

# 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	—			
			No	2 wire	24V	12V	200V or less	—	B53	●	●	●	—	—	PLC			
								—	B54	●	●	●	—	—	Relay PLC			
								—	B64	●	●	—	—					
		Yes	12V			100V	C73	—	●	●	●	—	—	Relay PLC				
		Connector	No			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)				12V	H7A2	G5P	●	●	○			—		
		Connector		2 wire		12V		H7B	K59	●	●	○	—	—				
				2 wire		12V		H7C	—	●	●	●	●	—				
	Diagnostic indication (2 color)	Grommet	3 wire (NPN)	5V, 12V		H7NW		G59W	●	●	○	—	IC					
			3 wire (PNP)			12V		H7PW	G5PW	●	●	○		—				
			2 wire	12V		H7BW		K59W	●	●	○	—	—					
				3 wire (NPN)		5V, 12V		H7BA	G5BA	—	●	○	—	IC				
			Water resistant (2 color)	With timer		Diagnostic output (2 color)		Latch with diagnostic output (2 color)	—	G5NT	—	●	○			—	—	
									H7NF	G59F	●	●	○	—				
									Diagnostic output (2 color)	Latch with diagnostic output (2 color)	H7LF	—	●	●		○	—	—

\* 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**

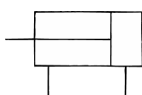
(Axial foot, front flange)



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 <sup>+1.4</sup> <sub>0</sub> mm, Up to 1200 <sup>+1.8</sup> <sub>0</sub> mm							Up to 1000 <sup>+1.4</sup> <sub>0</sub> mm Up to 1500 <sup>+1.8</sup> <sub>0</sub> 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

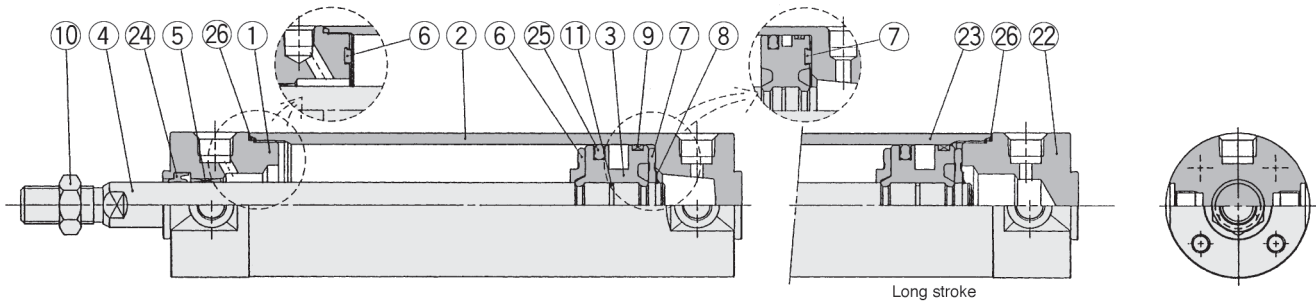
# Standard: Double Acting Single Rod *Series CG1*

## Construction

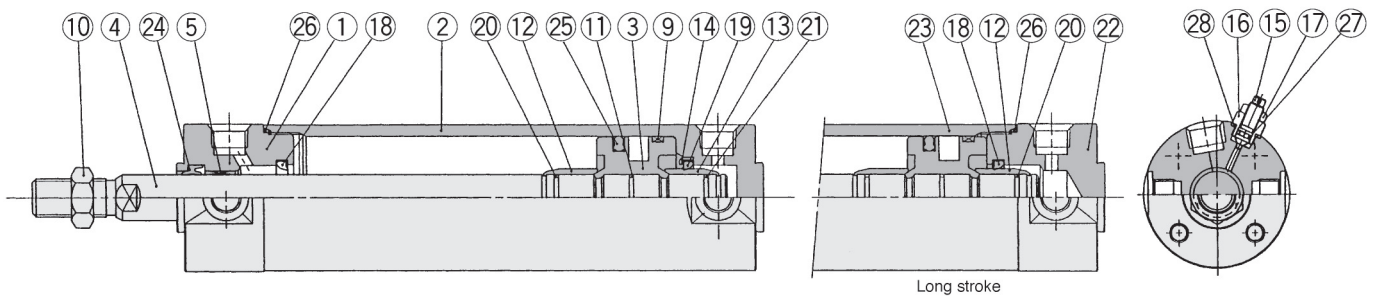
### With rubber bumper

ø80, ø100

ø80, ø100



### With air cushion



## Component Parts

No.	Description	Material	Note
①	Rod cover	Aluminum alloy	White hard anodized
②	Tube cover	Aluminum alloy	White hard anodized
③	Piston	Aluminum alloy	Chromated
④	Piston rod	Carbon steel	Hard chrome plated
⑤	Bushing	Oil impregnated sintered alloy	ø40 or larger: Lead bronze cast
⑥	Bumper A	Urethane	
⑦	Bumper B	Urethane	ø40 or larger: the same as damper A
⑧	Snap ring	Stainless steel	Except for ø80 and ø100
⑨	Wear ring	Resin	
⑩	Rod end nut	Rolled steel	Nickel plated
⑪	Piston gasket	NBR	
⑫	Cushion ring A	Brass	
⑬	Cushion ring B	Brass	ø32 or more: the same as A
⑭	Seal retainer	Rolled steel	Nickel plated/Except for long stroke
⑮	Cushion valve	Rolled steel	Electroless nickel plated
⑯	Valve retainer	Rolled steel	Electroless nickel plated
⑰	Lock nut	Rolled steel	Nickel plated
⑱	Cushion seal A	Urethane	
⑲	Cushion seal B	Urethane	ø32 or larger: the same as A *
⑳	Cushion ring gasket A	NBR	
㉑	Cushion ring gasket B	NBR	ø32 or larger: the same as A
㉒	Head cover	Aluminum alloy	White hard anodized
㉓	Cylinder tube	Aluminum alloy	Hard anodized

Note) A magnet is equipped on the piston of the cylinder with auto switch.

\* The material is stainless steel on auto switch equipped styles ø20 and ø25.

## Replacement Parts/With rubber bumper

No.	Description	Material	Bore size (mm)/Part No.							
			ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
㉔	Rod seal	NBR	PDU-8Z	PDU-10Z	PDU-12LZ	PDU-16Z	PDU-20Z	PDU-20Z	PDU-25Z	PDU-30Z
㉕	Piston seal	NBR	PPD-20	PPD-25-19	PPD-32	PPD-40	PPD-50	PPD-63	PPD-80	PPD-100
㉖	Tube gasket	NBR	CM-020-16-123	CM-025-16-124	CM-032-16-126	CM-040-16-127	CM-050-16-128	CM-063-16-129	CM-080-16-152	CM-100-16-153

## With air cushion (Parts ㉔ to ㉖ are the same as rubber bumper style.)

㉗	Valve seal	NBR	O ring ø4.5 X ø2.5 X ø1				O ring ø5.5 X ø3.5 X ø1		O ring ø6.5 X ø4.5 X ø1	
㉘	Gasket for valve retainer	NBR	O ring ø6.4 X ø5.2 X ø0.6				O ring ø7.4 X ø5.8 X ø0.8		O ring ø11.4 X ø9.4 X ø1	

CJ1

CJP

CJ2

CM2

C85

C76

**CG1**

MB

MB1

CP95

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