

Stainless Steel Cylinder

Series CG5-S

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

How to Order

Without Auto Switch CG5 L N 25 TF S R 100

With Auto Switch CDG5 L N 25 TF S R 100 G5BAL

With auto switch
(built-in magnet)

Mounting

B	Basic type
L	Axial foot type
F	Front flange type
G	Rear flange type
E	Integral clevis type

Type

N	Non-lube, rubber bumper
A	Non-lube, air cushion

Bore size

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

Port thread type

-	Rc
TN	NPT
TF	G

Stainless steel cylinder

Seal material

R	NBR
V	FKM

Auto switch type/Band mount type

Nil	Without auto switch (built-in magnet)
G5BAL	D-G5BAL (water resistant)

Auto switches are available in the band mount type only.

Cylinder stroke (mm)
Refer to the standard stroke table on page 8.

Number of auto switches

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

Mounting bracket part numbers

Mounting bracket	Bore size (mm)							
	20	25	32	40	50	63	80	100
Axial foot Note 1)	CG-L020SUS	CG-L025SUS	CG-L032SUS	CG-L040SUS	CG-L050SUS	CG-L063SUS	CG-L080SUS	CG-L100SUS
Flange	CG-F020SUS	CG-F025SUS	CG-F032SUS	CG-F040SUS	CG-F050SUS	CG-F063SUS	CG-F080SUS	CG-F100SUS
Trunnion bracket Note 2)	CG-E020SUS		CG-E032SUS		CG-E050SUS		CG-E080SUS	

Note 1) Order two foot brackets for each cylinder.

Note 2) Includes clevis pin and snap ring.

Auto switch mounting bracket part numbers (band mount type)

Auto switch model	Bore size (mm)							
	20	25	32	40	50	63	80	100
D-G5BAL	NBA-088S	NBA-106S	BGS1-032S	BAF-04S	BAF-05S	BAF-06S	BAF-08S	BAF-10S

* Includes stainless steel mounting screws.

Grease pack for stainless steel cylinders/Part number: GR-R-010 (10g)

Auto switch specifications

Refer to pages 15 through 17 for auto switch related items.

D-G5BAL (With indicator light)/Band mount type	
Auto switch model	D-G5BAL
Wiring type	2 wire
Output type	—
Applicable load	24VDC relay, PLC
Power supply voltage	—
Current consumption	—
Load voltage	24VDC (10 to 28VDC)
Load current	5 to 40mA
Internal voltage drop	4V or less
Leakage current	0.8mA or less at 24VDC
Indicator light	Actuated position Red LED lights up Optimum operating position ... Green LED lights up



Use caution during operation as residue may collect on auto switches.

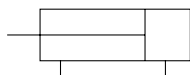
Stainless Steel Cylinder *Series CG5-S*

Specifications



JIS symbol

Double acting/Single rod



Minimum stroke for mounting auto switches

Model	Number of auto switches	
	2 pcs.	1 pc.
D-G5BAL	15mm	10mm

Refer to page 15 for details.

Action		Double acting single rod
Fluid		Air
Proof pressure		1.5MPa
Maximum operating pressure		1.0MPa
Minimum operating pressure		0.05MPa
Ambient and fluid temperature		Without auto switch: -10 to 70°C, With auto switch: -10 to 60°C
Cushion		Rubber bumper, Air cushion
Piston speed	ø20 to ø63	50 to 1000mm/s
	ø80, ø100	50 to 700mm/s
Thread tolerance		JIS class 2
Stroke length tolerance	ø20 to ø63	to 1000 ^{+1.4} ₀ mm, to 1200 ^{+1.5} ₀ mm
	ø80, ø100	to 1000 ^{+1.4} ₀ mm, to 1500 ^{+1.5} ₀ mm
Mounting		Basic type, Axial foot type, Front flange type, Rear flange type, Integral clevis type

Standard Strokes

(mm)

Bore size	Standard stroke ^{Note 1)}	Long stroke
20	25, 50, 75, 100, 125, 150, 200	201 to 350
25	25, 50, 75, 100, 125, 150, 200, 250, 300	301 to 400
32		301 to 450
40		301 to 800
50, 63		301 to 1200
80		301 to 1400
100		301 to 1500

Note 1) All non-standard strokes are produced upon receipt of order. (Spacers are not used on intermediate strokes.)

Accessories

Mounting		Basic type	Axial foot type	Front flange type	Rear flange type	Integral clevis type
Standard	Rod end nut	●	●	●	●	●
	Single knuckle joint	●	●	●	●	●
Optional	Double knuckle joint (with pin & snap ring)	●	●	●	●	●
	Trunnion bracket (with pin & snap ring)	—	—	—	—	●

Weights

(kg)

Bore size		20	25	32	40	50	63	80	100
Standard weight	Basic type	0.32	0.42	0.61	0.97	1.78	2.73	5.20	8.13
	Axial foot type	0.40	0.53	0.72	1.13	2.12	3.19	5.91	9.50
	Flange type	0.43	0.53	0.71	1.12	2.04	3.25	5.86	9.29
	Integral clevis type	0.37	0.48	0.72	1.12	2.17	3.26	6.48	9.94
Trunnion bracket		0.08	0.08	0.18	0.18	0.46	0.46	1.65	1.65
Single knuckle joint		0.04	0.07	0.07	0.11	0.22	0.22	0.53	0.78
Double knuckle joint (with pin)		0.05	0.09	0.09	0.18	0.33	0.33	0.73	1.07
Additional weight per 50mm of stroke		0.06	0.08	0.14	0.18	0.27	0.33	0.50	0.73
Additional weight with air cushion		0.02	0.02	0.03	0.02	0.06	0.07	0.14	0.16

Calculation (Example) CG5LA 20SR-100

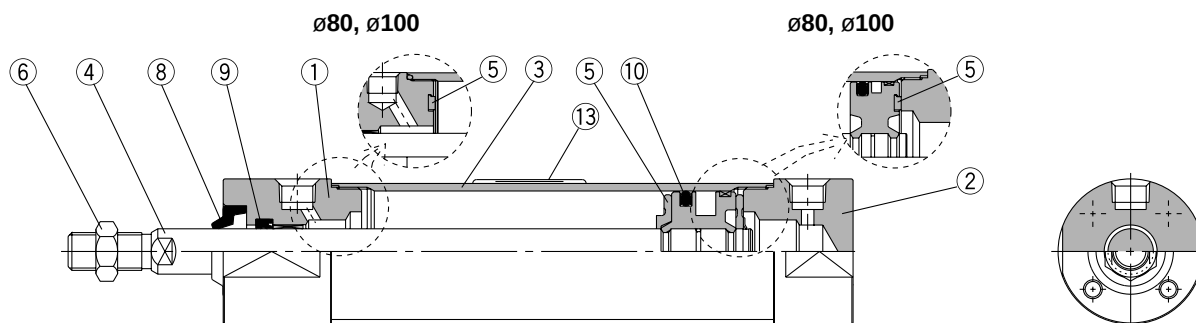
(Foot type ø20, 100mm stroke)

- Basic weight 0.40kg (Foot type ø20)
 - Additional stroke weight 0.06kg/50mm stroke
 - Air cylinder stroke 100mm
 - Additional air cushion weight 0.02kg
- 0.40 + 0.06 x 100/50 + 0.02 = 0.54kg

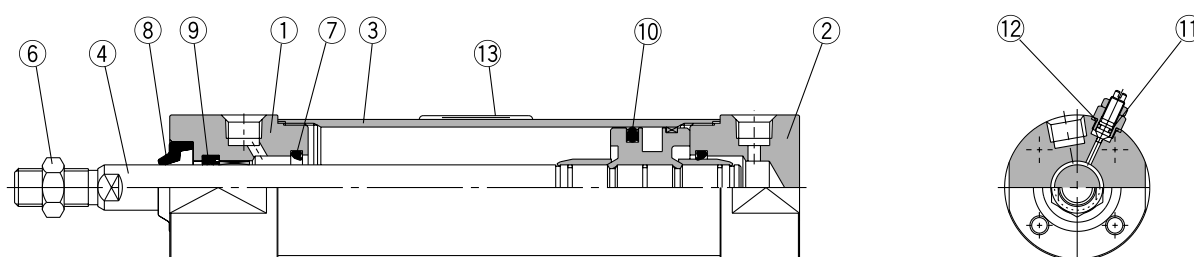
Series CG5-S

Construction

With rubber bumper



With air cushion



Parts list

No.	Description	Material
1	Rod cover	SUS304
2	Head cover	SUS304
3	Cylinder tube	SUS304
4	Piston rod	SUS304
5	Bumper	Urethane
6	Rod end nut	SUS304
7	Cushion seal	Urethane

Note) Magnets are installed on pistons of cylinders equipped with auto switches.

No.	Description	Material	
		CG5□□□SR	CG5□□□SV
8	Water resistant scraper	NBR	FKM
9	Rod seal		
10	Piston seal		
11	Valve seal		
12	Valve retainer gasket		
13	Label protector	PET	

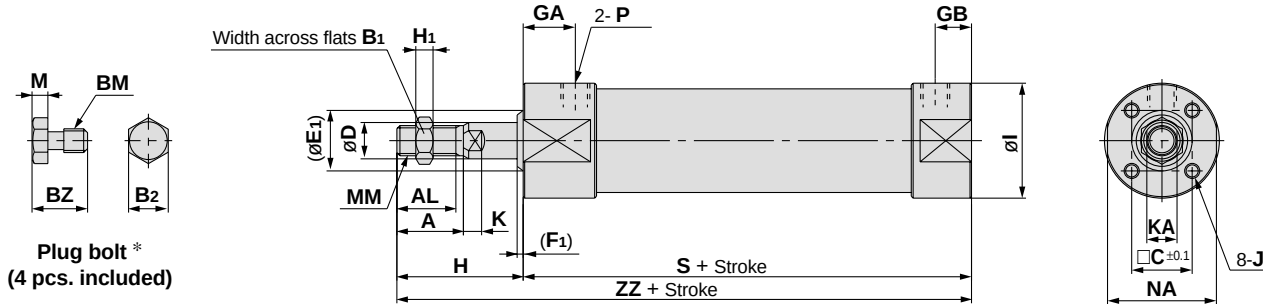
Replacement parts: Seal kits Note)

Bore size	Rubber bumper		Air cushion	
	CG5□N□SR	CG5□N□SV	CG5□A□SR	CG5□A□SV
20	CG5N20SR-PS	CG5N20SV-PS	CG5A20SR-PS	CG5A20SV-PS
25	CG5N25SR-PS	CG5N25SV-PS	CG5A25SR-PS	CG5A25SV-PS
32	CG5N32SR-PS	CG5N32SV-PS	CG5A32SR-PS	CG5A32SV-PS
40	CG5N40SR-PS	CG5N40SV-PS	CG5A40SR-PS	CG5A40SV-PS
50	CG5N50SR-PS	CG5N50SV-PS	CG5A50SR-PS	CG5A50SV-PS
63	CG5N63SR-PS	CG5N63SV-PS	CG5A63SR-PS	CG5A63SV-PS
80	CG5N80SR-PS	CG5N80SV-PS	CG5A80SR-PS	CG5A80SV-PS
100	CG5N100SR-PS	CG5N100SV-PS	CG5A100SR-PS	CG5A100SV-PS
Contents	Nos. 9 and 10 above		Nos. 9, 10, 11 and 12 above	

Note) A grease pack (GR-R-010, 10g) is included in seal kits.

Dimensions

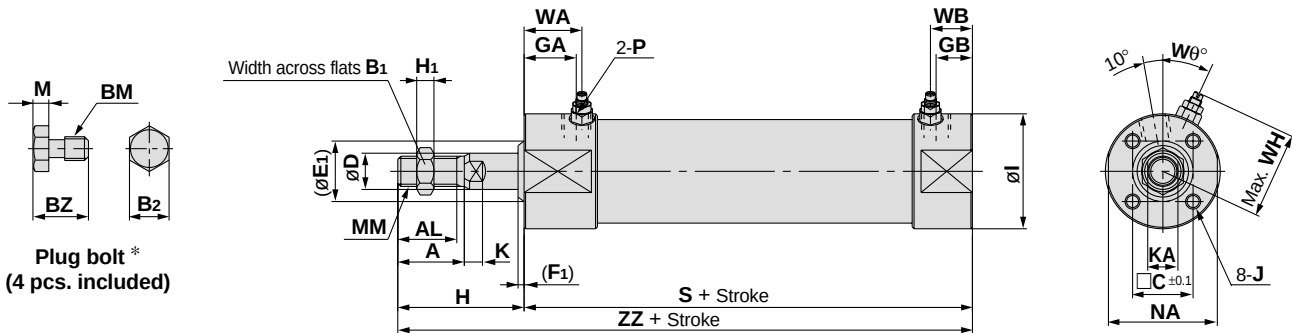
Basic type (B)/C□G5BN□S_V^R: With rubber bumper



Bore size (mm)	Stroke range	A	AL	B ₁	B ₂	BM	BZ	C	D	E ₁	F ₁	GA	GB	H	H ₁	I	J	K	KA	M	MM	NA	P	S	ZZ
20	to 350	18	15.5	13	7	M4 x 0.7	9	16.5	8	15	3	18	12	35	5	31	M4 x 0.7 depth 7	5	6	3	M8 x 1.25	29	1/8	83	118
25	to 400	22	19.5	17	8	M5 x 0.8	9.5	18.5	10	17	3	18	12	40	6	33	M5 x 0.8 depth 8	5.5	8	3.5	M10 x 1.25	29	1/8	83	123
32	to 450	22	19.5	17	8	M5 x 0.8	9.5	20	12	19	3	18	12	40	6	38	M5 x 0.8 depth 8	5.5	10	3.5	M10 x 1.25	35.5	1/8	85	125
40	to 800	30	27	19	10	M6 x 1.0	12	26	16	23	3	19	13	50	8	47	M6 x 1.0 depth 12	6	14	4	M14 x 1.5	44	1/8	93	143
50	to 1200	35	32	27	13	M8 x 1.25	15.5	32	20	28	3	21	14	58	11	58	M8 x 1.25 depth 16	7	18	5.5	M18 x 1.5	55	1/4	109	167
63	to 1200	35	32	27	17	M10 x 1.5	19	38	20	28	3	21	14	58	11	72	M10 x 1.5 depth 16	7	18	7	M18 x 1.5	69	1/4	109	167
80	to 1400	40	37	32	17	M10 x 1.5	19	50	25	33	3	28	20	71	13	89	M10 x 1.5 depth 22	10	22	7	M22 x 1.5	80	3/8	130	201
100	to 1500	40	37	41	19	M12 x 1.75	24	60	30	38	3	29	20	71	16	110	M12 x 1.75 depth 23	10	26	8	M26 x 1.5	100	1/2	131	202

* Install plug bolts, which are included, in any unused mounting holes.

Basic type (B)/C□G5BA□S_V^R: With air cushion



Bore size (mm)	Stroke range	A	AL	B ₁	B ₂	BM	BZ	C	D	E ₁	F ₁	GA	GB	H	H ₁	I	J	K	KA	M	MM	NA	P	S
20	to 350	18	15.5	13	7	M4 x 0.7	9	16.5	8	15	3	18	12	35	5	31	M4 x 0.7 depth 7	5	6	3	M8 x 1.25	29	M5 x 0.8	83
25	to 400	22	19.5	17	8	M5 x 0.8	9.5	18.5	10	17	3	18	12	40	6	33	M5 x 0.8 depth 8	5.5	8	3.5	M10 x 1.25	29	M5 x 0.8	83
32	to 450	22	19.5	17	8	M5 x 0.8	9.5	20	12	19	3	18	12	40	6	38	M5 x 0.8 depth 8	5.5	10	3.5	M10 x 1.25	35.5	1/8	85
40	to 800	30	27	19	10	M6 x 1.0	12	26	16	23	3	19	13	50	8	47	M6 x 1.0 depth 12	6	14	4	M14 x 1.5	44	1/8	93
50	to 1200	35	32	27	13	M8 x 1.25	15.5	32	20	28	3	21	14	58	11	58	M8 x 1.25 depth 16	7	18	5.5	M18 x 1.5	55	1/4	109
63	to 1200	35	32	27	17	M10 x 1.5	19	38	20	28	3	21	14	58	11	72	M10 x 1.5 depth 16	7	18	7	M18 x 1.5	69	1/4	109
80	to 1400	40	37	32	17	M10 x 1.5	19	50	25	33	3	28	20	71	13	89	M10 x 1.5 depth 22	10	22	7	M22 x 1.5	80	3/8	130
100	to 1500	40	37	41	19	M12 x 1.75	24	60	30	38	3	29	20	71	16	110	M12 x 1.75 depth 23	10	26	8	M26 x 1.5	100	1/2	131

* Install plug bolts, which are included, in any unused mounting holes.

Bore size (mm)	WA	WB	WH	Wθ°	ZZ
20	22	16	23	30°	118
25	22	16	25	30°	123
32	22	16	28.5	25°	125
40	22	16	33	20°	143
50	25	18	40.5	20°	167
63	25	18	47.5	20°	167
80	30	22	60.5	20°	201
100	31	22	71	20°	202