

Stainless Steel Cylinder

Series CJ5-S

Series CG5-S

ø10, ø16

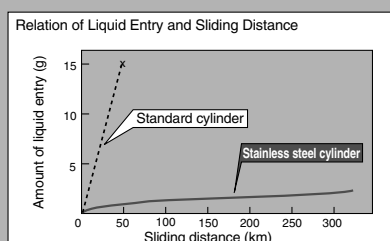
ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

Applicable for use in an environment
with water splashing such as food processing, etc.

For use with grease for food processing
machines (Approved by NSF-H1)

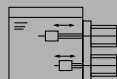
All stainless steel specifications (External parts)
Stainless steel 304 is used for external metal parts.
Corrosion resistance is improved even in environments
with exposure to water.

Special scraper (Standard)
Prevents water from entering the cylinder.

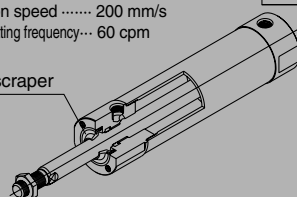


Conditions

Working fluid Air
Pressure 0.5 MPa
Liquid Water-soluble coolant
Piston speed 200 mm/s
Operating frequency... 60 cpm



Special scraper



Two types of seal material

(Nitrile rubber) (Fluororubber)

NBR or FKM can be selected to
accommodate the application.

Can be disassembled
(Series CG5-S ø20 to 40)

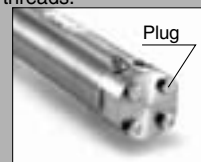
Since seals are replaceable, this extends the life
of the cylinder.

(Before disassembly, be sure to refer to the
section regarding maintenance under
"Specific Product Precautions" on page 850.)

This product cannot be used in the food zone. Refer to the Product Specific Precautions (page 849) for details.

Exterior configuration
reduces residual liquid

- Electropolishing of mounting bracket surfaces makes them smoother to prevent build-up of liquids and foreign matter.
- Plugs are provided for unused mounting threads (Series CG5-S) to prevent residue build-up in the threads.



CJ5
CG5

HY ☐

C ☐
M ☐

Series Variations

Series	Seal material	Bore size (mm)										Applicable auto switch
		10	16	20	25	32	40	50	63	80	100	
CJ5-S	NBR • FKM	●	●									Water resistant D-H7BAL
CG5-S				●	●	●	●	●	●	●	●	Water resistant D-G5BAL

D- ☐

-X ☐

Individual
-X ☐

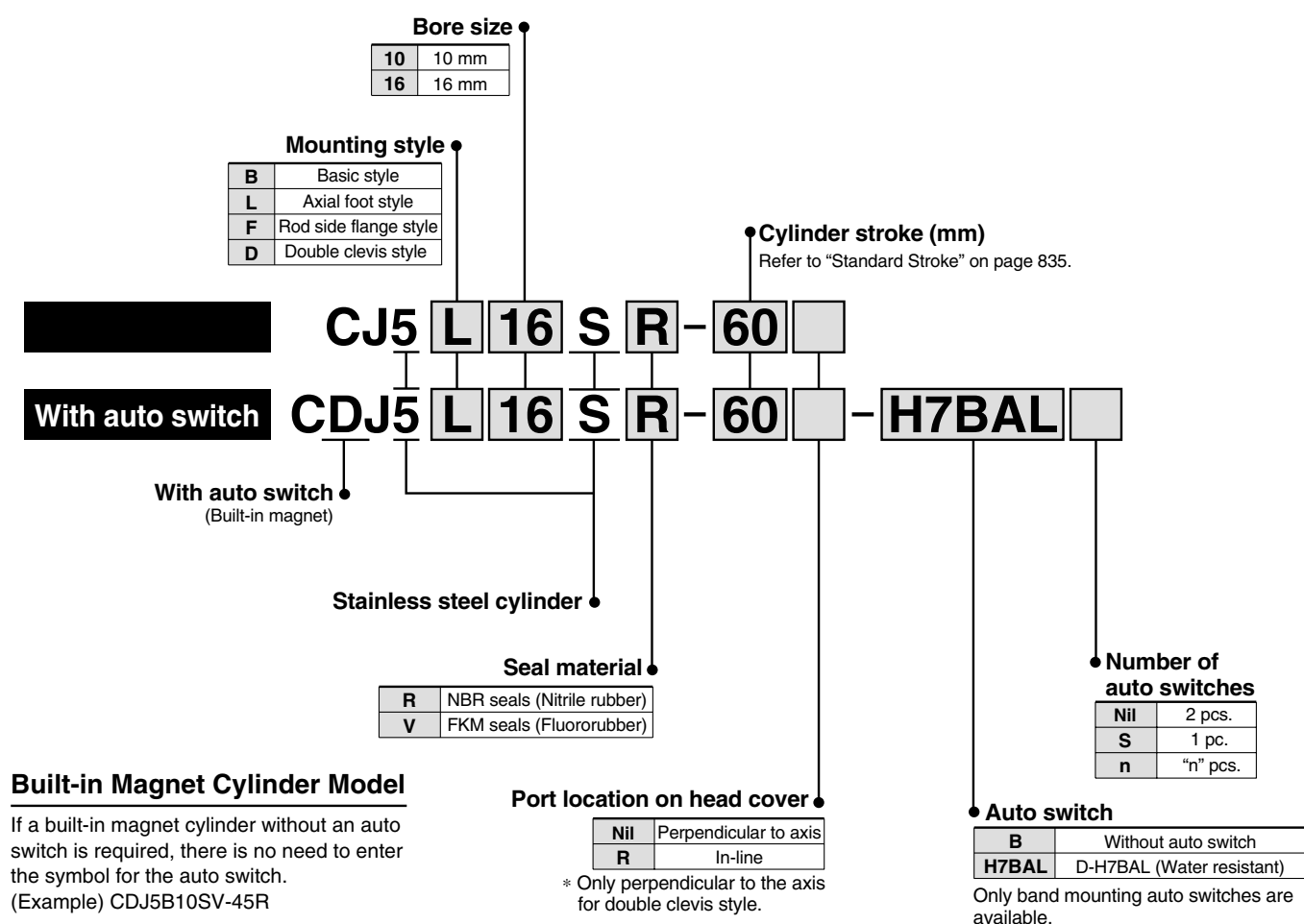
Technical
data

Stainless Steel Cylinder

Series CJ5-S

ø10, ø16

How to Order



Applicable Auto Switch/Refer to page 1306 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)*		Pre-wired connector	Applicable load
					DC			3 (L)	5 (Z)		
Solid state switch	Water resistant (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	H7BA	●	○	○	Relay, PLC

* Lead wire length symbols: 3 m.....L (Example) H7BAL
5 m.....Z (Example) H7BAZ

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

• For details about auto switches with pre-wired connector, refer to pages 1328 and 1329.

Mounting Bracket Part No.

Mounting bracket	Bore size (mm)		Description
	10	16	
Foot	CJ-L016 Stainless steel	CJK-L016 Stainless steel	Foot x 1
Flange	CJ-F016 Stainless steel	CJK-F016 Stainless steel	Flange x 1
T-bracket *	CJ-T010 Stainless steel	CJ-T016 Stainless steel	T-bracket x 1

* T-bracket is applicable to the double clevis style (D).

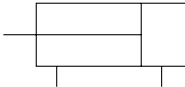
Grease pack for stainless steel cylinders/Part no.: GR-R-010 (10 g)

Specifications



JIS Symbol

Double acting,
Single rod



Bore size (mm)	10	16
Action	Double acting, Single rod	
Fluid	Air	
Proof pressure	1 MPa	
Maximum operating pressure	0.7 MPa	
Minimum operating pressure	0.1 MPa	
Ambient and fluid temperature	Without auto switch: -10 to 70°C With auto switch: -10 to 60°C	
Cushion	Rubber bumper	
Lubrication	Not required (Non-lube)	
Stroke length tolerance	+ 1.0 0	
Piston speed	50 to 750 mm/s	
Allowable kinetic energy	0.035 J	0.090 J
Mounting style	Basic style, Axial foot style, Rod side flange style, Double clevis style	

Standard Stroke

(mm)

Bore size (mm)	Standard stroke	Maximum manufacturable stroke
10	15, 30, 45, 60, 75, 100, 125, 150	400
16	15, 30, 45, 60, 75, 100, 125, 150, 175, 200	

* Manufacture of intermediate strokes at 1 mm intervals is possible. (Spacers are not used.)

* For the one with auto switch, refer to the minimum stroke for auto switch mounting. (P. 847)

Mounting Style and Accessory

Mounting		Basic style	Axial foot style	Rod side flange style	Double clevis style *
Standard equipment	Mounting nut	●	●	●	—
	Rod end nut	●	●	●	●
	Clevis pin	—	—	—	●
Option	Single knuckle joint	●	●	●	●
	Double knuckle joint (With pin) *	●	●	●	●
	T-bracket	—	—	—	●
	Rod end cap	Flat type	●	●	●
		Round type	●	●	●

* Pin and retaining ring are shipped together with double clevis and double knuckle joint.

Mass

(g)

Bore size (mm)		10	16
Basic mass *		52	96
Additional mass per each 15 mm of stroke		4	6.5
Mounting bracket mass	Axial foot style	22	22
	Rod side flange style	16	16
	Double clevis style (With pin) **	6	16

* Mounting nut and rod end nut are included in the basic mass.

** Mounting nut is not included in double clevis style.

Calculation: (Example) **CJ5L10SR-45**

- Basic mass 52 g (ø10)
 - Additional mass 4 g/15 stroke
 - Cylinder stroke 45 stroke
 - Mounting bracket mass..... 22 g (Axial foot type)
- 52 + 4/15 x 45 + 22 = 86 g

CJ5
CG5

HY ☐

C ☐
M ☐

D ☐

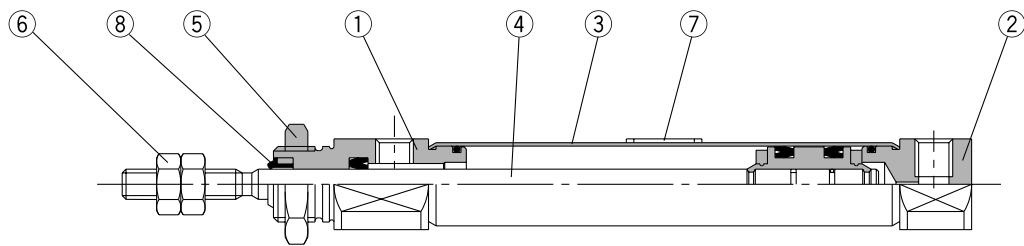
-X ☐

Individual
-X ☐

Technical
data

Series **CJ5-S**

Construction (Not able to disassemble.)



Component Parts

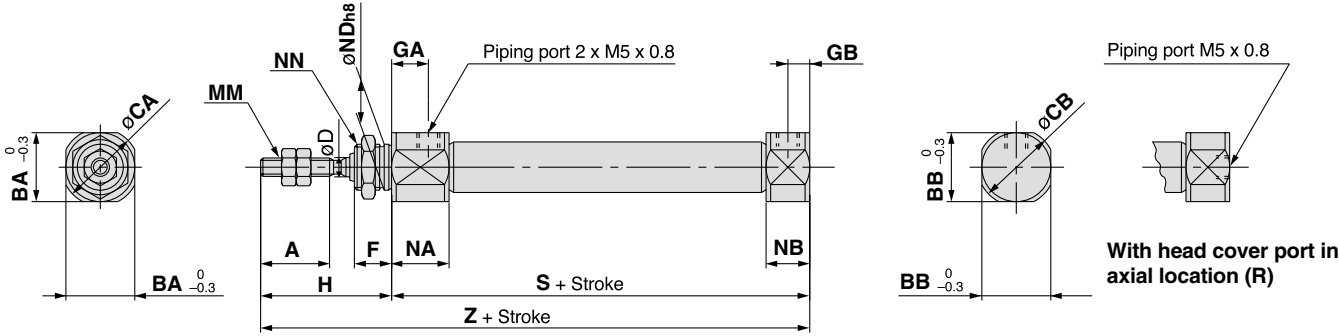
No.	Description	Material	
1	Rod cover	Stainless steel 304	
2	Head cover	Stainless steel 304	
3	Cylinder tube	Stainless steel 304	
4	Piston rod	Stainless steel 304	
5	Mounting nut	Stainless steel 304	
6	Rod end nut	Stainless steel 304	
7	Label protector	PET	
8	Water resistant scraper	CJ5□□SR	NBR
		CJ5□□SV	FKM

Note 1) Component part material and surface treatment other than listed above are the same as the standard type of Series CJ2.

Note 2) The material for seals and bumpers of CJ5□□SV is FKM.

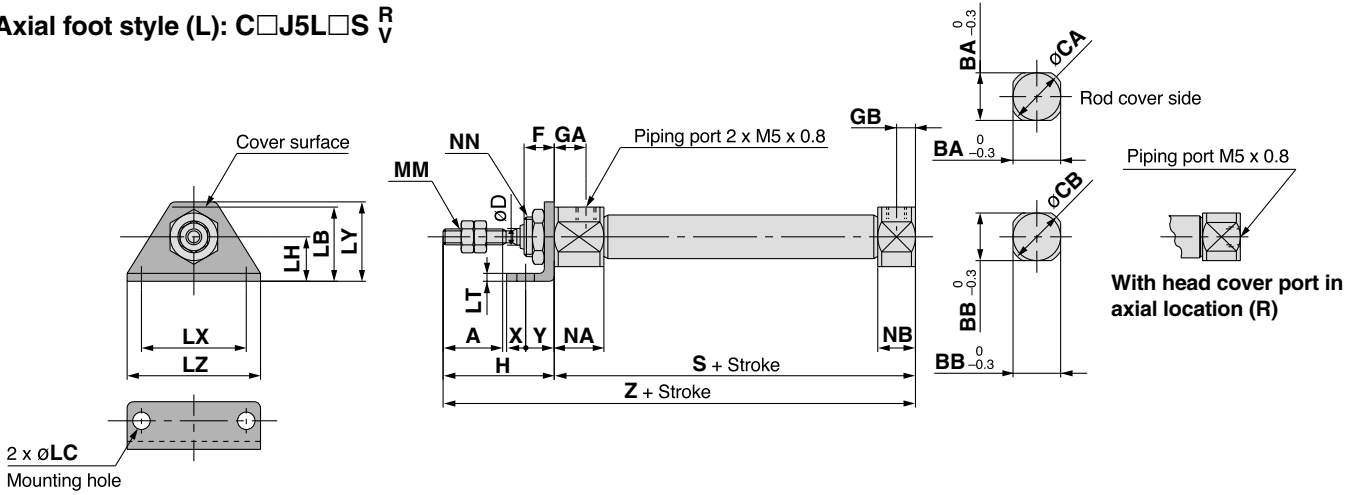
Dimensions

Basic style (B): **C□J5B□S^R_V**



Bore size (mm)	A	BA	BB	CA	CB	D	F	GA	GB	H	MM	NN	NA	NB	NDh8	S	Z
10	15	15	12	17	14	4	8	8	5	28	M4 x 0.7	M10 x 1.0	12.5	9.5	10 _{-0.022}	46	74
16	15	18.3	18.3	20	20	5	8	8	5	28	M5 x 0.8	M12 x 1.0	12.5	9.5	12 _{-0.027}	47	75

Axial foot style (L): **C□J5L□S^R_V**



Bore size (mm)	A	BA	BB	CA	CB	D	F	GA	GB	H	LB	LC	LH	LT	LX	LY	LZ	MM	NN	NA	NB	S	X	Y	Z
10	15	15	12	17	14	4	8	8	5	28	21.5	5.5	14	2.5	33	25	42	M4 x 0.7	M10 x 1.0	12.5	9.5	46	6	9	74
16	15	18.3	18.3	20	20	5	8	8	5	28	23	5.5	14	2.5	33	25	42	M5 x 0.8	M12 x 1.0	12.5	9.5	47	6	9	75

CJ5
CG5

HY□

C□
M□

D-□

-X□

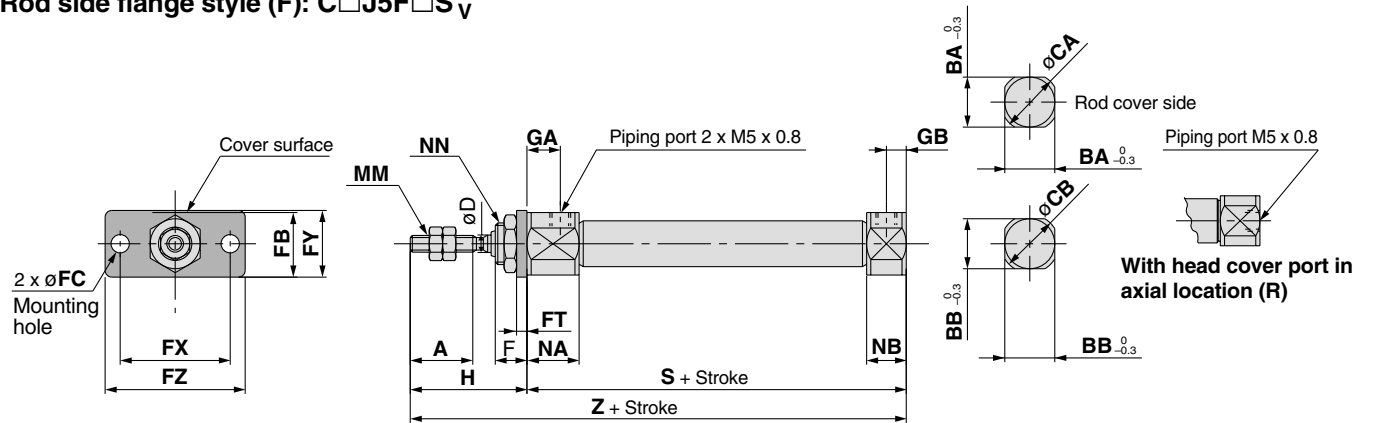
Individual
-X□

Technical
data

Series CJ5-S

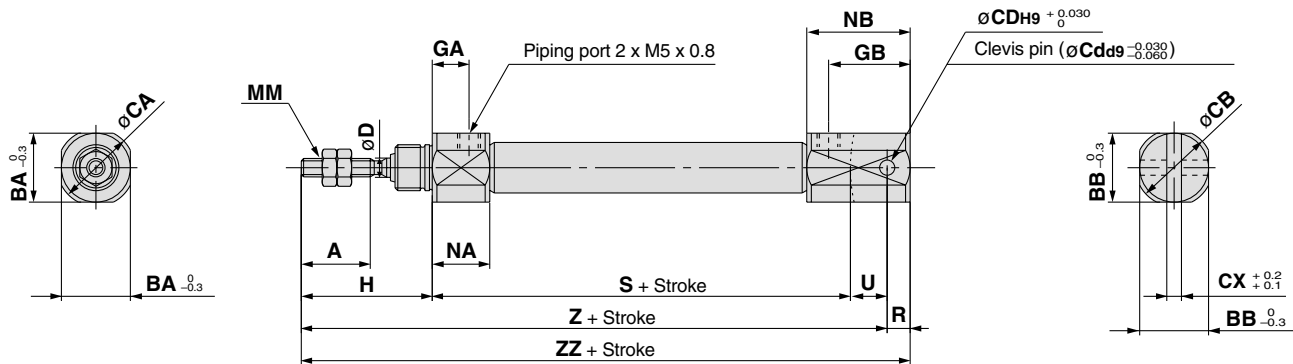
Dimensions

Rod side flange style (F): C□J5F□S^R_V



(mm)																						
Bore size (mm)	A	BA	BB	CA	CB	D	F	FB	FC	FT	FX	FY	FZ	GA	GB	H	MM	NN	NA	NB	S	Z
10	15	15	12	17	14	4	8	17.5	5.5	2.5	33	20	42	8	5	28	M4 x 0.7	M10 x 1.0	12.5	9.5	46	74
16	15	18.3	18.3	20	20	5	8	19	5.5	2.5	33	20	42	8	5	28	M5 x 0.8	M12 x 1.0	12.5	9.5	47	75

Double clevis style (D): C□J5D□S^R_V

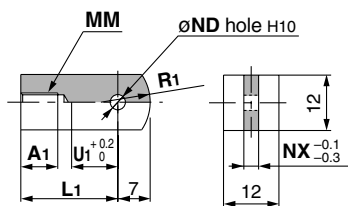


(mm)																			
Bore size (mm)	A	BA	BB	CA	CB	CD (Cd)	CX	D	GA	GB	H	MM	NA	NB	R	S	U	Z	ZZ
10	15	15	12	17	14	3.3	3.2	4	8	18	28	M4 x 0.7	12.5	22.5	5	46	8	82	87
16	15	18.3	18.3	20	20	5	6.5	5	8	23	28	M5 x 0.8	12.5	27.5	8	47	10	85	93

* Clevis pin and retaining ring are shipped together.

Accessory Dimensions

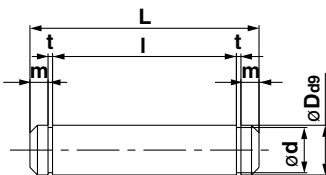
Single Knuckle Joint



Material: Stainless steel 304

Part no.	Applicable bore size (mm)	A1	L1	MM	NDH10	NX	R1	U1
I-J010SUS	10	8	21	M4 x 0.7	3.3 $^{+0.048}_{-0}$	3.1	8	9
I-J016SUS	16	8	25	M5 x 0.8	5 $^{+0.048}_{-0}$	6.4	12	14

Clevis Pin

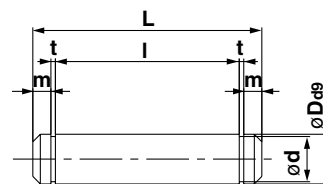


Material: Pin and retaining ring both stainless steel 304

Part no.	Applicable bore size (mm)	Dd9	d	L	ℓ	m	t	Applicable retaining ring
CD-J010	10	3.3 $^{-0.030}_{-0.060}$	3	15.2	12.2	1.2	0.3	Type C 3.2
CD-Z015SUS	16	5 $^{-0.030}_{-0.060}$	4.8	22.7	18.3	1.5	0.7	Type C 5

* Retaining rings are included.

Knuckle Pin



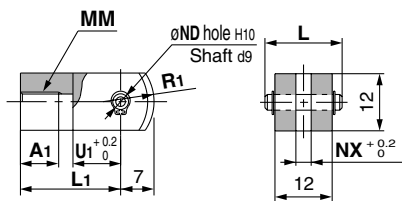
Material: Pin and retaining ring both stainless steel 304

Part no.	Applicable bore size (mm)	Dd9	d	L	ℓ	m	t	Applicable retaining ring
CD-J010	10	3.3 $^{-0.030}_{-0.060}$	3	15.2	12.2	1.2	0.3	Type C 3.2
IY-J015SUS	16	5 $^{-0.030}_{-0.060}$	4.8	16.6	12.2	1.5	0.7	Type C 5

* Clevis pin is used instead for ø10.

* Retaining rings are included.

Double Knuckle Joint



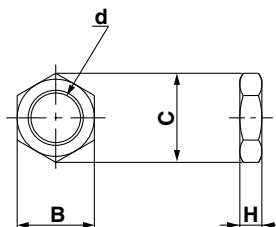
* Knuckle pin and retaining ring are packaged together.

Material: Stainless steel 304

Part no.	Applicable bore size (mm)	A1	L	L1	MM	NDd9
Y-J010SUS	10	8	15.2	21	M4 x 0.7	3.3 $^{-0.030}_{-0.060}$
Y-J016SUS	16	11	16.6	21	M5 x 0.8	5 $^{-0.030}_{-0.060}$

Part no.	NDH10	NX	R1	U1
Y-J010SUS	3.3 $^{+0.048}_{-0}$	3.2	8	10
Y-J016SUS	5 $^{+0.048}_{-0}$	6.5	12	10

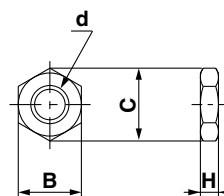
Mounting Nut



Material: Stainless steel 304

Part no.	Applicable bore size (mm)	B	C	d	H
SNJ-016SUS	10	14	16.2	M10 x 1.0	4
SNKJ-016SUS	16	17	19.6	M12 x 1.0	4

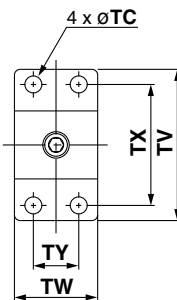
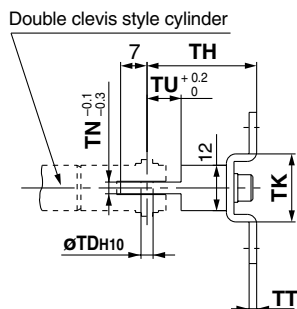
Rod End Nut



Material: Stainless steel 304

Part no.	Applicable bore size (mm)	B	C	d	H
NTJ-010SUS	10	7	8.1	M4 x 0.7	3.2
NTJ-015SUS	16	8	9.2	M5 x 0.8	4

T-bracket

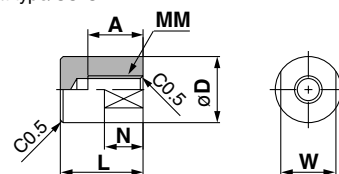


Material: Stainless steel 304

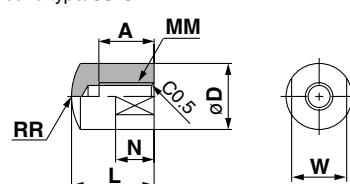
Part no.	Applicable bore size (mm)	TC	TDH10	TH	TK	TN	TT	TU	TV	TW	TX	TY
CJ-T010SUS	10	4.5	3.3 $^{+0.048}_{-0}$	29	18	3.1	2	9	40	22	32	12
CJ-T016SUS	16	5.5	5 $^{+0.048}_{-0}$	35	20	6.4	2.5	14	48	28	38	16

Rod End Cap

Flat type/CJ-CF□□□



Round type/CJ-CR□□□



Material: Polyacetal

Part no.		Applicable bore size (mm)	A D L			MM	N R W		
Flat type	Round type								
CJ-CF010	CJ-CR010	10	8	10	13	M4 x 0.7	6	10	8
CJ-CF016	CJ-CR016	16	10	12	15	M5 x 0.8	7	12	10

CJ5
CG5

HY□

C□

M□

D-□

-X□

Individual

-X□

Technical
data

Stainless Steel Cylinder

Series CG5-S

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

How to Order

Stainless steel cylinder

CG5 L N 25 S R - 100

With auto switch **CDG5 L N 25 S R - 100 - G5BAL**

With auto switch
(Built-in magnet)

Mounting style

B	Basic style
L	Axial foot style
F	Rod side flange style
G	Head side flange style
E	Clevis integrated style

Type

N	Non-lube, Rubber bumper
A	Non-lube, Air cushion

Bore size

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

Port thread type

Rubber bumper

Nil	Rc	ø20 to ø100
TN	NPT	
TF	M5 x 0.8	ø20, ø25
	G	ø32 to ø100

Air cushion

Nil	M5 x 0.8	ø20, ø25
TN	Rc	
TF	NPT	ø32 to ø100
	G	

Seal material

R	NBR seals (Nitrile rubber)
V	FKM seals (Fluororubber)

Cylinder stroke (mm)
Refer to "Standard Stroke" on page 841.

Number of auto switches

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

Auto switch

Nil	Without auto switch
G5BAL	D-G5BAL (Water resistant)

Auto switches are available in the band mounting style only.

Made to Order
Refer to page 841 for details.

Built-in Magnet Cylinder Model
If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDG5BA40SV-100

Applicable Auto Switch/Refer to page 1307 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)*		Pre-wired connector	Applicable load
					DC			3 (L)	5 (Z)		
Solid state switch	Water resistant (2-color indication)	Grommet	Yes	2-wire	24 V	12 V	G5BA	●	○	○	Relay, PLC

* Lead wire length symbols: 3 m.....L (Example) G5BAL
5 m.....Z (Example) G5BAZ

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

• For details about auto switches with pre-wired connector, refer to page 1328 and 1329.

Mounting Bracket Part No.

Mounting bracket	Min. order	Bore size (mm)								Description
		20	25	32	40	50	63	80	100	
Foot	2 (Note)	CG-L020SUS	CG-L025SUS	CG-L032SUS	CG-L040SUS	CG-L050SUS	CG-L063SUS	CG-L080SUS	CG-L100SUS	Foot x 2 Bracket mounting bolt x 4
Flange	1	CG-F020SUS	CG-F025SUS	CG-F032SUS	CG-F040SUS	CG-F050SUS	CG-F063SUS	CG-F080SUS	CG-F100SUS	Flange x 1 Bracket mounting bolt x 4
Pivot bracket	1	CG-E020SUS		CG-E032SUS		CG-E050SUS		CG-E080SUS		Clevis pin x 1 Retaining ring x 2

Note) When ordering the foot bracket, order 2 pcs. per cylinder.

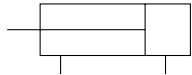
Grease pack for stainless steel cylinders/Part no.: GR-R-010 (10 g)

Specifications



JIS Symbol

Double acting,
Single rod



Bore size (mm)	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Air							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.05 MPa							
Ambient and fluid temperature	Without auto switch: −10 to 70°C With auto switch: −10 to 60°C							
Cushion	Rubber bumper, Air cushion							
Lubrication	Not required (Non-lube)							
Piston speed	50 to 1000 mm/s						50 to 700 mm/s	
Stroke length tolerance	Up to 1000 ^{st + 1.4} ₀ mm, Up to 1200 ^{st + 1.5} ₀ mm						Up to 1000 ^{st + 1.4} ₀ mm, Up to 1500 ^{st + 1.5} ₀ mm	
Mounting style	Basic style, Axial foot style, Rod side flange style, Head side flange style, Clevis integrated style							

Standard Stroke

Bore size (mm)	Standard stroke	Long stroke	Maximum manufacturable stroke
20	25, 50, 75, 100, 125, 150, 200	201 to 350	1500
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	

* Manufacture of intermediate strokes at 1 mm intervals is possible. (Spacers are not used.)

* Long stroke applies to the axial foot style and the rod side flange style. If other mounting brackets are used, or the length exceeds the long stroke limit, the stroke should be determined based on the stroke selection table (front matter 28, CG1).



Made to Order Specifications
(For details, refer to pages 1380 and 1397.)

Symbol	Specifications
-XA□	Change of rod end shape
-XB6	Heat resistant cylinder (150°C)*

* Heat resistant grease (non-food grease) is used.

Accessory

	Mounting	Basic style	Axial foot style	Rod side flange style	Head side flange style	Clevis integrated style
Standard equipment	Rod end nut	●	●	●	●	●
Option	Single knuckle joint	●	●	●	●	●
	Double knuckle joint (With pin & retaining ring)	●	●	●	●	●
	Pivot bracket (With pin and retaining ring)	—	—	—	—	●

Mass

Bore size (mm)		20	25	32	40	50	63	80	100
Basic mass	Basic style	0.32	0.42	0.61	0.97	1.78	2.73	5.20	8.13
	Axial foot style	0.40	0.53	0.72	1.13	2.12	3.19	5.91	9.50
	Flange style	0.43	0.53	0.71	1.12	2.04	3.25	5.86	9.29
	Clevis integrated style	0.37	0.48	0.72	1.12	2.17	3.26	6.48	9.94
Pivot 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 mass per each 50 mm of stroke		0.06	0.08	0.14	0.18	0.27	0.33	0.50	0.73
Additional mass with air cushion		0.02	0.02	0.03	0.02	0.06	0.07	0.14	0.16

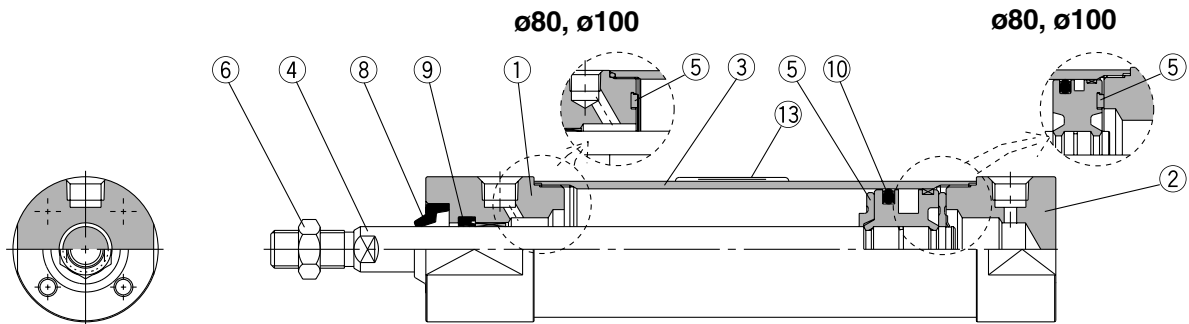
Calculation: (Example) **CG5LA 20SR-100**
(Foot style ø20, 100 stroke)

- Basic mass..... 0.40 kg (Foot style ø20)
 - Additional stroke mass 0.06 kg/50 ST
 - Air cylinder stroke..... 100 ST
 - Additional air cushion mass 0.02 kg
- 0.40 + 0.06 × 100/50 + 0.02 = 0.54 kg

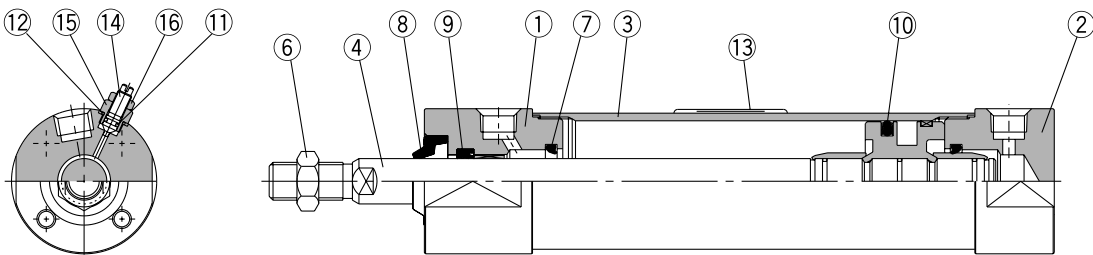
Series CG5-S

Construction

With rubber bumper



With air cushion



Component Parts

No.	Description	Material
1	Rod cover	Stainless steel 304
2	Head cover	Stainless steel 304
3	Cylinder tube	Stainless steel 304
4	Piston rod	Stainless steel 304 Hard chrome plated
5	Bumper	Urethane
6	Rod end nut	Stainless steel 304
7	Cushion seal	Urethane
14	Cushion valve	Stainless steel 304
15	Valve retainer	Stainless steel 304
16	Lock nut	Stainless steel 304

Note 1) Component part material and surface treatment other than listed above are the same as the standard type of Series CG1.
Note 2) For cylinders with an auto switch, the piston is fixed with a magnet.

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 Kit

Bore size (mm)	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
Contents	Set of 9 and 10 above		Set of 9, 10, 11 and 12 above	

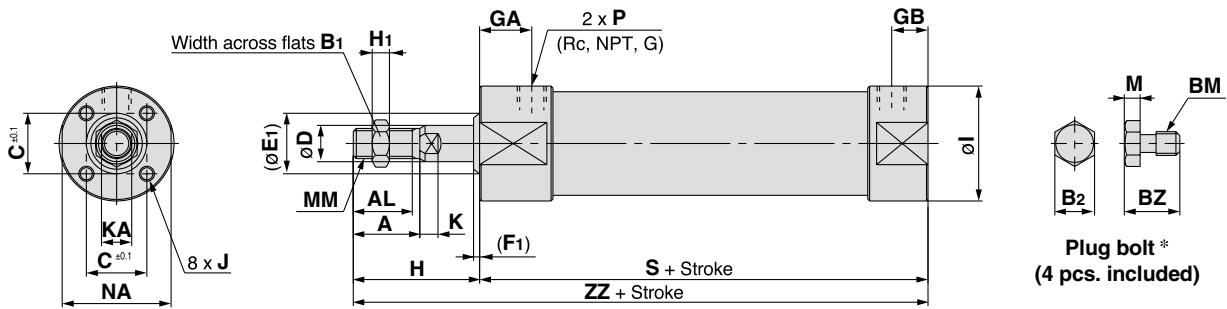
* Seal kit includes a grease pack (10 g).
Order with the following part number when only the grease pack is needed.
Grease pack part number: GR-R-010 (10 g)

⚠ Caution

When disassembling cylinders with bore sizes of ø20 through ø40, grip the double flat part of either the tube cover or the rod cover with a vise and loosen the other side with a wrench or a monkey wrench, etc., and then remove the cover. When retightening, tighten approximately 2 degrees more than the original position. (Cylinders with ø50 or larger bore sizes are tightened with a large tightening torque and cannot be disassembled.)

Dimensions

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

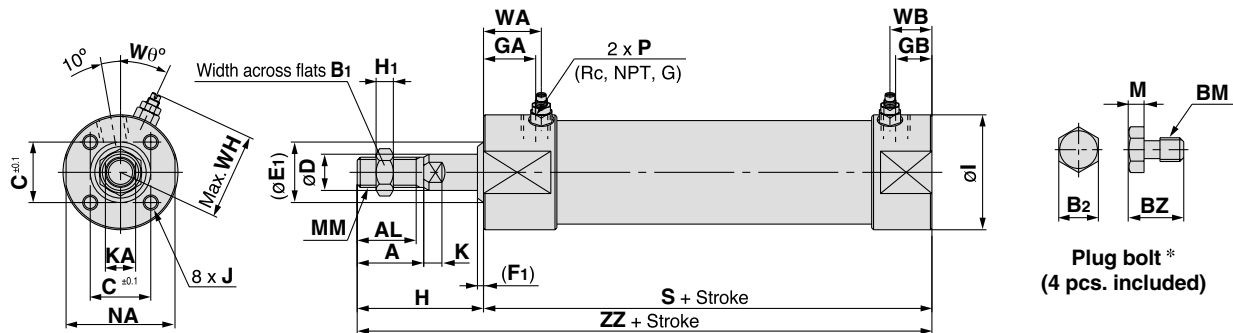


Plug bolt *
(4 pcs. included)

(mm)																												
Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B1	B2	BM	BZ	C	D	E1	F1	H	H1	I	J	K	KA	M	MM	NA	S	ZZ
		GA	GB	P	GA	GB	P																					
20	Up to 350	18	12	1/8	18	12	M5 x 0.8	18	15.5	13	7	M4 x 0.7	9	16.5	8	15	3	35	5	31	M4 x 0.7 depth 7	5	6	3	M8 x 1.25	29	83	118
25	Up to 400	18	12	1/8	18	12	M5 x 0.8	22	19.5	17	8	M5 x 0.8	9.5	18.5	10	17	3	40	6	33	M5 x 0.8 depth 8	5.5	8	3.5	M10 x 1.25	29	83	123
32	Up to 450	18	12	1/8	16	10	1/8	22	19.5	17	8	M5 x 0.8	9.5	20	12	19	3	40	6	38	M5 x 0.8 depth 8	5.5	10	3.5	M10 x 1.25	35.5	85	125
40	Up to 800	19	13	1/8	16	10	1/8	30	27	19	10	M6 x 1.0	12	26	16	23	3	50	8	47	M6 x 1.0 depth 12	6	14	4	M14 x 1.5	44	93	143
50	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	13	M8 x 1.25	15.5	32	20	28	3	58	11	58	M8 x 1.25 depth 16	7	18	5.5	M18 x 1.5	55	109	167
63	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	17	M10 x 1.5	19	38	20	28	3	58	11	72	M10 x 1.5 depth 16	7	18	7	M18 x 1.5	69	109	167
80	Up to 1400	28	20	3/8	25	17	3/8	40	37	32	17	M10 x 1.5	19	50	25	33	3	71	13	89	M10 x 1.5 depth 22	10	22	7	M22 x 1.5	80	130	201
100	Up to 1500	29	20	1/2	26	17	1/2	40	37	41	19	M12 x 1.75	24	60	30	38	3	71	16	110	M12 x 1.75 depth 23	10	26	8	M26 x 1.5	100	131	202

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

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



Plug bolt *
(4 pcs. included)

(mm)																											
Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B1	B2	BM	BZ	C	D	E1	F1	H	H1	I	J	K	KA	M	MM	NA	S
		GA	GB	P	GA	GB	P																				
20	Up to 350	18	12	M5 x 0.8	18	12	M5 x 0.8	18	15.5	13	7	M4 x 0.7	9	16.5	8	15	3	35	5	31	M4 x 0.7 depth 7	5	6	3	M8 x 1.25	29	83
25	Up to 400	18	12	M5 x 0.8	18	12	M5 x 0.8	22	19.5	17	8	M5 x 0.8	9.5	18.5	10	17	3	40	6	33	M5 x 0.8 depth 8	5.5	8	3.5	M10 x 1.25	29	83
32	Up to 450	18	12	1/8	16	10	1/8	22	19.5	17	8	M5 x 0.8	9.5	20	12	19	3	40	6	38	M5 x 0.8 depth 8	5.5	10	3.5	M10 x 1.25	35.5	85
40	Up to 800	19	13	1/8	16	10	1/8	30	27	19	10	M6 x 1.0	12	26	16	23	3	50	8	47	M6 x 1.0 depth 12	6	14	4	M14 x 1.5	44	93
50	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	13	M8 x 1.25	15.5	32	20	28	3	58	11	58	M8 x 1.25 depth 16	7	18	5.5	M18 x 1.5	55	109
63	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	17	M10 x 1.5	19	38	20	28	3	58	11	72	M10 x 1.5 depth 16	7	18	7	M18 x 1.5	69	109
80	Up to 1400	28	20	3/8	25	17	3/8	40	37	32	17	M10 x 1.5	19	50	25	33	3	71	13	89	M10 x 1.5 depth 22	10	22	7	M22 x 1.5	80	130
100	Up to 1500	29	20	1/2	26	17	1/2	40	37	41	19	M12 x 1.75	24	60	30	38	3	71	16	110	M12 x 1.75 depth 23	10	26	8	M26 x 1.5	100	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

CJ5
CG5

HY□

C□
M□

D-□

-X□

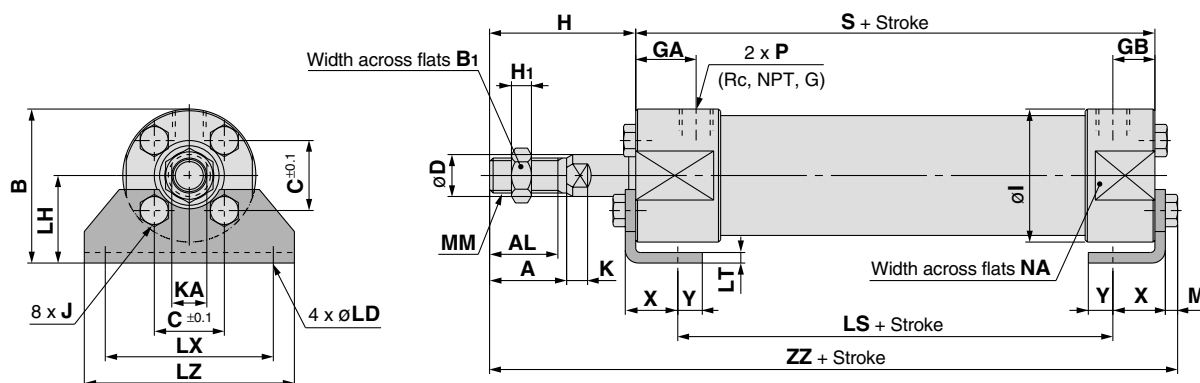
Individual
-X□

Technical
data

Series CG5-S

Dimensions

Axial foot style (L): C□G5L^N_A□S^R_V



Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B ₁	B	C	D	H	H ₁	I	J	K	KA	LD	LH	LS	LT	LX	LZ	M
		GA	GB	P	GA	GB	P																			
20	Up to 350	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	18	15.5	13	37.5	16.5	8	35	5	31	M4 x 0.7	5	6	6	22	59	3	40	50	3
25	Up to 400	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	22	19.5	17	41.5	18.5	10	40	6	33	M5 x 0.8	5.5	8	6	25	59	3	44	60	3.5
32	Up to 450	18	12	1/8	16	10	1/8	22	19.5	17	44	20	12	40	6	38	M5 x 0.8	5.5	10	7.2	25	59	3	44	60	3.5
40	Up to 800	19	13	1/8	16	10	1/8	30	27	19	53.5	26	16	50	8	47	M6 x 1.0	6	14	7.2	30	66	3	54	75	4
50	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	69	32	20	58	11	58	M8 x 1.25	7	18	10	40	74	4	66	90	5.5
63	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	81	38	20	58	11	72	M10 x 1.5	7	18	12	45	74	4	82	110	7
80	Up to 1400	28	20	3/8	25	17	3/8	40	37	32	99.5	50	25	71	13	89	M10 x 1.5	10	22	12	55	82	4	100	130	7
100	Up to 1500	29	20	1/2	26	17	1/2	40	37	41	125	60	30	71	16	110	M12 x 1.75	10	26	14	70	83	6	120	160	8

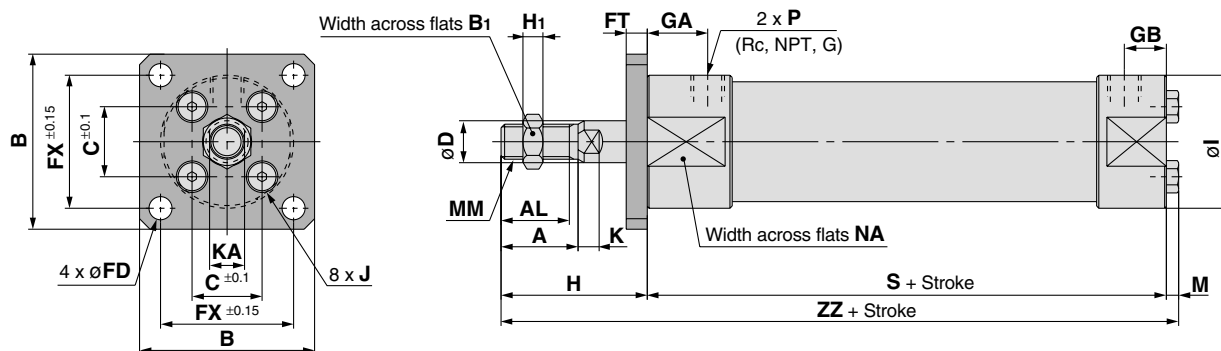
* Foot brackets and plug bolts are installed when shipped from factory.

Note 1) ø20 and ø25 cylinders with an air cushion: M5 x 0.8

Note 2) Refer to the basic type (B)/CG5BA□S* for the dimensions of air cushion needles.

Bore size (mm)	MM	NA	S	X	Y	ZZ
20	M8 x 1.25	29	83	15	7	124
25	M10 x 1.25	29	83	15	7	129.5
32	M10 x 1.25	35.5	85	16	6	131.5
40	M14 x 1.5	44	93	16.5	6.5	150
50	M18 x 1.5	55	109	21.5	11.5	176.5
63	M18 x 1.5	69	109	21.5	11.5	178
80	M22 x 1.5	80	130	28	17	212
100	M26 x 1.5	100	131	30	15	216

Rod side flange style (F): C□G5F^N_A□S^R_V



(mm)																											
Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B ₁	B	C	D	FX	FD	FT	H	H ₁	I	J	K	KA	M	MM	NA	S	ZZ
		GA	GB	P	GA	GB	P																				
20	Up to 350	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	18	15.5	13	50	16.5	8	36	5.5	6	35	5	31	M4 x 0.7	5	6	3	M8 x 1.25	29	83	121
25	Up to 400	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	22	19.5	17	50	18.5	10	36	5.5	6	40	6	33	M5 x 0.8	5.5	8	3.5	M10 x 1.25	29	83	126.5
32	Up to 450	18	12	1/8	16	10	1/8	22	19.5	17	50	20	12	38	6.6	6	40	6	38	M5 x 0.8	5.5	10	3.5	M10 x 1.25	35.5	85	128.5
40	Up to 800	19	13	1/8	16	10	1/8	30	27	19	60	26	16	46	6.6	6	50	8	47	M6 x 1.0	6	14	4	M14 x 1.5	44	93	147
50	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	75	32	20	58	9	9	58	11	58	M8 x 1.25	7	18	5.5	M18 x 1.5	55	109	172.5
63	Up to 1200	21	14	1/4	19	12	1/4	35	32	27	90	38	20	70	11	9	58	11	72	M10 x 1.5	7	18	7	M18 x 1.5	69	109	174
80	Up to 1400	28	20	3/8	25	17	3/8	40	37	32	100	50	25	82	11	9	71	13	89	M10 x 1.5	10	22	7	M22 x 1.5	80	130	208
100	Up to 1500	29	20	1/2	26	17	1/2	40	37	41	125	60	30	100	14	10	71	16	110	M12 x 1.75	10	26	8	M26 x 1.5	100	131	210

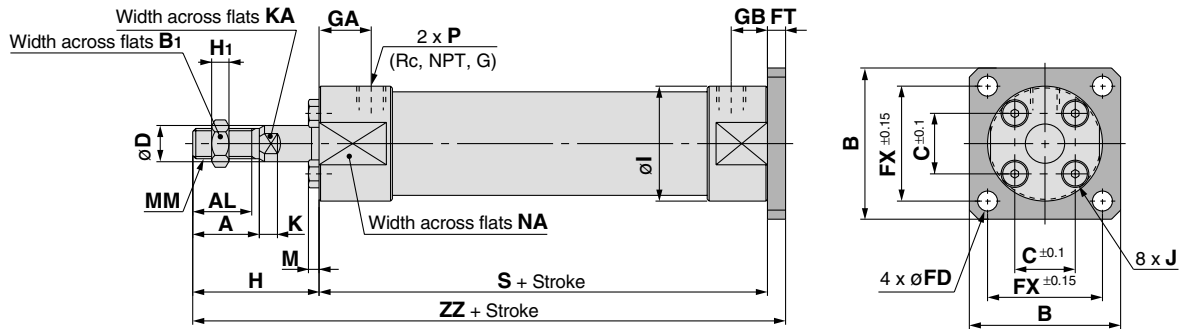
* Flange bracket and plug bolt are installed when shipped from factory.

Note 1) ø20 and ø25 cylinders with an air cushion: M5 x 0.8

Note 2) Refer to the basic type (B)/CG5BA□S* for the dimensions of air cushion needles.

Dimensions

Head side flange style (G): C□G5G^N_A□S^R_V



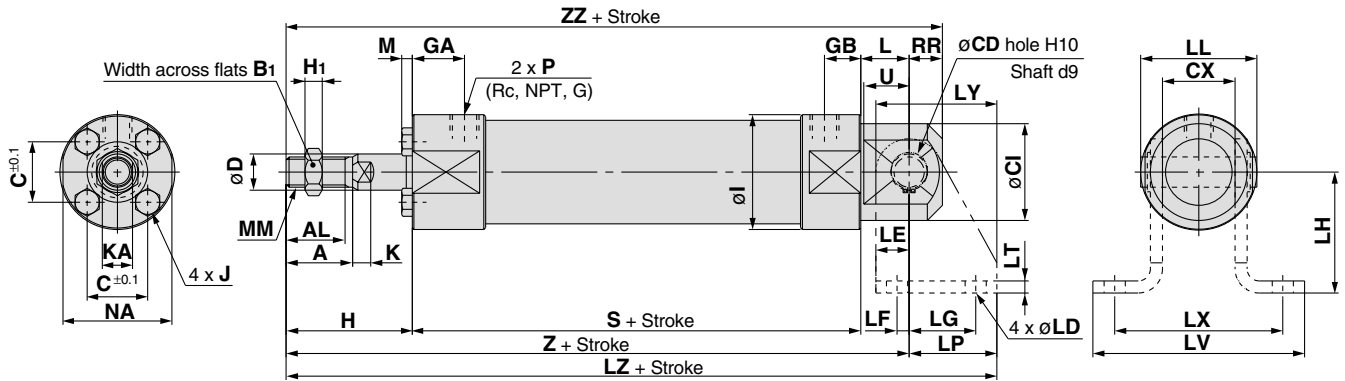
Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B ₁	B	C	D	FX	FD	FT	H	H ₁	I	J	K	KA	M	MM	NA	S	ZZ
		Standard	GA	GB	P	GA	GB																				
20	Up to 200	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	18	15.5	13	50	16.5	8	36	5.5	6	35	5	31	M4 x 0.7	5	6	3	M8 x 1.25	29	83	124
25	Up to 300	18	12	1/8 ⁽¹⁾	18	12	M5 x 0.8	22	19.5	17	50	18.5	10	36	5.5	6	40	6	33	M5 x 0.8	5.5	8	3.5	M10 x 1.25	29	83	129
32	Up to 300	18	12	1/8	16	10	1/8	22	19.5	17	50	20	12	38	6.6	6	40	6	38	M5 x 0.8	5.5	10	3.5	M10 x 1.25	35.5	85	131
40	Up to 500	19	13	1/8	16	10	1/8	30	27	19	60	26	16	46	6.6	6	50	8	47	M6 x 1.0	6	14	4	M14 x 1.5	44	93	149
50	Up to 600	21	14	1/4	19	12	1/4	35	32	27	75	32	20	58	9	9	58	11	58	M8 x 1.25	7	18	5.5	M18 x 1.5	55	109	176
63	Up to 600	21	14	1/4	19	12	1/4	35	32	27	90	38	20	70	11	9	58	11	72	M10 x 1.5	7	18	7	M18 x 1.5	69	109	176
80	Up to 750	28	20	3/8	25	17	3/8	40	37	32	100	50	25	82	11	9	71	13	89	M10 x 1.5	10	22	7	M22 x 1.5	80	130	210
100	Up to 750	29	20	1/2	26	17	1/2	40	37	41	125	60	30	100	14	10	71	16	110	M12 x 1.75	10	26	8	M26 x 1.5	100	131	212

* Foot brackets and plug bolts are installed when shipped from factory.

Note 1) ø20 and ø25 cylinders with an air cushion: M5 x 0.8

Note 2) Refer to the basic type (B)/CG5BA□S* for the dimensions of air cushion needles.

Integral clevis style (E): C□G5E^N_A□S^R_V



Bore size (mm)	Stroke range	Rc, NPT port			G port			A	AL	B1	C	CD(Hole)	CI	CX	D	H	H1	I	J	K	KA	L	M	MM	NA
		GA	GB	P	GA	GB	P																		
20	Up to 200	18	12	1/8 (1)	18	12	M5 x 0.8	18	15.5	13	16.5	8 ^{+0.058} ₀	25	16 ⁰ _{-0.2}	8	35	5	31	M4 x 0.7	5	6	14	3	M8 x 1.25	29
25	Up to 300	18	12	1/8 (1)	18	12	M5 x 0.8	22	19.5	17	18.5	8 ^{+0.058} ₀	27	16 ⁰ _{-0.2}	10	40	6	33	M5 x 0.8	5.5	8	14	3.5	M10 x 1.25	29
32	Up to 300	18	12	1/8	16	10	1/8	22	19.5	17	20	10 ^{+0.058} ₀	32	24 ⁰ _{-0.2}	12	40	6	38	M5 x 0.8	5.5	10	16	3.5	M10 x 1.25	35.5
40	Up to 500	19	13	1/8	16	10	1/8	30	27	19	26	10 ^{+0.058} ₀	40	24 ⁰ _{-0.2}	16	50	8	47	M6 x 1.0	6	14	16	4	M14 x 1.5	44
50	Up to 600	21	14	1/4	19	12	1/4	35	32	27	32	14 ^{+0.070} ₀	50	40 ⁰ _{-0.2}	20	58	11	58	M8 x 1.25	7	18	22	5.5	M18 x 1.5	55
63	Up to 600	21	14	1/4	19	12	1/4	35	32	27	38	14 ^{+0.070} ₀	60	40 ⁰ _{-0.2}	20	58	11	72	M10 x 1.5	7	18	22	7	M18 x 1.5	69
80	Up to 750	28	20	3/8	25	17	3/8	40	37	32	50	22 ^{+0.084} ₀	75	60 ⁰ _{-0.3}	25	71	13	89	M10 x 1.5	10	22	33	7	M22 x 1.5	80
100	Up to 750	29	20	1/2	26	17	1/2	40	37	41	60	22 ^{+0.084} ₀	90	60 ⁰ _{-0.3}	30	71	16	110	M12 x 1.75	10	26	33	8	M26 x 1.5	100

Bore size (mm)	RR	S	U	Z	ZZ	Pivot bracket	CD(Shaft)	LD	LE	LF	LG	LH	LL	LP	LT	LV	LX	LY	LZ
20	9	83	13	132	141	CG-E020SUS	8 ^{-0.040} _{-0.076}	7	9	2	14	30	27.6	21	3	56.5	42	30	153
25	9	83	13	137	146	CG-E020SUS	8 ^{-0.040} _{-0.076}	7	9	2	14	30	27.6	21	3	56.5	42	30	158
32	11	85	15	141	152	CG-E032SUS	10 ^{-0.040} _{-0.076}	7	11	4	22	40	38.4	29	4	70.5	56	40	170
40	11	93	15	159	170	CG-E032SUS	10 ^{-0.040} _{-0.076}	7	11	4	22	40	38.4	29	4	70.5	56	40	188
50	15	109	21	189	204	CG-E050SUS	14 ^{-0.050} _{-0.093}	12	15	5	25	50	59.6	35	6	106.5	84	50	224
63	15	109	21	189	204	CG-E050SUS	14 ^{-0.050} _{-0.093}	12	15	5	25	50	59.6	35	6	106.5	84	50	224
80	23	130	32	234	257	CG-E080SUS	22 ^{-0.065} _{-0.117}	14	23	6	40	80	87.2	57	9	144.5	120	80	291
100	23	131	32	235	258	CG-E080SUS	22 ^{-0.065} _{-0.117}	14	23	6	40	80	87.2	57	9	144.5	120	80	292

* Plug bolts are installed when shipped from factory.

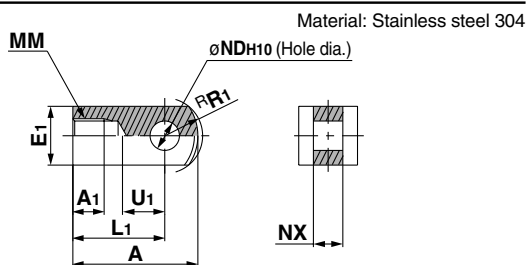
* Pivot bracket (with clevis pin and snap ring) are optional. (Not included.)

Note 1) ø20 and ø25 cylinders with an air cushion: M5 x 0.8

Note 2) Refer to the basic type (B)/CG5BA□S* for the dimensions of air cushion needles.

Accessory Dimensions

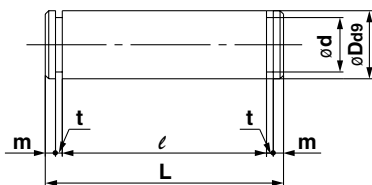
Single Knuckle Joint



Part no.	Applicable bore size (mm)	A	A1	E1	L1	MM	NDH10	NX	R1	U1
I-G02SUS	20	34	8.5	16	25	M8 x 1.25	$8^{+0.058}_{-0}$	$8^{-0.2}_{-0.4}$	10.3	11.5
I-G03SUS	25, 32	41	10.5	20	30	M10 x 1.25	$10^{+0.058}_{-0}$	$10^{-0.2}_{-0.4}$	12.8	14
I-G04SUS	40	42	14	22	30	M14 x 1.5	$10^{+0.058}_{-0}$	$18^{-0.3}_{-0.5}$	12	14
I-G05SUS	50, 63	56	18	28	40	M18 x 1.5	$14^{+0.070}_{-0}$	$22^{-0.3}_{-0.5}$	16	20
I-G08SUS	80	71	21	38	50	M22 x 1.5	$18^{+0.070}_{-0}$	$28^{-0.3}_{-0.5}$	21	27
I-G10SUS	100	79	21	45	55	M26 x 1.5	$22^{+0.064}_{-0}$	$32^{-0.3}_{-0.5}$	24	31

Knuckle Joint Pin

Material: Stainless steel 440 (Pin)
Stainless steel 304 (Retaining ring)

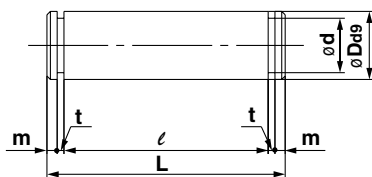


Part no.	Applicable bore size (mm)	Dd9	d	L	l	m	t	Applicable retaining ring
IY-G02SUS	20	$8^{-0.040}_{-0.076}$	7.6	21	16.2	1.5	0.9	Type C 8 for axis
IY-G03SUS	25, 32	$10^{-0.040}_{-0.076}$	9.6	25.6	20.2	1.55	1.15	Type C 10 for axis
IY-G04SUS	40	$10^{-0.040}_{-0.076}$	9.6	41.6	36.2	1.55	1.15	Type C 10 for axis
IY-G05SUS	50, 63	$14^{-0.050}_{-0.093}$	13.4	50.6	44.2	2.05	1.15	Type C 14 for axis
IY-G08SUS	80	$18^{-0.050}_{-0.093}$	17	64	56.2	2.55	1.35	Type C 18 for axis
IY-G10SUS	100	$22^{-0.065}_{-0.117}$	21	72	64.2	2.55	1.35	Type C 22 for axis

* Retaining rings are included.

Clevis Pin

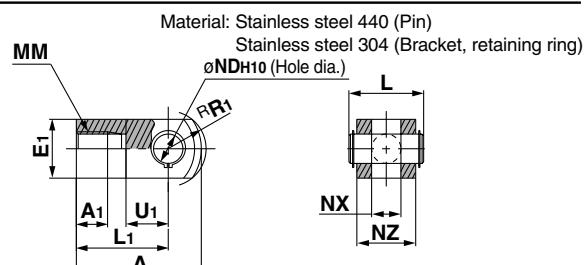
Material: Stainless steel 440 (Pin)
Stainless steel 304 (Retaining ring)



Part no.	Applicable bore size (mm)	Dd9	d	L	l	m	t	Applicable retaining ring
CD-E02SUS	20, 25	$\varnothing 8^{-0.040}_{-0.076}$	7.6	27.6	22.8	1.5	0.9	Type C 8 for axis
CD-E03SUS	32, 40	$\varnothing 10^{-0.040}_{-0.076}$	9.6	38.4	33	1.55	1.15	Type C 10 for axis
CD-E05SUS	50, 63	$\varnothing 14^{-0.050}_{-0.093}$	13.4	59.6	53.2	2.05	1.15	Type C 14 for axis
CD-E08SUS	80, 100	$\varnothing 22^{-0.065}_{-0.117}$	21	87.2	79.4	2.55	1.35	Type C 22 for axis

* Retaining rings are included.

Double Knuckle Joint

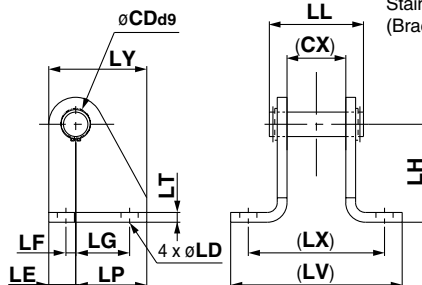


Part no.	Applicable bore size (mm)	A	A1	E1	L	L1	MM	NDH10	NX	NZ	R1	U1	Applicable pin no.
Y-G02SUS	20	34	8.5	16	21	25	M8 x 1.25	$8^{+0.058}_{-0}$	$8^{+0.4}_{-0.2}$	16	10.3	11.5	IY-G02SUS
Y-G03SUS	25, 32	41	10.5	20	25.6	30	M10 x 1.25	$10^{+0.058}_{-0}$	$10^{+0.4}_{-0.2}$	20	12.8	14	IY-G03SUS
Y-G04SUS	40	42	16	22	41.6	30	M14 x 1.5	$10^{+0.058}_{-0}$	$18^{+0.5}_{-0.3}$	36	12	14	IY-G04SUS
Y-G05SUS	50, 63	56	20	25	50.6	40	M18 x 1.5	$14^{+0.070}_{-0}$	$22^{+0.5}_{-0.3}$	44	16	20	IY-G05SUS
Y-G08SUS	80	71	23	35	64	50	M22 x 1.5	$18^{+0.070}_{-0}$	$28^{+0.5}_{-0.3}$	56	21	27	IY-G08SUS
Y-G10SUS	100	79	24	40	72	55	M26 x 1.5	$22^{+0.064}_{-0}$	$32^{+0.5}_{-0.3}$	64	24	31	IY-G10SUS

* Knuckle joint pins and retaining rings are included.

Pivot Bracket

Material: Stainless steel 440 (Pin)
Stainless steel 304 (Bracket, retaining ring)

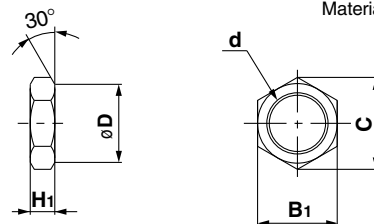


Part no.	Applicable bore size (mm)	CD (Retaining ring)	CX	LD	LE	LF	LG	LH	LL	LP	LT	LV	LX	LY
CG-E020SUS	20, 25	$8^{-0.040}_{-0.076}$	16	7	9	2	14	30	27.6	21	3	56.5	42	30
CG-E032SUS	32, 40	$10^{-0.040}_{-0.076}$	24	7	11	4	22	40	38.4	29	4	70.5	56	40
CG-E050SUS	50, 63	$14^{-0.050}_{-0.093}$	40	12	15	5	25	50	59.6	35	6	106.5	84	50
CG-E080SUS	80, 100	$22^{-0.065}_{-0.117}$	60	14	23	6	40	80	87.2	57	9	144.5	120	80

* Clevis pins and retaining rings are included.

Rod End Nut

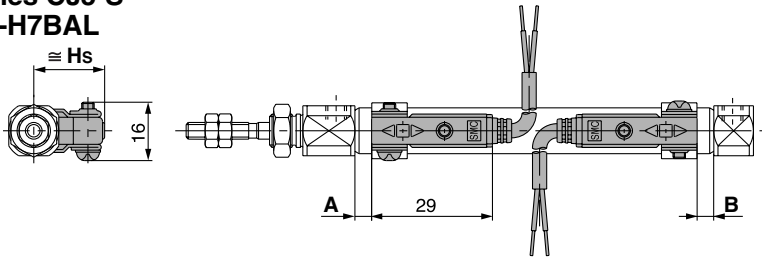
Material: Stainless steel 304



Part no.	Applicable bore size (mm)	B1	C	D	d	H1
NT-02SUS	20	13	(15)	12.5	M8 x 1.25	5
NT-03SUS	25, 32	17	(19.6)	16.5	M10 x 1.25	6
NT-G04SUS	40	19	(21.9)	18	M14 x 1.5	8
NT-05SUS	50, 63	27	(31.2)	26	M18 x 1.5	11
NT-08SUS	80	32	(37.0)	31	M22 x 1.5	13
NT-10SUS	100	41	(47.3)	39	M26 x 1.5	16

Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

Series CJ5-S D-H7BAL



Minimum Stroke for Auto Switch Mounting

Mounting bracket	Basic style, Foot style, Flange style, Clevis style		
Number of auto switches	1 (Rod cover side)	2 (Different sides)	2 (Same side)
Switch mounting side	Port side	Port side	Port side
Switch type			
Minimum stroke (mm)	10	15	60

Auto Switch Mounting Bracket / Part No.

Bore size (mm)	Auto switch mounting bracket part no.
10	BJ2-010S
16	BJ2-016S

* With stainless steel mounting screws.

Operating Range

Auto switch model	Bore size (mm)	
	10	16
D-H7BAL	5	5

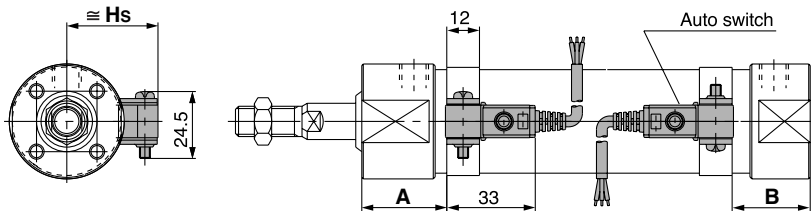
* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately $\pm 30\%$ dispersion) There may be the case to change substantially depending on an ambient environment.

Proper Auto Switch Mounting Position and Its Mounting Height

Applicable bore size (mm)	Auto switch model		
	D-H7BAL		
	A	B	Hs
10	0	0	17
16	0.5	0.5	20.5

Note) Adjust the auto switch after confirming the operating condition in the actual setting.

Series CG5-S D-G5BAL



Minimum Stroke for Auto Switch Mounting

Mounting bracket	Basic style, Foot style, Flange style, Clevis style		
Number of auto switches	1 (Rod cover side)	2 (Different sides)	2 (Same side)
Switch mounting side	Port side	Port side	Port side
Switch type			
Minimum stroke (mm)	10	15	75

Auto Switch Mounting Bracket / Part No.

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

* With stainless steel mounting screws.

Operating Range

Auto switch model	Bore size (mm)							
	20	25	32	40	50	63	80	100
D-G5BAL	5	5	5.5	6	7	7.5	7.5	8

* Since this is a guideline including hysteresis, not meant to be guaranteed. (Assuming approximately $\pm 30\%$ dispersion) There may be the case to change substantially depending on an ambient environment.

Proper Auto Switch Mounting Position and Its Mounting Height

Applicable bore size (mm)	Auto switch model		
	D-G5BAL		
	A	B	Hs
20	31.5	24	26
25	31.5	24	28.5
32	32.5	25	33
40	37	28	36.5
50	45.5	36	42
63	45.5	36	48.5
80	56	46	57.5
100	57	46	68

Note) Adjust the auto switch after confirming the operating condition in the actual setting.

**CJ5
CG5**

HY ☐

C ☐
M ☐

D- ☐

-X ☐

Individual
-X ☐

Technical
data

Technical Data:

Chemical Resistance Table

◎ : No influence or almost no influence
 ○ : Some influence, but operational depending on conditions
 △ : Avoid use if possible
 × : Substantial influence, not suitable for use
 — : Not tested

Chemical Resistance Table

Parts			Body		Seal		Water resistant auto switch	
Material			Stainless steel	Aluminum*	Nitrile rubber	Fluororubber	Resin casing	Lead wire
Chemical (Concentration weight %, Temperature °C)			Stainless steel 304	Al	NBR (-10 to 60°C)	FKM (-40 to 150°C)	PBT (-10 to 60°C)	PVC (-10 to 60°C)
Inorganic salt	1	Hydrochloric acid (20%, Room temperature)	×	×	○	◎	◎	○
	2	Chromic acid (25%, 70°C)	○	×	×	◎	◎	○
	3	Boric acid	○	×	◎	◎	◎	○
	4	Sulfuric acid (30%, Room temperature)	×	×	◎	◎	◎	○
	5	Phosphoric acid (50%, Room temperature)	○	×	◎	◎	◎	○
Inorganic alkali	6	Ammonium hydroxide (28%)	○	○	×	◎	◎	○
	7	Sodium hydroxide (30%, Room temperature)	◎	×	◎	△	◎	×
	8	Calcium hydroxide	△	×	◎	◎	◎	◎
	9	Magnesium hydroxide	○	○	◎	◎	◎	◎
Organic solvent	10	Acetylene	◎	◎	◎	◎	◎	◎
	11	Formic acid (25%, Room temperature)	○	△	×	△	△	△
	12	Citric acid	△	×	◎	◎	△	○
	13	Acetic acid (10%, Room temperature)	◎	△	△	○	◎	○
	14	Lactic acid (5%, 20°C)	○	×	◎	◎	◎	○
Others (oil, gas, etc.)	15	Linseed oil	◎	○	◎	◎	△	△
	16	Potassium chloride	○	△	◎	◎	◎	◎
	17	Calcium chloride	○	◎	◎	◎	◎	◎
	18	Mineral oil	◎	◎	◎	◎	◎	△
	19	Sodium hypochlorite (2%, Room temperature)	○	×	×	◎	◎	△
	20	Sodium chloride	○	—	◎	◎	◎	◎
	21	Carbon dioxide	◎	◎	◎	◎	◎	◎
	22	Natural gas	◎	◎	◎	◎	◎	◎
	23	Boric acid	○	×	◎	◎	◎	○

* Unless noted otherwise, the solution concentration is in a saturated state.

* Chemical resistance is a guide that applies only to the stainless steel cylinder parts, and does not guarantee the performance of air cylinders (auto switches). Be sure to perform a verification test before operating.

* The temperature range for the protective label cover is between -40 to 110°C, and the temperature range for grease is between -20 to 150°C. (However, there is no relationship with the chemicals listed above.)

*) Reference data



Series CJ5-S/CG5-S Stainless Steel Cylinder Specific Product Precautions 1

Be sure to read before handling. Refer to front matters 54 and 55 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Caution on Design

Warning

1. Note the mass of the stainless steel products.

Since the mass of stainless steel cylinders is approximately 1.5 to 3 times heavier than the standard products (with aluminum body), be careful when calculating mass estimates. Also, when mounting the cylinder on equipment where vibration is expected, avoid using single side brackets such as the flange style, and use double side brackets such as the foot style instead.

Caution

1. Adjust the speed control for the environment in which it will be used.

Speed adjustment may be changed depending on the environment.

2. Dust may accumulate on this product's mounting screws and brackets in some operating conditions.

Measures must be applied depending on the operating conditions when mounting.

Selection

Warning

1. Generally, use nitrile rubber (NBR) seals with liquids that do not contain chlorine and sulfur, and use fluoro rubber (FKM) seals with liquids that contain chlorine and sulfur.

However, depending on the type and the brand of liquid (such as cleaning solvent) that splashes on the cylinder, the operating life of seals may be reduced dramatically. In cases where special additives are used, or where liquid caused trouble with the conventional nitrile or fluoro rubber seals in the past, request an investigation or set up a test period for the use of the seals.

2. Even the fluoro rubber specification may not be applicable depending on the type of chemicals and the operating temperature. Therefore, be sure to verify the seal's applicability before use.

Mounting

Warning

1. Do not rotate the cover.

If a cover is rotated when installing a cylinder or screwing a fitting into the port, it is likely to damage the junction part with cover.

2. When using pins, apply grease, etc., in order to prevent them from degrading of shape and rusting.

Operating Precautions

Caution

1. If cleaning the rotating part, grease may leak out, which shortens product service life. Thus, cleaning must be as infrequent as possible.
2. If excess water gets into mounting holes, unwanted bacteria may reproduce. Plug them with plug bolts or external covers to avoid this.

Operating Environment

Warning

1. Fully consider the compatibility of stainless steel.

The corrosion resistance of stainless steel is not effective against all media and corrosive environments. Corrosion proceeds rapidly with strong hydrochloric acid, hydrofluoric acid, and high temperature ammonium gas, etc. Therefore its compatibility to the environment must be considered carefully.

2. Do not operate cylinders with auto switches in environments where oil and chemicals are used.

Please contact SMC when operating in environments with coolants, cleaning solvents, various oils or chemicals, as it may cause adverse effects (faulty insulation, malfunction due to swelling of the potting resin, and hardening of lead wires, etc) to auto switches even in a short period of time. Even with the fluoro rubber seal specification, the auto switch related parts (switch body, mounting bracket, and built-in magnet) are identical to the standard specifications. Therefore, consult with SMC regarding the cylinder's compatibility (such as chemical resistance) with an environment (chemicals, etc.) before operating.

3. Do not immerse the cylinder in water or chemicals.

When the cylinder is operated in a condition with water pressure, the fluid leaks into the cylinder in the early stages. In the worst case, the fluid may back flow inside the piping and damage the solenoid valve.

Caution

1. Avoid installing and using a cylinder inside a food zone.

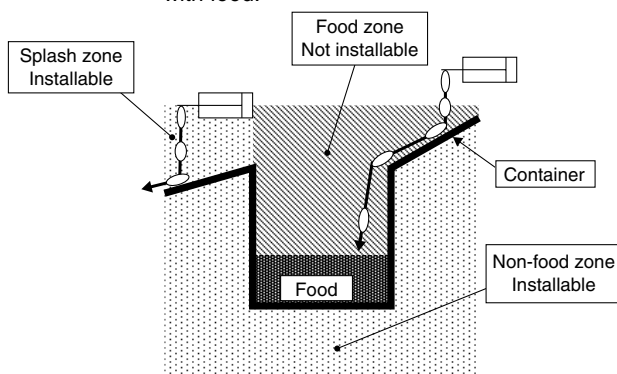
<Not installable>

Food zone An environment where food which will be sold as merchandize, directly touches the cylinder's components.

<Installable>

Splash zone An environment where food which will not be sold as merchandize, directly touches the cylinder's components.

Non-food zone An environment where there is no contact with food.



2. When cleaning solvent or chemicals splashes on a cylinder, the service life may be extremely shortened. Please contact SMC for details.

3. When cleaning cylinders with steam, do it as quickly as possible, keeping the cylinder's temperature range in mind.

4. When cleaning cylinders with a brush, etc., do not apply excessive force to the weaker parts, such as auto switch lead wire, etc.

CJ5
CG5

HY ☐

C ☐
M ☐

D- ☐

-X ☐

Individual

-X ☐

Technical
data



Series CJ5-S/CG5-S Stainless Steel Cylinder Specific Product Precautions 2

Be sure to read before handling. Refer to front matters 54 and 55 for Safety Instructions and pages 3 to 11 for Actuator and Auto Switch Precautions.

Maintenance

Warning

1. If this cylinder is lubricated, it may cause malfunctions.

If grease other than designated is used, it may also cause malfunctions.

- Order with the following part number when only the grease for maintenance is needed.

Grease pack part number for stainless steel cylinders

Grease for food processing machines: GR-R-010 (10 g)

2. Do not wipe grease attached to the rotating part of the air cylinder.

If grease attached to the rotating part is forcibly wiped off, it may cause malfunctions.

If the cylinder is operated for a long period of time, the rotating part may become black. In such cases, wipe the grease attached to the rotating part and reapply fresh grease to enable the cylinder to operate for a long period of time.

(Wipe the grease with water. Using alcohol or solvents may damage seals.)

Precautions for Series CG5-S

1. Sealant* is used on the threads of the connecting sections of the cover and the cylinder tube for air-tight construction. When disassembling the cylinder, the old sealant must be completely removed, and new sealant must be applied before re-assembling.

* Loctite® 542 (medium strength) or equivalent

2. ø50 or larger bore size cylinders cannot be dis-assembled.

When disassembling cylinders with bore sizes of ø20 through ø40, grip the double flat part of either the head cover or the rod cover with a vise and loosen the other side with a wrench or a monkey wrench, etc., and then remove the cover. When re-tightening, tighten approximately 2 degrees more than the original position. (Cylinders with ø50 or larger bore sizes are tightened with a large tightening torque and cannot be disassembled. Please contact SMC when disassembly is required.)