



# Operating Instructions

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## Foreline Trap Right Angle and Inline

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Part No.: V795023  
Revised: June 2008  
Price: \$10.00

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# 1. INTRODUCTION

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This manual provides installation, operation and maintenance instructions for the Vacuum Research Corp. Foreline Traps.

## **WARNING**

Warnings are given where failure to observe the instruction could result in injury or death to persons.

## **CAUTION**

Cautions are given where failure to observe the instruction could result in damage to the equipment, associated equipment and process.

The Foreline Trap has been developed for use in clean pumping systems to prevent the back-migration of rotary pump oil vapor into the systems; we particularly recommend that you use a foreline trap with two-stage rotary pumps.

The trap consists of an aluminum basket located within a aluminum body mach.; the aluminum basket is retained by the lid and spring.

A sorbent is contained in the metal basket to absorb any oil back migrating from the pump. You have a choice of 3 sorbent materials: activated alumina, activated carbon and copper wool. Activated alumina is the most commonly used. It has exceptional trapping properties for oil vapor, and has a life of up to 6 months before it must be replaced or renewed.

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## 2. UNPACKING

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Remove all packing materials and check the Foreline Trap. If it is damaged, please notify your supplier and the carrier immediately and retain all packing materials for inspection. Do not use the trap.

Verify that your package contains one trap and one tin of sorbent of the type you ordered. If either of these items is missing, please notify your supplier immediately.

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## 3. INSTALLATION

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Because of the spring loaded sorbent bed retainers, your VRC trap can be used in any orientation. When the sorbent needs to be replaced, you will want to be able to remove the basket while the trap body remains in place. Keep the need for such access in mind when installing the trap.

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## 4. FILLING THE TRAP WITH SORBENT

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| WARNING |
|---------|
|---------|

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|---|
| Activated alumina, activated carbon, copper wool and other sorbents will absorb materials from your process system. You must take suitable precautions to protect personnel from the harmful effects of any noxious materials released if you attempt to reactivate spent sorbent by baking. Avoid inhalation of its dust, eye contact and unnecessary skin contact |
|---|

Remove the thumb screws from the top of the trap. Keep in mind that the internal spring is pushing against the top cover

Place the basket body on a level surface and put one of the sorbent bed retainer screens in the bottom of the basket. Pour in enough sorbent to a level about 1/2 inch (10 to 12 mm) below the top edge of the basket.

Put the second sorbent bed retainer screen on top of the sorbent. Using pliers or your fingers compress the circular sorbent retainer spring and insert it into the basket on top of the retainer screen.

Install the coil spring in the center of the retainer spring and put the basket with spring into the trap body.

Reinstall the trap top cover being sure that the coil spring is positioned in the recess in the center of the cover.

## 5. OPERATION

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### WARNING

Activated alumina, activated carbon, copper wool and other sorbents will absorb materials from your process system. You must take suitable precautions to protect personnel from the harmful effects of any noxious materials released if you attempt to reactivate spent sorbent by baking. Avoid inhalation of its dust, eye contact and unnecessary skin contact

In common with other types of sorbent, activated alumina absorbs moisture. This will not affect its oil vapor trapping properties, but may tend to prolong rough pumping on successive pumping cycles. Regular regeneration by baking of the trap or renewal of the sorbent will be necessary for rapid pump-down.

If the trap has been open to atmosphere for a long period of time, prolonged pumping with a gas-ballasted rotary pump may be required to remove absorbed moisture. Alternatively, you may remove the basket from the trap and bake it at 250°C to 300°C for two hours.

It may be convenient to purchase a spare sorbent basket to install with fresh sorbent while the used sorbent is being baked.

Use a valved by-pass line to minimize vapor absorption during pump-down

## 7. DISPOSAL

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### **WARNING**

Activated alumina, activated carbon, copper wool and other sorbents will absorb materials from your process system. Take suitable precautions to protect personnel from the harmful effects of any noxious materials released if you attempt to reactivate spent sorbent by baking. Avoid inhalation of its dust, eye contact and unnecessary skin contact

During normal use, the sorbent material nearest the rotary pump connection will become brown in color. When the discoloration has reached the sorbent layer furthest from the pump connection, you must change the sorbent charge. The time taken for this to occur will depend on the frequency of use and the location of the trap in relation to the rotary pump. A typical charge life is 6 months, although it is advisable to renew the charge every 3 months as a routine maintenance procedure.

Remove the basket and spring from the trap body.

Using pliers or you fingers, compress the circular sorbent retainer spring and the sorbent retainer screen. The sorbent can now be removed.

Refer to the "Installation" section of this manual for refilling instructions. Inspect the o-rings and replace them if nicked or swollen. If swollen, contact the factory for recommendations of different o-ring materials that are more compatible with your pump fluid.

If the trap body interior or basket appear oily or dirty at any time after use, wash it out with iso-propyl or ethyl alcohol and then dry thoroughly.

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## 7. DISPOSAL

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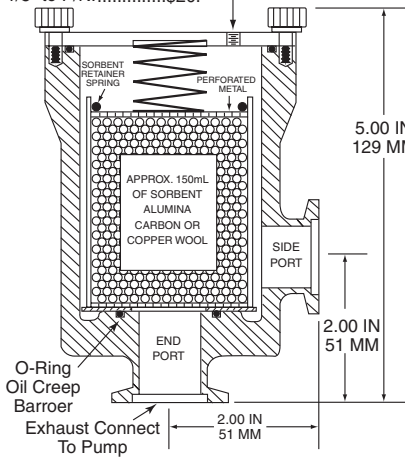
Dispose of the trap and used sorbent safely in accordance with local and national safety and environmental requirements.

## 8. SPARE PARTS LIST

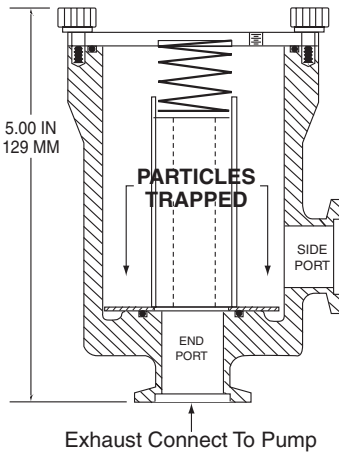
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| <b>Part No.</b> | <b>Description</b>  |
|-----------------|---|
| V801160         | Sorbent Basket Assembly (without sorbent)                     |
| V206141         | Top Cover O-Ring  |
| V206142         | Sorbent Basket O-Ring   |
| V308654         | Spring  |
| V204002         | Circular Sorbent Retaining Spring                             |
| V801162         | Thumb Screws  |
| V801163         | Activated Alumina Sorbent, approximately 300 ml (two charges) |
| V801164         | Activated Carbon Sorbent, approximately 300 ml (two charges)  |
| V801165         | Copper Woll Sorbent, approximately 300 ml (two charges)       |

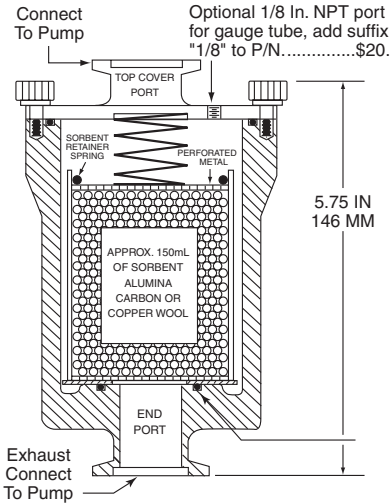
Optional 1/8 In. NPT port for gauge tube, add suffix "1/8" to P/N.....\$20.



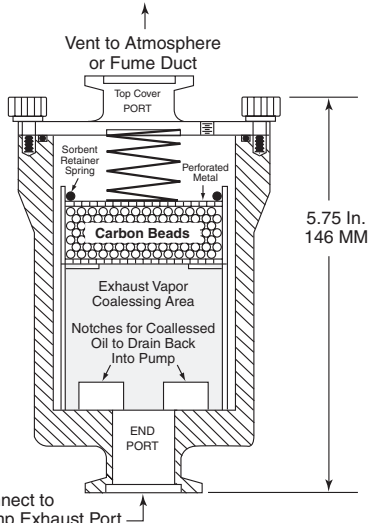
**Angle Style**



**Angle Style Particle Baffle**

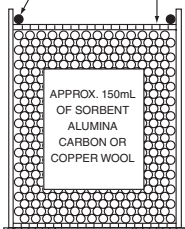


**Inline Style**



**Coalescing Exhaust Filter**

SORBENT RETAINER SPRING PERFORATED METAL



**Sorbent Basket**



Vacuum Research Corp.  
2419 Smallman Street • Pittsburgh, PA 15222 USA  
(800) 426-9340 • (412) 261-7630 • FAX: (412) 261-7220  
e-mail: [VRC@vacuumresearch.com](mailto:VRC@vacuumresearch.com)