

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	●	●	●	—	—	Relay PLC				
					200V or less	—	B54	●	●	—	—						
					12V	100V	C73	—	●	●	—			—			
					5V, 12V	100V or less	C80	—	●	●	—			—	IC		
					12V	—	C73C	—	●	●	●			—	—		
	Yes	5V, 12V	24V or less	C80C	—	●	●	●	●	—	—	IC					
	Connector	No	—	—	—	B59W	●	●	—	—	—	—					
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		3 wire (NPN)		5V, 12V		H7NW	G59W	●	●	○	—	IC			
				3 wire (PNP)				H7PW	G5PW	●	●	○	—				
				2 wire				12V	H7BW	K59W	●	●	○			—	—
				H7BA				G5BA	—	●	○	—					
			With timer	3 wire (NPN)		5V, 12V		—	G5NT	—	●	○	—	IC			
			4 wire (NPN)	H7NF				G59F	●	●	○	—					
			Diagnostic output (2 color)	4 wire (NPN)				—	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

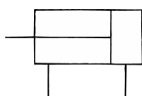
(Axial foot, front flange)



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

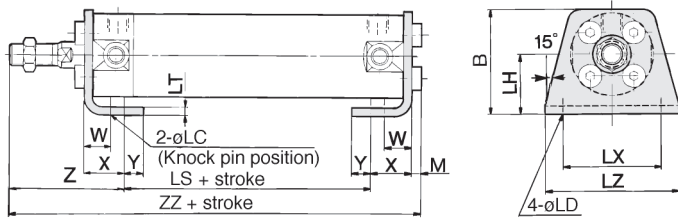
CA1

CS1

Standard: Double Acting Single Rod *Series CG1*

With Mounting Bracket

Axial foot/CGNLN



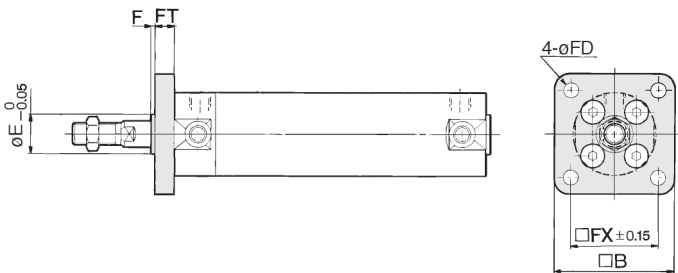
Axial foot

(mm)

Bore (mm)	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	Z		ZZ	
													Without rod boot	With rod boot	Without rod boot	With rod boot
20	34	4	6	20	45 (53)	3	32	44	3	10	15	7	47	67+ℓ	110 (118)	130 (138) +ℓ
25	38.5	4	6	22	45 (53)	3	36	49	3.5	10	15	7	52	74+ℓ	115.5 (123.5)	137.5 (145.5) +ℓ
32	45	4	6.6	25	45 (53)	3	44	58	3.5	10	16	8	53	75+ℓ	117.5 (125.5)	139.5 (147.5) +ℓ
40	54.5	4	6.6	30	51 (60)	3	54	71	4	10	16.5	8.5	63.5	83.5+ℓ	135 (144)	155 (164) +ℓ
50	70.5	5	9	40	55 (67)	4.5	66	86	5	17.5	22	11	75.5	95.5+ℓ	157.5 (169.5)	177.5 (189.5) +ℓ
63	82.5	5	11	45	55 (67)	4.5	82	106	5	17.5	22	13	75.5	95.5+ℓ	157.5 (169.5)	177.5 (189.5) +ℓ
80	101	6	11	55	60 (74)	4.5	100	125	5	20	28.5	14	95	104+ℓ	188.5 (202.5)	197.5 (211.5) +ℓ
100	121	6	14	65	60 (74)	6	120	150	7	20	30	16	95	104+ℓ	192 (206)	201 (215) +ℓ

Note) () : Long stroke

Front flange/CG1FN



Flange

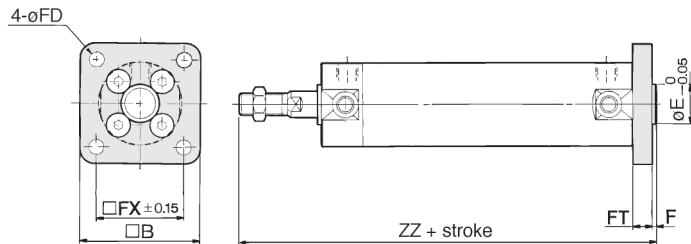
(mm)

Bore (mm)	Stroke range		B	E	F	FX	FD	FT	Rear flange ZZ	
	Front	Rear							Without rod boot	With rod boot
20	Up to 350	Up to 200	40	12	2	28	5.5	6	112	132+ℓ
25	Up to 400	Up to 300	44	14	2	32	5.5	7	118	140+ℓ
32	Up to 450	Up to 300	53	18	2	38	6.6	7	120	142+ℓ
40	Up to 800	Up to 500	61	25	2	46	6.6	8	138 (147)	158 (167) +ℓ
50	Up to 1200	Up to 600	76	30	2	58	9	9	159 (171)	179 (191) +ℓ
63	Up to 1200	Up to 600	92	32	2	70	11	9	159 (171)	179 (191) +ℓ
80	Up to 1400	Up to 750	104	40	3	82	11	11	193 (207)	202 (216) +ℓ
100	Up to 1500	Up to 750	128	50	3	100	14	14	196 (210)	202 (219) +ℓ

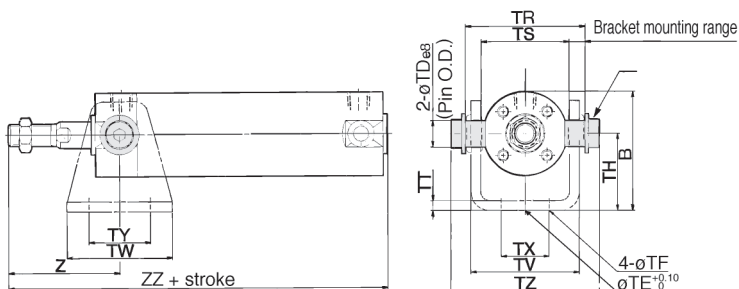
Note 1) () : Long stroke

Note 2) End boss is machined on the flange for øE.

Rear flange/CG1UN



Front trunnion/CG1UN



Trunnion

(mm)

Bore (mm)	Stroke range		B	TDe8	TE	TF	TH	TR	TS	TT	TV
	Front	Rear									
20	Up to 200	Up to 200	38	8-0.025-0.047	10	5.5	25	39	28	3.2	35.8
25	Up to 300	Up to 300	45.5	10-0.025-0.047	10	5.5	30	43	33	3.2	39.8
32	Up to 300	Up to 300	54	12-0.032-0.059	10	6.6	35	54.5	40	4.5	49.4
40	Up to 500	Up to 500	63.5	14-0.032-0.059	10	6.6	40	65.5	49	4.5	58.4
50	Up to 600	Up to 600	79	16-0.032-0.059	20	9	50	80	60	6	72.4
63	Up to 600	Up to 600	96	18-0.032-0.059	20	11	60	98	74	8	90.4

Bore (mm)	TW	TX	TY	TZ	Front Z		Rear Z		ZZ	
					Without rod boot	With rod boot	Without rod boot	With rod boot	Without rod boot	With rod boot
20	42	16	28	47.6	46	66+ℓ	93	113+ℓ	114	134+ℓ
25	42	20	28	53	51	73+ℓ	98	120+ℓ	119	141+ℓ
32	48	22	28	67.7	51	73+ℓ	101	123+ℓ	125	147+ℓ
40	56	30	30	78.7	62	82+ℓ	118 (125)	138 (145) +ℓ	146 (153)	166 (173) +ℓ
50	64	36	36	98.6	71	91+ℓ	136 (147)	156 (167) +ℓ	168 (179)	188 (199) +ℓ
63	74	46	46	119.2	71	91+ℓ	136 (147)	156 (167) +ℓ	173 (184)	193 (204) +ℓ

* Consists of pins, flat washer and hexagon socket head cap bolt.

Note 1) () : Long stroke

Note 2) Refer to p.1.7-11 for pivot bracket.

Rear trunnion/CG1TN

