

Modular coolant valve
GCVE2 Series (air operated)
GCVSE2 Series (with solenoid valve)



Low pressure loss, large flow rate and space saving

OUT port available from 15 A to 40 A

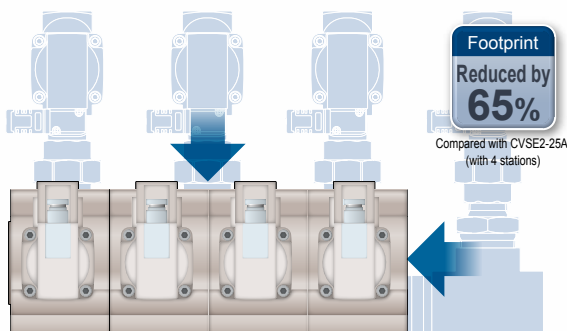


■ Piping work-hour reduction

No need to install tees, nipples and unions

■ Compact and space saving

Manifold body functions as header



■ Easy to expand stations

Module connection can be made using one allen wrench (Max. 5 stations)

■ Reduced pressure loss

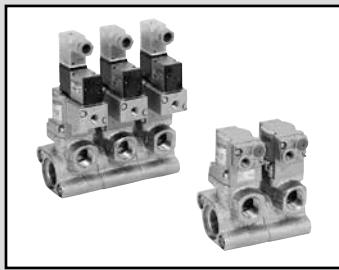
Flow structure to reduce pressure loss

■ Medium pressure of 1.6 MPa (up to 25 A)

0.5, 1.0 and 1.6 MPa specifications available

■ Ensures safe handling

Equipped with eyebolt mounting holes (L20A to 40A)



Modular coolant valve

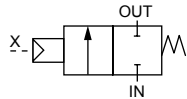
GCVE2/GCVSE2 Series

- NC (normally closed), NO (normally open)
- Port size: Rc1/2, Rc3/4, Rc1, Rc1 1/4, Rc1 1/2 (OUT port)
- Low pressure 0.5 MPa, 1.0 MPa, Medium pressure 1.6 MPa

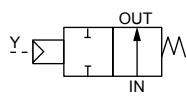


JIS symbol

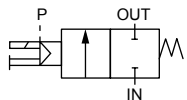
- GCVE2 (air operated)
: NC



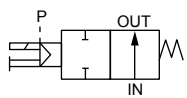
- GCVE22 (air operated)
: NO



- GCVSE2 (with solenoid valve)
: NC



- GCVSE22 (with solenoid valve)
: NO



Specifications

Model No.	0.5 MPa		1.0 MPa		1.6 MPa	
	GCVE2/GCVSE2	GCVE22/GCVSE22	GCVE2/GCVSE2	GCVE22/GCVSE22	GCVE2/GCVSE2	GCVE22/GCVSE22
Actuation	NC (normally closed)	NO (normally open)	NC (normally closed)	NO (normally open)	NC (normally closed)	NO (normally open)
Working fluid	Coolant/other non-corrosive liquids (*1)					
Fluid viscosity mm ² /s	500 or less					
Working pressure MPa	0 to 0.5		0 to 1.0		0 to 1.6	
Proof pressure (water pressure) MPa	2.0		2.0		6.0	
Fluid temperature °C	-10 to 60 (no freezing)					
Ambient temperature °C	-5 to 50					
Valve seat leakage cm ³ /min	20 or less (water pressure)					
Mounting orientation	Unrestricted					
Pilot fluid	Air					
Pilot pressure MPa	0.25 to 0.7					

*1: Fluids that do not affect cast iron (nickel plating), stainless steel, nitrile rubber or fluoro rubber, and epoxy resin adhesive

Electrical specification (with solenoid valve/common specifications)

Rated voltage		100 VAC(50/60 Hz)/110 VAC(60 Hz), 200 VAC(50/60 Hz)/220 VAC(60 Hz), 24 VDC	
Starting current (A)		100 VAC: 0.068/0.054, 200 VAC: 0.034/0.027, 24 VDC: -	
Holding current (A)		100 VAC: 0.041/0.032, 200 VAC: 0.021/0.016, 25 VDC: 0.075	
Power consumption (W)	AC	2.2 (50 Hz), 1.8 (60 Hz) <With indicator lamp> 2.4 (50 Hz), 2.0 (60 Hz)	
	DC	1.8 <With indicator lamp> 2.0	
Thermal class		Class 130 (B)	
Degree of protection (IEC standards 529)		IPX5	

*2: The voltage fluctuation range must be within ±10% of the rated voltage.

Individual specifications for 0.5 MPa

Item	Port size		Orifice size (mm)	Cv	Pilot port size	Weight (kg) *3	
	OUT port	IN port				GCVE2 (2)	GCVSE2 (2)
GCVE2 (2)/GCVSE2 (2) -[Station No.] -15A-05	Rc1/2	Rc3/4	14	5	Rc1/8	1.0	1.2
GCVE2 (2)/GCVSE2 (2) -[Station No.] -20A-05	Rc3/4	Rc1	19	10		1.5	1.7
GCVE2 (2)/GCVSE2 (2) -[Station No.] -L20A-05	Rc3/4	Rc1 1/2	24	13		3.7	3.9
GCVE2 (2)/GCVSE2 (2) -[Station No.] -25A-05	Rc1			16			
GCVE2 (2)/GCVSE2 (2) -[Station No.] -32A-05	Rc1 1/4	Rc2	40	31		5.7	5.9
GCVE2 (2)/GCVSE2 (2) -[Station No.] -40A-05	Rc1 1/2			37			

Individual specifications for 1.0 MPa

Item	Port size		Orifice size (mm)	Cv	Pilot port size	Weight (kg) *3	
	OUT port	IN port				GCVE2 (2)	GCVSE2 (2)
GCVE2 (2)/GCVSE2 (2) -[Station No.] -15A-10	Rc1/2	Rc3/4	10	3.5	Rc1/8	1.0	1.2
GCVE2 (2)/GCVSE2 (2) -[Station No.] -20A-10	Rc3/4	Rc1	14	6.5		1.5	1.7
GCVE2 (2)/GCVSE2 (2) -[Station No.] -L20A-10	Rc3/4	Rc1 1/2	17	9		3.7	3.9
GCVE2 (2)/GCVSE2 (2) -[Station No.] -25A-10	Rc1			10			
GCVE2 (2)/GCVSE2 (2) -[Station No.] -32A-10	Rc1 1/4	Rc2	29	23		5.7	5.9
GCVE2 (2)/GCVSE2 (2) -[Station No.] -40A-10	Rc1 1/2			25			

Individual specifications for 1.6 MPa

Item	Port size		Orifice size (mm)	Cv	Pilot port size	Weight (kg) *3	
	OUT port	IN port				GCVE2 (2)	GCVSE2 (2)
GCVE2 (2)/GCVSE2 (2) -[Station No.] -15A-16	Rc1/2	Rc3/4	7	1.7	Rc1/8	1.0	1.2
GCVE2 (2)/GCVSE2 (2) -[Station No.] -20A-16	Rc3/4	Rc1	10.5	4		1.5	1.7
GCVE2 (2)/GCVSE2 (2) -[Station No.] -L20A-16	Rc3/4	Rc1 1/2	13	6		3.7	3.9
GCVE2 (2)/GCVSE2 (2) -[Station No.] -25A-16	Rc1			6			

*3: Weight for 1 station. Multiply the weight times the station No. to calculate the total weight of modules.

How to order

- Air operated

GCVE2 2 - 2 - 15A - 05 - 0

- With solenoid valve

GCVSE2 2 - 5 - 20A - 10 - 0 2H S - 1

*1

A Actuation

*2

B Module station No.

*3

C Port size (OUT port size)

*4

D Working pressure

*5*6

E Body/sealant combination

F Coil

*7*8

G Other options

*9

*10

*11

H Voltage

Model No.

GCVE2 GCVSE2

A Actuation

Blank	NC (normally closed)	●	●
2	NO (normally open)	●	●

B Module station No.

A	1-station Thread	●	●
B	1-station Through hole	●	●
2	2 stations	●	●
3	3 stations	●	●
4	4 stations	●	●
5	5 stations	●	●

C Port size (OUT port size)

15A	Rc1/2 (IN port: Rc3/4)	●	●
20A	Rc3/4 (IN port: Rc1)	●	●
L20A	Rc3/4 (IN port: Rc1 1/2)	●	●
25A	Rc1 (IN port: Rc1 1/2)	●	●
32A	Rc1 1/4 (IN port: Rc2)	●	●
40A	Rc1 1/2 (IN port: Rc2)	●	●

D Working pressure

05	0 to 0.5 MPa	●	●
10	0 to 1.0 MPa	●	●
16	0 to 1.6 MPa	●	●

E Body/sealant combination

		Body	Seal		
O	Standard	Cast iron (plating)	Nitrile rubber	●	●
B	Option	Cast iron (plating)	Fluoro rubber	●	●

F Coil

2G	With DIN terminal box (Pg9)		●
2H	DIN terminal box with lamp (Pg9)		●
2J	With DIN terminal box (M12-4P connector)		●
2K	DIN terminal box with lamp (M12-4P connector)		●

G Other options

Blank	No option	●	●
S	With surge suppressor		●
B	With mounting plate	●	●

H Voltage

1	100 VAC (50/60 Hz) 110 VAC (60 Hz)		●
2	200 VAC (50/60 Hz) 220 VAC (60 Hz)		●
3	24 VDC		●

- In regard to expansion
For expansion, select
B: Through hole.
Connection parts are sold
separately.
Refer to page 3.

[Example of model No.]

GCVSE22-5-20A-10-02HS-1

Model: GCVSE2 : With solenoid valve

- A** Actuation : NO (normally open)
- B** Module station No. : 5 stations
- C** Port size : Rc3/4 (OUT port)
- D** Working pressure : 0 to 1.0 MPa
- E** Body/sealant combination : Body - cast iron (plating),
sealant - nitrile rubber
- F** Coil : DIN terminal box with lamp (Pg9)
- G** Other options : With surge suppressor
- H** Voltage : 100 VAC (50/60 Hz) ,
110 VAC (60 Hz)

*1: Combining GCVE2 and GCVSE2 modules can be made to order. Contact CKD for details.

*2: Mixed modules with different actuation (Item **A**) can be made to order. Contact CKD for details.

*3: The max. station No. is 5.

*4: Mixed modules with different port sizes (Item **C**) can be made to order. Contact CKD for details.

*5: Combining modules with different working pressure (Item **D**) is not possible due to the limits of the structure.

*6: 0 to 1.6 MPa (Item **D**, 16) is not available for port size 32A or 40A.

*7: Surge suppressor is not available for coil 2J (Item **F**).

*8: Coil 2K (Item **F**) is available only for the type with surge suppressor and should be specified as 2KS.

*9: Surge suppressor of coil 2G (Item **F**) is included externally. (2H is integrated.)

*10: The mounting plate (Item **G**, B) is supplied and can be assembled to port size 15A or 20A only. Mounting plate is included.

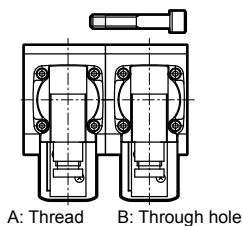
*11: To add both the surge suppressor and mounting plate options, specify Item **G** as SB.

GCVE2/GCVSE2 Series

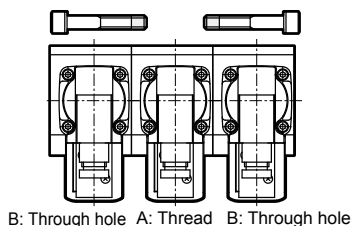
● Module configuration

- Modules are sealed with connection O-rings and fixed with hexagon socket head cap screws.
Two types of body shape are available: A (thread) and B (through hole).
See the configurations by station No. as below.

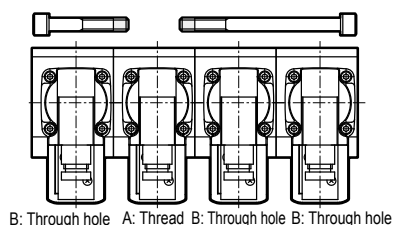
2 stations



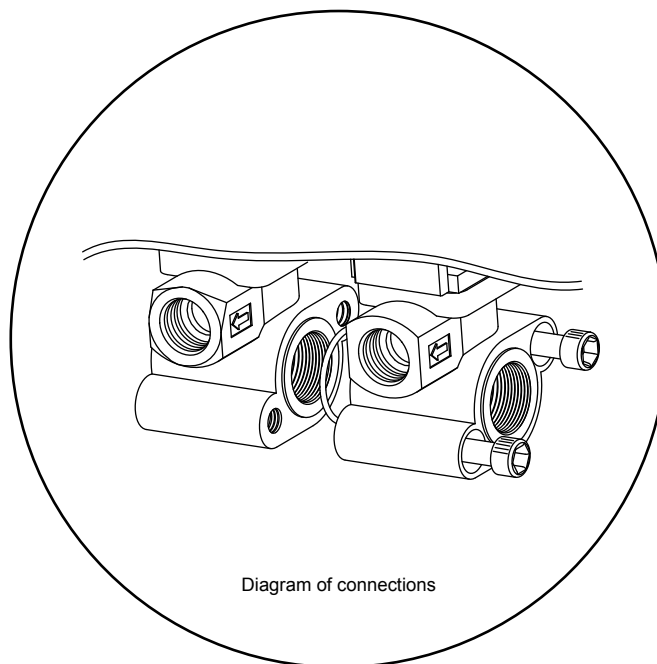
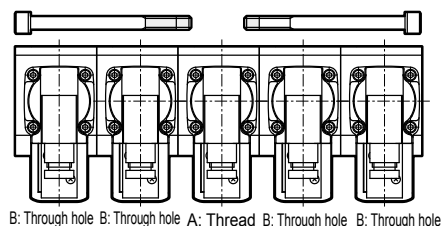
3 stations



4 stations



5 stations



● Connection parts

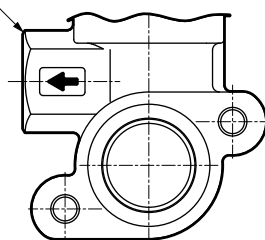
Order Model No.	Description			Order Model No.	Description		
	Bolt size	Washer size	O-ring material / quantity		Bolt size	Washer size	O-ring material / quantity
GCVE2-15A-50-0-JOINT-KIT	M8×50	M8	Nitrile rubber/1 pc.	GCVE2-25A-85-0-JOINT-KIT	M12×85	M12	Nitrile rubber/1 pc.
GCVE2-20A-60-0-JOINT-KIT	M8×60	M8	Nitrile rubber/1 pc.	GCVE2-40A-110-0-JOINT-KIT	M12×110	M12	Nitrile rubber/1 pc.
GCVE2-15A-50-B-JOINT-KIT	M8×50	M8	Fluoro rubber/1 pc.	GCVE2-25A-85-B-JOINT-KIT	M12×85	M12	Fluoro rubber/1 pc.
GCVE2-20A-60-B-JOINT-KIT	M8×60	M8	Fluoro rubber/1 pc.	GCVE2-40A-110-B-JOINT-KIT	M12×110	M12	Fluoro rubber/1 pc.
GCVE2-15A-100-0-JOINT-KIT	M8×100	M8	Nitrile rubber/2 pcs.	GCVE2-25A-170-0-JOINT-KIT	M12×170	M12	Nitrile rubber/2 pcs.
GCVE2-20A-120-0-JOINT-KIT	M8×120	M8	Nitrile rubber/2 pcs.	GCVE2-40A-220-0-JOINT-KIT	M12×220	M12	Nitrile rubber/2 pcs.
GCVE2-15A-100-B-JOINT-KIT	M8×100	M8	Fluoro rubber/2 pcs.	GCVE2-25A-170-B-JOINT-KIT	M12×170	M12	Fluoro rubber/2 pcs.
GCVE2-20A-120-B-JOINT-KIT	M8×120	M8	Fluoro rubber/2 pcs.	GCVE2-40A-220-B-JOINT-KIT	M12×220	M12	Fluoro rubber/2 pcs.

*Bolts and washers come in pairs of 2.

■ How to identify type A (screw) and type B (through hole)

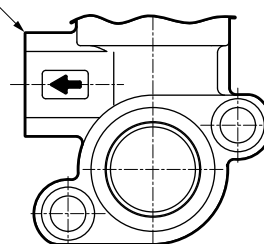
- OUT port thread part shapes are different.

Chamfered



A: Thread

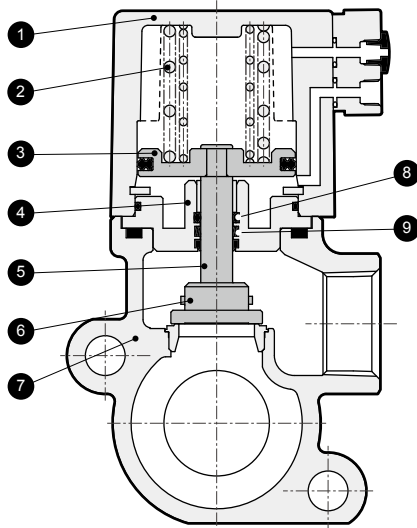
Non-chamfered



B: Through hole

Internal structure and parts list

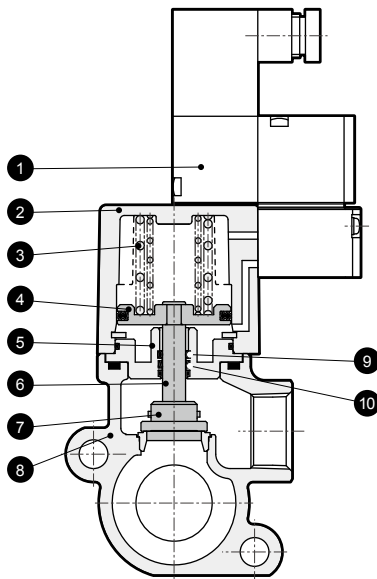
● GCVE2-station No.-bore size-05/10/16



GCVE2

No.	Part name	Material	
1	Cylinder guard	ADC12	Aluminum die-casting
2	Spring	SWP	Piano wire
3	Piston	A2017	Aluminum
4	Adapter	SUS303	Stainless steel
5	Piston rod	SUS304	Stainless steel
6	Main valving element	SUS420J2	Stainless steel
7	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
8	O-ring	NBR (FKM)	Nitrile rubber (Fluoro rubber)
9	Rod packing	NBR (FKM)	Nitrile rubber (Fluoro rubber)

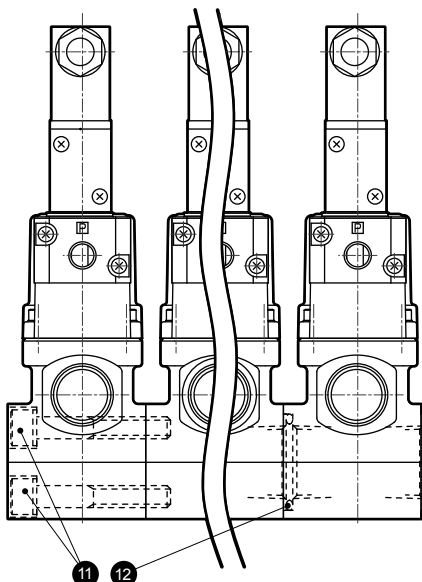
● GCVE2-station No.-bore size-05/10/16



GCVSE2

No.	Part name	Material	
1	Pilot solenoid valve	-	
2	Cylinder guard	ADC12	Aluminum die-casting
3	Spring	SWP	Piano wire
4	Piston	A2017	Aluminum
5	Adapter	SUS303	Stainless steel
6	Piston rod	SUS304	Stainless steel
7	Main valving element	SUS420J2	Stainless steel
8	Body	FCD450	Cast iron (plating)
	Valve seat	SUS420J2	Stainless steel
9	O-ring	NBR (FKM)	Nitrile rubber (Fluoro rubber)
10	Rod packing	NBR (FKM)	Nitrile rubber (Fluoro rubber)
11	Hexagon socket head cap screw	SCM435	Iron
12	O-ring	NBR (FKM)	Nitrile rubber (Fluoro rubber)

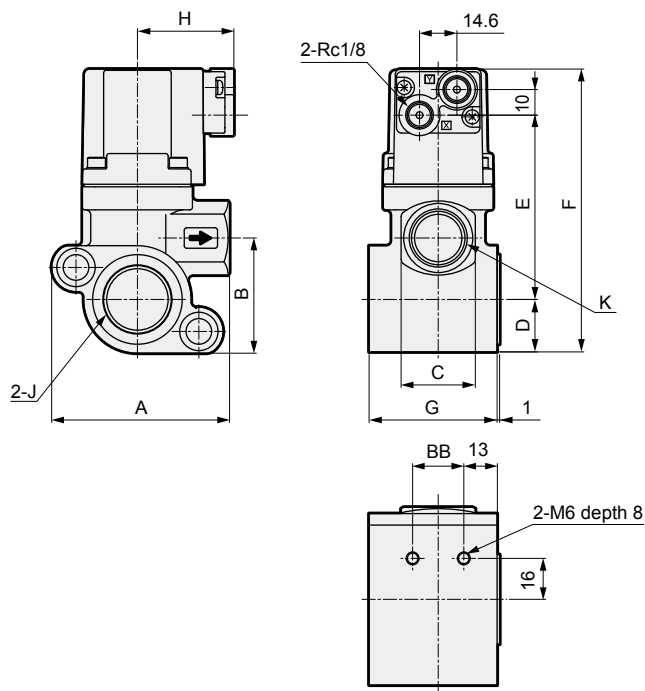
● Modules



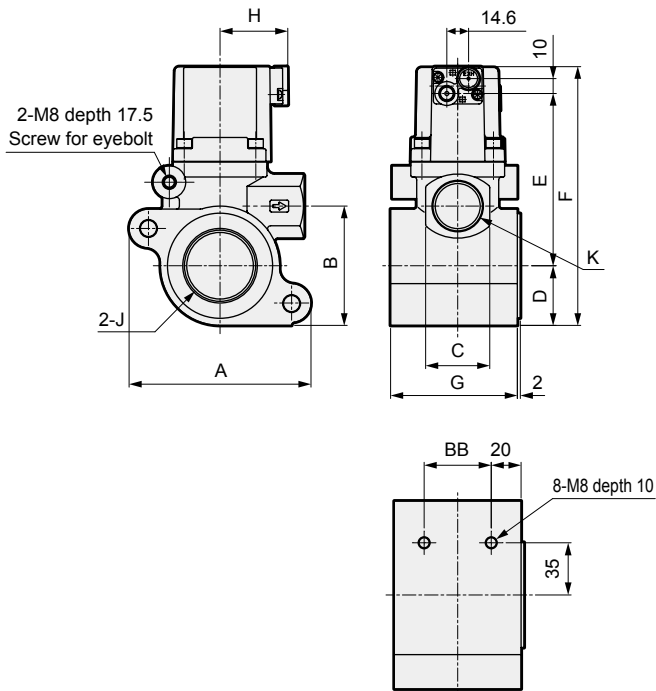
GCVE2/GCVSE2 Series

Dimensions

● GCVE2/GCVE22-15A/20A



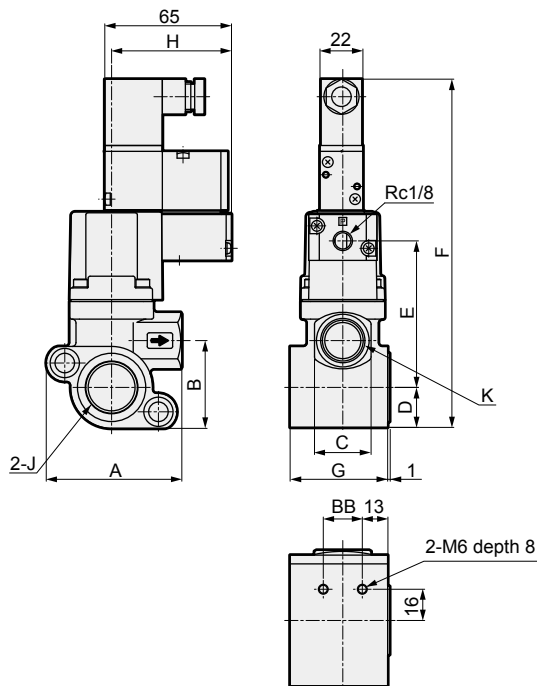
● GCVE2/GCVE22-L20A to 40A



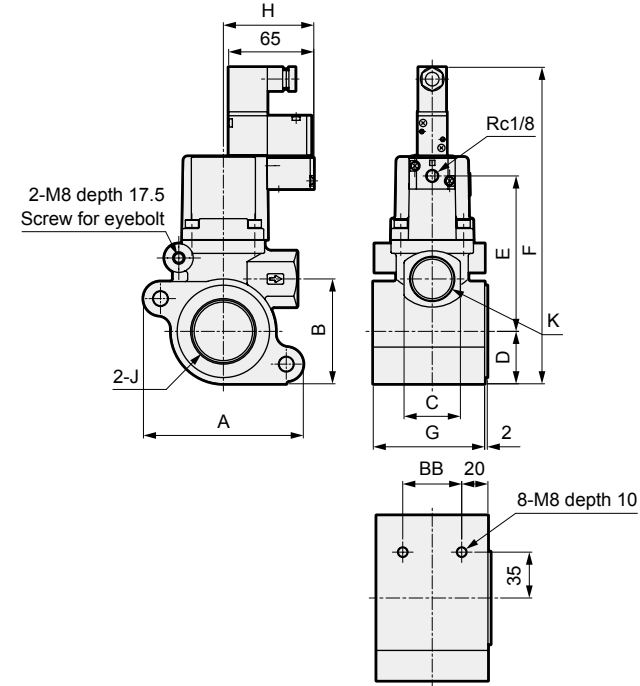
* Pilot pressurization port is port X for NC and port Y for NO.

Model No.	A	B	C	D	E	F	G	H	J	K	BB
GCVE2 (2) -15A-05/10/16	69.5	44.5	29	20.5	72	110.5	50	38	Rc3/4	Rc1/2	20
GCVE2 (2) -20A-05/10/16	78.5	50	35	25	85.5	128.5	60	41.5	Rc1	Rc3/4	30
GCVE2 (2) -L20A-05/10/16	122	80	43	40	115	173.5	85	45	Rc1 1/2	Rc3/4	45
GCVE2 (2) -25A-05/10/16										Rc1	
GCVE2 (2) -32A-05/10	122	80	61	40	159	217	105	61	Rc2	Rc1 1/4	60
GCVE2 (2) -40A-05/10										Rc1 1/2	

● GCVSE2/GCVSE22-15A/20A



● GCVSE2/GCVSE22-L20A to 40A

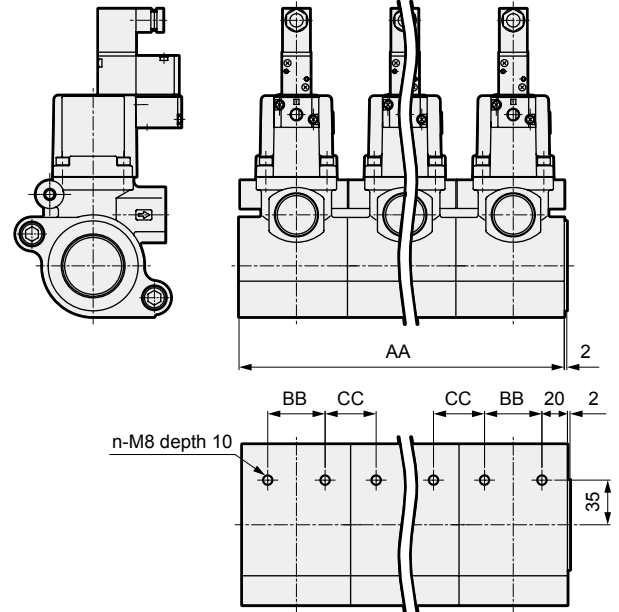
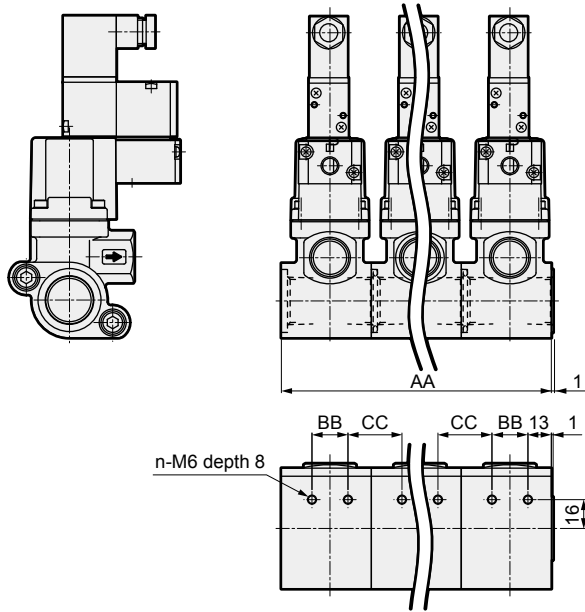


Model No.	A	B	C	D	E	F	G	H	J	K	BB
GCVSE2 (2) -15A-05/10/16	69.5	44.5	29	20.5	75	179	50	62	Rc3/4	Rc1/2	20
GCVSE2 (2) -20A-05/10/16	78.5	50	35	25	89	197	60	65	Rc1	Rc3/4	30
GCVSE2 (2) -L20A-05/10/16	122	80	43	40	119	242	85	69	Rc1 1/2	Rc3/4	45
GCVSE2 (2) -25A-05/10/16										Rc1	
GCVSE2 (2) -32A-05/10	122	80	61	40	162	285	105	84	Rc2	Rc1 1/4	60
GCVSE2 (2) -40A-05/10										Rc1 1/2	

Dimensions

- Modules
- GCVSE2/GCVSE22-15A/20A

- GCVSE2/GCVSE22-L20A to 40A



*1: Refer to page 3 for module configuration.

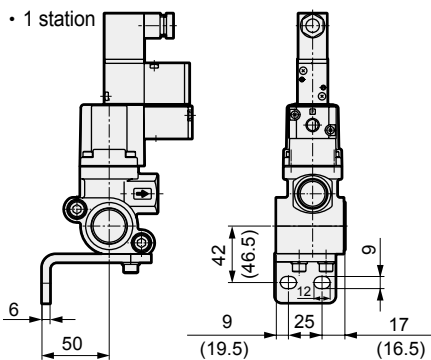
Station No.	AA				BB				CC			n	Module configuration *1
	15A	20A	L20A/25A	32A/40A	15A	20A	L20A/25A	32A/40A	15A/20A	L20A/25A	32A/40A		
Single unit	50	60	85	105	20	30	45	60	30	40	45	2	A
2 stations	100	120	170	210	20	30	45	60	30	40	45	4	A+B
3 stations	150	180	255	315	20	30	45	60	30	40	45	6	B+A+B
4 stations	200	240	340	420	20	30	45	60	30	40	45	8	B+A+B+B
5 stations	250	300	425	525	20	30	45	60	30	40	45	10	B+B+A+B+B

Optional dimensions

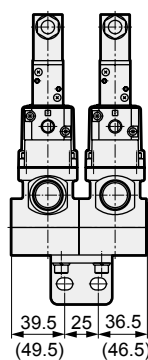
- Mounting plate
- GCVE2/GCVE22 -15A/20A-**B
- GCVSE2/GCVSE22

Material: Steel
Zinc plated

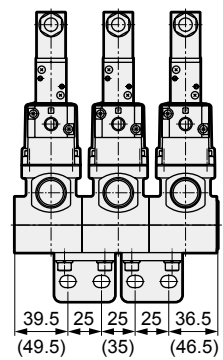
• 1 station



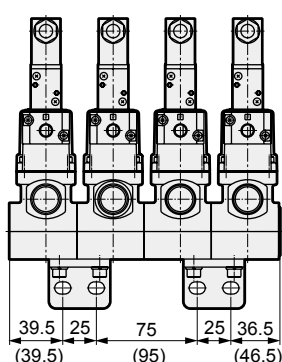
• 2 stations



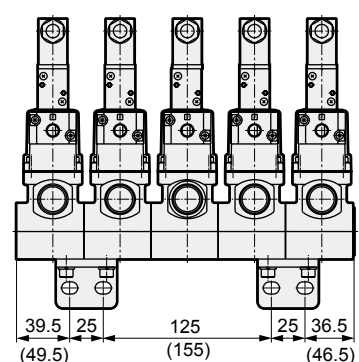
• 3 stations



• 4 stations



• 5 stations

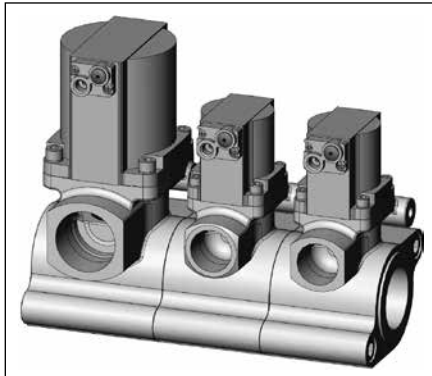


* Dimensions shown in () are for OUT port size 20A.

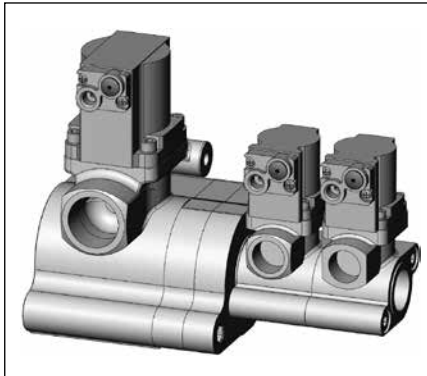
Made-to-order product

*Contact CKD for information on mixed module specifications, etc.

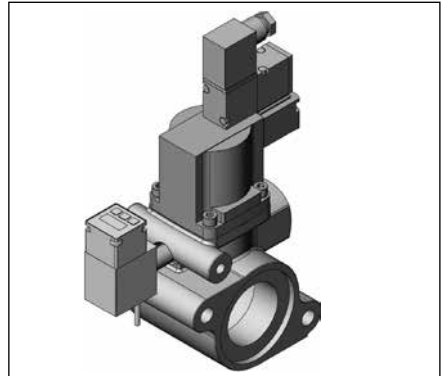
Mixed modules (L20A to 40A)



Mixed modules (attachment connection)



Pressure SW (CPD) assembly



Safety precautions

Fluid Control Components: Warnings and Cautions

Always read the handling precautions and the latest "General Purpose Valves (Catalog No. CB-03-1SA)" before use.

Product-specific cautions: Modular coolant valve (GCVE2/GCVSE2)

Mounting, installation and adjustment

1. Piping

⚠ CAUTION

- Do not support the valve body only with piping.
Use the mounting screws on the lower part of the body to fix it to the equipment.
- Select the tightening torque shown in the table before when tightening the fixing hexagon socket head cap screws to add/remove valves.
Make sure that the O-ring is fixed in position and the spigot is securely engaged before tightening additional valves.
After assembling, check for leakage from the connection parts before use.

Hexagon socket head cap screw for fixing	Recommended tightening torque
M8	30 to 36 N · m
M12	43 to 52 N · m

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CKD Corporation

<Website>

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Head Office • Plant
Sales And Marketing Div.
Overseas Sales Administration dpt.
East Japan Branch
2-250, Uji, Komaki, Aichi 485-8551
2-250, Uji, Komaki, Aichi 485-8551
2-250, Uji, Komaki, Aichi 485-8551
4F, Bunkahousou Media Plus, 1-31-1, Hamamatsu-cho,
Minato-ku, Tokyo 105-0013
Central Japan Branch
West Japan Branch
2-250, Uji, Komaki, Aichi 485-8551
1-3-20, Tosabori, Nishi-ku, Osaka 550-0001

TEL(0568)77-1111 FAX(0568)77-1123
TEL(0568)74-1303 FAX(0568)77-3410
TEL(0568)77-1338 FAX(0568)77-3461
TEL(03)5402-3620 FAX(03)5402-0120
TEL(0568)74-1356 FAX(0568)75-1692
TEL(06)6459-5770 FAX(06)6446-1945