Avenger™ 90 Series Filters

Purpose

- Sample conditioning and analyzer protection by coalescing and removal of liquid droplets and solid particles from gas (vapor) streams requiring low flow rates.*
  - If the sample contains liquid aerosol mist, see the product selection guide/product sheet for either the Avenger™ 30 Series or Series 100 Genie® Membrane Separators™ for selection of the appropriate component.

* Refer to the Avenger™ filter element data sheet for flow rate information.

Notes

- Head and bowl design for easy access to filter element
- 3 and 5 port models are available
  - 3 port model is a direct replacement for competitive sample filters.
  - 5 port model minimizes tubing/piping fittings required for hookup and reduces dead volume.
- A variety of stainless steel and borosilicate glass fiber filter elements available.
- Ability to horizontally or vertically mount
  - Horizontal mounting minimizes panel space and provides a clear view of the pressure gauge

* See the corresponding product sheet for additional information.

Model 91
- Designed for coalescing liquids and particulate removal from sample gas
- Pressure rating is 3,750 PSI (MOP)
- Internal volume is 27cc

Model 95
- Designed for particulate removal from sample gas; however, it is not recommended for coalescing large amounts of liquid.
- Pressure rating is higher than Model 91
  - 5,000 PSI (MOP)
- Internal volume is 17cc

Avenger™ 30 Series Filters

Purpose

- Sample conditioning and analyzer protection by coalescing and removal of liquid droplets and solid particles from gas (vapor) streams requiring higher flow rates or containing larger amounts of liquid than the 90 Series can handle.*
  - Removal of liquid droplets and aerosol mist as well as solid particles from gas streams (Model 33M & 38M).
  - Removal of sticky particles from liquid streams (Model 33).

* Refer to the Avenger™ filter element data sheet for element flow rate information.

Notes

- Head and bowl design for easy access to filter element
  - Designed for higher flow applications than the 90 series.
  - Larger bowl than the 90 series provides greater liquid removal capacity.
- All models have 5 ports, minimizing tubing/piping fittings required for hookup and reducing dead volume
- Borosilicate glass fiber filter elements available
- Ability to horizontally mount, minimizing panel space and providing a clear view of the pressure gauge
- Models 33M and 38M contain a Genie® phase separation membrane. An optional Liquid Block™ valve is available for this model which provides redundant protection against liquid.
  - Flow rates cited pertain to the flow through the membrane and DO NOT reflect the bypass flow.

* Refer to the membrane comparison chart for more detailed information on the available types of membrane, and see the corresponding product sheet for additional information.

Model 33
- Largest bowl (200cc) for increased liquid capacity
  - High gas and liquid stream capacity
- (4) 1/2” FNPT sample ports and (1) 1/4” FNPT gauge port
- Rated for 1000 PSI (MOP)

Model 33M
- Similar to the Model 33, but also contains Genie® Membrane Technology™ for removal of liquid aerosol mist and fine particles from gas sample streams
  - Maximum recommended membrane flow rate:
  - 4,000 cc/min for Type 5/BTU membrane
  - 9,000 cc/min for Hi-flow backed membrane
  - Optional Liquid Block™ valve available
- Not suited for liquid streams
- (4) 1/2” FNPT sample ports and (1) 1/4” gauge port
- Rated for 1000 PSI (MOP)

Model 38
- Higher pressure rating than the Model 33
  - Rated for 2000 PSI (MOP)
- Lower internal volume (50cc) than the Model 33 but greater than the 90 series Avenger™
  - Easier to purge in low flow or single analyzer applications than the Model 33
- (4) 1/4” FNPT sample ports and (1) 1/4” FNPT gauge port

Model 38M
- Similar to the Model 38, but also contains Genie® Membrane Technology™ for removal of liquid aerosol mist and fine particles from gas sample streams
  - Maximum recommended membrane flow rate:
  - 1,000 cc/min for Type 5/BTU membrane
  - 3,600 cc/min for Hi-flow backed membrane
- Optional Liquid Block™ valve available
- Not suited for liquid streams
- (4) 1/4” FNPT sample ports and (1) 1/4” FNPT gauge port
- Rated for 2000 PSI (MOP)