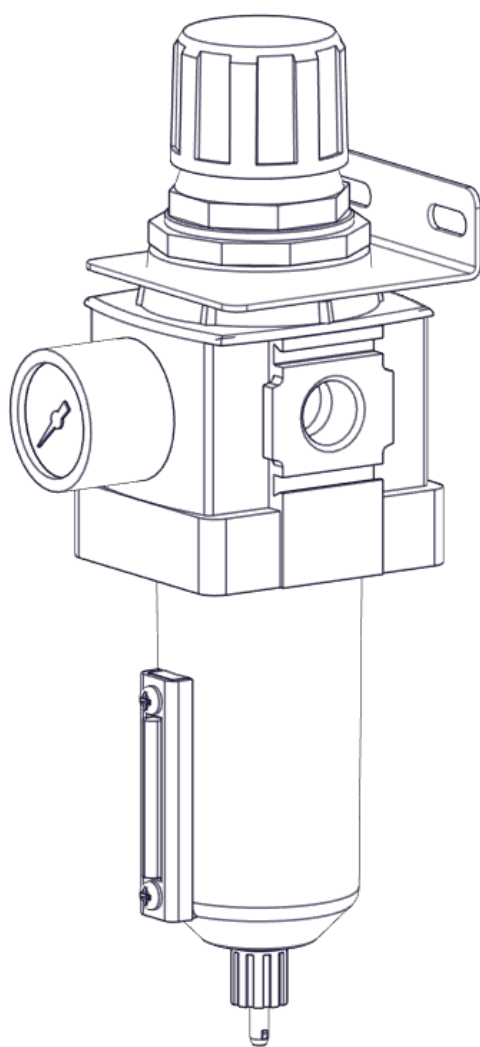


AFR3 Filter Regulator Used on Pneumatic Cylinder Actuators



Instruction **D11033**
August 2013

Instructions

These instructions are for use by personnel who are responsible for the installation, operation and maintenance of DeZURIK valves, actuators or accessories.

Safety Messages

All safety messages in the instructions are identified by a general warning sign and the signal word CAUTION, WARNING or DANGER. These messages indicate procedures to avoid injury or death.

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

⚠WARNING

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

Inspection

Your DeZURIK product has been packaged to provide protection during shipment; however, items can be damaged in transport. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Replaceable wear parts are listed on the assembly drawing. These parts can be stocked to minimize downtime. Order parts from your local DeZURIK sales representative or directly from DeZURIK. When ordering parts please provide the following information:

If the valve has a data plate: please include the 7-digit part number with either 4-digit revision number (example: 9999999R000) or 8-digit serial number (example: S1900001) whichever is applicable. The data plate will be 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.

If there isn't any data plate visible on the valve: please include valve model number, part name, and item number from the assembly drawing. You may contact your local DeZURIK Representative to help you identify your valve.

DeZURIK Service

DeZURIK service personnel are available to 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 DeZURIK.com.

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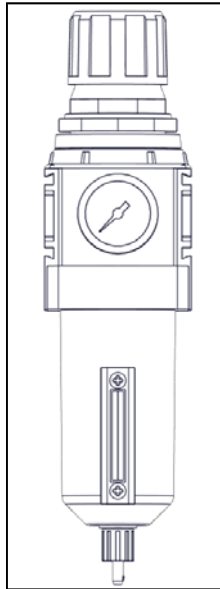
AFR3 Filter Regulator used on Pneumatic Cylinder Actuators

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.

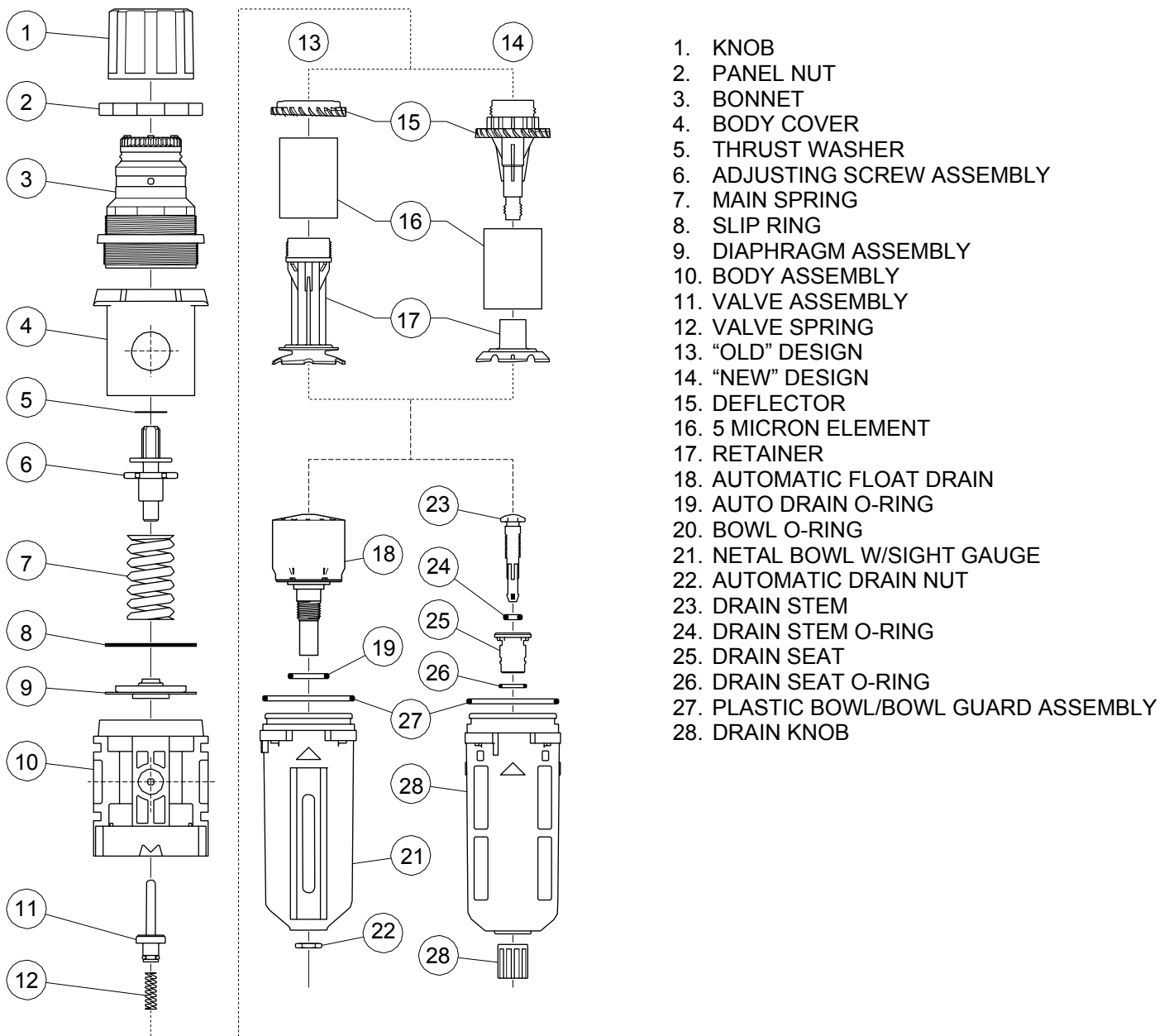
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AFR3 Filter Regulator used on Pneumatic Cylinder Actuators

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)



Limited Warranty

DeZURIK, Inc. ("Seller") manufactured products, auxiliaries and parts thereof that we manufacture for a period of twenty-four (24) months from date of shipment from Seller's factory, are warranted to the original purchaser only against defective workmanship and material, but only if properly stored, installed, operated, and serviced in accordance with Seller's recommendations and instructions.

For items proven to be defective within the warranty period, your exclusive remedy under this limited warranty is repair or replacement of the defective item, at Seller's option, FCA Incoterms 2020 Seller's facility with removal, transportation, and installation at your cost.

Products or parts manufactured by others but furnished by Seller are not covered by this limited warranty. Seller may provide repair or replacement for other's products or parts only to the extent provided in and honored by the original manufacturer's warranty to Seller, in each case subject to the limitations contained in the original manufacturer's warranty.

No claim for transportation, labor, or special or consequential damages or any other loss, cost or damage is being provided in this limited warranty. You shall be solely responsible for determining suitability for use and in no event shall Seller be liable in this respect.

This limited warranty does not warrant that any Seller product or part is resistant to corrosion, erosion, abrasion or other sources of failure, nor does Seller warrant 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 Seller 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 store, install, or operate said products and parts according to the recommendations and instructions furnished by Seller shall be a waiver by you of all rights under this limited warranty.

This limited warranty is voided by any misuse, modification, abuse or alteration of Seller's product or part, accident, fire, flood or other Act of God, or your failure to pay entire contract price when due.

The foregoing limited warranty 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 a Seller factory authorized 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 Seller, despite anything to the contrary contained in the purchase order or represented by any agent or employee of Seller in writing or otherwise, notwithstanding, including but not limited to implied warranties.

THE FOREGOING REPAIR AND REPLACEMENT LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, OBLIGATIONS AND LIABILITIES, INCLUDING, BUT NOT LIMITED TO, ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY OR OTHERWISE, EXPRESSED OR IMPLIED IN FACT OR BY LAW, AND STATE SELLER'S ENTIRE AND EXCLUSIVE LIABILITY AND YOUR EXCLUSIVE REMEDY FOR ANY CLAIM IN CONNECTION WITH THE SALE AND FURNISHING OF SERVICES, GOODS OR PARTS, THEIR DESIGN, SUITABILITY FOR USE, INSTALLATION OR OPERATIONS. NEITHER ANY PERFORMANCE OR OTHER CONDUCT, NOR ANY ORAL OR WRITTEN INFORMATION, STATEMENT, OR ADVICE PREPARED BY SELLER OR ANY OF OUR EMPLOYEES OR AGENTS WILL CREATE A WARRANTY, OR IN ANY WAY INCREASE THE SCOPE OR DURATION OF THE LIMITED WARRANTY.

Disclaimer

Metric fasteners should not be used with ASME Class 150/300 bolt holes and flange bolt patterns. If you use metric fasteners with ASME Class 150/300 bolt holes and flange bolt patterns, it may lead to product failure, injury, and loss of life. DeZURIK Inc. disclaims all liability associated with the use of metric fasteners with ASME Class 150/300 bolt holes and flange patterns, including but not limited to personal injury, loss of life, loss of product, production time, equipment, property damage, lost profits, consequential damages of any kind and environment damage and/or cleanup. Use of metric fasteners with ASME Class 150/300 bolt holes and flange bolt patterns is a misuse that voids all warranties and contractual assurances. If you use metric fasteners with ASME Class 150/300 bolt holes and flange bolt patterns, you do so at your sole risk and any liability associated with such use shall not be the responsibility of DeZURIK, Inc. In addition to the foregoing, DeZURIK's Manufacturer's Conditions apply.

Limitation of Liability

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO; DAMAGE TO OR LOSS OF OTHER PROPERTY OR EQUIPMENT, BUSINESS INTERRUPTION, COST OF SUBSTITUTE PRODUCTS, LOSS OF TIME, LOSS OF PROFITS OR REVENUE, COST OF CAPTIAL, LOSS OF USE, OR DIMINUTION IN VALUE) WHATSOEVER, AND SELLER'S LIABILITY, UNDER NO CIRCUMSTANCES, WILL EXCEED THE CONTRACT PRICE FOR THE GOODS AND/OR SERVICES FOR WHICH LIABILITY IS CLAIMED. ANY ACTION FOR BREACH OF CONTRACT BY YOU, OTHER THAN RIGHTS RESPECTING OUR LIMITED WARRANTY DESCRIBED ABOVE, MUST BE COMMENCED WITHIN 12 MONTHS AFTER THE DATE OF SALE.

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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Design features, materials of construction and dimensional data, as described in this manual, are provided for your information only and should not be relied upon unless confirmed in writing by DeZURIK, Inc. Certified drawings are available upon request.