

# Installation & Maintenance Instructions

## STAINLESS STEEL FILTER REGULATOR ( High Flow)

SIZE : 3/4" & 1"

ST. STEEL VERSION  
342 SERIES

**These operating instructions are delivered with each product. Malfunctions, damage or injury may occur if these instructions are not followed.**

### DESCRIPTION

Series 342 Air Filter Regulators are designed for use in potentially explosive atmospheres caused by gases, vapors, mists and/or dusts as per ATEX Directive 2014/34/EU and standards EN ISO 80079-36.

Classification (Zone 1 and 21) : II 2 G Ex h IIC T5 Gb, II 2 D Ex h IIC T5 Db (T5- 90°C Ambient Temperature). The Classification temperature depends on the ambient temperature. These regulators are made of stainless steel with option compliant to NACE MR0175. All metal on conductive parts must be inter connected and grounded.

Startup and maintenance are to be performed as detailed below.

#### General

This component is not a safety accessory. It is intended only for the compliant use either as an individual component or incorporated in an apparatus, machinery and installations. ASCO Stainless Steel Air Filter Regulators are designed to be operated in accordance with the limits specified in the nameplate or as specified in this document. All applicable directives, legislations, orders and standards, as amended from time to time, as well as state-of-the-art practices and procedures must be observed for intended scope of application of the product. Where applicable take all appropriate measure to ensure the requirements are met. This device complies with the essential safety requirements of the EU PED 2014/68/EU. Declaration of conformity is available on request.

All assembly, operation, use and maintenance must be performed by qualified, authorized personnel. Personnel working with the components must be familiar with the applicable safety and regulations relating to the components, apparatus and machinery installations. In case of problems, please contact ASCO or one of its authorized representatives in your region.

#### General Operating Specifications

Fluid : Instrument air, neutral, natural & Sour gas.

**Ambient Temperature:** For manual drain: the temperature range should be within -40° C to + 90° C (-40°F to +194°F); For Auto drain: the range should be within 0°C to + 90°C (32°F to +194°F) ;

**Inlet Pressure:** Do not exceed the maximum operating pressure **20 bar (290psi)** for manual drain FR, **11bar (160psi)** for auto drain FR

**Quick relief** option available for standard operating temperature -40°C to +90°C

### INSTALLATION

- Check the preliminary storage conditions required for the component. They must be in accordance to the product's specifications.
- Carefully remove the Regulator from the packaging.
- Power off and depressurize the apparatus, machinery or installation designed to receive the FR.
- Install the FR near where the air is to be used.
- Install ASCO pressure gauge comes accessory on the frontal gauge port.
- Do Not modify the device.
- Make sure that the fluid is compatible with the materials it contacts.
- Operator or user must ensure that the gas group corresponds to the product's classification.
- Check Nameplate for correct catalog number, pressure, temperature and service. Never apply incompatible fluids or exceed pressure rating of the regulator.
- The installer must install the air filter regulator at the user's location in accordance with the requirements specified in Directive 99/92/EC.

#### Positioning

**⚠ For optimum life and performance, the FR should be mounted vertically upright (Max. Inclination 5°)**

#### Piping

Connect piping to valve according to markings on FR body. Apply pipe compound sparingly to male pipe threads only. If applied to FR threads, the compound may enter the FR and cause functional difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening the pipe, do not use the FR as a lever. Locate wrenches applied to piping as close as possible to connection point. Direct Frontal mounting or mounting with brackets possible.

#### MAINTENANCE

**NOTE:** Ensure the air supply is completely stopped. It is not necessary to remove the FR from the pipeline for repairs.

#### Cleaning

All FRs should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. The most common part that requires cleaning is the filter element.

Use running water for regular cleaning or a mild detergent for cleaning the filter element. Do not use diluted acids, strong detergents or corrosive chemicals.

For auto drain version clean the filter ring periodically.

#### Causes of Improper Operation

- **Incorrect pressure:** Check upstream pressure. Pressure to FR must be within range specified on nameplate.
- **Excessive Leakage:** Disassemble FR and clean all parts. If parts are worn or damaged, install a complete ASCO Spare Parts kit.

#### Manual drain operation:

Hold the knurling face of drain with fingers & rotate it to the anti clockwise direction looking from top to unscrew the manual drain to purge out the water that accumulated in the bowl. After draining out, screw the manual drain back to its original position & ensure proper working of AFR.

#### Automatic draining:

ASCO SS-AFR auto drain provides hassle free draining of equipment which purge out the water accumulated in the bowl automatically. Flexible tube (Barb connection)/ Hard piping (Adapter 1/8" NPT-optional) can be used for collecting the condensate. It also provides manual drain feature integrated with automatic drain. Use spanner to operate the same with the flat provided on it.



To Drain Rotate: (Looking From Top)  
Anticlockwise to drain, Clockwise to close

#### Torque Chart

Part Name	Torque Value Pound-inches	Torque Value Newton-Meters
Bowl/Body Bowl/Bonnet	664 ± 45	75 ± 5
Filter Sub-Assembly	Full Hand tight	Full Hand tight
Exhaust Filter (As Applicable)	70 ± 10	8 ± 1
Manual drain	Full Hand tight	Full Hand tight
Auto Drain	160 ± 10	18 ± 1
Adapter	160 ± 10	18 ± 1

Page 1 of 3





ASCO Numatics (India) Pvt. Ltd.,  
No. 57, Kundrathur Main Road, Gerugambakkam,  
Chennai-600128, India

Form No. IM-IND- 523425 Rev CB  
ECN No : 305463



## Valve Disassembly

1. Disassemble valve in an orderly fashion using exploded views for identification and placement of parts. Refer to Figure 1.
2. Remove bowl from body by unscrewing with proper tool, then remove the bowl seal.
3. Unscrew the filter sub-assembly by hand itself.
4. For normal maintenance (cleaning) it is not necessary to remove the valve seat. However, if valve seat removal is required, just pull it out of the body.
5. Remove the manual drain/auto drain from the bowl.
6. Remove bonnet from body by unscrewing with proper tool, then remove regulating spring and diaphragm assembly.
7. All parts are now accessible to clean or replacement. If parts are worn or damaged, install a complete ASCO Spare Parts kit.

 Use Metal Pipes only for IN and OUT connection. For Non – Metallic / Non – conductive pipes requires EARTHING OR GROUNDING that can be given in any one of front side M5 mounting hole shown as 

### - Service Notice -

When installing a new ASCO Spare Parts kit, the parts supplied are shown in Figure 1. The parts supplied are new and a direct replacement for the present parts provided all new parts are installed.

**CAUTION :** To ensure proper valve operation, install all parts supplied in ASCO Spare Parts kit. Do not mix old and new parts.

## Valve Reassembly

1. Lubricate all gaskets with MOLYKOTE ® 111 lubricant or an equivalent low temperature silicone fluid.
2. Add a layer of NEVERSEEZ NS-160 on all screw threads.
3. If removed, install poppet valve seat in body. Apply a small amount of NEVERSEEZ NS-160 to Filter sub assembly threads. Hand tight the assembly as far as possible. No special tools required to provide torque.
4. Install Diaphragm Assembly, springs, spring support, guide for bolt regulator and bonnet on top and fasten the bonnet as per the torque specified in torque chart.
5. Replace manual drain/auto drain on bowl and fasten the bonnet as per the torque specified in torque chart. .
6. Install FR in vertical position.

**WARNING:** To prevent the possibility of personal injury, property damage, Ensure below mentioned testing should complete before returning to service of FRL. Perform internal seat and external leakage tests with a non-hazardous, non-combustible fluid. Wrong assembly will invalidate the approval. In case of replacement of parts by the user, the traceability of the final product cannot be guaranteed by ASCO and must be ensured by the user.

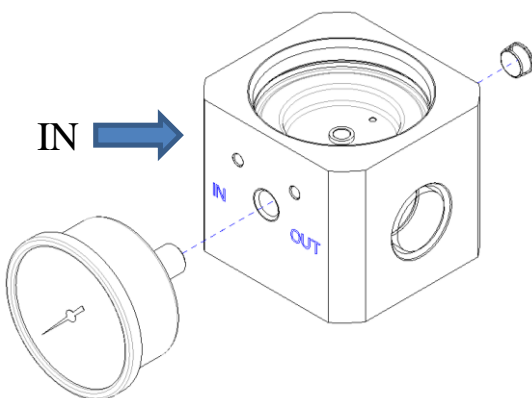
7. Restore line pressure to FR.
8. After maintenance is completed, operate the FR a few times to be sure of proper operation and installation.

### ORDERING INFORMATION FOR ASCO SPARE PARTS KIT

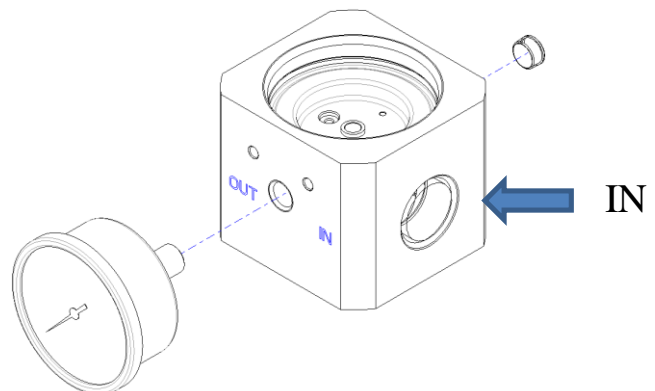
Parts marked with asterisk \* in the exploded view are supplied in Spare Parts Kit. When ordering Spare Parts Kit for ASCO FRs, order the Spare Parts Kit number indicated on the nameplate / label. If the number of the kit is not visible, order by indicating the number of kits required, and the catalog Number and Serial Number of the FR(s)

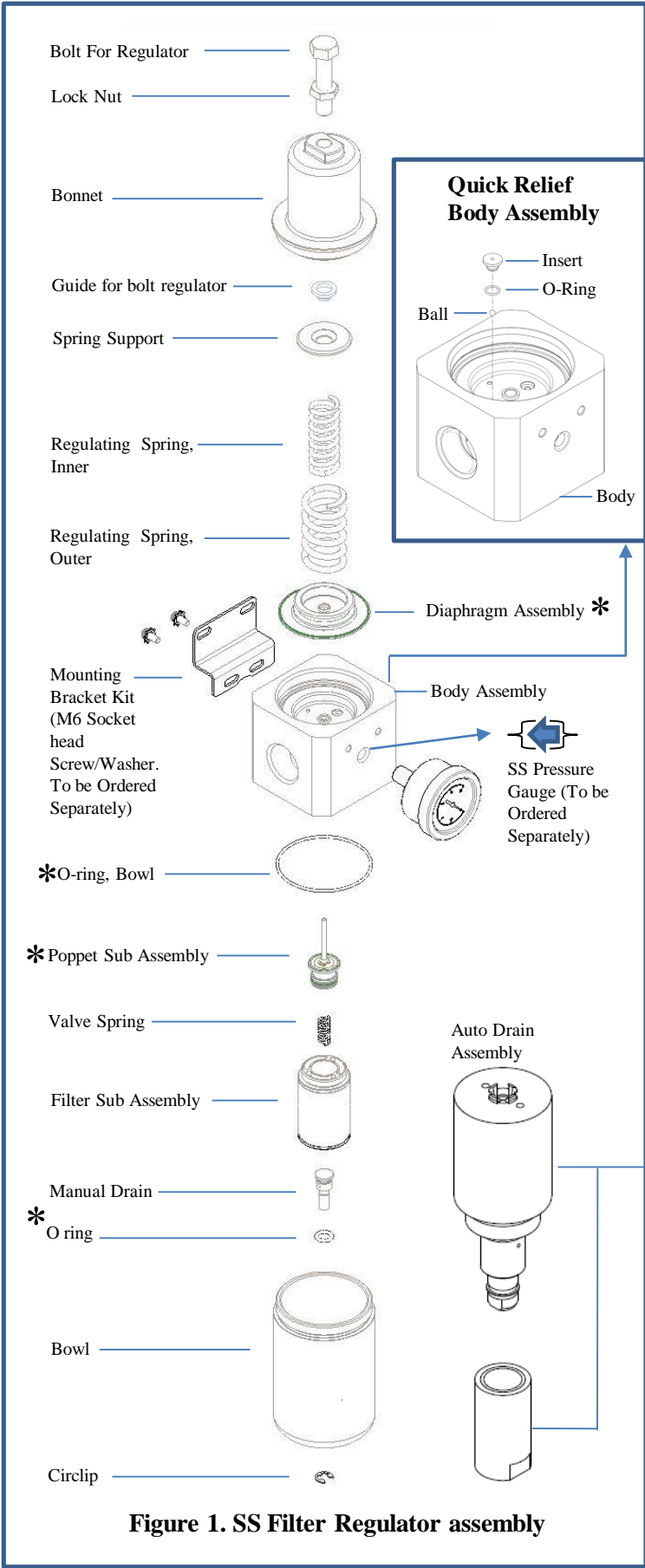
## Gauge Assembly Position

### Left to Right



### Right to Left





**Figure 1. SS Filter Regulator assembly**

