



Discrete direct acting 2 port solenoid valve for compressed air, manifold (special purpose valve)

FAB Series

- NC (normally closed) type, NO (normally open) type
- Port size: M5, Rc1/8 to Rc1/2

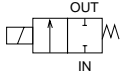


Refer to Ending 17 for more details.

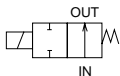


JIS symbol

- NC (normally closed) type



- NO (normally open) type



Common specifications

Descriptions	FAB
Working fluid	Compressed air
Working pressure	0 to 1.4
differential range MPa	(Refer to the maximum working pressure differential on the individual specifications)
Withstanding pressure (water pressure) MPa	2.1 (1.5 for FAB11/21)
Fluid temperature °C	AC: -10 to 60, DC: -10 to 40 (no freezing)
Ambient temperature °C	AC: -20 to 60, DC: -20 to 40
Heat proof class	B
Atmosphere	No corrosive gas and flammable
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min. (ANR)	0.2 or less
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent, and the FAB11 compact terminal box type is IP40 or equivalent.

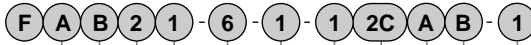
Individual specifications

Descriptions	Port size	Orifice (mm)	Flow characteristics		Max. working pressure differential MPa		Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)		Weight (kg)			
			C [dm ³ /(s-bar)]	b	AC	DC			At holding	At starting	AC	DC						
NC (normally closed) type																		
FAB11- M5 -Z	M5	1	0.12	0.64	0.7	0.7	1.0	100 VAC	3.4	2.6	5	4.6	2.3/1.6	3	0.07			
-1		1.5	0.28	0.52	0.3	0.3			5.3	3.7	10	9	2.7/2	4	0.12			
FAB21- 6	Rc 1/8	1.5	0.28	0.52	1.0	1.0			1.4	110 VAC	5.3	3.7	10	9	2.7/2	4	0.12	
-1		2	0.55	0.59	0.6	0.6					7.5	5.5	20	17	4/3.4	6.5	0.21	
FAB31- 6/8	Rc 1/8	2	0.55	0.56	1.4	1.4					200 VAC	7.5	5.5	20	17	4/3.4	6.5	0.21
-2	Rc 1/4	3	1.2	0.56	1.0	0.6						15	11	40	35	7.5/6.5	8	0.37
FAB41- 8/10	Rc 1/4	3	1.2	0.56	1.4	1.4		220 VAC				15	11	40	35	7.5/6.5	8	0.37
-3	Rc 3/8	4	2.1	0.54	1.0	0.9						20	16	55	45	11/9.5	11.5	0.60
FAB51- 10	Rc 3/8	4	2.1	0.54	1.2	1.2				24 VDC		20	16	55	45	11/9.5	11.5	0.60
-5	Rc 1/2	5	3.1	0.50	0.7	0.8						25	20	60	50	11/10	11.5	0.71
FAB51- 10/15	Rc 3/8	7	5.7	0.48	0.25	0.15					12 VDC	20	16	55	45	11/9.5	11.5	0.60
-6	Rc 1/2	10	5.5	0.41	0.15	0.15						25	20	60	50	11/10	11.5	0.71
FAB51- 10/15	Rc 3/8	7	5.7	0.48	0.3	0.3	12 VDC	20				16	55	45	11/9.5	11.5	0.60	
-7	Rc 1/2	10	5.5	0.41	0.15	0.15		25				20	60	50	11/10	11.5	0.71	
FAB51- 10/15	Rc 3/8	7	5.7	0.48	0.3	0.3		12 VDC	20	16		55	45	11/9.5	11.5	0.60		
-8	Rc 1/2	10	5.5	0.41	0.15	0.15			25	20		60	50	11/10	11.5	0.71		
NO (normally open) type																		
FAB32- 6/8	Rc 1/8	2	0.57	0.53	1.1	1.1			1.4	100 VAC	11.5	8	25	22	4.6/3.2	6	0.31	
-2		Rc 1/4	3	1.2	0.57	0.55	0.55				11.5	8	25	22	4.6/3.2	6	0.31	
FAB42- 8/10	Rc 1/4	5	3.0	0.48	0.2	0.2	200 VAC				18	14	45	40	7.5/6.5	8	0.54	
-3		3	1.2	0.50	0.9	0.9		18			14	45	40	7.5/6.5	8	0.54		
FAB52- 8/10	Rc 1/4	3	1.2	0.50	0.9	0.9		220 VAC			18	14	45	40	7.5/6.5	8	0.54	
-5	Rc 3/8	4	2.1	0.54	0.55	0.55					25	20	60	50	11/10	11.5	0.71	
FAB52- 8/10	Rc 3/8	4	2.1	0.54	0.8	0.8				24 VDC	25	20	60	50	11/10	11.5	0.71	
-7	5	3.0	0.52	0.5	0.5	25					20	60	50	11/10	11.5	0.71		
FAB52- 8/10	Rc 3/8	4	2.1	0.54	0.8	0.8	12 VDC				25	20	60	50	11/10	11.5	0.71	
-6	7	5.2	0.41	0.15	0.15	25					20	60	50	11/10	11.5	0.71		
FAB52- 8/10	Rc 3/8	4	2.1	0.54	0.8	0.8		12 VDC			25	20	60	50	11/10	11.5	0.71	
-8	7	5.2	0.41	0.25	0.25	25					20	60	50	11/10	11.5	0.71		

*1: Use the allowable voltage fluctuation range within $\pm 10\%$ of the rated voltage.
 *2: The leakage current must be less than values given at right.
 *3: 8.6 (W) for 12 VDC.
 *4: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	FAB1	2mA or less	1 mA or less		
	FAB2	3mA or less	1.5mA or less	1mA or less	2mA or less
	FAB3/4/5	6mA or less	3 mA or less		

How to order



No. of port
(2 port valve)

Working fluid
(Compressed air)

A Size variation

B Actuation

C Port size

D Orifice

*1

E Body, sealant combination

*2

F Coil option

*3

*4

*5

G Manual override

*6

H Other options

*7

<Example of model number>

FAB21-6-1-12CAB-1

Model: FAB

- A** Size variation : 22 mm
- B** Actuation : NC (normally closed) type
- C** Port size : Rc 1/8
- D** Orifice : ϕ 1.5
- E** Body, sealant combination : Body - aluminum, sealant - NBR
- F** Coil option : Grommet lead wire
- G** Manual override : Manual lock type
- H** Other options : Mounting plate
- I** Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

⚠ Note on model no. selection

- *1: For the FAB51 orifice 4mm (item (D) 5), 5mm (item (D) 6), only the Rc3/8 (item (C) 10) bore size is available.
- *2: For item (E) 1, only NC is available. For item (E) 0, only NO is available.
- *3: For FAB11 item (F) 2G, the compact terminal box (G1/4) is used.
- *4: For FAB21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.
- *5: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.
- *6: Only the NC (normally closed) type manual override is available.
- *7: Consult with CKD for other voltages that cannot be manufactured.

		Model no.										
		F	F	F	F	F	F	F	F	F	F	
		A	A	A	A	A	A	A	A	A	A	
		11	21	31	41	51	32	42	52			
Symbol	Descriptions											
A Size variation												
1	18 mm	●										
2	22 mm		●									
3	28 mm			●								
4	34 mm				●							
5	40 mm					●						
B Actuation												
1	NC (normally closed) type	●	●	●	●	●						
2	NO (normally open) type						●	●	●			
C Port size												
M5	M5		●									
6	Rc 1 / 8		●	●				●				
8	Rc 1 / 4			●	●				●			
10	Rc 3 / 8				●	●				●	●	
15	Rc 1 / 2						●					
D Orifice												
Z	ϕ 1		●									
1	ϕ 1.5		●	●								
2	ϕ 2			●	●							
3	ϕ 3				●	●			●			
5	ϕ 4					●	●			●	●	
6	ϕ 5						●	●		●	●	
7	ϕ 7							●	●		●	
8	ϕ 10								●			
E Body, sealant combination												
	Body	Sealant	Actuation									
1	Aluminum	NBR	NC	●	●	●	●	●	●			
0	Brass	NBR	NO							●	●	
F Coil option												
2C	Standard	Grommet lead wire		●	●	●	●	●	●	●	●	
2CS		Grommet lead wire with surge suppressor		●	●	●	●	●	●	●	●	
2G		DIN terminal box (Pg11)		●	●	●	●	●	●	●	●	
2HS	Option	DIN terminal box with light and surge suppressor (Pg11)		●	●	●	●	●	●	●	●	
2CG		Conduit (CTC19)			●	●	●	●	●	●	●	
2CH		Conduit (G1/2)				●	●	●	●	●	●	
3T		T type terminal box (G1/2)				●	●	●	●	●	●	
3RS		T type terminal box with light and surge suppressor (G1/2)				●	●	●	●	●		
G Manual override												
Blank	Standard	None		●	●	●	●	●	●	●	●	
A	Option	Manual lock type		●	●	●	●	●	●	●	●	
N		Manual non-locking type				●	●	●				
H Other options												
Blank	Standard	None		●	●	●	●	●	●	●	●	
B	Option	Mounting plate		●	●	●	●	●	●	●	●	
I Voltage												
1		100 VAC 50/60Hz, 110 VAC 60Hz		●	●	●	●	●	●	●	●	
2		200 VAC 50/60Hz, 220 VAC 60Hz		●	●	●	●	●	●	●	●	
3		24 VDC		●	●	●	●	●	●	●	●	
4		12 VDC		●	●	●	●	●	●	●	●	
For voltages other than the above, write in the voltage directly.												
Select from the combination of ● marks in the above table.												

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for compressed air

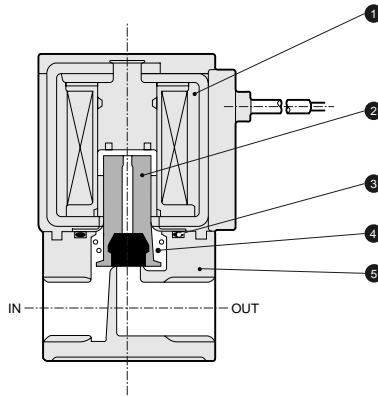
Direct acting 2 port solenoid valve

FAB Series

FAB*1 Series: NC (normally closed) type

Internal structure and parts list

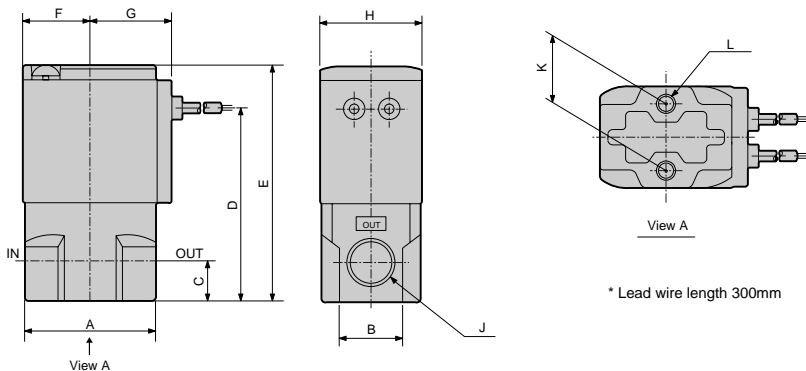
● FAB*1 series



No.	Parts name	Materials
1	Coil assembly	-
2	Plunger assembly	SUS, NBR Stainless steel, nitrile rubber
3	O ring	NBR Nitrile rubber
4	Spring	SUS Stainless steel
5	Body	ADC Aluminum alloy die-casting

Dimensions (Page 114)

● Grommet lead wire type
FAB*1-*-*-*2C

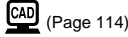


* Lead wire length 300mm

Model no.	A	B	C	D	E	F	G	H	J	K	L
FAB11	25	14	5	34	43.5	13	17	18	M5	10	M4 depth 5.5
FAB21	32	16	8	43	54	15.5	19.5	22	Rc1/8	15	M4 depth 6
FAB31	36	18	11	53.5	65.5	18.5	22.5	28	Rc1/8, Rc1/4	18	M5 depth 6
FAB41	40	25	12	62	76	22.5	26	34	Rc1/4, Rc3/8	18	M5 depth 7
FAB51	50	30	15	74.5	90.5	26	29.5	40	Rc3/8, Rc1/2	20	M5 depth 8

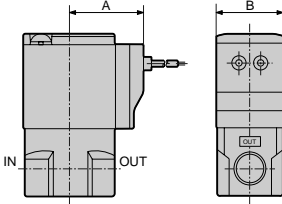
FAB*1 Series: NC (normally closed) type

Optional dimensions



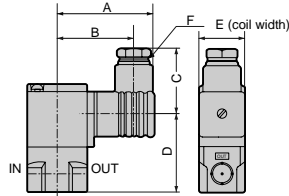
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

- Grommet lead wire with surge suppressor
FAB*1-**-**[2CS]



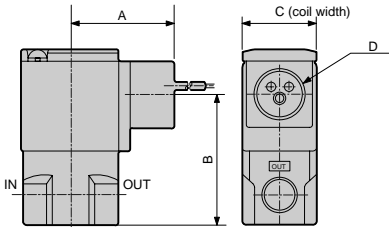
Model no.	A	B
FAB11	24.5	18
FAB21	26.5	22
FAB31	29.5	28
FAB41	34	34
FAB51	37.5	40

- DIN terminal box (with light and surge suppressor)
FAB*1-**-**[2G]
[2HS]



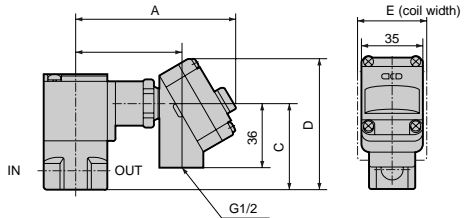
Model no.	A	B	C	D	E	F
FAB11	36	28.5	22	32	18	G1/4
FAB21	53	44	38	36.5	22	Pg 9
FAB31	58.5	47	39	47	28	Pg11
FAB41	62	50.5	39	55.5	34	Pg11
FAB51	65.5	54	39	70	40	Pg11

- Conduit (CTC19, G1/2)
FAB*1-**-**[2CG]
[2CH]



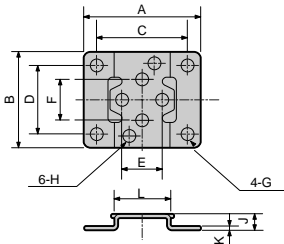
Model no.	A	B	C	D
FAB31	39	48.5	28	CTC19 G1/2
FAB41	43	57.5	34	CTC19 G1/2
FAB51	46.5	71.5	40	CTC19 G1/2

- T type terminal box (with light and surge suppressor) (G1/2)
FAB*1-**-**[3T]
[3RS]



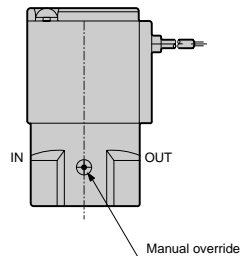
Model no.	A	B	C	D	E
FAB31	92	60.5	48.5	74.5	28
FAB41	96	64.5	57.5	83.5	34
FAB51	99.5	68	71.5	97.5	40

- Mounting plate
FAB*1-**-**[B]



Model no.	A	B	C	D	E	F	G	H	J	K	L
FAB11	40	30	30	21	10	10	φ5	φ4.5	6	1.2	19
FAB21	40	34	30	25	15	15	φ5	φ4.5	6	1.2	20
FAB31	52	42	40	30	18	18	φ6	φ5.5	7	1.6	25
FAB41	56	48	44	36	18	18	φ6	φ5.5	7	1.6	30
FAB51	62	50	50	38	20	20	φ6	φ5.5	7	1.6	36

- Manual override locking/non-locking
FAB*1-**-**[A]
[N]



Note: Non-locking is available for size variation 3, 4 and 5.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for compressed air

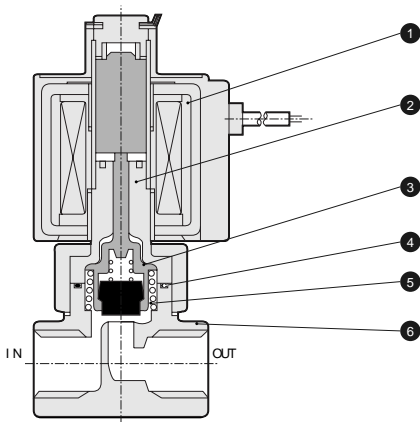
Direct acting 2 port solenoid valve

FAB Series

FAB*2 Series: NO (normally open) type

Internal structure and parts list

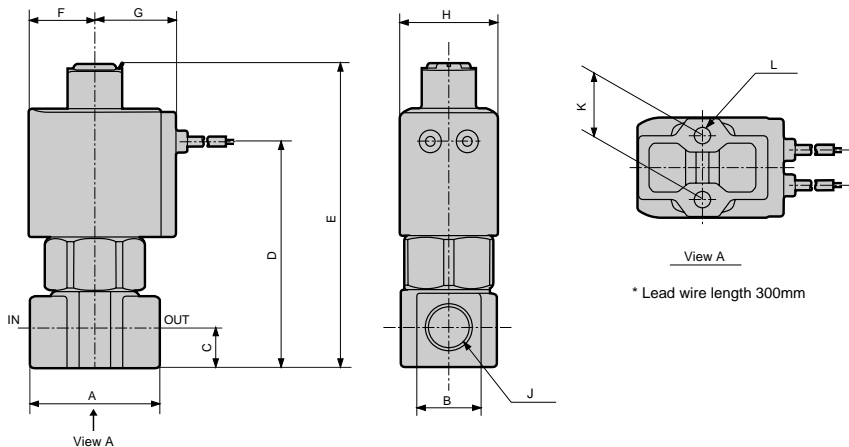
● FAB*2 series



No.	Parts name	Materials
1	Coil assembly	-
2	Core assembly	SUS, Cu Stainless steel, copper
3	Valving element guide assembly	PPS, SUS, NBR Polyphenylene sulfite, stainless steel, nitrile rubber
4	O ring	NBR Nitrile rubber
5	Spring	SUS Stainless steel
6	Body	C3771 Brass

Dimensions (Page 114)

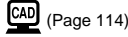
● Grommet lead wire type
FAB*2-*-*2C



Model no.	A	B	C	D	E	F	G	H	J	K	L
FAB32	36	18	11	62.5	84	18.5	22.5	28	Rc1/8, Rc1/4	18	M5 depth 6
FAB42	40	21	12	71.5	96	22.5	26	34	Rc1/4, Rc3/8	18	M5 depth 8
FAB52	40	21	12	78	103.5	26	29.5	40	Rc1/4, Rc3/8	18	M5 depth 8

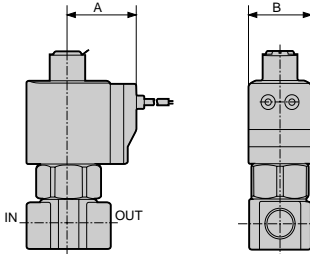
FAB*2 Series: NO (normally open) type

Optional dimensions



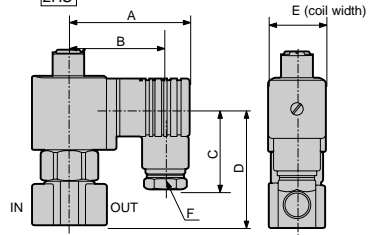
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

- Grommet lead wire with surge suppressor
FAB*2-***[2CS]



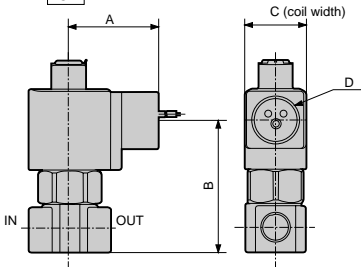
Model no.	A	B
FAB32	29.5	28
FAB42	34	34
FAB52	37.5	40

- DIN terminal box (with light and surge suppressor)
FAB*2-***[2G
2HS]



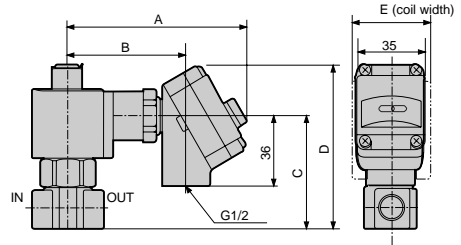
Model no.	A	B	C	D	E	F
FAB32	58.5	47	39	56.5	28	Pg11
FAB42	62	50.5	39	65	34	Pg11
FAB52	65.5	54	39	73.5	40	Pg11

- Conduit (CTC19, G1/2)
FAB*2-***[2CG
2CH]



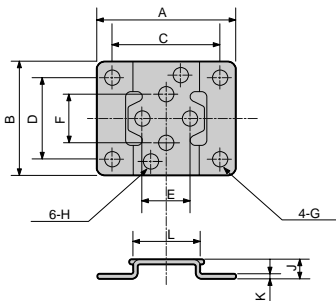
Model no.	A	B	C	D
FAB32	39	58	28	CTC19 G1/2
FAB42	43	67	34	CTC19 G1/2
FAB52	46.5	75	40	CTC19 G1/2

- T type terminal box (with light and surge suppressor) (G1/2)
FAB*2-***[3T
3RS]



Model no.	A	B	C	D	E
FAB32	92	60.5	58	84	28
FAB42	96	64.5	67	93	34
FAB52	99.5	68	75	101	40

- Mounting plate
FAB*2-***[B]



Model no.	A	B	C	D	E	F	G	H	J	K	L
FAB32	52	42	40	30	18	φ6	φ5.5	7	1.6	25	
FAB42/52	56	48	44	36	18	φ6	φ5.5	7	1.6	30	

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/
ADK

For
dry air

Explosion
proof

HVB/
HVL

SAB/
SVB

NP/NAP/
NVP

CHB/G

MXB/G

Other G.P.
systems

PD/FAD/
PJ

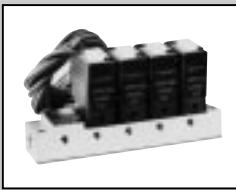
CVE/
CVSE

CPE/
CPD

Medical
analysis

Custom
order

Special purpose valve for compressed air
Direct acting 2 port solenoid valve



Direct acting 2 port solenoid valve for compressed air, manifold (special purpose valve)

GFAB Series

- NC (normally closed) type
- Port size: M5, Rc1/8, Rc1/4, Rc3/8

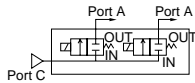


Refer to Ending 17 for more details.

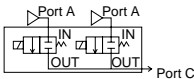


JIS symbol

- NC (normally closed) / common supply type (Port C pressurized)



- NC (normally closed) / individual supply type (Port A pressurized)



Common specifications

Descriptions	GFAB
Working fluid	Compressed air
Working pressure differential range MPa	0 to 1.4
(Refer to the maximum working pressure differential on the individual specifications)	
Withstanding pressure (water pressure) MPa	2.1 (1.5 for GFAB11/GFAB21)
Fluid temperature °C	AC: -10 to 60, DC: -10 to 40 (no freezing)
Ambient temperature °C	AC: -20 to 40, DC: -20 to 40
Heat proof class	B
Atmosphere	No corrosive gas and flammable
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min. (ANR)	0.2 or less
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent, and the GFAB11/GFAB15 compact terminal box type is IP40 or equivalent.

Individual specifications

Descriptions Model no.	Port size		Orifice (mm)	Flow characteristics			Max. working pressure differential MPa		Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)		
	Port A	Port C		C/dm ³ /(s·bar)	b	AC	DC	At holding			At starting	AC		DC			
												50Hz	60Hz		50Hz	60Hz	
GFAB 11 ¹ -Z -1	M5	Rc 1/8	1	0.15	0.54	0.7	0.7	1.0	100 VAC 50/60Hz	3.4	2.6	5.0	4.6	2.3/1.6	3		
			1.5	0.31	0.49	0.3	0.3			5.3	3.7	10	9	2.7/2	4		
2	0.53	0.38	0.6	0.6	110 VAC 60Hz	7.5	5.5			20	17	4/3.4	6.5				
2	0.55	0.48	1.4	1.4													
GFAB 21 ² -1 -2	Rc 1/8	Rc 1/8	3	1.2	0.39	1.0	0.6		1.4	200 VAC 50/60Hz	7.5	5.5	20	17	4/3.4	6.5	
			5	2.1	0.27	0.3	0.15										
			GFAB 31 ³ -3 -6	Rc 1/4	Rc 3/8	3	1.2				0.39	1.4	1.4	220 VAC 60Hz	15	11	40
4	2.1	0.34				1.0	0.9										
GFAB 41 ³ -5 -7	Rc 1/4	Rc 3/8	7	3.5	0.21	0.25	0.15			24 VDC 12 VDC	20	16	55		45	11/9.5	11.5
			4	2.1	0.34	1.2	1.2										
GFAB 51 ³ -5 -6 -7	Rc 1/4	Rc 3/8	5	3.0	0.22	0.7	0.8	20			16	55	45	11/9.5	11.5		
			7	4.4	0.18	0.3	0.3										

*1: Use the allowable voltage fluctuation range within $\pm 10\%$ of the rated voltage.

*2: The leakage current must be less than values given below.

*3: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	GFAB1	2mA or less	1mA or less		
	GFAB2	3mA or less	1.5mA or less	1mA or less	2mA or less
	GFAB3/4/5	6mA or less	3mA or less		

How to order

● Manifold

G F A B 3 1 - 2 - 7 - 1 2C N - 1

● Manifold with masking plate

G F A B 2 5 - 1 - X - 1 2G N - 2 - 5 2

No. of port
(2 port valve)

Working fluid
(Compressed air)

		Model no.				
		GFAB1115	GFAB2125	GFAB3135	GFAB4145	GFAB5155
A Size variation						
1	18 mm	●				
2	22 mm		●			
3	28 mm			●		
4	34 mm				●	
5	40 mm					●
B Circuit structure						
1	NC (normally closed) / common supply type	●	●	●	●	●
5	NC (normally closed) / individual supply type	●	●	●	●	●
C Orifice						
Z	φ 1	●				
1	φ 1.5	●	●			
2	φ 2			●		
3	φ 3				●	
5	φ 4					●
6	φ 5					●
7	φ 7					●
D Station no.						
*1	2 stations	●	●	●	●	●
*2	10 stations					
0	Actuator only	●	●	●	●	●
X	With masking plate	●	●	●	●	●
E Body, sealant combination						
Body		Sealant				
1	PPS	NBR	●	●	●	●
F Coil option						
2C	Standard	Grommet lead wire	●	●	●	●
2CS	Option	Grommet lead wire with surge suppressor	●	●	●	●
2G	Option	DIN terminal box (Pg11)	●	●	●	●
2HS	Option	DIN terminal box with light and surge suppressor (Pg11)	●	●	●	●
2CG	Option	Conduit (CTC19)		●	●	●
2CH	Option	Conduit (G1/2)			●	●
3T	Option	T type terminal box (G1/2)			●	●
3RS	Option	T type terminal box with light and surge suppressor (G1/2)			●	●
G Manual override						
Blank	Standard	None	●	●	●	●
N	Option	Manual non-locking type	●	●	●	●
H Voltage						
1	100 VAC 50/60Hz, 110 VAC 60Hz	●	●	●	●	●
2	200 VAC 50/60Hz, 220 VAC 60Hz	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●
For voltages other than the above, write in the voltage directly.						
I Solenoid valve quantity						
Blank	No masking plate	●	●	●	●	●
1	One solenoid valve	●	●	●	●	●
9	Nine solenoid valves	●	●	●	●	●
J Masking plate quantity						
Blank	No masking plate	●	●	●	●	●
1	One masking plate	●	●	●	●	●
9	Nine masking plates	●	●	●	●	●

<Example of model number>

- A** Size variation : 28 mm
- B** Circuit structure : NC (normally closed) / common supply type
- C** Orifice : φ 2
- D** Station no. : 7 stations
- E** Body, sealant combination : Body - PPS, sealant - NBR
- F** Coil option : Grommet lead wire
- G** Manual override : Manual non-locking
- H** Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz
- I J** : No masking plate

⚠ Note on model no. selection

- *1: For the number of manifold stations, select a number of stations from 2 to 10.
- *2: For the type with masking plate, designate the item (D) as "X", then designate the number of (I) solenoid valves and (J) masking plates.
- *3: For GFAB11/15 item (F) 2G, the compact terminal box (G1/4) is used.
- *4: For GFAB21/25 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.
- *5: For item (F) CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.
- *6: Consult with CKD for other voltages that cannot be manufactured.
- *7: Solenoid valves are arranged from the right side facing the sub-plate A (independent) port.
- *8: Orders for only the masking plate and sub-plate are also available. Contact CKD for details.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/ CVSE

CPE/ CPD

Medical analysis

Custom order

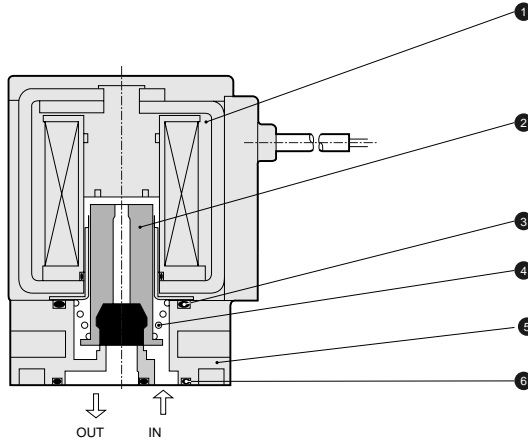
Special purpose valve for compressed air

Direct acting 2 port solenoid valve

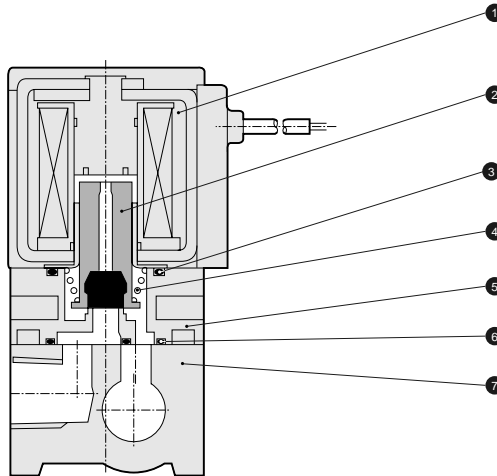
Select from the combination of ● marks in the above table.

Internal structure and parts list

● GFAB actuator

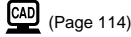


● GFAB manifold

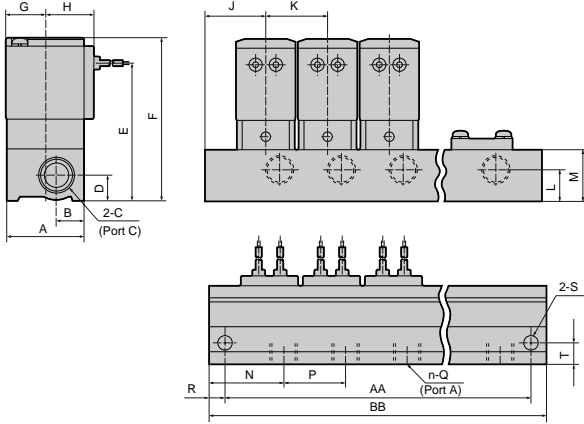


No.	Parts name	Materials	No.	Parts name	Materials
1	Coil assembly	-	5	Body	PPS Polyphenylene sulfite
2	Plunger assembly	SUS, NBR Stainless steel, nitrile rubber	6	Gasket	NBR Nitrile rubber
3	O ring	NBR Nitrile rubber	7	Sub-plate	A6063 Aluminum
4	Spring	SUS Stainless steel			

Dimensions: Manifold



- Grommet lead wire type
GFAB**-*-12C

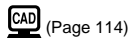


Lead wire length 300mm

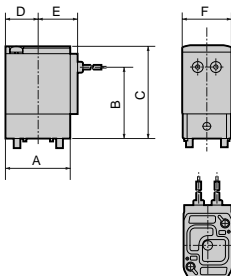
Model no.	Sym. no.	2	3	4	5	6	7	8	9	10
GFAB1	AA	48	68	88	108	128	148	168	188	208
	BB	58	78	98	118	138	158	178	198	218
GFAB2	AA	58	84	110	136	162	188	214	240	266
	BB	68	94	120	146	172	198	224	250	276
GFAB3	AA	74	106	138	170	202	234	266	298	330
	BB	88	120	152	184	216	248	280	312	344
GFAB4	AA	86	124	162	200	238	276	314	352	390
	BB	100	138	176	214	252	290	328	366	404
GFAB5	AA	100	146	192	238	284	330	376	422	468
	BB	114	160	206	252	298	344	390	436	482

Model no.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
GFAB1	25	10	Rc1/8	8	44.5	54	13	17	19	20	11	16	21.5	20	M5	5	φ4.5	6.5
GFAB2	30	12	Rc1/8	8	49	60	15.5	19.5	21	26	8	16	25	26	Rc1/8	5	φ4.5	9
GFAB3	36	13	Rc3/8	12	64	76	18.5	22.5	28	32	15	24	34.5	32	Rc1/4	7	φ6.5	10
GFAB4	43	18	Rc3/8	12	71	85	22.5	26	31	38	15	24	31	38	Rc1/4	7	φ6.5	11.5
GFAB5	50	20	Rc3/8	12	79	95	26	29.5	34	46	12	24	34	46	Rc1/4	7	φ6.5	14

Dimensions: Actuator



- Grommet lead wire type
GFAB**-*-0-12C



* Lead wire length 300mm

Model no.	A	B	C	D	E	F
GFAB1	25	28.5	38	13	17	18
GFAB2	30	33	44	15.5	19.5	22
GFAB3	36	40	52	18.5	22.5	28
GFAB4	43	47	61	22.5	26	34
GFAB5	50	55	71	26	29.5	40

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CV/E/CVSE

CPE/CPD

Medical analysis

Custom order

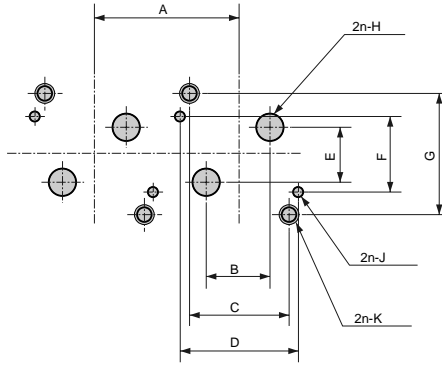
Special purpose valve for compressed air

Direct acting 2 port solenoid valve

Actuator installation dimension drawing

●GFAB1*/2*/3*

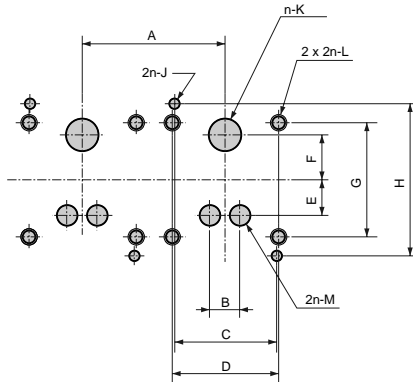
Machining drawing, when 2 actuators are used.



Model no.	A	B	C	D	E	F	G	H	J	K
GFAB1	20 and over	5 ± 0.15	12.4 ± 0.1	14.4 ± 0.1	10 ± 0.15	11.2 ± 0.1	17 ± 0.1	$\phi 3$ or less	$\phi 1.6^{+0.1}_0$ depth 2.5 ± 0.5	M2.5 effective thread depth 5.5 and over
GFAB2	26 and over	8 ± 0.15	15.5 ± 0.1	18.4 ± 0.1	10 ± 0.15	12.4 ± 0.1	19.4 ± 0.1	$\phi 3.5$ or less	$\phi 1.6^{+0.1}_0$ depth 2.5 ± 0.5	M3 effective thread depth 6 and over
GFAB3	32 and over	13 ± 0.15	20 ± 0.1	23.6 ± 0.1	11.4 ± 0.15	15 ± 0.1	24.2 ± 0.1	$\phi 5.5$ or less	$\phi 2.1^{+0.1}_0$ depth 2.5 ± 0.5	M4 effective thread depth 5.5 and over

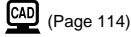
●GFAB4*/5*

Machining drawing, when 2 actuators are used.



Model no.	A	B	C	D	E	F	G	H	J	K	L	M
GFAB4	38 and over	7 ± 0.2	25 ± 0.1	26 ± 0.1	8.8 ± 0.2	11 ± 0.2	28 ± 0.1	37 ± 0.1	$\phi 2.6^{+0.1}_0$ depth 2.5 ± 0.5	$\phi 8$ or less	M4 effective thread depth 9 and over	$\phi 5$ or less
GFAB5	46 and over	8 ± 0.2	30 ± 0.1	30 ± 0.1	11.5 ± 0.2	14.5 ± 0.2	33 ± 0.1	43 ± 0.1	$\phi 2.6^{+0.1}_0$ depth 2.5 ± 0.5	$\phi 11$ or less	M5 effective thread depth 8 and over	$\phi 7$ or less

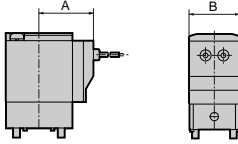
Optional dimensions



(Page 114)

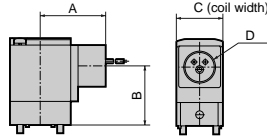
(For common dimensions, refer to the grommet lead wire actuator dimensions on page 35.)

- Grommet lead wire with surge suppressor
GFAB**.*-1-1 **2CS**



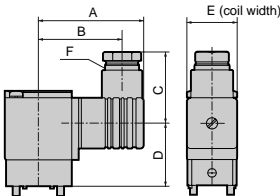
Model no.	A	B
GFAB1	24.5	18
GFAB2	26.5	22
GFAB3	29.5	28
GFAB4	34	34
GFAB5	37.5	40

- Conduit (CTC19, G1/2)
GFAB**.*-1-1 **2CG**
2CH



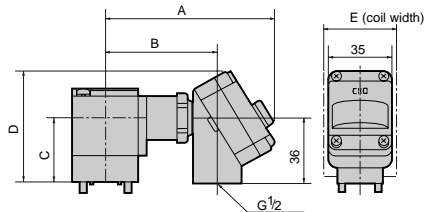
Model no.	A	B	C	D
GFAB3	39	35	28	CTC19 G1/2
GFAB4	43	42.5	34	CTC19 G1/2
GFAB5	46.5	52	40	CTC19 G1/2

- DIN terminal box (with light and surge suppressor)
GFAB**.*-1-1 **2G**
2HS



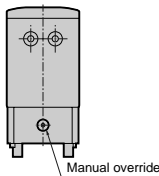
Model no.	A	B	C	D	E	F
GFAB1	36	28.5	22	26.5	18	G1/4
GFAB2	53	44	38	26.5	22	Pg9
GFAB3	58.5	47	39	33.5	28	Pg11
GFAB4	62	50.5	39	40.5	34	Pg11
GFAB5	65.5	54	39	50.5	40	Pg11

- T type terminal box (with light and surge suppressor) (G1/2)
GFAB**.*-1-1 **3T**
3RS



Model no.	A	B	C	D	E
GFAB4	96	64.5	42.5	68.5	34
GFAB5	99.5	68	52	78	40

- Manual override (non-locking)
GFAB**.*-1-1 **N**



Position of manual override

- Common supply type: Opposite side of Port A
- Individual supply type: Prot A side

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for compressed air

Direct acting 2 port solenoid valve

Special purpose valve for compressed air

Direct acting 2 port solenoid valve

Special purpose valve for compressed air

Direct acting 2 port solenoid valve

Special purpose valve for compressed air

Direct acting 2 port solenoid valve

Special purpose valve for compressed air

Direct acting 2 port solenoid valve



Discrete direct acting 3 port solenoid valve for compressed air (special purpose valve)

FAG Series

- Universal type, NC pressurization type
- Port size: M5, Rc1/8, Rc1/4, Rc3/8



Refer to Ending 17 for more details.



JIS symbol

- Universal type



- NC pressurization type



Common specifications

Descriptions	FAG
Working fluid	Compressed air
Working pressure differential range MPa	0 to 1.4 (Refer to the maximum working pressure differential on the individual specifications)
Withstanding pressure (water pressure) MPa	2.1 (1.5 for FAG11/FAG21)
Fluid temperature °C	AC: -10 to 60, DC: -10 to 40 (no freezing)
Ambient temperature °C	AC: -20 to 60, DC: -20 to 40
Heat proof class	B
Atmosphere	No corrosive gas and flammable
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min. (ANR)	0.2 or less
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent, and the FAG11 compact terminal box type is IP40 or equivalent.

Individual specifications

Descriptions Model no.	Port size	Orifice (mm)	Flow characteristics		Max. working pressure differential MPa	Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)		Weight (kg)
			C [dm ³ /(s·bar)]	b				At holding 50Hz	At starting 60Hz	50Hz	60Hz	AC 50Hz/60Hz	DC	
● Universal type														
FAG11 - M5- Y	M5	0.8	0.08	0.61	0.7	1.0	100 VAC 50/60Hz	3.4	2.6	5	4.6	2.3/1.6	3	0.09
- 0		1.5	0.28	0.40	0.2			5.3	3.7	10	9	2.7/2	4	0.14
FAG21 - 6 - Z	Rc 1/8	1	0.13	0.58	0.7	1.0	110 VAC 60Hz	7.5	5.5	20	17	4/3.4	6.5	0.23
- 1		2	0.52	0.54	0.15			7.5	5.5	20	17	4/3.4	6.5	0.23
FAG31 - 6/8 - 0	Rc 1/8	1.5	0.32	0.58	0.7	1.4	200 VAC 50/60Hz	15	11	40	35	7.5/6.5	8	0.43
- 1	Rc 1/4	2	0.55	0.48	0.4			15	11	40	35	7.5/6.5	8	0.43
FAG41 - 8/10 - 1	Rc 1/4	2	0.55	0.48	0.7	1.4	220 VAC 60Hz	20	16	55	45	11/9.5	11.5	0.63
- 4	Rc 3/8	3	1.2	0.57	0.2			20	16	55	45	11/9.5	11.5	0.63
FAG51 - 8/10 - 1	Rc 1/4	2	0.55	0.48	1.2 (0.6)	1.4	24 VDC 12 VDC	15	11	40	35	7.5/6	8	0.43
- 4	Rc 3/8	3	1.2	0.57	0.6 (0.3)			15	11	40	35	7.5/6	8	0.43
- 8		4	2.1	0.48	0.3 (0.15)									
● NC pressurization type														
FAG33 - 6/8 - 0	Rc 1/8	1.5	0.32	0.58	1.0	1.4	100 VAC 50/60Hz	7.5	5.5	20	17	4/3.4	6.5	0.23
- 1	Rc 1/4	2	0.55	0.48	0.7			7.5	5.5	20	17	4/3.4	6.5	0.23
- 4		3	1.2	0.57	0.3									
FAG43 - 8/10 - 1	Rc 1/4	2	0.55	0.48	1.2	1.4	200 VAC 50/60Hz	15	11	40	35	7.5/6	8	0.43
- 4	Rc 3/8	3	1.2	0.57	0.6			15	11	40	35	7.5/6	8	0.43
- 8		4	2.1	0.48	0.3									

*1: Use the allowable voltage fluctuation range within $\pm 10\%$ of the rated voltage.

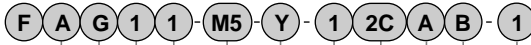
*2: The maximum working pressure difference at FAG51 NO pressurization is shown in parentheses.

*3: The leakage current must be less than values given at right.

*4: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	FAG1	2mA or less	1mA or less		
	FAG2	3mA or less	1.5mA or less	1mA or less	2mA or less
	FAG3/4/5	6mA or less	3mA or less		

How to order



No. of port
(3 port valve)

Working fluid
(Compressed air)

A Size variation

B Actuation

C Port size

D Orifice

E Body, sealant combination

F Coil option

*1

*2

*3

G Manual override

H Other options

I Voltage

*4

Model no.

FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
--------	--------	--------	--------	--------

Symbol Descriptions

A Size variation		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
1	18 mm	●				
2	22 mm		●			
3	28 mm			●		
4	34 mm				●	
5	40 mm					●

B Actuation		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
1	Universal type	●	●	●	●	●
3	NC pressurization type			●	●	

C Port size		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
M5	M5	●				
6	Rc 1 / 8		●	●		
8	Rc 1 / 4				●	●
10	Rc 3 / 8				●	●

D Orifice		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
Y	φ 0.8	●				
Z	φ 1		●			
0	φ 1.5	●		●		
1	φ 2			●	●	●
4	φ 3				●	●
8	φ 4				●	●

E Body, sealant combination		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
Body						
1	Aluminum	●	●	●	●	●
Sealant						
	NBR	●	●	●	●	●

F Coil option		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
2C	Grommet lead wire	●	●	●	●	●
2CS	Grommet lead wire with surge suppressor	●	●	●	●	●
2G	DIN terminal box (Pg11)	●	●	●	●	●
2HS	DIN terminal box with light and surge suppressor (Pg11)		●	●	●	●
2CG	Conduit (CTC19)			●	●	●
2CH	Conduit (G1/2)			●	●	●
3T	T type terminal box (G1/2)			●	●	●
3RS	T type terminal box with light and surge suppressor (G1/2)			●	●	●

G Manual override		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
Blank	Standard None	●	●	●	●	●
A	Option Manual locking	●	●	●	●	●
N	Option Manual non-locking			●	●	●

H Other options		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
Blank	Standard None	●	●	●	●	●
B	Option Mounting plate	●	●	●	●	●

I Voltage		FAG 11	FAG 21	FAG 31	FAG 41	FAG 51
1	100 VAC 50/60Hz, 110 VAC 60Hz	●	●	●	●	●
2	200 VAC 50/60Hz, 220 VAC 60Hz	●	●	●	●	●
3	24 VDC			●	●	●
4	12 VDC			●	●	●

For voltages other than the above, write in the voltage directly.
Select from the combination of ● marks in the above table.

<Example of model number>

FAG11-M5-Y-1-2CAB-1

Model: FAG

- A** Size variation : 18 mm
- B** Actuation : Universal type
- C** Port size : M5
- D** Orifice : φ 0.8
- E** Body, sealant combination : Body - aluminum, sealant- NBR
- F** Coil option : Grommet lead wire
- G** Manual override : Manual lock type
- H** Other options : Mounting plate
- I** Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

▲ Note on model no. selection

- *1: For FAG11 item (F) 2G, the compact terminal box (G1/4) is used.
- *2: For FAG21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.
- *3: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.
- *4: Consult with CKD for other voltages that cannot be manufactured.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

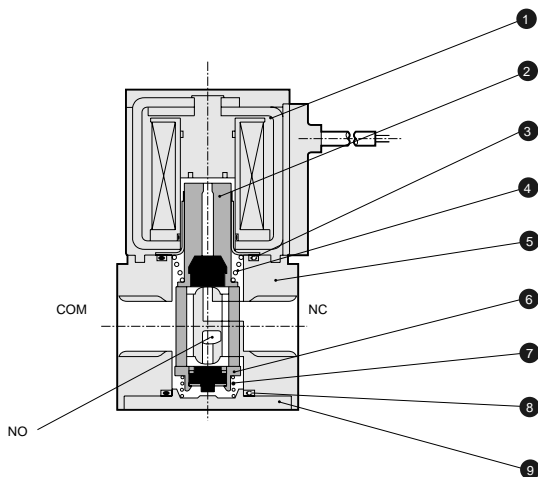
Custom order

Special purpose valve for compressed air

Direct acting 3 port solenoid valve

Internal structure and parts list

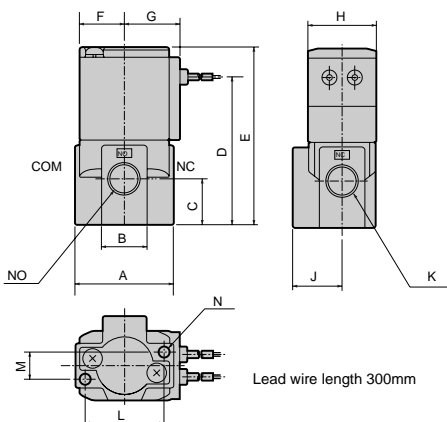
● FAG1/*3 series



No.	Parts name	Materials	No.	Parts name	Materials
1	Coil assembly	-	6	Valving element guide assembly	PPS, SUS, NBR Polyphenylene sulfite, stainless steel, nitrile rubber
2	Plunger assembly	SUS, NBR Stainless steel, nitrile rubber	7	Spring	SUS Stainless steel
3	O ring	NBR Nitrile rubber	8	O ring	NBR Nitrile rubber
4	Spring	SUS Stainless steel	9	Cover	ADC Aluminum alloy die-casting
5	Body	ADC Aluminum alloy die-casting			

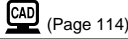
Dimensions (Page 114)

● Grommet lead wire type
FAG**-**-12C



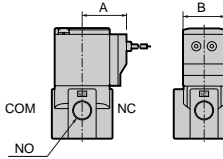
Model no.	A	B	C	D	E	F	G	H	J	K	L	M	N
FAG1	28	14	13.5	42	51.5	13	17	18	12	M5 x 0.8	21	7	M4 depth 5.5
FAG2	32	16	16.5	51	62	15.5	19.5	22	16	Rc1/8	25	8	M4 depth 6
FAG3	40	18	18.5	60.5	72.5	18.5	22.5	28	20	Rc1/8 Rc1/4	32	11	M5 depth 8
FAG4	45	25	25	74.5	88.5	22.5	26	34	21	Rc1/4 Rc3/8	35	15	M5 depth 8
FAG5	50	25	25	81	97	26	29.5	40	21	Rc1/4 Rc3/8	35	15	M5 depth 8

Optional dimensions



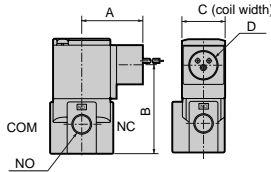
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

- Grommet lead wire with surge suppressor
FAG***-1[2CS]



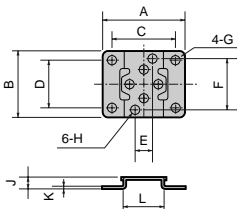
Model no.	A	B
FAG1	24.5	18
FAG2	26.5	22
FAG3	29.5	28
FAG4	34	34
FAG5	37.5	40

- Conduit (CTC19, G1/2)
FAG***-1[2CG
2CH]



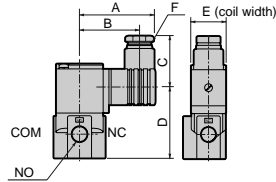
Model no.	A	B	C	D
FAG3	39	55.5	28	CTC19 G1/2
FAG4	43	70	34	CTC19 G1/2
FAG5	46.5	78	40	CTC19 G1/2

- Mounting plate
FAG***-1*[B]



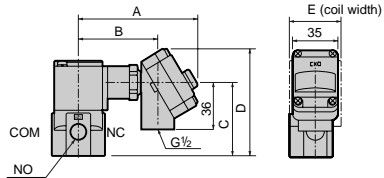
Model no.	A	B	C	D	E	F	G	H	J	K	L
FAG1	40	30	30	21	7	21	φ5	φ4.5	6	1.2	19
FAG2	40	34	30	25	8	25	φ5	φ4.5	6	1.2	20
FAG3	52	42	40	30	11	32	φ6	φ5.5	7	1.6	25
FAG4	56	48	44	36	15	35	φ6	φ5.5	7	1.6	30
FAG5	62	50	50	38	15	35	φ6	φ5.5	7	1.6	36

- DIN terminal box (with light and surge suppressor)
FAG***-1[2G
2HS]



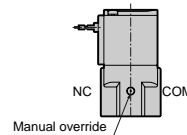
Model no.	A	B	C	D	E	F
FAG1	36	28.5	22	40	18	G1/4
FAG2	53	44	38	44.5	22	Pg9
FAG3	58.5	47	39	54	28	Pg11
FAG4	62	50.5	39	68	34	Pg11
FAG5	65.5	54	39	76.5	40	Pg11

- T type terminal box (with light and surge suppressor) (G1/2)
FAG***-1[3T
3R]



Model no.	A	B	C	D	E
FAG3	92	60.5	55.5	81.5	28
FAG4	96	64.5	70	96	34
FAG5	99.5	68	78	104	40

- Manual override (locking/non-locking)
FAG***-1*[A
N]



Note: Non-locking is available for size variation 3, 4 and 5.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/
ADK

For
dry air

Explosion
proof

HVB/
HVL

SAB/
SVB

NP/NAP/
NVP

CHB/G

MXB/G

Other G.P.
systems

PD/FAD/
PJ

CVE/
CVSE

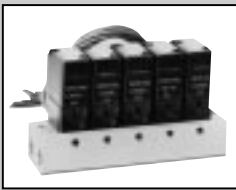
CPE/
CPD

Medical
analysis

Custom
order

Special
purpose valve for compressed air

Direct acting 3 port solenoid valve



Direct acting 3 port solenoid valve for compressed air, manifold (special purpose valve)

GFAG Series

- Universal type
- Port size: M5, Rc1/8, Rc1/4

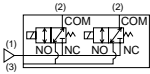


Refer to Ending 17 for more details.



JIS symbol

- Common supply / common exhaust type



Common specifications

Descriptions	GFAG
Working fluid	Compressed air
Working pressure	0 to 1.2
differential range MPa	(Refer to the maximum working pressure differential on the individual specifications)
Withstanding pressure (water pressure) MPa	1.8 (1.5 for GFAG11/GFAG21/GFAG31)
Fluid temperature °C	AC: -10 to 60, DC: -10 to 40 (no freezing)
Ambient temperature °C	AC: -20 to 40, DC: -20 to 40
Heat proof class	B
Atmosphere	No corrosive gas and flammable
Valve structure	Direct acting poppet structure
Valve seat leakage cm ³ /min. (ANR)	0.2 or less
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent, and the GFAG11 compact terminal box type is IP40 or equivalent.

Individual specifications

Descriptions Model no.	Port size		Orifice (mm)	Flow characteristics		Max. working pressure differential MPa	Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)							
	2 port (Individual port)	1.3 port (Common port)		C _v (dm ³ /s/bar ^{1/2})	b				At holding		At starting		AC 50/60Hz	DC						
									50Hz	60Hz	50Hz	60Hz								
GFAG11 - Y - 0	M5	Rc1/8	0.8	0.08	0.55	0.7	1.0	100 VAC 50/60Hz	3.4	2.6	5	4.6	2.3/1.6	3						
			1.5	0.25	0.29	0.2			5.3	3.7	10	9	2.7/2	4						
GFAG21 - Z - 1	Rc 1/8	Rc 1/8	1	0.12	0.44	0.7			110 VAC 60Hz	7.5	5.5	20	17	4/3.4	6.5					
			2	0.42	0.19	0.15				200 VAC 50/60Hz	7.5	5.5	20	17	4/3.4	6.5				
GFAG31 - 0 - 1 - 4	Rc 1/4	Rc 1/4	1.5	0.28	0.46	0.7		1.2	220 VAC 60Hz	15	11	40	35	7.5/6.5	8					
			2	0.49	0.36	0.4				24 VDC	12 VDC	20	16	55	45	11/9.5	11.5			
			3	0.90	0.20	0.2						2	0.50	0.31	1.2 (0.6)	3	1.1	0.20	0.6 (0.3)	
GFAG41 - 1 - 4 - 8	Rc 1/4	Rc 1/4	2	0.50	0.31	0.7				12 VDC		12 VDC	20	16	55	45	11/9.5	11.5		
			3	1.1	0.20	0.3							3	1.1	0.20	0.6 (0.3)	4	1.6	0.14	0.3 (0.15)
			4	1.6	0.14	0.15							4	1.6	0.14	0.3 (0.15)				
GFAG51 - 1 - 4 - 8	Rc 1/4	Rc 1/4	2	0.50	0.31	1.2 (0.6)	1.2		12 VDC	12 VDC		20	16	55	45	11/9.5	11.5			
			3	1.1	0.20	0.6 (0.3)					3	1.1	0.20	0.6 (0.3)	4	1.6	0.14	0.3 (0.15)		
			4	1.6	0.14	0.3 (0.15)					4	1.6	0.14	0.3 (0.15)						

*1: Use the allowable voltage fluctuation range within $\pm 10\%$ of the rated voltage.

*2: The maximum working pressure difference at GFAG51 NO pressurization is shown in parentheses.

*3: The leakage current must be less than values given below.

*4: Effective sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	GFAG1	2mA or less	1mA or less	1mA	2mA
	GFAG2	3mA or less	1.5mA or less	or less	or less
	GFAG3/4/5	6mA or less	3mA or less		

How to order

● Manifold

G F A G 2 1 - Z - 5 - 1 2C N - 1

● Manifold with masking plate

G F A G 3 1 - 1 - X - 1 2G N - 2 - 4 1

No. of port
(3 port valve) **A** Size variation

Working fluid
(Compressed air)

B Circuit structure

C Orifice

D Station no.
*1
*2

E Body, sealant combination

F Coil option
*3
*4
*5

G Manual override

H Voltage
*6

<Example of model number>

GFAG21-Z-5-12CN-1

Model: GFAG

- A** Size variation : 22 mm
- B** Circuit structure : Common supply / common exhaust type
- C** Orifice : $\phi 1$
- D** Station no. : 5 stations
- E** Body, sealant combination : Body - PPS, sealant - NBR
- F** Coil option : Grommet lead wire
- G** Manual override : Manual non-locking
- H** Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz
- I** **J** : Without masking plate

⚠ Note on model no. selection

- *1: For the number of manifold stations, select a number of stations from 2 to 10. → **I** Solenoid valve quantity
- *2: For the type with masking plate, designate the item (D) as "X", then designate the number of (I) solenoid valves and (J) masking plates. → **J** Masking plate quantity
- *3: For GFAG11 item (F) 2G, the compact terminal box (G1/4) is used.
- *4: For GFAG21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.
- *5: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.
- *6: Consult with CKD for other voltages that cannot be manufactured.
- *7: Solenoid valves are arranged from the right side facing the sub-plate A (independent) port.
- *8: Orders for only the masking plate and sub-plate are also available. Contact CKD for details.

Model no.				
GFAG11	GFAG21	GFAG31	GFAG41	GFAG51

Symbol	Descriptions	GFAG11	GFAG21	GFAG31	GFAG41	GFAG51
A Size variation						
1	18 mm	●				
2	22 mm		●			
3	28 mm			●		
4	34 mm				●	
5	40 mm					●

B Circuit structure						
1	Common supply / common exhaust type	●	●	●	●	●

C Orifice						
Y	$\phi 0.8$		●			
Z	$\phi 1$			●		
O	$\phi 1.5$		●			
1	$\phi 2$			●	●	●
4	$\phi 3$				●	●
8	$\phi 4$					●

D Station no.						
2	2 stations					
to	to		●	●	●	●
10	10 stations					
O	Actuator only		●	●	●	●
X	With masking plate		●	●	●	●

E Body, sealant combination						
1	Body	Sealant				
	PPS	NBR	●	●	●	●

F Coil option						
2C	Standard	Grommet lead wire	●	●	●	●
2CS	Option	Grommet lead wire with surge suppressor	●	●	●	●
		DIN terminal box (Pg11)	●	●	●	●
2G		DIN terminal box with light and surge suppressor (Pg11)	●	●	●	●
2HS		DIN terminal box with light and surge suppressor (Pg11)	●	●	●	●
2CG		Conduit (CTC19)			●	●
2CH		Conduit (G1/2)			●	●
3T		T type terminal box (G1/2)			●	●
3RS		T type terminal box with light and surge suppressor (G1/2)			●	●

G Manual override						
Blank	Standard	None	●	●	●	●
N	Option	Manual non-locking type	●	●	●	●

H Voltage						
1	100 VAC 50/60Hz, 110 VAC 60Hz	●	●	●	●	●
2	200 VAC 50/60Hz, 220 VAC 60Hz	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

For voltages other than the above, write in the voltage directly.

I Solenoid valve quantity						
Blank	No masking plate		●	●	●	●
1	One solenoid valve			●	●	●
to	to			●	●	●
9	Nine solenoid valves					●

J Masking plate quantity						
Blank	No masking plate		●	●	●	●
1	One masking plate			●	●	●
to	to			●	●	●
9	Nine masking plates					●

Select from the combination of ● marks in the above table.

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for compressed air

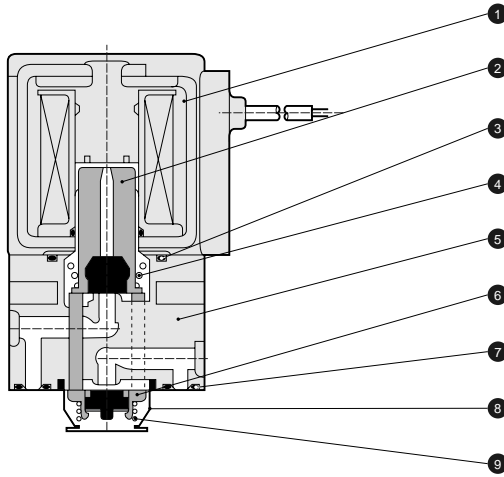
Direct acting 3 port solenoid valve

Special purpose valve for compressed air

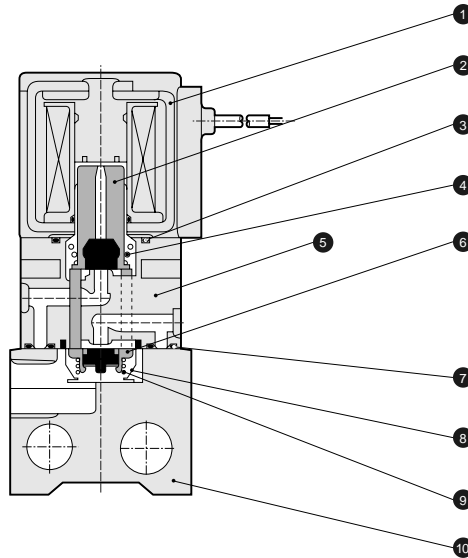
Direct acting 3 port solenoid valve

Internal structure and parts list

●GFAG actuator

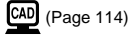


●GFAG manifold

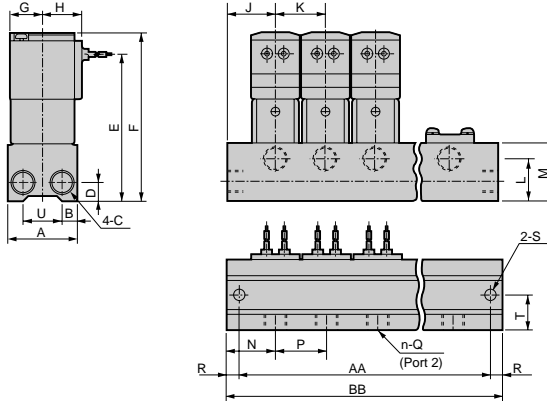


No.	Parts name	Materials		No.	Parts name	Materials	
1	Coil assembly	-	-	6	Valving element guide assembly	PPS, SUS, NBR	Polyphenylene sulfite, stainless steel, nitrile rubber
2	Plunger assembly	SUS, NBR	Stainless steel, nitrile rubber	7	Gasket	NBR	Nitrile rubber
3	O ring	NBR	Nitrile rubber	8	Holder	SUS	Stainless steel
4	Spring	SUS	Stainless steel	9	Spring	SUS	Stainless steel
5	Body	PPS	Polyphenylene sulfite	10	Sub-plate	A6063	Aluminum

Dimensions: Manifold



- Grommet lead wire type
GFAG*1-*-*12C

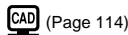


Lead wire length 300mm

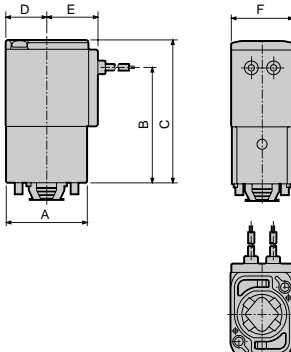
Model no.	Sim. no. Symbol									
	2	3	4	5	6	7	8	9	10	
GFAG1	AA	48	68	88	108	128	148	168	188	208
	BB	58	78	98	118	138	158	178	198	218
GFAG2	AA	58	84	110	136	162	188	214	240	266
	BB	68	94	120	146	172	198	224	250	276
GFAG3	AA	74	106	138	170	202	234	266	298	330
	BB	88	120	152	184	216	248	280	312	344
GFAG4	AA	86	124	162	200	238	276	314	352	390
	BB	100	138	176	214	252	290	328	366	404
GFAG5	AA	100	146	192	238	284	330	376	422	468
	BB	114	160	206	252	298	344	390	436	482

Model no.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
GFAG1	30	6.5	Rc1/8	8	55.5	65	13	17	19	20	16	22	18.5	20	M5	5	φ 4.5	15	17
GFAG2	30	6.5	Rc1/8	8	70	81	15.5	19.5	21	26	18	27	20	26	Rc1/8	5	φ 4.5	15	17
GFAG3	40	9	Rc1/4	11	84	96	18.5	22.5	28	32	24	33	27.5	32	Rc1/4	7	φ 6.5	20	22
GFAG4	43	9	Rc1/4	11	93.5	107.5	22.5	26	31	38	24	33	34.5	38	Rc1/4	7	φ 6.5	21.5	25
GFAG5	50	10	Rc1/4	11	100	116	26	29.5	34	46	24	33	38.5	46	Rc1/4	7	φ 6.5	25	30

Dimensions: Actuator



- Grommet lead wire type
GFAG*1*-0-12C



Model no.	A	B	C	D	E	F
GFAG1	25	33.5	43	13	17	18
GFAG2	30	43	54	15.5	19.5	22
GFAG3	36	51	63	18.5	22.5	28
GFAG4	43	60.5	74.5	22.5	26	34
GFAG5	50	67	83	26	29.5	40

* Lead wire length 300mm

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/
ADK

For
dry air

Explosion
proof

HVB/
HVL

SAB/
SVB

NP/NAP/
NVP

CHB/G

MXB/G

Other G.P.
systems

PDF/FAD/
PJ

CVE/
CVSE

CPE/
CPD

Medical
analysis

Custom
order

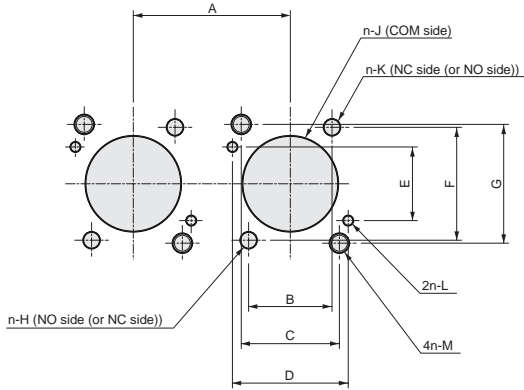
Special
purpose valve for compressed air

Direct acting 3 port solenoid valve

Actuator installation dimension drawing

●GFAG1*/2*/3*

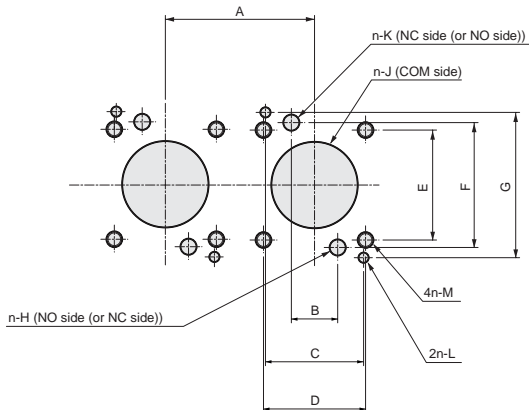
Machining drawing, when 2 actuators are used.



Model no.	A	B	C	D	E	F	G	H	J	K	L	M
GFAG1	20 and over	9 ± 0.15	12.4 ± 0.1	14.4 ± 0.1	11.2 ± 0.1	16.4 ± 0.15	17 ± 0.1	φ 2 ^{+0.1} ₀	φ 12 ± 0.1	φ 2 ^{+0.1} ₀	φ 1.6 ^{+0.1} ₀ depth 2.5 ± 0.5	M2.5 effective thread depth 5 and over
GFAG2	26 and over	12 ± 0.15	15.5 ± 0.1	18.4 ± 0.1	12.4 ± 0.1	20 ± 0.15	19.4 ± 0.1	φ 2.5 ^{+0.1} ₀	φ 14.5 ± 0.1	φ 2.5 ^{+0.1} ₀	φ 1.6 ^{+0.1} ₀ depth 2.5 ± 0.5	M3 effective thread depth 6 and over
GFAG3	32 and over	17 ± 0.15	20 ± 0.1	23.6 ± 0.1	15 ± 0.1	24 ± 0.15	24.2 ± 0.1	φ 3.4 ^{+0.1} ₀	φ 19.5 ± 0.1	φ 3.4 ^{+0.1} ₀	φ 2.1 ^{+0.1} ₀ depth 2.5 ± 0.5	M4 effective thread depth 6 and over

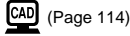
●GFAG4*/5*

Machining drawing, when 2 actuators are used.



Model no.	A	B	C	D	E	F	G	H	J	K	L	M
GFAG4	38 and over	11.8 ± 0.15	25 ± 0.1	26 ± 0.1	28 ± 0.1	31.8 ± 0.15	37 ± 0.1	φ 4.1 ^{+0.1} ₀	φ 22 ± 0.15	φ 4.1 ^{+0.1} ₀	φ 2.6 ^{+0.1} ₀ depth 2.5 ± 0.5	M4 effective thread depth 9 and over
GFAG5	46 and over	11.8 ± 0.15	30 ± 0.1	30 ± 0.1	33 ± 0.1	31.8 ± 0.15	43 ± 0.1	φ 4.1 ^{+0.1} ₀	φ 22 ± 0.15	φ 4.1 ^{+0.1} ₀	φ 2.6 ^{+0.1} ₀ depth 2.5 ± 0.5	M6 effective thread depth 8 and over

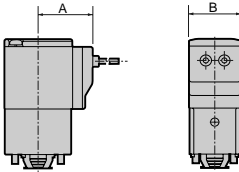
Optional dimensions



(Page 114)

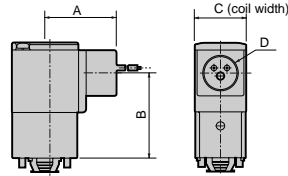
(For common dimensions, refer to the grommet lead wire actuator dimensions on page 45.)

- Grommet lead wire with surge suppressor
GFAG*1-**-1[2CS]



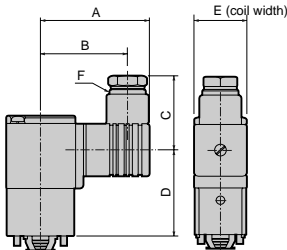
Model no.	A	B
GFAG1	24.5	18
GFAG2	26.5	22
GFAG3	29.5	28
GFAG4	34	34
GFAG5	37.5	40

- Conduit (CTC19, G1/2)
GFAG*1-**-1[2CG
2CH]



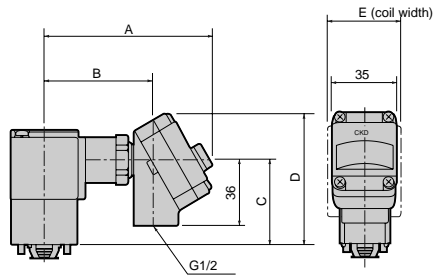
Model no.	A	B	C	D
GFAG3	39	46	28	CTC19, G1/2
GFAG4	43	56	34	CTC19, G1/2
GFAG5	46.5	64	40	CTC19, G1/2

- DIN terminal box (with light and surge suppressor)
GFAG*1-**-1[2G
2HS]



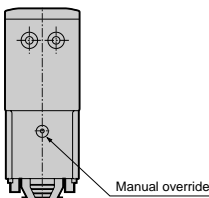
Model no.	A	B	C	D	E	F
GFAG1	36	28.5	22	31.5	18	G1/4
GFAG2	53	44	38	36.5	22	Pg9
GFAG3	58.5	47	39	44.5	28	Pg11
GFAG4	62	50.5	39	54	34	Pg11
GFAG5	65.5	54	39	62.5	40	Pg11

- T type terminal box (with light and surge suppressor) (G1/2)
GFAG*1-**-1[3T
3RS]



Model no.	A	B	C	D	E
GFAG4	96	64.5	56	82	34
GFAG5	99.5	68	64	90	40

- Manual override (non-locking)
GFAG*1-**-**[N]



Position of manual override
: Opposite side of COM port

HNB/G

USB/G

FAB/G

FGB/G

FVB

FWB/G

FHB

FLB

AB

AG

AP/AD

APK/ADK

For dry air

Explosion proof

HVB/HVL

SAB/SVB

NP/NAP/NVP

CHB/G

MXB/G

Other G.P. systems

PD/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for compressed air

Direct acting 3 port solenoid valve