX	A	B	LL	LX	A	B	LL	LX
ϕ20	100st over	64.5	36	84	68	74.5	46	94	78	78.5	36	84	68	88.5	46	94	78
ϕ25	150st over	70	41	89	73	80	51	99	83	87.5	41	89	73	97.5	51	99	83
ϕ32		71.5	40.5	88.5	72.5	81.5	50.5	98.5	82.5	93	40.5	88.5	72.5	103	50.5	98.5	82.5
ϕ40		85	49	107	87	95	59	117	97	106.5	49	107	87	116.5	59	117	97
ϕ50		96	54	122	98	106	64	132	108	121.5	54	122	98	131.5	64	132	108
ϕ63	200st over	104	56	136	106	114	66	146	116	129.5	56	136	106	139.5	66	146	116
ϕ80		123.5	63.5	163.5	133.5	133.5	73.5	173.5	143.5	157	63.5	163.5	133.5	167	73.5	173.5	143.5
ϕ100		135	73	173	143	145	83	183	153	166.5	73	173	143	176.5	83	183	153

Note 1: The following dimensions apply for the 5mm stroke with switch.

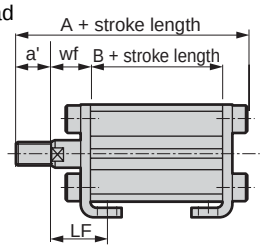
Bore size	Female thread				Male thread			
	A	B	LL	LX	A	B	LL	LX
ϕ12	53.5	32	68	56	64	32	68	56
ϕ16	53.5	32	68	56	65.5	32	68	56

Dimensions with accessory (mounting bracket: LB2)

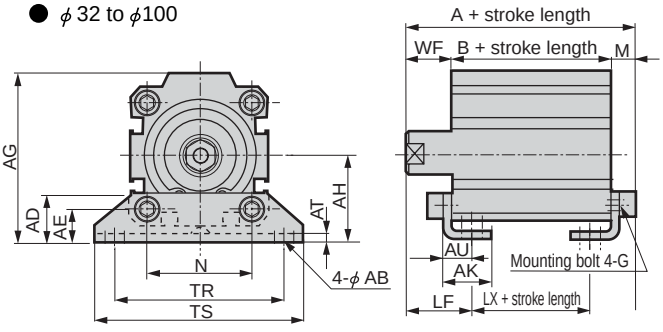
● ϕ12 to ϕ25



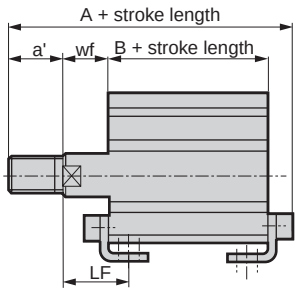
For rod end male thread



● ϕ32 to ϕ100



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-O(low speed type)

Symbol / Bore size (mm)	Common dimensions													Female thread									Male thread								
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			W/ switch Note 1			a'	wf	LF	Without switch			W/ switch Note 1		
																A	B	LX	A	B	LX				A	B	LX	A	B	LX
ϕ12	5	-	-	29.5	17	12.5	2	8	M4 x 10	15.5	34	44	6	13.5	19.5	36.5	17	5	41.5	22	10	10.5	13.5	19.5	47	17	5	52	22	10
ϕ16	5	-	-	33.5	19	13	2	8	M4 x 10	20	38	48	6	13.5	19.5	36.5	17	5	41.5	22	10	12	13.5	19.5	48.5	17	5	53.5	22	10
ϕ20	7	-	-	42	24	15	3.2	9.2	M6 x 16	25.5	48	62	9.2	14.5	20.5	43.2	19.5	7.5	53.2	29.5	17.5	14	14.5	20.5	57.2	19.5	7.5	67.2	29.5	17.5
ϕ25	7	-	-	46	26	16.5	3.2	10.7	M6 x 16	28	52	66	9.2	15	22.5	46.7	22.5	7.5	56.7	32.5	17.5	17.5	15	22.5	64.2	22.5	7.5	74.2	32.5	17.5
ϕ32	7	18.5	13	57	30	17	3.2	11.2	M6 x 16	34	57	71	9.2	17	25	49.2	23	7	59.2	33	17	23.5	15	23	70.7	23	7	80.7	33	17
ϕ40	7	18	13	64	33	18.2	3.2	11.2	M6 x 16	40	64	78	9.2	17	25	55.7	29.5	13.5	65.7	39.5	23.5	23.5	15	23	77.2	29.5	13.5	87.2	39.5	23.5
ϕ50	9	22	14	78	39	22.7	3.2	14.7	M8 x 20	50	79	95	11.2	18	29.5	59.7	30.5	7.5	69.7	40.5	17.5	28.5	15	26.5	85.2	30.5	7.5	95.2	40.5	17.5
ϕ63	11	28	16	91.5	46	25.2	3.2	16.2	M10 x 25	60	95	113	13.2	18	31	67.2	36	10	77.2	46	20	28.5	15	28	92.7	36	10	102.7	46	20
ϕ80	13	39.5	20.5	114	59	30.5	4.5	19.5	M12 x 40	77	118	140	16.5	20	35	80	43.5	13.5	90	53.5	23.5	35.5	18	33	113.5	43.5	13.5	123.5	53.5	23.5
ϕ100	13	50	24	136	71	35.5	6	23	M12 x 40	94	137	162	18	22	39	93	53	19	103	63	29	35.5	18	35	124.5	53	19	134.5	63	29

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
ϕ12	46.5	27	15	57	27	15
ϕ16	46.5	27	15	58.5	27	15

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions													Female thread Note 1									Male thread Note 1								
	AB	AD	AE	AG	AH	AK	AT	AU	G	N	TR	TS	M	WF	LF	Without switch			W/ switch Note 2			a'	wf	LF	Without switch			W/ switch Note 2		
																A	B	LX	A	B	LX				A	B	LX	A	B	LX
ϕ12	5	-	-	29.5	17	12.5	2	8	M4 x 10	15.5	34	44	6	13.5	19.5	41.5	22	10	46.5	27	15	10.5	13.5	19.5	52	22	10	57	27	15
ϕ16	5	-	-	33.5	19	13	2	8	M4 x 10	20	38	48	6	13.5	19.5	41.5	22	10	46.5	27	15	12	13.5	19.5	53.5	22	10	58.5	27	15
ϕ20	7	-	-	42	24	15	3.2	9.2	M6 x 16	25.5	48	62	9.2	14.5	20.5	48.2	24.5	12.5	58.2	34.5	22.5	14	14.5	20.5	62.2	24.5	12.5	72.2	34.5	22.5
ϕ25	7	-	-	46	26	16.5	3.2	10.7	M6 x 16	28	52	66	9.2	15	22.5	51.7	27.5	12.5	61.7	37.5	22.5	17.5	15	22.5	69.2	27.5	12.5	79.2	37.5	22.5
ϕ32	7	18.5	13	57	30	17	3.2	11.2	M6 x 16	34	57	71	9.2	17	25	59.2	33	17	69.2	43	27	23.5	15	23	80.7	33	17	90.7	43	27
ϕ40	7	18	13	64	33	18.2	3.2	11.2	M6 x 16	40	64	78	9.2	17	25	65.7	39.5	23.5	75.7	49.5	33.5	23.5	15	23	87.2	39.5	23.5	97.2	49.5	33.5
ϕ50	9	22	14	78	39	22.7	3.2	14.7	M8 x 20	50	79	95	11.2	18	29.5	69.7	40.5	17.5	79.7	50.5	27.5	28.5	15	26.5	95.2	40.5	17.5	105.2	50.5	27.5
ϕ63	11	28	16	91.5	46	25.2	3.2	16.2	M10 x 25	60	95	113	13.2	18	31	77.2	46	20	87.2	56	30	28.5	15	28	102.7	46	20	112.7	56	30
ϕ80	13	39.5	20.5	114	59	30.5	4.5	19.5	M12 x 40	77	118	140	16.5	20	35	90	53.5	23.5	100	63.5	33.5	35.5	18	33	123.5	53.5	23.5	133.5	63.5	33.5
ϕ100	13	50	24	136	71	35.5	6	23	M12 x 40	94	137	162	18	22	39	103	63	29	113	73	39	35.5	18	35	134.5	63	29	144.5	73	39

Note 1: The following dimensions apply for the long stroke.

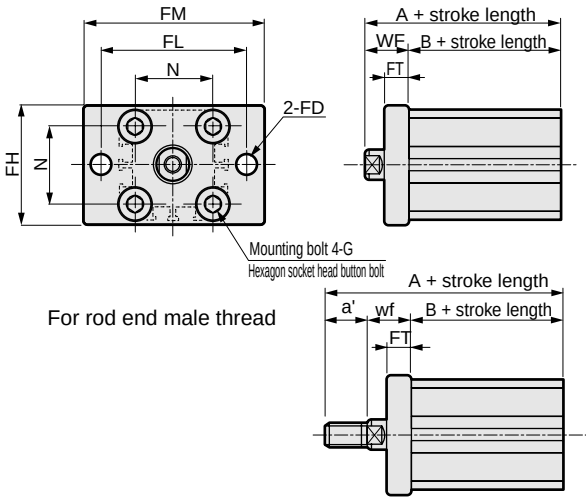
Symbol / Bore size (mm)		Female thread						Male thread					
		Without switch			With switch			Without switch			With switch		
		A	B	LX	A	B	LX	A	B	LX	A	B	LX
ϕ20	100st over	59.7	36	24	69.7	46	34	73.7	36	24	83.7	46	34
ϕ25	150st over	65.2	41	26	75.2	51	36	82.7	41	26	92.7	51	36
ϕ32		66.7	40.5	24.5	76.7	50.5	34.5	88.2	40.5	24.5	98.2	50.5	34.5
ϕ40		75.2	49	33	85.2	59	43	96.7	49	33	106.7	59	43
ϕ50		83.2	54	31	93.2	64	41	108.7	54	31	118.7	64	41
ϕ63	200st over	87.2	56	30	97.2	66	40	112.7	56	30	122.7	66	40
ϕ80		100	63.5	33.5	110	73.5	43.5	133.5	63.5	33.5	143.5	73.5	43.5
ϕ100		113	73	39	123	83	49	144.5	73	39	154.5	83	49

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread			Male thread		
	A	B	LX	A	B	LX
ϕ12	51.5	32	20	62	32	20
ϕ16	51.5	32	20	63.5	32	20

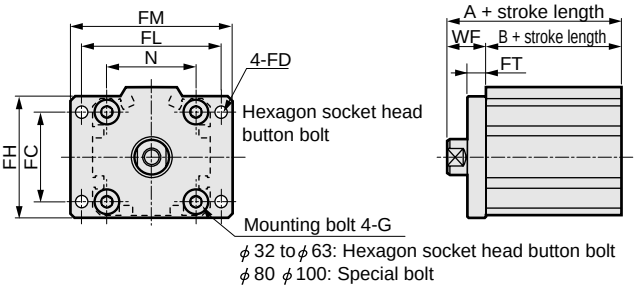
Dimensions with accessory (mounting bracket: FA) CAD

● ϕ12 to ϕ25

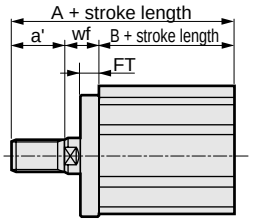


For rod end male thread

● ϕ32 to ϕ100



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-O(low speed type)

Symbol / Bore size (mm)	Common dimensions								Female thread					Male thread					
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch note 1		a'	wf	Without switch		With switch Note 1	
										A	B	A	B			A	B	A	B
φ12	-	4.5	25	45	55	5.5	15.5	M4 x 12	13.5	30.5	17	35.5	22	10.5	13.5	41	17	46	22
φ16	-	4.5	30	45	55	5.5	20	M4 x 12	13.5	30.5	17	35.5	22	12	13.5	42.5	17	47.5	22
φ20	-	6.6	39	48	60	8	25.5	M6 x 16	14.5	34	19.5	44	29.5	14	14.5	48	19.5	58	29.5
φ25	-	6.6	42	52	64	8	28	M6 x 16	15	37.5	22.5	47.5	32.5	17.5	15	55	22.5	65	32.5
φ32	34	5.5	48	56	65	8	34	M6 x 16	17	40	23	50	33	23.5	15	61.5	23	71.5	33
φ40	40	5.5	54	62	72	8	40	M6 x 16	17	46.5	29.5	56.5	39.5	23.5	15	68	29.5	78	39.5
φ50	50	6.6	67	76	89	9	50	M8 x 20	18	48.5	30.5	58.5	40.5	28.5	15	74	30.5	84	40.5
φ63	60	9	80	92	108	9	60	M10 x 25	18	54	36	64	46	28.5	15	79.5	36	89.5	46
φ80	77	11	99	116	134	11	77	M12 x 40	20	63.5	43.5	73.5	53.5	35.5	18	97	43.5	107	53.5
φ100	94	11	117	136	154	11	94	M12 x 40	22	75	53	85	63	35.5	18	106.5	53	116.5	63

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread		Male thread	
	A	B	A	B
φ12	40.5	27	51	27
φ16	40.5	27	52.5	27

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions								Female thread Note 1					Male thread Note 1					
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch Note 2		a'	wf	Without switch		With switch Note 2	
										A	B	A	B			A	B	A	B
φ12	-	4.5	25	45	55	5.5	15.5	M4 x 12	13.5	35.5	22	40.5	27	10.5	13.5	46	22	51	27
φ16	-	4.5	30	45	55	5.5	20	M4 x 12	13.5	35.5	22	40.5	27	12	13.5	47.5	22	52.5	27
φ20	-	6.6	39	48	60	8	25.5	M6 x 16	14.5	39	24.5	49	34.5	14	14.5	53	24.5	63	34.5
φ25	-	6.6	42	52	64	8	28	M6 x 16	15	42.5	27.5	52.5	37.5	17.5	15	60	27.5	70	37.5
φ32	34	5.5	48	56	65	8	34	M6 x 16	17	50	33	60	43	23.5	15	71.5	33	81.5	43
φ40	40	5.5	54	62	72	8	40	M6 x 16	17	56.5	39.5	66.5	49.5	23.5	15	78	39.5	88	49.5
φ50	50	6.6	67	76	89	9	50	M8 x 20	18	58.5	40.5	68.5	50.5	28.5	15	84	40.5	94	50.5
φ63	60	9	80	92	108	9	60	M10 x 25	18	64	46	74	56	28.5	15	89.5	46	99.5	56
φ80	77	11	99	116	134	11	77	M12 x 40	20	73.5	53.5	83.5	63.5	35.5	18	107	53.5	117	63.5
φ100	94	11	117	136	154	11	94	M12 x 40	22	85	63	95	73	35.5	18	116.5	63	126.5	73

Note 1: The following dimensions apply for the long stroke.

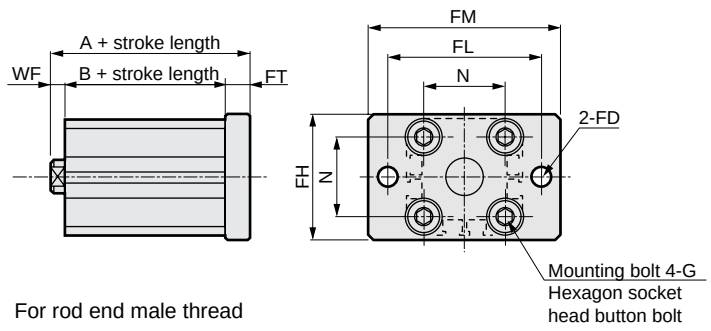
Symbol / Bore size (mm)		Female thread				Male thread			
		Without switch		With switch		Without switch		With switch	
		A	B	A	B	A	B	A	B
φ20	100st over	50.5	36	60.5	46	64.5	36	74.5	46
φ25	150st over	56	41	66	51	73.5	41	83.5	51
φ32		57.5	40.5	67.5	50.5	79	40.5	89	50.5
φ40		66	49	76	59	87.5	49	97.5	59
φ50		72	54	82	64	97.5	54	107.5	64
φ63	200st over	74	56	84	66	99.5	56	109.5	66
φ80		83.5	63.5	93.5	73.5	117	63.5	127	73.5
φ100		95	73	105	83	126.5	73	136.5	83

Note 1: The following dimensions apply for the 5mm stroke with switch.

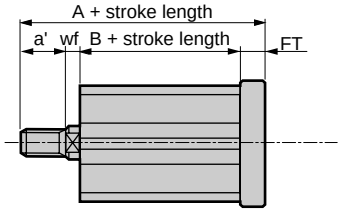
Bore size	Female thread		Male thread	
	A	B	A	B
φ12	45.5	32	56	32
φ16	45.5	32	57.5	32

Dimensions with accessory (mounting bracket: FB)

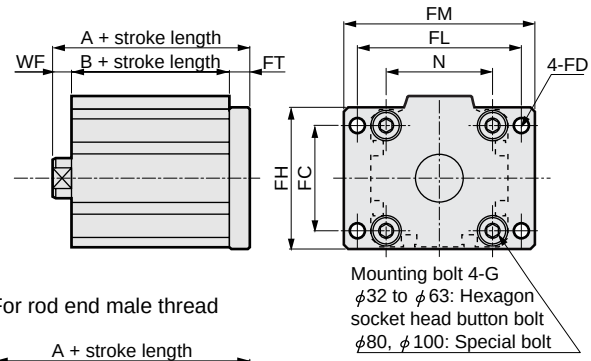
● ϕ12 to ϕ25



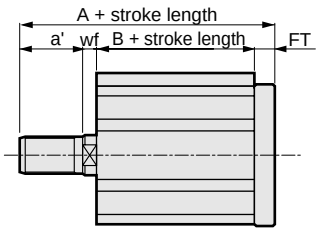
For rod end male thread



● ϕ32 to ϕ100



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-O(low speed type)

Symbol / Bore size (mm)	Common dimensions								Female thread					Male thread					
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch Note 1		a'	wf	Without switch		With switch Note 1	
										A	B	A	B			A	B	A	B
ϕ12	-	4.5	25	45	55	5.5	15.5	M4 x 12	3.5	26	17	31	22	10.5	3.5	36.5	17	41.5	22
ϕ16	-	4.5	30	45	55	5.5	20	M4 x 12	3.5	26	17	31	22	12	3.5	38	17	43	22
ϕ20	-	6.6	39	48	60	8	25.5	M6 x 16	4.5	32	19.5	42	29.5	14	4.5	46	19.5	56	29.5
ϕ25	-	6.6	42	52	64	8	28	M6 x 16	5	35.5	22.5	45.5	32.5	17.5	5	53	22.5	63	32.5
ϕ32	34	5.5	48	56	65	8	34	M6 x 16	7	38	23	48	33	23.5	5	59.5	23	69.5	33
ϕ40	40	5.5	54	62	72	8	40	M6 x 16	7	44.5	29.5	54.5	39.5	23.5	5	66	29.5	76	39.5
ϕ50	50	6.6	67	76	89	9	50	M8 x 20	8	47.5	30.5	57.5	40.5	28.5	5	73	30.5	83	40.5
ϕ63	60	9	80	92	108	9	60	M10 x 25	8	53	36	63	46	28.5	5	78.5	36	88.5	46
ϕ80	77	11	99	116	134	11	77	M12 x 40	10	64.5	43.5	74.5	53.5	35.5	8	98	43.5	108	53.5
ϕ100	94	11	117	136	154	11	94	M12 x 40	12	76	53	86	63	35.5	8	107.5	53	117.5	63

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread		Male thread	
	A	B	A	B
ϕ12	36	27	46.5	27
ϕ16	36	27	48	27

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions								Female thread Note 1					Male thread Note 1					
	FC	FD	FH	FL	FM	FT	N	G	WF	Without switch		With switch Note 2		a'	wf	Without switch		With switch Note 2	
										A	B	A	B			A	B	A	B
ϕ12	-	4.5	25	45	55	5.5	15.5	M4 x 12	3.5	31	22	36	27	10.5	3.5	41.5	22	46.5	27
ϕ16	-	4.5	30	45	55	5.5	20	M4 x 12	3.5	31	22	36	27	12	3.5	43	22	48	27
ϕ20	-	6.6	39	48	60	8	25.5	M6 x 16	4.5	37	24.5	47	34.5	14	4.5	51	24.5	61	34.5
ϕ25	-	6.6	42	52	64	8	28	M6 x 16	5	40.5	27.5	50.5	37.5	17.5	5	58	27.5	68	37.5
ϕ32	34	5.5	48	56	65	8	34	M6 x 16	7	48	33	58	43	23.5	5	69.5	33	79.5	43
ϕ40	40	5.5	54	62	72	8	40	M6 x 16	7	54.5	39.5	64.5	49.5	23.5	5	76	39.5	86	49.5
ϕ50	50	6.6	67	76	89	9	50	M8 x 20	8	57.5	40.5	67.5	50.5	28.5	5	83	40.5	93	50.5
ϕ63	60	9	80	92	108	9	60	M10 x 25	8	63	46	73	56	28.5	5	88.5	46	98.5	56
ϕ80	77	11	99	116	134	11	77	M12 x 40	10	74.5	53.5	84.5	63.5	35.5	8	108	53.5	118	63.5
ϕ100	94	11	117	136	154	11	94	M12 x 40	12	86	63	96	73	35.5	8	117.5	63	127.5	73

Note 1: The following dimensions apply for the long stroke.

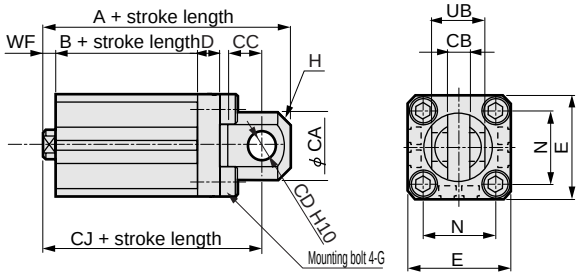
Symbol / Bore size (mm)		Female thread				Male thread			
		Without switch		With switch		Without switch		With switch	
		A	B	A	B	A	B	A	B
ϕ20	100st over	48.5	36	58.5	46	62.5	36	72.5	46
ϕ25	150st over	54	41	64	51	71.5	41	81.5	51
ϕ32		55.5	40.5	65.5	50.5	77	40.5	87	50.5
ϕ40		64	49	74	59	85.5	49	95.5	59
ϕ50		71	54	81	64	96.5	54	106.5	64
ϕ63	200st over	73	56	83	66	98.5	56	108.5	66
ϕ80		84.5	63.5	94.5	73.5	118	63.5	128	73.5
ϕ100		96	73	106	83	127.5	73	137.5	83

Note 1: The following dimensions apply for the 5mm stroke with switch.

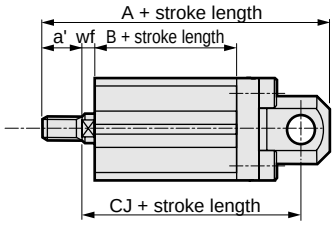
Bore size	Female thread		Male thread	
	A	B	A	B
ϕ12	41	32	51.5	32
ϕ16	41	32	53	32

Dimensions with accessory (mounting bracket: CB) CAD

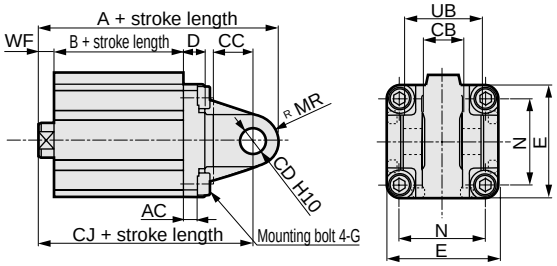
● ϕ12 to ϕ25



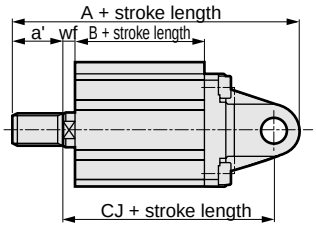
For rod end male thread



● ϕ 32 to ϕ100



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-O(low speed type)

Symbol / Bore size (mm)	Common dimensions												Female thread							Male thread						
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch Note 1			a'	wf	Without switch			With switch Note 1		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
ϕ12	-	13.5	6.5 $^{+0.4}_{+0.1}$	7	5	5	25	M4 x 12	C1.5	-	15.5	12 $^{-0.1}_{-0.4}$	3.5	40.5	17	34.5	45.5	22	39.5	10.5	3.5	51	17	34.5	56	22	39.5
ϕ16	-	15	6.5 $^{+0.4}_{+0.1}$	8	5	5	29	M4 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
ϕ20	-	24	8 $^{+0.4}_{+0.1}$	12	10	8	36	M6 x 20	C4	-	25.5	19 $^{-0.1}_{-0.4}$	4.5	57	19.5	47	67	29.5	57	14	4.5	71	19.5	47	81	29.5	57
ϕ25	-	27.5	10 $^{+0.4}_{+0.1}$	16	12	8	40	M6 x 20	C5	-	28	21 $^{-0.1}_{-0.4}$	5	66.5	22.5	54.5	76.5	32.5	64.5	17.5	5	84	22.5	54.5	94	32.5	64.5
ϕ32	9.5	-	10 $^{+0.4}_{+0.1}$	16	12	10	45	M6 x 20	-	12	34	21 $^{-0.1}_{-0.4}$	7	72	23	60	82	33	70	23.5	5	93.5	23	58	103.5	33	68
ϕ40	6.5	-	18 $^{+0.4}_{+0.1}$	18	12	10	52	M6 x 20	-	12	40	36 $^{-0.1}_{-0.4}$	7	80.5	29.5	68.5	90.5	39.5	78.5	23.5	5	102	29.5	66.5	112	39.5	76.5
ϕ50	6.5	-	18 $^{+0.4}_{+0.1}$	18	12	10	64	M8 x 20	-	12	50	36 $^{-0.1}_{-0.4}$	8	82.5	30.5	70.5	92.5	40.5	80.5	28.5	5	108	30.5	67.5	118	40.5	77.5
ϕ63	7.5	-	20 $^{+0.4}_{+0.1}$	24	14	10	77	M10 x 25	-	16	60	40 $^{-0.1}_{-0.4}$	8	97	36	81	107	46	91	28.5	5	122.5	36	78	132.5	46	88
ϕ80	10.5	-	28 $^{+0.4}_{+0.1}$	30	20	14	98	M12 x 40	-	20	77	56 $^{-0.1}_{-0.4}$	10	125.5	43.5	105.5	135.5	53.5	115.5	35.5	8	159	43.5	103.5	169	53.5	113.5
ϕ100	10.5	-	28 $^{+0.4}_{+0.1}$	30	20	16	118	M12 x 40	-	20	94	56 $^{-0.1}_{-0.4}$	12	137	53	117	147	63	127	35.5	8	168.5	53	113	178.5	63	123

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ϕ12	50.5	27	44.5	61	27	44.5
ϕ16	51.5	27	45.5	63.5	27	45.5

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions												Female thread Note 1							Male thread Note 1						
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch Note 2			a'	wf	Without switch			With switch Note 2		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
ϕ12	-	13.5	6.5 $^{+0.4}_{+0.1}$	7	5	5	25	M4 x 12	C1.5	-	15.5	12 $^{-0.1}_{-0.4}$	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
ϕ16	-	15	6.5 $^{+0.4}_{+0.1}$	8	5	5	29	M4 x 12	C2	-	20	12 $^{-0.1}_{-0.4}$	3.5	46.5	22	40.5	51.5	27	45.5	12	3.5	58.5	22	40.5	63.5	27	45.5
ϕ20	-	24	8 $^{+0.4}_{+0.1}$	12	10	8	36	M6 x 20	C4	-	25.5	19 $^{-0.1}_{-0.4}$	4.5	62	24.5	52	72	34.5	62	14	4.5	76	24.5	52	86	34.5	62
ϕ25	-	27.5	10 $^{+0.4}_{+0.1}$	16	12	8	40	M6 x 20	C5	-	28	21 $^{-0.1}_{-0.4}$	5	71.5	27.5	59.5	81.5	37.5	69.5	17.5	5	89	27.5	59.5	99	37.5	69.5
ϕ32	9.5	-	10 $^{+0.4}_{+0.1}$	16	12	10	45	M6 x 20	-	12	34	21 $^{-0.1}_{-0.4}$	7	82	33	70	92	43	80	23.5	5	103.5	33	68	13.5	43	78
ϕ40	6.5	-	18 $^{+0.4}_{+0.1}$	18	12	10	52	M6 x 20	-	12	40	36 $^{-0.1}_{-0.4}$	7	90.5	39.5	78.5	100.5	49.5	88.5	23.5	5	112	39.5	76.5	122	49.5	86.5
ϕ50	6.5	-	18 $^{+0.4}_{+0.1}$	18	12	10	64	M8 x 20	-	12	50	36 $^{-0.1}_{-0.4}$	8	92.5	40.5	80.5	102.5	50.5	90.5	28.5	5	118	40.5	77.5	128	50.5	87.5
ϕ63	7.5	-	20 $^{+0.4}_{+0.1}$	24	14	10	77	M10 x 25	-	16	60	40 $^{-0.1}_{-0.4}$	8	107	46	91	117	56	101	28.5	5	132.5	46	88	142.5	56	98
ϕ80	10.5	-	28 $^{+0.4}_{+0.1}$	30	20	14	98	M12 x 40	-	20	77	56 $^{-0.1}_{-0.4}$	10	135.5	53.5	115.5	145.5	63.5	125.5	35.5	8	169	53.5	113.5	179	63.5	123.5
ϕ100	10.5	-	28 $^{+0.4}_{+0.1}$	30	20	16	118	M12 x 40	-	20	94	56 $^{-0.1}_{-0.4}$	12	147	63	127	157	73	137	35.5	8	178.5	63	123	188.5	73	133

Note 1: The following dimensions apply for the long stroke.

Symbol / Bore size (mm)		Female thread						Male thread					
		Without switch			With switch Note 2			Without switch			With switch Note 2		
		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
ϕ20	100st over	80	36	63.5	83.5	46	73.5	87.5	36	63.5	97.5	46	73.5
ϕ25	150st over	90	41	73	95	51	83	102.5	41	73	112.5	51	83
ϕ32		91.5	40.5	77.5	99.5	50.5	87.5	111	40.5	75.5	121	50.5	85.5
ϕ40		101	49	88	110	59	98	121.5	49	86	131.5	59	96
ϕ50		115	54	94	116	64	104	131.5	54	91	141.5	64	101
ϕ63	200st over	138	56	101	127	66	111	142.5	56	98	152.5	66	108
ϕ80		147.5	63.5	125.5	155.5	73.5	135.5	179	63.5	123.5	189	73.5	133.5
ϕ100		73	73	137	167	83	147	188.5	73	133	198.5	83	143

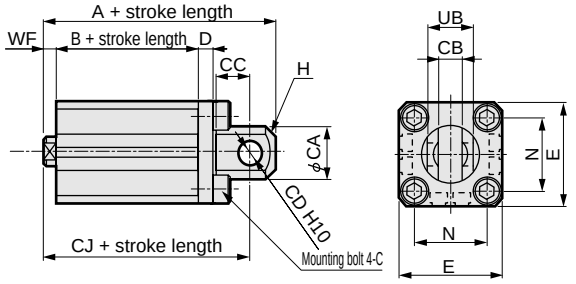
Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ϕ12	55.5	32	49.5	66	32	49.5
ϕ16	56.5	32	50.5	68.5	32	50.5

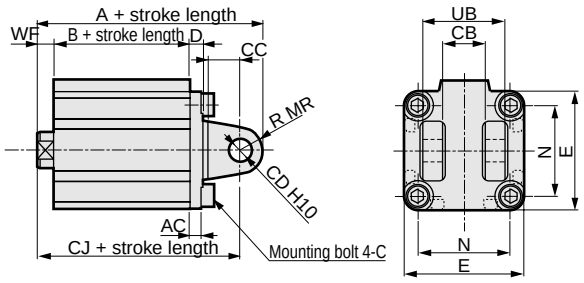
*A pin and snap ring are attached.

Dimensions with accessory (mounting bracket: CB2) CAD

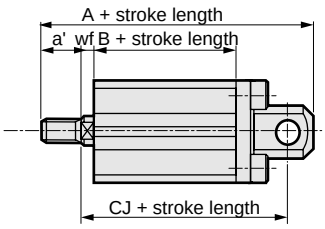
● ϕ12 to ϕ25



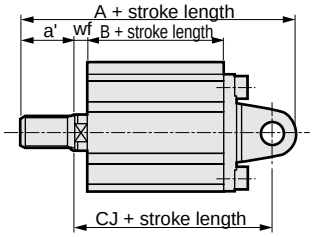
● ϕ32 to ϕ100



For rod end male thread



For rod end male thread



Dimensions of SSD(double acting single rod type), SSD-T(heat resistance type), SSD-F(fine speed type), SSD-O(low speed type)

Symbol / Bore size (mm)	Common dimensions												Female thread								Male thread							
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch Note 1			a'	wf	Without switch			With switch Note 1		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
ϕ12	-	12	5 $^{+0.4}_{+0.2}$	7	5	4	25	M4 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
ϕ16	-	15	6.5 $^{+0.4}_{+0.1}$	8	5	5	29	M4 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
ϕ20	-	20	8 $^{+0.4}_{+0.2}$	12	8	5	36	M6 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
ϕ25	-	24	10 $^{+0.4}_{+0.2}$	14	10	5	40	M6 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
ϕ32	4.5	-	18 $^{+0.4}_{+0.2}$	14	10	5	45	M6 x 16	-	10	34	36 $^{-0.1}_{-0.3}$	7	60	23	50	70	33	60	23.5	5	81.5	23	48	91.5	33	58
ϕ40	5	-	18 $^{+0.4}_{+0.2}$	14	10	6	52	M6 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
ϕ50	6	-	22 $^{+0.4}_{+0.2}$	20	14	7	64	M8 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
ϕ63	7	-	22 $^{+0.4}_{+0.2}$	20	14	8	77	M10 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
ϕ80	9	-	28 $^{+0.4}_{+0.2}$	27	18	10	98	M12 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
ϕ100	12	-	32 $^{+0.4}_{+0.2}$	31	22	13	117	M12 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

Note 1: The following dimensions apply for the 5mm stroke with switch.

Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ϕ12	50.5	27	44.5	61	27	44.5
ϕ16	51.5	27	45.5	63.5	27	45.5

Dimensions of SSD-K(double acting high load type), SSD-K-*C(rubber cushioned), SSD-KF(high load fine speed type), SSD-KU(low friction type)

Symbol / Bore size (mm)	Common dimensions												Female thread Note 1								Male thread Note 1							
	AC	CA	CB	CC	CD	D	E	G	H	MR	N	UB	WF	Without switch			With switch Note 2			a'	wf	Without switch			With switch Note 2		
														A	B	CJ	A	B	CJ			A	B	CJ	A	B	CJ
ϕ12	-	12	5 $^{+0.4}_{+0.2}$	7	5	4	25	M4 x 12	C1.5	-	15.5	10 $^{-0.1}_{-0.3}$	3.5	45.5	22	39.5	50.5	27	44.5	10.5	3.5	56	22	39.5	61	27	44.5
ϕ16	-	15	6.5 $^{+0.4}_{+0.1}$	8	5	5	29	M4 x 12	C2	-	20	12 $^{-0.1}_{-0.4}$	3.5	46.5	22	40.5	51.5	27	45.5	12	3.5	58.5	22	40.5	63.5	27	45.5
ϕ20	-	20	8 $^{+0.4}_{+0.2}$	12	8	5	36	M6 x 16	C4	-	25.5	16 $^{-0.1}_{-0.3}$	4.5	56	24.5	47	66	34.5	57	14	4.5	70	24.5	47	80	34.5	57
ϕ25	-	24	10 $^{+0.4}_{+0.2}$	14	10	5	40	M6 x 16	C5	-	28	20 $^{-0.1}_{-0.3}$	5	62.5	27.5	52.5	72.5	37.5	62.5	17.5	5	80	27.5	52.5	90	37.5	62.5
ϕ32	4.5	-	18 $^{+0.4}_{+0.2}$	14	10	5	45	M6 x 16	-	10	34	36 $^{-0.1}_{-0.3}$	7	70	33	60	80	43	70	23.5	5	91.5	33	58	101.5	43	68
ϕ40	5	-	18 $^{+0.4}_{+0.2}$	14	10	6	52	M6 x 16	-	10	40	36 $^{-0.1}_{-0.3}$	7	78.5	39.5	68.5	88.5	49.5	78.5	23.5	5	100	39.5	66.5	110	49.5	76.5
ϕ50	6	-	22 $^{+0.4}_{+0.2}$	20	14	7	64	M8 x 20	-	14	50	44 $^{-0.1}_{-0.3}$	8	90.5	40.5	76.5	100.5	50.5	86.5	28.5	5	116	40.5	73.5	126	50.5	83.5
ϕ63	7	-	22 $^{+0.4}_{+0.2}$	20	14	8	77	M10 x 25	-	14	60	44 $^{-0.1}_{-0.3}$	8	98	46	84	108	56	94	28.5	5	123.5	46	81	133.5	56	91
ϕ80	9	-	28 $^{+0.4}_{+0.2}$	27	18	10	98	M12 x 40	-	18	77	56 $^{-0.1}_{-0.3}$	10	119.5	53.5	101.5	129.5	63.5	111.5	35.5	8	153	53.5	99.5	163	63.5	109.5
ϕ100	12	-	32 $^{+0.4}_{+0.2}$	31	22	13	117	M12 x 40	-	22	94	64 $^{-0.1}_{-0.3}$	12	142	63	120	152	73	130	35.5	8	173.5	63	116	183.5	73	126

Note 1: The following dimensions apply for the long stroke.

Symbol / Bore size (mm)		Female thread						Male thread					
		Without switch			With switch Note 2			Without switch			With switch Note 2		
		A	B	CJ	A	B	CJ	A	B	CJ	A	B	CJ
ϕ20	100st over	71	36	58.5	77.5	46	68.5	81.5	36	58.5	91.5	46	68.5
ϕ25	150st over	78	41	66	86	51	76	93.5	41	66	103.5	51	76
ϕ32		79.5	40.5	67.5	87.5	50.5	77.5	99	40.5	65.5	109	50.5	75.5
ϕ40		99	49	78	98	59	88	109.5	49	76	119.5	59	86
ϕ50		106	54	90	114	64	100	129.5	54	87	139.5	64	97
ϕ63	200st over	122	56	94	118	66	104	133.5	56	91	143.5	66	101
ϕ80		142.5	63.5	111.5	139.5	73.5	121.5	163	63.5	109.5	173	73.5	119.5
ϕ100		73	73	130	162	83	140	183.5	73	126	193.5	83	136

Note 1: The following dimensions apply for the 5mm stroke with switch.

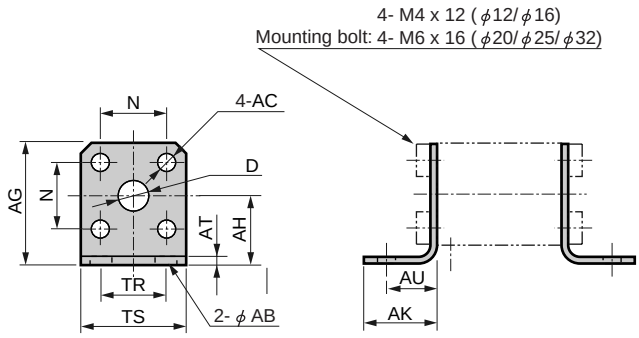
Bore size	Female thread			Male thread		
	A	B	CJ	A	B	CJ
ϕ12	55.5	32	49.5	66	32	49.5
ϕ16	56.5	32	50.5	68.5	32	50.5

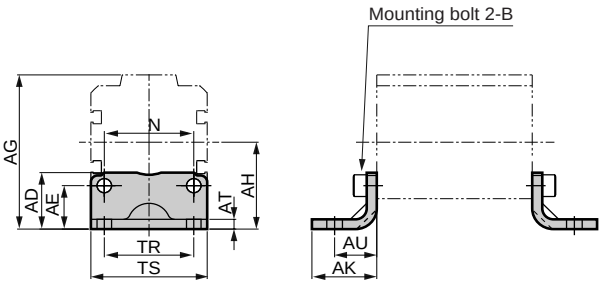
*A pin and snap ring are attached.

Dimensions (mounting bracket: LB) CAD

● Mounting bracket axial foot (LB)

· ϕ 12 to ϕ 32





*Eight hexagon socket head cap bolts for mounting are attached. This is a 2 piece/set.

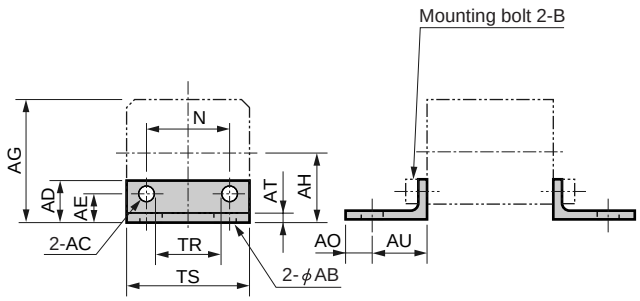
Model no.	Applicable bore size	AB	AC	AG	AH	AK	AT	AU	D	N	TR	TS	Weight (g)
SSD-LB-12	ϕ 12	6	4.5	29.5	17	18	2.3	12	8	15.5	16	25	40
SSD-LB-16	ϕ 16	6	4.5	33.5	19	18	2.3	12	10	20	16	29	50
SSD-LB-20	ϕ 20	7	6.5	42	24	24	3.2	16	12	25.5	24	36	140
SSD-LB-25	ϕ 25	7	6.5	46	26	24	3.2	16	14	28	28	40	150
SSD-LB-32	ϕ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

Note) Axial foot (LB) cannot be installed on SSD-W, SSD-B.

* Four hexagon socket head cap bolts for mounting are attached. This is a 2 piece/set.

Model no.	Applicable bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	N	R	TR	TS	Weight (g)
SSD-LB- 40	ϕ40	7	6.5	26	20	71	40	29	4.5	19	M6 x 16	40	15	40	52	170
SSD-LB- 50	ϕ50	9	9	23	15	79	40	34	4.5	22	M8 x 20	50	25	46	64	270
SSD-LB- 63	ϕ63	11	11	33	21	96.5	51	40	4.5	25	M10 x 25	60	23	60	77	420
SSD-LB- 80	ϕ80	13	13	42	23	116.5	61.5	50	6	35	M12 x 40	77	27	77	98	890
SSD-LB-100	ϕ100	13	13	48	22	134	69	50	6	35	M12 x 40	94	36	94	117	1050

· ϕ 125 to ϕ160



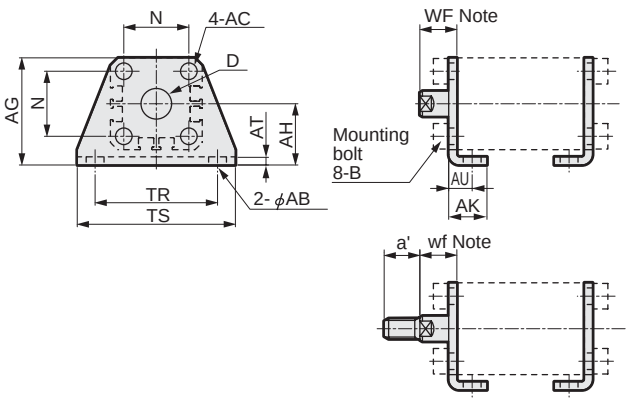
* Four hexagon socket head cap bolts for mounting are attached. This is a 2 piece/set.

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

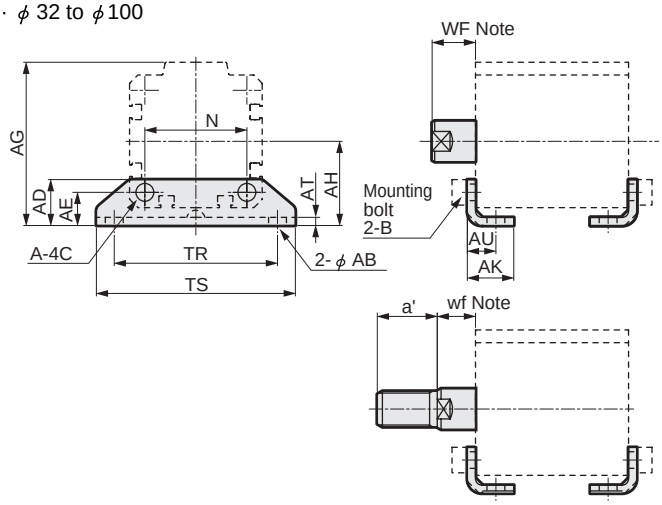
Dimensions (mounting bracket: LB2) CAD

● Axial foot type (LB2)

· ϕ 12 to ϕ 25



· ϕ 32 to ϕ100



*1: Hexagon socket head cap bolts for mounting are attached.

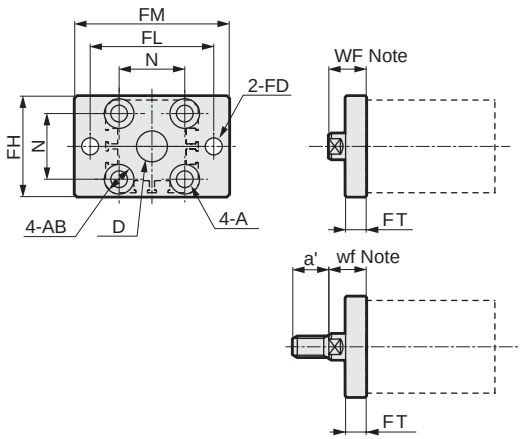
Model no.	Applicable bore size	AB	AC	AD	AE	AG	AH	AK	AT	AU	B	D	N	TR	TS	WF	wf	a'	Weight (g)
SSD-LB2-12	ϕ 12	5	4.5	-	-	29.5	17	12.5	2	8	M4 x 10	8	15.5	34	44	13.5	13.5	10.5	51
SSD-LB2-16	ϕ 16	5	4.5	-	-	33.5	19	13	2	8	M4 x 10	10	20	38	48	13.5	13.5	12	61
SSD-LB2-20	ϕ 20	7	6.5	-	-	42	24	15	3.2	9.2	M6 x 16	12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

Note: WF and wf dimensions of the LB2 cylinder are 10 mm longer than the standard part.
Contact CKD for the cylinder model when ordering the cylinder and LB2 bracket separately.

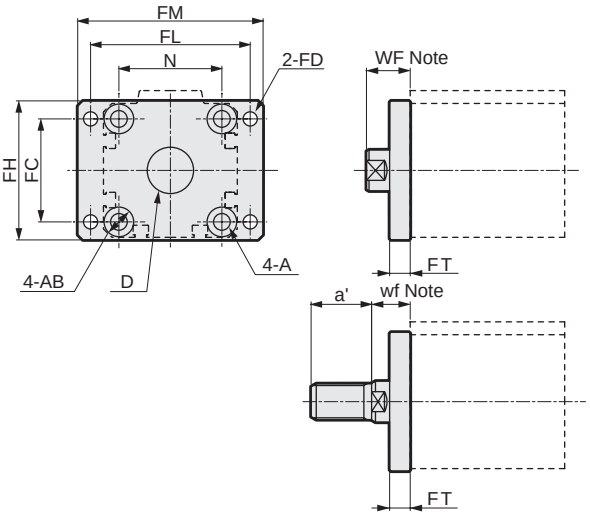
Dimensions (mounting bracket: FA, FB) CAD

● Rod end flange type (FA)

· ϕ 12 to ϕ 25



· ϕ 32 to ϕ 100



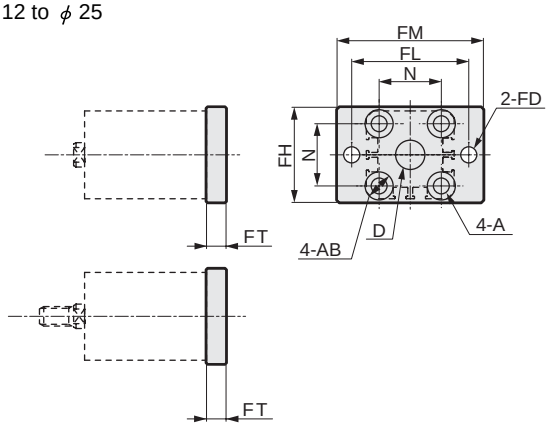
*1: A mounting bolt is attached.

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

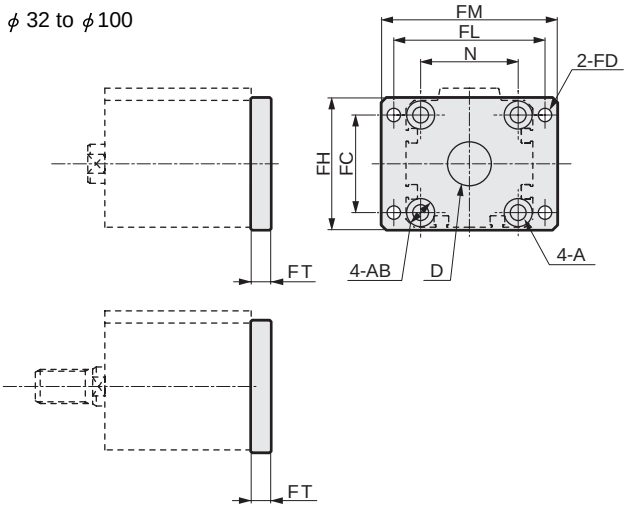
Note: WF and wf dimensions of the FA cylinder are 10 mm longer than the standard part.
Contact CKD for the cylinder model when ordering the cylinder and FA bracket separately.

● Head end flange type (FB)

· ϕ 12 to ϕ 25



· ϕ 32 to ϕ 100



*1: A mounting bolt is attached.

Model no.	Applicable bore size	FC	FD	FH	FL	FM	FT	A	AB	D	N	Weight (g)
SSD-FB-12	ϕ12	-	4.5	25	45	55	5.5	4.5	8.5 spot face depth 2.7	8	15.5	54
SSD-FB-16	ϕ16	-	4.5	30	45	55	5.5	4.5	8.5 spot face depth 2.7	10	20	64
SSD-FB-20	ϕ20	-	6.6	39	48	60	8	6.5	11.5 spot face depth 3.8	12	25.5	129
SSD-FB-25	ϕ25	-	6.6	42	52	64	8	6.5	11.5 spot face depth 3.8	14	28	148
SSD-FB-32	ϕ32	34	5.5	48	56	65	8	6.5	11.5 spot face depth 3.8	18	34	167
SSD-FB-40	ϕ40	40	5.5	54	62	72	8	6.5	11.5 spot face depth 3.8	18	40	215
SSD-FB-50	ϕ50	50	6.6	67	76	89	9	9	15 spot face depth 5	22	50	387
SSD-FB-63	ϕ63	60	9	80	92	108	9	11	18 spot face depth 6	22	60	573
SSD-FB-80	ϕ80	77	11	99	116	134	11	13	19 spot face depth 7.5	27	77	1132
SSD-FB-100	ϕ100	94	11	117	136	154	11	13	19 spot face depth 7.5	32	94	1522

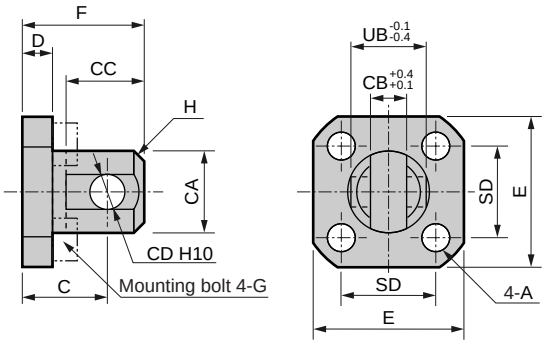
Dimensions (mounting bracket: CB) CAD

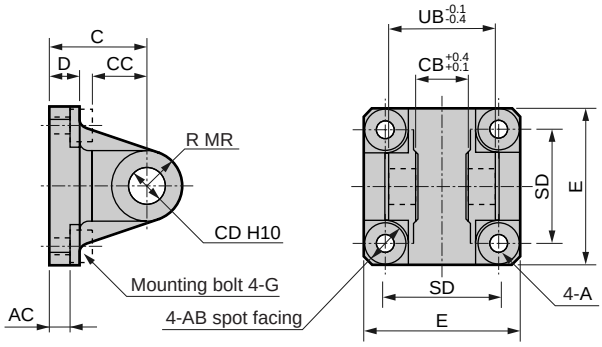
● Mounting bracket clevis (CB)

* A pin (including C ring) and a snap ring are attached.
* The high load cylinder is recommended for use in areas with vibration.

Note) Clevis(CB) cannot be installed on SSD-B, SSD-D, SSD-W.

· ϕ 32 to ϕ100





* Four hexagon socket head cap bolts for mounting are attached.

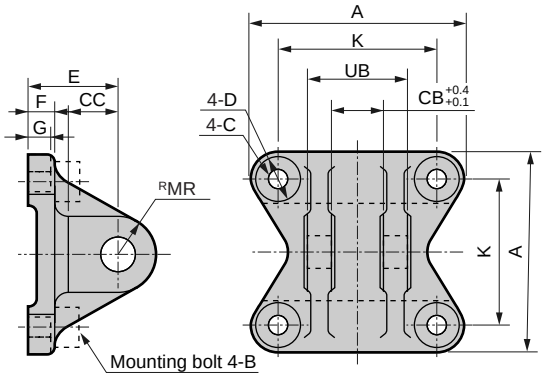
Model no.	Applicable bore size	A	C	CA	CB	CC	CD	D	E	F	G	H	SD	UB	Weight (g)
SSD-CB-12	ϕ12	4.5	14	13.5	6.5	13	5	5	25	20	M4 x 12	C1.5	15.5	12	35
SSD-CB-16	ϕ16	4.5	15	15	6.5	14	5	5	29	21	M4 x 12	C2	20	12	45
SSD-CB-20	ϕ20	6.5	23	24	8	22	10	8	36	33	M6 x 20	C4	25.5	19	140
SSD-CB-25	ϕ25	6.5	27	27.5	10	28	12	8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

* Four hexagon socket head cap bolts for mounting are attached.

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

● Clevis (CB)

· ϕ 125 to ϕ160



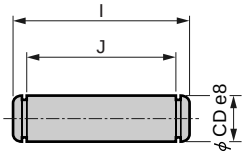
* A pin (including C ring) and a snap ring are attached.
* Four hexagon socket head cap bolts for mounting are attached.

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

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

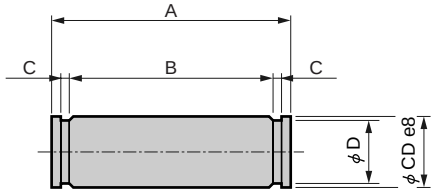
● Clevis (CB) attached pin dimensions table

· ϕ 12 to ϕ100



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

· ϕ 125 to ϕ160

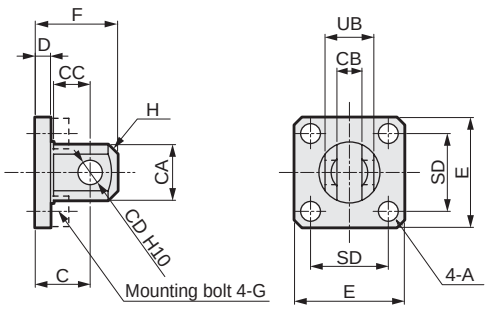


Model no.	Applicable bore size	A	B	C	CD	D	Applicable snap ring	Weight (g)
SSD-P-125	ϕ125	75	66.3	1.35	25	23.9	Axis C type 25	250
SSD-P-140	ϕ140	84	74.7	1.65	28	26.6	Axis C type 28	400
SSD-P-160	ϕ160	92	82.7	1.65	32	30.3	Axis C type 32	500

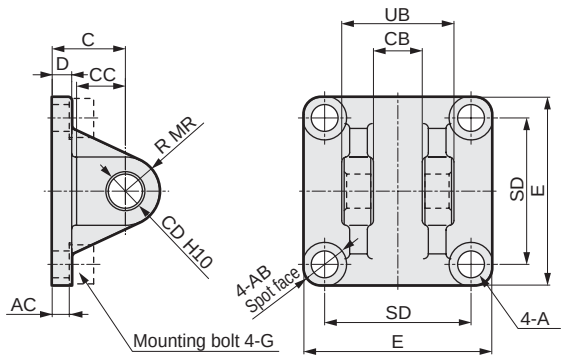
Dimensions (mounting bracket: CB2) CAD

● Clevis bracket type (CB2)

· ϕ12 to ϕ25



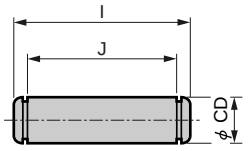
· ϕ32 to ϕ100



*1: A hexagon socket head cap bolt for mounting, a pin (including C ring) and a snap ring are attached.

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

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

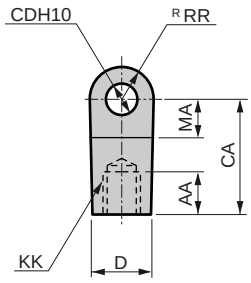


Model no.	Applicable bore size	I	J	CD	Applicable snap ring	Weight (g)
SSD-P2-12	ϕ12	15.2	10.2	$5^{-0.01}_{-0.028}$	E type 4	2.4
SSD-P2-16	ϕ16	18	13	$5^{-0.01}_{-0.028}$	E type 4	2.8
SSD-P2-20	ϕ20	21	16.2	$8^{-0.025}_{-0.047}$	Axis C type 8	8.2
SSD-P2-25	ϕ25	25.6	20.2	$10^{-0.025}_{-0.047}$	Axis C type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

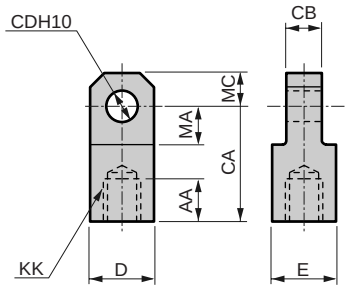
Dimensions (accessory: I , I 2)

● Rod eye (I)

·ϕ12, ϕ16, ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100



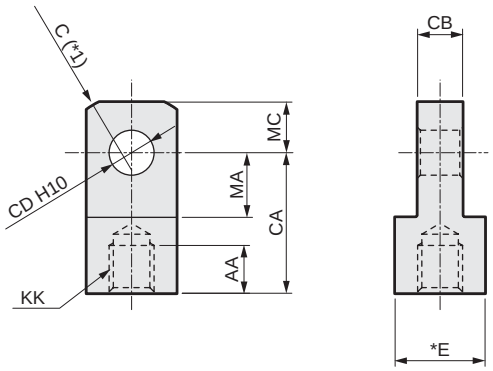
·ϕ20, ϕ 25, ϕ 32, ϕ 125, ϕ 140, ϕ 160



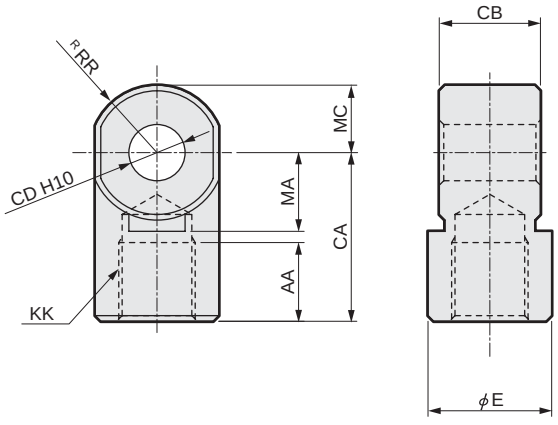
Model no.	Applicable bore size(mm)	AA	CA	CB	CD	D	E	KK	MA	MC	RR	Weight (g)
P2-I-16	12	8	25	$6.4^{0}_{-0.1}$	$5^{+0.048}_{0}$	12	12	M5	14	-	10	21
SSD-I-16	16	8	25	$6.5^{-0.1}_{-0.2}$	$5^{+0.048}_{0}$	12	12	M6	14	-	10	21
SSD-I-20	20	13.5	30	$8^{-0.1}_{-0.2}$	$10^{+0.058}_{0}$	19	19	M8	13	10	-	65
M1-I-30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

● Rod eye (I2)

· ϕ 12 to ϕ 25



· ϕ32 to ϕ100



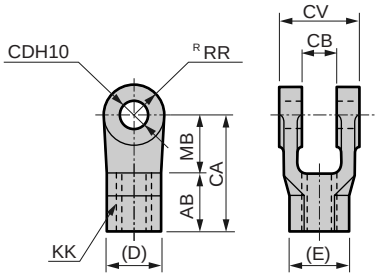
*1: ϕ 20/25 is SR RR.

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

Dimensions (accessory: Y, Y2)

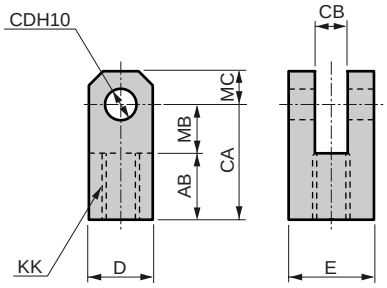
● Rod clevis (Y)

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



· ϕ20, ϕ25, ϕ32

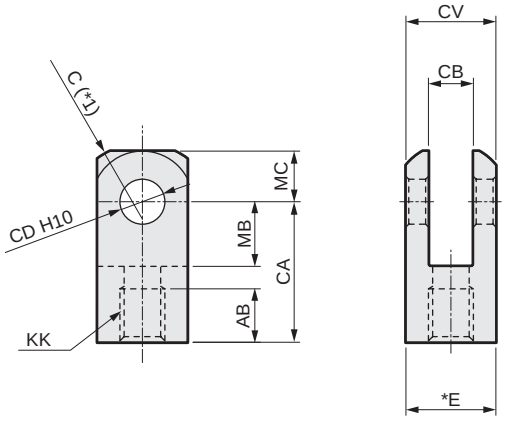
*A pin (including ring), a snap ring are attached.
*AB is thread length.



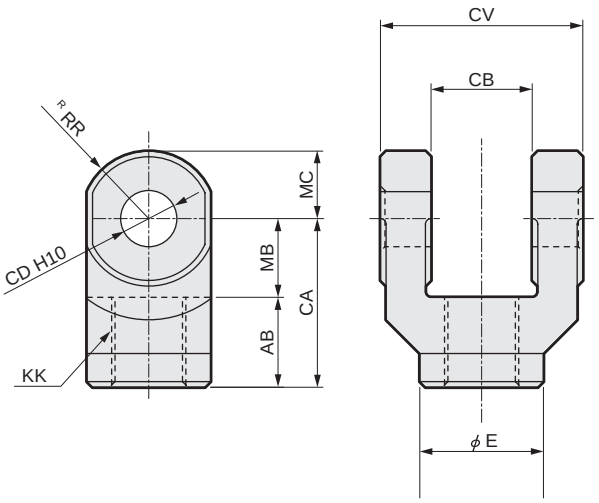
Model no.	Applicable bore size(mm)	AB	CA	CB	CD	CV	D	E	KK	MB	MC	RR	Weight (g)
P2-Y-16	12	11	21	$6.5^{+0.2}_{+0.1}$	$5^{+0.048}_{0}$	12	12	12	M5	10	-	10	20
SSD-Y-16	16	11	21	$6.5^{+0.2}_{+0.1}$	$5^{+0.048}_{0}$	12	12	12	M6	10	-	10	20
SSD-Y-20	20	17	30	$8^{+0.3}_{+0.1}$	$10^{+0.058}_{0}$	19	19	19	M8	13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

● Rod clevis (Y2)

·ϕ12 to ϕ25



· ϕ32 to ϕ100



*1: ϕ20/25 is SR RR.
*2: A pin (including C ring) is attached.

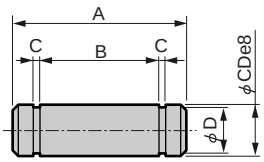
Model no.	Applicable bore size	AB	CA	CB	CD	CV	E	KK	MB	C	RR	MC	Weight (g)
SSD-Y2-12	ϕ12	6	16	$5^{+0.4}_{+0.2}$	$5^{+0.048}_{0}$	10	10	M5 x 0.8	7	2	-	5.5	12
SSD-Y2-16	ϕ16	11	21	$6.5^{+0.4}_{+0.2}$	$5^{+0.048}_{0}$	12	12	M6 x 1	10	2	-	7	20
SSD-Y2-20	ϕ20	13.5	25	$8^{+0.4}_{+0.2}$	$8^{+0.058}_{0}$	16	16	M8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

Dimensions (accessory: P, P2)

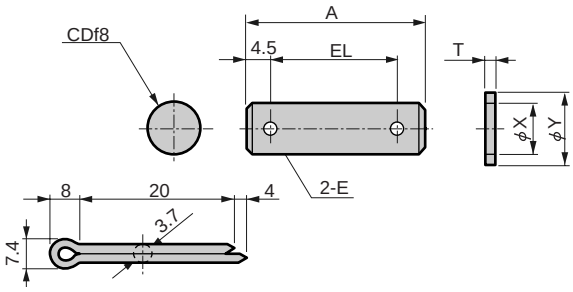
● Pin (P) for rod clevis (Y)

· ϕ12, ϕ16, ϕ40 to ϕ160

Material: Copper



· ϕ20 to ϕ32



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

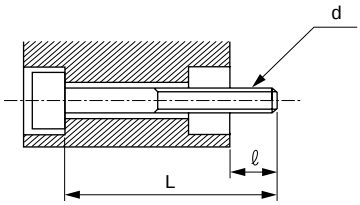
● The rod clevis (Y2) pin is the same as the clevis (CB2) pin (P2).
Refer to page 942 for dimensions.

How to order mounting bolt

SSD - **BOLT** - **d x L**

Mounting bolt (4 bolts per set)

Reading list



Material: Steel
Treatment: Blackening

d: Mounting bolt screw diameter
L: Mounting bolt length
ℓ: Counterpart possible screw-in length
(Note) Mounting bolt is indicated as d x L.

SSD-□

Model no.	ℓ	d x L
SSD-12- 5	6.5	M3 x 25
10		x 30
15		x 35
20		x 40
25		x 45
30		x 50
SSD-16- 5		M3 x 25
10		x 30
15		x 35
20		x 40
25		x 45
30		x 50
SSD-20- 5	6	M5 x 25
10		x 30
15		x 35
20		x 40
25		x 45
30		x 50
SSD-25- 5	8	M5 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
40		x 65
50		x 75
SSD-32- 5	7.5	M5 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
40		x 65
50		x 75

Model no.	ℓ	d x L
SSD-40- 5	6	M5 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
40		x 70
50		x 80
SSD-50- 5	11	M6 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-63- 5	13	M8 x 45
10		x 50
20		x 60
30		x 70
40		x 80
50		x 90
SSD-80- 5	17.5	M10 x 55
10		x 60
20		x 70
30		x 80
40		x 90
50		x 100

Model no.	ℓ	d x L
SSD-100- 5	18	M10 x 65
10		x 70
20		x 80
30		x 90
40		x 100
50		x 110
SSD-125- 10	21	M12 x 90
20		x 100
30		x 110
40		x 120
50		x 130
60		x 140
70		x 150
80		x 160
90		x 170
100		x 180
SSD-140- 10	21	M12 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190
SSD-160- 10	24.2	M14 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190

SSD-L- □

Model no.	ℓ	d x L
SSD-L-12- 5	6.5	M3 x 35
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-L-16- 5		M3 x 35
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-L-20- 5	6	M5 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-L-25- 5	8	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-L-32- 5	7.5	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85

Model no.	ℓ	d x L
SSD-L-40- 5	6	M5 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
SSD-L-50- 5	11	M6 x 50
10		x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50		x 95
SSD-L-63- 5	13	M8 x 55
10		x 60
20		x 70
30		x 80
40		x 90
50		x 100
SSD-L-80- 5	17.5	M10 x 65
10		x 70
20		x 80
30		x 90
40		x 100
50		x 110

Model no.	ℓ	d x L
SSD-L-100- 5	18	M10 x 75
10		x 80
20		x 90
30		x 100
40		x 110
50		x 120
SSD-L-125- 10	21	M12 x 90
20		x 100
30		x 110
40		x 120
50		x 130
60		x 140
70		x 150
80		x 160
90		x 170
100		x 180
SSD-L-140- 10	21	M12 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190
SSD-L-160- 10	24.2	M14 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190

SSD- $^{X}_{Y}$ - □

Model no.	ℓ	d x L
SSD- $^{X}_{Y}$ -12- 5	6.5	M3 x 25
10		x 30
-16- 5		M3 x 25
10		x 30
-20- 5	6	M5 x 25
10		x 30

Model no.	ℓ	d x L
SSD- $^{X}_{Y}$ -25- 5	8	M5 x 30
10		x 35
-32- 5	7.5	M5 x 30
10		x 35
-40-10	6	M5 x 40
20		x 50

Model no.	ℓ	d x L
SSD- $^{X}_{Y}$ -50-10	11	M6 x 45
20		x 55

SSD- $^{XL}_{YL}$ - □

Model no.	ℓ	d x L
SSD- $^{XL}_{YL}$ -12- 5	6.5	M3 x 35
10		x 35
-16- 5		M3 x 35
10		x 35
-20- 5	6	M5 x 35
10		x 40

Model no.	ℓ	d x L
SSD- $^{XL}_{YL}$ -25- 5	8	M5 x 40
10		x 45
-32- 5	7.5	M5 x 40
10		x 45
-40-10	6	M5 x 50
20		x 60

Model no.	ℓ	d x L
SSD- $^{XL}_{YL}$ -50-10	11	M6 x 55
20		x 65

SSD-D-□

Model no.	ℓ	d x L
SSD-D-12- 5	6.5	M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-D-16- 5		M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-D-20- 5	9.5	M5 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-D-25- 5		M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-D-32- 5	10	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85

Model no.	ℓ	d x L
SSD-D-40- 5	6.5	M5 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
SSD-D-50- 5	7.5	M6 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
SSD-D-63- 5	13	M8 x 50
10		x 55
20		x 65
30		x 75
40		x 85
50		x 95
SSD-D-80- 5	12.5	M10 x 55
10		x 60
20		x 70
30		x 80
40		x 90
50		x 100
SSD-D-100- 5	13	M10 x 65
10		x 70
20		x 80
30		x 90
40		x 100
50		x 110

Model no.	ℓ	d x L
SSD-D-125- 10	21	M12 x 90
20		x 100
30		x 110
40		x 120
50		x 130
60		x 140
70		x 150
80		x 160
90		x 170
100		x 180
SSD-D-140- 10	21	M12 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190
SSD-D-160- 10	24.2	M14 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190

SSD-DL-□

Model no.	ℓ	d x L
SSD-DL-12- 5	6.5	M3 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-DL-16- 5		M3 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-DL-20- 5	9.5	M5 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
SSD-DL-25- 5		M5 x 50
10		x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50	14.5	x 100
SSD-DL-32- 5	10	M5 x 50
10		x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50	15	x 100

Model no.	ℓ	d x L
SSD-DL-40- 5	6.5	M5 x 55
10		x 60
15		x 65
20		x 70
25		x 75
30		x 80
40		x 90
50		x 100
SSD-DL-50- 5	7.5	M6 x 55
10		x 60
15		x 65
20		x 70
25		x 75
30		x 80
40		x 90
50		x 100
SSD-DL-63- 5	13	M8 x 60
10		x 65
20		x 75
30		x 85
40		x 95
50	18	x 110
SSD-DL-80- 5	12.5	M10 x 65
10		x 70
20		x 80
30		x 90
40		x 100
50		x 110
SSD-DL-100- 5	13	M10 x 75
10		x 80
20		x 90
30		x 100
40		x 110
50		x 120

Model no.	ℓ	d x L
SSD-DL-125- 10	21	M12 x 90
20		x 100
30		x 110
40		x 120
50		x 130
60		x 140
70		x 150
80		x 160
90		x 170
100		x 180
SSD-DL-140- 10	21	M12 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190
SSD-DL-160- 10	24.2	M14 x 100
20		x 110
30		x 120
40		x 130
50		x 140
60		x 150
70		x 160
80		x 170
90		x 180
100		x 190

SSD-K- □

Model no.	ℓ	d x L
SSD-K-12- 5	6.5	M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
40		x 65
50		x 75
SSD-K-16- 5	6.5	M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
40		x 65
50		x 75
SSD-K-20- 5	6	M5 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
40		x 65
50		x 75
SSD-K-25- 10	8	M5 x 40
15		x 45
20		x 50
25		x 55
30		x 60
40		x 70
50		x 80
60		x 90
70		x 100
80		x 110
90		x 120
100		x 130

Model no.	ℓ	d x L
SSD-K-32- 10	12.5	M5 x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
60		x 100
70		x 110
80		x 120
90		x 130
100		x 140
SSD-K-40- 10	6	M5 x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
60		x 100
70		x 110
80		x 120
90		x 130
100		x 140
SSD-K-50- 10	11	M6 x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50	16	x 95
60		x 110
70		x 120
80		x 130
90		x 140
100		x 150

Model no.	ℓ	d x L
SSD-K-63- 10	13	M8 x 60
20		x 70
30		x 80
40		x 90
50		x 100
60		x 110
70		x 120
80		x 130
90		x 140
100		x 150
SSD-K-80- 10	17.5	M10 x 70
20		x 80
30		x 90
40		x 100
50		x 110
60		x 120
70		x 130
80		x 140
90		x 150
100		x 160
SSD-K-100- 10	18	M10 x 80
20		x 90
30		x 100
40		x 110
50		x 120
60		x 130
70		x 140
80		x 150
90		x 160
100		x 170

SSD-KL-□

Model no.	ℓ	d x L
SSD-KL-12- 5	6.5	M3 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
40		x 70
50		x 80
SSD-KL-16- 5	6.5	M3 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
40		x 70
50		x 80
SSD-KL-20- 5	6	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-KL-25- 10	8	M5 x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90
60		x 100
70		x 110
80		x 120
90		x 130
100		x 140

Model no.	ℓ	d x L
SSD-KL-32- 10	12.5	M5 x 60
15		x 65
20		x 70
25		x 75
30		x 80
40		x 90
50		x 100
60		x 110
70		x 120
80		x 130
90		x 140
100		x 150
SSD-KL-40- 10	6	M5 x 60
15		x 65
20		x 70
25		x 75
30		x 80
40		x 90
50		x 100
60		x 110
70		x 120
80		x 130
90		x 140
100		x 150
SSD-KL-50- 10	11	M6 x 65
15		x 70
20		x 75
25		x 80
30		x 85
40		x 95
50	16	x 110
60		x 120
70		x 130
80		x 140
90		x 150
100		x 160

Model no.	ℓ	d x L
SSD-KL-63- 10	13	M8 x 70
20		x 80
30		x 90
40		x 100
50		x 110
60		x 120
70		x 130
80		x 140
90		x 150
100		x 160
SSD-KL-80- 10	17.5	M10 x 80
20		x 90
30		x 100
40		x 110
50		x 120
60		x 130
70		x 140
80		x 150
90		x 160
100		x 170
SSD-KL-100- 10	18	M10 x 90
20		x 100
30		x 110
40		x 120
50		x 130
60		x 140
70		x 150
80		x 160
90		x 170
100		x 180

SSD-M-□

Model no.	ℓ	d x L
SSD-M-12- 5	6.5	M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-M-16- 5		M3 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-M-20- 5	6	M5 x 30
10		x 35
15		x 40
20		x 45
25		x 50
30		x 55
SSD-M-25- 5	8	M5 x 35
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
40		x 70
50		x 80

Model no.	ℓ	d x L
SSD-M-32- 5	7.5	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-M-40- 5	6	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
40		x 75
50		x 85
SSD-M-50- 5	11	M6 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90

Model no.	ℓ	d x L
SSD-M-63- 5	13	M8 x 50
10		x 55
20		x 65
30		x 75
40		x 85
50		x 95

SSD-ML-□

Model no.	ℓ	d x L
SSD-ML-12- 5	6.5	M3 x 40
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-ML-16- 5		M3 x 40
10		x 40
15		x 45
20		x 50
25		x 55
30		x 60
SSD-ML-20- 5	6	M5 x 40
10		x 45
15		x 50
20		x 55
25		x 60
30		x 65
SSD-ML-25- 5	8	M5 x 45
10		x 50
15		x 55
20		x 60
25		x 65
30		x 70
40		x 80
50		x 90

Model no.	ℓ	d x L
SSD-ML-32- 5	7.5	M5 x 50
10		x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50	12.5	x 100
SSD-ML-40- 5	6	M5 x 50
10		x 55
15		x 60
20		x 65
25		x 70
30		x 75
40		x 85
50	11	x 100
SSD-ML-50- 5	11	M6 x 55
10		x 60
15		x 65
20		x 70
25		x 75
30		x 80
40		x 90
50		x 100

Model no.	ℓ	d x L
SSD-ML-63- 5	13	M8 x 60
10		x 65
20		x 75
30		x 85
40		x 95
50	18	x 110

SSD-Q □ H/R

Model no.	ℓ	d x L
SSD-Q-16- 5	5.5	M3 x 60
10		x 65
15		x 70
20		x 75
25		x 80
30	10.5	x 90
40		x100
50	Bolts cannot be supplied. Install this with direct mount.	
SSD-Q-20- 5	12.5	M5 x 65
10		x 70
15		x 75
20		x 80
25		x 85
30		x 90
40		x100
50		x110

Model no.	ℓ	d x L
SSD-Q-25- 10	9.5	M5 x 70
15		x 75
20		x 80
25		x 85
30		x 90
40		x100
50		x110
60		x120
70		x130
80		x140
90		x150
100		x160
SSD-Q-32- 10	13.5	M5 x 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	d x L
SSD-Q-40- 10	10	M5 x 90
15		x 95
20		x100
25		x105
30		x110
40		x120
50		x130
60		x140
70		x150
80		x160
90		x170
100		x180
SSD-Q-50- 10	12	M6 x110
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	d x L
SSD-Q-63- 10	19	M8 x120
20		x130
30		x140
40		x150
50		x160
60		x170
70		x180
80		x190
90		x200
100		x210
SSD-Q-80- 10	12	M10 x140
20		x150
30		x160
40		x170
50		x180
60		x190
70		x200
80		x210
90		x220
100		x230
SSD-Q-100- 10	12	M10 x140
20		x150
30		x160
40		x170
50		x180
60		x190
70		x200
80		x210
90		x220
100		x230

SSD-QL □ H/R

Model no.	ℓ	d x L
SSD-QL-16- 5	5.5	M3 x 65
10		x 70
15		x 75
20		x 80
25	10.5	x 90
30	5.5	x 90
40		x100
50	Bolts cannot be supplied. Install this with direct mount.	
SSD-QL-20- 5	12.5	M5 x 75
10		x 80
15		x 85
20		x 90
25		x 95
30		x100
40		x110
50		x120

Model no.	ℓ	d x L
SSD-QL-25- 10	9.5	M5 x 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
SSD-QL-32- 10	13.5	M5 x 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	d x L
SSD-QL-40- 10	10	M5 x100
15		x105
20		x110
25		x115
30		x120
40		x130
50		x140
60		x150
70		x160
80		x170
90		x180
100		x190
SSD-QL-50- 10	12	M6 x120
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	d x L
SSD-QL-63- 10	19	M8 x 130
20		x 140
30		x 150
40		x 160
50		x 170
60		x 180
70		x 190
80		x 200
90		x 210
100		x 220
SSD-QL-80- 10	12	M10 x 150
20		x 160
30		x 170
40		x 180
50		x 190
60		x 200
70		x 210
80		x 220
90		x 230
100		x 240
SSD-QL-100- 10	12	M10 x 150
20		x 160
30		x 170
40		x 180
50		x 190
60		x 200
70		x 210
80		x 220
90		x 230
100		x 240