



## 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

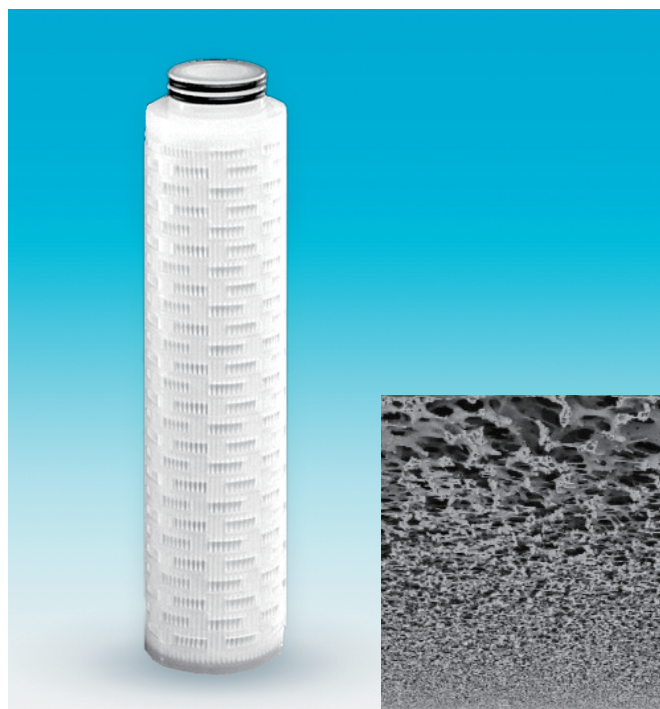
5.5 bard @ 20°C / 80 psid @ 68°F  
1.4 bard @ 95°C / 20 psid @ 203°F

#### 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

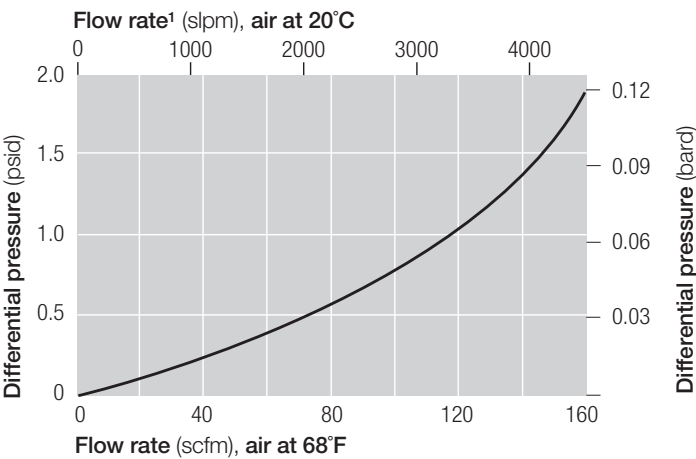
#### Materials of Construction

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

<sup>1</sup>50 psig (3.4 bar) inlet pressure

Part Numbers / Ordering Information

VFSH003 1 2 3 (e.g. VFSH00310M3S)

Table 1

Code	Cartridge Lengths (nominal)
04	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
M3	SOE flat closed end, external 222 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

## Representative example part numbers

VFSH00304M3E	VFSH01010DOEE190	VFSH02004M3E300
VFSH00310DOEE300	VFSH01010DOEE790	VFSH02004M3S300
VFSH00310M3E300	VFSH01010M3E190	VFSH02010DOEE300
VFSH00310M3S300	VFSH01010M3E790	VFSH02010M3E300
VFSH00310M7E300	VFSH01010M3S790	VFSH02010M3S300
VFSH00310M7V300	VFSH01010M7S790	VFSH02010M3S300
VFSH00320M3S300	VFSH01020DOES790	VFSH02010M3V300
VFSH00320M7F300	VFSH01020M3E190	VFSH02010M7E300
VFSH00320M7V300	VFSH010975M3E190	VFSH02010M7S300
VFSH00320M8S300		VFSH02020M3E
VFSH00330M3E300		VFSH02020M3S300
VFSH00330M8E300		VFSH02020M3V300
VFSH00330M8S300		VFSH02020M7E300
		VFSH02020M7V300
		VFSH02020M8E300
		VFSH02020M8S300
		VFSH02030M7E300
		VFSH020-30M8E 300
		VFSH02030M8E300
		VFSH02040M3E300
		VFSH020975M3E300