SM-6153-A/1

INSTRUCTION MANUAL

FOR

AIR PINCH VALVE

External Pilot Type

Model NPV2 – 25A~100A – N

Prior to using the Product, it is essential to read this INSTRUCTION MANUAL, especially the description of safety-use issue.

For quick reference whenever necessary, keep this INSTRUCTION MANUAL in a good manner.

CKD Corporation

FOR SAFETY USE

The Product is to be used by those who has a basic knowledge about material, fluid, piping electricity regarding Control Valves (solenoid valves, motor valves, air operated valves and so on.)

Never use this Product by those who have no knowledge or are not well trained about Control Valves.

Should be any trouble or accident caused by a wrong selection and/or wrong use of the Product even by a person of basic knowledge about Control Valves, we are not responsible therefore.

Since any customer of the Product have a variety of its application, we are not in a position to get all the information on how and where the Product is used. There may be the cases where that the Product may not meet customers' requirement or may cause any trouble or accident, by fluid, piping or other condition that are not within the specifications of the Product.
Under such a circumstance, select with their responsibility the most suitable application and use of the Product according to the customers' requirements.

The Product incorporates a various safety arrangement, however miss-handling of the product may lead to any trouble or accident on customers side. **To avoid any possible trouble, read this INSTRUCTION MANUAL carefully and understand it fully.**

Pay your attention to the items described in this Text, as well as the items indicated below.

⚠ CAUTIONS

- **When energized, heat is generated at coil portion of solenoid valves and motor valves particularly "Class H" coil where may have a high temperature.**

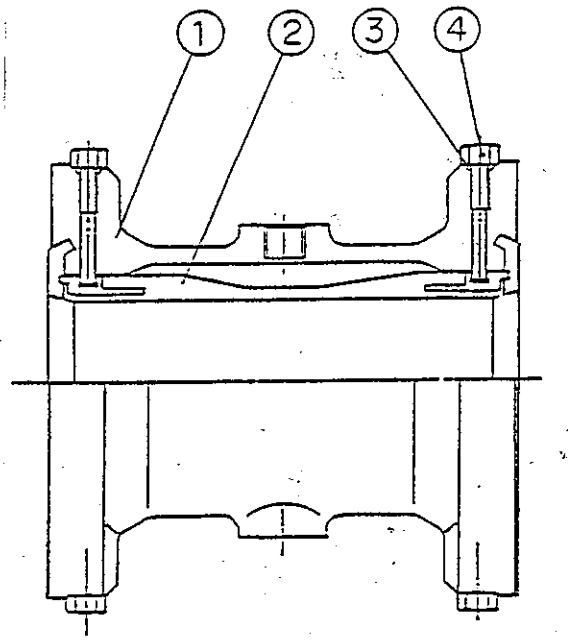
- **There my have electric shock when wire connecting portion of solenoid valves or motor valves are touched. In case of disassembly or inspection, turn off power supply beforehand. Don't touch live portion by wet hands.**

- **Make piping so as not to have leakage and check for no leakage before use, because in case of control valves for high temperature fluid like steam, leakage may cause heat injury.**

1. SPECIFICATIONS

o Series	NPV2- □ - N Nominal diameter of valve
o Size	25A. 40A. 50A. 65A. 80A. 100A
o Piping flange	JIS 10 kgf/cm^2-FF (Holes are all tapped.)
o Operating fluid	Compressed air
o Operating pressure	0≂4 kgf/cm^2 (0.5≂4 kgf/cm^2 if necessary to be opened)
o Operating temperature	5~60°C
o Operating fluid	Slurry fluid
o Material	Body (FC25) Rubber sleeve (CR, Chloroprene rubber) Stopper bolt (SUS304) O ring (NBR)

2. INTERNAL CONSTRUCTION



Part No.	Part name	Material	Q'ty
1	Body	FC25	1
2	Rubber sleeve	CR	1
3	O ring	NBR	4(8)
4	Stopper bolt	SUS304	4(8)

The number in parentheses is for 80A and 100A.

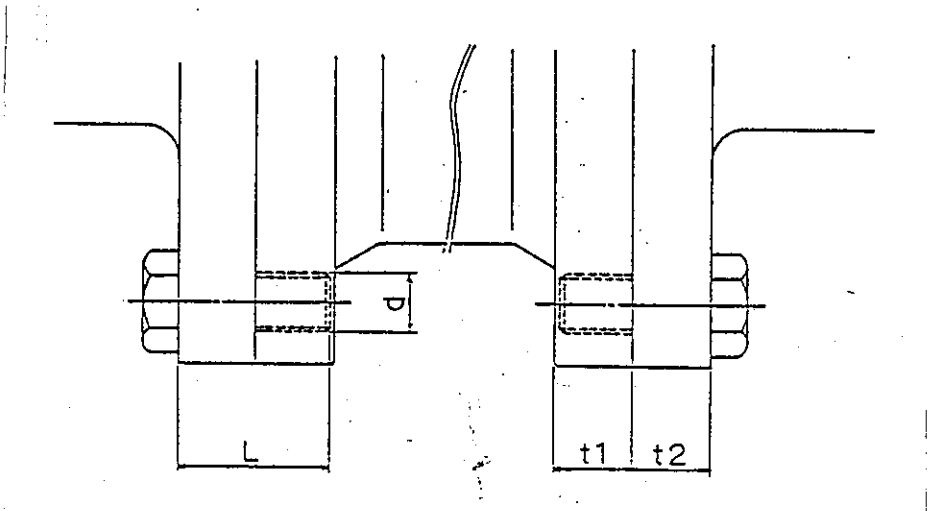
3. PIPING INSTALLATION AND OPERATION

- o All piping flanges shall be JIS 10 kgf/cm^2 flanges with tapped holes.
- o The valve can be installed either horizontally or vertically.
- o As the rubber flange is provided, no gasket is required.
- o Install the valve to the same center as the piping.
- o Piping load must not be concentrated on the valve.
- o When installing the valve to the piping, tighten the bolts alternately in diagonal sequence.
- o Use clean air (max. 40°C). Any oiler must not be used.
- o The working pressure should be 2 to 3 kgf/cm^2 greater than the fluid pressure (water pressure) and be set to a minimum value unless the fluid leaks.
- o Vibration may occur if the secondary side is in suction mode. In this case, use an air bleeder in the piping.
- o When the secondary side is open, the rubber sleeve must be held by the mating flange.

4. STORAGE

- o Keep the valve in dry indoor places.
- o Do not subject the valve to direct sunlight, high temperature and high humidity.
- o Do not apply excessive load to the valve.
- o Do not use fire near the valve.
- o Do not stack the valve.

5. PIPING BOLT DIMENSIONS



Size	d	L	t1	t2	Q'ty	Weight (kg)
25A	M16	30	18	14	8	0.92
40A	M16	35	20	16	8	0.97
50A	M16	35	20	16	8	0.97
65A	M16	40	22	18	8	1.0
80A	M16	40	22	18	16	2.1
100A	M16	40	24	18	16	2.1

*: The flange thickness is calculated by using a steel flange.

*: The piping flange uses FF.

*: Piping bolt material: SWRCH17K + galvanization

6. REPAIR

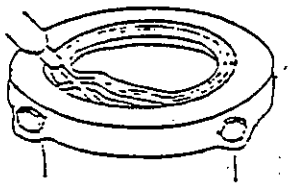
1) One set of sleeve replacement parts consists of the rubber sleeve, rubber flanges, adhesive and instruction manual.
2) Remove the sleeve joint area in accordance with the instruction manual. In this case, the rubber on the adhesive surface is damaged. To minimize the damage, soak the valve in more than 80°C water for more than 3 minutes before starting the removal.

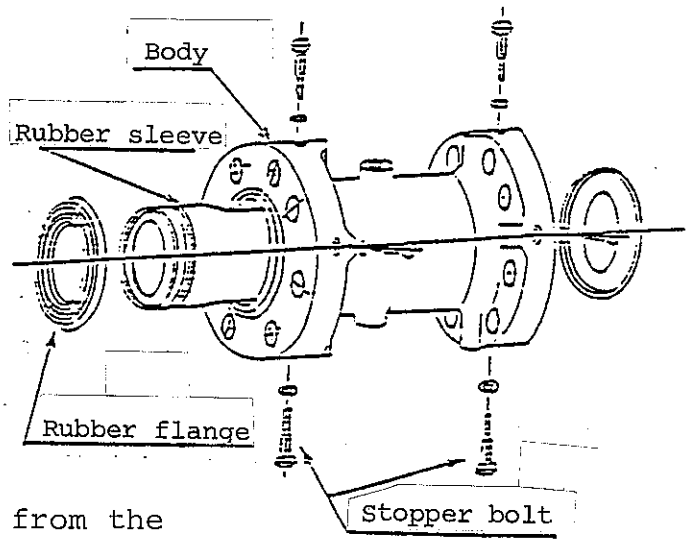
7. RUBBER SLEEVE REPLACING PROCEDURE

* For replacement of rubber sleeve, follow the procedure below.

Disassembly:

a) Set up the valve body and take out the rubber flange using a screwdriver, etc.





b) Remove both rubber flanges from the rubber sleeve.

c) Loosen the stopper bolts in both flanges.
By loosening more than 5 mm, the stopper bolts are removed from the rubber sleeve.

d) The rubber sleeve comes off by pushing the rubber sleeve from one side. At this time, ensure that the stopper bolts do not catch the rubber sleeve core.

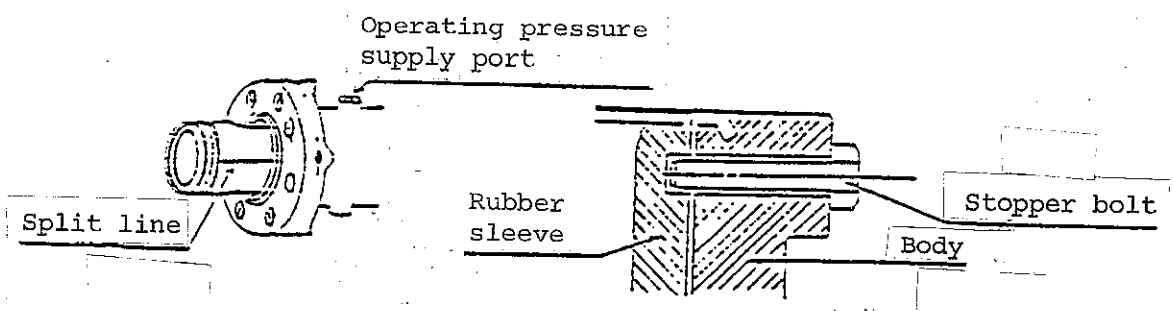
Reassembly:

a) Check that the body flange groove is free from any foreign matter.

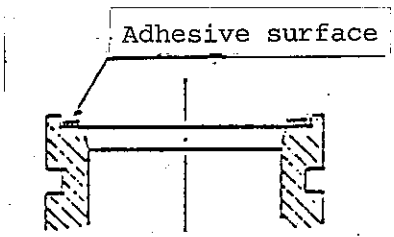
b) Coat the body flange groove with silicon oil so that the rubber flange may be inserted easily.

c) Insert the rubber sleeve into the body.

d) Fix the sleeve with the stopper bolts, with the split line of the rubber sleeve aligned with the 90° position from the operating pressure supply port. At this time, the stopper bolts must securely fit in the the rubber sleeve core groove.



e) Apply an appropriate amount of instant adhesive to the flange surface with the rubber sleeve position unchanged. (Too much adhesive requires time until the flange is completely adhered.)



f) Insert the rubber flange into the body flange groove and adhere the rubber sleeve and rubber flange. As the rubber sleeve and rubber flange surfaces are not uniform, hold them for some time until they are completely adhered. Use the above procedure for both flanges.

Replacement parts list	
Description	Q'ty
Rubber sleeve (CR)	1
Rubber flange (CR)	2
Adhesive	1
Instruction manual	1