

Discontinue



CKD Corporation

OCT.11.1995

CSM-0053-A

OPERATIONAL MANUAL

2nd EDITION

AUTO- DRAIN
WITH MANUAL DRAIN DISCHARGER
B5102

Discontinue

Thank you for adopting CKD's quality product.

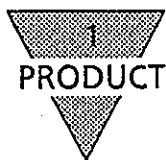
For maximum results and the most effective utilization of the CKD products, it is recommended you read and understand this manual prior to installation.

Read this booklet well for your effective and better utilization of CKD's air filters, as we have lined up cautions for mounting filters and maintenance works.

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Manual auto-drain

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1. PRODUCT

1-1. Specification

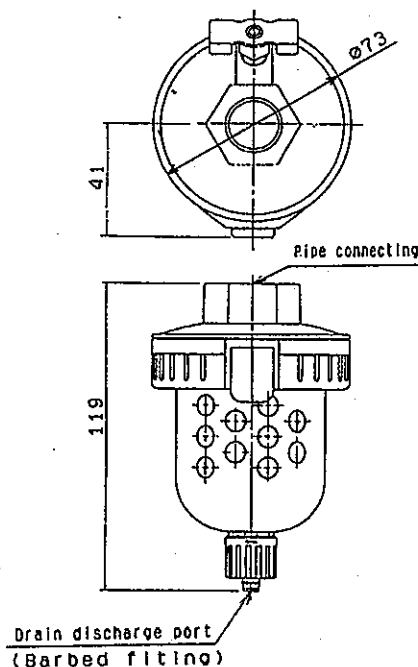
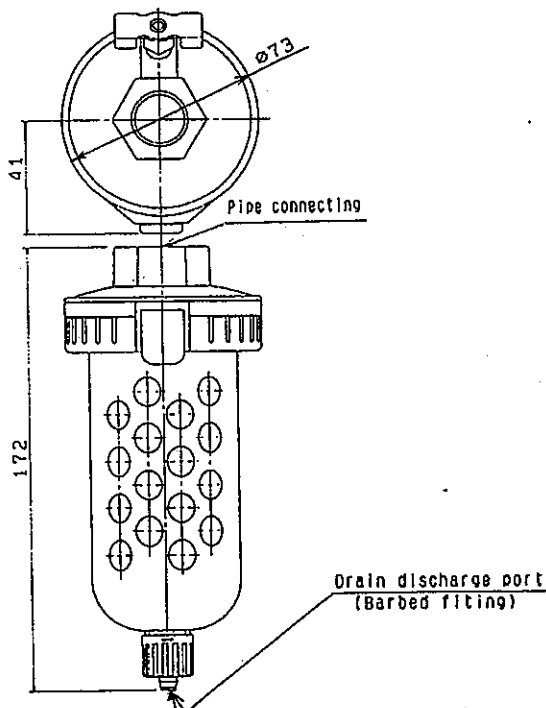
Model code	AUTO-DRAIN w/manual drain discharge	
Item	B5102-3-4C-FJ	B5102-3-4C-F1J
Range of working pressure MPa(kgf/cm ²)	0.1~1.0{1.0~10.2}	0.15~1.0{1.5~10.2}
Opening type	Normally open (NO)	Normally closed (NC)
Proof pressure MPa(kgf/cm ²)	1.5{15.3}	
Range of working temperature °C	5~65	
Drain discharging volume cm ³	3.5(at pressure of 5kgf/cm ²)	
Piping size Rc	3/8-1/2	3/8-1/2
Piping size to unloader	Barbed fitting (available connecting with nylon tube of ID φ5.7~φ6)	
Mass of product kg	0.55	0.55
Bowl guard	Standard equipment	

Model code	AUTO-DRAIN w/manual drain discharge	
Item	B5102-3-4C-F	B5102-3-4C-F1
Range of working pressure MPa(kgf/cm ²)	0.1~1.0{1.0~10.2}	0.15~1.0{1.5~10.2}
Opening type	Normally open (NO)	Normally closed (NC)
Proof pressure MPa(kgf/cm ²)	1.5{15.3}	
Range of working temperature °C	5~65	
Drain discharging volume cm ³	3.5(at pressure of 5kgf/cm ²)	
Piping size Rc	3/8-1/2	3/8-1/2
Piping size to unloader	Barbed fitting (available connecting with nylon tube of ID φ5.7~φ6)	
Mass of product kg	0.55	0.55
Bowl guard	Standard equipment	

1-2.External dimensions

●B5102-3-4C-FJ ●B5102-3-4C-F1J

●B5102-3-4C-F ●B5102-3-4C-F1





2.CAUTION

- Make unloader piping of ID ϕ 5.7 or more, length of piping within 5m and avoid standing up right piping.
- Select compressor capacity of 0.75kW or more (discharge flow of 90 ltr/min or more).
- Make sure to discharge residual air pressure out of bowl before commencing inspection of insufficient drain unloading. Give an air flushing after washing the unloading unit with water.
- Keep the unit out of direct sun ray.
- Pay re-consideration to the mounting location of Polycarbonate bowl where any of such chemical substances as listed below exist near by.

- | | | |
|------------------------|-------------------------|-----------------------------|
| · Acetaldehyde | · Cresole | · Nitric Acid |
| · Acetic Acid | · Cyclohexanone | · Nitrobenzene |
| · Acetone | · Cyclohexane | · Nitrocellulose |
| · Acrylonitrile | · Cyclohexanol | · Parchloroethylene |
| · Aminoethanol | · Dimethylformaldehyde | · Phenol |
| · Ammonium Fluoride | · Dioxan | · Phosphorus Oxychloride |
| · Ammonium Sulfide | · Estel Phosphate | · Phosphorus Trichloride |
| · Benzene | · Ethane Tetrachloride | · Potassium Hydroxide |
| | | (more than 5%) |
| · Benzoic Acid | · Ethyl Ether | · Pyridine |
| · Benzyle Alcohol | · Ethylene Chlorohydrin | · Sodium Hydroxide Solution |
| | | (more than 5%) |
| · Brombenzene | · Ethylene Dichloride | · Sodium Sulfide |
| · Bromophenol Acid | · Fleon | · Sulfuric Acid |
| · Buthylene Acid | · Formic Acid | · Sulphur Chloride |
| · Calcium Hydroxide | · Gasoline | · Tetrahydro Naphthalene |
| · Carbon Disulfide | · Hydrochloric Acid | · Thiophene |
| · Carbon Tetrachloride | · Lacquer Thinner | · Toluen |
| · Chloro Benzen | · Methanol | · Trichloroethylene |
| · Chloroform | · Methylene Chloride | · Xylene |



3.INSTALLATION

- Install it so as to have unloading port held downward.
 - Avoid its installation where environment temperatur is foreseen to rise higher than 65°C .
 - Keep working pressure within 1.0MPa {10.2kgf/cm²}.
- As for Normally Open (NO) type, total system is inoperative with the pressure lower than 0.1MPa {1.0kgf/cm²} because it requires the pressure of at least 0.1MPa {1.0kgf/cm²}.
- Likewise with the similar principle, total system with Normally Closed (NC) type is inoperative with the pressure lower than 0.15MPa {1.5kgf/cm²} because it requires the pressure of the same level.
- With the mechanical drain type, use a tube 5.7mm or more in inner diameter for the drain line. The tube should be short to prevent bending. If the bore is 5.7mm, make sure that the tube is no more than 5m in length.

4. MAINTENANCE AND INSPECTION

Before trying to remove the bowl, shut off compressed air, purge residual pressure and verify no more pressure remains in line.

4-1. Summary of maintenance

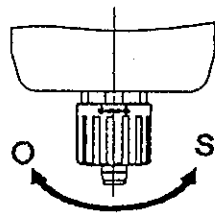
1) AUTO-DRAIN with manual drain discharge type

It unloads drain automatically when drain accumulates to a certain level as it has built-in automatic unloader with float type. This model can also be set manual unloading, owing to built-in manual unloading device. It is so set when manual cock at the bottom of bowl is turned counterclockwise. Unload drain manually when drain is not automatically unloaded or sedimentation accumulates at the bottom of bowl.

2) Purging drain

Should there be any one of following phenomena, replace the components with new one upon disassembling the unloader complying with the points as described in the following article.

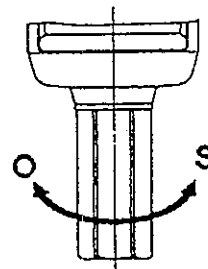
Plastic bowl



Drain is purged when cock is turned toward O and purging is shut off when cock is turned toward S.

The bowl with automatic purge valve purges drain automatically as drain accumulates to a certain level but drain is also purged manually, too.

Metal bowl



Drain is purged automatically when drain accumulates to a certain level but is also purged manually. Handling is as same as that of Plastic bowl.

Manual operation, sometimes, is hindered when screwing joint is attached to build purge line.






Phenomena:

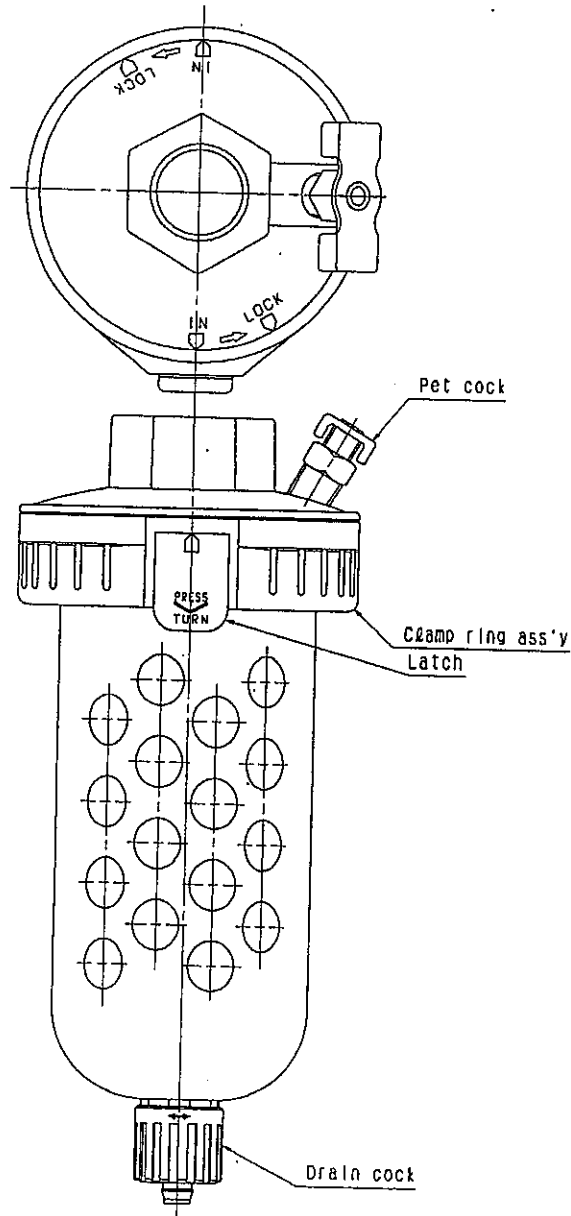
- a) It does not unload drain automatically. (Float is buried with drain.)
- b) Float does not go down even after unloading drain.
- c) Drain dripples down.
- d) Air keeps leaking through unloading port.

4 MAINTENANCE AND

4-2. Bowl exchanging

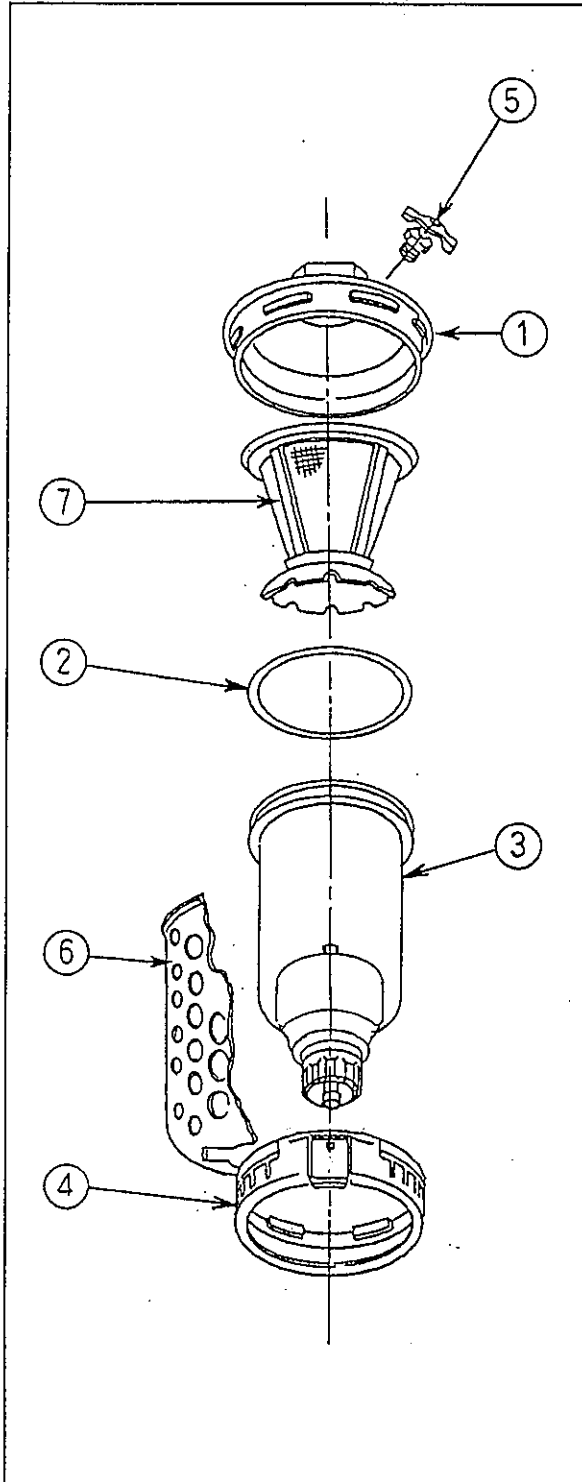
Before trying to remove the bowl, shut off compressed air, purge residual pressure and verify no more pressure remains.

- 1) Turn clamp ring ass'y 30° (that is to have  mark on latch leave  LOCK mark and match to IN  marking) while pressing the latch on clamp ring ass'y.
- 2) Pull the set of bowl downward as is and total ass'y of bowl and bowl guard come out.
- 3) To re-assemble total set, comply with the reversed steps of dismounting.
- 4) Before charging compressed air to the system, verify that latch is "Locked" condition. (That is the  mark on latch is matched to  Lock mark on the body.)

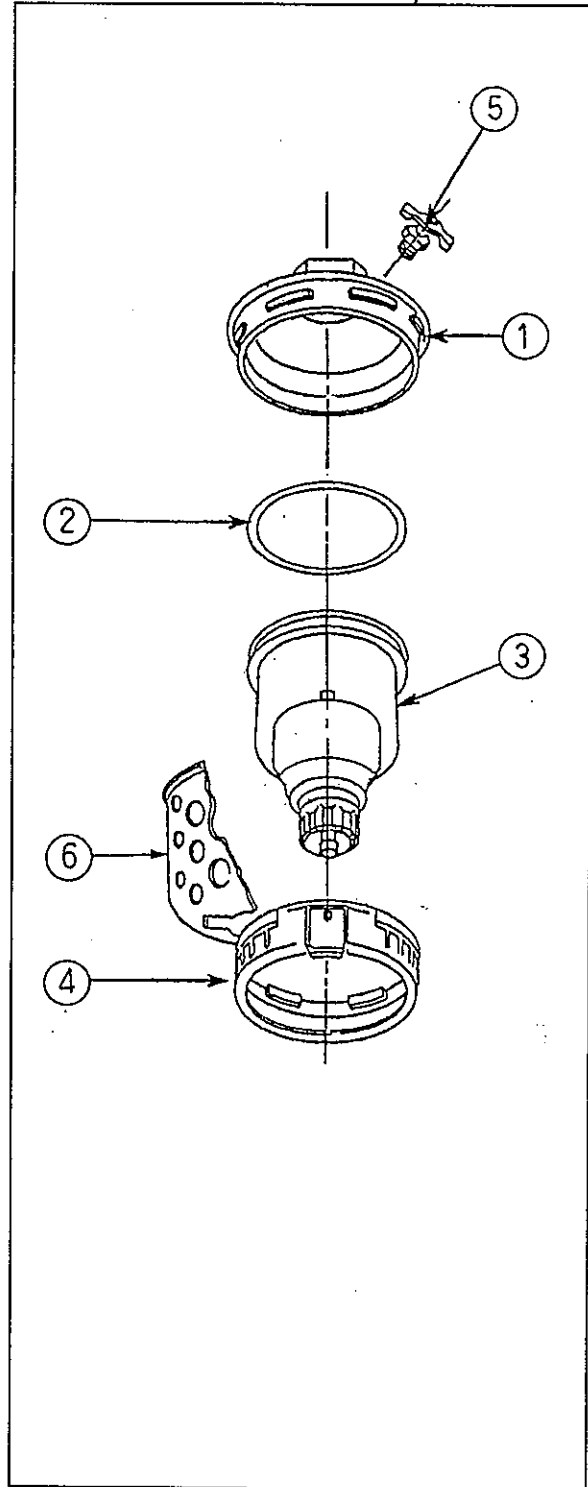


4-3. Disassembling drawings and parts lists.

B5102-3C-4C-FJ,F1J



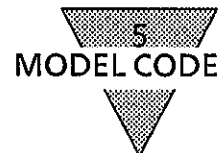
B5102-3C-4C-F,F1





No.	Model code	Parts name	B5102-3·4C -FJ	B5102-3·4C -F1J	B5102-3·4C -F	B5102-3·4C -F1
1	Cover		-	-	-	-
2	O ring		78-081	78-081	78-081	78-081
3	Bowl ass'y	Ploycarbonate	15-7164	15-7179	15-7213	15-7214
		Nylon bowl	15-7164Z	15-7179Z	15-7213Z	15-7214Z
		Metal bowl	15-7169	15-7184	45-7217	15-7218
		Metal bowl w/gage	15-7174	15-7189	15-7219	15-7220
4	Clamp ring ass'y		15-108	15-108	15-108	15-108
5	Petcock		43-508	43-508	43-508	43-508
6	Bowl guard (*1)		6077	6077	6076	6076
7	Screen		16-5064	16-5064	-	-

(*1) No bowl guard is required for Matal bowl and also Metal bowl with gage.



5.MODEL CODE

