

INSTRUCTION MANUAL

AIR FILTER

A1019

- Read this manual carefully and thoroughly before using this product.
- Pay extra attention to the instructions concerning safety.
- After reading this manual, keep it in a safe and convenient place.

Safety precautions

When designing and manufacturing a device using CKD products, the manufacturer is obligated to manufacture a safe product by confirming safety of the system comprising the following items:

- Device mechanism
- Pneumatic or water control circuit
- Electric control that controls the above

It is important to select, use, handle, and maintain the product appropriately to ensure that the CKD product is used safely.

Observe warnings and precautions to ensure device safety.

Check that device safety is ensured, and manufacture a safe device.



1. This product is designed and manufactured as a general industrial machine part. It must be handled by someone having sufficient knowledge and experience.

2. Use this product within its specifications.

This product cannot be used beyond its specifications. Additionally, the product must not be modified or machined.

This product is intended for use in general industrial devices and parts. Use beyond such conditions is not considered. Consult with CKD for details when using the product beyond the unique specification range, outdoors (except for products specified for outdoor use), or in the following conditions or environment. Additionally, the product must not be modified or machined.

- ① Use for special applications requiring safety including nuclear energy, railroad, aviation, ship, vehicle, medical equipment, equipment or applications coming into contact with beverage or food, amusement equipment, emergency shutoff circuits, press machine, brake circuits, or for safeguard.
- ② Use for applications where life or assets could be adversely affected, and special safety measures are required.

3. Observe corporate standards and regulations, etc., related to the safety of device design and control, etc.

ISO4414, JIS B 8370 (pneumatic system rules)

JFPS2008(principles for pneumatic cylinder selection and use)

Including High Pressure Gas Maintenance Law, Occupational Safety and Sanitation Laws, other safety rules, body standards and regulations, etc.

4. Do not handle, pipe, or remove devices before confirming safety.

- ① Inspect and service the machine and devices after confirming safety of the entire system related to this product.
- ② Note that there may be hot or charged sections even after operation is stopped.
- ③ When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay enough attention to possible water leakage and leakage of electricity.
- ④ When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.

5. Observe warnings and cautions on the pages below to prevent accidents.

■The safety cautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.



DANGER

: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.



WARNING

: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries.



CAUTION

: When a dangerous situation may occur if handling is mistaken leading to minor injuries or physical damage.

Note that some items described as "CAUTION" may lead to serious results depending on the situation. In any case, important information that must be observed is explained.

Precautions with regard to guarantee

● Guarantee period

The guarantee period of our product shall be one (1) year after it is delivered to the place specified by the customer.

● Guarantee coverage

If any failure for which CKD CORPORATION is recognized to be responsible occurs within the above warranty period, a substitute or necessary replacement parts shall be provided free of charge, or the product shall be repaired free of charge at the plant of CKD CORPORATION.

However, the guarantee excludes following cases:

- ① Defects resulting from operation under conditions beyond those stated in the catalogue or specifications.
- ② Failure resulting from malfunction of the equipment and/or machine manufactured by other companies.
- ③ Failure resulting from wrong use of the product.
- ④ Failure resulting from modification or repairing that CKD CORPORATION is not involved in.
- ⑤ Failure resulting from modification or repairing that CKD CORPORATION is not involved in. time of delivery.
- ⑥ Failure resulting from disaster that CKD is not responsible of.

Guarantee stated here covers only the delivered products. Any other damage resulting from failure of the delivered products is not covered by this guarantee.

● Confirmation of product compatibility

Our customer shall be responsible of confirming compatibility of our product used in our customer's system, machinery or device.

INDEX

A1019

Air Filter

Manual No. SM-50759-A

1. CAUTION.....	4
2. INSTALLATION	4
3. OPERATION	5
4. MAINTENANCE	
4.1 Periodic inspection	6
4.2 Troubles and corrective measures	6
5. CONSUMABLES AND REPAIR KITS	7
6. BOWL REMOVAL AND FITTING	8
7. ELEMENT REPLACEMENT	8

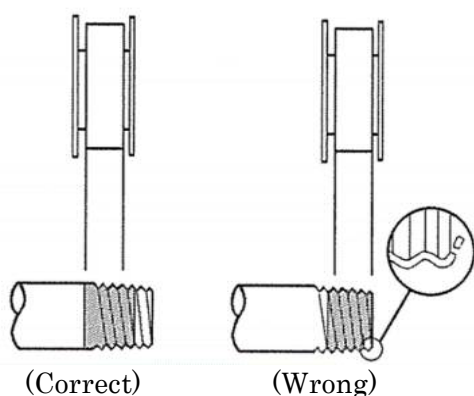
1 . CAUTION

- 1) Refer to the catalog for the product specifications and model markings.
- 2) Do not use the product in a place exposed to the direct sun.
- 3) Be sure that the pressure of the compressed air is no more than 1.0MPa.
- 4) Do not use the product in a place where the ambient temperature is 65°C or more.
- 5) As the polycarbonate resin is used, never use it in an atmosphere of organic solvent.
The product's chemical resistance changes depending on the material of the bowl.
Refer to the catalog for the details.

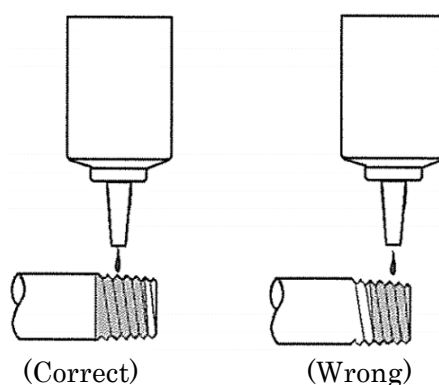
2 . INSTALLATION

- 1) Install the air filter as close to the air pressure equipment as possible.
- 2) Be sure that the air flows in the direction indicated on the product.
- 3) Set the air filter in a way that its bowl faces downward.
- 4) Sealing tape or a sealing agent is used for piping. Be sure to leave two threads from the end of the screw as shown in the drawings so as to prevent fragments of the tape or the agent from entering the pipe or the equipment.

● Sealing tape

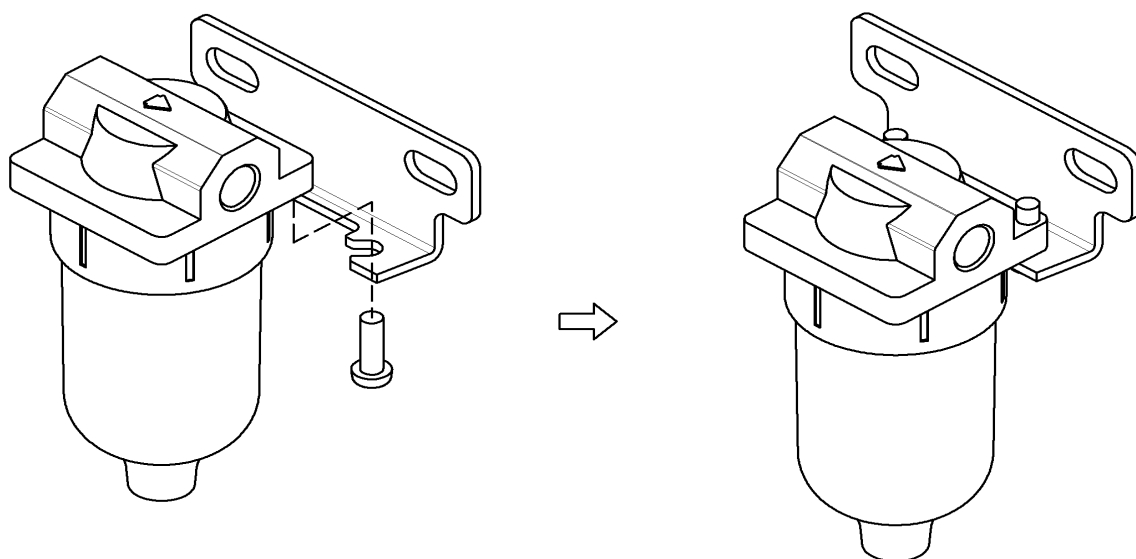


● Solid or liquid sealing agent



3 OPERATION

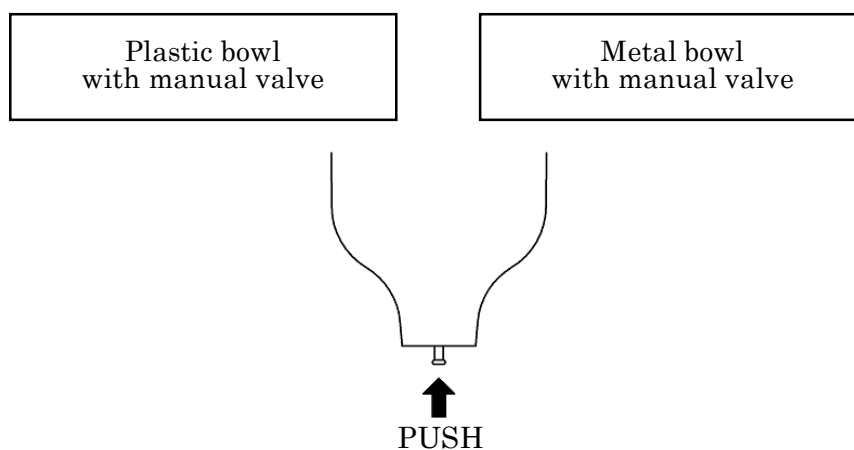
- 5) When the wall bracket (with option B) is used to set the air filter, install the product with the bracket attached as shown in the illustration.



- 6) For operation and maintenance, be sure that there is space of 50mm or more beneath the bowl.

3 . OPERATION

- 1) Draining



Push up the valve (in the direction indicated by the arrow) to drain the bowl, and release it to stop draining.

4. MAINTENANCE

Be sure that no pressure remains inside the product by stopping the compressed air and releasing the remaining pressure by manually operating the cock or through other means. With this done, then take out the bowl.

4.1 Periodic inspection

- 1) Drain the bowl regularly so that collected fluid does not exceed the drain limit.
Refer to the previous page for the method of draining.
- 2) Clean or wash element periodically to prevent pressure loss.
 ● 5μm element
 Wash it with household neutral detergent and flush air from inside out to blow water drops. Replace element with new one when washing does not remove the blot.
 (Element model code : A1019-ELEMENT)

4.2 Troubles and corrective measures

Troubles	Major causes	Countermeasures
Drain emerges immediately passing filter.	Drain accumulated exceeding the upper limit.	Purge drain. (Refer to Chapter 3.Operation)
Insufficient flow and remarkable pressure drop.	Clogged meshes of filter element.	Remove bowl and element upon shutting off the compressed air then replace or wash the element.
It does not purge even when manual cock is opened.	Foreign particles piled to purging port.	Remove bowl ass'y upon shutting off the compressed air then clean or replace bowl ass'y.
Automatic drain fails to purge drain automatically. Or air leaks through drain port.	Mechanical trouble of automatic drain or clogged dirt.	Remove bowl ass'y upon shutting off the compressed air then clean inside of bowl. Replace bowl ass'y when cleaning does not help regaining the function.
Air leaks through Bowl mounting device.	Defective O-ring or foreign particle stuck.	Remove bowl and O-ring upon shutting off the compressed air then wash or replace the O-ring.
	Damage of bowl itself.	Remove bowl upon shutting off the compressed air then replace the bowl with new one.



WARNING

When a flaw, such as a crack or a scratch, is found on the bowl, replace it with a new one. Failure to follow this instruction may result in breakage of the bowl and an accident.



WARNING

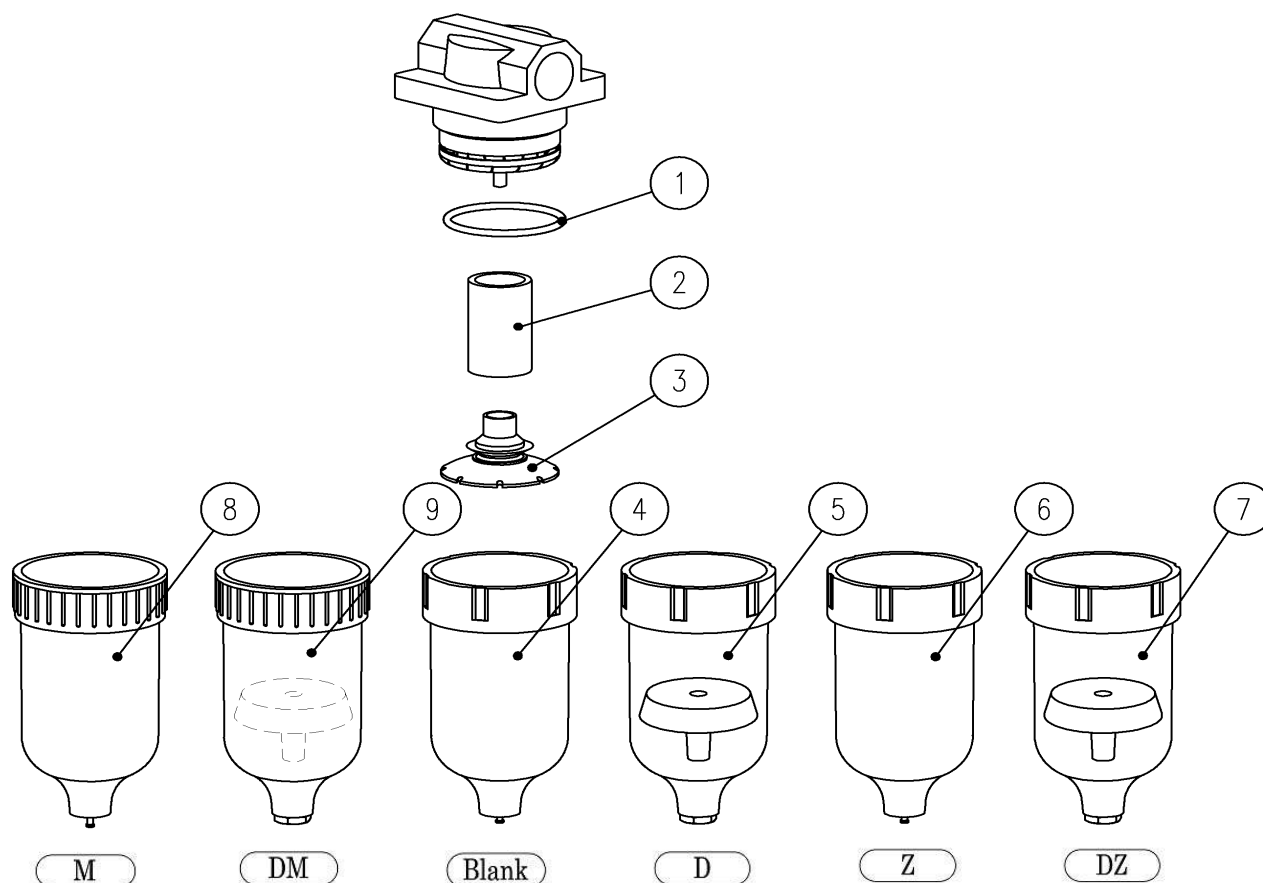
Check the transparent resin bowl regularly for any smears. If there are any smears or it is otherwise unclear, replace it with a new one. Failure to follow this instruction may result in breakage of the bowl and an accident.



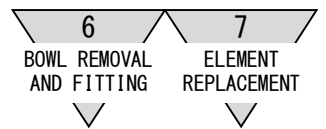
WARNING

When cleaning a transparent resin bowl, use a neutral detergent for home use and rinse it well with water. Any other cleaning method may result in breakage of the bowl and an accident.

5 . CONSUMABLES AND REPAIR KITS



Part name	Part model No.	No.	Quantity
Consumable parts kit	A1019-KIT	①、②、③	1 each
Element	A1019-ELEMENT	②	1 each
Bowl assembly (blank)	A1019-BOWL	①、④	1 each
Bowl assembly (D)	A1019-BOWL-D	①、⑤	1 each
Bowl assembly (Z)	A1019-BOWL-Z	①、⑥	1 each
Bowl assembly (DZ)	A1019-BOWL-DZ	①、⑦	1 each
Bowl assembly (M)	A1019-BOWL-M	①、⑧	1 each
Bowl assembly (DM)	A1019-BOWL-DM	①、⑨	1 each
O-ring* 5 pieces are included in one set.	A1019-ORING	①	5



6 . BOWL REMOVAL AND FITTING

Stop the compressed air and use the manual cock or other means to release the remaining pressure. Be sure that there is no pressure left inside the product before taking out the bowl.

- 1) Turn the bowl counterclockwise until the screw part is completely detached.
- 2) Pull it down to detach the bowl.
- 3) When reattaching the bowl, reverse the above procedures.
- 4) Before letting in the compressed air, check that the bowl is completely screwed in (no space between the body and the bowl).

7 . ELEMENT REPLACEMENT

- 1) Take out the bowl by the procedures described in 6. above.
- 2) Turn the baffle counterclockwise (to the left) to remove it.
- 3) Take out the old element.
- 4) Set the new element.
- 5) Reverse the above procedures to put back the baffle and bowl.
- 6) Be sure to carry out the procedure (6-4) above before letting in the compressed air.