Emflon® II Membrane in Kleenpak™ Capsules

Kleenpak™ capsule filters with hydrophobic polyvinylidenefluoride (PVDF) Emflon® II membrane are especially designed for the sterile filtration of air and gas. These compact filter capsules provide high air flows, resist blocking in wet applications, and provide 100 % removal of bacteria and viruses from air and gases, even in the presence of high humidity and moisture.
Kleenpak capsules are manufactured using gamma-irradiation tolerant materials and offer the very highest standard of filtration security and user convenience. These filters can be integrated within gamma-irradiatable or gamma-sterilized complex systems such as biorectors, filter assemblies, or transfer sets where venting is required.

Read More

NEED HELP?

Submit a Question

DESCRIPTION

Kleenpak™ capsule filters with hydrophobic polyvinylidenefluoride (PVDF) Emflon® II membrane are especially designed for the sterile filtration of air and gas. These compact filter capsules provide high air flows, resist blocking in wet applications, and provide 100 % removal of bacteria and viruses from air and gases, even in the presence of high humidity and moisture.
Kleenpak capsules are manufactured using gamma-irradiation tolerant materials and offer the very highest standard of filtration security and user convenience. These filters can be integrated within gamma-irradiatable or gamma-sterilized complex systems such as biorectors, filter assemblies, or transfer sets where venting is required.

Pre-sterilized Option

Kleenpak filters can be supplied sterilized by a validated gamma-irradiation process reducing time and costs. Filter capsules are then double-bagged and the outlet is covered with a protective cap for extra security.

Gamma-irradiatable Option

The capsules can also be supplied non-sterile, allowing the connection to tubing or any other type of equipment prior to gamma irradiation. This allows users to have a sterilized processing system without the need for aseptic connections and the associated risks of contamination.

Custom-made Sets

We are happy to work with end-users to provide custom-designed processing systems which will integrate one or more of our capsule ranges.

Features and Benefits

- Highly retentive Emflon II membrane
- High flow-rates associated with low Delta P enable the use of small filters — reduction of installation and operating costs
- Gamma-irradiatable or pre-sterilized for maximum convenience
- Integral molded connections
- Fully integrity testable using the forward flow test

High Quality Standards

- Validated in liquids with *Brevundimonas diminuta* (ATCC 19146) at a challenge level of 10^7 organisms/cm^2 of filter area
- 100 % integrity tested during manufacturing
- Identified by a lot number with a unique serial number for complete traceability of manufacturing history and for user traceability systems
- Each filter supplied with a Certificate of Test
- Comprehensive validation guide available
- Manufactured under a Quality Management System certified to ISO 9000
- Meets USP Biological Reactivity Tests in vivo, in accordance with USP Class VI plastics at 121 °C

SPECIFICATIONS

Materials of Construction

Membrane	Hydrophobic PVDF
Support and Drainage Layers	Polypropylene

End Cap, Core and Cage	Polypropylene
Outer Shell	Polypropylene
Vent and Drain Valve O-rings	Ethylene Propylene (EPDM)

Nominal Dimensions

	KA02	KA1	KA2	KA3
Maximum Diameter (Including Valves)	51 mm (2.0 in.)	94 mm (3.7 in.)	94 mm (3.7 in.)	109 mm (4.2 in.)
Length with Hose Barb Connections (Code 2)	104 mm (4.1 in.)	NA	NA	NA
Length with Sanitary Connections	NA	11.7 cm (4.6 in.)	15.8 cm (6.2 in.)	17.4 cm (6.8 in.)
Nominal Filtration Area	200 cm^2 (0.21 ft^2)	500 cm^2 (0.5 ft^2)	1000 cm^2 (1.0 ft^2)	1700 cm^2 (1.83 ft^2)

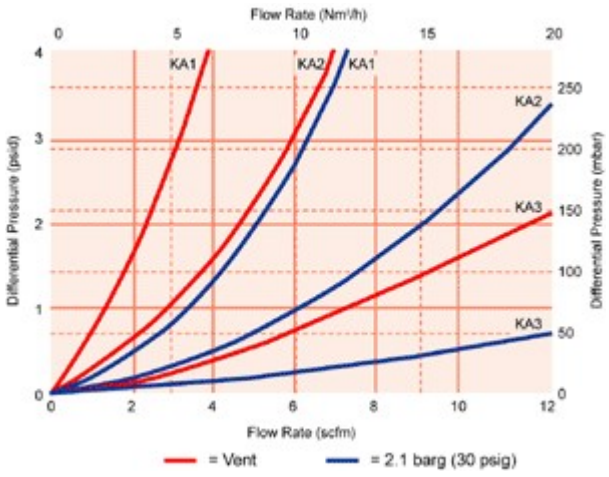
Operating Conditions[1]

KA02	
Maximum Operating Pressure	4.1 barg (60 psig) at 38 °C
Maximum Differential Pressure	2.1 bard (30 psid) at 80 °C

KA1/KA2/KA3	
Maximum Operating Temperature	**40 °C**
Maximum Operating Pressure	3.5 barg (50 psig) at 40 °C

[1] In air/nitrogen gas service or other compatible fluids, which do not soften, swell, or adversely affect the filter or its materials of construction.

Typical Air Flow Rates[2]



[2] For gases other than air or nitrogen, contact your local Pall representative.

Sterilization

Gamma-irradiation Maximum Dosage (G option only)	Up to 50 kGy
Autoclave Sterilization:	
Gamma-irradiated Filters	**One 30-minute cycle at 125 °C**
Non Gamma-irradiated Filters	**100 hours at 125 deg °C; 50 hours at 140 deg °C**

Warning: Kleenpak filters must not be in situ steam-sterilized 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 sterilization. Filters should be qualified for each process application.

ORDERING INFORMATION

Description	Part Number
KA1V002PV1S	Kleenpak™ capsule with Emflon® II membrane, max diameter 3.7 in, with 1½ in. sanitary flange, gamma-irradiated
KA1V002PV1G	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with 1½ in. sanitary flange, non-irradiated
KA1V002PV2S	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with ¼ -½ in hose barb, gamma-irradiated
KA1V002PV2G	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with ¼ -½ in hose barb, non-irradiated
KA2V002PV1S	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with 1½ in. sanitary flange, gamma-irradiated
KA2V002PV1G	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with 1½ in. sanitary flange, non-irradiated
KA2V002PV2S	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with ¼ -½ in hose barb, gamma-irradiated
KA2V002PV2G	Kleenpak capsule with Emflon II membrane, max diameter 3.7 in, with ¼ -½ in hose barb, non-irradiated
KA3V002PV1S	Kleenpak capsule with Emflon II membrane, max diameter 4.2 in, with 1½ in. sanitary flange, gamma-irradiated
KA3V002PV1G	Kleenpak capsule with Emflon II membrane, max diameter 4.2 in, with 1½ in. sanitary flange, non-irradiated
KA3V002PV2S	Kleenpak capsule with Emflon II membrane, max diameter 4.2 in, with ¼ -½ in hose barb, gamma-irradiated
KA3V002PV2G	Kleenpak capsule with Emflon II membrane, max diameter 4.2 in, with ¼ -½ in hose barb, non-irradiated

APPLICATION

Filters - Gas

SEGMENT

Filtration