

Direct acting 2 port solenoid valve (general purpose valve)

AB21 Series

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

JIS symbol



Common specifications

Common specification	3						
Descriptions	AB21						
Working fluid	Air, water, oil (50 mm ² /s or less)						
Working pressure differential range MPa	0 to 1.5 (Refer to max. working pressure differential on individual specifications.)						
Max. working pressure MPa	1.5						
Withstanding pressure (water) MPa	3						
Fluid temperature °C	-10 to 40 (no freezing)						
Ambient temperature °C	-20 to 50						
Heat proof class	В						
Atmosphere	Place free of corrosive gas and explosive gas						
Valve structure	Direct acting poppet structure						
Valve seat leakage cm³/min. (ANR)	0.2 or less						
Mounting attitude	Free						

Individual specifications

a.r.aaa.op	marriada opomodiono															
Descriptions		Orifice	Мах.	worki	ng pre	essure	diff. (MPa)	Detect	Apparent power (VA)			/A)	Power consumption (W)		
	Port size	(mm)	Α	۸ir	Water, k	erosene	Oil (50	mm²/s)	Rated voltage	Hole	ding Sta		ting	AC	DO	
Model no.		(11111)	AC	DC	AC	DC	AC	DC	voltage	50Hz	60Hz	50Hz	60Hz	50/60Hz	DC	
AB21-01-1		1.5	1.5	1.0	1.5	1.0	0.9	1.0	100 VAC							
AB21-01-2	Rc1/8	2.0	1.0	0.6	1.0	0.6	0.5	0.6	50/60Hz	11				5.5/4.2		
AB21-01-3	RC1/6	3.0	0.7	0.2	0.4	0.2	0.25	0.2	110 VAC							
AB21-01-5		4.0	0.4	0.1	0.2	0.1	0.1	0.1	60Hz		9	15.4	12.6			
AB21-02-1		1.5	1.5	1.0	1.5	1.0	0.9	1.0	200 VAC	11	9	13.4	12.0	3.3/4.2	'	
AB21-02-2	Rc1/4	2.0	1.0	0.6	1.0	0.6	0.5	0.6	50/60Hz							
AB21-02-3	RC1/4	3.0	0.7	0.2	0.4	0.2	0.25	0.2	220 VAC							
AB21-02-5		4.0	0.4	0.1	0.2	0.1	0.1	0.1	60Hz						ĺ	

Flow characteristics

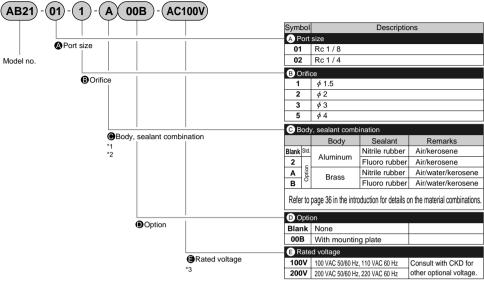
Model no.	Port size	Orifice	FI	Flow characteristics							
Woder No.	FOIT SIZE	(mm)	C[dm³/(s·bar)]	b	Cv flow factor						
NC (normally closed) type											
AB21-01-1		1.5	0.29	0.51	0.1						
AB21-01-2	Rc 1/8	2.0	0.53	0.55	0.15						
AB21-01-3	RC 1/6	3.0	1.1	0.52	0.3						
AB21-01-5		4.0	1.8	0.35	0.4						
AB21-02-1		1.5	0.29	0.51	0.1						
AB21-02-2	D- 4/4	2.0	0.53	0.55	0.15						
AB21-02-3	Rc 1/4	3.0	1.1	0.52	0.3						
AB21-02-5		4.0	1.8	0.35	0.4						

^{*1:} Effective sectional area S and sonic conductance C are converted as S \doteqdot 5.0 x C.

Other G.P systems PD/FAD/ P.J CVE/ CVSE CPE/ CPD Medical analysis Custom order

General purpose valve Direct acting 2 port solenoid valve

HNB/G



<Example of model number>

AB21-01-1-A00B-AC100V

Series: AB21

APort size : Rc1/8 Orifice : \$\phi 1.5 Body, sealant combination

: Body - brass, sealant - nitrile rubber

Option : With mounting plate

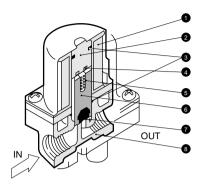
■ Rated voltage: 100 VAC 50/60 Hz, 110 VAC 60 Hz

A Note on model no. selection

- *1: For (B) 1 (orifice \$\phi 1.5), only (C) A or B can be manufactured.
- *2: When using for water, select the brass (option symbol: A or B) body. *3: Keep the voltage fluctuation to within \pm 10% of the rated voltage.

Internal structure and main parts materials

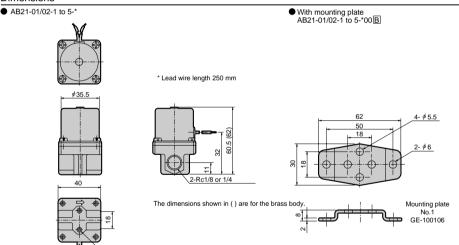
AB21 Series



2-M5 depth 8

No.	Parts name	Material
1	Coil	_
2	Core assembly	Stainless steel
3	O ring	Fluoro rubber
4	Shading coil	Copper
5	Plunger spring	Stainless steel
6	Plunger	Stainless steel
7	Sealing	Nitrile or fluoro
8	Body	Aluminum or brass

Dimensions





Discrete direct acting 2 port solenoid valve (general purpose valve)

B31/AB41 Series • NC (normally closed) type B42 Series • NO (normally open) type

Port size: Rc1/8 to Rc1/2



Refer to Ending 17 for more details.



JIS symbol



AB42: NO (normally open)



Common specifications

Descriptions	Standard specifications	Optional sp	ecifications					
Working fluid	Air/low vacuum (1.33 x 10 ² Pa (abs)), water, kerosene, oil (50mm ² /s or less)	Hot water	Steam					
Working pressure differential range MPa	0 to 5 (Refer to max. working pressure differential on individual specifications.)							
Withstanding pressure (water) MPa								
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 184					
Ambient temperature °C	-20 to 60	-20 to	100					
Heat proof class	В	H	1					
Atmosphere	Place free of corrosive	gas and explosive g	as					
Valve structure	Direct acting po	oppet structure						
Valve seat leakage cm³/min. (ANR)	0.2 or less (air)		300 or less (air)					
Mounting attitude Free								
Body/sealant	Brass, nitrile rubber	Brass, ethylene propylene diene rubber	Brass, PTFE					

Note 1: No freezina

Individual specifications

Descriptions			Max. working pressure diff. (MPa) Max. wo				Max. working	Apparent power (VA)			(VA)							
	Port size	Orifice (mm)	Α	ir	Water, hot w	ater, kerosene	Oil (50	mm²/s)	Steam	pressure	Rated voltage	Hole	ding	Star	ting	AC	DC	Mass (kg)
Model no.			AC	DC	AC	DC	AC	DC	AC	(MPa)	vollage	50Hz	60Hz	50Hz	60Hz	50/60Hz		(kg)
NC (normally	/ closed) ty															1		
AB31- 01 -1		1.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0									
2_		2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.0									
3	Rc1/8	3.0	1.0	0.5	0.7	0.5	0.5	0.5	0.7			12 1	10	17	14	5.2/3.8	11	0.35
-2 -3 -4 -5 -6	Rc1/4	3.5	0.6	0.4	0.5	0.4	0.4	0.4	0.5		100 VAC					0.270.0	(8.1)	0.00
<u>-5</u>		4.0	0.4	0.25	0.3	0.25	0.25	0.25	0.3									
		5.0	0.2	0.15	0.15	0.15	0.15	0.15	_	, 5								
AB41- 02 -1		1.5	5.0	4.0	4.5	4.0	4.0	4.0	1.0	1 when	50/60Hz							
2		2.0	3.0	2.5	2.7	2.5	2.5	2.5	1.0	\ Steam /	110 VAC							
3	Rc1/4	3.0	1.5	0.9	1.3	0.9	0.9	0.9	1.0		60Hz						ļ.,	0.43 (Rc1/4)
-2 -3 -4 -5 -6	Rc3/8	3.5	1.2	0.6	0.9	0.6	0.6	0.6	0.9									(RC1/4)
5		4.0	1.0	0.5	0.7	0.5	0.5	0.5	0.7		200 VAC 50/60Hz	18	15	29	24	6.7/5.7	(10.4)	0.45
-6		5.0	0.6	0.25	0.4	0.25	0.25	0.25	0.4		30/00112						(10.4)	(Rc3/8)
-7		7.0	0.25	0.1	0.2	0.1	0.15	0.1	0.2		220 VAC							
AB41- 03 -8	Rc3/8 Rc1/2	10.0	0.1	0.05 (0.03)	0.1	0.05 (0.03)	0.05	0.05 (0.03)	-		60Hz 12 VDC							0.54
NO (normally	y open) typ	ре									24 VDC							
AB42- 02 -1		1.5	2.0	2.0	2.0	2.0	2.0	2.0	1.0		48 VDC							
-2		2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		100 VDC							0.50
-3		3.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7	, 2							15.5	(Rc1/4)
-4	Rc1/4 Rc3/8	3.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1 when steam		22	18	35	29	8.7/6.7	(14)	
-5	Rc3/8	4.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	\ Sicaiii /								0.52 (Rc3/8)
-2 -3 -4 -5 -6		5.0	0.25	0.25	0.25	0.25	0.25	0.25	0.25									(RU3/8)
7		7.0	0.15	0.15	0.15	0.15	0.15	0.15	0.15									

^{*1:} Models above show basic port size (Rc) and orifice. See "How to order" about other combinations (for steam etc.).

^{*2:} In port size, 01 shows Rc1/8 (6A), 02 shows Rc1/4 (8A), 03 shows Rc3/8 (10A), 04 shows Rc1/2 (15A).

^{*3:} Refer to DC column for maximum working pressure differential of coil with diode. *4: Variation of rated voltage should be within ±10%.

^{*5: ()} shows the value of DIN terminal box and DC voltage specifications.

^{*6:} When using with a low vacuum, vacuum the OUT port side.

Optional specifications (fluid temperature, ambient temperature, valve seat leakage)

Sealant	Fluoro	rubber	Ethylene propyle	ene diene rubber	PTFE		
Coil (heat proof class)	В	Н	В	Н	В	Н	
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 60	-10 to 90	-10 to 60	-10 to 184	
Ambient temperature °C	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)	
Valve seat leakage cm³/min. (ANR)		0.2 or le	ess (air)		300 or I	ess (air)	

Note 1: No freezing

Note 2: The range is -20 to 80°C when using the square terminal box with light for the coil housing.

Flow characteristics

		Orifice	FI	Flow characteristics					
Model no.	Port size	(mm)	C[dm³/(s· bar)]	b	Cv flow factor				
NC (normally closed) type			//						
AB31-01-1		1.5	0.29	0.53	0.1				
-2	1	2.0	0.53	0.52	0.15				
-3	1	3.0	1.1	0.52	0.31				
-4	1		1.7	0.49	0.42				
-4	Rc 1/8	3.5	<1.5>	<0.47>	<0.40>				
-	Rc 1/4		2.1	0.48	0.54				
-5		4.0	<1.9>	<0.47>	<0.48>				
			3.0	0.42	0.8				
-6		5.0	<2.6>	<0.38>	<0.62>				
AB41-83-1		1.5	0.29	0.53	0.1				
-2		2.0	0.53	0.52	0.15				
-3	1	3.0	1.1	0.52	0.31				
	1	0.5	1.7	0.49	0.42				
-4		3.5	<1.5>	<0.47>	<0.40>				
-5	Rc 1/4	4.0	2.1	0.48	0.54				
-5	Rc 3/8	4.0	<1.9>	<0.47>	<0.48>				
-6		5.0	3.0	0.42	0.8				
-0		5.0	<2.6>	<0.38>	<0.62>				
		7.0	4.8	0.29	1.0				
-/		7.0	<4.6>	<0.37>	<0.82>				
AB44 03 0	Rc 3/8	40.0	9.3	0.36	1.88				
AB41-83-8	Rc 1/2	10.0	<8.1>	<0.31>	<1.5>				
NO (normally open) type									
AB42-83-1		1.5	0.29	0.53	0.1				
-2		2.0	0.53	0.52	0.15				
<u>-2</u> -3		3.0	1.1	0.52	0.31				
-4		3.5	1.7	0.49					
-4	Rc 1/4	3.5	<1.5>	<0.47>	0.4				
-5	Rc 3/8	4.0	2.1	0.48					
-5	KC 3/6	4.0	<1.9>	<0.47>	0.47				
-6		5.0	3.0	0.42	0.63				
-u 		5.0	<2.6>	<0.38>	<0.62>				
-7		7.0	4.8	0.29	1.0				
-1		/.0	<4.6>	<0.37>	<0.82>				

^{*1:} Effective sectional area S and sonic conductance C are converted as S \doteqdot 5.0 x C.

HNB/G USB/G

FAB/G

FGB/G

FWB/G

FLB ΑВ

AG AP/AD APK/ ADK For dry air Explosion proof HVB/ HVL

NP/NAP/ NVP CHB/G

SAB/ SVB

MXB/G Other G.P. PD/FAD/ CVE/ CVSE

CPE/ CPD Medical analysis Custom order

^{*2: &}lt; > shows values for stainless steel body.

How to order NC (normally closed) S **AB31** 02 3 BYG AC100\ DCoil housing GOther options Voltage ΔR41 Manual override (Locking) Surge suppressor Model no. AB41 Model no. Low AB31 AB4 large Symbol Descriptions Symbol Descriptions Symbol Descriptions A Port size A Port size 01 Rc 1 / 8 G 1 / 8 NPT 1 / 8 02 Rc 1 / 4 G 1 / 4 NPT 1 / 4 2G 2N 03 Rc 3 / 8 3G G3/8 3N NPT 3 / 8 04 Rc 1 / 2 4G G1/2 4N NPT 1/2 B Orifice Orifice φ 1.5 2 φ2 *δ* 3 3 4 φ 3.5 φ4 5 6 φ5 • 7 $\phi 7$ φ 10 8 C Body, sealant combination Body, Body Sealant Remarks Treat sealant combination Blank Nitrile rubber Air, water, low vacuum, kerosene (up to 60°C) Air, low vacuum, kerosene (up to 90°C *2) В Fluoro rubber *2 DTEE С Steam (up to 184°C *2) *3 ٧ Fluoro rubber Vac. Inspec. Medium vacuum *4 ח Nitrile rubber Air, water, low vacuum, kerosene (up to 60°C) *5 Stainless E Fluoro rubber • Air, low vacuum, kerosene (up to 90°C *2) steel PTFF F Steam (up to 184°C *2) w Fluoro rubber Medium vacuum • Vac. Inspec. н Nitrile rubber Air, water, low vacuum, kerosene (up to 60°C) Fluoro rubber Air, low vacuum, kerosene (up to 90°C *2) • • .1 PTFE Steam (up to 184°C *2) ĸ

Ethylene propylene diene rubbe

Ethylene propylene diene rubber

Nitrile rubber

Fluoro rubber

PTFE

<Example 1 of model number>

AB31-02-3-AC100V

Series : AB31 A Port size: Rc1/4 B Orifice : ∮3

Body, sealant combination

: Body - brass, sealant - nitrile rubber

D Coil housing: Grommet lead wire

(a) to (b) : Blank Rated voltage

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

<Example 2 of model number>

AB41-02-3-000AS-AC100V

Series: AB41 A Port size : Rc1/4

B Orifice : ∮3

Body, sealant combination

Body - brass, sealant - nitrile rubber Coil housing: Grommet lead wire

Manual override (Locking): Selected

(a) : Blank

Surge suppressor : With surge suppressor

Rated voltage

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

P

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М

N

Stainless

stee

Refer to the following page for details on the coil housing, other options and voltage, etc.

Refer to page 36 in the introduction for details on the material combinations.

Oil-prohibit

The combinations indicated with a
in the above table can be manufactured.

A Note on model no. selection

Hot water (up to 90°C *2)

Steam (up to 184°C *2)

Hot water (up to 90°C *2)

Air, water, low vacuum, kerosene (up to 60°C)

Air, low vacuum, kerosene (up to 90°C *2)

•

•

•

Note on (C)

- *1: Standard is blank, however (D), (E), (F), (G), (H) or (I) selected, complete (C) with 0.
- *2: (D): When selecting 4A, 4K, 4H
- *3: Bronze (standard) body or stainless steel (optional) for low pressure large flow rate AB41-03-8.
- *4: For option symbol V or W, the vacuum inspection is carried out at "leakage: 1.33 x 10 Pa m/s or less".
- *5: When (C) of low pressure large flow rate AB41- 03/04-8 is V or W, DC voltage is not available.
- *6: The ethylene propylene diene rubber seal combination ((C) P, R) cannot be used with air. (Compressed air contains oil, and ethylene propylene diene rubber is not oil-resistant.)

DIN terminal box

Grommet lead wire 300 mm

Open frame square terminal box
 4K, 4H (Heat proof class H)

Open frame square terminal box (IP65 or equivalent)

5K, 5H (Diode integrated)

5P, 5Q (Diode integrated)

4A (Heat proof class H) 5A (Diode integrated)

Open frame

Refer to Page 122 for Coil selection.

2E

2G

2H

3A

4A

3K 3H 4K 4H

5K 5H

3P

3Q 5P

O	9 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			•	Con	duit	a	0 0	J Rated voltage						
Des	Descriptions Blank Std Grommet lead wire			Manual override (Locking)	Mounting plate	(Marin	e cable	gland)	(Condui	t pipe)	Surge suppressor	Copper and PTFE free	Descriptions		
Blank	Std.	Gromme	t lead wire										100 VAC, 200 VAC		
2E	`		A	В						s	Р6	100 VAC, 200 VAC			
2G		DIN tern	ninal box (Pg11)	_ ^	"						"		12 VDC, 24 VDC, 48 VDC, 100 VDC		
2H		DIN termi	nal box + small light (Pg11)							Н			100 VAC, 200 VAC, 24 VDC		
3A	1	m	Lead wire						G	Н			100 VAC, 200 VAC		
3K	1	Open frame type	Square terminal box (G1/2)										12 VDC, 24 VDC, 48 VDC, 100 VDC		
3H	1	a e	Square terminal box + light (G1/2)	Α	В	D	Е	F			S	P6	P6	P6	100 VAC, 200 VAC, 24 VDC, 100 VDC
3P	1_	fa fa	Square terminal box (IP65) (G1/2)			_	_	-					100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC		
3Q	Option	0.4-	Square terminal box + light (IP65) (G1/2)										100 VAC, 200 VAC, 24 VDC, 100 VDC		
4A	ļŏ	Open frame type (Heat proof class H)	Lead wire						G	н	S				
4K		Open me typ eat pro lass H	Square terminal box (G1/2)	Α	В	D	Е	F				P6	100 VAC, 200 VAC		
4H	1	트로 ^교	Square terminal box + light(G1/2)												
5A	1	m ~	Lead wire						G	н					
5K	1	Open frame type (Diode integrated)	Square terminal box (G1/2)										<u> </u>		
5H	1	Open me tyr Diode	Square terminal box + light(G1/2)	Α	В	D	Е	F				P6	100 VAC, 200 VAC		
_5P	4	i i	Square terminal box (IP65) (G1/2)	ļ											
5Q			Square terminal box + light (IP65) (G1/2)												
										A	Refer	to the	following precautions for (D) to (J).		
Blank		ŭ,	Grommet lea	ad wire	300 mr	n			G H	ı		Fo	● Conduit ● G (CTC19) ● H (G1/2)		

A Note on model no. selection

Note on (D)

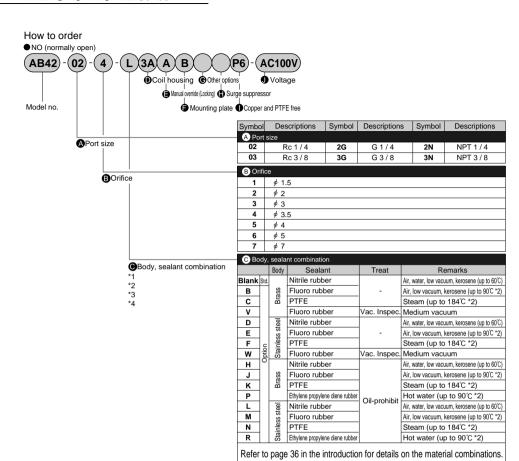
- *7: No symbol is indicated for the standard coil housing, but when using (E), (F), (G), (H) or (I), indicate 00 for (D).
- 5A, 5K, 5H, 5P and 5Q are coils which convert AC power to DC with a diode.
- A DC coil for steam is available for AB41. Contact CKD for more information.

Note on (E) to (I)

- *10: Manual override (item (E) A) is not available for low pressure large flow rate AB41-03-8.
- *11: When (C) is C, F, K, N, V, or W, manual override (item (E) A) is not available.
- *12: Select one among D, E, F, G and H for (G).
- *13: The surge suppressor is an accessory for the lead wire coil. When using the coil with terminal box, the surge suppressor is mounted in the terminal box.
- *14: Surge suppressor is incorporated in coil with diode and (D) 2H 24 VDC coil as standard.
- *15: (I) P6 is available only when (C) is L, M or R.
- *16: Tropic care treatment (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that the tropic care treatment is not available when the manual override option (A) is selected.

Note on (J)

- *17: 100 VAC coil is compatible with 100 VAC 50/60 Hz, 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz, 220 VAC 60 Hz. However, use (D) 5A, 5K, 5H, 5P, 5Q coils only for 100 VAC 50/60 Hz, 200 VAC 50/60 Hz.
- *18: Consult with CKD about other than above voltage.
- *19: The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.



<Example 1 of model number> AB42-02-1-AC100V

Series: AB42 A Port size: Rc1/4

Body, sealant combination

Body - brass, sealant - nitrile rubber

D Coil housing: Grommet lead wire

(a) to (1) : Blank Rated voltage

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

<Example 2 of model number> AB42-03-6-000AS-AC100V

Series: AB42 A Port size : Rc3/8

Body, sealant combination

Body - brass, sealant - nitrile rubber Coil housing : Grommet lead wire

Manual override (Locking) : Selected

(Blank

Surge suppressor : With surge suppressor

Rated voltage

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

D to D

Refer to the following page for details on the coil housing, other options and voltage, etc.

A Note on model no. selection

Note on (C)

- *1: Standard is blank, however (D), (E), (F), (G), (H) or (I) selected, complete (C) with 0.
- *2: (D): When selecting 4A, 4K, 4H
- *3: For option symbol V or W, the vacuum inspection is carried out at "leakage: 1.33 x 10-6Pa m3/s or less".
- *4: The ethylene propylene diene rubber seal combination ((C) P, R) cannot be used with air. (Compressed air contains oil, and ethylene propylene diene rubber is not oil-resistant.)

For (D) to (J), the combinations indicated with symbols can be manufactured. Note that if the (E) to (I) options are not required, no symbol is indicated.

D	С	oil housir	ıg	3	•	G	Other o	ptions			(1)	0	J Rated voltage		
Desc	crip	tions		Manual override (Locking)	Mounting plate	(Marin	e gland e cable A-15b	gland)	Conduit (Conduit CTC 19	pipe)	Surge suppressor	Copper and PTFE free	Descriptions		
Blank	Std.	Grommet le			100 VAC, 200 VAC										
2E		DIN termina		A	В						s	P6	100 VAC, 200 VAC		
2G		DIN termina		, ,	-						•		12 VDC, 24 VDC, 48 VDC, 100 VDC		
_2H		DIN termina	al box + small light (Pg11)							Н			100 VAC, 200 VAC, 24 VDC		
3A		ø.	Lead wire						G	Н			100 VAC, 200 VAC 12 VDC, 24 VDC, 48 VDC, 100 VDC		
3K	ڍ	e g	Square terminal box (G1/2) Square terminal box + light (G1/2)		В						s	P6	P6	P6	
3H	Option	Open frame type	Square terminal box + light (G1/2)		P	D	Е	F			"				• •
3P	0	ű.	1 / //	-									100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC 100 VAC, 200 VAC, 24 VDC, 100 VDC		
3Q 4A		- 5 e	Square terminal box + light (IP65) (G1/2) Lead wire						G	н	s		100 VAC, 200 VAC, 24 VDC, 100 VDC		
4A 4K		s typ	Square terminal box (G1/2)	A	В				G		3	Р6	400 1/40, 200 1/40		
4H		Open frame type (Heat proof class H)	Square terminal box (G1/2)	4	-	D	E	F				FO	100 VAC, 200 VAC		
5A			Lead wire						G	н					
5K		g G	Square terminal box (G1/2)	1											
5H		Open frame type (Diode integrated)	Square terminal box + light (G1/2)	4	В	_	E	_				P6	100 VAC, 200 VAC		
5P		fra Cinter	Square terminal box (IP65) (G1/2)	1		D	-	F							
5Q			Square terminal box + light (IP65) (G1/2)												
	Refer to the following precautions for (D) to (J).														
Blank	038		● Grommet lea	d wire	300 mm	n			G H	ı		5	● Conduit ● G (CTC19) ● H (G1/2)		

2E 2G DIN terminal box 2H Onen frame 3A Grommet lead wire 300 mm 4A 4A (Heat proof class H)
5A (Diode integrated) 5A



3P 3Q 5P 5Q Open frame square terminal box (IP65 or equivalent) • 5P, 5Q (Diode integrated)

Refer to Page 122 for Coil selection.

A Note on model no. selection

Note on (D)

- *5: No symbol is indicated for the standard coil housing, but when using (E), (F), (G), (H) or (I), indicate 00 for (D).
- 5A, 5K, 5H, 5P and 5Q are coils which convert AC power to DC with a diode.

Note on (E) to (I)

- When (C) is C, F, K, N, V, or W, manual override (item (E) A) is not available.
- *8: Select one among D, E, F, G and H for (G). The surge suppressor is an accessory for the lead wire coil.
- When using the coil with terminal box, the surge suppressor is *10: mounted in the terminal box.
 - Surge suppressor is incorporated in coil with diode and (D) 2H 24 VDC coil as standard.
- *11: (I) P6 is available only when (C) is L.
- *12: Tropic care treatment (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that the tropic care treatment is not available when the manual override option (A) is selected.

Note on (J)

- *13: 100 VAC coil is compatible with 100 VAC 50/60 Hz, 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz, 220 VAC 60 Hz. However, use (D) 5A, 5K, 5H, 5P, 5Q coils only for 100 VAC 50/60 Hz, 200 VAC 50/60 Hz.
- *14: Consult with CKD about other than above voltage.
- *15: The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.

HNB/G

LISR/G FAB/G

FGR/G

FWR/G

FHB FLB

ΑВ

AG

AP/AD APK/

ADK For dry air Explosion

proof HVB/ HVL SAB/ SV/R

> NP/NAP/ NVP

CHB/G

MXB/G Other G.P.

systems PD/FAD/ P.J

CVE/ CVSE CPE/

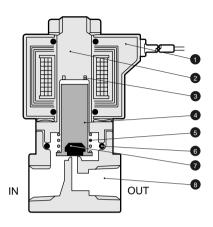
CPD Medical analysis

Custom order

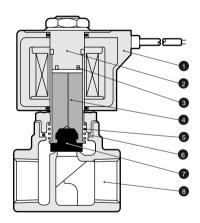
AB31/41/42 Series

Internal structure and main parts materials

- AB31 Series AB41-02/03-1 to 7



● AB41-03/04-8



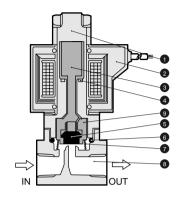
No.	Parts name	Material		No.	Parts name	Material	
1	Coil	_		5	Plunger spring	SUS304	Stainless steel
2	Core assembly	SUS405 or equivalent, 316L, 403 *1	Stainless steel	6		NBR (FKM/EPDM/PTFE) (Size: AS568-019)	NBR: Nitrile rubber
3	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)	7	Sealing	NBR (FKM/EPDM/PTFE)	EPDM: Ethylene propylene rubber PTFE: Tetrafluoroethylene resin
4	Plunger	SUS405 or equivalent	Stainless steel	8	Body	C3771 or CAC407 (SUS303)	Brass or bronze (stainless steel)

^{*1:} When the body and sealant combination symbol is no symbol or other than H, the material is SUS405 or equivalent, 316L, 430.

^{*2: ()} shows options. PTFE is not available for AB41- $\frac{0.03}{0.04}$ -8.

Internal structure and main parts materials

● AB42



No.	Parts name	Material		No.	Parts name	Material	
1	Core assembly	SUS405 or equivalent, 316L, 304	Stainless steel	6	O ring	NBR (FKM/EPDM/PTFE)	NBR: nitrile rubber (EPDM: Ethylene propylene diene rubber)
2	Coil		_	Ů	Offing	(Size: AS568-019)	(FKM: Fluoro rubber) (PTFE: Tetrafluoroethylene resin)
3	Plunger	SUS405 or equivalent	Stainless steel	7	Spring	SUS304	Stainless steel
4	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)	8	Body	C3771 (SUS303)	Brass (stainless steel)
5	Sealing	NBR (FKM/EPDM/PTFE)	NBR: Nitrile rubber (EPDM: Ethylene propylene diene rubber) (FKM: Fluoro rubber) (PTFE: Tetrafluoroethylene resin)	9	NO valve	POM (SUS303, PFA)	Option symbol * For no symbol, O, D, H, L, V or W Polyacetal resin: Other than the above Stainless steel, perfluoroalkoxy resin

() shows options.

HNB/G

USB/G

FAB/G FGB/G

FVB

FWB/G

FHB

FLB

ΑВ

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

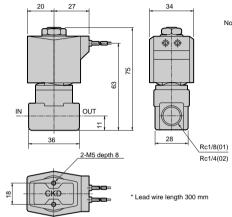
Medical analysis Custom order

AB31/41/42 Series

Dimensions: AB31 Series



 Grommet lead wire type AB31-01, 02-1 to 6



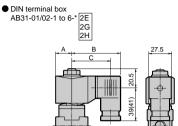
Note 1: This AB31 Series, 2 port solenoid valve, open when energized, is designed to meet the customer's requirement according to working fluid, body and seal materials, relation between flow rate and the required pressure (converted to orifice diameter and pressure), and ambient temperature and conditions (converted to coil specifications).

Note 2: The dimensions are the same for the G or NPT screw port size.

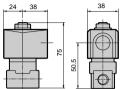
Optional dimensions: AB31 Series



* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.



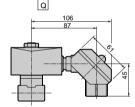
Open frame lead wire type AB31-01/02-1 to 6-* 3A 5A



Dimensions shown in () are for the G1/2.

Voltage	Α	В	С
AC	20	62	50.5 (50)
DC	21	63.5	52 (51.5)

● Open frame type + square terminal box AB31-01/02-1 to 6-* 3 K / 4K H P 4H

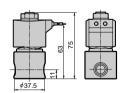


● Open frame type + conduit AB31-01/02-1 to 6-* 3A G 4A 5A Н 53 (56)

Dimensions shown in () are for the G1/2.

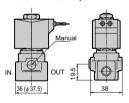
CTC19 (G1/2)

● Stainless steel body AB31-01/02-1 to 6-D, E, F, R, W, L, M, N



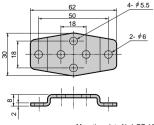
 Manual override (locking) AB31-01/02-1 to 6-*** A

The illustration shows the brass body.



Dimensions shown in () are for the stainless steel body.

 Mounting plate AB31-01/02-1 to 6-*** B



Mounting plate No1 GE-100106

FVB

FWR/G FHB

HNB/G

LISR/G

FAB/G FGB/G

FLB

ΑВ

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

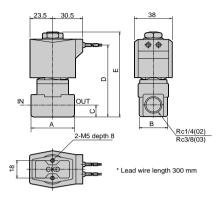
Dimensions: AB41 Series

CAD

(Page 218)

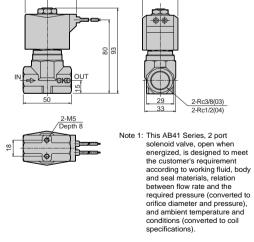
30.5

 Grommet lead wire type AB41-02/03-1 to 7



Model no.	Α	В	С	D	Е
AB41-02-1 to 6	36	28	11	68.0	80.5
AB41-02-7 -03-1 to 7	40	28	12	71.0	83.5

Grommet lead wire type AB41-03/04-8



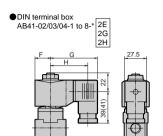
Note 2: The dimensions are the same for the G or NPT screw port size.

Optional dimensions: AB41 Series



(Page 218)

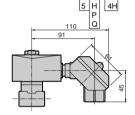
* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.



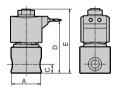
Dimensions shown in () are for the G1/2.

Voltage	F	G	Н
AC	23.5	65.5	54 (53.5)
DC	23.5	66	54.5 (54)

 Open frame type + square terminal box AB41-02/03/04-1 to 8-* 3 K / 4K



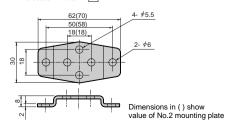
 Stainless steel body AB41-02/03/04-1 to 8- D/F/R/W/L/M/N/E



Model no.	Α	С	D	Е
AB41-02-1 to 6-*	φ37.5	11	68.0	80.5
AB41-02-7-*	<i>∲</i> 45.0	12	71.0	83.5
-03-1 to 7-*	7 40.0		71.0	00.0
AB41-03/04-8-*	50*1	15	80	93

* 1: Max. dimension is ≠54.

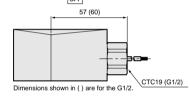
 Mounting plate AB41-02/03/04-1 to 8-*** B



Open frame lead wire type AB41-02/03/04-1 to 8-* 3A 4A 5A 46

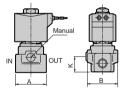
Model no.	D	Е
AB41-02-1 to 6-*☐ A	52.0	80.5
AB41-02-7-*□ A	55.0	83.5
-03-1 to 7-*□ A	55.0	83.5
AB41-03/04-8-* A	64	93

Open frame type + conduit AB41-02/03/04-1 to 8-* ЗА G 4A Н 5A



 Manual override (locking) AB41-02/03-1 to 7-*** A

The illustration shows the brass body.



Note: No manual override available for AB41-03/04-8

Model no.	Α	В	K
AB41-02-1 to 6-***A	36 (ø 37.5)	38	19.5
AB41-02-7-***A -03-1 to 7-***A	40 (¢ 45.0)	40	22.5
00 1 to 1- A			

Dimensions shown in () are for the stainless steel body.

Model no.	Model
Mounting plate No. 1	●AB41-02/03-1 to 7 Series
GE-100106	Stainless steel body AB41-02-1 to 6-D/E/F/L/M/N/R/W
Mounting plate No. 2	AB41-03/04-8 Series Stainless steel body
GE-100159	Stainless steel body AB41-02-7-D/E/F/L/M/N/R/W AB41-03-1 to 7-D/E/F/L/M/N/R/W

HNB/G LISR/G

FAB/G FGB/G

FVB

FWR/G FHB

FLB

ΑВ AG

AP/AD APK/ ADK For

dry air Explosion proof HVB/ HVL SAB/ SV/B

NP/NAP/ NVP

CHB/G MXB/G

Other G.P. systems PD/FAD/ PJ

CVE/ CVSE CPE/ CPD Medical

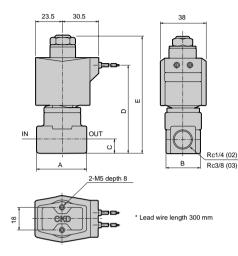
analysis Custom order

AB31/41/42 Series

Dimensions: AB42 Series



 Grommet lead wire type AB42-02/03-1 to 7



<References> 2 port direct acting valve, closed when energized, is open when de-energized. This type is commonly used to be continuously energized.

The dimensions are the same for the G or NPT screw port size.

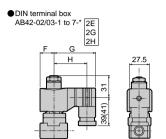
Note 1. The dimensions are the same for the G or NPT screw port size.

Model no.	Α	В	С	D	Е
AB42-02-1 to 6	36	28	11	72	94
AB42-02-7	40	28	12	75	97
AB42-03-1 to 7	40	28	12	75	97

Optional dimensions: AB42 Series



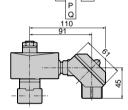
* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.



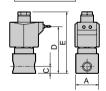
Dimensions shown in () are for the G1/2.

Voltage	F	G	Н
AC	23.5	65.5	54 (53.5)
DC	28	72	60.5 (60)

Open frame type + square terminal box AB42-02/03-1 to 7-* 3 K / 4K 5 H 4H

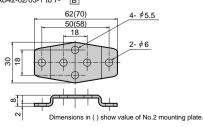


● Stainless steel body AB42-02/03-1 to 7-D/E/F/R/W/L/M/N



Model no.	Α	С	D	Е
AB42-02-1 to 6	\$ 37.5	11	72	94
AB42-02-7	φ 45.0	12	75	97
AB42-03-1 to 7	φ 45.0	12	75	97

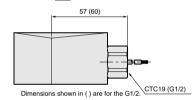
 Mounting plate AB42-02/03-1 to 7-*** B



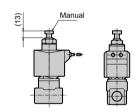
Open frame lead wire type AB42-02/03-1 to 7-* 3A 5A 28 42 46

Model no.	D	Е
AB42-02-1 to 6	56	94
AB42-02-7	59	97
AB42-03-1 to 7	59	97

Open frame type + conduit AB42-02/03-1 to 7-* 3A G 4A | H 5A



Manual override (locking) AB42-02/03-1 to 7-*** A



Code	Model
Mounting plate No. 1	●AB42-02/03-1 to 7 Series
GE-100106	Stainless steel body AB42-02-1 to 6-D/E/F/L/M/N/R/W
Mounting plate No. 2	Stainless steel body
GE-100159	AB42-02-7-D/E/F/L/M/N/R/W AB42-03-1 to 7-D/E/F/L/M/N/R/W

HNB/G LISR/G

FAB/G FGB/G

FVB

FWR/G FHB

FLB

ΑВ AG

AP/AD

APK/ ADK For dry air Explosion proof

HVB/ HVL SAB/ SV/B NP/NAP/

NVP CHB/G

MXB/G Other G.P. systems PD/FAD/

PJ CVE/ CVSE CPE/ CPD

> Medical analysis Custom order



Large bore size direct acting 2 port solenoid valve (general purpose valve)

AB71 Series

- NC (normally closed) type
- Port size: Rc1/2, Rc3/4, Rc1



JIS symbol



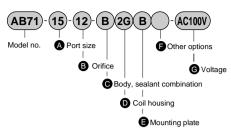
Specifications

Opoomoa	opeomodions -									
Description	S	AB71-15-12	AB71-25-18							
Working flu	id	Air, water, kerosene, oil (20 mm ² /s)								
Working pressure	Air	AC: 0 to 100, DC: 0 to 80 AC: 0 to 70, DC: 0 to 40		AC: 0 to 40, DC: 0 to 30						
range kPa	Water, kerosene, oil	AC: 0 to 80, DC: 0 to 80	AC: 0 to 50, DC: 0 to 40	AC: 0 to 30, DC: 0 to 30						
Withstanding pressu	re (water) MPa		1							
Fluid viscos	sity mm²/s		20 or less							
Fluid tempe	rature °C	-5 to 60 (no freezing)								
Ambient temp	erature °C	-10 to 60								
Valve seat leakage	cm3/min. (ANR)	0.2 or less (air)								
Port size		Rc1/2	Rc1							
Orifice	mm	12	15	18						
Mounting at	ttitude	Limited to range between vertical mounting with coil section facing upward and horizontal mounting.								
Electrical sp	ecification	าร								
Rated volta	ge	100 VAC 50/60 Hz, 200 VAC 50/60 Hz, 110 VAC 60 Hz, 220 VAC 60 Hz, 12 VDC, 24 VDC, 48 VDC, 100 VDC								
Apparent power Holo	ling (50/60 Hz)	32/26								
VA Star	ting (50/60Hz)	123/106								
Power cons	umption W	AC: 13/11 (50/60 Hz), DC: 20								

Flow characteristics

Model no.	Port size	Orifice (mm)	Flow characteristics							
	FOIT SIZE		C[dm3/(s-bar)]	b	Cv flow factor	S (mm²)				
AB71-15-12	Rc 1/2	12	15	0.21	2.8	-				
AB71-20-15	Rc 3/4	15	-	-	4.3	106				
AB71-25-18	Rc 1	18	-	-	6.3	148				

^{*1:} Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.



Symbol	Descriptions						
A Port	t size						
15	Rc1/2						
20	Rc3/4						
25	Rc1						
B Orifi	B Orifice						

B Orifi	ce
12	φ12 mm (AB71-15 (port size Rc1/2) only)
15	φ15 mm (AB71-20 (port size Rc3/4) only)
18	φ18 mm (AB71-25 (port size Rc1) only)
	•

C Body, sealant combination									
	Body	Stuffing	Sealant	Treat					
В	Bronze	Brass	Fluoro rubber	-					
J	Bronze	Brass	Fluoro rubber	Oil-prohibi					

<Example of model number>

AB71-15-12-B2EB-AC100V

Series: AB71

A Port size: Rc1/2

Body, sealant combination

Body - bronze, Stuffing - brass, Sealant - fluoro rubber

Coil housing: DIN terminal box (G1/2)

Mounting plate: Selected

Other options: Blank

@ Rated voltage: 100 VAC 50/60 Hz, 110 VAC 60 Hz

D Coil h	D Coil housing					Other o	ptions			G Rated voltage	
						Cable gland			nduit		
				Mounting	(Marine cable gland)			(Conduit pipe)			
Description	Descriptions						<u> </u>		_ · · · /	Descriptions	
				ĕ -	A-15a	A-15b	A-15c	CTC 19	G 1/2		
2C	Standard	Grommet	lead wire								
2E		DIN termi		1	В						
2G	1	DIN termi		В						100 VAC, 200 VAC	
	-			4						4	
2H		DIN termi	nal box + small light (Pg11						н		
3A	ے	A	Lead wire					G	н	100 VAC, 200 VAC	
3K	Option	Open frame type	Square terminal box (G1/2	В	D	Е	F			12 VDC, 24 VDC, 48 VDC, 100 VDC	
3H	0	177	Square terminal box + light (G1/2)	٦	-	-			100 VAC, 200 VAC, 24 VDC, 100 VDC	
5A]	Open frame	Lead wire			G H					
5K		type	Square terminal box (G1/2	В	D	E	F			100 VAC, 200 VAC	
5H		(Diode integrated)	Square terminal box + light (G1/2)	"	-	-				

Symbols on (D) to (G) show available combinations. Blank when no item selected from (E) and (F).

A Note on model no. selection

Note on (C)

*1: Refer to page 36 in the introduction for details on the material combinations.

Note on (D)

- *2: Refer to Page 122 for Coil selection.
- *3: 5A, 5K and 5H are coils which convert AC power to DC with a diode.
- *4: When working fluid is air, 5A type is recommended.
- *5: Contact CKD for more details on the heat-resistant H coil.

Note on (F)

*6: Please select one among D, E, F, G and H for (F).

Note on (G)

*7: 100 VAC coil is compatible with 100 VAC 50/60 Hz, 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz, 220 VAC 60 Hz.

However, use (D) 5A, 5K, 5H coils only for 100 VAC 50/60 Hz, 200 VAC 50/60 Hz.

*8: Consult with CKD about other than above voltage.

*9: The lead wire length is available in the standard 300 mm, and in increments of 500 mm. Contact CKD for more details. HNB/G

LISR/G FAB/G

FGB/G FVB

FWR/G

FHB

FLB

ΑВ

AG

AP/AD

APK/ ADK For

dry air Explosion proof HVB/

HVL SAB/ SV/B NP/NAP/

NVP CHB/G

MXB/G

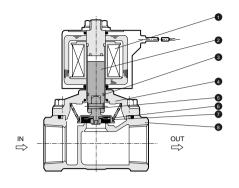
Other G.P. systems PD/FAD/ P.J

CVE/ CVSE CPE/ CPD

Medical analysis

Custom order

Internal structure and main parts materials

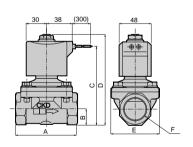


No.	Parts name	Material	
1	Coil		_
2	Plunger	SUS405	Stainless steel
3	Wearing	PTFE	Tetrafluoroethylene resin
4	Stuffing assembly	C3771	Brass
4	(Core assembly)	SUS405, Cu	Stainless steel, copper
5	Spring pin	SUS420	Stainless steel
6	Main valve	SUS304, FKM	Stainless steel, fluoro rubber
7	Main valve spring	SUS304	Stainless steel
8	Body	CAC407	Bronze

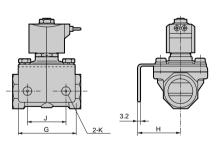
Dimensions

(Page 218)

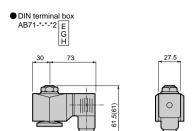
 Grommet lead wire type AB71-*-*-2C



● With mounting plate AB71-*-** B



Model no.	А	В	С	D	Е	F	G	Н	J	K
AB71-15-12	71	14.5	95	110.5	50	Rc1/2	56	45	40	φ9
AB71-20-15	80	17.5	101	116	60	Rc3/4	63	50	45	φ9
AB71-25-18	90	22.5	111	126	71	Rc1	75	56	50	<i>þ</i> 11

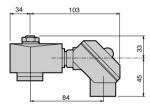


Dimensions shown in () are for the G1/2.

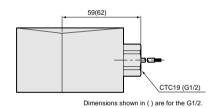
Open frame lead wire type Open frame ... AB71-*-*-* 3A 5A



Open frame + square terminal box AB71-*-*-* 3 K



● Open frame type + conduit AB71-*-*-* 3A G 5A H



HNB/G

USB/G

FAB/G FGB/G

FVB

FWB/G FHB

FLB

ΑВ

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



Direct acting 2 port solenoid valve, manifold/actuator (general purpose valve)

GAB312/GAB352/GAB412/GAB452 Series

- NC (normally closed) type
- Common supply type (C port pressurization), individual supply type (A port pressurization)

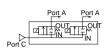


Refer to Ending 17 for more details.



JIS symbol

● GAB312/412 (Common supply/Port C pressurized)



GAB352/452 (Individual supply/Port A pressurized)



Common specifications

Descriptions	Standard specifications	Optional sp	Optional specifications				
Working fluid	Air/low vacuum (1.33 x 10 ² Pa (abs)), water, kerosene, oil (50mm ² /s or less)	Steam					
Working pressure differential range MPa	0 to 5 (Refer to max. working pressure differential on individual specifications.)						
Max. working pressure MPa	5		1				
Withstanding pressure (water) MPa	1	0					
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 184				
Ambient temperature °C	-20 to 60	100					
Heat proof class	В	1					
Atmosphere	Place free of corrosive gas and explosive gas						
Valve structure	Direct acting poppet structure						
Valve seat leakage cm³/min. (ANR)	0.2 or less (air)		300 or less (air)				
Mounting attitude	Fr	Free					
Body/sealant	Brass, nitrile rubber	Brass, ethylene propylene diene rubber	Brass, PTFE				

Note 1: No freezing

Individual specifications

	Port	Orifice	Max. working pressure diff. (MPa)							Appa	Apparent power (VA)			Power consumption (W)		
Model no.	size	(mm)	А	ir	Water, hot wa	ater, kerosene	Oil (50	mm²/s)	Steam	Rated voltage	Hole	ding	Star	ting	AC	DC
	0.20	()	AC	DC	AC	DC	AC	DC	AC		50Hz	60Hz	50Hz	60Hz	50/60Hz	
GAB312/352-1		1.5	2.5	2.5	2.5	2.5	2.5	2.5	1.0	100 VAC					5.2/3.8	
-2		2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.0	50/60Hz						
<u>-2</u> -3		3.0	1.0	0.5	0.7	0.5	0.5	0.5	0.7	110 VAC	12	10	17	14		11
-4		3.5	0.6	0.4	0.5	0.4	0.4	0.4	0.5	60Hz	12	'0	17	14		(8.1)
<u>-4</u> -5		4.0	0.4	0.25	0.3	0.25	0.25	0.25	0.3							
6		5.0	0.2	0.15	0.15	0.15	0.15	0.15	0.15	200 VAC						
GAB412/452-1		1.5	5.0	4.0	4.5	4.0	4.0	4.0	1.0	50/60Hz						
-2		2.0	3.0	2.5	2.7	2.5	2.5	2.5	1.0	220 VAC						
<u>-3</u>		3.0	1.5	0.9	1.3	0.9	0.9	0.9	1.0	60Hz						l
	_	3.5	1.2	0.6	0.9	0.6	0.6	0.6	0.9	12.VDC	18	15	29	24	6.7/5.7	(10.4)
<u>-4</u> -5		4.0	1.0	0.5	0.7	0.5	0.5	0.5	0.7	12 VDC 24 VDC 48 VDC						(10.4)
-6		5.0	0.6	0.25	0.4	0.25	0.25	0.25	0.4							
-7		7.0	0.25	0.1	0.2	0.1	0.15	0.1	0.2	100 VDC						

^{*1:} Models above shows basic orifice. See "How to order" about other combinations (for steam etc.).

^{*2:} Refer to How to order (page 150) and Dimensions (page 154) for port size.

^{*3:} Refer to DC column for maximum working pressure differential of coil with diode.

^{*4:} Variation of rated voltage should be within ±10%.
*5: () shows the value of DIN terminal box and DC voltage specifications.

^{*6:} When using with the low vacuum, vacuum the NO port side.

Optional specifications (fluid temperature, ambient temperature, valve seat leakage)

Sealant	Fluoro	rubber	Ethylene propyle	ene diene rubber	PTFE		
Coil (heat proof class)	В	Н	В	Н	В	Н	
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 60	-10 to 90	-10 to 60	-10 to 184	
Ambient temperature °C	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)	
Valve seat leakage cm³/min. (ANR)		0.2 or le	300 or less (air)				

Note 1: No freezing

Note 2: The range is -20 to 80 °C when using the square terminal box with light for the coil housing.

Flow characteristics

Model no.	Port size	Orifice	Flow characteristics					
Model no.	Port Size	(mm)	C[dm ³ /(s·bar)]	b	Cv flow factor			
GAB312-352-1		1.5	0.29	0.53	0.10			
-2		2.0	0.53	0.52	0.15			
-3		3.0	1.1	0.52	0.31			
-4	-	3.5	1.5	0.47	0.40			
-5		4.0	1.9	0.47	0.48			
-6		5.0	2.6	0.38	0.62			
GAB412-452-1		1.5	0.29	0.53	0.10			
-2		2.0	0.53	0.5	0.15			
-3		3.0	1.1	0.52	0.31			
-4	-	3.5	1.5	0.47	0.40			
-5	1	4.0	1.9	0.47	0.48			
-6		5.0	2.6	0.38	0.62			
-7		7.0	4.6	0.37	0.82			

^{*1:} Effective sectional area S and sonic conductance C are converted as S ≒5.0 x C.

HNB/G

USB/G FAB/G

FGB/G

FWB/G

FHB

FLB

ΑВ AG

AP/AD APK/ ADK For Explosion proof

HVB/ HVL SAB/ SVB NP/NAP/

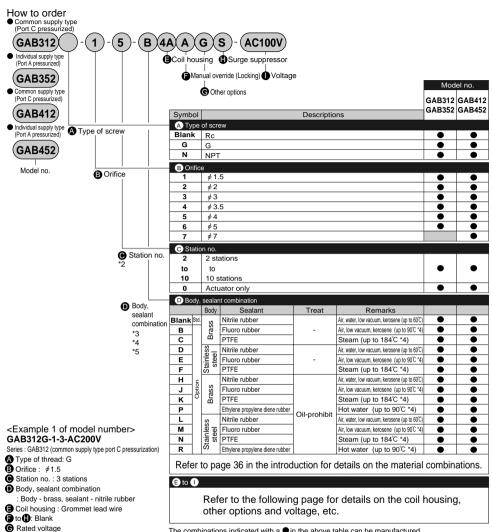
NVP CHB/G

MXB/G

Other G.P. PD/FAD/ PJ CVE/

CVSE CPE/ CPD Medical

analysis Custom order



The combinations indicated with a
in the above table can be manufactured.

: 200 VAC 50/60 Hz, 220 VAC 60 Hz <Example 2 of model number>

GAB352-5-2-000AS-AC200V

Series: GAB352 (individual supply type port A pressurization)

A Type of thread : Rc

O Station no. : 2 stations

Body, sealant combination

Body - brass, sealant - nitrile rubber Coil housing : Grommet lead wire

Manual override (locking) : Selected

(G) Other options : Blank

Surge suppressor : With surge suppressor

Rated voltage

: 200 VAC 50/60 Hz, 220 VAC 60Hz

A Note on model no. selection

*1: Discrete masking plate and sub-plate are available.

Note on (C) to (D)

- *2: Consult with CKD about more than 11 stations manifold.
- *3: Standard is blank, however (E), (F), (G) or (H) selected, complete (D) with 0.
- *4: (D): When selecting 4A, 4K, 4H
- *5: The ethylene propylene diene rubber seal combination ((D) P, R) cannot be used with air.(Compressed air contains oil, and ethylene propylene diene rubber is not oil-resistant.)

For (E) to (I), the combinations indicated with symbols can be manufactured. Note that if the (F) to (H) options are not required, no symbol is indicated.

3 C	oil	l housing		3	G (Other o	ptions	;		(1)	Rated voltage
Desc	Descriptions		Manual override (Locking)		ble gla e cable		Condu		Surge suppressor	Descriptions	
Desc	пр	Dilons		Manual (Loc	A-15a	A-15b	A-15c	CTC 19	G 1/2	Su Suppr	Descriptions
Blank	Std.	Gromme	t lead wire								100 VAC, 200 VAC
2E		DIN term	ninal box (G1/2)	A						s	100 VAC, 200 VAC
2G		DIN term	ninal box (Pg11)	_ ^						3	12 VDC, 24 VDC, 48 VDC, 100 VDC
2H		DIN term	ninal box + small light (Pg11)						Н		100 VAC, 200 VAC, 24 VDC
3A		Ф	Lead wire					G	Н		100 VAC, 200 VAC
3K		Open frame type	Square terminal box (G1/2)							12 VDC, 24 VDC, 48 VDC, 100 VDC
3H		# dA	Square terminal box + light (G1/2) A	D	Е	F			s	100 VAC, 200 VAC, 24 VDC, 100 VDC
3P	۵	g	Square terminal box (IP65 or equivalent) (G1/2			Г.				100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VDC	
3Q	Option	.	Square terminal box + light (IP65 or equivalent) (G1/2)							100 VAC, 200 VAC, 24 VDC, 100 VDC
4A	0	Open frame type (Heat proof class H)	Lead wire					G	Н	S	
4K		Open frame type (Heat proof class H)	Square terminal box (G1/2) A	D	Е	F				100 VAC, 200 VAC
4H		용물용	Square terminal box + light (G1/2)	"	_	Г				
5A		1	Lead wire					G	Н		
5K		Open frame type (Diode integrated)	Square terminal box (G1/2)							
5H		P S S S S S S S S S S S S S S S S S S S	Square terminal box + light (G1/2) A	D	Е	F				100 VAC, 200 VAC
5P		o in	Square terminal box (IP65 or equivalent) (G1/2)	"						
5Q			Square terminal box + light (IP65 or equivalent) (G1/2	ī]							
											Refer to the following precautions for (E) to (I).
Blank	2720 200		● Grommet lead wire	e 300 m	m			F	_		● Conduit ● G (CTC19) ● H (G1/2)
2E 2G 2H			DIN terminal box								
3A 4A	No.		Open frame Grommet lead wire 4 (Heat proof cla		m			A	Note	on r	nodel no. selection

Refer to Page 122 for Coil selection.

5A (Diode integrated)

Open frame square terminal box

Open frame square terminal box

4K, 4H (Heat proof class H)

5K, 5H (Diode integrated)

(IP65 or equivalent)

5P, 5Q (Diode integrated)

5A

3K

3H 4K 4H 5K 5H

3P 3Q 5P 5Q

A Note on model no. selection

- No symbol is indicated for the standard coil housing, but when using (F), (G) or (H), indicate 00 for (D).
- 5A, 5K, 5H, 5P and 5Q are coils which convert AC power to DC with a diode.
- A DC coil for steam is available for GAB4*2. Contact CKD for more information.

Note on (F) to (H)

- When (D) is C, F, K or N, manual override ((F) A) is not available.
- *10: Select one among D, E, F, G, H for (G).

manual override option (A) is selected.

- *11: The surge suppressor is an accessory for the lead wire coil. When using the coil with terminal box, the surge suppressor is mounted in the terminal box. *12: Surge suppressor is incorporated in coil with diode and (E) 2H
- 24 VDC coil as standard. *13: Tropic care treatment (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that the tropic care treatment is not available when the

Note on (I)

- *14: 100 VAC coil is compatible with 100 VAC 50/60 Hz, 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz, 220 VAC 60 Hz. However, use (E) 5A, 5K, 5H, 5P, 5Q coils only for 100 VAC 50/60 Hz, 200 VAC 50/60 Hz.
- *15: Consult with CKD about other than above voltage.
- *16: The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.

HNB/G

LISR/G FAB/G

FGR/G FVB

FWR/G FHB

FLB

ΑВ AG

AP/AD

APK/ ADK For dry air Explosion

proof HVB/ HVL SAR/ SV/R

NP/NAP/ NVP

CHB/G MXB/G

Other G.P. systems

PD/FAD/ P.J CVE/

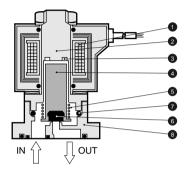
CVSE CPE/ CPD

Medical analysis Custom

order

Internal structure and main parts materials

● GAB312/GAB352/GAB412/GAB452 actuator



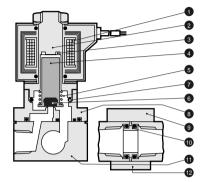
No.	Parts name	Material	
1	Coil		· —
2	Core assembly	SUS405 or equivalent, 316L, 403 *1	Stainless steel
3	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)
4	Plunger	SUS405 or equivalent	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	Sealing	NBR (FKM/EPDM/PTFE)	NBR: Nitrile rubber /FKM: Fluoro rubber
7	O ring	NRD (EKM/EDDM/DTEE)	EPDM: Ethylene propylene rubber PTFE: Tetrafluoroethylene resin
8	Body	C3771 (SCS13)	Brass (stainless steel)

^{*1:} When the body and sealant combination symbol is no symbol or other than H, the material is SUS405 or equivalent, 316L, 430.

^{*2: ()} shows options.

Internal structure and main parts materials

GAB312/GAB352/GAB412/GAB452 manifold



No.	Parts name	Material	
1	Coil	_	· —
2	Core assembly	SUS405 or equivalent, 316L, 403 *1	Stainless steel
3	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)
4	Plunger	SUS405 or equivalent	Stainless steel
5	Plunger spring	SUS304	Stainless steel
6	Sealing	NBR (FKM/EPDM/PTFE)	NBR: Nitrile rubber /FKM: Fluoro rubber
7	O ring	I NBR (FKM/FPDM/PTFF)	EPDM: Ethylene propylene rubber PTFE: Tetrafluoroethylene resin
8	Body	C3771 (SCS13)	Brass (stainless steel)
9	Holder	SPCC	Steel
10	Connector	C3604 (SUS304)	Brass (stainless steel)
11	Sub-plate	C3604 (SUS303)	Brass (stainless steel)
12	Connecting plate	SPCC	Steel

^{*1:} When the body and sealant combination symbol is no symbol or other than H, the material is SUS405 or equivalent, 316L, 430.

*2: () shows options.

HNB/G

USB/G FAB/G

FGB/G FVB

FWB/G

FHB

FLB

ΑВ

AG

AP/AD APK/ ADK For

Explosion proof HVB/ HVL SAB/

SVB NP/NAP/ NVP

CHB/G

MXB/G

Other G.P. systems PD/FAD/ PJ

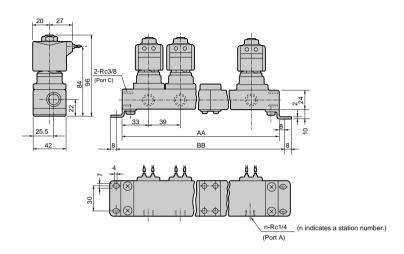
CVE/ CVSE CPE/ CPD

Medical analysis Custom order

Dimensions: GAB312/352 Series



● Manifold (grommet lead wire) GAB312/352-1 to 6-2 to 10

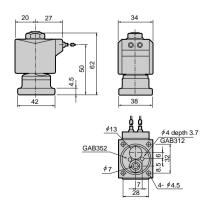


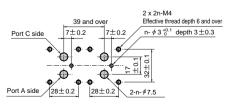
Station number	AA	BB	Manifold structure	Station number	AA	BB	Manifold structure		
2	106	122	2 stations x 1	7	329	345	5 stations + 2 stations		
3	145	161	3 stations x 1	8	368	384	5 stations + 3 stations		
4	212	228	2 stations x 2	9	435	451	3 stations x 3		
5	223	239	5 stations x 1	10	446	462	5 stations x 2		
6	290	306	3 stations x 2	Consult with CKD about more than 11 stations.					

^{*1:} Manifold structured by basic combination of 2, 3 and 5 stations.
*2: The dimensions are the same for the G or NPT thread port size.

Actuator (grommet lead wire) GAB312/352-1 to 6-0

How to mount actuator





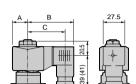
■ This machining drawing applies when using two actuators.

Optional dimensions: GAB312/352 Series



* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.





Open frame lead wire type GAB312/352-1 to 6-0 to 10-* 4A 5A

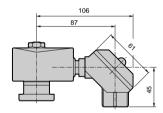




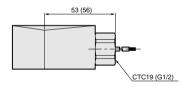
Dimensions shown in () are for the G1/2.

Voltage	Α	В	С
AC	20	62	50.5 (50)
DC	21	63.5	52 (51.5)

Open frame terminal box * 3 K /4K 5 H 4H P GAB312/352-1 to 6-0 to 10-* 4H Q

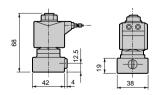


Open frame type + conduit GAB312/352-1 to 6-0 to 10-1 3A G 4A H 5A



Dimensions shown in () are for the G1/2.

 Manual override (locking) GAB312/352-1 to 6-0 to 10-*** A



CPD Medical analysis Custom order

General purpose valve Direct acting 2 port solenoid valve

HNB/G

LISR/G

FAB/G FGB/G

FVB

FWB/G

FHB FLB ΑВ

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

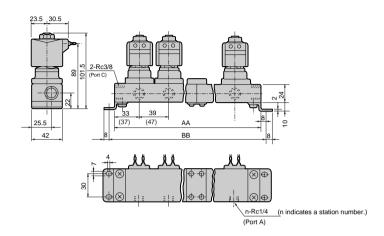
PD/FAD/ PJ

CVE/ CVSE CPE/

Dimensions: GAB412/452 Series



 Manifold (grommet lead wire) GAB412/452-1 to 7-2 to 10

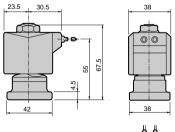


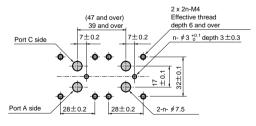
Station number	AA	BB	Manifold structure	Station number	AA	BB	Manifold structure			
2	106 (122)	122 (138)	2 stations x 1	7	329 (385)	345 (401)	5 stations + 2 stations			
3	145 (169)	161 (185)	3 stations x 1	8	368 (432)	384 (448)	5 stations + 3 stations			
4	212 (244)	228 (260)	2 stations x 2	9	435 (507)	451 (523)	3 stations x 3			
5	223 (263)	239 (279)	5 stations x 1	10	446 (526)	462 (542)	5 stations x 2			
6	290 (338)	306 (354)	3 stations x 2	Consult with CKD about more than 11 stations.						

^{*1:} Manifold structured by basic combination of 2, 3 and 5 stations.

Actuator (grommet lead wire) GAB412/452-1 to 7-0

How to mount actuator





GAB412 GAB452 8.5 F 7 4- φ4.5 28

^{*2:} Dimensions in () show open frame type.

^{*3:} The dimensions are the same for the G or NPT thread port size.

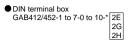
This machining drawing applies when using two actuators.

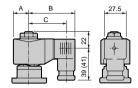
^{*} Lead wire length 300 mm

Optional dimensions: GAB412/452 Series



* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.





Open frame lead wire type GAB412/452-1 to 7-0 to 10-* ЗА 4A 5A

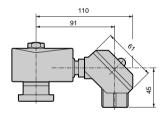




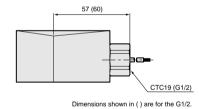
Dimensions shown in () are for the G1/2.

Model no.	Α	В	С
AC	23.5	65.5	54 (53.5)
DC	23.5	66	54.5 (54)

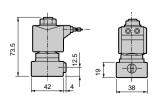
 Open frame type + square terminal box GAB412/452-1 to 7-0 to 10-* 3 K //4K 5 H 4H Ρ Q



Open frame type + conduit GAB412/452-1 to 7-0 to 10-* ЗА G 4A Н 5A



GAB412/452-1 to 7-0 to 10-*** A



Manual override (locking)

CPD Medical analysis Custom order General purpose valve Direct acting 2 port solenoid valve

HNB/G

LISR/G

FAB/G

FGB/G FVB

FWB/G

FHB FLB ΑВ

AG AP/AD APK/ ADK For dry air

Explosion

proof

HVB/

HVL SAB/

SVB NP/NAP/

NVP



Direct acting 2 port solenoid valve, manifold/actuator (general purpose valve)

GAB422 Series

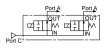
- NO (normally open) type
- Common supply type (C port pressurization)



Refer to Ending 17 for more details.



(Common supply/Port C pressurized)



Manifold circuit structure Common specifications

Descriptions	Standard specifications	Optional sp	ecifications					
Working fluid	Airllow vacuum (1.33 x 10 ² Pa (abs)), water, kerosene, oil (50mm ² /s or less)	Hot water	Steam					
Working pressure differential range MPa	0 to 2 (Refer to max. working pressure differential on individual specifications.)							
Max. working pressure MPa	2		1					
Withstanding pressure (water) MPa	10)						
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 184					
Ambient temperature °C	-20 to 60	-20 to	o 100					
Heat proof class	В	H	1					
Atmosphere	Place free of corrosive gas and explosive gas							
Valve structure	Direct acting poppet structure							
Valve seat leakage cm³/min. (ANR)	0.2 or less (air)	300 or less (air)						
Mounting attitude	Free							
Body/sealant	Brass, nitrile rubber	Brass, ethylene propylene diene rubber	Brass, PTFE					

Note 1: No freezing

Individual specifications

Descriptions	Port	Orifice		Max. w	orking/	press	ure dif	f. (MP	a)		Appa	arent p	ower	(VA)	Power consumpt	ion (W)
	size	(mm)	Α	Air		Water, hot water, kerosene Oil (50 mm²/s			Steam	Rated voltage	Holding		Starting		AC	DC
Model no.	0120	(11111)	AC	DC	AC	DC	AC	DC	AC		50Hz	60Hz	50Hz	60Hz	50/60Hz	
GAB422-1		1.5	2.0	2.0	2.0	2.0	2.0	2.0	1.0	100 VAC 50/60Hz	22 18					
GAB422-2		2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	110 VAC 60Hz 200 VAC			35	29	8.7/6.7	15.5 (14)
GAB422-3		3.0	0.7	0.7	0.7	0.7	0.7	0.7	0.7			18				
GAB422-4	_	3.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	50/60Hz 220 VAC						
GAB422-5		4.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	60Hz 12 VDC						
GAB422-6		5.0	0.25	0.25	0.25	0.25	0.25	0.25	0.25	24 VDC 48 VDC						
GAB422-7		7.0	0.15	0.15	0.15	0.15	0.15	0.15	0.15	100 VDC						

^{*1:} Models above shows basic orifice. Refer to How to order about other combinations.
*2: Refer to How to order (page 160) and Dimensions (page 164) for port size.
*3: Variation of rated voltage should be within ±10%.
*4: () shows DC DIN terminal box specifications.

^{*5:} Refer to DC column for maximum working pressure differential of coil with diode.

^{*6:} When using with a low vacuum, vacuum the OUT port side.

Optional specifications (fluid temperature, ambient temperature, valve seat leakage)

Sealant	Fluoro	rubber	Ethylene propyl	ene diene rubber	PT	FE
Coil (heat proof class)	В	Н	В	Н	В	Н
Fluid temperature (Note 1) °C	-10 to 60	-10 to 90	-10 to 60	-10 to 90	-10 to 60	-10 to 184
Ambient temperature °C	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)	-20 to 60	-20 to 100 (Note 2)
Valve seat leakage cm³/min. (ANR)		0.2 or le	ess (air)		300 or I	ess (air)

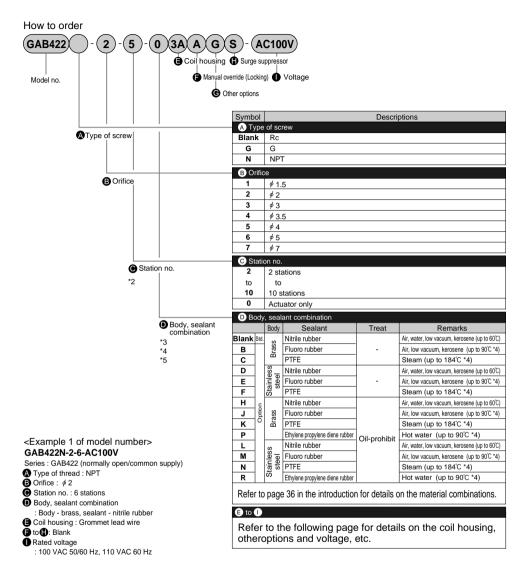
Note 1: No freezing

Note 2: The range is -20 to 80°C when using the square terminal box with light for the coil housing.

Flow characteristics

Model no.	Port size	Orifice	Flow characteristics						
Model 110.	FOIL SIZE	(mm)	C[dm3/(s·bar)]	b	Cv flow factor				
GAB422-1		1.5	0.29	0.53	0.1				
-2		2.0	0.53	0.52	0.15				
-3		3.0	1.1	0.52	0.31				
-4	-	3.5	1.5	0.47	0.40				
-5		4.0	1.9	0.47	0.47				
-6		5.0	2.6	0.38	0.62				
-7		7.0	4.6	0.37	0.82				

^{*1:} Effective sectional area S and sonic conductance C are converted as S \doteqdot 5.0 x C.



<Example 2 of model number> GAB422-3-0-000AS-AC100V

Series : GAB422 (normally open/common supply)

A Type of thread : Rc B Orifice : ∮ 3

Station no. : Actuator only

Body, sealant combination

: Body - brass, sealant - nitrile rubber Coil housing : Grommet lead wire

Manual override (locking): Selected

Other options : Blank

Surge suppressor : With surge suppressor

Rated voltage

:100 VAC 50/60 Hz. 110 VAC 60 Hz

A Note on model no. selection

*1: Discrete masking plate and sub-plate are available. Consult with CKD.

Note on (C) to (D)

- *2: Consult with CKD about more than 11 stations manifold.
- *3: Standard is blank, however (E), (F), (G) or (H) selected, complete (D) with 0.
- *4: (D): When selecting 4A, 4K, 4H
- *5: The ethylene propylene diene rubber seal combination ((D) P, R) cannot be used with air. (Compressed air contains oil, and ethylene propylene diene rubber is not oil-resistant.)

For (E) to (I), the combinations indicated with symbols can be manufactured. Note that if the (F) to (H) options are not required, no symbol is indicated.

E Coil housing						3	G (Other o	ptions	;		(1)	Rated voltage		
Descriptions			Manual override (Locking)	(Marin	ble gla e cable A-15b	gland)	Condu (Condu	it pipe)	Surge suppressor	Descriptions					
Blank	Std.	Grommet	ead wire										100 VAC, 200 VAC		
2E		DIN termin	al box	((G1/2)	A						s	100 VAC, 200 VAC		
2G		DIN termin			Pg11)	^						ľ	12 VDC, 24 VDC, 48 VDC, 100 VDC		
2H		DIN termin		,	Pg11)						Н		100 VAC, 200 VAC, 24 VDC		
3A		<u>ø</u>	Lead v							G	н		100 VAC, 200 VAC		
3K		Open frame type		e terminal box	/							_	12 VDC, 24 VDC, 48 VDC, 100 VDC		
3H		typ		erminal box + light		Α	D	E	F			S	100 VAC, 200 VAC, 24 VDC, 100 VDC		
3P	u	Ö		inal box (IP65 or equivalent)									100 VAC, 200 VAC, 12 VDC, 24 VDC, 48 VDC, 100 VE		
3Q	Option	9 5		al box + light (IP65 or equivalent)	(G1/2)					G	н	s	100 VAC, 200 VAC, 24 VDC, 100 VDC		
4A 4K	_	Open frame type (Heat proof class H)	Lead v	e terminal box	(C1/2)	A						3	400 1/40 000 1/40		
4H		pen tyl das		erminal box + light	/	^	D	E	F				100 VAC, 200 VAC		
5A		0 = -	Lead v		(01/2)					G	Н				
5K		g 3	Square terminal box (G1/2)												
5H		Square terminal box (G1/2) Square terminal box + light (G1/2) Square terminal box (P65 or equivalent) (G1/2)		/	A							100 VAC, 200 VAC			
5P		ng Co		inal box (IP65 or equivalent)	. ,		D	E	F						
5Q		·-		al box + light (IP65 or equivalent)	`										
Blank	272	Ĭ,	2	● Grommet lea	ıd wire	300 mi	m			C		Refer	to the following precautions for (E) to (I). • Conduit • G (CTC19) • H (G1/2)		
2E 2G 2H	G85 (2007)	3		● DIN terminal	box										
3A 4A 5A	NSW III		0	Open frame Grommet lea 4A (Heat pro 5A (Diode int	of clas	sH)	m			<u> </u>	Note	on r	model no. selection		
3K 3H 4K 4H 5K			-	Open frame : 4K, 4H (Heat	proof	class F				*6:	using	mbol is (F), (G)	indicated for the standard coil housing, but when or (H), indicate 00 for (D). P and 5Q are coils which convert AC power to DC		

Refer to Page 122 for Coil selection.

Open frame square terminal box

(IP65 or equivalent) 5P, 5Q (Diode integrated)

3P 3Q 5P 5Q

- *7: 5A, 5K, 5H, 5P and 5Q are coils which convert AC power to DC with a diode.

Note on (F) to (H)

- When (D) is C, F, K or N, manual override ((F) A) is not available.
- Select one among D, E, F, G, H for (G).
- *10: The surge suppressor is an accessory for the lead wire coil. When using the coil with terminal box, the surge suppressor is mounted in the terminal box. *11: Surge suppressor is incorporated in coil with diode and (E) 2H
 - 24 VDC coil as standard.
- *12: Tropic care treatment (rust-proof coating) is available as a measure against rust. Contact CKD for more information. Note that the tropic care treatment is not available when the manual override option (A) is selected.

Note on (I)

- *13: 100 VAC coil is compatible with 100 VAC 50/60 Hz, 110 VAC 60 Hz, and 200 VAC coil is compatible with 200 VAC 50/60 Hz, 220 VAC 60 Hz. However, use (E) 5A, 5K, 5H, 5P, 5Q coils only for 100 VAC 50/60 Hz. 200 VAC 50/60 Hz.
- *14: Consult with CKD about other than above voltage.
- *15: The lead wire is available in the standard 300 mm length, and 500 mm, 1000 mm, 2000 mm and 3000 mm lengths. Contact CKD for more information.

HNB/G

LISR/G FAB/G

FGR/G

FWR/G FHB

FLB

ΑВ

AG AP/AD

APK/ ADK For dry air Explosion

proof HVB/ HVL SAB/ SV/R

NP/NAP/ NVP CHB/G

MXB/G

Other G.P. systems PD/FAD/ P.J

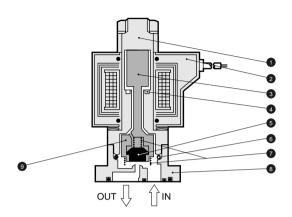
CVE/ CVSE CPE/ CPD

Medical analysis Custom

order

Internal structure and main parts materials

GAB422 actuator

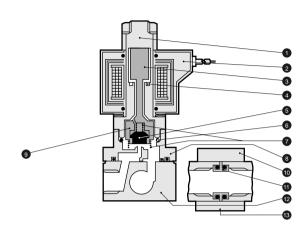


No.	Parts name	Material		No.	Parts name	Material	
1	Core assembly	SUS405 or equivalent, 316L, 304	Stainless steel	8	Body	C3771 (SCS13)	Brass (stainless steel)
2	Coil	_	¦ —	9	NO	DOM (CUICAGA DEA)	Option symbol * For no symbol, O, D, H or L
3	Plunger	SUS405 or equivalent	Stainless steel	9	NO valve	POM (SUS303, PFA)	Polyacetal resin: Other than the above Stainless steel, perfluoroalkoxy resin
4	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)				
5	Sealing	NBR (FKM/EPDM/PTFE)	NBR: Nitrile rubber FKM: Fluoro rubber				
6	O ring	NBR (FKM/EPDM/PTFE) (Size: AS568-019)	EPDM: Ethylene propylene rubber PTFE: Tetrafluoroethylene resin				
7	Spring	SUS304	Stainless steel				

() shows options.

Internal structure and main parts materials

● GAB422 manifold



No.	Parts name	Material		No.	Parts name	Material		
1	Core assembly	SUS405 or equivalent, 316L, 304	Stainless steel	8	Body	C3771 (SCS13)	Brass (stainless steel)	
2	Coil	_	¦ —	9	NO valve	POM (SUS303, PFA)	Option symbol * For no symbol, O, D, H or L	
3	Plunger	SUS405 or equivalent	Stainless steel	9	INO valve	POW (505303, PFA)	Polyacetal resin : Other than the above Stainless steel, perfluoroalkoxy resin	
4	Shading coil	Cu (Ag when stainless steel body)	Copper (Silver when stainless steel body)	10	Holder	SPCC	Steel	
5	Sealing	NBR (FKM/EPDM/PTFE)	NBR: Nitrile rubber /FKM: Fluoro rubber			C3604 (SUS304)	Brass (stainless steel)	
6	O ring	NBR (FKM/EPDM/PTFE) (Size: AS568-019)	EPDM: Ethylene propylene rubber PTFE: Tetrafluoroethylene resin	12	Sub-plate	C3604 (SUS303)	Brass (stainless steel)	
7	Spring	SUS304	Stainless steel	13	Connecting plate	SPCC	Steel	

() shows options.

HNB/G

USB/G FAB/G

FGB/G FVB

> FWB/G FHB

FLB

AG

AP/AD APK/ ADK For dry air

Explosion proof HVB/ HVL SAB/ SVB

NP/NAP/ NVP CHB/G

MXB/G Other G.P.

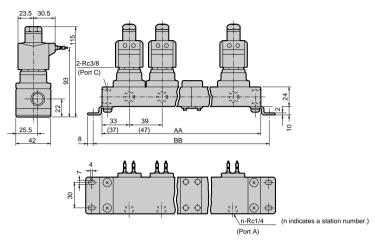
systems PD/FAD/ PJ CVE/ CVSE CPE/

CPD Medical analysis Custom order

Dimensions: Manifold

CAD (Page 218)

● Grommet lead wire type GAB422-1 to 7-2 to 10



Station number	AA	ВВ	Manifold structure	Station number	AA	ВВ	Manifold structure
2	106 (122)	122 (138)	2 stations x 1	7	329 (385)	345 (401)	5 stations + 2 stations
3	145 (169)	161 (185)	3 stations x 1	8	368 (432)	384 (448)	5 stations + 3 stations
4	212 (244)	228 (260)	2 stations x 2	9	435 (507)	451 (523)	3 stations x 3
5	223 (263)	239 (279)	5 stations x 1	10	446 (526)	462 (542)	5 stations x 2
6	290 (338)	306 (354)	3 stations x 2	Consult with CKD about more than 11 stations.			

- *1: Manifold structured by basic combination of 2, 3 and 5 stations.
- *2: Dimensions in () show open frame type.
- *3: When GAB422 DIN terminal box and DC voltage, apply open frame dimensions.
- *4: The dimensions are the same for the G or NPT thread port size.

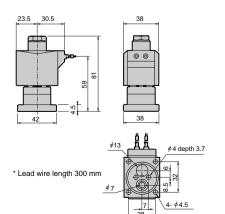
Dimensions: Actuator

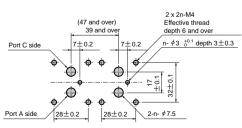


(Page 218)

●Grommet lead wire type GAB422-1 to 7-0

■ How to mount actuator





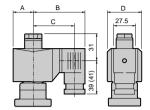
This machining drawing applies when using two actuators.

Optional dimensions



* Refer to the grommet lead wire type dimensions on the left page for the common dimensions.





Open frame lead wire type GAB422-1 to 7-0 to 10-* 4A 5A

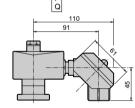




Dimensions shown in () are for the G1/2.

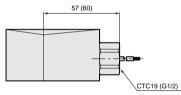
Voltage	Α	В	С	D
AC	23.5	65.5	54 (53.5)	38
DC	28	72	60.5 (60)	46

Open frame type + square terminal box GAB422-1 to 7-0 to 10-* 3 K / 4K 5 H 4H



Р

Open frame type + conduit GAB422-1 to 7-0 to 10-* 3A G 4A Н 5A



Dimensions shown in () are for the G1/2.

Manual override (locking) GAB422-1 to 7-0 to 10-*** A

