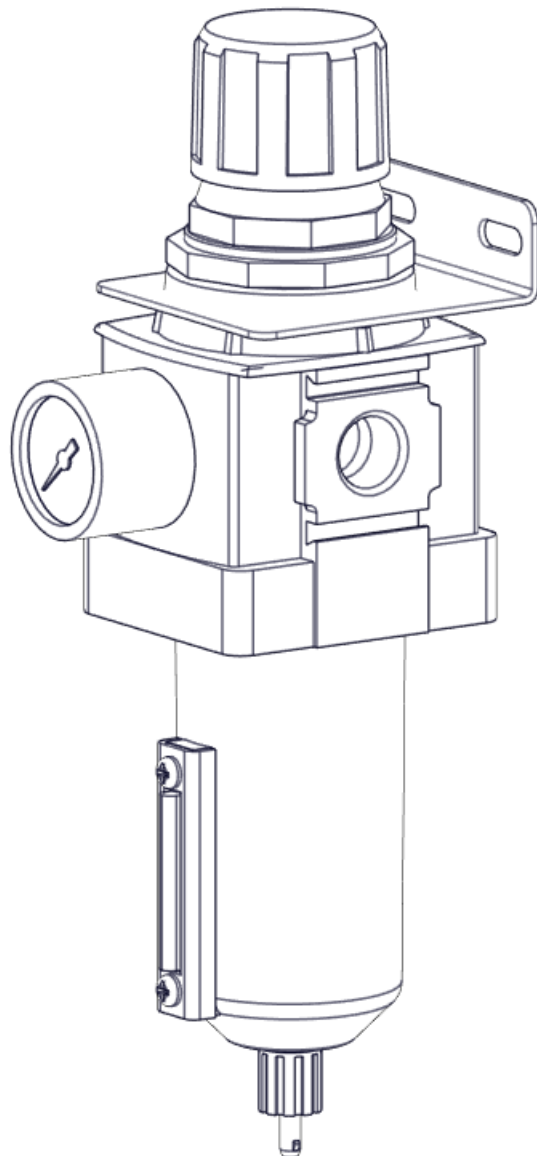




DeZURIK AFR3 Filter Regulator

Used on Pneumatic Cylinder Actuators



Instructions D11033
August 2013

DeZURIK

AFR3 Filter Regulator used on Pneumatic Cylinder Actuators

Instructions

These instructions provide information about AFR3 Filter Regulators. They are for use by personnel who are responsible for installation, operation and maintenance of AFR3 Filter Regulators.

Safety Messages

All safety messages in the instructions are flagged with the word Caution, Warning or Danger. These messages must be followed exactly to avoid equipment damage, personal injury or death.

Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death. If a safety label becomes difficult to see, or if a label has been removed, please contact DeZURIK for replacement.



WARNING!

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of process material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous process materials. Handle valves which have been removed from service with the assumption of process material within the valve.

Inspection

Your AFR3 has been packaged to provide protection during shipment. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime.

Order parts from your DeZURIK sales representative, or directly from DeZURIK. When ordering parts, please include the 7-digit part number and 4-digit revision number (example: **9999999R000**) located on the data plate attached to the valve assembly. Also include the part name, the assembly drawing number, the balloon number and the quantity stated on the assembly drawing.

DeZURIK Service

DeZURIK service personnel are available to install, maintain and repair all DeZURIK products. DeZURIK also offers customized training programs and consultation services. For more information, contact your local DeZURIK sales representative or visit our website at www.dezurik.com.

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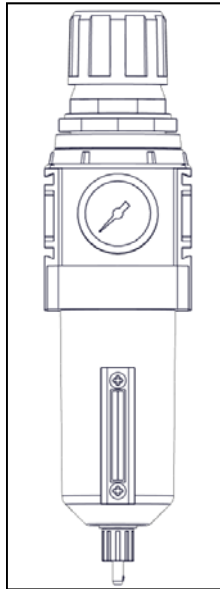
AFR3 Filter Regulator used on Pneumatic Cylinder Actuators

Description

The AFR3 Filter Regulator allows air pressure to be adjusted to match the requirements of the actuator (see the documentation envelope or IOM package supplied with your hardware for proper pressure settings). An internal filter traps water and other contaminants before they can cause excessive wear or damage to actuator components.

Installation

Blow out the air supply pipe to remove scale or other contaminants prior to installation. Install the regulator as close as possible to the instrument being supplied. For best filter drainage, position the unit so that the drain valve is at the lowest point on the dripwell housing. The unit must be installed with the flow in the direction of the flow arrow on the body cover and the bowl down.



WARNING!

The AFR3 is designed for air service only. Maximum allowable inlet pressure is 250 psi (1725 kPa). Operating temperatures are 32 to 150 °F (-0 to 65 °C).

To avoid exceeding outlet pressure limits while in service, a pressure relieving or pressure limiting device should be provided.

Operation

To increase regulated pressure, pull adjusting knob up and turn clockwise. To reduce pressure, turn knob counterclockwise. To lock knob, push down.

Maintenance

**WARNING!**

Failure or improper selection or improper use of the products and/or systems described herein or related items can cause death, personal injury and property damage. Depressurize both upstream and downstream pressure.

1. Filter element replacement:

- a. Depressurize both upstream and downstream pressure.
- b. Remove bowl / bowl guard assembly by pushing up on bowl assembly and turning counterclockwise (viewed from below). Clean inside of bowl using a clean, dry cloth. Inspect plastic bowl for damage and replace if necessary.
- c. Remove filter element by turning retainer counterclockwise.
- d. Remove old element and discard. Care must be taken at this step not to lose or misplace the valve spring and valve assembly, as these components may be removed during this procedure.
- e. Install a new filter element and reassemble in reverse order. See table side for torque values.

2. Valve assembly:

- a. Depressurize both upstream and downstream pressure.
- b. Remove bowl / bowl guard assembly and element retainer assembly as outlined in maintenance Step #1. Care must be taken at this step not to lose or misplace the valve spring and valve assembly, as these components may be removed during this procedure.
- c. Remove the valve spring and valve assembly, if not already done.
- d. Inspect all seals and components for damage and replace as required. Clean seals and components with mild detergent and water (No Solvents!). Use a clean, dry cloth to wipe any contamination from the valve seat inside the body.
- e. Lubricate valve stem and lower valve O-ring seal with a light coat of lubricant.
- f. Reassemble in reverse order. See table on reverse side for torque values.

3. Main Spring and Diaphragm:

- a. Depressurize unit, both upstream and downstream.
- b. Turn adjusting knob counterclockwise to remove all spring force, then remove bonnet by turning counterclockwise.
- c. Remove adjusting screw assembly, main spring, slip ring and diaphragm assembly.
- d. Inspect diaphragm and the relief seat, on relieving models, for damage or contamination. Replace diaphragm assembly if necessary. Clean relief seat with a soft, dry cloth. Reassemble in the reverse order making sure slip ring is properly positioned on top of the diaphragm. Bonnet torque values are shown in the table below.

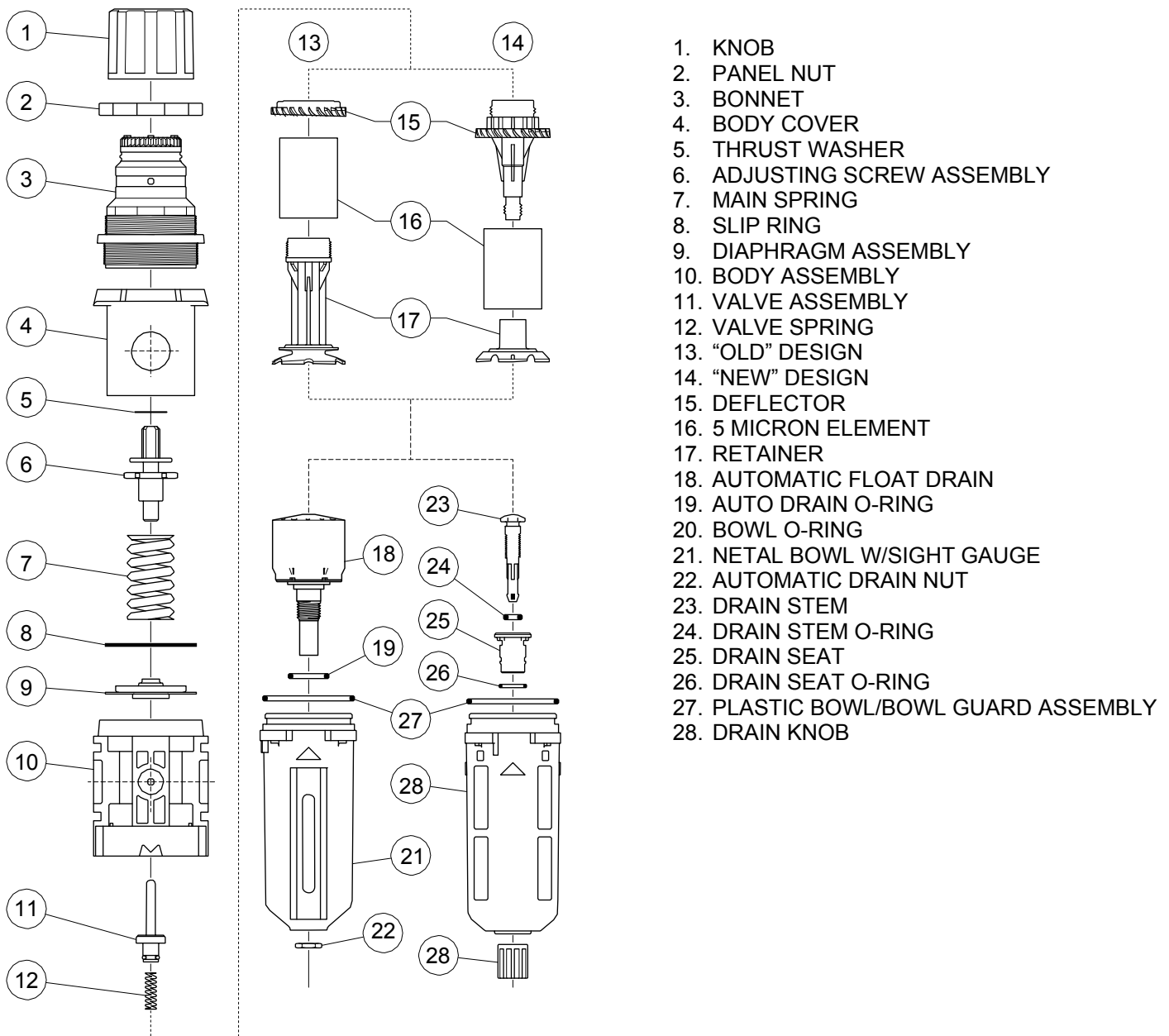
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AFR3 Filter Regulator used on Pneumatic Cylinder Actuators

Maintenance *continued*

4. Liquid level in the bowl must be kept below the level indicator line as marked. It is recommended practice to drain a unit equipped with the manual drain at least once during an eight (8) hour period. To do so, rotate the drain knob to the left one or two turns.*
5. Before returning unit to service, insure that all seals have been properly reinstalled or replaced and components requiring torque have been properly tightened. Also, insure that bowl seal O-ring and bowl have been installed properly and that the bowl is in the locked position and the drain is properly secured.

Note: In the event the drain knob is over-rotated, it may become disengaged from the drain stem. In such a case, pull down on both the knob and the stem while rotating clockwise to re-engage. (view from below)



1. KNOB
2. PANEL NUT
3. BONNET
4. BODY COVER
5. THRUST WASHER
6. ADJUSTING SCREW ASSEMBLY
7. MAIN SPRING
8. SLIP RING
9. DIAPHRAGM ASSEMBLY
10. BODY ASSEMBLY
11. VALVE ASSEMBLY
12. VALVE SPRING
13. "OLD" DESIGN
14. "NEW" DESIGN
15. DEFLECTOR
16. 5 MICRON ELEMENT
17. RETAINER
18. AUTOMATIC FLOAT DRAIN
19. AUTO DRAIN O-RING
20. BOWL O-RING
21. METAL BOWL W/SIGHT GAUGE
22. AUTOMATIC DRAIN NUT
23. DRAIN STEM
24. DRAIN STEM O-RING
25. DRAIN SEAT
26. DRAIN SEAT O-RING
27. PLASTIC BOWL/BOWL GUARD ASSEMBLY
28. DRAIN KNOB

Guarantee

Products, auxiliaries and parts thereof of DeZURIK, Inc. manufacture are warranted to the original purchaser for a period of twenty-four (24) months from date of shipment from factory, against defective workmanship and material, but only if properly installed, operated and serviced in accordance with DeZURIK, Inc. recommendations. Repair or replacement, at our option, for items of DeZURIK, Inc. manufacture will be made free of charge, (FOB) our facility with removal, transportation and installation at your cost, if proved to be defective within such time, and this is your sole remedy with respect to such products. Equipment or parts manufactured by others but furnished by DeZURIK, Inc. will be repaired or replaced, but only to the extent provided in and honored by the original manufacturers warranty to DeZURIK, Inc., in each case subject to the limitations contained therein. No claim for transportation, labor or special or consequential damages or any other loss, cost or damage shall be allowed. You shall be solely responsible for determining suitability for use and in no event shall DeZURIK, Inc. be liable in this respect. DeZURIK, Inc. does not guarantee resistance to corrosion, erosion, abrasion or other sources of failure, nor does DeZURIK, Inc. guarantee a minimum length of service. Your failure to give written notice to us of any alleged defect under this warranty within twenty (20) days of its discovery, or attempts by someone other than DeZURIK, Inc. or its authorized representatives to remedy the alleged defects therein, or failure to return product or parts for repair or replacement as herein provided, or failure to install and operate said products and parts according to instructions furnished by DeZURIK, Inc., or misuse, modification, abuse or alteration of such product, accident, fire, flood or other Act of God, or failure to pay entire contract price when due shall be a waiver by you of all rights under this warranty.

The foregoing guarantee shall be null and void if, after shipment from our factory, the item is modified in any way or a component of another manufacturer, such as but not limited to, an actuator is attached to the item by anyone other than DeZURIK, Inc. Factory Service personnel. All orders accepted shall be deemed accepted subject to this limited warranty, which shall be exclusive of any other or previous Warranty, and this shall be the only effective guarantee or warranty binding on DeZURIK, Inc., despite anything to the contrary contained in the purchase order or represented by any agent or employee of DeZURIK, Inc., in writing or otherwise, notwithstanding, including but not limited to implied warranties.

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Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web site: www.dezurik.com E-Mail: info@dezurik.com

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