

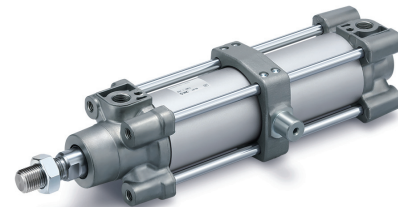
ISO Cylinder ISO Standard (15552)

RoHS

Ø 32, Ø 40, Ø 50, Ø 63, Ø 80, Ø 100, Ø 125

New

An adjustable position trunnion has been added.



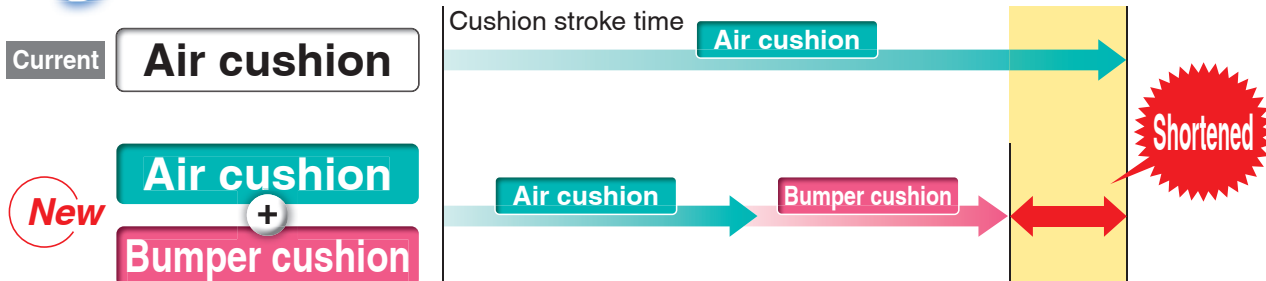
Lightweight Up to **17% Weight reduced**

* Compared with the previous C96 series (Ø 40, 100 stroke)

■ By adopting a new cushion method (**Air cushion** + **Bumper cushion**),

Cycle time shortened

(Applicable cylinder: Ø 32 to Ø 100)



■ Bumper cushion reduces the metal noise that occurs when piston stops

(Applicable cylinder: Ø 32 to Ø 100)



Series C96



CAT.EUS20-242Bb-UK

New Series C96

Weight reduced

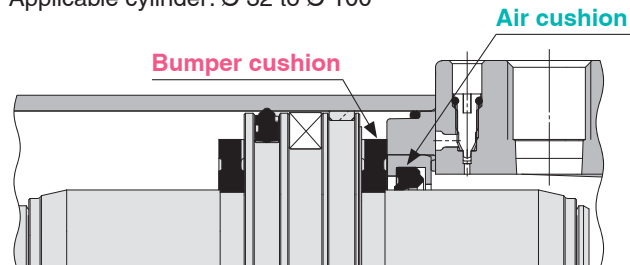
Achieved weight reduction by changing rod cover shape and piston structure

Bore size [mm]	C96	Reduction rate [%]
32	0.65	13
40	0.96	17
50	1.57	13
63	1.94	14
80	3.12	13
100	4.03	12

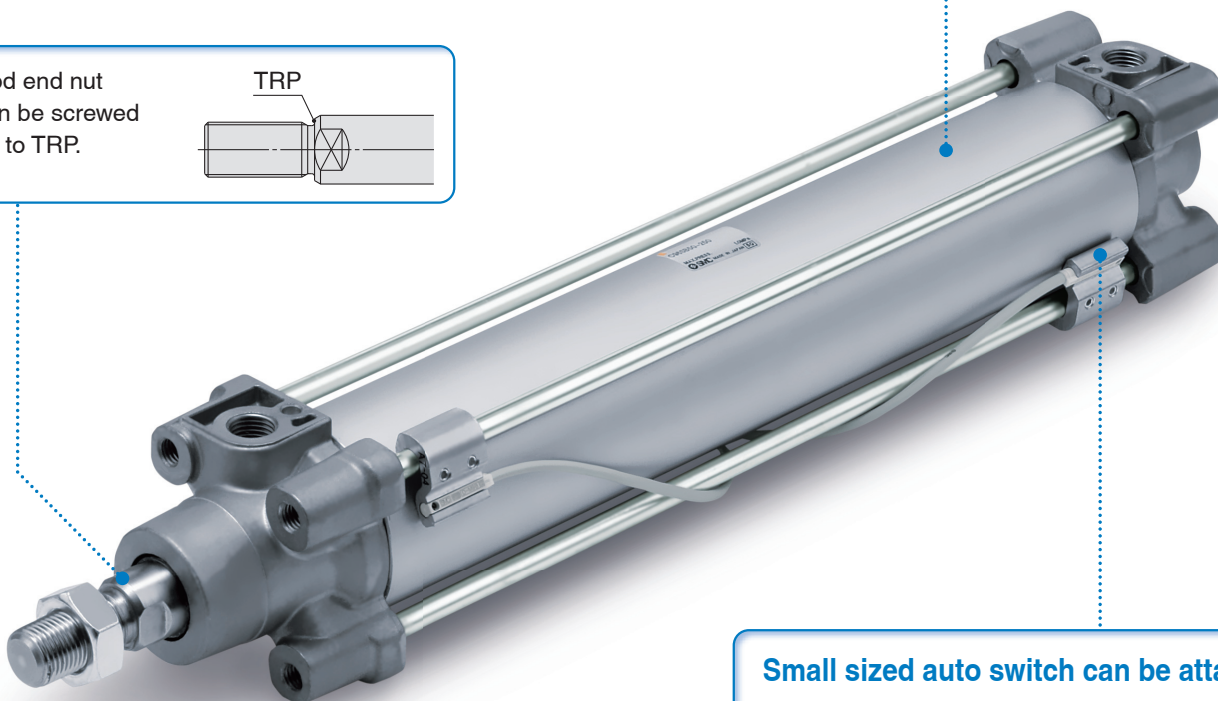
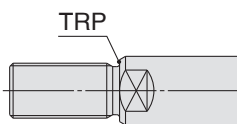
* Compared with the previous C96 series (100 mm stroke)

Air cushion + Bumper cushion Combined structure

- The cushion stroke time can now be reduced with the double cushioning, which improves the cycle time.
- The bumper cushion reduces the metal noise that occurs when the piston stops at the end of the stroke.



Rod end nut can be screwed up to TRP.



Small sized auto switch can be attached.

Solid state: D-M9□ Reed: D-A9□
D-M9□W

Improved handling performance

Auto switch mounting and mounting position adjustment can be made in a one way direction.

Tie-rod mounting auto switch

Current

2-way

Direct mounting auto switch

1-way

New method

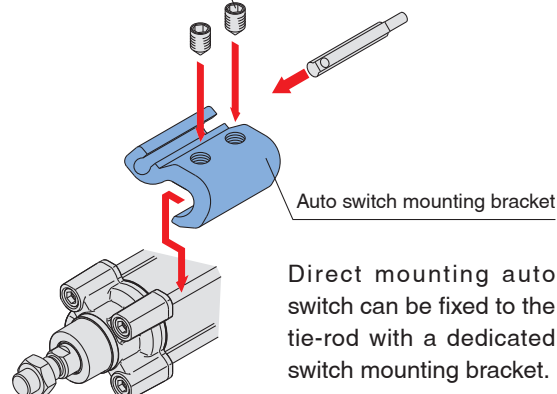
Phillips screwdriver

Watchmaker's screwdriver

Hexagon wrench (Width across flats 2.5 mm)

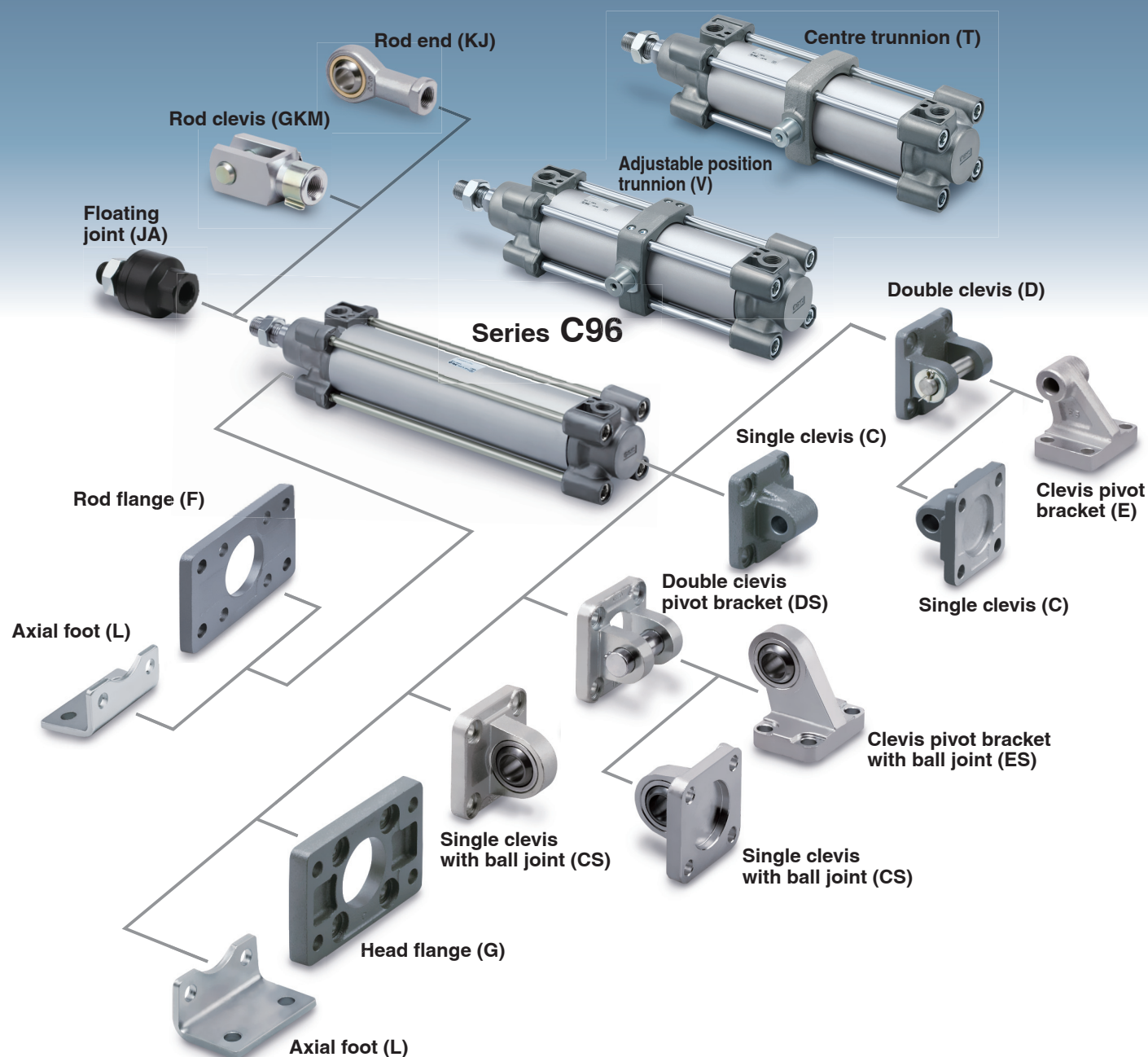
Hexagon wrench (Width across flats 2.5 mm)

Auto switch mounting screw

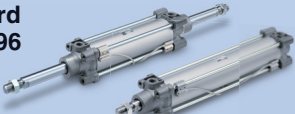
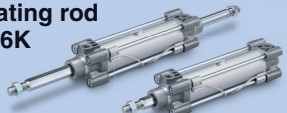


Various mounting bracket options

Mounting brackets can be combined according to the operating conditions.



Series Variations

Series	Type	Bore size [mm]							Page
		32	40	50	63	80	100	125	
Standard Series C96 	Double acting, Single rod	●	●	●	●	●	●	●	Page 3
	Double acting, Double rod	●	●	●	●	●	●	●	
Non-rotating rod Series C96K 	Double acting, Single rod	●	●	●	●	●	●	●	Page 15
	Double acting, Double rod	●	●	●	●	●	●	●	
Smooth Cylinder Series C96Y 	Double acting, Single rod	●	●	●	●	●	●	●	Page 19

ISO Standard (15552)

Air Cylinder: Standard Type Double Acting, Single/Double Rod

Series C96

Ø 32, Ø 40, Ø 50, Ø 63, Ø 80, Ø 100, Ø 125

RoHS



How to Order

C96S **B** **32** - **100** **C** **J** **W** -

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

Mounting

B	Basic
L	Axial foot
F	Rod flange
G	Head flange
C	Single clevis
D	Double clevis
T	Centre trunnion
V	Adjustable position trunnion

* Mounting brackets are shipped together, but not assembled. (Excludes the centre trunnion type and the adjustable position trunnion type)

Bore size

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

Cylinder stroke [mm]
Refer to "Standard Strokes" on page 4.

Rod

	Single rod
W	Double rod

Rod boot

	Without rod boot
J	Nylon tarpaulin (One end)
JJ	Nylon tarpaulin (Both ends)
K	Heat resistant tarpaulin (One end)
KK	Heat resistant tarpaulin (Both ends)

Number of auto switches

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

Made to Order
Refer to page 4 for details.

Auto switch

	Without auto switch
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* For applicable auto switches, refer to the table below.

Cushion

Symbol	Cushion	Bore size [mm]
C	Air cushion on both ends + Bumper cushion	Ø 32 to Ø 100
	Air cushion	Ø 125

Applicable Auto Switches/Refer to the Auto Switch Guide 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 (—)	1 (M)	3 (L)	5 (Z)						
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9N	—	●	●	●	○	○	IC circuit	Relay, PLC		
		3-wire (PNP)		M9P				—	●	●	●	○	○					
		2-wire		M9B				—	●	●	●	○	○					
		Terminal conduit		3-wire (NPN)				5 V, 12 V	—	G39	—	—	—	—			IC circuit	
	Diagnostic indication (2-colour indication)	Grommet		2-wire				12 V	—	K39	—	—	—	—	—		—	—
				3-wire (NPN)				5 V, 12 V	M9NW	—	●	●	●	○	○		IC circuit	
				3-wire (PNP)				12 V	M9PW	—	●	●	●	○	○		IC circuit	
				2-wire				M9BW	—	●	●	●	○	○	—			
				3-wire (NPN)				5 V, 12 V	M9NA*1	—	○	○	●	○	○		IC circuit	
				3-wire (PNP)				12 V	M9PA*1	—	○	○	●	○	○		IC circuit	
			2-wire	M9BA*1	—	○	○	●	○	○	—							
			4-wire (NPN)	5 V, 12 V	F59F	—	●	—	●	○	○	IC circuit						
With diagnostic output (2-colour indication)	Grommet	2-wire (Non-polar)	—	—	—	—	—	—	—	●	●	○	—					
														P4DW	—	—	—	—
Reed auto switch	—	Grommet	Yes	3-wire (NPN Equivalent)	24 V	5 V	—	A96	—	●	—	●	—	—	IC circuit	—		
				2-wire				100 V	A93	—	●	●	●	●	—		—	
								100 V or less	A90	—	●	—	●	—	—		—	IC circuit
								100 V, 200 V	A54	—	●	—	●	●	—		—	
		200 V or less	A64					—	●	—	●	—	—	—				
		Terminal conduit	Yes	—				A33	—	—	—	—	—	—	—		—	PLC
				100 V, 200 V				A34	—	—	—	—	—	—	—		—	Relay, PLC
				—				A44	—	—	—	—	—	—	—		—	
	Diagnostic indication (2-colour indication)			Grommet	—	—	—	A59W	—	●	—	●	—	—	—			

*1 Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.

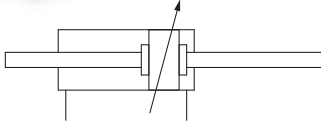
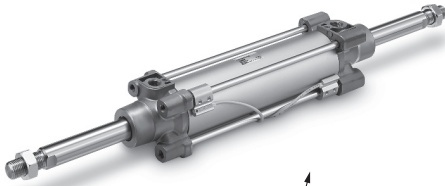
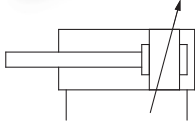
* Lead wire length symbols: 0.5 m — (Example) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWLZ

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

* Since there are other applicable auto switches than listed above, refer to page 27 for details.

* The D-A9□/M9□/M9□W/M9□A auto switches are shipped together, but not assembled. (Only the auto switch mounting brackets are assembled before shipment.)

* The adjustable position trunnion (V) mounting bracket only supports D-A9□, M9□, M9□W, and M9□A auto switches.



Made to Order
(For details, refer to pages 32 to 41.)

Symbol	Specifications
-XA□	Change of rod end shape
-XC14	Change of trunnion bracket mounting position
-XB6	Heat resistant cylinder (-10 to 150° C)
-XB7	Cold resistant cylinder (-40 to 70° C)
-XC4	With heavy duty scraper
-XC7	Tie-rod, tie-rod nut, etc. made of stainless steel
-XC10	Dual stroke cylinder/Double rod type
-XC11	Dual stroke cylinder/Single rod type
-XC22	Fluororubber seal
-XC35	With coil scraper
-XC65	Made of stainless steel (Combination of -XC7 and -XC68)
-XC68	Made of stainless steel (with hard chrome plated piston rod)
-XC85	Grease for food processing equipment
-XC88	Spatter resistant coil scraper, Lube-retainer, grease for welding (Piston rod: Stainless steel 304)
-XC89	Spatter resistant coil scraper, Lube-retainer, grease for welding (Piston rod: S45C)

Refer to pages 23 to 27 for cylinders with auto switches.

- Auto switch proper mounting position (detection at stroke end) and its mounting height
- Minimum stroke for auto switch mounting
- Auto switch mounting brackets/Part no.
- Operating range

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 temperatures		Without auto switch: -20 to 70 °C (No freezing) With auto switch: -10 to 60 °C (No freezing)						
Lubrication		Not required (Non-lube)						
Operating piston speed		50 to 1000 mm/s						50 to 700 mm/s
Allowable stroke tolerance	Up to 500	+2 0						+1.0 0
	501 to 1000	+2.4 0						+1.4 0
	1001 to 1500	+2.8 0						+1.8 0
	1501 to 2000	+3.2 0						+2.2 0
Cushion		Air cushion on both ends + Bumper cushion						Air cushion
Port size		G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Mounting		Basic, Axial foot, Rod flange, Head flange, Single clevis, Double clevis, Centre trunnion, Adjustable position trunnion						

Standard Strokes

Bore size [mm]	Standard stroke [mm]	Max. stroke
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

- * Aside from the standard strokes, intermediate strokes are also available in 1 mm increments and are produced upon receipt of order.
- * Strokes exceeding the max. stroke are available as a special order.

Accessories

Mounting	Basic	Foot	Rod flange	Head flange	Single clevis	Double clevis	Centre trunnion	Adjustable position trunnion
Standard	Rod end nut	●	●	●	●	●	●	●
	Clevis pin	—	—	—	—	●	—	—
Option	Rod end	●	●	●	●	●	●	●
	Rod clevis	●	●	●	●	●	●	●
	Rod boot	●	●	●	●	●	●	●

- * Do not use a rod end (or floating joint) together with a single clevis with a ball joint (or clevis pivot bracket with a ball joint).
- * Refer to pages 10 to 14 for dimensions and part numbers of the accessories.

⚠ Precautions

Be sure to read this before handling. Refer to the back cover for Safety Instructions. For Actuator and Auto Switch Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on SMC website, <http://www.smc.eu>

Theoretical Output



[N]

Bore size [mm]	Rod size [mm]	Operating direction	Piston area [mm ²]	Operating pressure [MPa]								
				0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
32	12	OUT	804	161	241	322	402	482	563	643	724	804
		IN	691	138	207	276	346	415	484	553	622	691
40	16	OUT	1257	251	377	503	629	754	880	1006	1131	1257
		IN	1056	211	317	422	528	634	739	845	950	1056
50	20	OUT	1963	393	589	785	982	1178	1374	1570	1767	1963
		IN	1649	330	495	660	825	989	1154	1319	1484	1649
63	20	OUT	3117	623	935	1247	1559	1870	2182	2494	2805	3117
		IN	2803	561	841	1121	1402	1682	1962	2242	2523	2803
80	25	OUT	5027	1005	1508	2011	2514	3016	3519	4022	4524	5027
		IN	4536	907	1361	1814	2268	2722	3175	3629	4082	4536
100	25	OUT	7854	1571	2356	3142	3927	4712	5498	6283	7068	7854
		IN	7363	1473	2209	2945	3682	4418	5154	5890	6627	7363
125	32	OUT	12272	2454	3682	4909	6136	7363	8590	9817	11045	12272
		IN	11468	2294	3440	4587	5734	6881	8027	9174	10321	11468

Note) Theoretical output [N] = Pressure [MPa] x Piston area [mm²]

Weight (Guide)

[kg]

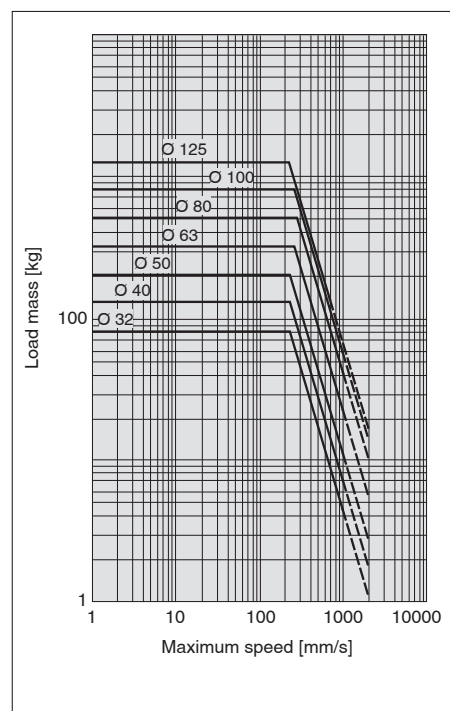
Bore size [mm]		32	40	50	63	80	100	125
Basic weight	Basic	0.43	0.64	1.09	1.42	2.32	3.15	6.70
	Foot	0.59	0.84	1.47	1.88	3.21	4.24	9.30
	Flange	0.63	0.87	1.56	2.00	3.62	4.96	10.80
	Single clevis	0.59	0.87	1.46	2.02	3.39	4.88	10.85
	Double clevis	0.63	0.96	1.54	2.13	3.60	5.26	10.95
	Centre trunnion	0.71	1.10	1.73	2.48	4.25	5.95	9.68
	Adjustable position trunnion	0.71	1.10	1.73	2.48	4.25	5.95	9.68
Additional weight per 50 mm of stroke	All mounting brackets	0.11	0.16	0.24	0.26	0.40	0.44	0.71
Accessories	Rod end	0.07	0.11	0.22		0.40		1.20
	Rod clevis	0.09	0.15	0.34		0.69		1.84

Calculation: Example) **C96SD40-100C**

- Basic weight 0.96 [kg] (Double clevis, Ø 40)
- Additional weight 0.16 (kg/50 st)
- Cylinder stroke 100 [st]

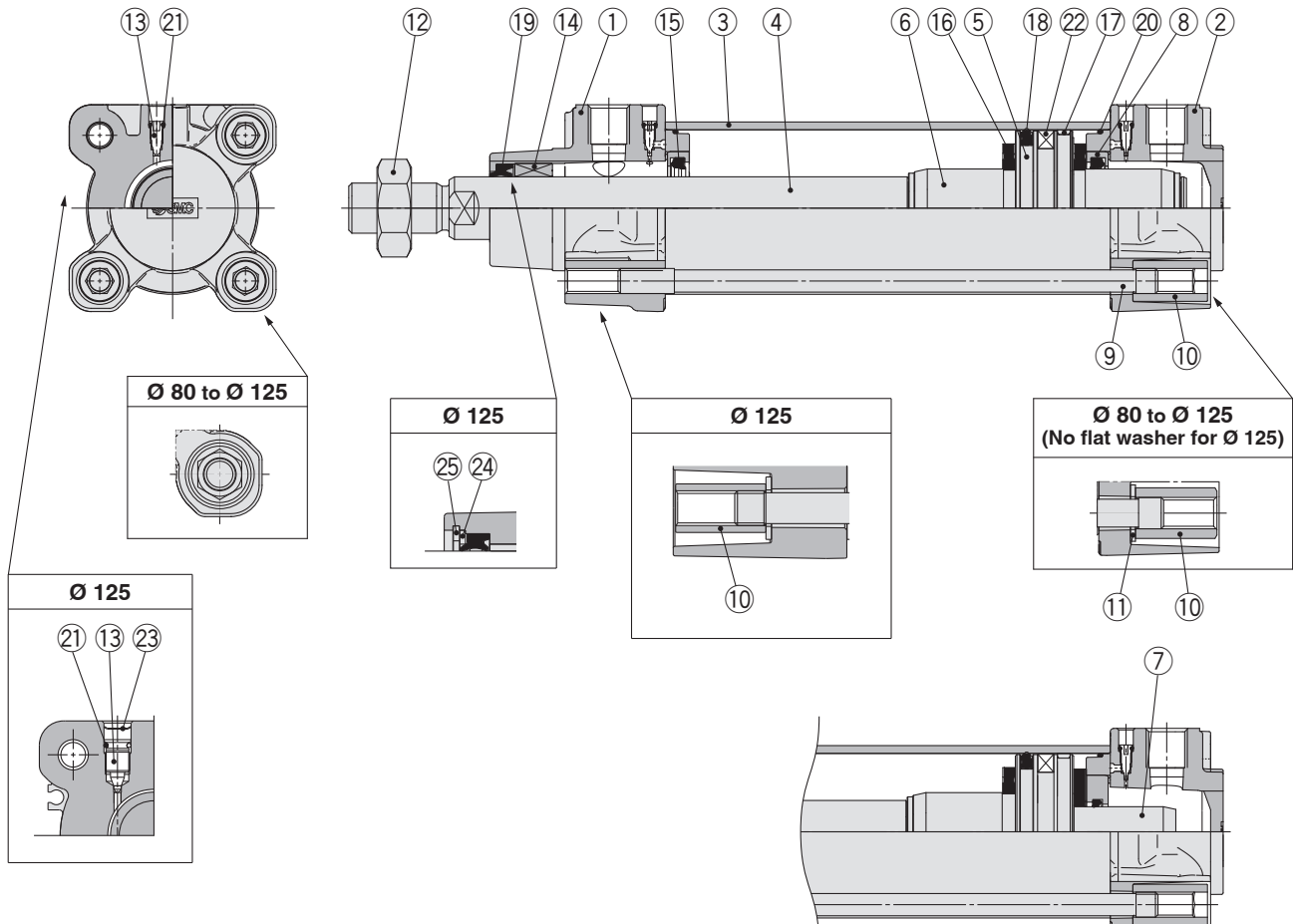
$$0.96 + 0.16 \times 100 \div 50 = 1.28 \text{ [kg]}$$

Allowable Kinetic Energy



(Example) Find the upper limit of rod end load when an air cylinder of Ø 63 is operated at 500 mm/s. From a point indicating 500 mm/s on the axis of abscissas, extend a line upward and find a point where it intersects with a line for the 63 mm bore size. Extend a line from the intersection to the left and find a load mass 80 kg.

Construction



Component Parts

No.	Description	Material	Note
1	Rod cover	Aluminium die-cast	
2	Head cover	Aluminium die-cast	
3	Cylinder tube	Aluminium alloy	
4	Piston rod	Carbon steel	
5	Piston	Aluminium alloy	Ø 32 to Ø 63, Ø 125
		Aluminium die-cast	Ø 80, Ø 100
6	Cushion ring A	Aluminium alloy	
7	Cushion ring B	Aluminium alloy	
8	Cushion seal holder	Aluminium alloy	Ø 32 to Ø 100
9	Tie-rod	Carbon steel	
10	Tie-rod nut	Steel	
11	Flat washer	Steel	Ø 80, Ø 100
12	Rod end nut	Steel	
13	Cushion valve	Resin	Ø 32 to Ø 100
		Steel wire	Ø 125
14	Bushing	Bearing alloy	
15	Cushion seal	Urethane	
16	Bumper	Urethane	Ø 32 to Ø 100
17	Wear ring	Resin	
18	Piston seal	NBR	
19	Rod seal	NBR	
20	Cylinder tube gasket	NBR	
21	Cushion valve seal	NBR	
22	Magnet		
23	Retaining ring	Steel for spring	Ø 125
24	Rod seal holder	Stainless steel	Ø 125
25	Retaining ring	Steel for spring	Ø 125

Replacement Parts/Seal Kit (Single rod)

Bore size [mm]	Kit no.	Contents
32	CS95-32	Kits include items ⑮, ⑰ to ⑳
40	CS95-40	
50	CS95-50	
63	CS95-63	
80	CS95-80	
100	CS96-100	
125	CS96-125	

* Seal kits consist of items ⑮, ⑰ to ⑳ and can be ordered by using the seal kit number corresponding to each bore size.

* The seal kit includes a grease pack (10 g for Ø 32 to Ø 50, 20 g for Ø 63 and Ø 80, 30 g for Ø 100 and Ø 125).

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)

Seal Kit (Double rod)

Bore size [mm]	Kit no.	Contents
32	CS95W-32	Kits include items ⑮, ⑱ to ㉔
40	CS95W-40	
50	CS95W-50	
63	CS95W-63	
80	CS95W-80	
100	CS96W-100	
125	CS96W-125	

* Seal kits consist of items ⑮, ⑱ to ㉔ and can be ordered by using the seal kit number corresponding to each bore size.

* The seal kit includes a grease pack (10 g for Ø 32 to Ø 50, 20 g for Ø 63 and Ø 80, 30 g for Ø 100 and Ø 125).

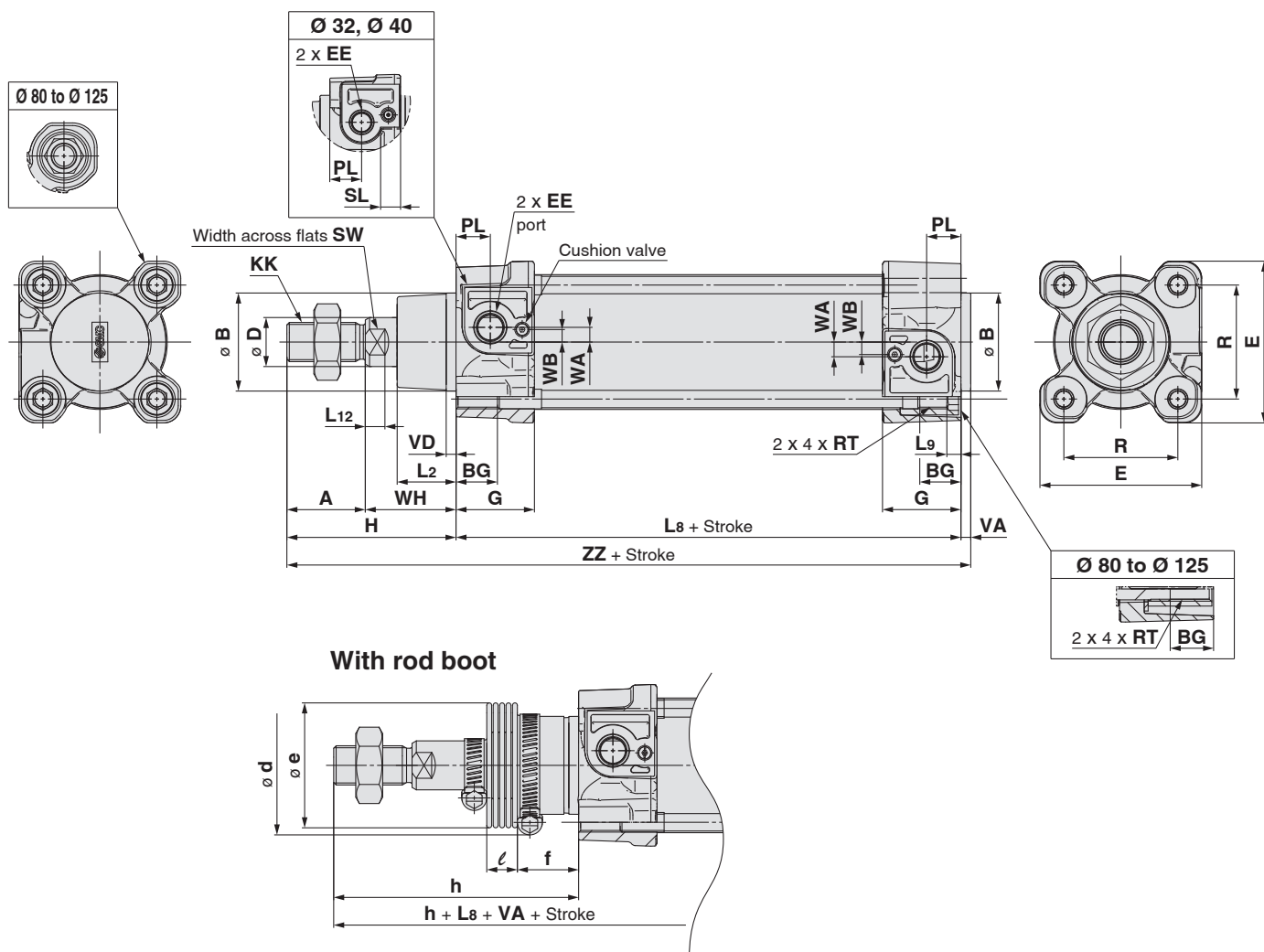
Order with the following part number when only the grease pack is needed.

Grease pack part number: GR-S010 (10 g), GR-S-020 (20 g)

Series C96

Dimensions

Basic: C96S (D) B Bore size – Stroke C (J)



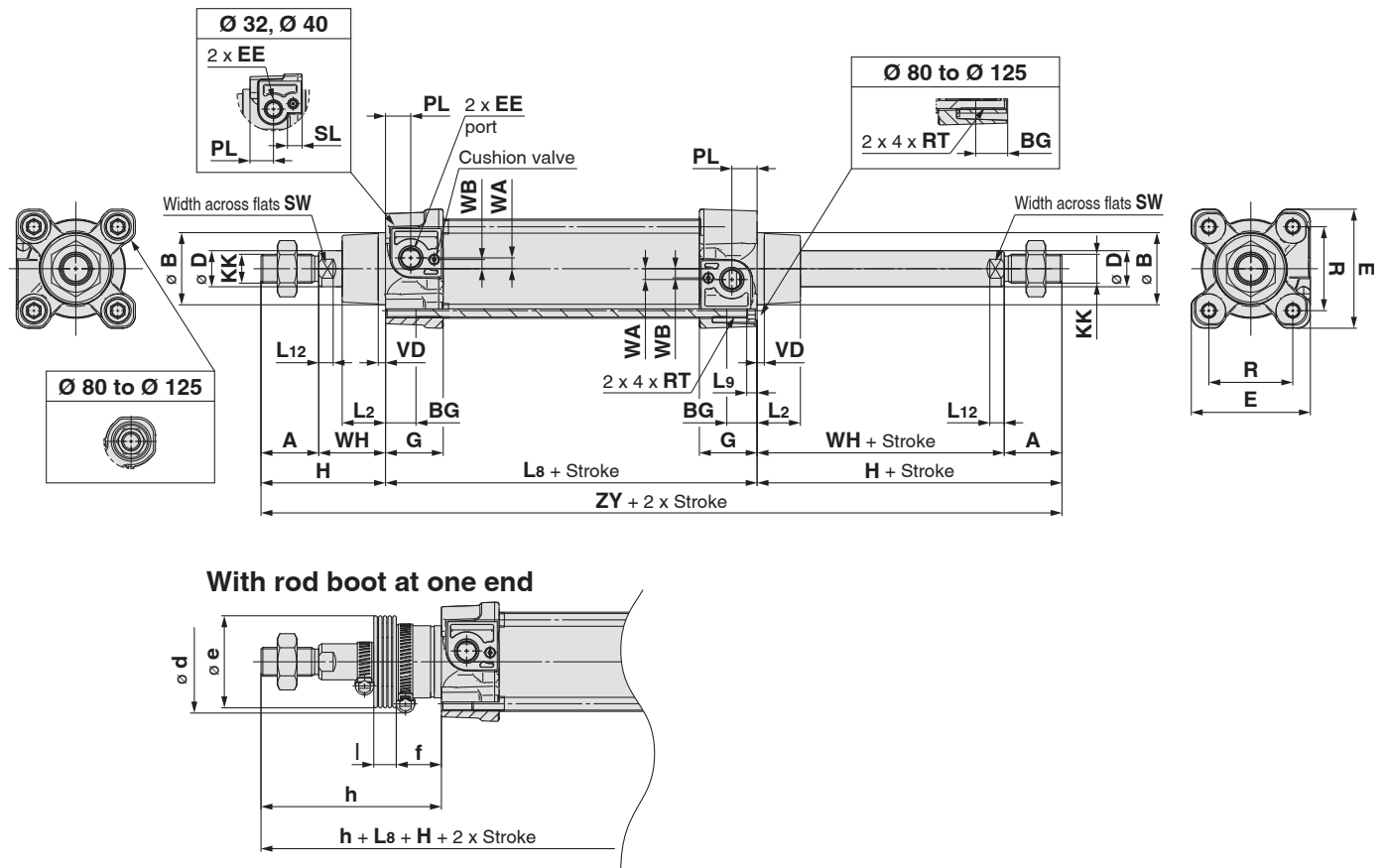
Bore size [mm]	Stroke range*1 [mm]		A	B	BG	D	E	EE	G	H	KK	L2	L8	L9	L12	PL	R	RT	SL	SW	VA	VD	WA	WB	WH	ZZ
	Without rod boot	With rod boot																								
32	Up to 1000	Up to 1000	22	30	16	12	47	G1/8	28.9	48	M10 x 1.25	15	94	4	6	13	32.5	M6 x 1	8	10	4	4	4	7	26	146
40	Up to 1900	Up to 1000	24	35	16	16	54	G1/4	32.6	54	M12 x 1.25	17	105	4	6.5	14	38	M6 x 1	8	13	4	4	5	8.9	30	163
50	Up to 1900	Up to 1000	32	40	16	20	66	G1/4	32	69	M16 x 1.5	24	106	5	8	14	46.5	M8 x 1.25	–	17	4	4	6	5.1	37	179
63	Up to 1900	Up to 1000	32	45	16	20	77	G3/8	38.6	69	M16 x 1.5	24	121	5	8	16	56.5	M8 x 1.25	–	17	4	4	9	6.3	37	194
80	Up to 1900	Up to 1000	40	45	17	25	99	G3/8	38.4	86	M20 x 1.5	30	128	–	10	16	72	M10 x 1.5	–	22	4	4	11.5	6	46	218
100	Up to 1900	Up to 1000	40	55	17	25	118	G1/2	42.9	91	M20 x 1.5	32	138	–	10	18	89	M10 x 1.5	–	22	4	4	17	10	51	233
125	Up to 2000	Up to 1000	54	60	20	32	144	G1/2	58	119	M27 x 2	40	160	–	13	19	110	M12 x 1.75	–	27	6	6	17	15	65	285

*1 Minimum stroke for trunnion mounting: 1 mm for bore size 32 to 80, 5 mm for bore size 100, 10 mm for bore size 125

Bore size [mm]	d	e	f	ℓ												h											
				1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	801 to 900	901 to 1000	1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	801 to 900	901 to 1000
32	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	75	88	100	113	138	163	188	213	238	263	288	313
40	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	75	88	100	113	138	163	188	213	238	263	288	313
50	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	87	100	112	125	150	175	200	225	250	275	300	325
63	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	87	100	112	125	150	175	200	225	250	275	300	325
80	68	56	30	12.5	25	37.5	50	75	100	125	150	175	200	225	250	103	116	128	141	166	191	216	241	266	291	316	341
100	76	56	32	12.5	25	37.5	50	75	100	125	150	175	200	225	250	103	116	128	141	166	191	216	241	266	291	316	341
125	82	75	40	10	20	30	40	60	80	100	120	140	160	180	200	130	140	150	160	180	200	220	240	260	280	300	320

Dimensions

Basic: C96S (D) B Bore size – Stroke C (J) W



Bore size [mm]	Stroke range*1 [mm]	A	Ø B d11	BG	Ø D	E	EE	G	H	KK	L2	L8	L9	L12	PL	R	RT	SL	SW	VD	WA	WB	WH	ZY
32	Up to 1000	22	30	16	12	47	G1/8	28.9	48	M10 x 1.25	15	94	4	6	13	32.5	M6 x 1	8	10	4	4	7	26	190
40	Up to 1000	24	35	16	16	54	G1/4	32.6	54	M12 x 1.25	17	105	4	6.5	14	38	M6 x 1	8	13	4	5	8.9	30	213
50	Up to 1000	32	40	16	20	66	G1/4	32	69	M16 x 1.5	24	106	5	8	14	46.5	M8 x 1.25	—	17	4	6	5.1	37	244
63	Up to 1000	32	45	16	20	77	G3/8	38.6	69	M16 x 1.5	24	121	5	8	16	56.5	M8 x 1.25	—	17	4	9	6.3	37	259
80	Up to 1000	40	45	17	25	99	G3/8	38.4	86	M20 x 1.5	30	128	—	10	16	72	M10 x 1.5	—	22	4	11.5	6	46	300
100	Up to 1000	40	55	17	25	118	G1/2	42.9	91	M20 x 1.5	32	138	—	10	18	89	M10 x 1.5	—	22	4	17	10	51	320
125	Up to 1000	54	60	20	32	144	G1/2	58	119	M27 x 2	40	160	—	13	19	110	M12 x 1.75	—	27	6	17	15	65	398

*1 Minimum stroke for trunnion mounting: 1 mm for bore size 32 to 80, 5 mm for bore size 100, 10 mm for bore size 125

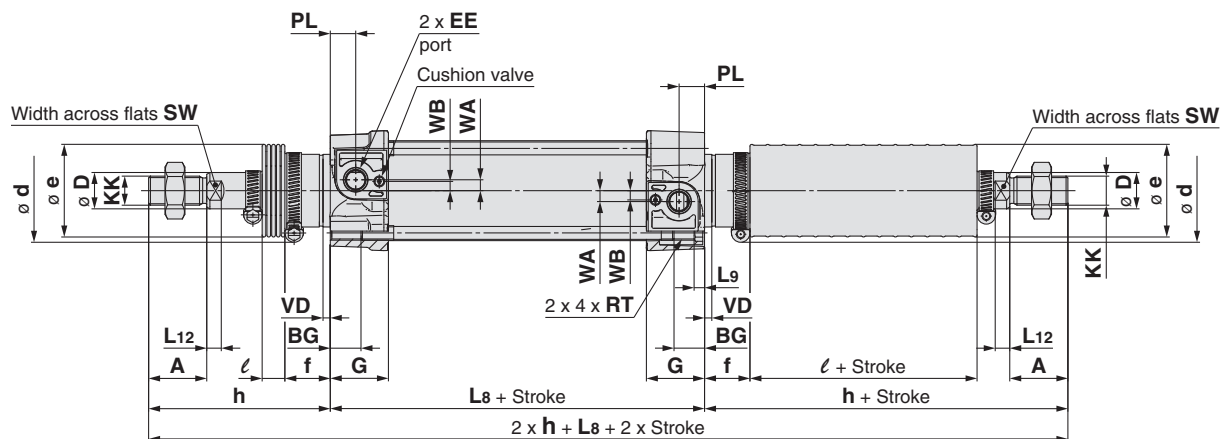
Bore size [mm]	Ø d	e	f	ℓ														h											
				1 to 50	51 to 100	101 to 150	151 to 200	201 to 250	251 to 300	301 to 350	351 to 400	401 to 450	451 to 500	501 to 550	551 to 600	601 to 650	651 to 700	701 to 750	751 to 800	801 to 850	851 to 900	901 to 950	951 to 1000	1001 to 1050	1051 to 1100	1101 to 1150	1151 to 1200	1201 to 1250	1251 to 1300
32	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
40	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
50	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
63	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
80	68	56	30	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
100	76	56	32	12.5	25	37.5	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
125	82	75	40	10	20	30	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480

Series C96

Dimensions

Basic: C96S (D) B Bore size – Stroke C (JJ) W

With rod boot at both ends



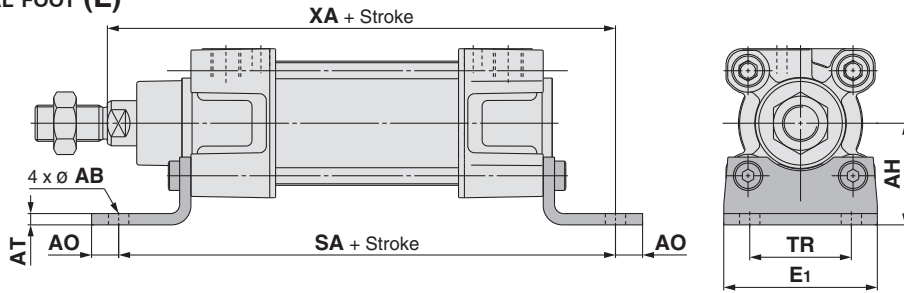
Bore size [mm]	Stroke range*1 [mm]	A	BG	Ø D	E	EE	G	KK	L8	L9	L12	PL	R	RT	SL	SW	VD	WA	WB
32	Up to 1000	22	16	12	47	G1/8	28.9	M10 x 1.25	94	4	6	13	32.5	M6 x 1	8	10	4	4	7
40	Up to 1000	24	16	16	54	G1/4	32.6	M12 x 1.25	105	4	6.5	14	38	M6 x 1	8	13	4	5	8.9
50	Up to 1000	32	16	20	66	G1/4	32	M16 x 1.5	106	5	8	14	46.5	M8 x 1.25	—	17	4	6	5.1
63	Up to 1000	32	16	20	77	G3/8	38.6	M16 x 1.5	121	5	8	16	56.5	M8 x 1.25	—	17	4	9	6.3
80	Up to 1000	40	17	25	99	G3/8	38.4	M20 x 1.5	128	—	10	16	72	M10 x 1.5	—	22	4	11.5	6
100	Up to 1000	40	17	25	118	G1/2	42.9	M20 x 1.5	138	—	10	18	89	M10 x 1.5	—	22	4	17	10
125	Up to 1000	54	20	32	144	G1/2	58	M27 x 2	160	—	13	19	110	M12 x 1.75	—	27	6	17	15

*1 Minimum stroke for trunnion mounting: 1 mm for bore size 32 to 80, 5 mm for bore size 100, 10 mm for bore size 125

Bore size [mm]	Ø d	Ø e	f	ℓ												h											
				1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	801 to 900	901 to 1000	1 to 50	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 to 600	601 to 700	701 to 800	801 to 900	901 to 1000
32	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	75	88	100	113	138	163	188	213	238	263	288	313
40	54	36	23	12.5	25	37.5	50	75	100	125	150	175	200	225	250	75	88	100	113	138	163	188	213	238	263	288	313
50	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	87	100	112	125	150	175	200	225	250	275	300	325
63	64	51	25	12.5	25	37.5	50	75	100	125	150	175	200	225	250	87	100	112	125	150	175	200	225	250	275	300	325
80	68	56	30	12.5	25	37.5	50	75	100	125	150	175	200	225	250	103	116	128	141	166	191	216	241	266	291	316	341
100	76	56	32	12.5	25	37.5	50	75	100	125	150	175	200	225	250	103	116	128	141	166	191	216	241	266	291	316	341
125	82	75	40	10	20	30	40	60	80	100	120	140	160	180	200	130	140	150	160	180	200	220	240	260	280	300	320

DIMENSIONS: WITH MOUNTING BRACKET (DIMENSIONS ARE COMMON TO SINGLE ROD AND DOUBLE ROD.)

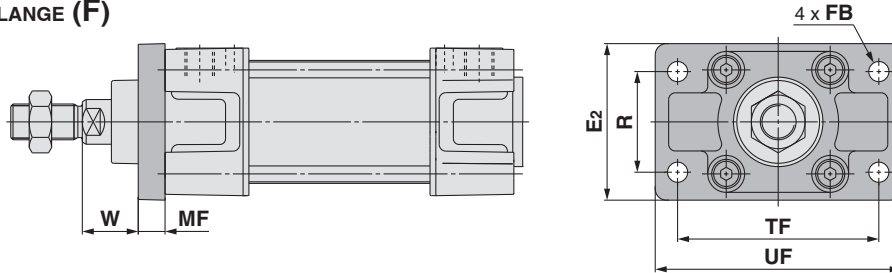
AXIAL FOOT (L)



[mm]

Bore size [mm]	E ₁	TR	AH	AO	AT	AB	SA	XA
32	48	32	32	10	4.5	7	142	144
40	55	36	36	11	4.5	10	161	163
50	68	45	45	12	5.5	10	170	175
63	80	50	50	12	5.5	10	185	190
80	100	63	63	14	6.5	12	210	215
100	120	75	71	16	6.5	14.5	220	230
125	Max. 157	90	90	Max. 25	8	16	250	270

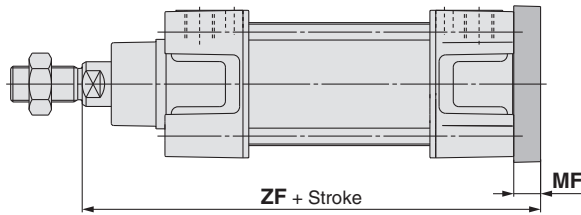
ROD FLANGE (F)



[mm]

Bore size [mm]	R	TF	FB	E ₂	UF	W	MF
32	32	64	7	50	79	16	10
40	36	72	9	55	90	20	10
50	45	90	9	70	110	25	12
63	50	100	9	80	120	25	12
80	63	126	12	100	153	30	16
100	75	150	14	120	178	35	16
125	90	180	16	Max. 157	Max. 224	45	20

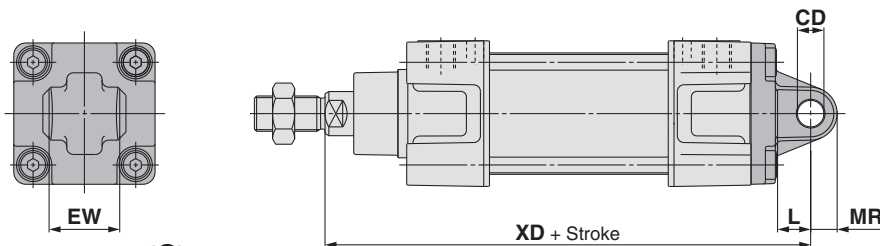
HEAD FLANGE (G)



[mm]

Bore size [mm]	MF	ZF
32	10	130
40	10	145
50	12	155
63	12	170
80	16	190
100	16	205
125	20	245

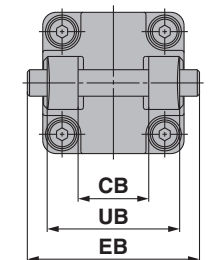
SINGLE CLEVIS (C)
DOUBLE CLEVIS (D)



[mm]

Bore size [mm]	EW	CD H ₉	L	MR	XD	UB h ₁₄	CB H ₁₄	EB
32	26 ^{-0.2} _{-0.6}	10	12	9.5	142	45	26	65
40	28 ^{-0.2} _{-0.6}	12	15	12	160	52	28	75
50	32 ^{-0.2} _{-0.6}	12	15	12	170	60	32	80
63	40 ^{-0.2} _{-0.6}	16	20	16	190	70	40	90
80	50 ^{-0.2} _{-0.6}	16	20	16	210	90	50	110
100	60 ^{-0.2} _{-0.6}	20	25	20	230	110	60	140
125	70 ^{-0.5} _{-1.2}	25	Min. 30	Max. 26	275	130	70	Max. 157

SINGLE CLEVIS (C)

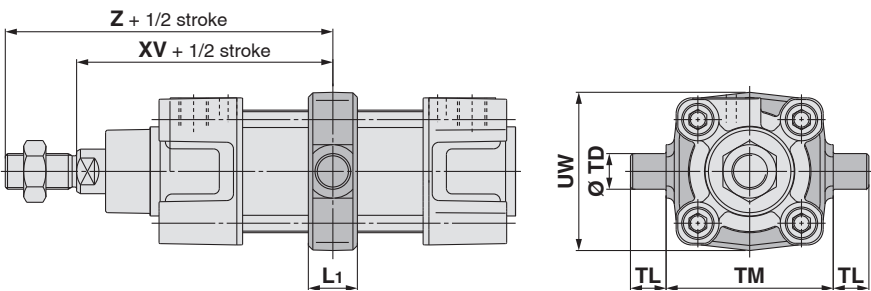


DOUBLE CLEVIS (D)

Series C96

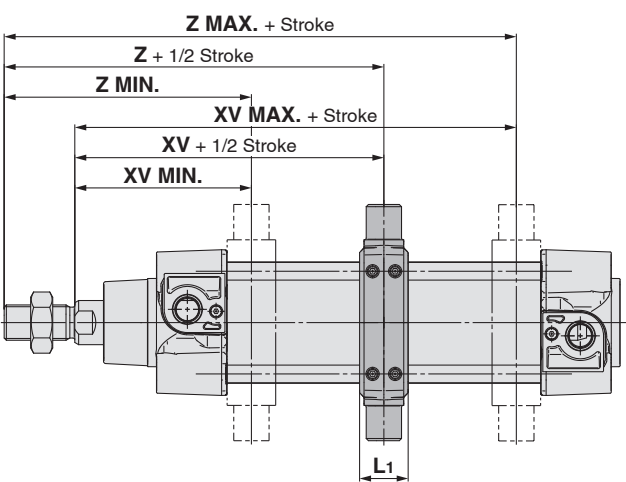
Dimensions: With Mounting Bracket (Dimensions are common to single rod and double rod.)

Centre trunnion (T)



[mm]							
Bore size [mm]	TM	TL	TD _{e8}	UW	L ₁	XV	Z
32	50	12	12	49	17	73	95
40	63	16	16	58	22	82.5	106.5
50	75	16	16	71	22	90	122
63	90	20	20	87	28	97.5	129.5
80	110	20	20	110	34	110	150
100	132	25	25	136	40	120	160
125	160	25	25	Max. 160	50	145	199

Adjustable position trunnion (V)



[mm]							
Bore size [mm]	Minimum		Middle		Maximum		Trunnion holding force
	XV MIN.	Z MIN.	XV	Z	XV MAX.	Z MAX.	
32	63.4	85.4	73	95	82.6	104.6	5700 N
40	73.6	97.6	82.5	106.5	90.4	114.4	5700 N
50	80	112	90	122	100	132	10600 N
63	89.6	121.6	97.5	129.5	105.4	137.4	10600 N
80	97.8	137.8	110	150	122.2	162.2	25100 N
100	113.9	153.9	120	160	126.1	166.1	25100 N
125	148	202	145	199	142	196	42200 N