

Varafine™ VFSH Series Filter Cartridges

Designed for Ultrapure Filtration of Inert Gases

- Gas retention ratings of 3 nm provided by positive mechanical retention
- Patented, highly asymmetric, hydrophobic polysulfone membrane provides high flow rates and low pressure drops
- Non-shedding hydrophobic media rinsed at factory with ultrapure water
- Available in 10.2 cm / 4 in, 25.4 cm / 10 in, 50.8 cm / 20 in, 76.2 cm / 30 in, or 102 cm / 40 in cartridge lengths (nominal)
- Effective alternative to expensive PTFE filters for Inert gas applications

Applications

Inert gases

Point-of-use filter for air, nitrogen, and other inert gases.

Bulk atmospheric gases

Bulk gas filter prior to distribution of inert gases to appropriate areas of the fab site.

Semiconductor process equipment

Integral filtration component in semiconductor processing equipment.

Performance Specifications

Gas flow rate

1700 slpm (1.7 bard inlet, 0.07 bard differential)
60 scfm (25 psig inlet, 0.9 psid)

Maximum forward differential pressure

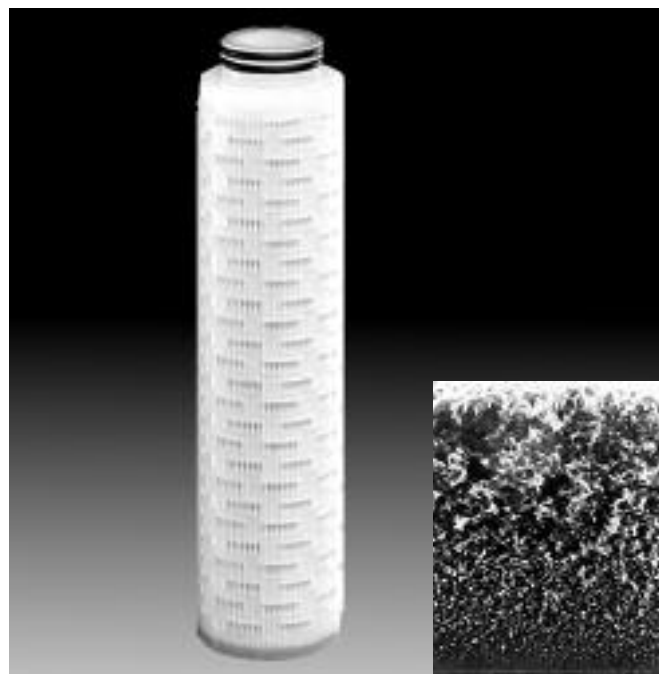
5.5 bard @ 20°C / 80 psid @ 68°F
1.4 bard @ 95°C / 20 psid @ 203°F

Gas retention rating

3 nm

Cleanliness

Cartridges rinsed at factory with 18 megohm-cm water.



Cross-section of Pall's VFSH Series Membrane

Product Specifications

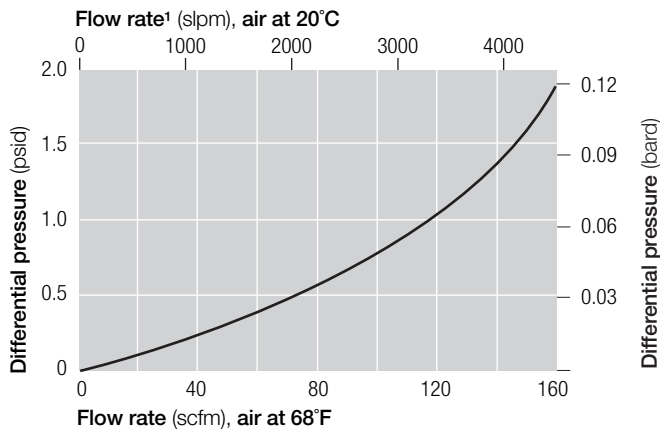
Materials of Construction

Filter media:	Highly asymmetric polysulfone membrane
Hardware:	Polypropylene
Support material:	Polypropylene
Sealing:	Thermal bond
O-rings (SOE):	Silicone (standard)
Gaskets (DOE):	Nitrile (standard)

Dimensions (nominal)

Outside diameter:	6.6 cm / 2.6 in
Lengths	10.2 cm / 4 in, 25.4 cm / 10 in, 50.8 cm / 20 in, 76.2 cm / 30 in, 102 cm / 40 in

Pressure Drop vs. Air Flow Rate



Unit conversion: 1 bar = 100 kPa

¹ 50 psig (3.4 bar) inlet pressure

Part Numbers/Ordering Information

VFSH003 1 2 3 (e.g. VFSH00310M3S)

Table 1

Code	Cartridge Lengths (nominal)
4	10.2 cm / 4 in (M3 only)
10	25.4 cm / 10 in
20	50.8 cm / 20 in
30	76.2 cm / 30 in
40	102 cm / 40 in

Table 2

Code	End Configurations
M2	SOE flat closed end, fits housings with O20 O-ring post
M3	SOE flat closed end, external 222 O-rings
M5	DOE, internal O-rings
M6	SOE flat closed end, external 226 O-rings
M7	SOE fin end, external 226 O-rings
M8	SOE fin end, external 222 O-rings
DOE	DOE with elastomer gasket seal and end caps

Table 3

Code	Gasket / O-ring Materials
S	Silicone
E	EPDM
V	Fluoroelastomer (standard O-rings)
N	Nitrile
T	FEP encapsulated silicone (O-rings)
F	FEP encapsulated fluoroelastomer



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