ATMO/SEAL®, INC.

Emissions Sample Transport Systems

Atmo-Seal Heated Filter/Valve Units

Atmo-Seal Engineering, Inc.(tm) *manufactures Heated Filter/Valve units -for use in gas and diesel sampling, stack and process monitoring. The typical operating range is 450 F, but ranges in excess of* ***1000 F*** *are available.*

Heated Filter /Valve Unit

- *Choice of AC 50-60 HZ or DC operation in a wide range of voltages*
- *Choice of Thermocouple, RTD, Internal Thermostat or other sensors*
- *Housings are available for common filter element sizes (1 X 7, 1 X 2.5, 1/2 x 2.25, 1/2 x 1 inches)*
- *Valves feature high-temp, inert seats made from Teflon (tm), Viton (tm) or Silicone.*
- *Made with high-temp phenolics to provide the best thermal isolation in the industry*
- *Tube ports may be easily be removed and/or replaced by the user for resizing or maintenance*
- *Easily dis-assembled and repaired in situ if needed*
- *Filter element may be changed easily by the user*

A True Problem Solver...

The Filter/Valve Unit performs multiple operations. It removes unwanted particulate from your sample stream and incorporates sample routing and leak check functions directly into a single package.

The solenoid valve used in the Filter/Valve Unit may be either a 2-way or 3-way model. It may also be positioned upstream or downstream of the filter for your individual needs. That gives you the option of purging, leak checking, introducing cailbration gases and a host of other options automatically. It also saves on control zones and eliminates cold junction headaches.

Atmo-Seal, Inc. will also incorporate manual plug valves, ball valves and other items into your Filter/Valve units as needed.

Of course, our Filter and Valve Units carry a full, 18 month limited warranty.

Options

As always, Atmo-Seal, Inc., will customize our products to your exact specifications WITHOUT jeopardizing your delivery schedule.

"Timely Quality" It's more than just a saying at Atmo-Seal, Inc., it's our success, and yours.

Heated Filter Part Number Guide

Flow Path	Port Size	Element Length vs ID	Configuration Code
FVD VFD	2 - 1/8” 4 - 1/4” 6 - 3/8” 8 - 1/2” or 6mm 8mm 10mm 12mm etc.	7/1 -1”ID X 7” long 2.5/1- 1” ID x 2.5” long .5/2.25 - 1/2” ID x 2-1/4” etc.	See below

FVD - Bayonet-type filter downstream of valve, all SS construction, Silicone Seals, Rated to 450 F + cont. Operation. May be a screw head or Twist-N-Lock style
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Configuration Code - The configuration code at the end our part number(s) refer to your individual design criteria. Information covered in the Configuration Code may include Thermocouple or RTD type, operation voltage, etc. The Configuration Code also covers common options such as Over-Temperature Protection, R.F. Shielded Thermocouple Wires, coil voltage, valve orientation/type, etc.

Example Part Number: FVD-6-7/1-A25 Filter upstream of valve, **, 6 -** Port Size, **7/1** Element Size, **D89** -3/8” Compression fitting ports, dual K Thermocouples, 200 C operation/exposure, 120 VAC heater, 24 VDC 2-way solenoid valve, normally closed.

Common Options

Dual Thermocouples: Two J and Two K type thermocouples to allow the unit to be used with two temperature controller types.

Over-Temperature Protection: Built in thermal switch(es) which will open if the filter exceeds its maximum operational temperature. Switch(es) will close again once the filter has cooled down to a safe range.

Shielded Thermocouples: Provides extra RF protection in electrically noisy conditions.

Replacement Filter Elements & Parts
Filter & Solenoid Valve Combinations

Disposable Standard Elements for Gaseous Testing:
1" ID x 7" Long Element (box of 10) EPT-7/1
1" ID x 2-1/2" Element (box of 10) EPT-2.5/1
1/2" ID x 2.25" Long Elements (box of 10) EPT-2.25/.5
1/2" ID x 1" long Elements (box of 10) EPT-1/.5

Disposable Low Reactivity Elements for Gaseous Testing:
1" ID x 7" Long Element (box of 10) EPQ-7/1
1" ID x 2-1/2" Element (box of 10) EPQ-2.5/1
1/2" ID x 2.25" Long Elements (box of 10) EPQ-2.25/.5
1/2" ID x 1" long Elements (box of 10) EPQ-1/.5

Treated Elements for Gaseous Testing & Ammonia Abatement:
1" ID x 7" Long Element (box of 10) EPA-7/1
1" ID x 2-1/2" Element (box of 10) EPA-2.5/1
1/2" ID x 2.25" Long Elements (box of 10) EPA-2.25/.5
1/2" ID x 1" long Elements (box of 10) EPA-1/.5

Re-useable Stainless Steel Coarse Elements for Gaseous Testing:
1" ID x 7" Long Element - EPM-7/1
1" ID x 2-1/2" Element - EPM-2.5/1
1/2" ID x 2.25" Long Elements - EPM-2.25/.5
1/2" ID x 1" long Elements - EPM-1/.5

Disposable replacement elements are all typically 95% @ .01 micron. This and other ranges are in stock and ready for immediate shipment.

Stainless steel elements are 95% efficient ay 10 micron and are designed for coarse filtration. Other ranges are available, please contact Atmo-Seal for more information.

Seal Kits for ASE Filters

High Temp Silicone unless otherwise specified. Viton, Teflon, Encapsulated Silicone, Buna, Graphite and other materials are available.

7" & 2-1/2" Filters - Twist-n-Lock style

FPD-X/1 - (*) Specify V for Viton, T for Teflon E for encapsulated, G for Graphite (Ultra-High Temp).

7" & 2-1/2" Filters - Screw Head

FPD-X/1-SH- (*) Specify V for Viton, T for Teflon E for encapsulated, G for Graphite (Ultra-High Temp).

FVD/VFD -SERIES HEATED TEE HANDLE FILTER/VALVES FOR 7" AND 2-1/2" FILTER ELEMENTS
P/N Fvd-X-7/1-XXX & FVD-X-2.5/1-XXX
P/N VFD-X-7/1-XXX & VFD-X-2.5/1-XXX

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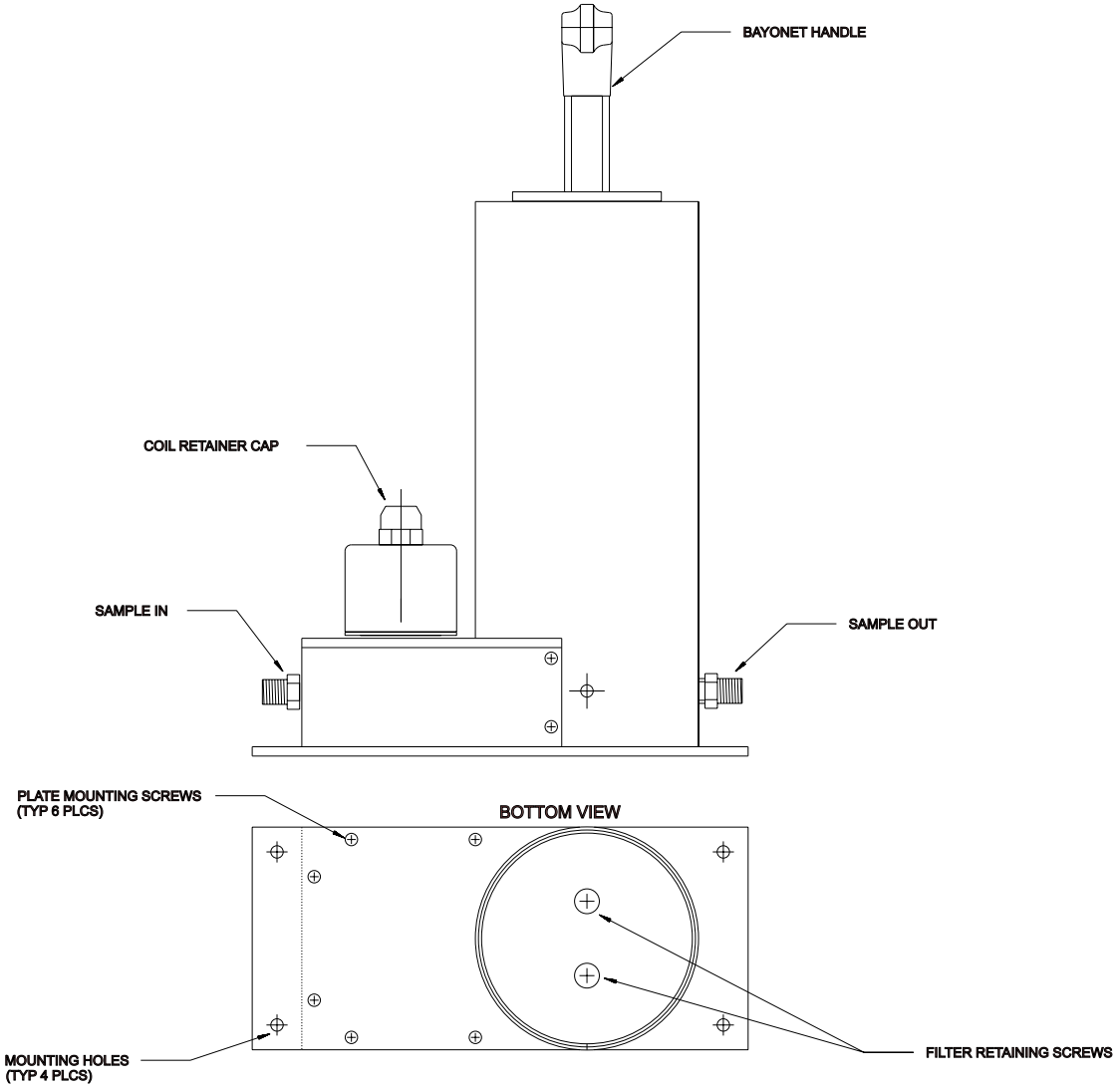

FVD/VFD HEATED FILTER/VALVE HOUSING(S) FOR 7" FILTER ELEMENTS P/N FVD/VFD-X-7/1-XXX USES FILTER ELEMENT EPD-7/1

Replacing the filter element:

Determine if you have a screw head or twist-n-lock filter

Twist-n-Lock:
Gently press down on the filter handle, The handle will drop about 1/4"
Rotate the handle counter-clockwise until it stops
Lift out the handle

Screw Head:
Unscrew the filter by turning the handle counter-clockwise.

Remove the filter retainer nut from the bottom of the handle and replace the filter.

Reverse the above steps for filter replacement

Note: For proper filter installation, the element retainer nut must bottom out tightly on the element & tie rod for a positive inside the housing. If the retainer nut is not fully tightened, the filter handle will not lock inside the housing. Do Not force the handle in place, make sure the retainer is fully engaged.

Servicing the Filter & Valve::

Remove the handle per the steps above

Remove the coil retainer cap nut

Remove (by unscrewing) the sample in/out ports (Ports have 1/4" M-NPT pipe threads to engage the filter & valve)

Remove the two filter retaining screws (1/4-20) and the 6 plate mounting screws from the bottom of the mounting plate

Gently lift off the cover.

Filter, valve and fittings are nor accessible ultrasonic cleaning, repair, replacement or re-orientation as needed.

Reverse the steps above for re-assembly. Use fresh Teflon thread sealing tape for on any NPT ports which were removed during service.

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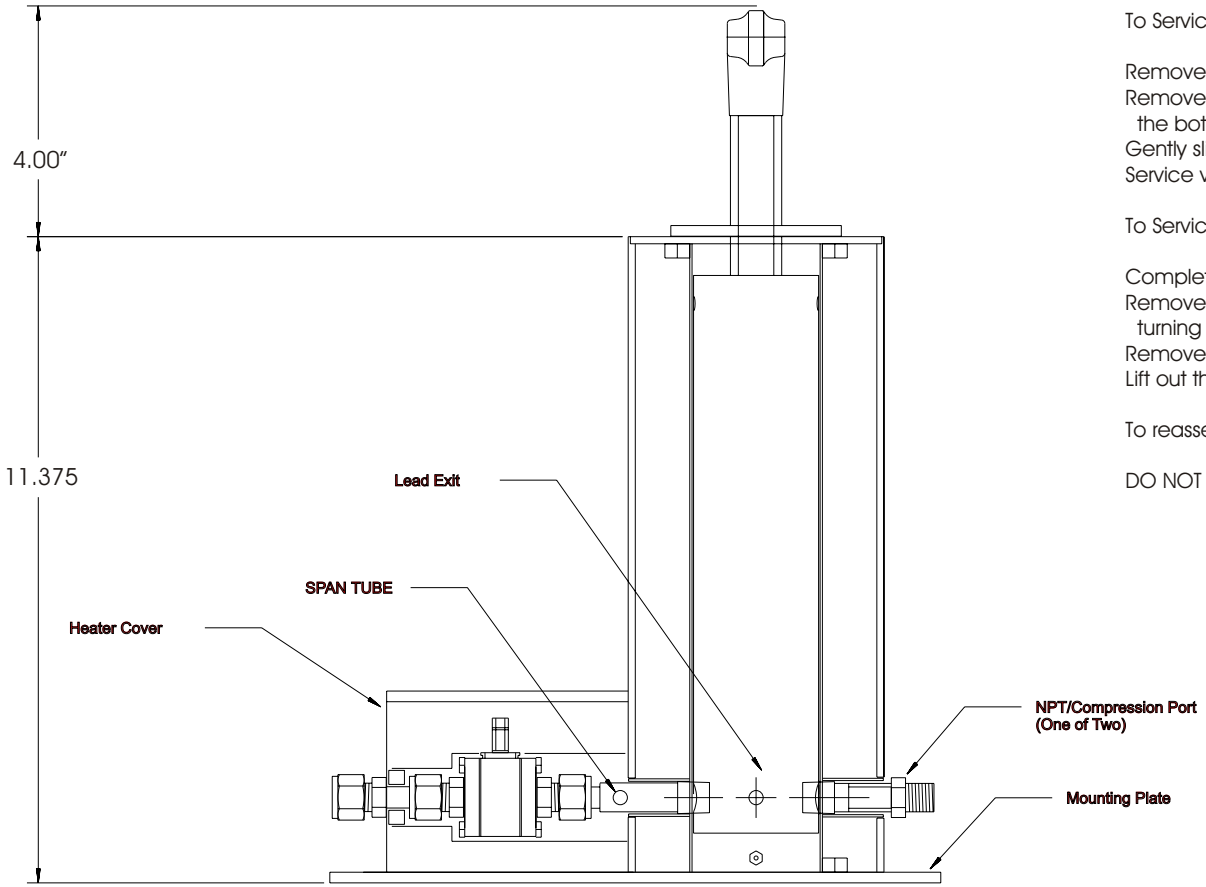

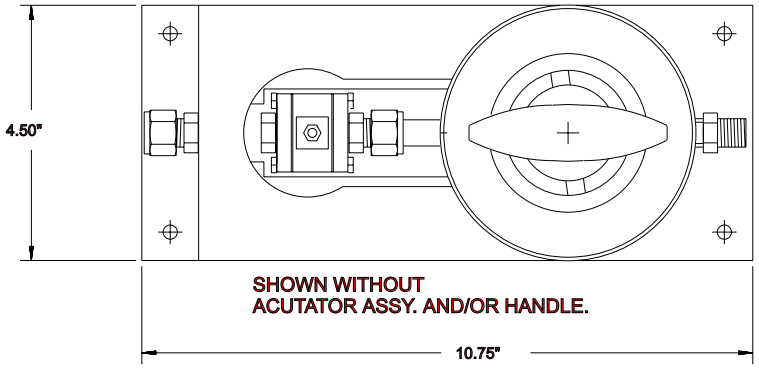

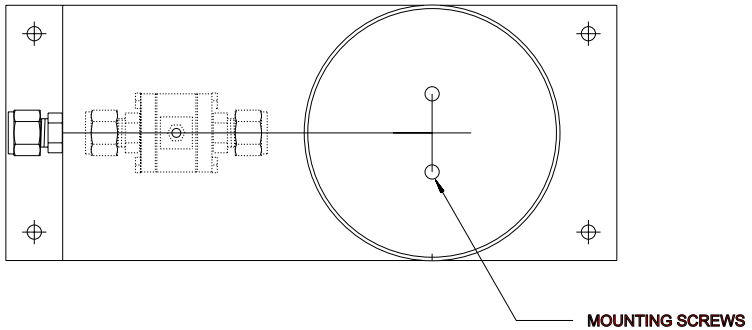

To Service Valve:

Remove handle or actuator from the valve
Remove screws attaching the heater cover to
the bottom mounting plate
Gently slide the heated cover forward
Service valve as needed after valve is cool to the touch.

To Service the filter:

Complete all of the above steps
Remove the In/Out ports from the filter body by
turning them counter-clockwise
Remove the mounting plate screws
Lift out the filter body.

To reassemble, reverse steps

DO NOT SERVICE IF ASSEMBLY WHILE IT IS HOT!

FVD/VFD HEATED FILTER/VALVE HOUSING(S)
FOR 7" FILTER ELEMENTS
P/N FVD/VFD-X-7/1-XXX
USES FILTER ELEMENT EPT-7/1

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