



**ATMO**  
**SEAL, INC.**

Emissions Sample Transport Systems

## *Atmo-Seal Heated Filters*

Atmo-Seal Engineering, Inc.<sup>(tm)</sup> manufactures heated filters -for use in gas and diesel sampling- to remove unwanted particulate before it enters your analyzer. Our typical operating range is 450 F, but ranges in excess of **1000 F** are available.



### **Heated Emissions Filters**

- 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)
- Made with high-temp phenolics to provide the best thermal isolation in the industry
- Tube ports and the filter housing may be easily removed or replaced by the user
- Easily dis-assembled and repaired in situ if needed
- Filter element may be changed easily by the user in seconds.

### **Tough and Adaptable**

At Atmo-Seal, Inc. we know how dangerous life can be for equipment in a test cell. We kept that in mind when designing our heated filters.

Our housing exteriors are constructed of high-temperature phenolics, stainless steel fasteners and low thermal-transmission materials to provide both durability and operator safety.

Another unique advantage of our design is the easy removal and replacement of the filter housing and the port fittings. The entire filter assembly may be removed from the heater in seconds by simply removing two screws and fittings. So if a filter is damaged or needed elsewhere, port sizes and types need to be changed, or for quick repairs, Atmo-Seal's heated filter has got you covered!

Our filters carry a full 18 month limited warranty, too!

### **Options**

As always, Atmo-Seal, Inc., will customize your filters to your exacting 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.



**ATMO/  
SEAL<sup>®</sup>, INC.**

**Emissions Sample Transport Systems**

## **Atmo-Seal High Flow Heated In-Line Filters**

Atmo-Seal Engineering, Inc.<sup>(tm)</sup> manufactures a series of heated in-line particulate filters designed to remove unwanted matter before it enters your sample stream. These heated filters are expressly designed for minimal pressure drop and maximum flow. Our typical operating temperature is up to 450 F (225 C), with ranges up to 900 F (490 C) available. Operational pressure may be up to 1500 PSI, making this filter tough enough for your most rugged application.



### **Heated Emissions Filters**

- 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 (1X7, 1X2.5")
- Ultra Low Pressure Drop. 200 + LPM of flow with less than 5% of 1 Atmosphere pressure drop.

At Atmo-Seal, Inc. we know how dangerous life can be for equipment in the field, so our filters are built for durability. Our filters have rugged aluminum exteriors and SS wetted internal parts. Drop it, kick it, smack it - but you will not kill it.

Our In-Line heated filters are expressly designed for rough applications on the upstream side of your sample. They have an optional attaching handle/bracket to remove strain from the end of a sample line and allow for ease of movement.

Placed upstream as coarse filtration (10 micron), our in-line filters remove the large chunks of matter that will clog your sample train. Using an inline filter upstream ensures an extended life and cleaner sample for your analyzer and downstream fine filtration.

Using an ASE in-line filter for primary upstream filtration (.01/.1 micron) will protect your entire sample train from unwanted particulate that could damage your analyzer and skew test results.

Our heated, in-line filters are designed for minimal pressure drop. An ASE In-Line Filter, with a .01 micron filter element, will deliver over 200 LPM with a pressure differential of less than 5% of one atmosphere (.75 psi). That makes this filter your best choice for all of your high-speed sampling needs.

### **Options**

As always, Atmo-Seal, Inc., will customize your filters to your exacting specifications WITHOUT jeopardizing your delivery schedule.

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SEAL<sup>®</sup>, INC.**

**Emissions Sample Transport Systems**

## ***Atmo-Seal Laboratory Teflon and SS Heated Filters***

Atmo-Seal Engineering, Inc.<sup>(tm)</sup> manufactures a series of "Bowl Type" particulate filters designed to remove unwanted matter before it enters your sample stream. Available in both Teflon and Stainless Steel. Our typical operating temperature is up to 450 F (225 C), with ranges up to 900 F (490 C) available.



### **Heated Emissions Filters**

- 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 (1X7, 1X2.5")
- Dual/Split Zone Heater design allows for quick element Change and service.
- Easily mounts to vertical or horizontal surfaces with Optional Mounting Clamp
- The most uniform heat available in the industry today

At Atmo-Seal, Inc. we know how dangerous life can be for equipment in the field, so our filters are built for durability. Our filters have rugged aluminum exteriors and SS or Teflon wetted internal parts.

Placed upstream as coarse filtration (10 micron), our in-line filters remove the large chunks of matter that will clog your sample train. Using an inline filter upstream ensures an extended life and cleaner sample for your analyzer and downstream fine filtration.

Using an ASE filter for primary upstream filtration (.01/.1 micron) will protect your entire sample train from unwanted particulate that could damage your analyzer and skew test results.

Our filters carry a full 18 month limited warranty, too!

### **Options**

As always, Atmo-Seal, Inc., will customize your filters to your exacting 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

Filter Type	Port Size	Element Length vs ID	Configuration Code
FPD FPC FPB FPC	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

**FPD** - Bayonet-type filter, all SS construction, Silicone Seals, Rated to 450 F + cont. Operation. May be a screw head or Twist-N-Lock style

**FPC**- Bayonet-type filter, all SS construction, High-temp seals, Rated to 1000 F + cont. Operation.

**FPB**- Bowl-type filter, all SS construction, High-temp seals, Rated to 1000 F + cont. Operation. Rated to 1000 PSI.

**FPI**- In-Line filter , all SS construction, High-temp seals, Rated to 1000 F + cont. Operation. Lowest Pressure drop, used at the inlet of a sample line.

**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, etc.

**Example Part Number: FPD-6-7/1-A25:** FPD - Filter body type, 6 - Port Size, 7/1 Element Size, A25 -Compression fitting ports, dual J & K Thermocouples, 200 C operation/exposure, 120 VAC.

Of course, we will customize our products to your exact specifications.

### 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

## **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 at 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).

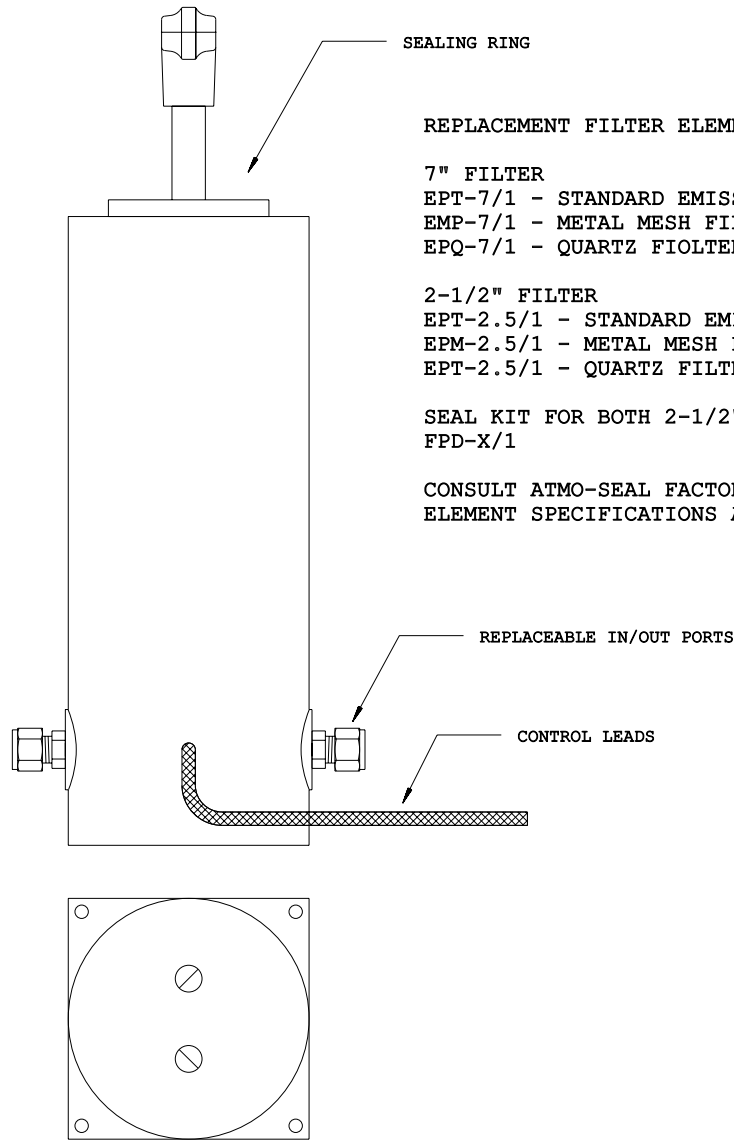
FPD-SERIES HEATED TEE HANDLE FILTER  
FOR 7" AND 2-1/2" FILTER ELEMENTS  
P/N FPD-X-7/1-XXX & FPD-X-2.5/1-XXX



TO OPEN THE FILTER HOUSING,  
PRESS DOWNWARD ON THE FILTER  
HANDLE AND TURN COUNTER-  
CLOCKWISE ABOUT 1/8TH OF  
A TURN, THEN LIFT.

TO REPLACE THE HANDLE,  
REVERSE THE ABOVE.

FOR SCREW HEAD FILTERS,  
TURN THE HANDLE CLOCKWISE  
TO CLOS FLITER,  
CONTER-CLOCKWISE  
TO OPEN FILTER



REPLACEMENT FILTER ELEMENTS

7" FILTER

- EPT-7/1 - STANDARD EMISSIONS FILTER
- EMP-7/1 - METAL MESH FILTER
- EPQ-7/1 - QUARTZ FIOILTER

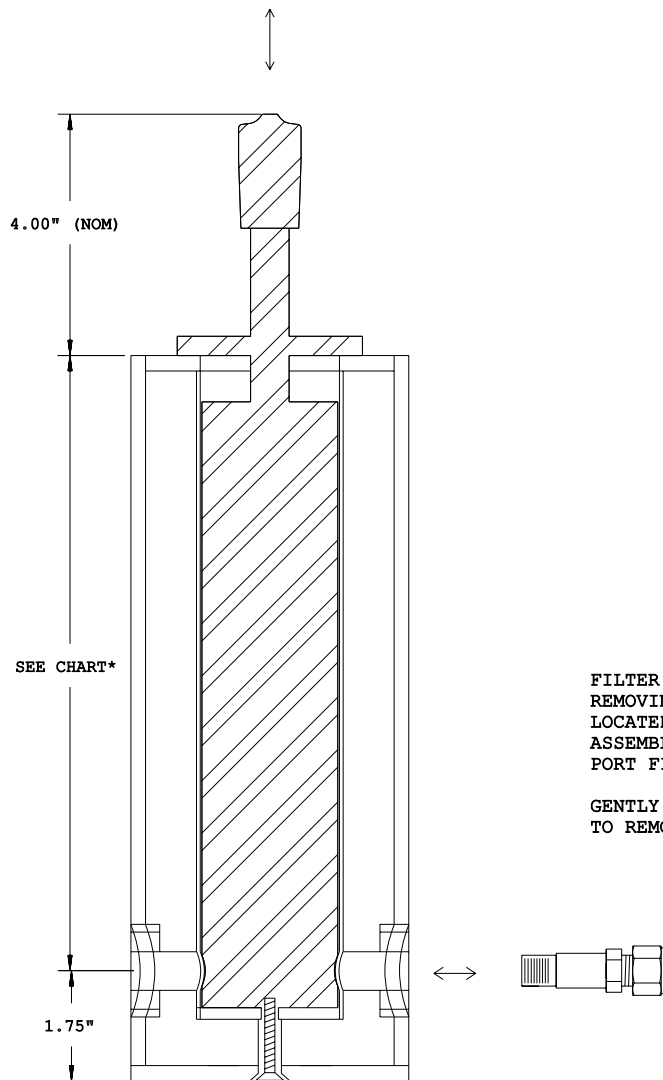
2-1/2" FILTER

- EPT-2.5/1 - STANDARD EMISSIONS FILTER
- EPM-2.5/1 - METAL MESH FILTER
- EPT-2.5/1 - QUARTZ FILTER

SEAL KIT FOR BOTH 2-1/2" & 7" FILTERS  
FPD-X/1

CONSULT ATMO-SEAL FACTORY FOR ADDITIONAL FILTER  
ELEMENT SPECIFICATIONS AND APPLICATIONS

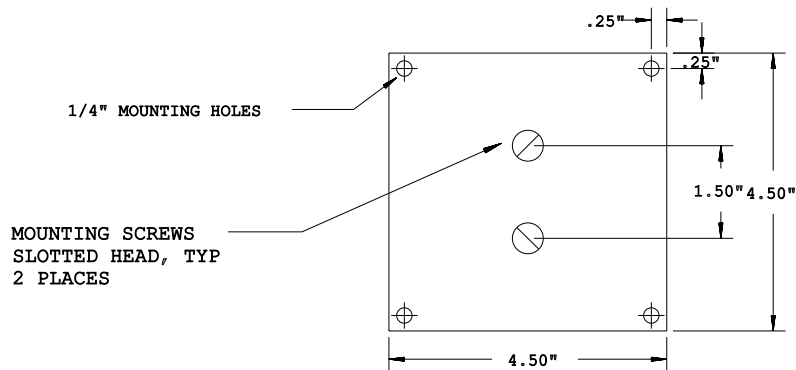
FPD-SERIES HEATED FILTER HOUSING  
FOR 7" & 2-1/2" FILTER ELEMENTS  
P/N FPD-X-X/1-XXX



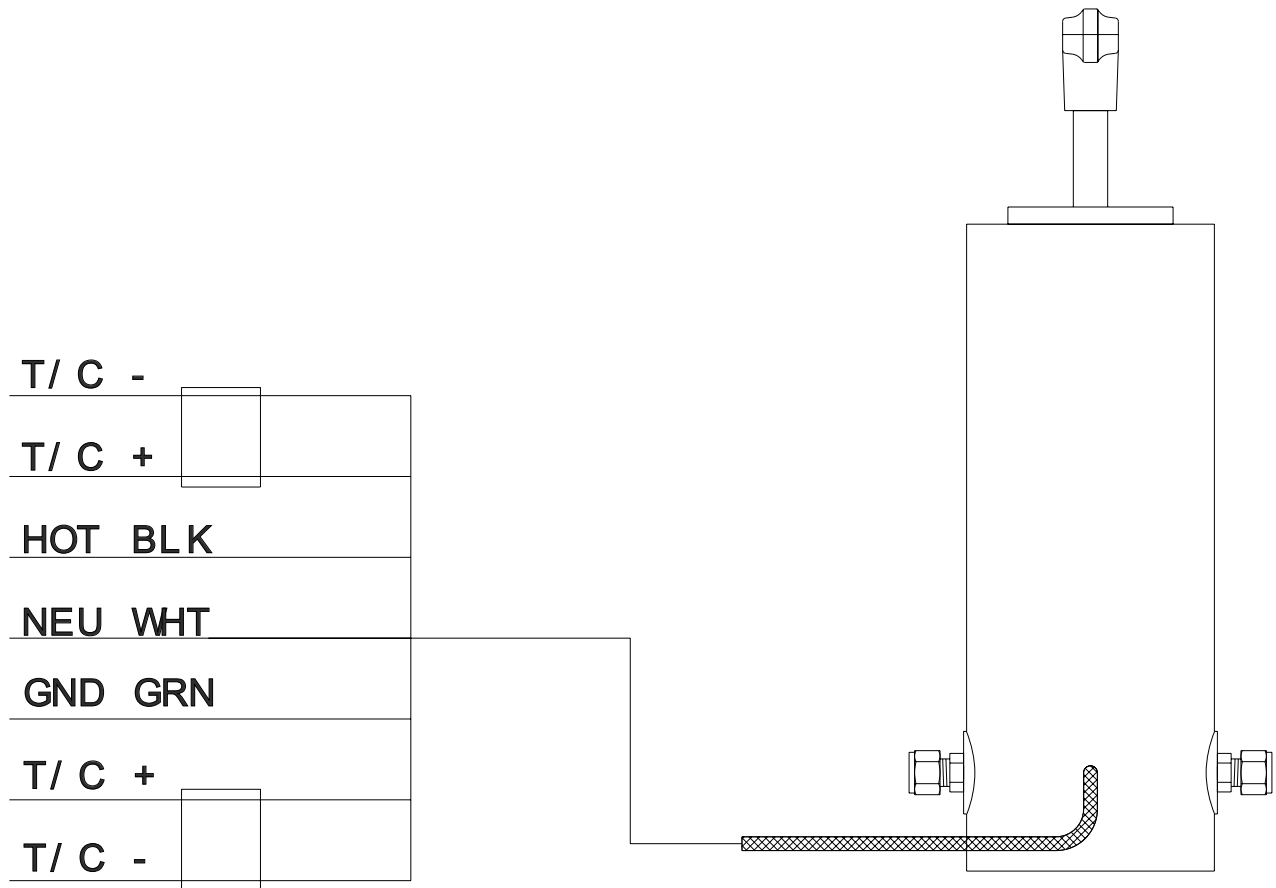
FILTER MAY BE REMOVED OR REPLACED BY REMOVING THE TWO MOUNTING SCREWS LOCATED ON THE BOTTOM OF THE HEATED FILTER ASSEMBLY AND REMOVING THE TWO 1/4-NPT PORT FITTINGS.

GENTLY PULL THE FILTER FROM THE HEATED SLEEVE TO REMOVE. REVERSE THESE STEPS TO REPLACE.

FPD-X-2.5/X-XXX FILTERS - 6.875"  
 FPD-X-7/1-XXX FILTERS - 11.25"



FPD-SERIES HEATED FILTER HOUSING  
 FOR 7" & 2-1/2" FILTER ELEMENTS  
 P/N FPD-X-X/1-XXX



APPX 250 WATTS (VA)

CHOICE OF 120 OR 240 VAC OPERATION

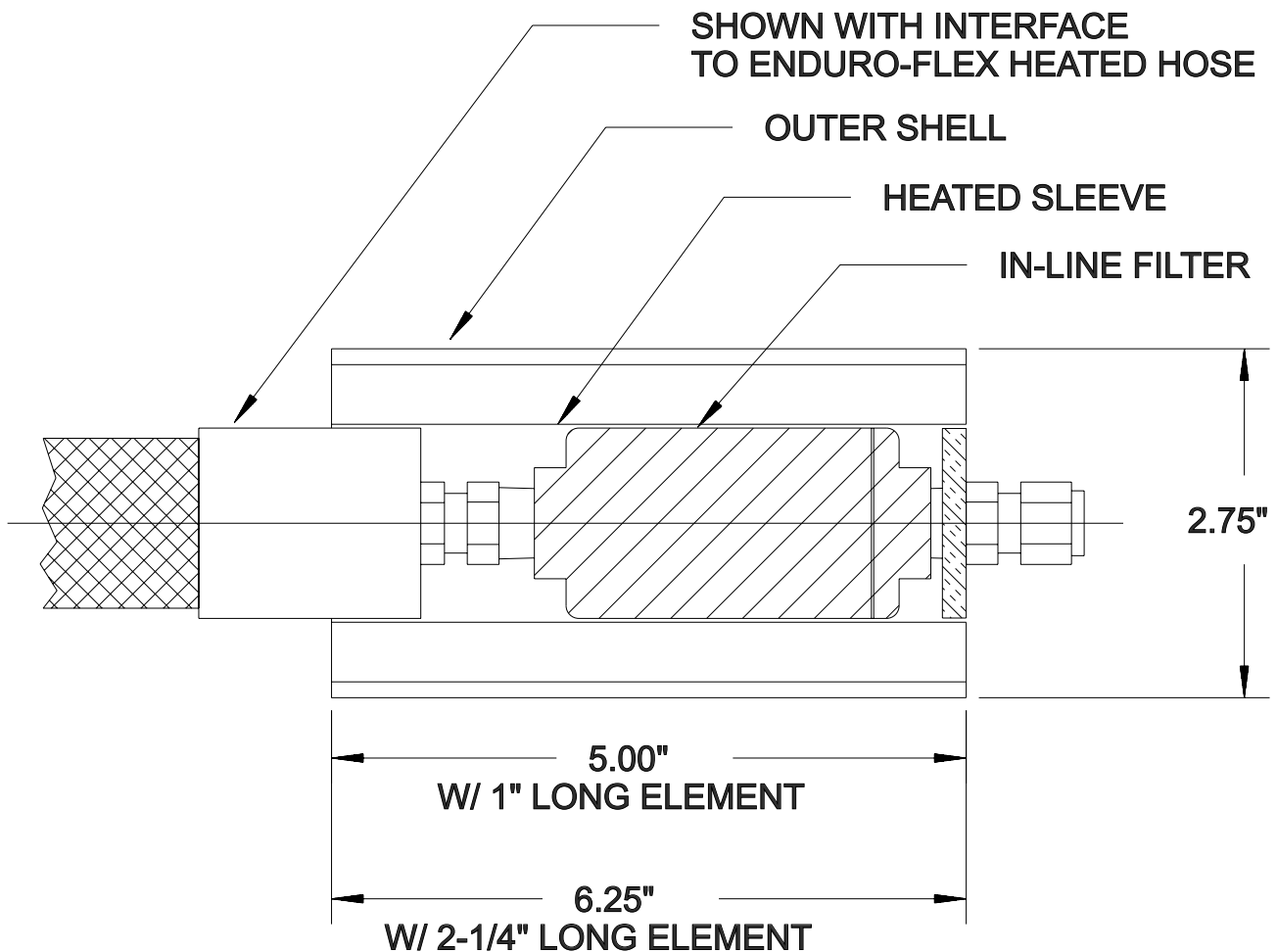
THERMOCOUPLE/SENSOR TYPE DETERMINED BY CUSTOMER

PORT TYPE/SIZE SELECTED BY CUSTOMER

DEVICE REQUIRES A TEMPERATURE CONTROLLER WITH A MINIMUM, FUSED OUTPUT OF 3 AMPS AT 120 VAC. PID OPERATION CONTROLLERS ARE PREFERRED.

FPD-SERIES HEATED FILTER HOUSING  
 FOR 7" & 2-1/2" FILTER ELEMENTS  
 P/N FPD-X-X/1-XXX





150 WATTS (VA)  
 CHOICE OF 120 OR 240 VAC OPERATION  
 PORT SIZE/TYPE DETERMINED BY THE USER  
 THE UNIT MAY BE CONTROLLED BY ITS OWN TEMPERATURE CONTROLLER; SELF-LIMITING WITH AN INTERNAL SWITCH; DRIVEN AS A SLAVE HEATER BY AN *ENDURO-FLEX* HEATED HOSE EQUIPPED WITH THE APPROPRIATE CONNECTOR.

CHOICE OF 1/2" ID X 1" LONG FILTER ELEMENT OR 1/2" ID X 2.25" LONG ELEMENT AS LISTED BELOW.

DISPOSABLE MICROFIBER ELEMENT (.1 MICRON)  
 EPT-2.25/.5 (2-1/4" LONG)  
 EPT-1/.5 (1" LONG)

STAINLESS STEEL REUSABLE MESH ELEMENT (10 MICRON)  
 EPM-2.25/.5 (2-1/4" LONG)  
 EPM-1/.5 (1" LONG)

FPI-SERIES HEATED IN-LINE FILTER  
 FOR 2-1/4" AND 1" FILTER ELEMENTS  
 P/N FPI-X-2.25/.5-XXX & FPI-X-1/.5-XXX