

Stainless Steel Cylinder Series CG5-S

Ø20, Ø25, Ø32, Ø40, Ø50, Ø63, Ø80, Ø100

How to Order

Without Auto Switch CG5 L N 25 TN S R 100 X165US

With Auto Switch CDG5 L N 25 TN S R 100 G5BAL X165US

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

The 20 to 63mm bore sizes are made in the US in both Metric and Inch rod threads. The 80 and 100mm are made in Japan in Metric rod only. The 80 and 100mm with inch rod thread will be made in the US on a future date. Please inquire with SMC when ordering.

Thread option

Nil	PT ports
TN	NPT ports

Stainless steel cylinder

Inch rod thread
(Only available with "TN" port option. Currently only available on the 20 to 63mm bore sizes.)

Number of auto switches

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

Auto switch type/Band mount type

Nil	Without auto switch (built-in magnet)
G5BAL	D-G5BAL (water resistant)
G5BASAPC	D-G5BASAPC (water resistant) 3 pin M8 connector, 0.5M lead

Auto switches are available in the band mount type only.

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

Seal material

R	NBR
V	FKM

Mounting bracket part numbers

Mounting bracket	Bore size (mm)							
	20	25	32	40	50	63	80	100
Axial foot <small>Note 1)</small>	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 <small>Note 2)</small>	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-G5BA	NBA-088S	NBA-106S	BGS1-032S	BAF-04S	BAF-05S	BAF-06S	BAF-08S	BAF-10S

* Includes stainless steel mounting screws.

Rod and Porting Combinations

Combination	Bore Size
Metric Rod / PT Ports	20 to 100mm
Metric Rod / NPT Ports (TN Option Only)	20 to 100mm
Inch Rod / NPT Ports (TN & X165US Option)	20 to 63mm

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

Auto switch specifications

D-G5BA (With indicator light)/Band mount type	
Auto switch model	D-G5BA
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.

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

• Auto switches with M8 and M12 connectors are available as standard product. See page 17 for other options besides lead wire.

Specifications

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

JIS symbol

Double acting/Single rod



Minimum stroke for mounting auto switches

Model	Number of auto switches	
	2 pcs.	1 pc.
D-G5BA	15mm	10mm

Refer to page 15 for details.

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