



Discrete direct acting 2 port solenoid valve for water (special purpose valve)

FWB Series

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

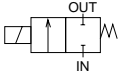


Refer to Ending 17 for more details.

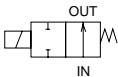


JIS symbol

- NC (normally closed) type



- NO (normally open) type



Common specifications

Descriptions	FWB
Working fluid	Water (except sewage, agricultural water, liquid manure)
Working pressure differential range MPa	0 to 1.5 (Refer to the maximum working pressure differential on the individual specifications)
Withstanding pressure (water pressure) MPa	5.0 (3.0 for orifice $\phi 7$, $\phi 10$ mm)
Fluid temperature °C	AC: 1 to 60, DC: 1 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	0 (water pressure)
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent.

Individual specifications

Descriptions Model no.	Port size	Orifice (mm)	Cv flow factor	Max. working pressure differential MPa		Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)		Weight (kg)							
				AC	DC			At holding		At starting		AC	DC								
NC (normally closed) type																					
FWB21 - 6 - Z - 2	Rc 1/8	1	0.036	1.5	0.9	1.5	100 VAC 50/60Hz	5	4	9	8	2.7/2	4	0.15							
		2	0.15	0.7	0.35			9.5	7	23	20	4/3.2	6	0.3							
FWB31 - 6 - 8 - 3 - 5 - 6	Rc 1/8	3	0.31	0.8	0.5	1.5	110 VAC 60Hz	9.5	7	23	20	4/3.2	6	0.3							
	Rc 1/4	4	0.5	0.5	0.2																
FWB41 - 8 - 10 - 5 - 6 - 7	Rc 1/4	4	0.54	0.8	0.5	0.3	200 VAC 50/60Hz	16	13	40	35	7.5/6.3	8	0.49							
	Rc 3/8	5	0.8	0.5	0.25																
		7	1.1	0.2	0.1																
FWB41 - 19 - 15 - 8	Rc 3/8 Rc 1/2	10	1.88	0.1	0.05	0.3	220 VAC 60Hz	23	19	60	50	11.5/10	11.5	0.68							
FWB51 - 8 - 10 - 5 - 6 - 7	Rc 1/4	4	0.54	1.1	1.3	1.5	24 VDC 12 VDC														
	Rc 3/8	5	0.8	0.7	0.6																
FWB51 - 19 - 15 - 8	Rc 3/8 Rc 1/2	10	1.88	0.12	0.1	0.3	24 VDC 12 VDC	25	20	60	50	11/10	11.5	0.71							
NO (normally open) type																					
FWB32 - 6 - 8 - 3 - 5 - 6	Rc 1/8	3	0.31	0.4	0.4	1.5	100 VAC 50/60Hz								11.5	8	25	22	4.6/3.2	6	0.31
	Rc 1/4	4	0.5	0.2	0.2																
FWB42 - 8 - 10 - 5 - 6 - 7	Rc 1/4	4	0.54	0.4	0.4	0.3	200 VAC 50/60Hz	18	14	45	40	7.5/6.5	8	0.54							
	Rc 3/8	5	0.8	0.2	0.2																
		7	1.1	0.12	0.12																
FWB52 - 8 - 10 - 5 - 6 - 7	Rc 1/4	4	0.54	0.7	0.7	1.5	220 VAC 60Hz	25	20	60	50	11/10	11.5	0.71							
	Rc 3/8	5	0.8	0.45	0.45																
		7	1.1	0.2	0.2	0.3	24 VDC 12 VDC														

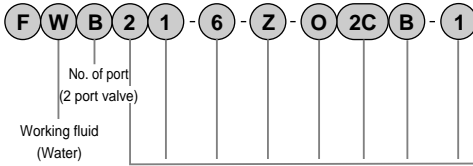
*1: Use the allowable voltage fluctuation range within $\pm 10\%$ of the rated voltage.

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

*3: 8.5 (W) for 12 VDC.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	FWB2	3mA or less	1.5mA or less	1mA or less	2mA or less
	FWB3/4/5	6mA or less	3mA or less		

How to order



Working fluid
(Water)

No. of port
(2 port valve)

A Size variation

B Actuation

C Port size

D Orifice

*1

*2

E Body, sealant combination

*3

F Coil option

*4

G Other options

H Voltage

*5

<Example of model number>

FWB21-6-Z-O2CB-1

Model: FWB

A Size variation : 22 mm

B Actuation : NC (normally closed) type

C Port size : Rc 1/8

D Orifice : ϕ 1

E Body, sealant combination

: Body - brass, sealant - NBR

F Coil option : Grommet lead wire

G Other options : Mounting plate

H Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

⚠ Note on model no. selection

*1: Only bore sizes Rc1/4 (item (C) 8) and Rc3/8 (item (C) 10) are available for the FWB41 and FWB51 orifice ϕ 4mm (item (D) 5), ϕ 5mm (item (D) 6), and ϕ 7mm (item (D) 7).

*2: The bore size Rc3/8 (item (C) 10) and Rc1/2 (item (C) 15) are available for orifice ϕ 10mm (item (D) 8).

*3: The body is cast bronze for the orifice ϕ 10mm (item (D) 8) item (E) 0 (brass).

*4: For item (F) 2CS, the surge suppressor is built into the body, and for 2HS and 3RS, built into the terminal box.

*5: Consult with CKD for other voltages that cannot be manufactured.

Symbol		Descriptions		Model no.						
				FWB21	FWB31	FWB41	FWB51	FWB32	FWB42	FWB52
A Size variation										
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										
6		Rc 1 / 8		●	●			●		
8		Rc 1 / 4			●	●	●	●	●	●
10		Rc 3 / 8			●	●	●	●	●	●
15		Rc 1 / 2				●	●			
D Orifice										
Z		ϕ 1		●						
2		ϕ 2		●						
3		ϕ 3			●			●		
5		ϕ 4				●	●	●	●	●
6		ϕ 5			●	●	●	●	●	●
7		ϕ 7				●	●	●	●	●
8		ϕ 10				●	●			
E Body, sealant combination										
		Body	Sealant							
O		Brass	NBR	●	●	●	●	●	●	●
D		Stainless steel	NBR	●	●	●	●	●	●	●
F Coil option										
2C	Standard	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	Option	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 Other options										
Blank	Standard	None		●	●	●	●	●	●	●
B	Option	Mounting plate		●	●	●	●	●	●	●
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.

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

PDF/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for water

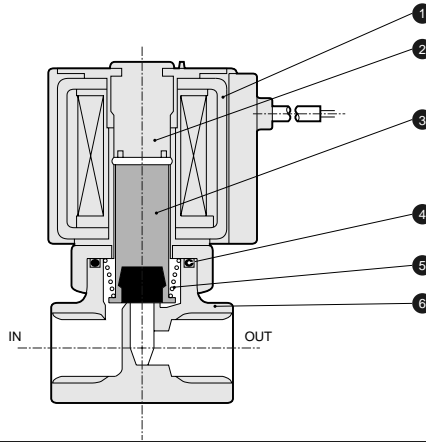
Direct acting 2 port solenoid valve

FWB Series

FWB*1 Series: NC (normally closed) type

Internal structure and parts list

● FWB*1 series

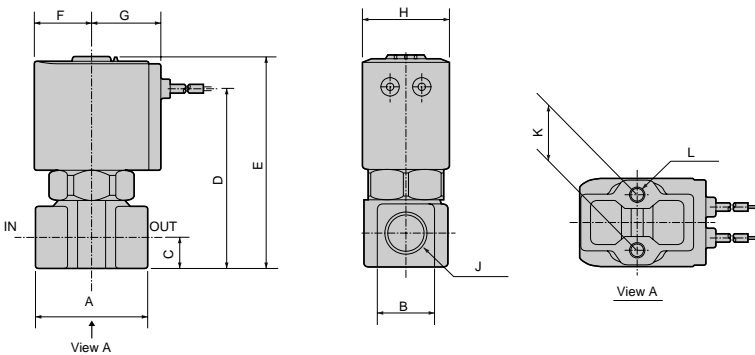


No.	Parts name	Materials	
1	Coil assembly	-	
2	Core assembly	SUS, Cu (Ag when body is SUS)	Stainless steel, copper (silver when body is stainless steel)
3	Plunger assembly	SUS, NBR	Stainless steel, nitrile rubber
4	O ring	NBR	Nitrile rubber
5	Spring	SUS	Stainless steel
6	Body	C3771 or CAC407 (SUS)	Brass or bronze (stainless steel)

() shows option. Note: For the FWB4 and FWB5 orifice $\phi 10$ and body seal material 0, the body is cast bronze.

Dimensions (Page 116)

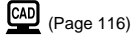
● Grommet lead wire type
FWB*1-**-**2C



Model no.	A	B	C	D	E	F	G	H	J	K	L
FWB21	32	14	8	45.5	56	15.5	19.5	22	Rc1/8	15	M4 depth 6
FWB31	36	18	11	57.5	68.5	18.5	22.5	28	Rc1/4, Rc1/4	18	M5 depth 6
FWB41	40	21	12	67	81	22.5	26	34	Rc1/4, Rc3/8	18	M5 depth 8
FWB41-10, 15-8	50	29	15	76	90				Rc3/8, Rc1/2		
FWB51	40	21	12	73.5	89	26	29.5	40	Rc1/4, Rc3/8	18	M5 depth 8
FWB51-10, 15-8	50	29	15	82.5	98				Rc3/8, Rc1/2		

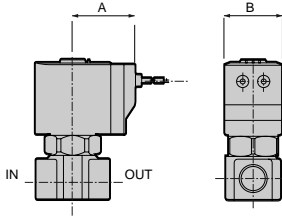
FWB*1 Series: NC (normally closed) type

Optional dimensions



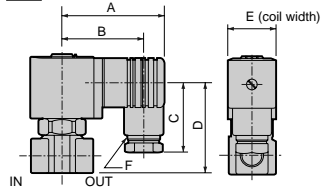
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

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



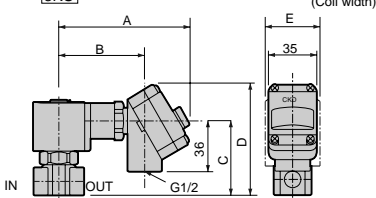
Model no.	A	B
FWB21	26.5	22
FWB31	29.5	28
FWB41	34	34
FWB51	37.5	40

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



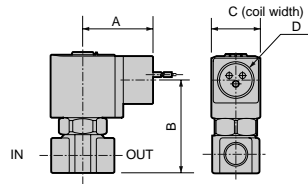
Model no.	A	B	C	D	E	F
FWB21	53	44	38	39	22	Pg9
FWB31	58.5	47	39	51	28	Pg11
FWB41	62	50.5	39	61	34	Pg11
FWB41-10, 15-8				70		
FWB51	65.5	54	39	69.5	40	Pg11
FWB51-10, 15-8				78.5		

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



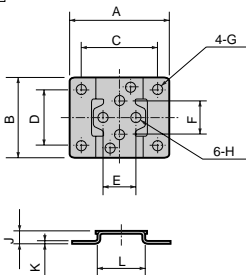
Model no.	A	B	C	D	E
FWB31	92	60.5	53	79	28
FWB41	96	64.5	62.5	88.5	34
FWB41-10, 15-8			71.5	97.5	
FWB51	99.5	68	71	97	40
FWB51-10, 15-8			80	106	

- Conduit (CTC19, G1/2)
FWB*1-**-**-[2CS
2CH]



Model no.	A	B	C	D
FWB31	39	53	28	CTC19 G1/2
FWB41	43	62.5	34	CTC19 G1/2
FWB41-10, 15-8		71.5		
FWB51	46.5	71	40	CTC19 G1/2
FWB41-10, 15-8		80		

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



Model no.	A	B	C	D	E	F	G	H	J	K	L
FWB21	40	34	30	25	15	15	φ5	φ4.5	6	1.2	20
FWB31	52	42	40	30	18	18	φ6	φ5.5	7	1.6	25
FWB41/51	56	48	44	36	18	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 water

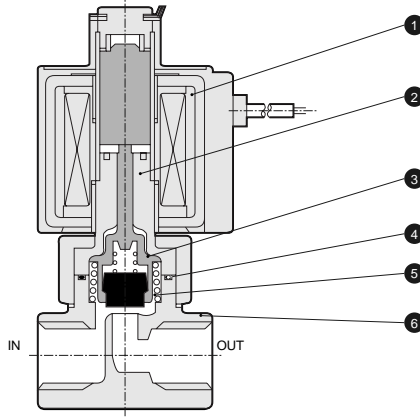
Direct acting 2 port solenoid valve

FWB Series

FWB*2 Series: NO (normally open) type

Internal structure and parts list

● FWB*2 series

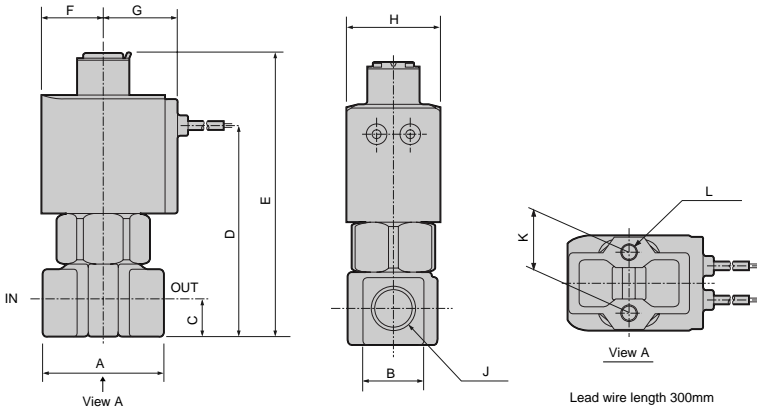


No.	Parts name	Materials	
1	Coil assembly	-	-
2	Core assembly	SUS, Cu (Ag when body is SUS)	Stainless steel, copper (silver when body is stainless steel)
3	Valving element guide assembly	PPS, SUS, NBR	Polyphenylene sulfide, stainless steel, nitrile rubber
4	O ring	NBR	Nitrile rubber
5	Spring	SUS	Stainless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

() shows option.

Dimensions (Page 116)

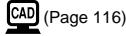
● Grommet lead wire type
FWB*2-*-*-*2C



Model no.	A	B	C	D	E	F	G	H	J	K	L
FWB32	36	18	11	62.5	84	18.5	22.5	28	Rc1/8, Rc1/4	18	M5 depth 6
FWB42	40	21	12	71.5	96	22.5	26	34	Rc1/4, Rc3/8	18	M5 depth 8
FWB52	40	21	12	78	103.5	26	29.5	40	Rc1/4, Rc3/8	18	M5 depth 8

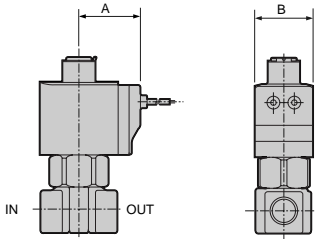
FWB*2 Series: NO (normally open) type

Optional dimensions



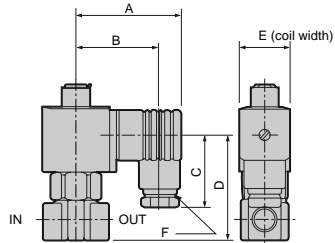
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

- Grommet lead wire with surge suppressor
FWB*2-**-**2CS



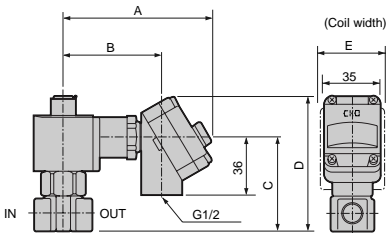
Model no.	A	B
FWB32	29.5	28
FWB42	34	34
FWB52	37.5	40

- DIN terminal box (with light and surge suppressor)
FWB*2-**-**2G
2HS



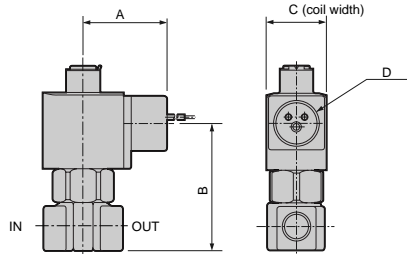
Model no.	A	B	C	D	E	F
FWB32	58.5	47	39	56.5	28	Pg11
FWB42	62	50.5	39	65	34	Pg11
FWB52	65.5	54	39	73.5	40	Pg11

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



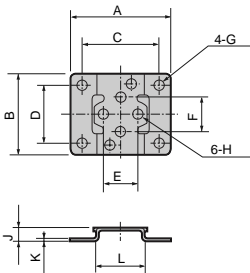
Model no.	A	B	C	D	E
FWB32	92	60.5	58	84	28
FWB42	96	64.5	67	93	34
FWB52	99.5	68	75	101	40

- Conduit (CTC19, G1/2)
FWB*2-**-**2CG
2CH



Model no.	A	B	C	D
FWB32	39	58	28	CTC19 G1/2
FWB42	43	67	34	CTC19 G1/2
FWB52	46.5	75	40	CTC19 G1/2

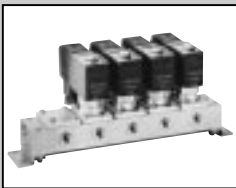
- Mounting plate
FWB*2-**-**B



Model no.	A	B	C	D	E	F	G	H	J	K	L
FWB32	52	42	40	30	18	18	φ6	φ5.5	7	1.6	25
FWB42/52	56	48	44	36	18	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 water
Direct acting 2 port solenoid valve



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

GFWB Series

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

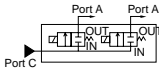


Refer to Ending 17 for more details.



JIS symbol

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



Common specifications

Descriptions	GFWB
Working fluid	Water (except sewage, agricultural water, liquid manure)
Working pressure differential range MPa	0 to 1.5
Withstanding pressure (water pressure) MPa	(Refer to the maximum working pressure differential on the individual specifications) 5.0 (3.0 for orifice ϕ 7 mm)
Fluid temperature $^{\circ}$ C	AC: 1 to 60 DC: 1 to 40 (no freezing)
Ambient temperature $^{\circ}$ 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	0 (water pressure)
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent.

Individual specifications

Descriptions Model no.	Port size		Orifice (mm)	Cv flow factor	Max. working pressure differential MPa		Max. working pressure MPa	Rated voltage	Rated electric power (VA)				Power consumption (W)	
	Port A (Individual port)	Port C (Common port)			AC	DC			At holding		At starting		AC 50/60Hz	DC
	50Hz	60Hz							50Hz	60Hz				
NC (normally closed) type														
GFWB21-Z - 2	Rc1/8	Rc1/4	1	0036	1.5	0.9	1.5	100 VAC 50/60Hz	5	4	9	9	2.7/2	4
			2	0.12	0.7	0.35			9.5	7	23	20		
GFWB31-3 - 5 - 6	Rc1/4	Rc3/8	3	0.23	0.8	0.5	1.5	110 VAC 60Hz	16	13	40	35	7.5/6.3	8 ^{*3}
			4	0.36	0.5	0.2			23	20	4/3.2	6		
GFWB41-5 - 6 - 7	Rc1/4	Rc3/8	4	0.42	0.8	0.5	1.5	200 VAC 50/60Hz	16	13	40	35	7.5/6.3	8 ^{*3}
			5	0.55	0.5	0.25			23	20	4/3.2	6		
GFWB51-5 - 6 - 7	Rc1/4	Rc3/8	4	0.42	1.1	1.3	1.5	220 VAC 60Hz	23	19	60	50	11.5/10	11.5
			5	0.55	0.7	0.6			23	19	60	50		
	Rc1/4	Rc3/8	7	0.73	0.3	0.25	0.3	24 VDC 12 VDC	23	19	60	50	11.5/10	11.5
			7	0.73	0.3	0.25	0.3		23	19	60	50		

*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: 8.6 (W) for 12 VDC.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.	GFWB2	3mA or less	1.5mA or less	1mA or less
	GFWB3/4/5	6mA or less	3mA or less	or less	or less

How to order

● Manifold

G F W B 2 1 - Z - 3 - 0 2C - 1

● Manifold with masking plate

G F W B 3 1 - 5 - X - D 2G - 2 - 5 2

No. of port
(2 port valve)
Working fluid
(Water)

A Size variation

B Circuit structure

C Orifice

D Station no.

*1
*2

E Body, sealant combination

F Coil option

*3
*4

G Voltage

*5

H Solenoid valve quantity

*6

I Masking

<Example of model number>

GFWB21-Z-3-02C-1

Model: GFWB

- A** Size variation : 22 mm
- B** Circuit structure : NC (normally closed) / common water supply type
- C** Orifice : $\phi 1$
- D** Station no. : 3 stations
- E** Body, sealant combination : Body - brass, sealant - NBR
- F** Coil option : Grommet lead wire
- G** Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz
- H I** : 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 (H) solenoid valves and (I) masking plates.
- *3: For GFWB21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.
- *4: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.
- *5: Consult with CKD for other voltages that cannot be manufactured.
- *6: Solenoid valves are arranged from the right side facing the sub-plate A (independent) port.
- *7: Orders for only the masking plate and sub-plate are also available. Contact CKD for details.

Symbol	Descriptions	Model no.			
		GFWB21	GFWB31	GFWB41	GFWB51
A Size variation					
2	22 mm	●			
3	28 mm		●		
4	34 mm			●	
5	40 mm				●
B Circuit structure					
1	NC (normally closed) / common water supply type	●	●	●	●
C Orifice					
Z	$\phi 1$	●			
2	$\phi 2$	●			
3	$\phi 3$		●		
5	$\phi 4$			●	●
6	$\phi 5$		●	●	●
7	$\phi 7$			●	●
D Station no.					
2	2 stations				
to	to	●	●	●	●
10	10 stations				
O	Actuator only	●	●	●	●
X	With masking plate	●	●	●	●
E Body, sealant combination					
	Body	Sealant			
O	Brass	NBR	●	●	●
D	Stainless steel	NBR	●	●	●
F Coil option					
2C	Standard	Grommet lead wire	●	●	●
2CS	Option	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 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.					
H Solenoid valve quantity					
Blank	No masking plate	●	●	●	●
1	One solenoid valve				
to	to	●	●	●	●
9	Nine solenoid valves				
I 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

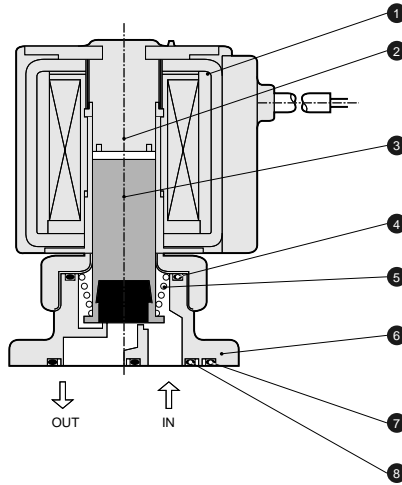
Custom order

Special purpose valve for water

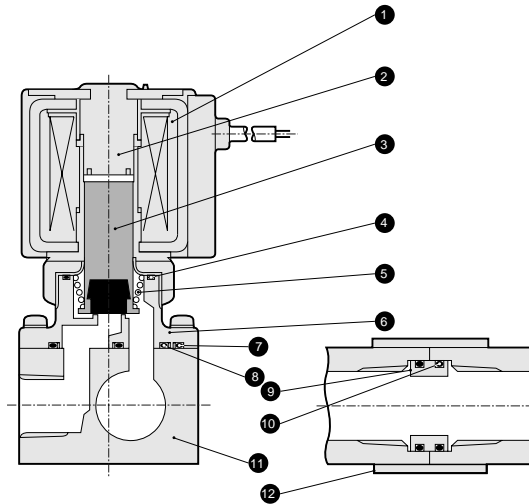
Direct acting 2-port solenoid valve

Internal structure and parts list

● GFWB actuator




● GFWB manifold



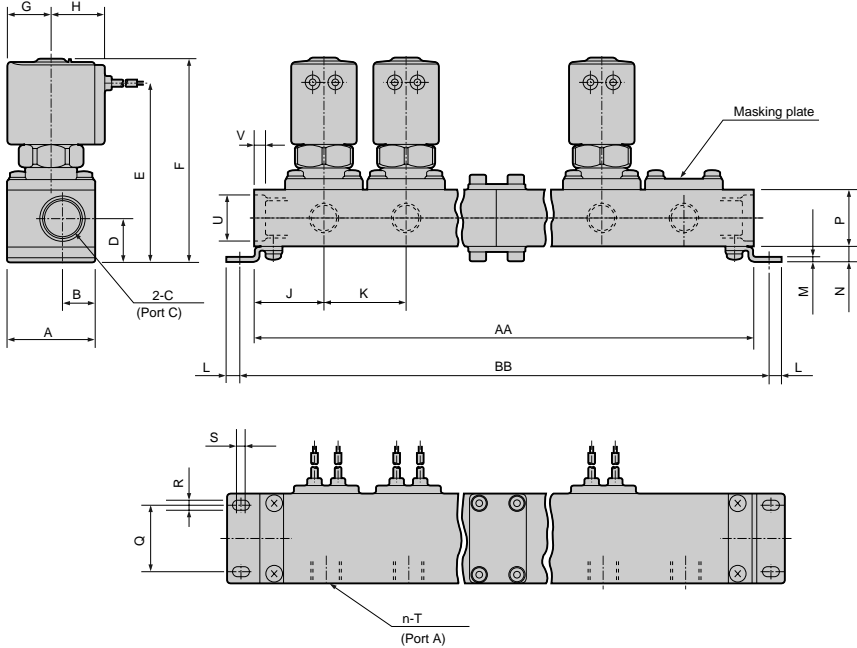
No.	Parts name	Materials	No.	Parts name	Materials
1	Coil assembly	-	7	O ring	NBR
2	Core assembly	SUS, Cu (Ag when body is SUS)	8	O ring	NBR
		Stainless steel, copper (Silver when body is stainless steel)	9	Connector	C3604
3	Plunger assembly	SUS, NBR			(SUS when body is SUS)
4	O ring	NBR			(Stainless steel when body is stainless steel)
5	Spring	SUS	10	O ring	NBR
6	Body	C3771 (SUS)	11	Sub-plate	C3604
		Brass (stainless steel)			Brass
					(SUS when body is SUS)
					(Stainless steel when body is stainless steel)
			12	Connecting plate	SPC
					Steel

() shows option.

Dimensions: Manifold

 (Page 116)

- Grommet lead wire type
GFWB*1-*-*-*2C



* Lead wire length 300mm

Model no.	Stn. no. Symbol	2	3	4	5	6	7	8	9	10
		GFWB2	AA 81	109	162	165	218	246	274	327
	BB 93	121	174	177	230	258	286	339	342	
GFWB3	AA 97	133	194	205	266	302	338	399	410	
	BB 109	145	206	217	278	314	350	411	422	
GFWB4	AA 106	145	212	223	290	329	368	435	446	
	BB 119	158	225	236	303	342	381	448	459	
GFWB5	AA 118	163	236	253	326	371	416	489	506	
	BB 131	176	249	266	339	384	429	502	519	

Manifold structure (2 stations x 1) (3 stations x 1) (2 stations x 2) (3 stations x 1) (3 stations x 2) (2 stations x 2) (3 stations x 3) (3 stations x 3) (3 stations x 3) (5 stations x 2)

Note: The manifold structure is a connected type based on 2, 3 or 5 stations.

Model no.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
GFWB2	32	13.5	Rc1/4	17.5	66.5	77	15.5	19.5	26	28	6	1.6	6.5	21	22	4.5	2.5	Rc1/8	φ17.3	4
GFWB3	38	14.5	Rc3/8	18.5	75.5	86.5	18.5	22.5	30	36	6	2	6.5	24	28	4.5	2.5	Rc1/4	φ19	4.6
GFWB4	42	16.5	Rc3/8	19.5	84	98	22.5	26	33	39	6.5	2	7.5	24	30	5.5	2.5	Rc1/4	φ19	4.6
GFWB5	42	16.5	Rc3/8	19.5	90	105	26	29.5	36	45	6.5	2	7.5	24	30	5.5	2.5	Rc1/4	φ19	4.6

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

CVB/CVSE

CPE/CPD

Medical analysis

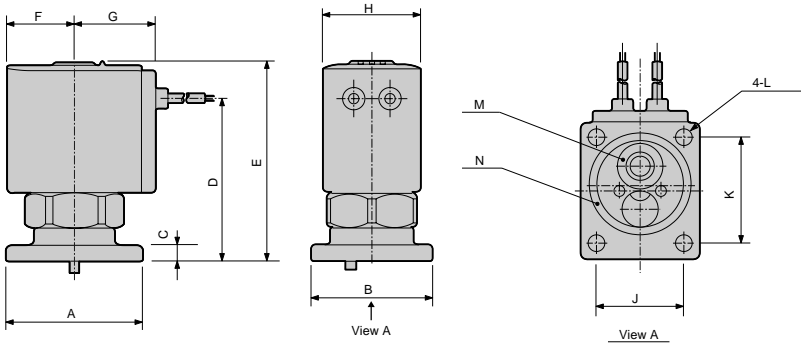
Custom order

Special purpose valve for water

Direct acting 2-port solenoid valve

Dimensions: Actuator

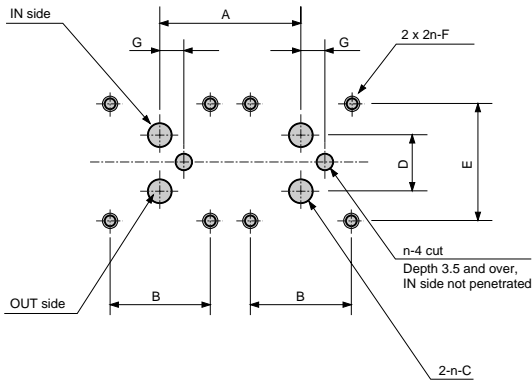
- Grommet lead wire type
GFWB*1-*O-*2C



Lead wire length 300mm

Model no.	A	B	C	D	E	F	G	H	J	K	L	Applicable O ring	
												M	N
GFWB2	32	27	4	39	49.5	15.5	19.5	22	19	24	φ 3.5	AS568-009	AS568-018
GFWB3	38	34	4.5	45	56	18.5	22.5	28	25	29	φ 4.5	AS568-011	AS568-022
GFWB4	42	38	4.5	52.5	66.5	22.5	26	34	28	32	φ 4.5	AS568-012	AS568-025
GFWB5	42	44	5.5	58.5	73.5	26	29.5	40	34	32	φ 4.5	AS568-012	AS568-025

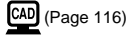
Actuator installation dimension drawing



Machining drawing, when 2 actuators are used.

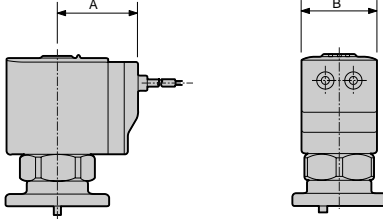
Model no.	A	B	C	D	E	F	G
GFWB2	28 and over	19±0.1	3.5 cut or less	10.6±0.1	24±0.1	M3 effective thread depth 6 and over	6±0.2
GFWB3	35 and over	25±0.1	5.5 cut or less	13.8±0.1	29±0.1	M4 effective thread depth 6 and over	6±0.2
GFWB4	39 and over	28±0.1	7.5 cut or less	17±0.1	32±0.1	M4 effective thread depth 6 and over	7±0.2
GFWB5	45 and over	34±0.1	7.5 cut or less	17±0.1	32±0.1	M4 effective thread depth 6 and over	7±0.2

Optional dimensions



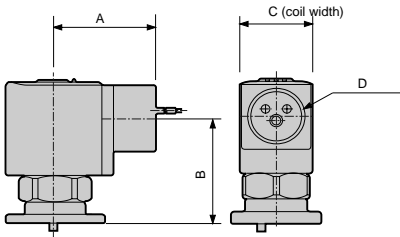
(For common dimensions, refer to the grommet lead wire actuator dimensions on the left page.)

- Grommet lead with surge suppressor
GFWB*1-**-**2CS



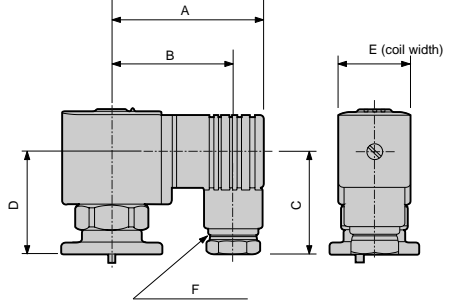
Model no.	A	B
GFWB2	26.5	22
GFWB3	29.5	28
GFWB4	34	34
GFWB5	37.5	40

- Conduit (CTC19_G1/2)
GFWB*1-**-**2CG
2CH



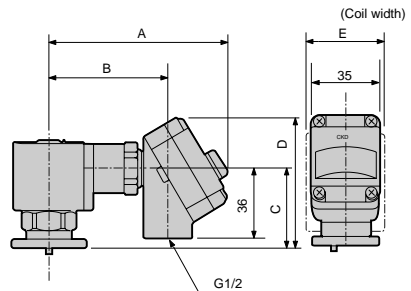
Model no.	A	B	C	D
GFWB3	39	40.5	28	CTC19 G1/2
GFWB4	43	48	34	CTC19 G1/2
GFWB5	46.5	55.5	40	CTC19 G1/2

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



Model no.	A	B	C	D	E	F
GFWB2	53	44	38	32.5	22	Pg9
GFWB3	58.5	47	39	38.5	28	Pg11
GFWB4	62	50.5	39	46.5	34	Pg11
GFWB5	65.5	54	39	54	40	Pg11

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



Model no.	A	B	C	D	E
GFWB3	92	60.5	40.5	66.5	28
GFWB4	96	64.5	48	74	34
GFWB5	99.5	68	55.5	81.5	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

CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for water

Direct acting 2 port solenoid valve



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

FWG Series

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

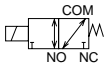


Refer to Ending 17 for more details.



JIS symbol

- Universal type



Common specifications

Descriptions	FWG
Working fluid	Water (except sewage, agricultural water, liquid manure)
Working pressure	0 to 1.0
differential range MPa	(Refer to the maximum working pressure differential on the individual specifications)
Max. working pressure MPa	1.0
Withstanding pressure (water pressure) MPa	2.0
Fluid temperature °C	AC: 1 to 60, DC: 1 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	0 (water pressure)
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent.

Individual specifications

Descriptions Model no.	Port size	Orifice (mm)	Cv flow factor	Max. working pressure differential MPa		Rated voltage	Rated electric power (VA)				Power consumption (W)		Weight (kg)
				AC	DC		At holding		At starting		AC 50/60Hz	DC	
							50Hz	60Hz	50Hz	60Hz			
Universal type													
FWG21- 6 - Z	Rc 1/8	1	0.036	0.7	0.7	100 VAC 50/60Hz	6.5	5	10	9	3.6/2.5	4	0.17
FWG31- 6 - 0	Rc 1/8, Rc 1/4	1.5	0.080	0.7	0.7	110 VAC 60Hz 200 VAC 50/60Hz	16	10.5	23	20	7/4.1	6	0.33
FWG41- 8 - 1	Rc 1/4, Rc 3/8	2	0.14	1	1	220 VAC 60Hz	22	16	40	35	8.5/6.5	8 ^{*4}	0.52
FWG51- 8 - 10 - 4	Rc 1/4, Rc 3/8	3	0.31	0.6 *2	0.6 *2	24 VDC 12 VDC	32	22	60	50	12.5/10.5	11.5	0.69

*1: Use the allowable voltage fluctuation range within ±10% of the rated voltage.

*2: 0.4 only when NO pressurized

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

*4: 8.6 (W) for 12 VDC.

Leakage current	Voltage			
	Model no.			
	100 VAC	200 VAC	24 VDC	12 VDC
FWG2	3mA or less	1.5mA or less	1mA	2mA
FWG3/4/5	6mA or less	3mA or less	or less	or less

How to order



No. of port
(3 port valve)
Working fluid
(Water)

A Size variation

B Actuation

C Port size

D Orifice

E Body, sealant combination

F Coil option

*1

*2

G Other options

H Voltage

*3

Model no.

FWG 21	FWG 31	FWG 41	FWG 51

Symbol	Descriptions	FWG 21	FWG 31	FWG 41	FWG 51
A Size variation					
2	22 mm	●			
3	28 mm		●		
4	34 mm			●	
5	40 mm				●
B Actuation					
1	Universal type	●	●	●	●
C Port size					
6	Rc1/8	●	●		
8	Rc1/4		●	●	●
10	Rc3/8			●	●
D Orifice					
Z	φ 1	●			
O	φ 1.5		●		
1	φ 2			●	
4	φ 3				●
E Body, sealant combination					
	Body	Sealant			
O	Brass	NBR	●	●	●
D	Stainless steel	NBR	●	●	●
F Coil option					
2C	Standard	Grommet lead wire	●	●	●
2CS	Option	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 Other options					
Blank	None	●	●	●	●
B	Mounting plate	●	●	●	●
H Voltage					
1	100 VAC 50/60Hz, 110 VAC 60Hz	●	●	●	●
2	200 VAC 50/60Hz, 220 VAC 60Hz	●	●	●	●
3	24 VDC		●	●	●
4	12 VDC		●	●	●

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

<Example of model number>

FWG21-6-Z-O2CB-1

Model: FWG

A Size variation : 22 mm

B Actuation : Universal type

C Port size : Rc1/8

D Orifice : φ 1

E Body, sealant combination

: Body - brass, sealant - NBR

F Coil option : Grommet lead wire

G Other options : Mounting plate

H Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

⚠ Note on model no. selection

*1: For FWG21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.

*2: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.

*3: 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

CVB/CVSE

CPE/CPD

Medical analysis

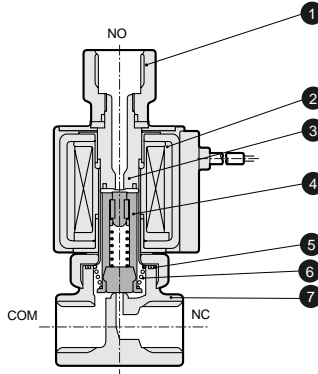
Custom order

Special purpose valve for water

Direct acting 3 port solenoid valve

Internal structure and parts list

● FWG*1 Series

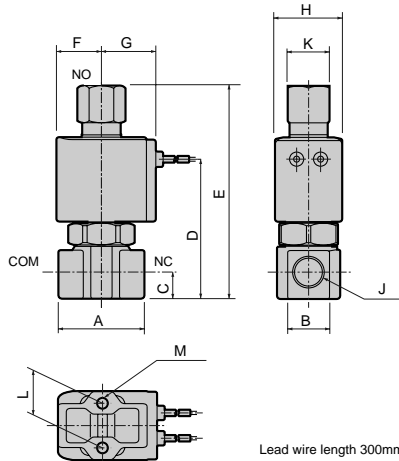


No.	Parts name	Materials
1	Socket	C3604 (SUS when body is SUS) Brass (Stainless steel when body is stainless steel)
2	Coil assembly	-
3	Core assembly	SUS, Cu (Ag when body is SUS) Stainless steel, copper (silver when body is stainless steel)
4	Plunger assembly	SUS, NBR Stainless steel, nitrile rubber
5	O ring	NBR Nitrile rubber
6	Spring	SUS Stainless steel
7	Body	C3771 (SUS) Brass (stainless steel)

() shows option.

Dimensions (Page 116)

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

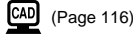


Lead wire length 300mm

Model no.	A	B	C	D	E	(E)	F	G	H	J	K	L	M
FWG21	32	14	8	45.5	74	75	15.5	19.5	22	Rc1/8	14	15	M4 depth 6
FWG31	36	18	11	57.5	90	(Rc1/8: 90)	18.5	22.5	28	Rc1/8, Rc1/4	17	18	M5 depth 6
						(Rc1/4: 91.5)							
FWG41	40	21	12	67	103	105	22.5	26	34	Rc1/4	17	18	M5 depth 8
										Rc3/8	22		
FWG51	40	21	12	73.5	111	113	26	29.5	40	Rc1/4	17	18	M5 depth 8
										Rc3/8	22		

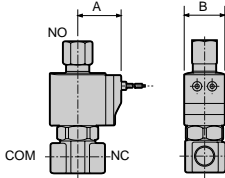
* (E) are dimensions for stainless steel.

Optional dimensions



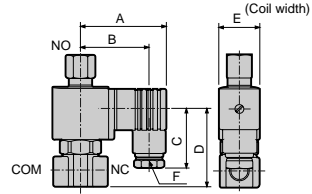
(For common dimensions, refer to the grommet lead wire dimensions on the left page.)

- Grommet lead wire with surge suppressor
FWG*1-**-****2CS**



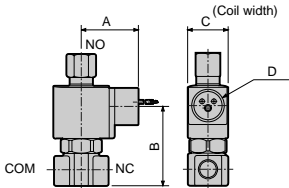
Model no.	A	B
FWG21	26.5	22
FWG31	29.5	28
FWG41	34	34
FWG51	37.5	40

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



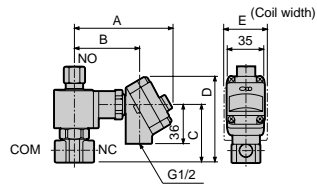
Model no.	A	B	C	D	E	F
FWG21	53	44	38	39	22	Pg9
FWG31	58.5	47	39	51	28	Pg11
FWG41	62	50.5	39	61	34	Pg11
FWG51	65.5	54	39	69.5	40	Pg11

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



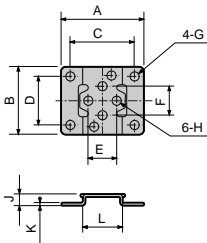
Model no.	A	B	C	D
FWG31	39	53	28	CTC19, G1/2
FWG41	43	62.5	34	CTC19, G1/2
FWG51	46.5	71	40	CTC19, G1/2

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



Model no.	A	B	C	D	E
FWG31	92	60.5	53	79	28
FWG41	96	64.5	62.5	88.5	34
FWG51	99.5	68	71	97	40

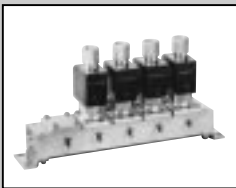
- Mounting plate
FWG*1-**-****B**



Model no.	A	B	C	D	E	F	G	H	J	K	L
FWG21	40	34	30	25	15	15	φ5	φ4.5	6	1.2	20
FWG31	52	42	40	30	18	18	φ6	φ5.5	7	1.6	25
FWG41/51	56	48	44	36	18	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 water
Direct acting 3 port solenoid valve



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

GFWG Series

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

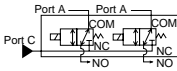


Refer to Ending 17 for more details.



JIS symbol

- Common water supply / individual drain type



Common specifications

Descriptions	GFWG
Working fluid	Water (except sewage, agricultural water, liquid manure)
Working pressure differential range MPa	0 to 1.0
Max. working pressure MPa	(Refer to the maximum working pressure differential on the individual specifications)
Max. working pressure MPa	1.0
Withstanding pressure (water pressure) MPa	2.0
Fluid temperature °C	AC: 1 to 60, DC: 1 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	0 (water pressure)
Installation attitude	Free
Protective structure	IP65 or equivalent (Note 1)

Note 1: The T-type terminal box type is IP61 or equivalent.

Individual specifications

Descriptions	Port size		Orifice (mm)	Cv flow factor	Max. working pressure differential MPa		Rated voltage	Rated electric power (VA)				Power consumption (W)	
	Port A/NO (Individual port)	Port C/COM (Common port)			AC	DC		At holding		At starting		AC	DC
Model no.								50Hz	60Hz	50Hz	60Hz	50/60Hz	DC
Universal type													
GFWG21- Z	Rc1/8	Rc1/4	1	0.036	0.7	0.7	100 VAC 50/60Hz 110 VAC 60Hz 200 VAC 50/60Hz 220 VAC 60Hz 24 VDC 12 VDC	6.5	5	10	9	3.6/2.5	4
GFWG31- 0	Rc1/4	Rc3/8	1.5	0.080	0.7	0.7		16	10.5	23	20	7/4.1	6
GFWG41- 1	Rc1/4	Rc3/8	2	0.14	1.0	1.0		22	16	40	35	8.5/6.5	8 ^{*4}
GFWG51- 4	Rc1/4	Rc3/8	3	0.27	0.6 ^{*2}	0.6 ^{*2}		32	22	60	50	12.5/10.5	11.5

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

*2: 0.4 only when NO pressurized

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

*4: 8.6 (W) for 12 VDC.

Leakage current	Voltage	100 VAC	200 VAC	24 VDC	12 VDC
	Model no.				
	GFWG2	3mA or less	1.5mA or less	1mA or less	2mA or less
	GFWG3/4/5	6mA or less	3mA or less		

How to order

● Manifold

G F W G 2 1 - Z - 5 - 0 2C - 1

● Manifold with masking plate

G F W G 3 1 - 4 - X - D 2G - 2 - 3 6

No. of port
(3 port valve)
Working fluid
(Water)

A Size variation

B Circuit structure

C Orifice

D Station no.

*1

*2

E Body, sealant combination

F Coil option

*3

*4

<Example of model number>

GFWG21-Z-5-02C-1

Model: GFWG

A Size variation : 22 mm

B Circuit structure : Common water supply / individual drain type

C Orifice : ϕ 1

D Station no. : 5 stations

E Body, sealant combination : Body - brass, sealant - NBR

F Coil option : Grommet lead wire

G Voltage : 100 VAC 50/60Hz, 110 VAC 60Hz

H I : No masking plate

G Voltage

*5

H Solenoid valve quantity

*6

I Masking plate quantity

⚠ 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 (H) solenoid valves and (I) masking plates.

*3: For GFWG21 item (F) 2G and 2HS, the compact terminal box (Pg9) is used.

*4: For item (F) 2CS, the surge suppressor is built into the coil, and for 2HS and 3RS, it is built into the terminal box.

*5: Consult with CKD for other voltages that cannot be manufactured.

*6: Solenoid valves are arranged from the right side facing the sub-plate A (independent) port.

*7: Orders for only the masking plate and sub-plate are also available. Contact CKD for details.

Model no.			
G F W G 21	G F W G 31	G F W G 41	G F W G 51

Symbol	Descriptions				
A Size variation					
2	22 mm	●			
3	28 mm		●		
4	34 mm			●	
5	40 mm				●
B Circuit structure					
1	Common water supply / individual drain type	●	●	●	●
C Orifice					
Z	ϕ 1	●			
O	ϕ 1.5		●		
1	ϕ 2			●	
4	ϕ 3				●
D Station no.					
2	2 stations				
to	to				
10	10 stations	●	●	●	●
O	Actuator only	●	●	●	●
X	With masking plate	●	●	●	●
E Body, sealant combination					
	Body	Sealant			
O	Brass	NBR	●	●	●
D	Stainless steel	NBR	●	●	●
F Coil option					
2C	Standard 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 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.					
H Solenoid valve quantity					
Blank	No masking plate	●	●	●	●
1	One solenoid valve				
to	to				
9	Nine solenoid valves	●	●	●	●
I 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

PDF/FAD/PJ

CVE/CVSE

CPE/CPD

Medical analysis

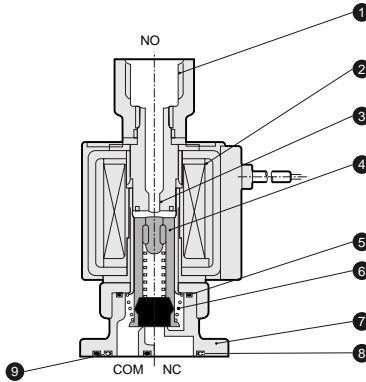
Custom order

Special purpose valve for water

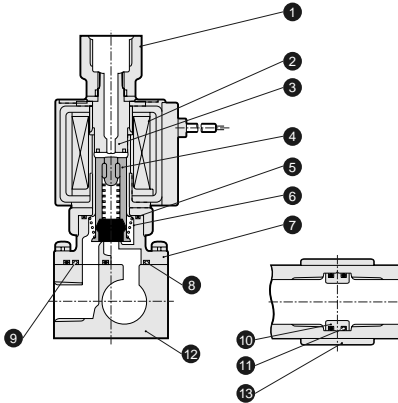
Direct acting 3 port solenoid valve

Internal structure and parts list

● GFWG actuator



● GFWG manifold



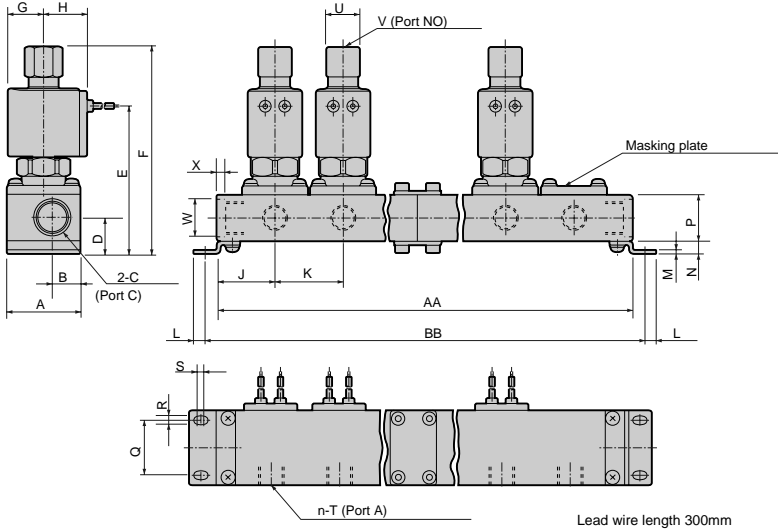
No.	Parts name	Materials	No.	Parts name	Materials
1	Socket	C3604 (SUS when body is SUS)	8	O ring	NBR Nitrile rubber
2	Coil assembly	-	9	O ring	NBR Nitrile rubber
3	Core assembly	SUS, Cu (Ag when body is SUS)	10	Connector	C3604 (SUS when body is SUS)
4	Plunger assembly	SUS, NBR	11	O ring	NBR Nitrile rubber
5	O ring	NBR Nitrile rubber	12	Sub-plate	C3604 (SUS when body is SUS)
6	Spring	SUS Stainless steel	13	Connecting plate	SPC Steel
7	Body	C3771 (SUS) Brass (stainless steel)			

() shows option.

Dimensions: Manifold



- Grommet lead wire type
GFWG*1-*-*-*2C



Model no.	Port no.	2	3	4	5	6	7	8	9	10
GFWG2	AA	81	109	162	165	218	246	274	327	330
	BB	93	121	174	177	230	258	286	339	342
GFWG3	AA	97	133	194	205	266	302	338	399	410
	BB	109	145	206	217	278	314	350	411	422
GFWG4	AA	106	145	212	223	290	329	368	435	446
	BB	119	158	225	236	303	342	381	448	459
GFWG5	AA	118	163	236	253	326	371	416	489	506
	BB	131	176	249	266	339	384	429	502	519

Manifold structure 2 stations x 1 3 stations x 1 2 stations x 2 5 stations x 1 3 stations x 2 5 stations 5 stations + 2 stations 3 stations 3 stations x 3 5 stations x 2

Note: The manifold structure is a connected type based on 2, 3 or 5 stations.

Model no	A	B	C	D	E	F	(F)	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X
GFWG2	32	13.5	Rc1/4	17.5	66.5	95	(96)	15.5	19.5	26	28	6	1.6	6.5	21	22	4.5	2.5	Rc1/8	14	Rc1/8	φ17.3	4
GFWG3	38	14.5	Rc3/8	18.5	75.5	108	(109)	18.5	22.5	30	36	6	2	6.5	24	28	4.5	2.5	Rc1/4	17	Rc1/4	φ19	4.6
GFWG4	42	16.5	Rc3/8	19.5	84	120	(121.5)	22.5	26	33	39	6.5	2	7.5	24	30	5.5	2.5	Rc1/4	17	Rc1/4	φ19	4.6
GFWG5	42	16.5	Rc3/8	19.5	90	127	(128.5)	26	29.5	36	45	6.5	2	7.5	24	30	5.5	2.5	Rc1/4	17	Rc1/4	φ19	4.6

* (F) are dimensions for stainless steel.

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

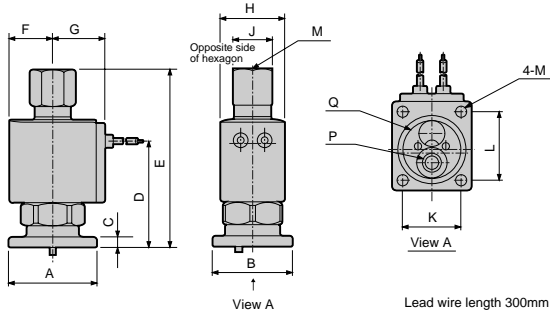
Special purpose valve for water

Direct acting 3 port solenoid valve

Dimensions: Actuator

 (Page 116)

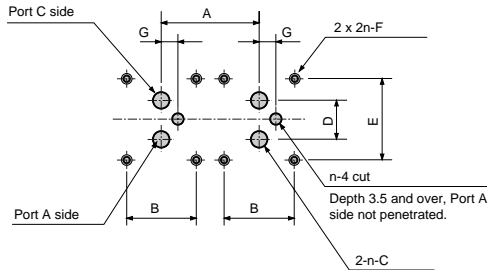
- Grommet lead wire type
GFWG*1~*O~*2C



Model no.	A	B	C	D	E	(E)	F	G	H	J	K	L	M	N	Applicable O ring	
															P	Q
GFWG2	32	27	4	39	67.5	(68.5)	15.5	19.5	22	14	19	24	φ 3.5	Rc1/8	AS568-009	AS568-018
GFWG3	38	34	4.5	45	77.5	(78.5)	18.5	22.5	28	17	25	29	φ 4.5	Rc1/4	AS568-011	AS568-022
GFWG4	42	38	4.5	52.5	88.5	(90)	22.5	26	34	17	28	32	φ 4.5	Rc1/4	AS568-012	AS568-025
GFWG5	42	44	5.5	58.5	95.5	(97)	26	29.5	40	17	34	32	φ 4.5	Rc1/4	AS568-012	AS568-025

* (E) are dimensions for stainless steel.

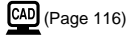
Actuator installation dimension drawing



Machining drawing, when 2 actuators are used.

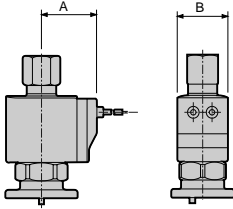
Model no.	A	B	C	D	E	F	G
GFWG2	28 and over	19±0.1	3.5 cut or less	10.6±0.1	24±0.1	M3 effective thread depth 6 and over	6±0.2
GFWG3	35 and over	25±0.1	5.5 cut or less	13.8±0.1	29±0.1	M4 effective thread depth 6 and over	6±0.2
GFWG4	39 and over	28±0.1	7.5 cut or less	17±0.1	32±0.1	M4 effective thread depth 6 and over	7±0.2
GFWG5	45 and over	34±0.1	7.5 cut or less	17±0.1	32±0.1	M4 effective thread depth 6 and over	7±0.2

Optional dimensions



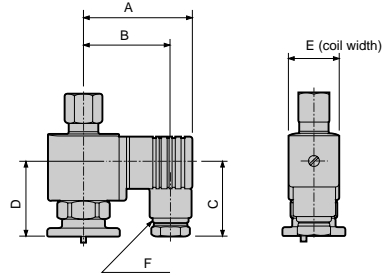
(For common dimensions, refer to the grommet lead wire actuator dimensions on the left page.)

- Grommet lead with surge suppressor
GFWG*1-*-*-*^{2CS}



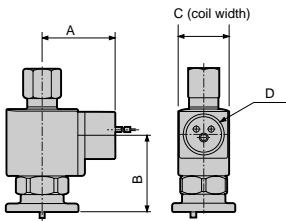
Model no.	A	B
GFWG2	26.5	22
GFWG3	29.5	28
GFWG4	34	34
GFWG5	37.5	40

- DIN terminal box (with light and surge suppressor)
GFWG*1-*-*-*^{2G}
^{2HS}



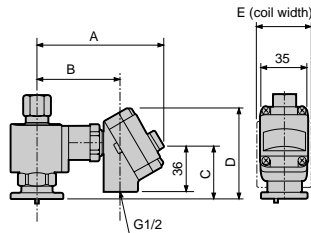
Model no.	A	B	C	D	E	F
GFWG2	53	44	38	32.5	22	Pg9
GFWG3	58.5	47	39	38.5	28	Pg11
GFWG4	62	50.5	39	46.5	34	Pg11
GFWG5	65.5	54	39	54	40	Pg11

- Conduit (CTC19, G1/2)
GFWG*1-*-*-*^{2CG}
^{2CH}



Model no.	A	B	C	D
GFWG3	39	40.5	28	CTC19, G1/2
GFWG4	43	48	34	CTC19, G1/2
GFWG5	46.5	55.5	40	CTC19, G1/2

- T type terminal box (with light and surge suppressor) (G1/2)
GFWG*1-*-*-*^{3T}
^{3RS}



Model no.	A	B	C	D	E
GFWG3	92	60.5	40.5	66.5	28
GFWG4	96	64.5	48	74	34
GFWG5	99.5	68	55.5	81.5	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

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CHB/G

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Other G.P. systems

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CVE/CVSE

CPE/CPD

Medical analysis

Custom order

Special purpose valve for water

Direct acting 3 port solenoid valve