

Series 10-/11- 21-/22-**CG1-Z**

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
Air Cylinder: Double acting, Single rod

RoHS

How to Order

Clean series

10	Relief type
11	Vacuum suction type

Built-in magnet


Nil	No
D	With auto switch (Built-in magnet)

Type

N	Rubber bumper, ø20 to ø100
A	Air cushion, ø40 to ø63

Bore size (mm)

40 - 150



Mounting

B*	Basic
L	Axial foot
F	Rod flange
G	Head flange

Auto switch

Solid state	M9B, M9BW, K59, K59W
Reed switch	A93, B54

Number of auto switches

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

* No trunnion mounting female thread is provided for clean series.

* The minimum stroke for auto switch mounting, operating range and auto switch mounting brackets/part no. are the same as standard products.

Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke ^{Note 2)} (mm)	Long stroke (mm) ^{Note 1) Note 2)}	Auto switch mounting		Cushion	
								Rubber	Air	Rubber	Air
Relief type	10-/21-CG1□20	20	1/8	Non-lube	Double acting, Single rod	25, 50, 75, 100, 125, 150, 200	Up to 1500	○	○	○	○
	10-/21-CG1□25	25									
	10-/21-CG1□32	32									
	10-/21-CG1□40	40									
	10-/21-CG1□50	50									
	10-/21-CG1□63	63									
Vacuum suction type	10-/21-CG1□80	80	1/8	Non-lube	Double acting, Single rod	25, 50, 75, 100, 125, 150, 200	Up to 1500	○	○	○	○
	10-/21-CG1□100	100									
	11-/22-CG1□20	20									
	11-/22-CG1□25	25									
	11-/22-CG1□32	32									
	11-/22-CG1□40	40									
	11-/22-CG1□50	50									
	11-/22-CG1□63	63									
11-/22-CG1□80	80										
11-/22-CG1□100	100										

Note 1) When exceeding the standard strokes above, the particle generation class may not be satisfied.

Note 2) Intermediate strokes and long strokes not listed above are produced upon receipt of order.

Specifications

Item	Bore size (mm)									
	20	25	32	40	50	63	80	100		
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°C to 70°C With auto switch: -10°C to 60°C (No freezing)									
Piston speed	10-/11-: 30 to 400 mm/s, 21-/22-: 50 to 400 mm/s									
Stroke length tolerance	Up to 1000 ^{+1,4} ₀ mm, Up to 1500 ^{+1,8} ₀ mm									
Mounting	Basic/Axial foot Rod flange/Head flange									
Grease	10-/11-: Fluorine grease 21-/22-: Lithium soap based grease									
Cleanliness class (ISO class)	10-: Class 4, 21-: Class 5 11-/22-: Class 3									
Allowable kinetic energy (J)	Rubber bumper	Male rod end	0.28	0.41	0.66	1.20	2.00	3.40	5.90	9.90
		Female rod end	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54
	Air cushion	Male rod end	—	—	—	1.80	3.40	4.90	—	—
		Female rod end	—	—	—	0.52	0.91	1.54	—	—

Note) Operate the cylinder within the allowable kinetic energy.

Suction Flow Rate of Vacuum Suction Type (Reference values)

Bore size	Suction flow rate L/min (ANR)
20/25/32/40	10
50/63/80/100	20

Applicable Auto Switches (Refer to the WEB catalog for auto switches not in the following table.)

Type	Special function	Electrical entry	Indicator/light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (mm) ²					Applicable load	
					DC	AC	Applicable bore size	0.5 (Nil)	1 (M)	3 (L)	5 (Z)	Pre-wired connector			
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N	●	●	●	○	○	IC circuit	Relay, PLC	
				—			G59	●	—	●	○	○			
				3-wire (PNP)	M9P		—	●	—	●	○	○			
				—	G5P		●	—	●	○	○				
				2-wire	M9B		—	●	—	●	○	○			
	Diagnostic indication (2-color indication)	Grommet	Yes	3-wire (NPN)	24 V		M9NW	—	●	—	●	○	○		IC circuit
				—	G59W		●	—	●	○	○				
				3-wire (PNP)	5 V, 12 V		M9PW	—	●	—	●	○	○		
				—	G5PW		●	—	●	○	○				
				2-wire	M9BW		—	●	—	●	○	○			
Reed auto switch	—	Grommet	No	2-wire	24 V	100 V	A93	—	●	—	●	—	IC circuit	Relay, PLC	
						100 V or less	A90	—	●	—	●	—			
						100 V, 200 V	B54	—	●	—	●	—			
						200 V or less	B64	—	●	—	●	—			
						—	—	—	●	—	●	—			

* Lead wire length symbols: 0.5 m.....Nil (Example) M9NW
 1 m..... M (Example) M9NWM
 3 m..... L (Example) M9NWL
 5 m..... Z (Example) M9NWZ

* Solid state auto switches marked with "○" are produced upon receipt of order. PLC: Programmable Logic Controller

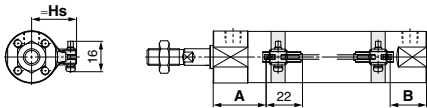
* For applicable auto switches other than listed above, refer to the table in the dashed line on the last page of the auto switch mounting section of the standard cylinder series in the WEB catalog.

Refer to page 889 for the applicable auto switch list.

Auto Switch Proper Mounting Position (Detection at Stroke End) and Its Mounting Height

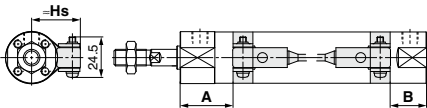
Solid state auto switch

D-M9□, M9□W
 ø20 to ø63



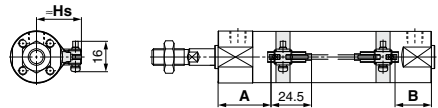
A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

D-G5, K5, G5□W
D-K59W
 ø20 to ø100



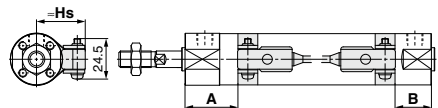
Reed auto switch

D-A9□
 ø20 to ø63



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

D-B5, B6
 ø20 to ø100



Auto Switch Proper Mounting Position (Detection at Stroke End) (mm) Auto Switch Mounting Height (mm)

Auto switch model	D-M9□ D-M9□W		D-A9□		D-G5□/K59 D-G5□W/K59W		D-B5□ D-B64		Auto switch model	D-M9□ D-M9□W D-A9□		D-G5/K5 D-G5□W D-K59W D-B5/B6	
	A	B	A	B	A	B	A	B		Bore size	Hs	Hs	Hs
Bore size	20	41	24 (32)	37	20 (28)	33	16 (24)	31.5	14.5 (22.5)	20	24.5	27.5	
	25	40.5	24.5 (32.5)	36.5	20.5 (28.5)	32.5	16.5 (24.5)	31	15 (23)	25	27	30	
	32	42	25 (33)	38	21 (29)	34	17 (25)	32.5	15.5 (23.5)	32	30.5	33.5	
	40	39	27 (36)	35	23 (32)	31	19 (28)	29.5	17.5 (26.5)	40	35	38	
	50	46	32 (44)	42	28 (40)	38	24 (36)	36.5	22.5 (34.5)	50	40.5	43.5	
	63	44.5	33.5 (45.5)	40.5	29.5 (41.5)	36.5	25.5 (37.5)	35	24 (36)	63	47.5	50.5	
	80	—	—	—	—	49.5	30.5 (44.5)	48	29 (43)	80	—	59	
	100	—	—	—	—	48.5	31.5 (45.5)	47	30 (44)	100	—	69.5	

Note 1) Values in parentheses are for the long stroke type.
 Note 2) Adjust the auto switch after confirming the operating state in the actual setting.

Auto Switch Mounting Brackets/Part no.

Auto switch model	Bore size (mm)							
	20	25	32	40	50	63	80	100
D-M9□ D-M9□W D-A9□	BMA3-020 (A set of a, b, c, d)	BMA3-025 (A set of a, b, c, d)	BMA3-032 (A set of a, b, c, d)	BMA3-040 (A set of a, b, c, d)	BMA3-050 (A set of a, b, c, d)	BMA3-063 (A set of a, b, c, d)	—	—
<p>* Band (c) is mounted so that the projected part is on the internal side (contact side with the tube).</p>								
D-B5□/B64 D-G5□/K59 D-G5□W/K59W	BA-01 (A set of band and screw)	BA-02 (A set of band and screw)	BA-32 (A set of band and screw)	BA-04 (A set of band and screw)	BA-05 (A set of band and screw)	BA-06 (A set of band and screw)	BA-08 (A set of band and screw)	BA-10 (A set of band and screw)

Note) Since the switch bracket (made from nylon) are affected in an environment where alcohol, chloroform, methylamines, hydrochloric acid or sulfuric acid is splashed over, so it cannot be used.
Please contact SMC regarding other chemicals.

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

Fittings & Tubing

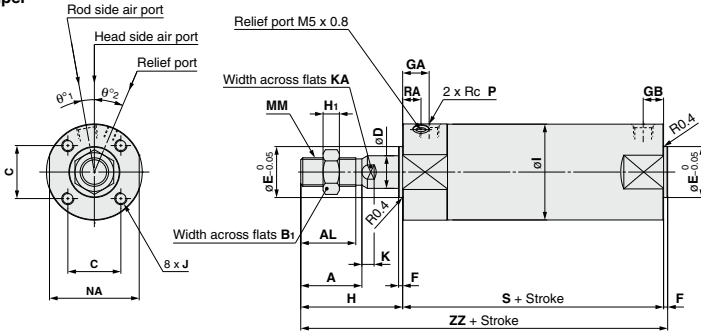
Flow Control Equipment

Pressure Switches/ Pressure Sensors

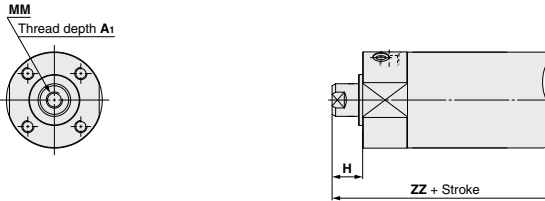
Air Cylinder 10-11-CG1-Z / 21-22-CG1-Z

Basic (B): 10-CG1B, 21-CG1B

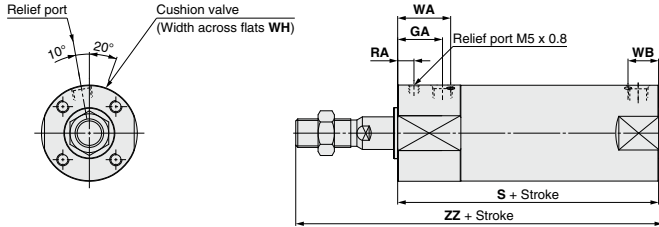
With rubber bumper



Female rod end



With air cushion



Bore size	Stroke range		A	AL	B ₁	C	D	E	F	GA	GB	H	H ₁	I	J	K	KA	MM	NA	P	RA	S	θ ¹	θ ²	ZZ
	Standard	Long																							
20	Up to 200	201 to 1500	18	15.5	13	14	8	12	2	20	10 (12)	35	5	26	M4 x 0.7 depth 7	5	6	M8 x 1.25	24	1/8	7	77 (85)	0	0	114 (122)
25	Up to 300	301 to 1500	22	19.5	17	16.5	10	14	2	20	10 (12)	40	6	31	M5 x 0.8 depth 7.5	5.5	8	M10 x 1.25	29	1/8	7	77 (85)	0	0	119 (127)
32			22	19.5	17	20	12	18	2	20	10 (12)	40	6	38	M5 x 0.8 depth 8	5.5	10	M10 x 1.25	35.5	1/8	7	79 (87)	0	0	121 (129)
40	Up to 300	301 to 1500	30	27	19	26	16	25	2	13	10 (13)	50	8	47	M6 x 1 depth 12	6	14	M14 x 1.5	44	1/8	9	78 (87)	10	23	130 (139)
50			35	32	27	32	20	30	2	14	12 (14)	58	11	58	M8 x 1.25 depth 16	7	18	M18 x 1.5	55	1/4	10	90 (102)	10	23	150 (162)
63			35	32	27	38	20	32	2	14	12 (14)	58	11	72	M10 x 1.5 depth 16	7	18	M18 x 1.5	69	1/4	10	90 (102)	10	20	150 (162)
80			40	37	32	50	25	40	3	20	16 (20)	71	13	89	M10 x 1.5 depth 22	10	22	M22 x 1.5	86	3/8	10	108 (122)	10	20	182 (196)
100			40	37	41	60	30	50	3	20	16 (20)	71	16	110	M12 x 1.75 depth 22	10	26	M26 x 1.5	106	1/2	10	108 (122)	10	20	182 (196)

* No trunnion mounting female thread is provided for clean series.
() : Denotes the dimensions for long stroke.

Female rod end (mm)

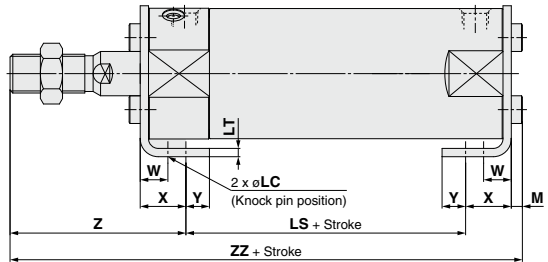
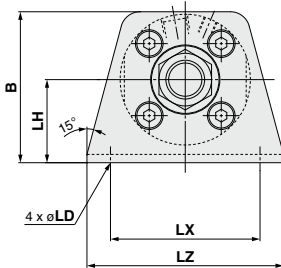
Bore size	A ₁	H	MM	ZZ	
				Rubber	Air
20	8	13	M4 x 0.7	92 (100)	—
25	8	14	M5 x 0.8	93 (101)	—
32	12	14	M6 x 1.0	95 (103)	—
40	13	15	M8 x 1.25	95 (104)	104 (113)
50	18	16	M10 x 1.5	108 (120)	120 (132)
63	18	16	M10 x 1.5	108 (120)	120 (132)
80	21	19	M14 x 1.5	130 (144)	—
100	25	22	M16 x 1.5	133 (147)	—

With air cushion (mm)

Bore size	GA	S	RA	WA	WB	WH	ZZ
40	22	87 (96)	8	26	15 (17)	1.5	139 (148)
50	26	102 (114)	9	30	16 (18)	3	162 (174)
63	26	102 (114)	9	30	17 (18)	3	162 (174)

Axial Foot (L): ¹⁰⁻CG1L, ²¹⁻CG1L

With rubber bumper



(mm)

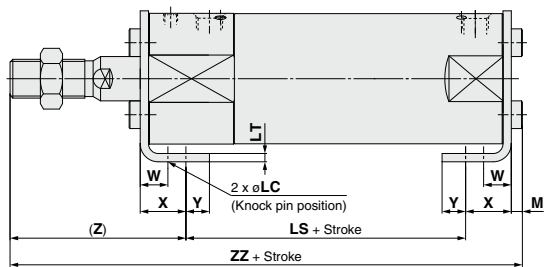
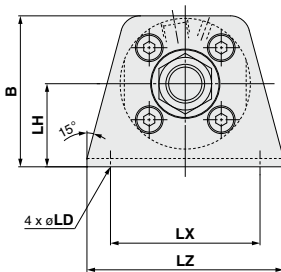
Bore size	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	Z	ZZ
20	34	4	6	20	53 (61)	3	32	44	3	10	15	7	47	118 (126)
25	38.5	4	6	22	53 (61)	3	36	49	3.5	10	15	7	52	123.5 (131.5)
32	45	4	7	25	53 (61)	3	44	58	3.5	10	16	8	53	125.5 (133.5)
40	54.5	4	7	30	51 (60)	3	54	71	4	10	16.5	8.5	63.5	135 (144)
50	70.5	5	10	40	55 (67)	4.5	66	86	5	17.5	22	11	75.5	157.5 (169.5)
63	82.5	5	12	45	55 (67)	4.5	82	106	5	17.5	22	13	75.5	157.5 (169.5)
80	101	6	11	55	60 (74)	4.5	100	125	5	20	28.5	14	95	188.5 (202.5)
100	121	6	14	65	60 (74)	6	120	150	7	20	30	16	95	192 (206)

* Other dimensions are the same as basic type.

* For female rod end, since the wrench flap (K and KA portions) will be inside of the bracket when the piston rod is retracted at the stroke end, extend the piston rod to tighten the nut using a tool, and mount a workpiece on the rod end.

* Refer to the basic type for the female rod end.
Note () : Denotes the dimensions for long stroke.

With air cushion



(mm)

Bore size	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	Z	ZZ
40	54.5	4	7	30	60 (69)	3	54	71	4	10	16.5	8.5	63.5	144 (153)
50	70.5	5	10	40	67 (79)	4.5	66	86	5	17.5	22	11	75.5	169.5 (181.5)
63	82.5	5	12	45	67 (79)	4.5	82	106	5	17.5	22	13	75.5	169.5 (181.5)

* Other dimensions are the same as basic type.

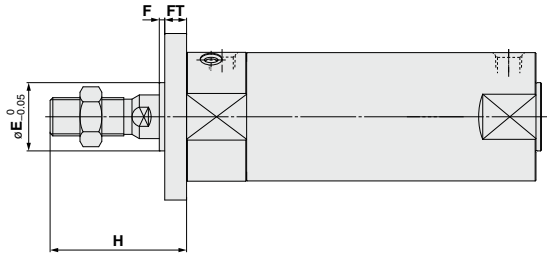
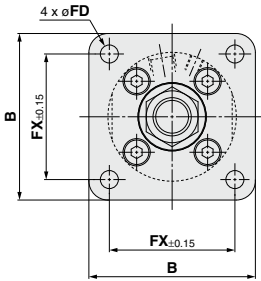
* For female rod end, since the wrench flap (K and KA portions) will be inside of the bracket when the piston rod is retracted at the stroke end, extend the piston rod to tighten the nut using a tool, and mount a workpiece on the rod end.

* Refer to the basic type for the female rod end.
Note () : Denotes the dimensions for long stroke.

Directional Control Valves
 Air Cylinders
 Rotary Actuators
 Air Grippers
 Air Preparation Equipment
 Modular F. R.
 Pressure Control Equipment
 Fittings & Tubing
 Flow Control Equipment
 Pressure Switches
 Pressure Sensors

Rod Flange (F): ¹⁰⁻**CG1F**, ²¹⁻**CG1F**

With rubber bumper

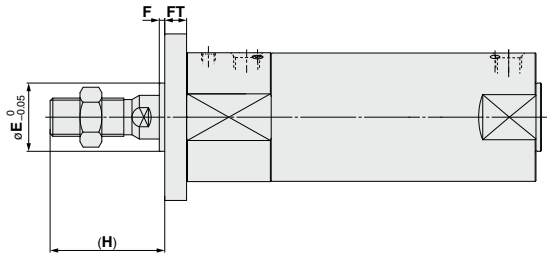
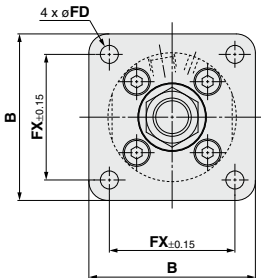


(mm)

Bore size	B	E	F	FX	FD	FT
20	40	12	2	28	5.5	6
25	44	14	2	32	5.5	7
32	53	18	2	38	6.6	7
40	61	25	2	46	6.6	8
50	76	30	2	58	9	9
63	92	32	2	70	11	9
80	104	40	3	82	11	11
100	128	50	3	100	14	14

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.

With air cushion



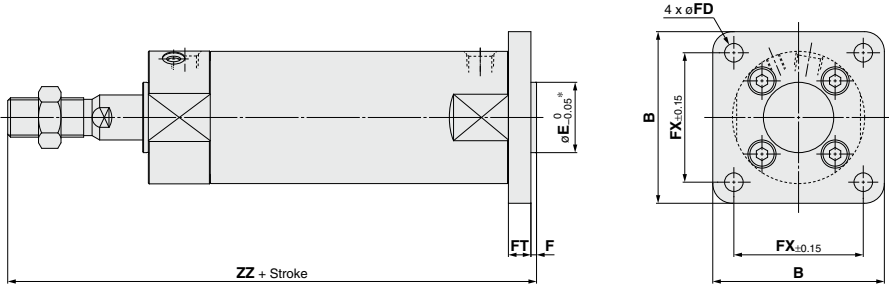
(mm)

Bore size	B	E	F	FX	FD	FT
40	61	25	2	46	6.6	8
50	76	30	2	58	9	9
63	92	32	2	70	11	9

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.

Head Flange (G): ¹⁰⁻CG1G, ²¹⁻CG1G

With rubber bumper

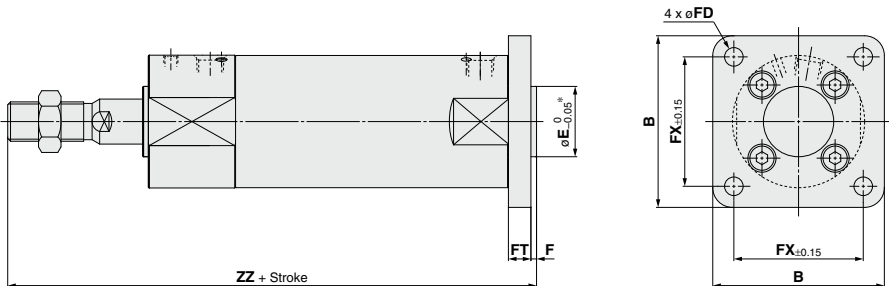


(mm)

Bore size	B	E	F	FX	FD	FT	ZZ
20	40	12	2	28	5.5	6	120 (128)
25	44	14	2	32	5.5	7	126 (134)
32	53	18	2	38	6.6	7	128 (136)
40	61	25	2	46	6.6	8	138 (147)
50	76	30	2	58	9	9	159 (171)
63	92	32	2	70	11	9	159 (171)
80	104	40	3	82	11	11	193 (207)
100	128	50	3	100	14	14	196 (210)

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.
 Note) () : Denotes the dimensions for long stroke.

With air cushion



(mm)

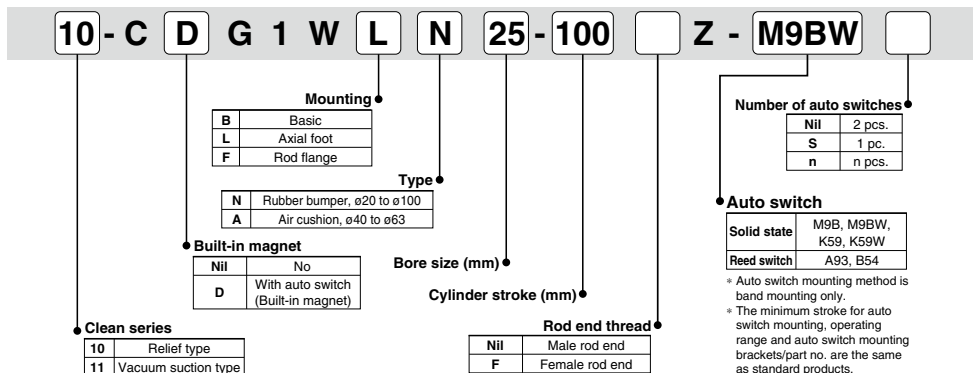
Bore size	B	E	F	FX	FD	FT	ZZ
40	61	25	2	46	6.6	8	147 (156)
50	76	30	2	58	9	9	171 (183)
63	92	32	2	70	11	9	171 (183)

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.
 Note) () : Denotes the dimensions for long stroke.

Directional Control Valves
 Air Cylinders
 Rotary Actuators
 Air Grippers
 Air Preparation Equipment
 Modular F. R.
 Pressure Control Equipment
 Fittings & Tubing
 Flow Control Equipment
 Pressure Switches/ Pressure Sensors

Series 10-11-CG1W-Z ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100 Double Rod Cylinder

How to Order



Model

	Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
								Rubber	Air
Relief type	10-CG1W□20	20	1/8	Non-lube	Double acting, Double rod	25, 50, 75, 100, 125, 150, 200	○	○	(ø40 to ø63)
	10-CG1W□25	25							
	10-CG1W□32	32							
	10-CG1W□40	40							
	10-CG1W□50	50							
	10-CG1W□63	63							
Vacuum suction type	10-CG1W□80	80	1/4	Non-lube	Double acting, Double rod	25, 50, 75, 100, 125, 150, 200, 300	○	○	(ø40 to ø63)
	10-CG1W□100	100							
	11-CG1W□20	20							
	11-CG1W□25	25							
	11-CG1W□32	32							
	11-CG1W□40	40							
	11-CG1W□50	50							
	11-CG1W□63	63							
	11-CG1W□80	80							
	11-CG1W□100	100							

Specifications

Item	Bore size (mm)									
	20	25	32	40	50	63	80	100		
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°C to 70°C, With auto switch: -10°C to 60°C (No freezing)									
Piston speed	10-/11-: 30 to 400 mm/s									
Stroke length tolerance	Up to 300st ^{+1.4} mm									
Mounting	Basic/Axial foot/Rod flange									
Grease	10-/11-: Fluorine grease									
Cleanliness class (ISO class)	10-: Class 4									
	11-: Class 3									
Allowable kinetic energy (J)	Rubber bumper	Male rod end	0.28	0.41	0.66	1.20	2.00	3.40	5.90	9.90
		Female rod end	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54

Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
20/25/32/40	10
50/63/80/100	20

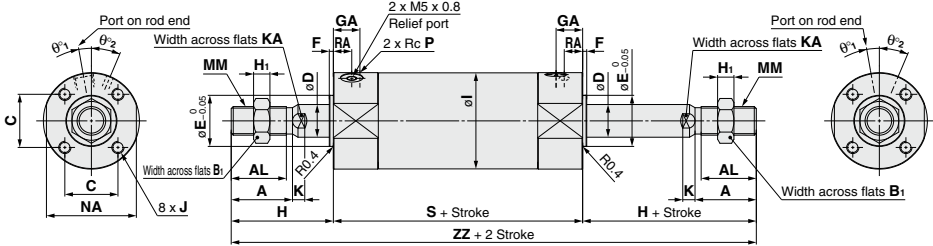
Auto Switch

Auto switch specifications and the proper mounting positions for stroke end detection are the same as those for double acting, single rod type.

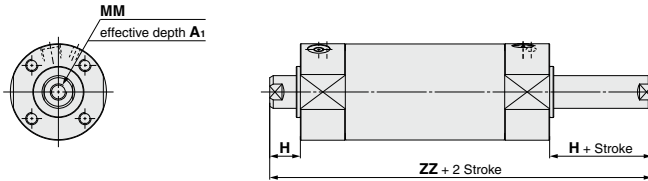
Refer to page 889 for the applicable auto switch list.

Basic (B): 10-11-**CG1WB**

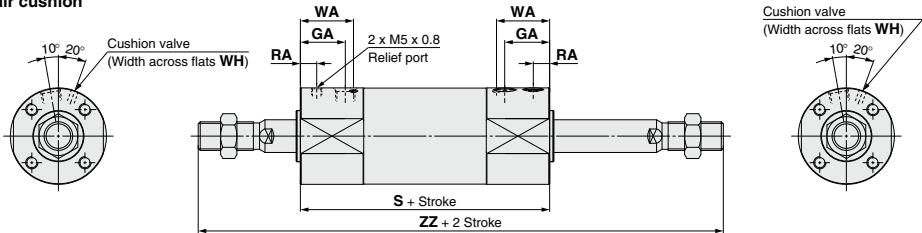
With rubber bumper



Female rod end



With air cushion



Bore size	Stroke range		A	AL	B ₁	C	D	E	F	GA	H	H ₁	I	J	K	KA	MM	NA	P	RA	S	θ ¹	θ ²	ZZ
	Standard	Long																						
20	Up to 200	201 to 1500	18	15.5	13	14	8	12	2	20	35	5	26	M4 x 0.7 depth 7	5	6	M8 x 1.25	24	1/8	7	93	0	0	163
25			22	19.5	17	16.5	10	14	2	20	40	6	31	M5 x 0.8 depth 7.5	5.5	8	M10 x 1.25	29	1/8	7	93	0	0	173
32			22	19.5	17	20	12	18	2	20	40	6	38	M5 x 0.8 depth 8	5.5	10	M10 x 1.25	35.5	1/8	7	95	0	0	175
40			30	27	19	26	16	25	2	13	50	8	47	M6 x 1 depth 12	6	14	M14 x 1.5	44	1/8	9	87	10	23	187
50			35	32	27	32	20	30	2	14	58	11	58	M8 x 1.25 depth 16	7	18	M18 x 1.5	55	1/4	10	102	10	23	218
63	Up to 300	301 to 1500	35	32	27	38	20	32	2	14	58	11	72	M10 x 1.5 depth 16	7	18	M18 x 1.5	69	1/4	10	102	10	20	218
80			40	37	32	50	25	40	3	20	71	13	89	M10 x 1.5 depth 22	10	22	M22 x 1.5	86	3/8	10	122	10	20	264
63			40	37	32	50	25	40	3	20	71	13	89	M10 x 1.5 depth 22	10	22	M22 x 1.5	86	3/8	10	122	10	20	264
100			40	37	41	60	30	50	3	20	71	16	110	M12 x 1.75 depth 22	10	26	M26 x 1.5	106	1/2	10	122	10	20	264

Female rod end

Bore size	A ₁	H	MM	ZZ	
				Rubber	Air
20	8	13	M4 x 0.7	119	—
25	8	14	M5 x 0.8	121	—
32	12	14	M6 x 1.0	123	—
40	13	15	M8 x 1.25	117	135
50	18	16	M10 x 1.5	134	158
63	18	16	M10 x 1.5	134	158
80	21	19	M14 x 1.5	160	—
100	25	22	M16 x 1.5	166	—

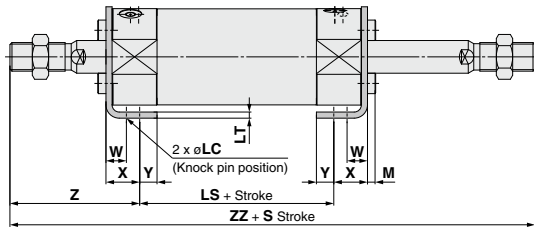
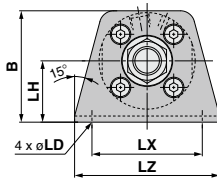
With air cushion

Bore size	Stroke range		GA	S	RA	WA	WH	ZZ
	Standard	Long						
40	Up to 300	301 to 1500	22	105	8	26	1.5	205
50			26	126	9	30	3	242
63			26	126	9	30	3	242

Air Cylinder $\frac{10}{11}$ -CG1W-Z

Axial Foot (L): $\frac{10}{11}$ -CG1WL

With rubber bumper



(mm)

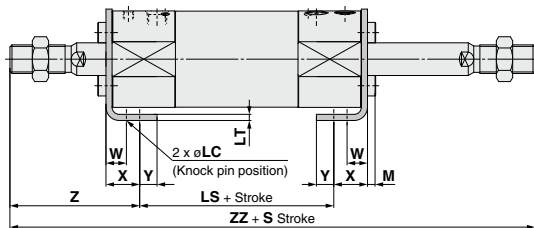
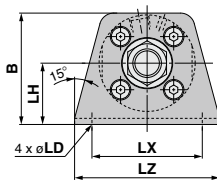
Bore size	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	Z	ZZ
20	34	4	6	20	69	3	32	44	3	10	15	7	47	163
25	38.5	4	6	22	69	3	36	49	3.5	10	15	7	52	173
32	45	4	7	25	69	3	44	58	3.5	10	16	8	53	175
40	54.5	4	7	30	60	3	54	71	4	10	16.5	8.5	63.5	187
50	70.5	5	10	40	67	4.5	66	86	5	17.5	22	11	75.5	218
63	82.5	5	12	45	67	4.5	82	106	5	17.5	22	13	75.5	218
80	101	6	11	55	74	4.5	100	125	5	20	28.5	14	95	264
100	121	6	14	65	74	6	120	150	7	20	30	16	95	264

* Other dimensions are the same as basic type.

* For female rod end, since the wrench flap (K and KA portions) will be inside of the bracket when the piston rod is retracted at the stroke end, extend the piston rod to tighten the nut using a tool, and mount a workpiece on the rod end.

* Refer to the basic type for the female rod end.

With air cushion



(mm)

Bore size	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	Z	ZZ
40	54.5	4	7	30	78	3	54	71	4	10	16.5	8.5	63.5	205
50	70.5	5	10	40	91	4.5	66	86	5	17.5	22	11	75.5	242
63	82.5	5	12	45	91	4.5	82	106	5	17.5	22	13	75.5	242

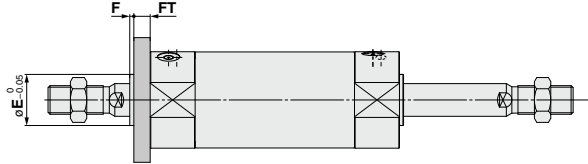
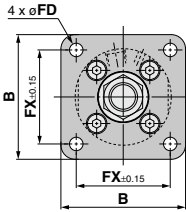
* Other dimensions are the same as basic type.

* For female rod end, since the wrench flap (K and KA portions) will be inside of the bracket when the piston rod is retracted at the stroke end, extend the piston rod to tighten the nut using a tool, and mount a workpiece on the rod end.

* Refer to the basic type for the female rod end.

Rod Flange (F): ¹⁰⁻₁₇₋CG1WF

With rubber bumper

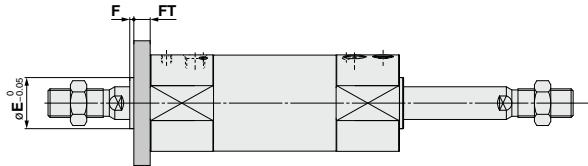
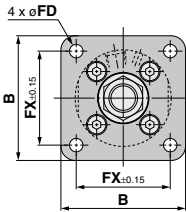


(mm)

Bore size	B	E	F	FX	FD	FT
20	40	12	2	28	5.5	6
25	44	14	2	32	5.5	7
32	53	18	2	38	6.6	7
40	61	25	2	46	6.6	8
50	76	30	2	58	9	9
63	92	32	2	70	11	9
80	104	40	3	82	11	11
100	128	50	3	100	14	14

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.

With air cushion



(mm)

Bore size	B	E	F	FX	FD	FT
40	61	25	2	46	6.6	8
50	76	30	2	58	9	9
63	92	32	2	70	11	9

Note) End boss is machined on the flange for øE.
 * Other dimensions are the same as basic type.
 * Refer to the basic type for the female rod end.

Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

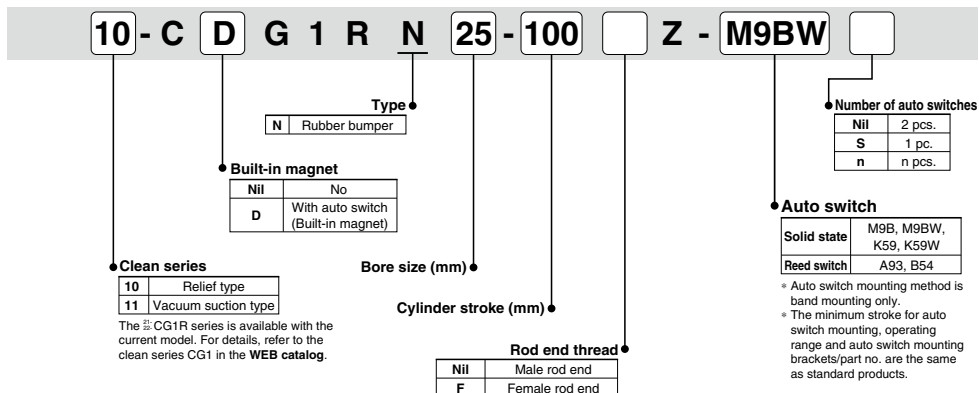
Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

Series 10-11-CG1R-Z $\phi 20, \phi 25, \phi 32, \phi 40, \phi 50, \phi 63$ Direct Mount Cylinder

How to Order



Model

Model	Bore size (mm)	Port size	Lubrication	Action	Standard stroke (mm)	Auto switch mounting	Cushion	
							Rubber	Air
Relief type	10-CG1RN20	20	1/8	Non-lube	Double acting,	○	○	—
	10-CG1RN25	25						
	10-CG1RN32	32						
	10-CG1RN40	40						
	10-CG1RN50	50						
	10-CG1RN63	63						
Vacuum suction type	11-CG1RN20	20	1/4	Single rod	○	○	—	
	11-CG1RN25	25						
	11-CG1RN32	32						
	11-CG1RN40	40						
	11-CG1RN50	50						
	11-CG1RN63	63						

Specifications

Item	Bore size (mm)							
	20	25	32	40	50	63		
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°C to 70°C, With auto switch: -10°C to 60°C (No freezing)							
Piston speed	10/11-: 30 to 400 mm/s							
Stroke length tolerance	UP to 300 ⁺¹⁴ ₀ mm							
Grease	10/11-: Fluorine grease							
Cleanliness class (ISO class)	10-: Class 4							
	11-: Class 3							
Allowable kinetic energy (J)	Rubber bumper	Male rod end	0.28	0.41	0.66	1.20	2.00	3.40
		Female rod end	0.11	0.18	0.29	0.52	0.91	1.54

Suction Flow Rate of Vacuum Suction Type (Reference values)

Size	Suction flow rate L/min (ANR)
20/25/32/40	10
50/63	20

Applicable Switch Specifications (Refer to the WEB catalog for auto switches not in the following table.)

Type	Special function	Electrical entry	Indicator/light	Wiring (Output)	Load voltage		Auto switch model/ Applicable bore size ø20 to ø63	Lead wire length (m) [*]				Pre-wired connector	Applicable load	
					DC	AC		0.5 (Nil)	1 (M)	3 (L)	5 (Z)		IC circuit	Relay, PLC
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	M9N	●	●	●	○	○		
				3-wire (PNP)			M9P	●	—	●	○	○		
				2-wire	M9B		●	●	●	○	○			
	Diagnostic indication (2-color indication)			24 V	3-wire (NPN)		M9NW	●	●	●	○	○	IC circuit	—
					3-wire (PNP)		M9PW	●	—	●	○	○		
					2-wire		M9BW	●	●	●	○	○		
					2-wire		M9BW	●	●	●	○	○		
Reed auto switch	—	Grommet	Yes No Yes No	2-wire	24 V	12 V	100 V	A93	●	●	●	—	IC circuit	Relay, PLC
							100 V or less	A90	●	—	●	—		
							100 V, 200 V	B54	●	—	●	—		
							200 V or less	B64	●	—	●	—		

* Lead wire length symbols: 0.5 m..... Nil (Example) M9NW
 1 m..... M (Example) M9NWM
 3 m..... L (Example) M9NWL
 5 m..... Z (Example) M9NWZ

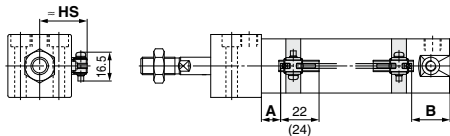
* Solid state auto switches marked with "○" are produced upon receipt of order.
 PLC: Programmable Logic Controller

Refer to page 889 for the applicable auto switch list.

* For applicable auto switches other than listed above, refer to the table in the dashed line on the last page of the auto switch mounting section of the standard cylinder series in the Web Catalog.

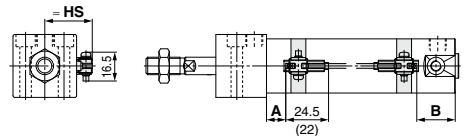
Auto Switch Proper Mounting Position (Detection at Stroke End)

D-M9□, M9□W



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

D-A9□



A and B are the dimensions from the end of the head cover/rod cover to the end of the auto switch.

Auto Switch Proper Mounting Position (Detection at Stroke End) (mm)

Auto switch model	D-M9□ D-M9□W D-M9□A		D-A9□	
	A	B	A	B
Bore size 20	12	24	8	20
25	11.5	24.5	7.5	20.5
32	13	25	9	21
40	18	27	14	23
50	20	32	16	28
63	18.5	33.5	14.5	29.5

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

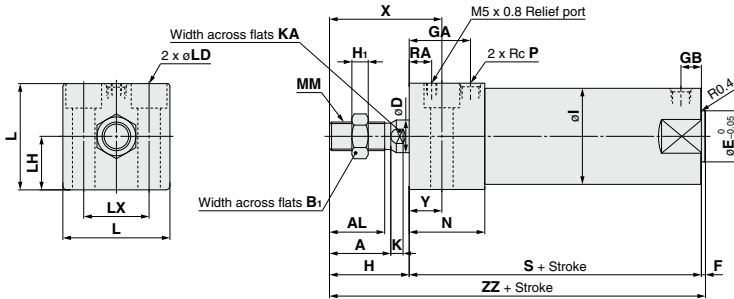
Auto Switch Mounting Height (mm)

Auto switch model	D-M9□ D-M9□W D-M9□A D-A9□
Bore size	Hs
20	26.5
25	29
32	32.5
40	37
50	42.5
63	49.5

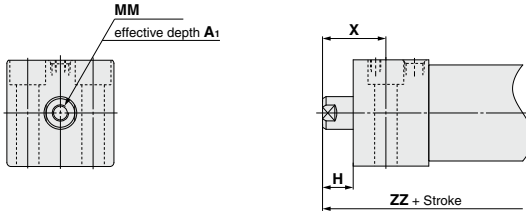
Air Cylinder 10-11-**CG1R-Z**

Basic: 10-11-**CG1R**

Male thread type



Female thread type



Bore size	Stroke range	A	AL	B ₁	D	E	F	GA	GB	H	H ₁	I	K	KA	L	LD	LH	LX	MM	N	P	RA	S	X	Y	ZZ
20	Up to 150	18	15.5	13	8	12	2	20	10	27	5	26	5	6	30.4	ø5.5, ø9.5 counterbore depth 6	15	18	M8 x 1.25	27	1/8	8	75	38	11	104
25	Up to 200	22	19.5	17	10	14	2	22	10	32	6	31	5.5	8	36.4	ø6.6, ø11 counterbore depth 7	18	22	M10 x 1.25	29	1/8	9	77	44	12	111
32	Up to 200	22	19.5	17	12	18	2	26	10	32	6	38	5.5	10	42.4	ø9, ø14 counterbore depth 9	21	24	M10 x 1.25	33	1/8	9	83	45	13	117
40	Up to 300	30	27	19	16	25	2	30	10	39	8	47	6	14	52.4	ø11, ø17.5 counterbore depth 12	26	32	M14 x 1.5	37	1/8	11	94	55	16	135
50	Up to 300	35	32	27	20	30	2	33	12	45	11	58	7	18	64.5	ø14, ø20 counterbore depth 14	32	41	M18 x 1.5	44	1/4	12	108	62	17	155
63	Up to 300	35	32	27	20	32	2	39	12	45	11	72	7	18	76.6	ø18, ø26 counterbore depth 18	38	46	M18 x 1.5	50	1/4	12	114	64	19	161

Female rod end (mm)

Bore size	A ₁	H	MM	X	ZZ
20	8	13	M4 x 0.7	24	90
25	8	14	M5 x 0.8	26	93
32	12	14	M6 x 1.0	27	99
40	13	15	M8 x 1.25	31	111
50	18	16	M10 x 1.5	33	126
63	18	16	M10 x 1.5	35	132