

Inline Relief Valves

MINIATURE Series, Flow to 40 scfm, Port Sizes 1/8 & 1/4



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

To increase primary pressure: Pull out on Adjusting Knob (#7), turn clockwise.

To lower primary pressure: Pull out on Adjusting Knob (#7), turn counter-clockwise.

Push in on Adjusting Knob (#7) to lock in place.

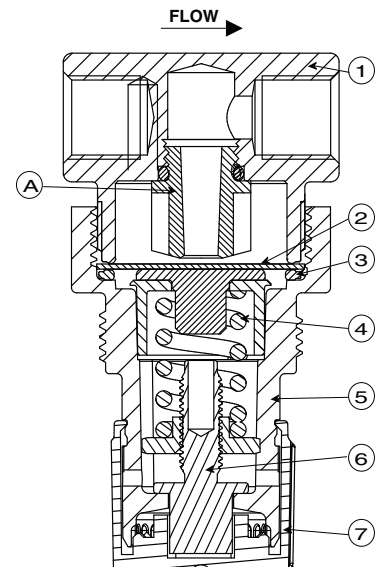


INSTALLATION

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 to find your distributor.

1. Depressurize and lockout air pressure.
2. Upstream pipes must be free of excessive dirt and liquids.
3. Filters should be installed immediately ahead of Relief Valve to insure a clean supply of air.
4. Install the Relief Valve in airline as near as possible to the device it is to serve.
5. Install the Relief Valve so air flows in same direction as arrow on Valve head. Outlet port is usually open to atmosphere or plumbed into an exhaust circuit.
6. The Relief Valve has gauge ports on both sides of the head. It is necessary to install a pressure gauge or pipe plugs into each port before operating.
7. The Relief Valve can be installed with Dome up, down, or any rotation.



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. Reduce spring load to zero by turning Adjusting Knob (#7) counter-clockwise. Remove Dome (#5) by turning counter-clockwise. The Diaphragm (#2) can now be removed. Visually inspect Diaphragm (#2) for defects. If necessary replace. Valve Seat (A) can be removed by unscrewing. Visually inspect Valve Seat (A) for defects. If necessary replace.

When re-assembling, be sure all seals are correctly located. The Valve Seat (A) is torqued to 3-5 in-lbs, do not over tighten. The Dome (#5) is torqued to 90-100 in-lbs. If the Relief Valve cannot be repaired by cleaning with soap and water, the parts should be replaced. If the air supply is kept clean, the Relief Valve should provide long periods of uninterrupted service.

KEY	DESCRIPTION
1	Head
2	Diaphragm
3	Spacer
4	Main Spring
5	Dome
6	Adjusting Screw Assembly
7	Adjusting Knob
A	Valve Seat

STANDARD SPECIFICATIONS

Construction: Diaphragm.
Self-relieving.

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (21 bar) maximum.

Outlet Pressure: Adjustable 1 to 140 psig (0.07 to 9.6 bar).

Pressure Gauge: 0 to 160 psig (0 to 11 bar); 1/8 NPT gauge ports front and rear.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Body: Aluminum.

Dome and Knob: Acetal.

Seals: Nitrile.

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

REPLACEMENT PARTS



Assembly Kit & Mounting Accessories	Content	Part Number
Adjusting Screw Assembly Kit	Spring Rest and Adjusting Screw	R-A33-75
Panel Mount Nut & Bracket	Nut & Bracket	873K77
Panel Mount Nut	Nut	874K77

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) • Haskell 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
- Parco 1306 Neoprene • Permabond 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 • Titen • Vibra-tite • Zerec

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.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND ROSS EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ROSS MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS ROSS LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF ROSS MAY EXTEND THE LIABILITY OF ROSS AS SET FORTH HEREIN.

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