CKD

SM－315295－A

INSTRUCTION MANUAL

CHECK VALVE

CHV2

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

CKD Corporation

For Safety Use

To use this product safety, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (ISO 4414 *1 JIS B 8370 *2).
We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your application, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents **read this operation manual carefully for proper operation**.

Observe the cautions on handling described in this manual, as well as the following instructions:
Additionally, the caution is classified into the following three groups, “CAUTION”, “WARNING”, and “DANGER”, to identify the degree of the danger it presents and possible hazard.

⚠ DANGER : Failure to pay attention to DANGER notices may cause a situation that results in a fatality or serious injury and that requires urgent addressing.

⚠ WARNING : Failure to pay attention to WARNING notices may result in a fatality or serious injury.

⚠ CAUTION : Failure to pay attention to WARNING notices may result in injury or damage to equipment or facilities.

*1) ISO 4414 : Pneumatic fluid power ··· Recommendations for the application of equipment to transmission and control systems.

*2) JIS B 8370 : General rule for pneumatic systems

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1 UNPACKING 2 MOUNTING

1. UNPACKING

⚠ CAUTION : Bags containing product should be opened only when you are ready to connect the product to the pipes immediately afterward.

- It bags are opened before the product are ready to be connected to the pipes, the entry of foreign matter from the piping ports could cause the product to fail or malfunction.

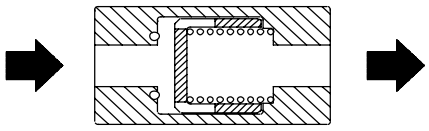
1) Check the model number imprinted on the product to make sure that the product you received is exactly the product you ordered.
2) Check the exterior of the product for any damage.

2. MOUNTING AND INSTALLATION

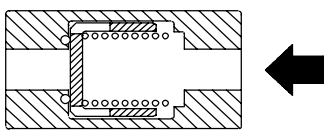
⚠ CAUTION :

1) Before tube exchange, the supply of compressed air and confirm the absence of residual pressure.
2) Tighten pipes with appropriate torque to prevent screw slack, air leakage and screw damage.
3) Carry out the piping work after checking the JIS symbols stated on the nameplate attached to the main body. If the piping is connected in an incorrect direction, this may cause the customer's equipment to break.
4) When performing the piping work, tighten the width across flat using the tool. Additionally, when disconnecting this product from the pipe, loosen the width across flat of the pipe to be disconnected.
5) Do not apply any lateral load to the main body during mounting and after mounting.

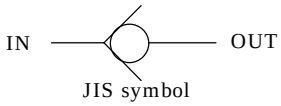
2.1 Explanation of activation



- When applying the pressure in the IN direction (direction, in which the groove is put on the cover) stated on the nameplate attached to the main body, the valve is opened fully and the flow becomes the free flow.

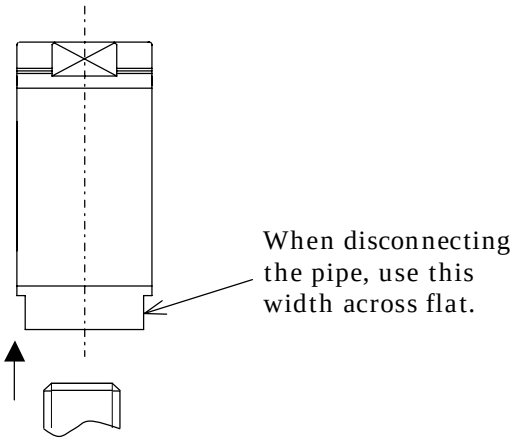


- When applying the pressure in the OUT direction stated on the nameplate attached to the main body, the valve is closed and the flow is shut out.



2.2 Piping

1) Lightly tighten the pipe into the connecting port temporarily by hand, and then tighten the width across flat firmly using the tool.
At this time, always tighten the pipe within a recommended tightening torque range. When disconnecting this product from the pipe, loosen the width across flat of the pipe to be disconnected.
If the width across flat on the opposite side is used, the cover becomes loose, causing leak to the outside.



[Appropriate tightening torque]

Port dia.	Tightening torque N·m
Rc1/8	3 to 5
Rc1/4	6 to 8
Rc3/8	13 to 15
Rc1/2	16 to 18
Rc3/4	19 to 40
Rc1	41 to 70
Rc1 1/4	43 to 75
Rc1 1/2	45 to 80

2) Before starting the piping work, always check the JIS symbol stated on the nameplate attached to the main body.
When the pressure is applied in the IN direction, the flow becomes free flow. On the contrary, when the pressure is applied in the OUT direction, the flow is shut out.
Additionally, since the part where the groove is put on the cover shows the IN direction, carefully check the piping direction before starting the piping work.

3. MAINTENANCE

3.1 Disassembling

1) Fix either width across flat and turn the opposite width across flat counterclockwise using the tool. Either cover is then disassembled.
In this state, the cylindrical spring and valve guide can be removed from the inside of the product. After that, when fixing the tube using the pipe wrench, another cover can then be removed.

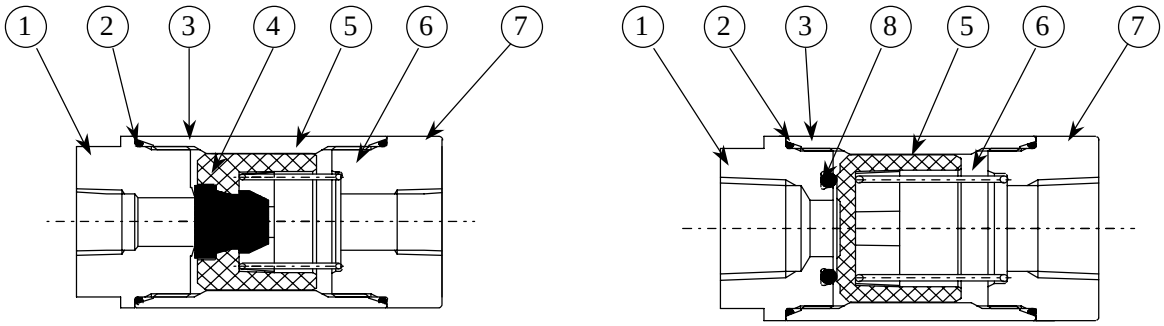
3.2 Trouble Shooting

Motion troubles	Possible cause	Remedies
Air flows even though the air is flowed in the shutdown direction.	Adhesion of the foreign particle to a valve seat.	Flush the interiors to remove foreign particle.
Air leaks outside	When disconnecting this product from the pipe, the width across flat on the side opposite to the pipe to be disconnected is loosened, causing the cover to become loose.	Fix either width across flat and turn the width across flat on the opposite side clockwise using the tool to secure the cover.
Flux does not flow	The piping is connected reversely.	Check the JIS symbol stated on the nameplate attached to the product and perform the piping again.

3.3 Disposal of product

1) This product is made of metal, plastic, and synthetic rubber materials. Before disposing of this product, disassemble the product while referring to section 3.1, Disassembling, and separate the materials properly. (For details about materials, see section 4, Internal structure and list of parts.)

4. INTERNAL STRUCTURE AND LISTS OF PARTS

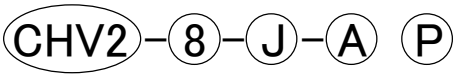


No.	Name of parts	Materials
1	Cover A	Aluminum alloy
2	O ring	Nitrile rubber (Fluoro rubber)
3	Tube	Aluminum alloy
4	Valving element	Nitrile rubber (Fluoro rubber)
5	Valve guide	Polyacetal resin
6	Coil spring	Stainless steel
7	Cover B	Aluminum alloy
8	O ring	Nitrile rubber (Fluoro rubber)

Materials shown in ( ) are used when designating the option “A” (fluoro rubber specifications).

5. PRODUCT SPECIFICATIONS

5.1 How to Order



Model code

(a) Port size

Small flow rate and compact type
Note 1

(a) Port size	
6	Rc1/8
8	Rc1/4
10	Rc3/8
15	Rc1/2
20	Rc3/4
25	Rc1
32	Rc1 1/4
40	Rc1 1/2

(b) Option
Note 2

(b) Option	
No code	No option
A	Fluoro rubber type
P8	Oil prohibition type

(c) Accessory
Note 3

(c) Accessory	
No code	No option
P	Attachment board appending

Note 1 : The small flow rate and compact type (J) is applicable to only the connecting pipe sizes Rc1/4 (8) and Rc3/8 (10).

Note 2 : The options are shown in the alphabetical order (AP8).

Note 3 : The Attachment board is supplied only with CHV2-6, CHV2-8-J, CHV2-8, and CHV2-10-J.

5.2 Specifications

Item		CHV2-6	CHV2-8-J	CHV2-8	CHV2-10-J	CHV2-10
Media		Compressed air				
Maximum working pressure	MPa	1				
Minimum working pressure	MPa	0.03				
Proof pressure	MPa	1.5				
Cracking pressure	MPa	0.02				
Fluid temperature	℃	5 to 60				
Ambient temperature	℃	0 to 60 (Not be frozen)				
Port size	Rc	1/8	1/4		3/8	
Product mass	g	47		81		140
Effective sectional area	mm²	28		55	60	94

Item		CHV2-15	CHV2-20	CHV2-25	CHV2-32	CHV2-40
Media		Compressed air				
Maximum working pressure	MPa	1				
Minimum working pressure	MPa	0.03				
Proof pressure	MPa	1.5				
Cracking pressure	MPa	0.02				
Fluid temperature	℃	5 to 60				
Ambient temperature	℃	0 to 60 (Not be frozen)				
Port size	Rc	1/2	3/4	1	1 1/4	1 1/2
Product mass	g	140	265		875	
Effective sectional area	mm²	110	220	250	700	730