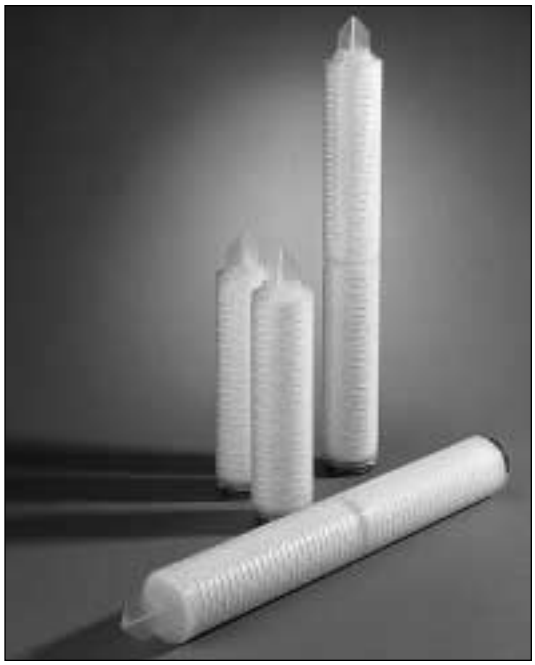
Emflon® PFR Filters



Description

Emflon PFR filters, featuring Pall 0.2 µm PTFE membranes, are designed to completely remove bacteria, viruses and particles from air streams. All other components are made of oxidation resistant polypropylene. The filter cartridges are melt sealed for high strength and low extractables.

- Fully manufactured assemblies validated by stringent liquid challenge with *Brevundimonas (Pseudomonas) diminuta* at $10^7/cm^2$ filter area
- Removal rating also qualified by aerosol challenge with *Brevundimonas (diminuta)* and 25 nm PP7 bacteriophage
- High flow rates and low pressure drops allow for smaller installations and reduced energy costs
- Robust construction ensures integrity and the ability to withstand the rigors of steaming-in-place (SIP) in the forward or reverse direction
- Integrity can be verified *in situ* by the Forward Flow or Water Intrusion Tests which are correlated to liquid bacterial challenges
- Certified to meet pharmaceutical industry requirements for bacterial retention, fabrication integrity, nonpyrogenicity, biological safety and cleanliness
- Available Validation Guide provides bacterial challenge data in liquid correlated to integrity test values

Applications

- Fermenter inlet sterile air
- Fermenter offgas/exhaust sterile venting
- Holding tank sterile venting
- Formulation tank sterile venting
- Sterile air for aspectic filling and packaging
- Lyophilizer sterile venting

NEW PRODUCT

Specifications

Materials

- Membrane: double layer PTFE
- Support and drainage layers: oxidation resistant polypropylene
- End cap, core and cage: oxidation resistant polypropylene
- Code 7 adapter: oxidation resistant polypropylene with encapsulated stainless steel reinforcing ring

Removal Ratings

- 0.2 µm microbial in liquid
- 0.01 µm particulate in gases

Filter Area

- Per 10” length: 8.6 ft^2/0.8 m^2

Integrity Tests

- Forward Flow: ≤15 cc/min with 60/40 IPA-water at 15 psi (1035 mbar), per 10” length
- Water Intrusion: ≤0.33 cc/min at 36 psi (2500 mbar), per 10” length

Biological Safety

- All components meet USP specifications for Class VI plastics tests at 121°C
- All materials are listed in Title 21 of the US Code of Federal Regulations

Endotoxin

- Meets USP specifications for bacterial endotoxins

Operating Conditions

Temperature Rating and Service Life

Temperature[1]	Typical Service Life[2]
60°C pressurized air	>12 months
80°C vent service	>6 months

1 For continuous flowing air service above 60°C, Emflon CFR filters are recommended.
2 Filter can be operated at higher temperatures for shorter time periods. Contact Pall Ultrafine Company.

Cumulative Steam Resistance[3]

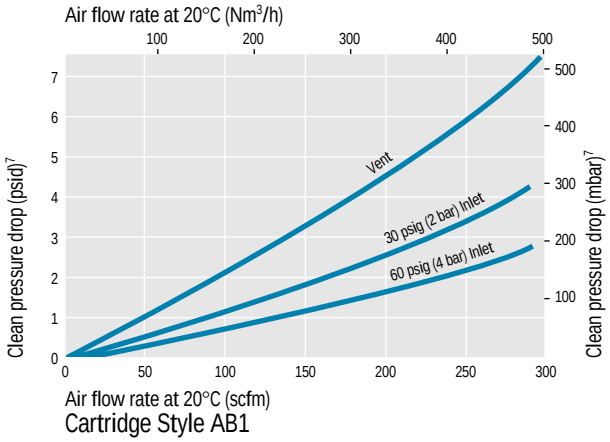
Temperature	Typical Steam Life
Up to 142°C (Evaluated using 1 hour cycles)	>165 hours

3 The steam exposure data was determined by testing under controlled laboratory conditions up to the time indicated. Actual operating conditions may affect the filters' long term resistance to steam sterilization and hot air service. Filters should be qualified for each process application.

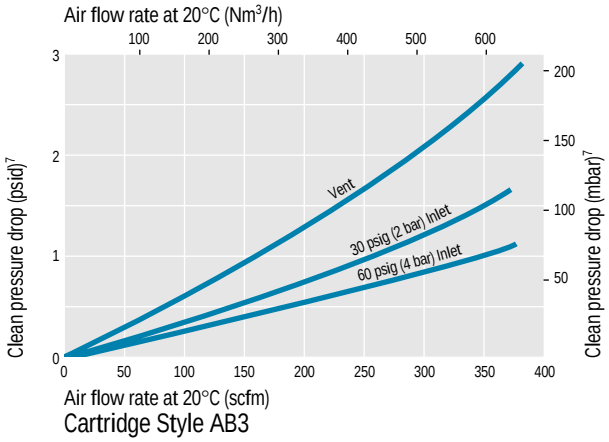
Maximum Differential Pressure

Temperature	Forward Direction	Reverse Direction
Up to 20°C	77 psi (5.3 bar)	–
Up to 80°C	60 psi (4.1 bar)	–
Steam up to 125°C	14.5 psi (1.0 bar)	7.3 psi (0.5 bar)
Steam up to 142°C	4.4 psi (0.3 bar)	3.0 psi (0.2 bar)

Typical Air Flow Rates[4,5,6]

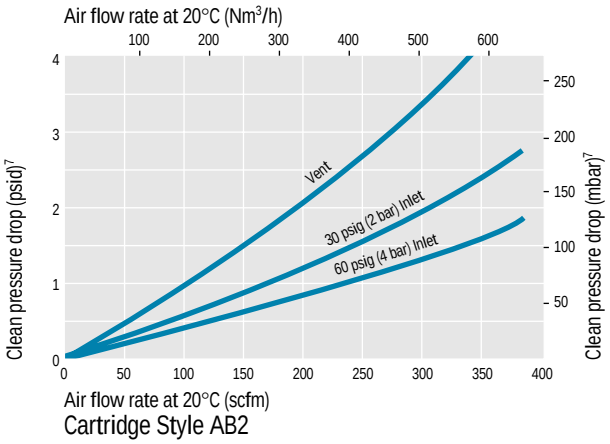


Cartridge Style AB1



Cartridge Style AB3

4 Curves represent initial clean air pressure drops. Maintenance of high flow in service will depend on air particle loading and prefiltration.
5 Recommended flow rate per 10 inch length cartridge is 100-250 scfm.
6 For sizing filters for SIP/CIP vent service, contact Pall Ultrafine Filtration Company or your local distributor.
7 Excluding Housing Pressure Drop.



Cartridge Style AB2

Part Numbers/Ordering Information

Part Number	Nominal Length (in/mm)	Configuration Code[8]	O-Ring Material[8]
AB1PFR7PVH4	10/254	7	Silicone
AB2PFR7PVH4	20/508	7	Silicone
AB3PFR7PVH4	30/762	7	Silicone

8 Code 7 (double 226 O-ring adapter style) and silicone O-rings are standard. For other adapter code configurations or other O-ring materials, contact Pall Corporation or your local Pall distributor.

Specifications and availability: The information provided in this literature was reviewed for accuracy at the time of publication. Product availability may be subject to change without notice. For current information on the products and test methodologies, consult your local Pall distributor or contact Pall Ultrafine Filtration Company directly.

Pall Ultrafine Filtration Company
A Division of Pall Corporation
2200 Northern Boulevard
East Hills, New York 11548-1289
1-516-484-5400 • 1-800-717-7255
Fax: 1-516-625-3610
E-mail: ultrafine@pall.com
http://www.pall.com

Distributed by:

© Copyright 1996, 1997 Pall Corporation. All rights reserved.

Printed in USA.