

# Modular Filters

## FULL-SIZE SERIES, Flow to 155 scfm, Port Sizes 1/4 thru 3/4



**Thank You!** You have just purchased a premium-quality ROSS® Air Preparation product. With care in its installation and maintenance, you can expect it to have a long and economical service life. Before you go any further, please take a few minutes to look over this information, then save it for future reference and for the useful service information it contains.

### OPERATION

**For Manual Drain models:** Periodically drain to discharge accumulated liquids by turning Drain Knob clockwise.

**For Automatic Drain models:** Flexible tubing (3/16" ID) may be installed on the Drain Stem to remove discharges. Turn Drain Knob counter-clockwise until it stops, push up to expose the Drain Clip. Remove Drain Clip and Drain Knob, and push tubing onto Drain Stem. The drain may be adjusted to compensate for differing operating conditions by adjusting the Drain Knob. For low flow or low pressure drop, turn the Drain Knob until the drain just closes. For high flows or high pressure drop, turn the Drain Knob clockwise if reduced drain action is required. Turning the Drain Knob clockwise to the stop puts the drain in a manual shutoff position. Turning the Drain Knob counter-clockwise will manually drain the filter.

Replace Plastic Bowls with Metal if any signs of crazing or cracking is observed.

Replace Element when dirty. If pressure differential reaches 8 psid, element MUST be replaced.



### INSTALLATION

**Please read and make sure you understand all installation instructions before proceeding with the installation.**

If you have any questions about installation or servicing your product, please contact ROSS or your authorized ROSS distributor, see contact information listed at the back of this document, or visit [www.rosscontrols.com](http://www.rosscontrols.com) to find your distributor.

1. Depressurize and lockout air pressure.
2. Upstream pipes must be free of excessive dirt and liquids.
3. Install the Filter as near as possible to the device it is to serve.
4. Install the Filter so that air flows in direction of arrow on the head.
5. The Filter must be installed vertically with drain mechanism at the bottom.
6. Filters should be installed upstream of any Regulators or Lubricators in the airline.
7. If installing using modular clamp connection R-KA30-04, torque screws 15-20 in-lbs.

### SERVICE

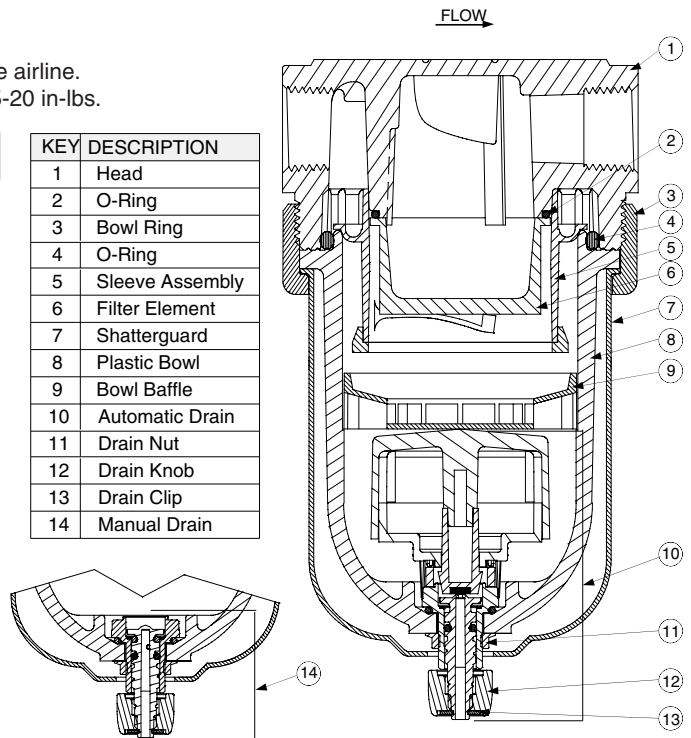
If you need to service your product, turn off any electrical power to the system, shut off the air supply, exhaust the air in the system, and lock-out all power sources before beginning any disassembly operation.

#### TO CLEAN OR REPAIR:

Depressurize and lockout air pressure. Remove Bowl Ring and Bowl Assembly by turning counter-clockwise. Remove Sleeve Assembly by pulling off. The Filter Element can now be removed. Do NOT clean elements, they must be replaced. Sintered Bronze elements may be cleaned by soaking several hours in soap and water, then blowing them out in reverse direction to normal flow with compressed air.

To service Automatic Drain, remove Bowl Baffle from Bowl Assembly. Turn Drain Knob counter-clockwise until it stops, then push Drain Knob up to expose Drain Clip. Remove Drain Clip and pull off Drain Knob. Remove Drain Nut by turning counter-clockwise. The Automatic Drain can now be removed from Bowl and disassembled. The Automatic Drain and Bowl can now be cleaned. When re-assembling, be sure all O-rings are correctly located. Lubricate O-rings with Lithium grease. Bowl Baffle must be installed in correct orientation. Torque Drain Nut 5-15 in-lbs. Torque Bowl Ring hand tight. If the Filter cannot be repaired by cleaning with soap and water, the parts should be replaced.

KEY	DESCRIPTION
1	Head
2	O-Ring
3	Bowl Ring
4	O-Ring
5	Sleeve Assembly
6	Filter Element
7	Shatterguard
8	Plastic Bowl
9	Bowl Baffle
10	Automatic Drain
11	Drain Nut
12	Drain Knob
13	Drain Clip
14	Manual Drain



### STANDARD SPECIFICATIONS

**Construction:** Fiber.

#### Ambient/Media Temperature:

Polycarbonate bowl: 40° to 125°F (4° to 52°C).

Metal bowl: 40° to 175°F (4° to 80°C).

**Fluid Media:** Compressed air.

#### Inlet Pressure - Automatic drain model:

Polycarbonate bowl: Up to 150 psig (up to 10 bar).

Metal bowl: Up to 200 psig (up to 14 bar).

#### Inlet Pressure - Manual drain model:

Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).

Metal bowl: 0 to 200 psig (0 to 14 bar).

**Filter Element:** 5-micron rated polyethylene.

**Body:** Zinc.

**Bowl:** Polycarbonate bowl with steel shatterguard, or zinc bowl with clear nylon sight glass.

**Bowl Ring:** Aluminum. **Seals:** Nitrile.

**IMPORTANT NOTE:** Please read carefully and thoroughly all the **CAUTIONS** and **WARNINGS** on page 2.

## REPLACEMENT PARTS



Bowl Assembly	Drain Type	Part Number
Plastic Bowl Assembly	Automatic	926K77
Plastic Bowl Assembly	Manual	927K77
Metal Bowl Assembly	Automatic	R-ABFD103-117
Metal Bowl Assembly	Manual	R-ABF103-117

Filter Element	Material	Part Number
Filter Element - 5-µm	Polyethylene	939K77
Filter Element - 5-µm	Bronze	R-KA103-03E5
Filter Element - 20-µm	Bronze	R-KA103-03E4
Filter Element - 40-µm	Bronze	R-KA103-03E3

Description	Part Number
Automatic Drain Kit	R-D380
Manual Drain Kit	R-A802-32

## LUBRICANTS, POLYCARBONATE BOWL CAUTIONS

### COMPATIBLE LUBRICANTS

Although air line lubrication is not required for most ROSS valves, other mechanisms in the system may need such lubrication. When a lubricator is used, it should be supplied only with oils which are compatible with the materials used in the valves for seals and poppets. Generally speaking, these are petroleum base oils with oxidation inhibitors, and aniline point between 180°F (82°C) and 220°F (104°C) and an ISO 32, or lighter, viscosity. Oils with phosphate type additives, such as zinc dithiophosphate, must be avoided because they can harm polyurethane valve components. The best oils to use in pneumatic systems are those specifically compounded for air line lubricator service.

### CAUTIONS ON THE USE OF POLYCARBONATE BOWLS

**Use Only with Compressed Air.** Filters and lubricators with polycarbonate bowls are specifically designed for compressed air service, and their use with any other fluid (liquid or gas) is a misapplication. The use with or injection of certain hazardous fluids in the system (e.g., alcohol or liquefied petroleum gas) could be harmful to the polycarbonate bowl or result in a combustible condition or hazardous leakage. Before using with a fluid other than air, or for nonindustrial applications, or for life support systems, consult ROSS.

**Use Metal Bowl Guard When Supplied.** A metal bowl guard is supplied with all but the smallest bowls, and must always be used to minimize danger from fragmentation in the event of failure of a polycarbonate bowl.

**Avoid Harmful Substances.** Some compressor oils, chemical cleaners, solvents, paints, and fumes will attack polycarbonate bowls and can cause bowl failure. Do not use with or near these materials. When a bowl becomes dirty, replace the bowl or wipe it with a clean dry cloth. Immediately replace any polycarbonate bowl which is crazed, cracked, or deteriorated.

### SUBSTANCES HARMFUL TO POLYCARBONATE BOWLS

Acetaldehyde	Benzyl alcohol	Cresol	Ethylene dichloride	Milk of lime (CaOH)	Sodium sulfide
Acetic acid	Brake fluids	Cyclohexanol	Ethylene glycol	Nitric acid	Styrene
Acetone	Bromobenzene	Cyclohexanone	Formic acid	Nitrobenzene	Sulfuric acid
Acrylonitrile	Butyric acid	Cyclohexene	Freon (refrigerant & propellant)	Nitrocellulose lacquer	Sulfural chloride
Ammonia	Carbolic acid	Dimethyl formamide	Gasoline (high aromatic)	Perchlorethylene	Tetrahydronaphthalene
Ammonium fluoride	Carbon disulfide	Dioxane	Hydrazine	Phenol	Thiophene
Ammonium sulfide	Carbon tetrachloride	Ethane tetrachloride	Hydrochloric acid	Phosphorous hydroxyl chloride	Toluene
Anaerobic adhesives & sealants	Caustic potash solution	Ethyl acetate	Lacquer thinner	Phosphorous trichloride	Turpentine
Antifreeze	Caustic soda solution	Ethyl ether	Methyl alcohol	Propionic acid	Xylene
Benzene	Chlorobenzene	Ethylamine	Methylene chloride	Pyridine	
Benzoic acid	Chloroform	Ethylene chlorohydrin	Methylene salicylate	Sodium hydroxide	

### TRADE NAMES OF SUBSTANCES HARMFUL TO POLYCARBONATE BOWLS

- Atlas Perma-Guard • Buna N • Cellulube #150 & #220 • Crylex #5 cement • Eastman 910 • Garlock 98403 (polyurethane) • Haskel 568-023
- Hilgard Company's hil phene • Houghton & Co. oil 1120, 1130, 1055 • Houtosafe 1000 • Kano Kroil • Keystone penetrating oil #2 • Loctite 271, 290, 601
- Loctite Teflon sealant • Marvel Mystery Oil • Minn. Rubber 366Y • National Compound N11 Nylock VC-3 • Perma-bond 910 • Petron PD287 • Prestone
- Pydraul AC • Sears Regular Motor Oil • Sinclair oil "Lily White" • Stauffer Chemical FYRQUEL 150 • Stillman SR 269-75 (polyurethane)
- Stillman SR 513-70 (neoprene) • Tannergas • Telar • Tenneco anderol 495 & 500 oils • Titon • Vibra-tite • Zerex

### STANDARD WARRANTY

All products sold by ROSS CONTROLS are warranted for a one-year period [with the exception of all Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven years] from the date of purchase to be free of defects in material and workmanship. ROSS' obligation

under this warranty is limited to repair or replacement of the product or refund of the purchase price paid solely at the discretion of ROSS and provided such product is returned to ROSS freight prepaid and upon examination by ROSS is found to be defective. This warranty becomes void in the event that product has been subject to misuse, misapplication, improper maintenance, modification or tampering.

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