

ISO Standards

Air Cylinder: Standard Double Acting, Single/Double Rod

Series C96

ø32, ø40, ø50, ø63, ø80, ø100, ø125

How to Order

C96S **B** **32** - **100** **W**

With auto switch **C96SD** **B** **32** - **100** **W** - **M9BW** **S**

Built-in magnet

Mounting

B	Basic/Without bracket
L	Axial foot
F	Rod end flange
G	Head end flange
C	Single clevis
D	Double clevis
T	Center trunnion

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm
125	125 mm

Stroke (mm)
Refer to "Standard Stroke" on page 42.

Rod

Nil	Single rod
W	Double rod

Auto switch

Nil	Without auto switch
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Number of auto switches

Nil	2 pcs.
S	1 pc.
3	3 pcs.
n	"n" pcs.

* Mounting brackets except center trunnion type are shipped together, (but not assembled).

* For applicable auto switch model, refer to the table below.

Applicable Auto Switches/Refer to Best Pneumatics No. 2 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)				Pre-wired connector	Applicable load				
					DC	AC	Tie-rod mounting	Band mounting	0.5 (Nil)	1 (M)	3 (L)	5 (Z)						
Solid state switch	—	Grommet	—	3-wire (NPN)	24 V	5 V, 12 V	—	M9N	—	●	●	●	○	○	IC			
				3-wire (PNP)				M9P	—	●	●	●	○	○				
		2-wire		—	100 V, 200 V	M9B	—	●	●	●	○	○						
		—		—	J51	—	●	●	●	○	○							
	Terminal conduit	3-wire (NPN)	24 V	—	5 V, 12 V	—	—	—	G39	—	—	—	—	—	IC			
		2-wire			12 V			—	K39	—	—	—	—	—	—			
	Diagnosis indication (2-color)	Grommet	Yes	—	3-wire (NPN)	24 V	5 V, 12 V	—	M9NW	—	●	●	●	○	○	IC		
					3-wire (PNP)				M9PW	—	●	●	●	○	○			
					2-wire	12 V	M9BW	—	●	●	●	○	○					
					—	—	M9BA	—	●	●	●	○	○					
	Water resistant (2-color)	Grommet	—	—	3-wire (NPN)	24 V	5 V, 12 V	—	**M9NA	—	○	○	●	○	○	IC		
					3-wire (PNP)				**M9PA	—	○	○	●	○	○			
Diagnosis output (2-color)	Grommet	—	—	2-wire	24 V	12 V	—	**M9BA	—	○	○	●	○	○	—			
				—				—	—	—	—	—	—	—		—		
Magnetic field resistant (2-color)	Grommet	—	—	4-wire (NPN)	24 V	5 V, 12 V	—	F59F	—	●	—	●	○	○	IC			
				2-wire (Non-polar type)				—	—	—	—	—	—	—		—	—	
Reed switch	—	Grommet	Yes	3-wire (Equiv. to NPN)	24 V	12 V	—	A96	—	●	—	●	—	—	IC			
				None				2-wire	100 V	A93	—	●	—	●		—	—	—
									100 V or less	A90	—	●	—	●		—	—	
									100 V, 200 V	A54	—	●	—	●		●	—	
		Terminal conduit	Yes	2-wire	24 V	12 V	200 V or less	—	—	A64	—	●	—	●	—	—	—	
										—	A33	—	—	—	—	—		—
										—	A34	—	—	—	—	—		—
										100 V, 200 V	A44	—	—	—	—	—		—
DIN	Yes	2-wire	24 V	12 V	—	—	—	A59W	—	●	—	●	—	—				
								—	—	—	—	—	—		—	—		
Diagnosis indication (2-color)	Grommet	—	—	—	—	—	—	A59W	—	●	—	●	—	—				
								—	—	—	—	—	—		—	—		

** Water resistant type auto switch can be mounted to the models with the above mentioned part numbers, but this does not guarantee the water resistance of the cylinder.

* Lead wire length symbols: 0.5 m Nil (Example) M9NW
 1 m M (Example) M9NWM
 3 m L (Example) M9NWL
 5 m Z (Example) M9NWZ

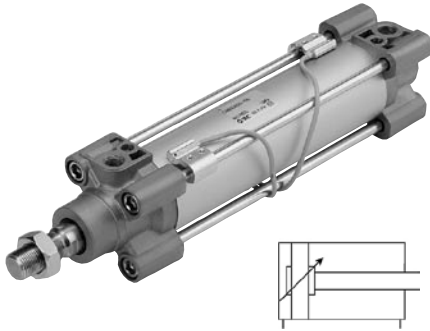
* Solid state switches marked with a "○" are produced upon receipt of order.

* Since there are other applicable auto switches than listed, refer to Best Pneumatics No. 2 for details.

* For details about auto switches with pre-wired connector, refer to Best Pneumatics No. 2.

* D-A9□, M9□, M9□W, M9□A are shipped together, (but not assembled).
 (Switch mounting bracket is only assembled at the time of shipment.)

Series C96



Specifications

Bore size (mm)	32	40	50	63	80	100	125
Action	Double acting						
Fluid	Air						
Proof pressure	1.5 MPa						
Max. operating pressure	1.0 MPa						
Min. operating pressure	0.05 MPa						
Ambient and fluid temperature	Without auto switch: -20 to 70°C* With auto switch: -10 to 60°C*						
Lubrication	Not required (Non-lube)						
Operating piston speed	50 to 1000 mm/s					50 to 700 mm/s	
Allowable stroke tolerance	Up to 250 st: $^{+1.0}_0$, 251 to 1000 st: $^{+1.4}_0$, 1001 to 1500 st: $^{+1.8}_0$, 1501 to 2000 st: $^{+2.2}_0$						
Cushion	Air cushion						
Port size	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2	G 1/2
Mounting	Basic, Axial foot, Rod flange, Head flange, Single clevis, Double clevis, Center trunnion						

* No freezing

Standard Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke ^{Note)}
32	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	1000
40	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	1900
50	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600	1900
63	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600	1900
80	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800	1900
100	25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 600, 700, 800	1900
125	—	2000

Intermediate strokes are available.

Note) Please consult with SMC for longer strokes.

Accessories

Mounting		Basic	Foot	Rod flange	Head flange	Single clevis	Double clevis	Center trunnion
Standard	Rod end nut	●	●	●	●	●	●	●
	Clevis pin	—	—	—	—	—	●	—
Option	Piston rod ball joint	●	●	●	●	●	●	●
	Rod clevis	●	●	●	●	●	●	●
	Rod boot	●	●	●	●	●	●	●

* Please do not use a piston rod ball joint (or floating joint) together with a single clevis with a ball joint (or clevis pivot bracket with a ball joint).

Replacement Parts/Seal Kit

Bore size (mm)	Kit no.	Contents
32	CS95-32	Cushion seal Wearing Piston seal Rod seal Tube gasket
40	CS95-40	
50	CS95-50	
63	CS95-63	
80	CS95-80	
100	CS96-100	
125	CS96-125	

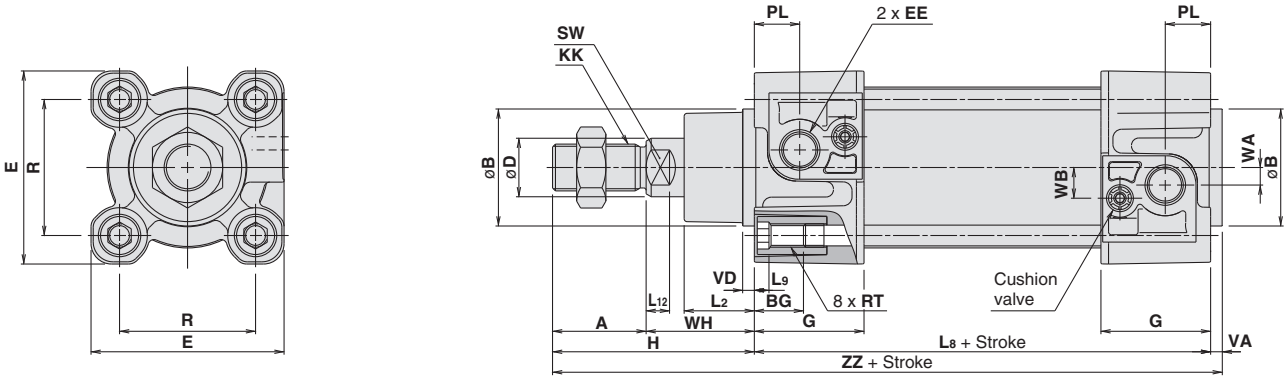
* Seal kit includes cushion seal, wearing, piston seal, rod seal, and tube gasket. Order the seal kit, based on each bore size.

* Seal kit includes a grease pack (ø32 to ø50: 10 g, ø63, ø80: 20 g, ø100, ø125: 30 g). Order with the following part number when only the grease pack is needed.

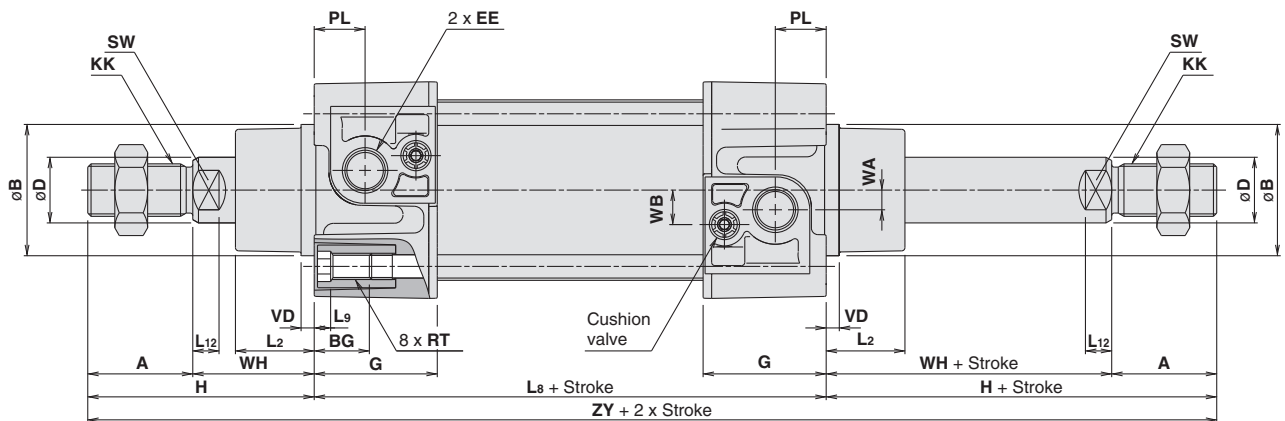
Grease pack part number: GR-S-010 (10 g), GR-S-020 (20 g)

Dimensions

Basic: C96S(D)B Bore size – Stroke



Basic: C96S(D)B Bore size – Stroke W

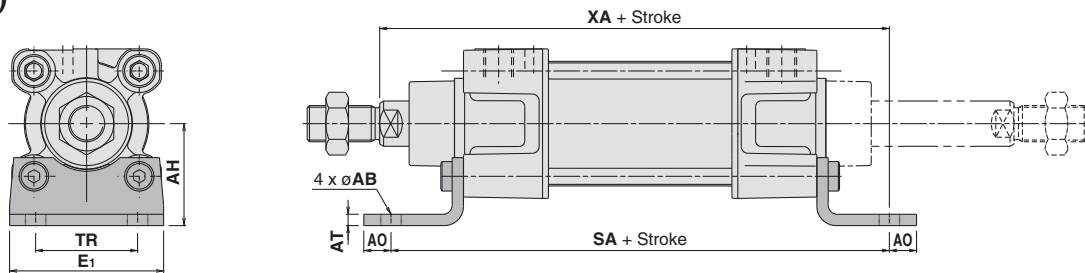


Bore size (mm)	A	B d11	BG	D	E	EE	G	H	KK	L2	L8	L9	L12	PL	R	RT	SW	VA	VD	WA	WB	WH	ZY	ZZ
32	22	30	16	12	47	G 1/8	32	48	M10 x 1.25	15	94	4	6	13	32.5	M6 x 1	10	4	4	4	7	26	190	146
40	24	35	16	16	54	G 1/4	37.5	54	M12 x 1.25	17	105	4	6.5	14	38	M6 x 1	13	4	4	5	9	30	213	163
50	32	40	16	20	66	G 1/4	37.5	69	M16 x 1.5	24	106	5	8	15.5	46.5	M8 x 1.25	17	4	4	6	10.5	37	244	179
63	32	45	16	20	77	G 3/8	45	69	M16 x 1.5	24	121	5	8	16.5	56.5	M8 x 1.25	17	4	4	9	12	37	259	194
80	40	45	17	25	99	G 3/8	45	86	M20 x 1.5	30	128	—	10	19	72	M10 x 1.5	22	4	4	11.5	14	46	300	218
100	40	55	17	25	118	G 1/2	50	91	M20 x 1.5	32	138	—	10	19	89	M10 x 1.5	22	4	4	17	15	51	320	233
125	54	60	20	32	144	G 1/2	58	119	M27 x 2	40	160	—	13	19	110	M12 x 1.75	27	6	6	17	15	65	398	285

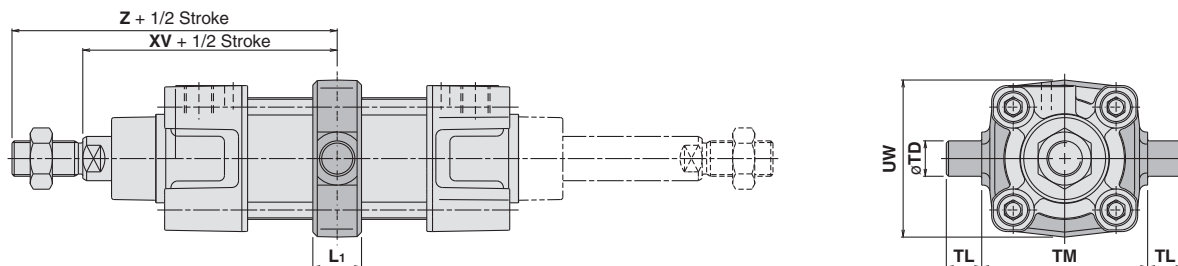
Series C96

Dimensions

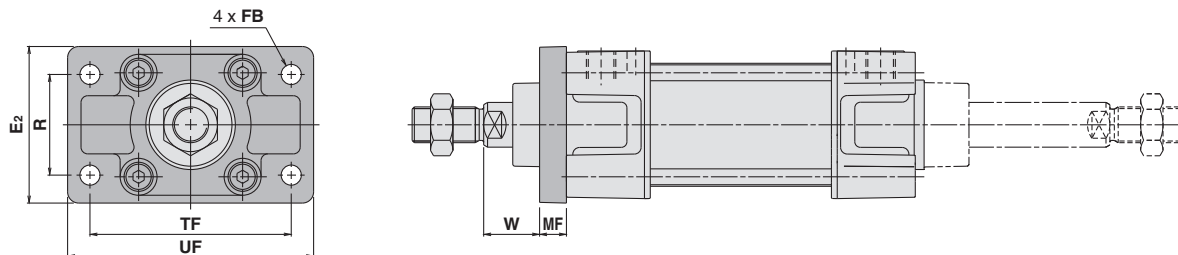
Axial foot (L)



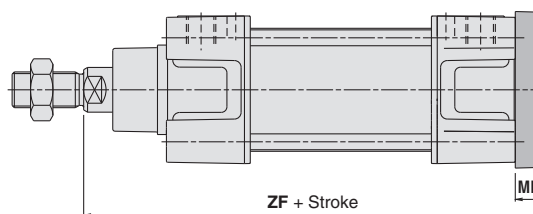
Center trunnion (T)



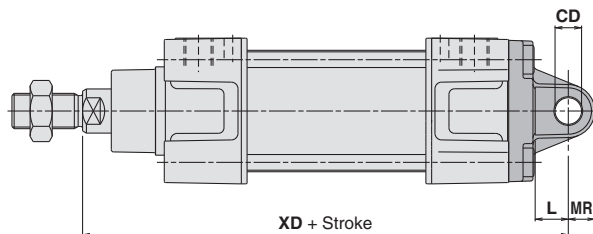
Rod flange (F)



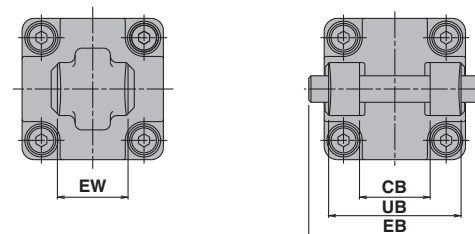
Head flange (G)



Single clevis (C)



Double clevis (D)



Bore size (mm)	E1	TR	AH	AO	AT	AB	SA	XA	TM	TL	TD e8	UW	L1	XV	Z	R	TF	FB	E2	UF	W	MF	ZF	UB h14	CB H14	EW	CD H9	L	MR	XD	EB
32	48	32	32	10	4.5	7	142	144	50	12	12	49	17	73	95	32	64	7	50	79	16	10	130	45	26	26 ^{-0.2} _{-0.6}	10	12	9.5	142	65
40	55	36	36	11	4.5	10	161	163	63	16	16	58	22	82.5	106.5	36	72	9	55	90	20	10	145	52	28	28 ^{-0.2} _{-0.6}	12	15	12	160	75
50	68	45	45	12	5.5	10	170	175	75	16	16	71	22	90	122	45	90	9	70	110	25	12	155	60	32	32 ^{-0.2} _{-0.6}	12	15	12	170	80
63	80	50	50	12	5.5	10	185	190	90	20	20	87	28	97.5	129.5	50	100	9	80	120	25	12	170	70	40	40 ^{-0.2} _{-0.6}	16	20	16	190	90
80	100	63	63	14	6.5	12	210	215	110	20	20	110	34	110	150	63	126	12	100	153	30	16	190	90	50	50 ^{-0.2} _{-0.6}	16	20	16	210	110
100	120	75	71	16	6.5	14.5	220	230	132	25	25	136	40	120	160	75	150	14	120	178	35	16	205	110	60	60 ^{-0.2} _{-0.6}	20	25	20	230	140
125	Max. 157	90	90	Max. 25	8	16	250	270	160	25	25	Max. 160	50	145	199	90	180	16	Max. 157	Max. 224	45	20	245	130	70	70 ^{-0.5} _{-1.2}	25	Min. 30	Max. 26	275	Max. 157