

AVENGER™ 91

Particulate & Coalescing Filter



Avenger™ Model 91 Installation & Operation Instructions

Manufacturing Contact Information

A+ Corporation, LLC *Call for expert product application assistance:*
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Gonzales, LA 70737 Fax: (225)-644-3975 E-mail: sales@geniefilters.com

Safety Warnings

- ⚠ Failure to abide by any of the safety warnings below may result in equipment failure and serious injury or death.
 - ▶ Valve off the sample flow before installation.
 - ▶ Do not exceed any equipment pressure ratings.

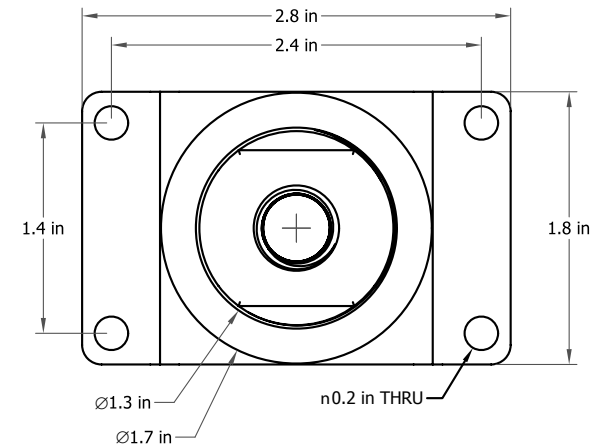
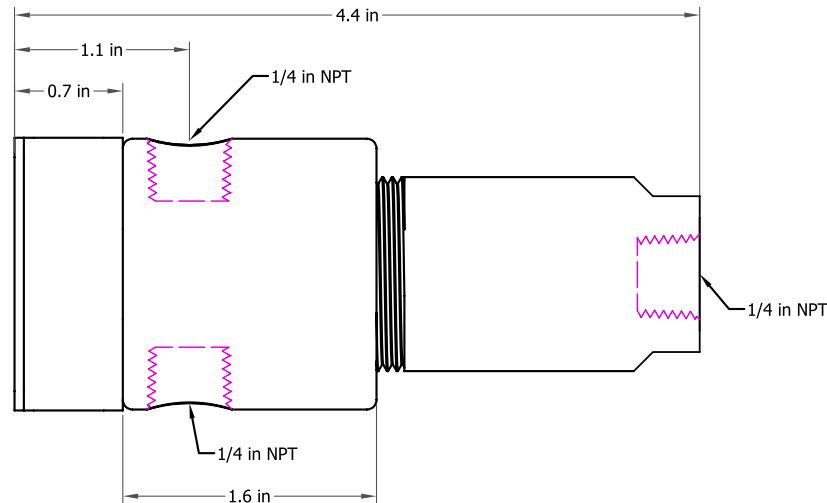
Tools Required

- ▶ Four #10 screws for mounting bracket to panel.
- ▶ Screwdriver for mounting bracket to panel.

Technical Specifications

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Maximum pressure rating	3,750 psig (258.6 barg)
Maximum temperature	300°F (149°C) * Actual limit depends on sealing material chosen. Refer to Temperature Range Comparison Chart.
Element size	Outside Diameter: ~ 0.85" Inside Diameter: ~ 0.5" Length: ~ 2.3"
Element types	07CFS = coalescer fluorocarbon (99.97%*) 07PI = particulate inorganic (99.97%*) 07PF = particulate fluorocarbon (99.97%*) SS10A = sintered stainless steel (10 micron) SS100A = sintered stainless steel (100 micron) *% of 0.1 micron particles retained
Port sizes	1/4" female NPT
Number of ports	3 or 5
Internal volume	27 cc
Wetted materials	Machined parts: 316/316L stainless steel / ISO 15156-3 compliant All other metal parts: stainless steel / ISO 15156-3 compliant Sealing material: User Defined

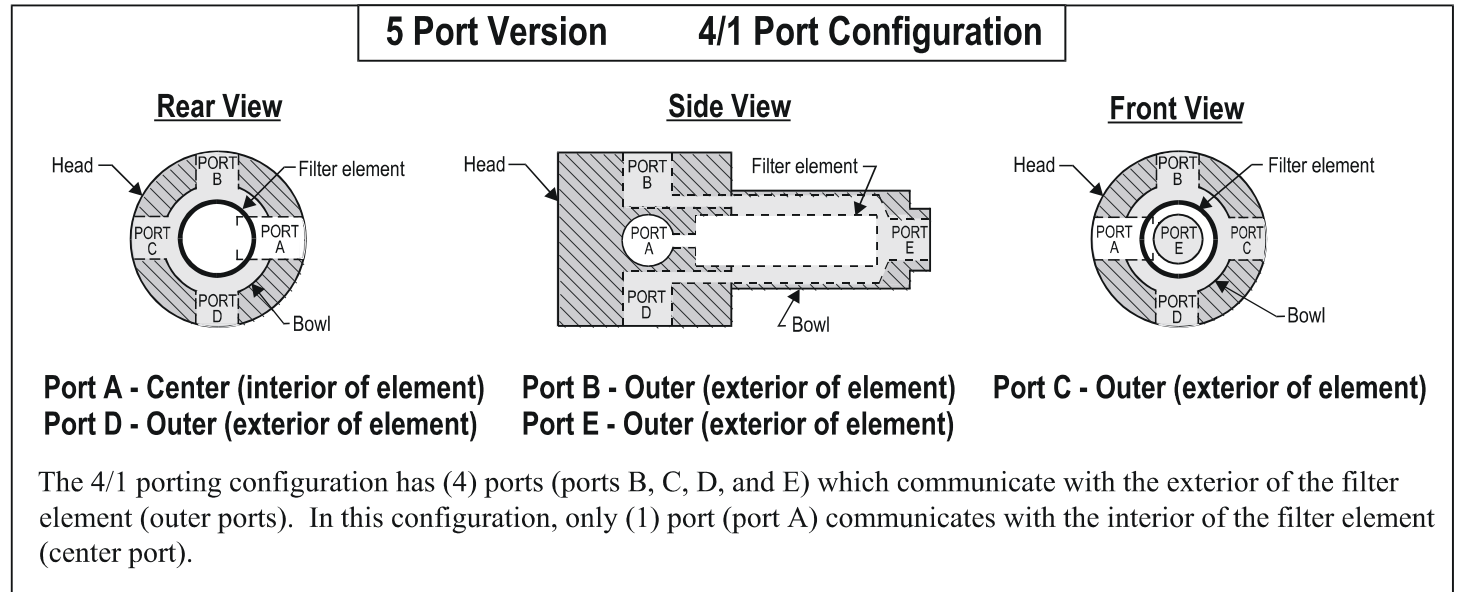
Dimensions



Installation and Mounting Instructions

Installation and Mounting Guidelines

- ▶ Confirm that an appropriate filter element is installed in the Avenger housing before it is placed in service.
- ▶ Contact A+ Corporation for expert assistance in selecting the appropriate filter element.
- ▶ For further information, request the Avenger Element Brochure and Avenger Element Installation Instructions.

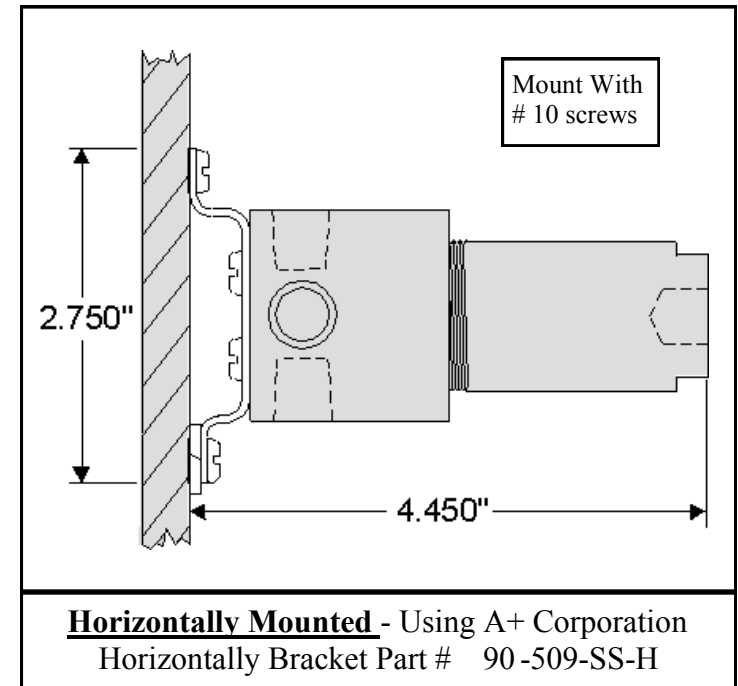
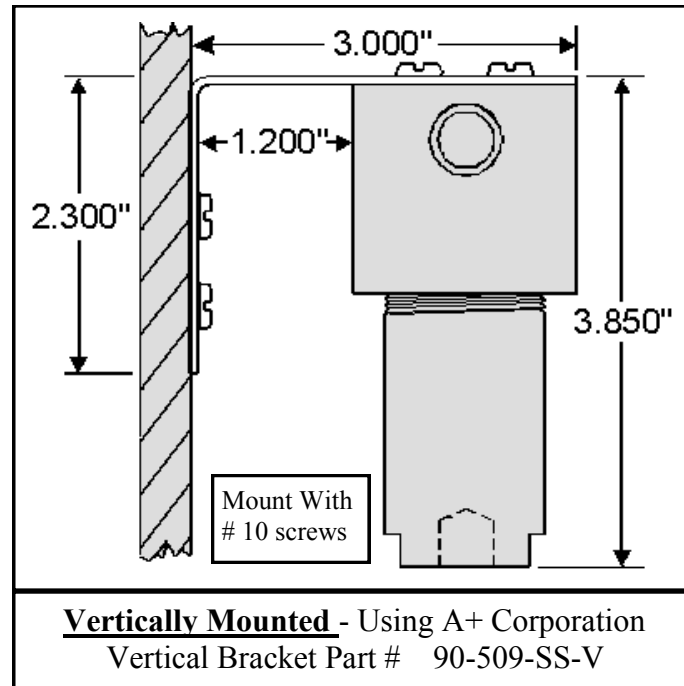


- ▶ The mounting and porting configurations indicated are general and may be modified for specific applications. The Avenger Model 91 housing can be rotated in 90° increments to position the “center port” and “outer port”, located in the filter housing head, in a desired direction. The vertical and horizontal brackets are designed to accommodate the 90° incremental rotations.

Installation and Mounting Instructions

Advantages of Horizontal Mounting


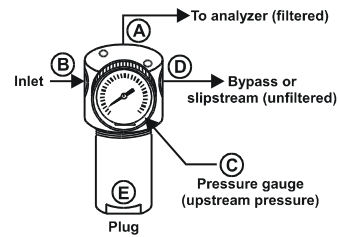
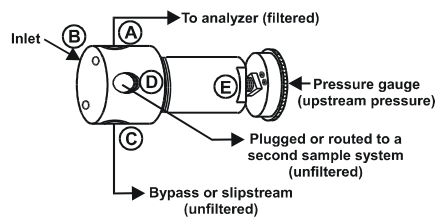
- ▶ Reduces panel space requirements
- ▶ Easy access to filter element
- ▶ Easy to view gauge installed in the end port
- ▶ Replacement of element without disconnecting sample lines
- ▶ Fewer tube/pipe fittings required for installation



Installation and Mounting Instructions

Three Typical Applications are detailed in the following figures.

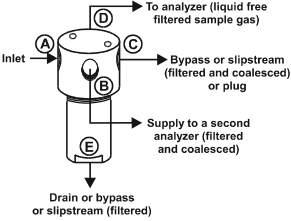
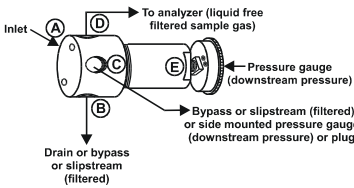
- 1) Particulate removal from sample gas - no liquid present
- 2) Coalescing of liquids and removal of particulate from sample gas
- 3) Removal of particulate from a liquid stream

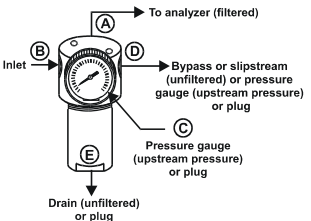
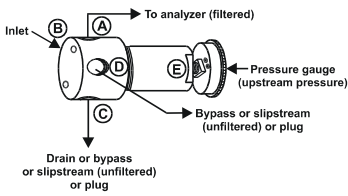
Application #1: Particulate Removal From Sample Gas No Liquid Present		
<p>Vertically Mounted</p>  <p style="text-align: center;">Function of ports B, C, and D can be interchanged</p>	<p>Horizontally Mounted</p>  <p style="text-align: center;">Function of ports B and D can be interchanged</p>	
<p><i>* Flow is from element exterior (outer) to its interior (center).</i></p>		

Installation and Mounting Instructions

Three Typical Applications are detailed in the following figures.

- 1) Particulate removal from sample gas - no liquid present
- 2) Coalescing of liquids and removal of particulate from sample gas
- 3) Removal of particulate from a liquid stream

Application #2: Coalescing Of Liquids And Removal Of Particulate From Sample Gas	
<p style="text-align: center;">Vertically Mounted</p>  <p style="text-align: center;">Function of ports B, C, and D can be interchanged</p>	<p style="text-align: center;">Horizontally Mounted</p>  <p>The bypass or slipstream functions of port B and C can be interchanged. However, only port B can function as a drain.</p> <p>Recommend using port B as a drain and port C as a bypass. This prevents liquid from entering the "bypass" rotameter.</p>
* Flow is from element interior (center) to its exterior (outer).	

Application #3: Removal Of Particulate From A Liquid Stream	
<p style="text-align: center;">Vertically Mounted</p>  <p>The functions of outer ports B, C, and D can be interchanged.</p>	<p style="text-align: center;">Horizontally Mounted</p>  <p>The functions of outer ports B, C, and D can be interchanged.</p>
<p>Interchanging of ports functions provides ability to face ports in a desired direction. (eg - inlet left or right, pressure gauge facing front etc.)</p>	
* Flow is from element exterior (outer) to its interior (center).	

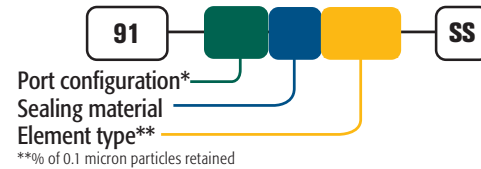
Model Numbering & Additional Part Numbers

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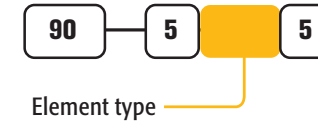
Your model number is determined by your specific needs. Choose options below.

Port configuration*	2/1 = 3 port (2 outer, 1 center)	4/1 = 5 port (4 outer, 1 center)	3/2 = 5 port (3 outer, 2 center)
Sealing material	0 = Fluoroelastomer	1 = Perfluoroelastomer	(other materials available upon request)
Element type**	07CFS = coalescer fluorocarbon (99.97%**)	07PI = particulate inorganic (99.97%**)	07PF = particulate fluorocarbon (99.97%**)
			SS10A = sintered stainless steel (10 micron) SS100A = sintered stainless steel (100 micron) XX = no element
Mounting bracket accessory	Vertical part # = 90-509-SS-V		Horizontal part # = 90-509-SS-H

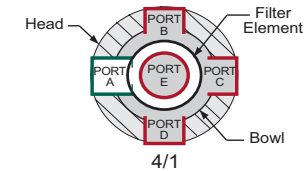
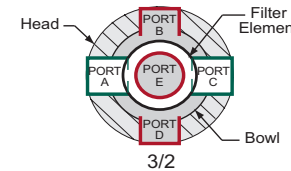
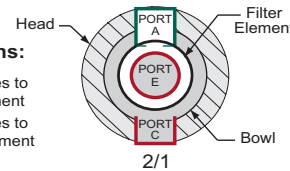
How to build the model number:



How to build the replacement filter element number:



***Port Configurations:**
 Communicates to inside of element
 Communicates to outside of element



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