

Kleenpak Emflon PFR Filters

High strength, long life sterilising filters for air and gas

'Pall' 'Kleenpak' filters combine the widest available range of filter media with specially designed self-contained assemblies, to satisfy the very highest standards of filtration security and user convenience.

Emflon PFR filter medium

At the heart of every **Kleenpak** 'Emflon' PFR filter is a high performance pleated cartridge, containing proprietary PTFE medium. The double layer **Pall** PTFE membrane is inherently hydrophobic, chemically inert and designed specifically for removal of contaminating bacteria and viruses. **Emflon** PFR filters have an absolute removal rating of 0.2µm in liquids and 0.003µm in gases.

Emflon PFR filters meet the ever increasing demand for air filters with greater strength and longer life.

Clean and robust design

The **Kleenpak** filter uses well-proven proprietary Pall techniques for filter construction and heat sealing.

- The highest possible security against filter by-pass is ensured, even under conditions of pulsed flow.
- High strength design allows multiple autoclave cycles for extended use and maximum filter economy.
- Polypropylene outer shell is designed to provide long term assurance of pressure and temperature ratings.
- A total absence of glues, binder resins and surfactants results in very low filter extractables and extremely clean filtrate.



High quality standards

Every **Pall Kleenpak** filter is manufactured to a very high standard of quality assurance and cleanliness, and in accordance to a quality system accredited to BS EN ISO 9002:1997. For pharmaceutical use, the P designation in the part number provides full traceability supported by a certificate of test. Quality control tests include:

- Oxidisable materials per acidified KMnO_4 consumption test
- Bacterial endotoxins using LAL test
- pH shift
- Particulates

All filter materials of construction have met the specifications for USP Class VI Biological Tests for plastics at 121°C and meet the FDA requirements for food contact use 21 CFR 170-199.

Features and benefits

- Comprehensive validation assures highest removal efficiency and highest safety margins (validation guide available on request)
- High flow rates and low pressure drop allow use of small systems, reducing installation and running costs
- Robust construction ensure integrity and reliability
- Long autoclave life and long service offer low cost filtration

Materials of Construction

Membrane	Double layer hydrophobic PTFE
Support and drainage layers	Polypropylene
Endcaps	Polypropylene
Core and Cage	Polypropylene
Outer Shell	Polypropylene
Vent and drain valve o-rings	Ethylene propylene rubber

Nominal Dimensions

	KA1	KA2	KA3
Maximum diameter including Valves	94mm	94mm	109mm
Length with 1" 'Triclover' compatible connections	117mm	158mm	174mm
Length with hosetail connection (13mm single-barb)	158mm	199mm	210mm

Maximum Accumulated Autoclave Time⁽¹⁾

Up to 140°C	50 hours
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⁽¹⁾Warning: Kleenpak filters must not be *in-situ* steam sterilised by passing steam through under pressure. The figures are maximum allowable figures determined by testing under controlled laboratory conditions to the total number of hours indicated. Actual operating conditions may affect the filters long term response to sterilisation. Filters should be qualified for each process application.

Ordering Information⁽³⁾

Pall Part number:

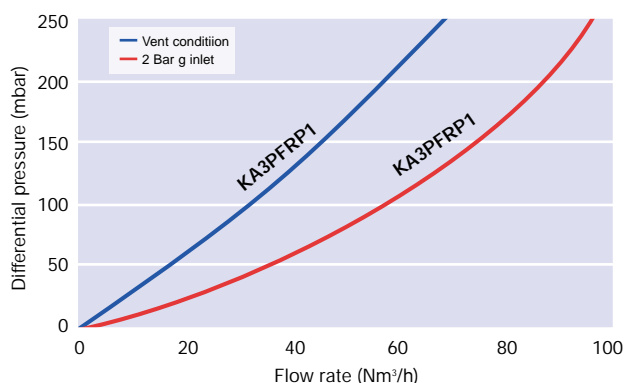
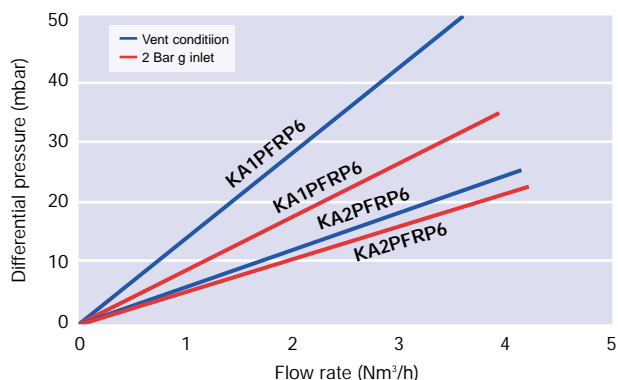
K A P F R P

Code	Nominal Length
1	See above dimensions table
2	
3	

Code	Connection Type
1	1" Triclover compatible
6	Hosetail (13mm single barb)

⁽³⁾This is a guide to the part number structure and possible options only. For availability of specific options, please contact Pall.

Typical Air Flow vs. Differential Pressure



Operating Characteristics⁽²⁾

Maximum operating temperature	Maximum operating pressure	Maximum differential pressure
40°C	3.5 bar g	3.5 bar

⁽²⁾In compatible fluids which do not soften, swell or adversely affect the filter or materials of construction.



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