



# Installation, Operation & Service Manual

## PPL Bag Filter Housings

### Eaton Filtration, LLC

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**Read all instructions before installation or operation of equipment. Failure to comply with these instructions could result in bodily injury or property damage.**

**IMPORTANT:** Before installing the bag filter housing, check that the piping system operating conditions do not exceed their maximum pressure and temperature rating limit of the filter. Also make certain that the product which will be flowing through the filter vessel are chemically compatible with the materials used for the filter housing including the O-rings and the filter bag media.

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#### Introduction

Eaton bag filter housings are intended to be installed in pipeline systems to remove unwanted solids from fluids. All Eaton filter systems are designed to withstand rated pressures and are manufactured under an authorized ISO 9001:2000 program. Single bag housings should be installed only in systems where the flow can be interrupted in order to change the filter bags. Duplexed housings allow bag change out without shutting down the flow.

For additional information regarding Bag Filter Housings visit our website at:

[www.filtration.eaton.com](http://www.filtration.eaton.com)

## Receiving

Inspect the vessel after unpacking for damage that might have occurred during transit. Report any damage to the carrier and vendor immediately. Remove instructions and all temporary packaging materials.

## Filter Housing Installation

Remove the plastic protective caps from the flanges and/or threads. Position the filter so that the fluid enters the inlet connection. The bag filter must be bolted to the floor to insure proper piping installation. A integral flange on the base of the bag filter will accept 3/4" studs.

**WARNING: Metal piping systems should include a minimum of 20" of plastic pipe upstream and downstream of the bag filter vessel.**

For installation in metal piping systems it is recommended that a bag filter with flanged connections be used.

Connect inlet and outlet piping, along with any gauges, valves, or vents, using industry standards. See plastic threaded and flanged connection information below.

It is recommended that a 2" drain valve be installed on the unused bottom 2" NPT port.

The vent fitting must be installed on the top of the unit. **DO NOT FORGET THE "O"-RING.** A 3/2" ID tube should be attached over the barb and secured with a hose clamp on the vent fitting. This hose will be used to direct the flow from the vent fitting. The top of the vent fitting is normally plugged. This plug can be removed and replaced with a pressure gauge that measures the inlet pressure to the bag filter. It is recommended that a gauge guard be installed between the filter vent and the gauge.

## Threaded Connections

Threaded end connections are manufactured to ASTM specifications D2464-88, F437-88 and ANSI B2.1. Wrap threads of pipe with Teflon tape of 3 to 3-1/2 mil thickness.

## Threaded Connections...Continued

The tape should be wrapped in a clockwise direction starting at the first or second full thread. Overlap each wrap by 1/2 the width of the tape. The wrap should be applied with sufficient tension to allow the threads of a single wrapped area to show through without cutting the tape. The wrap should continue for the full effective length of the thread. Pipe sizes 2" and greater will not benefit with more than a second wrap, due to the greater thread depth.

To provide a leak proof joint, the pipe should be threaded into the end connection "hand tight", using a strap wrench only (never use a stillson type wrench). Tighten the joint an additional 1/2 to 1-1/2 turns past hand tight. Tightening beyond this point may induce excessive stress that could cause failure.

## Flanged Connections

Flange bolts should be tight enough to slightly compress the gasket and make a good seal without distorting or putting excessive stress on the flanges. Suitable washers should be used between the bolt head and flange and the nut and flange. Nuts and 5/8" diameter bolts should be metal, well lubricated and used with soft rubber gaskets. Bolts should be tightened in alternating sequence to a final torque of 15-25 foot pounds.

## Filter Bag Installation

Filter housings are not delivered with the filter bags installed, they must be installed as follows: Open the cover. Remove the bag hold down ring. If opening the housing for the first time remove restrainer basket and clean the inside of the housing to remove any shipping dust or packing debris. Inspect all O-rings, lubricate with compatible lubricant. Place the restrainer basket (if not already installed) into the filter housing.

Insert the filter bag\* into the restrainer basket after first removing the label from the bag.

*\*Consider ordering SENTINEL® welded filter bags, SENTINEL Filter Bags fit securely into place, providing the perfect seal.*

### Filter Bag Installation...Continued

Be certain that the filter bag is pushed to the bottom of the basket and that the collar of the filter bag is pushed onto the rim of the restrainer basket. The bag hold down ring should then be placed in to the housing, on top of the filter bag collar.

Before closing the cover, ensure that the sealing surfaces along with the cover O-ring are clean and damage free.

### Start-Up

**WARNING: The piping system should be purged of air before full pressure is applied.**

1. Close the valve on the outlet of the bag filter.
2. Open the vent located on the top of the bag filter.
3. Slowly and partially open the valve on the inlet of the bag filter.
4. Carefully vent all the air from the bag filter. Close the vent when liquid begins to discharge.
5. Fully open the inlet valve.
6. Fully open the outlet valve.

The system is now in operation.

### Shut Down/Filter Bag Changing

Never disassemble the bag filter while there is fluid in it. Drain all process fluid before removing the cover.

1. Close the inlet valve.
2. Close the outlet valve.
3. Open the drain on the bag filter.
4. Slowly open vent to fully drain the bag filter.
5. Remove bag filter cover.
6. Remove bag retainer and filter bag.
7. Install new bag and replace retainer and cover.
8. Repeat steps 3 to 6 under Start-Up above.

Attention should always be given to the O-rings and sealing surfaces, ensuring that they are clean and undamaged.

### Shut Down/Filter Bag Changing...Continued

Damaged O-rings should be replaced. Eaton recommends that O-rings be replaced each time the pressurized housing is opened. Reused O-rings may result in a faulty seal. Leaks from damaged O-rings or gaskets in no way indicate defects in the system.

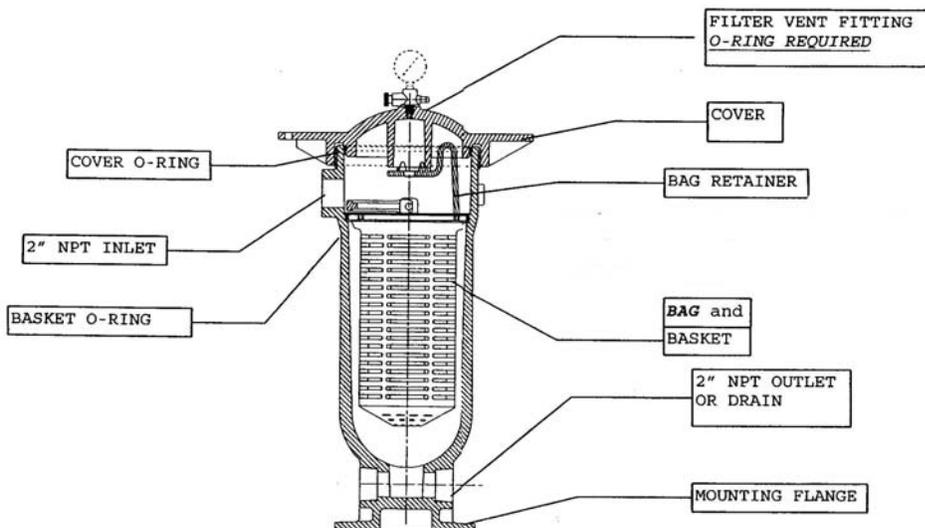
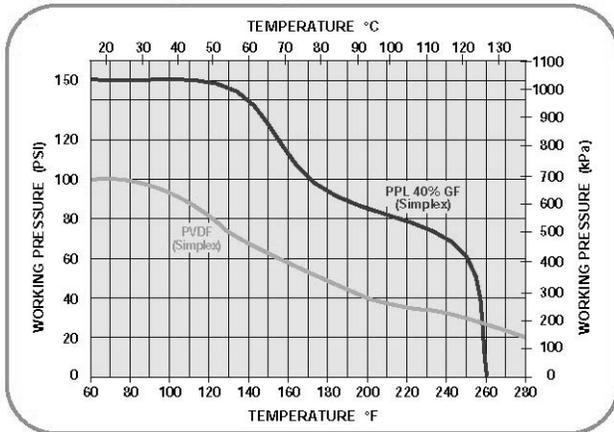
### Maintenance

The filter housing does not require any special maintenance other than cleaning with normal use. All parts should be regularly checked for damage. Install a new filter bag at every product change or if the bag becomes blinded. Differential pressure (the difference in pressure before and after the filter) will reveal if blinding has occurred. Eaton recommends changing the filter bag at a differential pressure of 20 psi; higher levels cause inefficient operation of the filter system and may force particulate through the filter bag material and contaminate the downstream liquid.

## Specifications

Maximum Working Pressure	150 psi at 70°F
Maximum Working Temperature	240°F Body Only
Maximum Flow	100 GPM Without Bag
Shipping Weight Single Length	48 Pounds
Shipping Weight Double Length	82 Pounds
Solids Collection Capacity	25 Pounds
Inlet/Outlet/Drain	2" NPT or 150# ANSI Flanged
Vent	3/8" Male Tube Fitting
Single Length Filter Bag	7" x 16"
Double Length Filter Bag	7" x 32"
Seals	Viton

## Operating Temperature/Pressure



# More From Eaton Filtration

## Pipeline Strainers

Eaton provides the most complete range of standard cast pipeline strainers for coarse filtration available from any manufacturer. These include Simplex, Duplex and Y Type Strainers, in Iron, Bronze, Carbon and Stainless Steel. For ultra-pure applications, strainers of all plastic construction are available. Cast Pipeline Strainers range in size from 1/2" to 36" and larger.

When a cast strainer won't meet the applications requirements because of size, weight or design Eaton offers standard fabricated strainers to meet exact customer requirements. without any trade-offs. When a standard design fabricated strainer will not meet an application's requirements Eaton's design team can work with customers to create a unique one that will.

Eaton also offers Automatic Self-Cleaning strainers. These are motorized strainers designed for the continuous removal of entrained solids from liquids in pipeline systems. The strainer operates un-attended and the system flow never has to be shut down for strainer element cleaning. These strainers are available in both cast and fabricated types.

Find out more on the web at:  
[www.Filtration.Eaton.com](http://www.Filtration.Eaton.com)

## Gas/Liquid Separators

Eaton's Gas/Liquid Separators have been the "Industry Standard" for over 100 years. Nobody knows more about gas/liquid separation than us.

Eaton Gas/Liquid Separators are used to remove 99% of moisture causing moisture and particulate matter from air, gas and steam pipelines. They protect valuable system components like air compressors and turbines from damage.

Eaton has a wide selection with hundreds of different Gas/Liquid Separators. When a standard model isn't right for an application, Eaton Engineers can work with customers to create a custom fabricated model that fits the application requirements exactly.

Find out more on the web at:  
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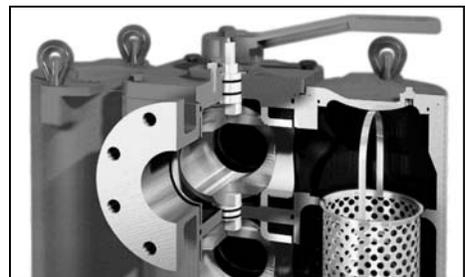
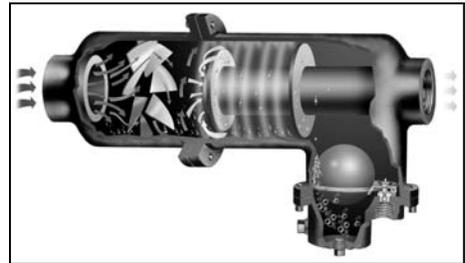
## Filtration Systems

With Eaton Filter Housings you have your choice of high grade investment cast construction or engineered fabricated construction in stainless steel or carbon steel. Or, for extremely corrosive or ultra-pure services, you can choose all-plastic construction. You can be sure Eaton Filter Housings will meet specifications because they are all made to ISO 9001:2000 Standards. Eaton has representatives in over 40 countries, experienced professionals to provide the filtration help you need, when and where you need it.

Choosing the correct filter bag is critical to the success of you application. Don't trust anything less than a filter bag from Eaton. They're made under ISO 9001:2000 Standards to ensure

the consistent, reliable performance that you demand. Eaton Filter Bags fit all Eaton Filter Housings and the housings of most other manufacturers as well.

Find out more on the web at:  
[www.Filtration.Eaton.com](http://www.Filtration.Eaton.com)



Eaton Filtration warrants its products against defective material and workmanship only. Eaton assumes no responsibility for damage or injury resulting from improper installation, abuse, or misapplication of any product. Eaton assumes no responsibility for damage or injury resulting from chemical incompatibility between its products and the process fluids to which they are subjected. The end user should always test to determine application suitability. Contact your Eaton Representative for complete warranty information.

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