CKD

SM－288464-A

# INSTRUCTION MANUAL

## FR UNIT

## B7019

● 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 (to the level pursuant to JIS B 8370 Pneumatic System Rules).

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:

## ⚠Precautions

- **The snap drain use a plastic bowl. Do not use them with an organic solvent. The bowl will be damaged. With an organic solvent, use a snap drain containing a metalbowl.**

# INDEX

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## 1．1 Cautions for mounting

1）Do plumbing for the flowof air to enter from IN.

2）Install it to have a bowl located down ward of line.

3）The connection caliber use the one which is the same as the plumbing diameter as much as possible.

4）Install it as close by the pnuematic equipment as possible.

5）In case of resolution clean, open the bottom of the bowl beforehand by equal to or more than 40mm that it is possible to remove a bowl.

6）Install pressure gage on the side observeable it with ease and use a plug to block the opening on the other side.

7）Keep working air pressure no higher than 1.0MPa.
When turning adjusting knob to the right, the secondary lateral pressure power becomes high and becomes low when turning to the left.

8）Avoid its installation where ambient temperature exceeds 65℃.

9）If the bowl is made of transparent resin (polycarbonate or nylon) ,never use the product in an atmosphere containing an organic chemical or in an environment where an organic chemical may into contact with the bowl.

**⚠WARNING**

Do not use this product an atmosphere containing organic or other chemicals or where chemicals may adhere to the product. Failure to follow this instruction may result in breakage of the bowl.

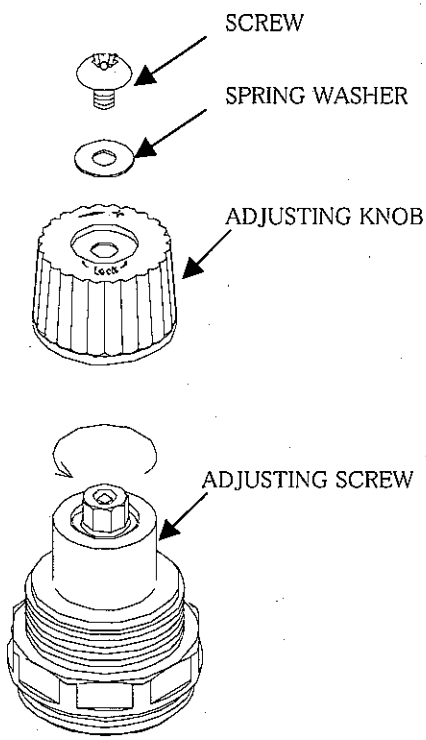
## ⚠ Caution Chemical Resistance for Transparent Resin Bowl

Use a metal bowl in the atmosphere where chemicals described below are present.
Some inspection fluid, sealant or adhesive may include the following chemicals. Please make sure that any such chemicals are not included before using.

| Types of chemicals | Classification of chemicals | Major chemical products | General example | Polycarbonate | Nylon |
|---|---|---|---|---|---|
| Inorganic product | Acid | Hydrochloric acid, sulfuric acid, hydrofluoric acid, phosphoric acid, chromic acid, etc. | Pickling fluid for metal, acidic degreasing fluid, film treatment fluid, etc. | × | × |
| | Alkali | Alkali materials such as caustic soda, caustic potash, slaked lime, aqueous ammonia, sodium carbonate | Alkaline degreasing fluid for metal, water-soluble machining oil, leakage detecting agent | × | ○ |
| | Inorganic salt | Sodium sulfide, potassium nitrate, potassium dichromate, sodium sulfate, etc. | Plating | × | ○ |
| Organic chemical | Aromatic hydrocarbon | Benzene, toluene, xylene, ethylbenzene, styrene, etc. | Included in paint thinner (benzene, toluene, xylene) | × | × |
| | Chlorinated aliphatic hydrocarbon | Methyl chloride, ethylene chloride, methylene chloride, acetylene chloride, chloroform, trichlene, berklene, carbon tetrachloride | Organic solvent cleaning fluid for metal (trichlene, berklene, carbon tetrachloride, etc.) | × | ○ |
| | Chlorinated aromatic hydrocarbon | Chlorbenzene, dichloro-benzene, hexachloro-ethane (B-H-C), etc. | Agricultural chemical | × | ○ |
| | Petroleum composition | Solvent naphtha, gasoline, kerosene | Degreasing for metal | × | ○ |
| | Alcohol | Methyl alcohol, ethyl alcohol, cyclohexanol, benzyl alcohol | Used in anti-freeze Leakage detecting agent | × | × |
| | Phenol | Carbolic acid, cresol, naphthol, etc. | Material for disinfection liquid or phenol resin | × | × |
| | Ether | Methyl ether, methyl ethyl ether, ethyl ether | Additive for brake fluid | × | ○ |
| | Ketone | Acetone, methyl ethyl ketone, cyclohexanone, acetophenone, etc. | | × | × |
| | Carboxylic acid | Formic acid, acetic acid, butyl acid, acrylic acid, oxalic acid, phthalic acid, etc. | Dye and oxalic acid are used for aluminum treatment agent. Phthalic acid is used for paint-based material. Leakage detecting agent. | × | × |
| | Ester | Dimethyl phthalate (DMP), diethyl phthalate (DEP), dibutyl phthalate (DBP), dioctyl phthalate (DOP) | Additive for lubrication oil, synthetic hydraulic oil, rust preventive oil. Plasticizer for synthetic resin. | × | ○ |
| | Hydroxy acid | Glycol acid, lactic acid, malic acid, citric acid, tartaric acid | Additive for food | × | × |
| | Nitro compound | Nitro methane, nitro ethane, nitro ethylene, nitro benzene | | × | ○ |
| | Amine | Methyl-amine, dimethyl-amine, ethyl-amine, aniline, acetanilide, etc. | Additives for brake fluid, anti-static agent, dye for plastics | × | × |
| | Nitrile | Acetonitrile, acrylonitrile, benznitrile, acetisonitrile, etc. | Raw material for nitrile rubber | × | ○ |

Polycarbonate bowl : Transparent without color
Nylon bowl : Transparent and green in color

## 2. Cautions for handling of adjusting knob



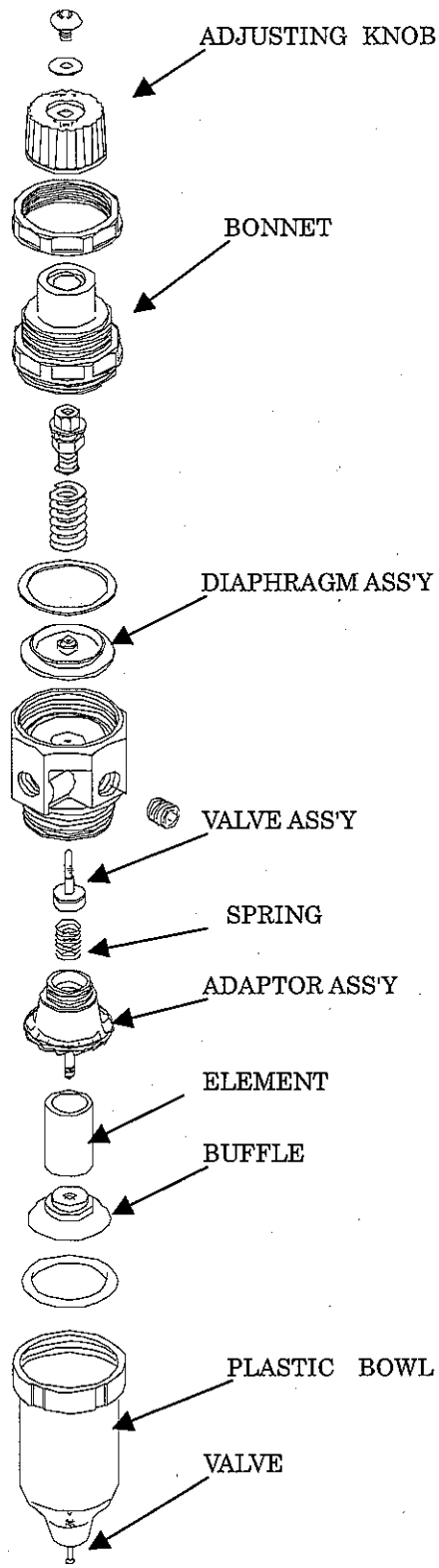

(1) The screw has been tightened temporarily during assembly. After the pressure has been adjusted correctly, tighten the screw firmly to eliminate the pressure variation due to vibration. If the pressure adjustment is required frequently, tighten the screw so that the adjusting knob is turned lightly.

(2) If the adjusting knob is turned fully counterclockwise , it may be locked. Therefore, when adjusting the pressure to "0", do not turn the adjusting knob until it becomes hard to turn. If the adjusting knob is locked, follow the steps below.

a) Remove the screw to detach the adjusting knob.

b) Turn the adjusting screw counterclockwise with a wrench to unlock it.

## 3. Cautions for maintenance




(1) Discharge the drain from the bowl before it reaches the baffle. Push the valve on the bottom of the bowl upward to discharge the drain.

(2) When cleaning the element, wash the element using lukewarm water after it has been cleaned using kerosene.
After cleaning the element, blow the air to remove water contents from the inside of the element.

(3) When cleaning the plastic bowl, clean it using neutral detergent for household use.
Never use other detergents.

(4) Follow the steps below to disassemble the product.
a) Stop the air supply.
b) Turn the adjusting knob fully counterclockwise to loosen it completely.
c) Loosen the bonnet using a wrench to remove it.
d) Remove the diaphragm assembly.
e) Loosen the plastic bowl to remove it.
f) Pull the baffle downward to disassemble the element
g) Loosen the adaptor assembly to remove the spring and valve assembly.

(4) If the pressure cannot be adjusted or the pressure level drops significantly, follow the steps below to perform the inspection.
a) Disassemble the plastic bowl, baffle, and element.
b) Loosen the adaptor assembly to remove the spring and valve assembly.
c) Clean the valve assembly and check for damage or scratch.

(6) If a large amount of air leaks from the relief port, check the following.
a) If this occurs, check the rubber part of the diaphragm assembly and valve assembly for damage or dust sticking.