

Standard: Double Acting Single Rod

Series CG1

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

Standard

CG1 L N 25 100

With auto switch

CDG1 L N 25 100 B53

With auto switch
(magnet)

Mounting

B	Basic
L	Axial foot
F	Front flange
G	Rear flange
U*	Front trunnion
T*	Rear trunnion
D	Clevis



* Not available for bore sizes ø80 and ø100.
** Mounting brackets are included, not mounted.

Cushion

N	Rubber bumper
A	Air cushion

Rod boot (at one side)

—	Without rod boot
J	Nylon tarpaulin
K	Heat resistant tarpaulin

* Foot brackets and front flanges are fitted when rod boots are mounted.

Number of auto switches

—	2
S	1
n	n

Auto switch

—	Without auto switch (Built-in magnet)
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* Refer to the table below for selecting applicable auto switches.

Bore size

20	20mm	50	50mm
25	25mm	63	63mm
32	32mm	80	80mm
40	40mm	100	100mm

Cylinder stroke (mm)

Refer to p.1.7-3 for Standard Stroke Table.

Applicable Auto Switches/Refer to p.5.3-2 for further information on auto switch.

Style	Special function	Electrical entry	Indicator	Wiring (Output)	Load voltage		Auto switch model		Lead wire (m)*				Applicable load					
					DC	AC	Applicable bore size		0.5 (—)	3 (L)	5 (Z)	None (N)						
							ø20 to ø63	ø20 to ø100										
Reed switch	—	Grommet	Yes	3 wire (NPN)	—	5V	—	C76	—	●	●	—	—	IC	—			
				2 wire	24V	—	—	B53	●	●	●	—	—	PLC				
			200V or less			—	B54	●	●	—	—	—	Relay PLC					
			12V			100V	C73	—	●	●	●			—				
			5V, 12V			100V or less	C80	—	●	●	—			—	IC			
			Yes	12V	—	C73C	—	●	●	—	●	—	—					
	No	5V, 12V	24V or less	C80C	—	●	●	●	●	IC	—							
	Diagnostic indication (2 color)	Grommet	Yes	—	—	—	B59W	●	●	—	—	—	—					
	Solid state switch	—	Grommet	Yes	3 wire (NPN)	24V	5V, 12V	—	H7A1	G59	●	●	○	—	IC	Relay PLC		
3 wire (PNP)					H7A2				G5P	●	●	○	—					
Connector			2 wire	12V	H7B		K59		●	●	○	—	—					
			H7C	—	●		●		●	●	—	—						
Diagnostic indication (2 color)		Grommet	Yes	3 wire (NPN)	5V, 12V		H7NW		G59W	●	●	○	—	IC				
				3 wire (PNP)			H7PW		G5PW	●	●	○	—					
				2 wire	12V		H7BW		K59W	●	●	○	—	—				
				H7BA	G5BA		—		●	○	—	IC						
				3 wire (NPN)	5V, 12V		—		G5NT	—	●		○	—				
				4 wire (NPN)	—		H7NF		G59F	●	●		○	—	—			
				Diagnostic output (2 color)	Grommet		Yes		—	—	H7LF	—	●	●	○		—	—
				Latch with diagnostic output (2 color)							—	—	—	—	—		—	—

* Lead wire length 0.5m.....— 3m.....L e.g.) C73C 5m.....Z e.g.) C73CZ C73CL None.....N C73CN

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

Standard: Double Acting Single Rod *Series CG1*

Substantially shorter length:

ø20 to ø40: -15 to -30mm
 (in comparison with CM2 Series)
 ø40 to ø63: -17 to -28mm
 (in comparison with CA1 Series)
 ø80 to ø100: -9 to -33mm
 (in comparison with CA1 Series)

High speed operation: 1000mm/s
 (ø80 and ø100 operate at 700mm/s)

Provided with an air cushion as standard

Two cushions are available:
 an air cushion or rubber bumper

Weight reduction of 10 to 50%
 (50mm stroke, in-house comparison)

Highly accurate mounting brackets

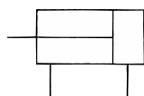
(Axial foot, front flange)



Standard stroke

JIS symbol

Double acting



Made to Order

Refer to p.5.4-1 for made to order products of series CG1.

Mounting Bracket

Refer to p.1.7-4 for part numbers for the mounting brackets.

Auto Switch Mounting Band

Refer to p.1.7-4 for part numbers for the mounting bands.

Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Action	Double acting/Single rod							
Lubrication	Non-lube							
Fluid	Air							
Proof pressure	1.5MPa							
Max. operating pressure	1.0MPa							
Min. operating pressure	0.05MPa							
Ambient and fluid temperature	Without auto switch: −10 to +70°C (No freezing)							
	With auto switch: −10 to +60°C (No freezing)							
Piston speed	50 to 1000mm/s						50 to 700mm/s	
Stroke tolerance	Up to 1000 ^{+1.4} ₀ mm, Up to 1200 ^{+1.8} ₀ mm						Up to 1000 ^{+1.4} ₀ mm Up to 1500 ^{+1.8} ₀ mm	
Thread tolerance	JIS class 2							
Cushion	Rubber bumper/Air cushion							
Mounting*	Basic, Axial foot, Front flange, Rear flange, Front trunnion, Rear trunnion, Clevis (Used for changing the port location by 90° degrees.)							



Front/Rear trunnion styles are not available for bore sizes ø80 and ø100.

Accessories

Mounting		Basic	Axial foot	Front flange	Rear flange	Front trunnion	Rear trunnion	Clevis
Standard	Rod end nut	●	●	●	●	●	●	●
	Clevis pin	—	—	—	—	—	—	●
Option	Single knuckle joint	●	●	●	●	●	●	●
	Double knuckle joint** (With pins)	●	●	●	●	●	●	●
	Pivot bracket	—	—	—	—	●*	●*	●
	Rod boot	●	●	●	●	●	●	●

* Pivot bracket is not available for bore sizes ø80 and ø100.

** Pins and snap rings for double knuckle joint are included, not mounted.

Stroke

Bore size (mm)	Standard stroke (1) (mm)	Long stroke (2) (mm)	Max stroke (mm)
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
25		301 to 400	
32		301 to 450	
40	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 800	
50/63		301 to 1200	
80		301 to 1400	
100		301 to 1500	



Note 1) Other intermediate strokes can be manufactured upon receipt of order. Spacers are not used for the intermediate strokes. Refer to p.1.7-8 to 1.7-10 for dimensions.

Note 2) Long stroke applies to the axial foot and the front flange style. If other mounting brackets are used or the length exceeds the stroke limit, the stroke should be determined based on the stroke selection table in the technical data.

Minimum Strokes for Auto Switch Mounting

Auto switch model	Number of switches	
	2	1
D-C7/C8 D-B5/B6 D-H7 D-G5/K5	15mm	10mm
D-B59W	20mm	15mm
D-H7LF	20mm	10mm

Rod Boot Materials

Symbol	Material	Max. operating temp
J	Nylon tarpaulin	70°C
K	Heat resistant tarpaulin	110°C*

* Maximum ambient temperature for the rod boot only.

CJ1

CJP

CJ2

CM2

C85

C76

CG1

MB

MB1

CP95

C95

C92

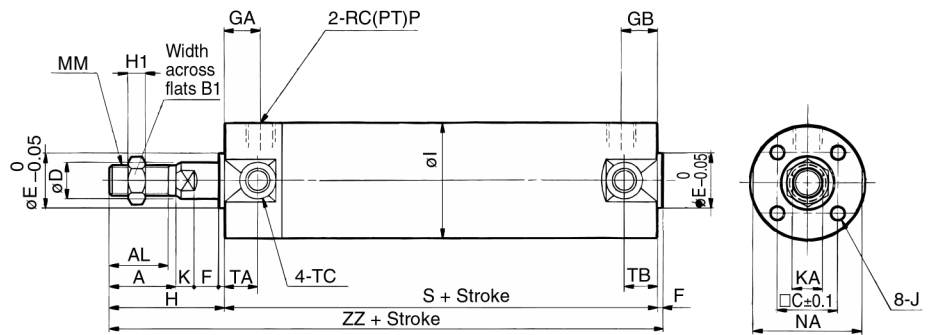
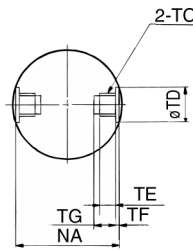
CA1

CS1

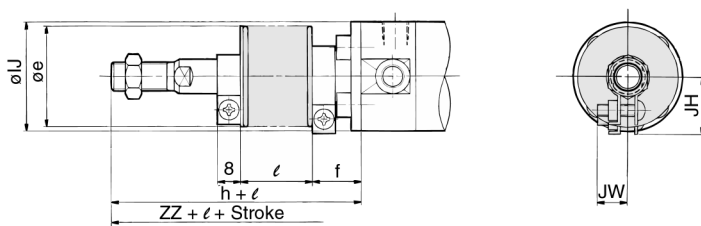
Series CG1

Basic/CG1BN: With Rubber Bumper

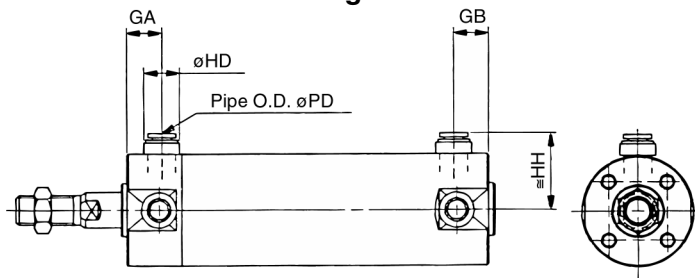
TA/TB cross section



Basic: With rod boot

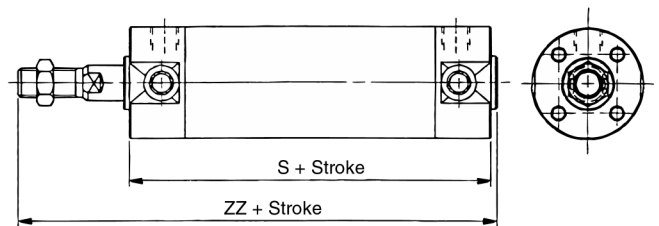


Built-in One-touch fitting



Other dimensions are the same as standard.

Air-hydro



Other dimensions are the same as the long stroke standard.

Bore (mm)	Standard stroke (mm)	Long stroke (mm)	A	AL	B1	C	D	E	F	GA	GB	H	H1	I	J	K	KA	MM	NA	P	S	TA	TB	ZZ
20	Up to 200	201 to 350	18	15.5	13	14	8	12	2	12	12	35	5	26	M4 Depth 7	5	6	M8	24	1/8	69 (77)	11	11	106 (114)
25	Up to 300	301 to 400	22	19.5	17	16.5	10	14	2	12	10 (12)	40	6	31	M5 Depth 7.5	5.5	8	M10 X 1.25	29	1/8	69 (77)	11	11	111 (119)
32	Up to 300	301 to 450	22	19.5	17	20	12	18	2	12	10 (12)	40	6	38	M5 Depth 8	5.5	10	M10 X 1.25	35.5	1/8	71 (79)	11	10 (11)	113 (121)
40	Up to 300	301 to 800	30	27	19	26	16	25	2	13	10 (13)	50	8	47	M6 Depth 12	6	14	M14 X 1.5	44	1/8	78 (87)	12	10 (12)	130 (139)
50	Up to 300	301 to 1200	35	32	27	32	20	30	2	14	12 (14)	58	11	58	M8 Depth 16	7	18	M18 X 1.5	55	1/4	90 (102)	13	12 (13)	150 (162)
63	Up to 300	301 to 1200	35	32	27	38	20	32	2	14	12 (14)	58	11	72	M10 Depth 16	7	18	M18 X 1.5	69	1/4	90 (102)	13	12 (13)	150 (162)
80	Up to 300	301 to 1400	40	37	32	50	25	40	3	20	16 (20)	71	13	89	M10 Depth 22	10	22	M22 X 1.5	80	3/8	108 (122)	—	—	182 (196)
100	Up to 300	301 to 1500	40	37	41	60	30	50	3	20	16 (20)	71	16	110	M12 Depth 22	10	26	M26 X 1.5	100	1/2	108 (122)	—	—	182 (196)

Note 1) (): Long stroke

Note 2) Trunnion mounting taps with width across flats NA are not attached for bore size 80 and 100.

TA/TB cross section

Bore (mm)	TC*	TDH9	TE	TF	TG
20	M5	8 ^{+0.08} ₀	4	0.5	5.5
25	M6 X 0.75	10 ^{+0.08} ₀	5	1	6.5
32	M8 X 1.0	12 ^{+0.08} ₀	5.5	1	7.5
40	M10 X 1.25	14 ^{+0.08} ₀	6	1.25	8.5
50	M12 X 1.25	16 ^{+0.08} ₀	7.5	2	10
63	M14 X 1.5	18 ^{+0.08} ₀	11.5	3	14.5
80	—	—	—	—	—
100	—	—	—	—	—

With rod boot

Bore (mm)	e	f	h	IJ	JH	JW	ℓ	ZZ
20	30	16	55	27	(14.5)	(11.5)	0.25 stroke	126 (134)
25	30	17	62	32	(17.5)	(11.5)		133 (141)
32	35	17	62	38	(19.5)	(11.5)		135 (143)
40	35	17	70	48	(22.5)	(13)		150 (159)
50	40	17	78	59	(25)	(13)		170 (182)
63	40	18	78	72	(25)	(13)		170 (182)
80	52	10	80	59	—	—		191 (205)
100	62	7	80	71	—	—		191 (205)

* The minimum stroke for rod boot equipped style is 20mm.

Built-in One-touch fitting

Bore (mm)	GA	GB	HD	HH	PD
20	12	10 (12)	13	24.2	6
25	12	10 (12)	13	26.7	6
32	12	10 (12)	13	30.2	6
40	12	10 (12)	16	34.6	8
50	13	13	20	40.6	10
63	13	13	20	47.1	10

Air-hydro

Bore (mm)	S	ZZ
20	70	107
25	70	112
32	72	114
40	80	132
50	95	155
63	95	155

Note) (): Long stroke