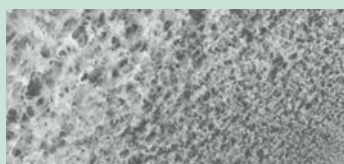
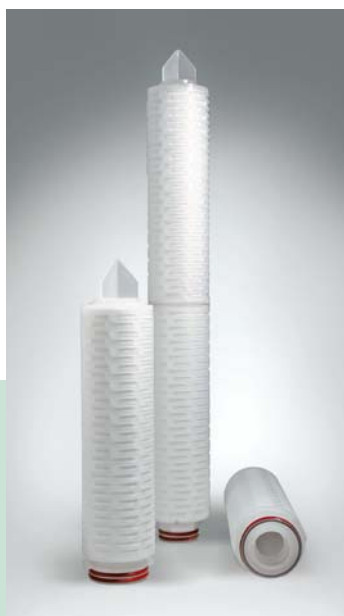


EPM.PS (KFM.PS) 0.2 µm и 0.45 µm Polyethersulphone (PES) membrane Filter Cartridges and Capsules

For clarifying and sterilizing filtration of pharmaceutical liquids



Description

EPM.PS membrane filters are produced on the basis of the hydrophilic polyethersulphone membrane with the micron ratings of 0.2 and 0.45 µm. Highly asymmetric structure and overall increased porosity of the membrane ensures high flow rate at low differential pressure for EPM.PS model. High thermochemical resistance combined with low sorption towards proteins, albumins and ferments makes EPM.PS indispensable in critical processes of filtration of biological solutions, blood preparations, serums, ophthalmologic liquids, vaccines and other liquids with low or high pH.

Features and advantages

Features

Polyethersulphone (PES) hydrophilic asymmetric membrane

Reliable checked characteristics of the membrane

High strength of the structure of the cartridge

100 % integrity control

Advantages

- Optimal ratio of high lifetime and performance at low differential pressure provides cost saving efficient filtration;
- Low albumin sorption;
- Increased thermochemical resistance ensures multiple Sterilization and washing under high temperatures with a wide range of reagents;
- Easy to wet to perform the filtration and tests.

- Comply with the requirements of the directive of the Association of Manufacturers of Medical Industry on microbiological examination of 0.2 µm filters for sterilizing filtration of liquids;
- Confirmation of sterilization capability on the basis of the integrity test results;
- Provide full retention of bacteria, bacteriophages and particles in high flow rate processes of liquids filtration.

- Reliable maintenance of filter integrity under heavy duty operational conditions;
- Withstands multiple steam sterilization.

- Guaranteed integrity and efficient operation of the product.

Cartridge materials

Membrane	Polyethersulphone (PES), asymmetric
Prefilter membrane	Polyethersulphone (PES), asymmetric
Draining layer	Polypropylene
Body, end parts, adapter	Polypropylene
Supporting (encapsulated) adapter ring	Stainless steel
O-rings	Silicone (other materials available)

Integrity test

In the course of industrial testing each membrane filter is integrity tested by the non-destructive physical method of determination of rate of air passing through the water wetted membrane.

Integrity test values of one-layer EPM.PS with the height of 250 mm

Brand	Max. diffusion, ml/min	Test pressure, MPa (bar)
EPM.PS-/020	16*	0.17 (1.7) at 20 °C
EPM.PS-/045	16	0.14 (1.4) at 20 °C

* This threshold diffusion value ensures 100 % retention of Brevundimonas Diminuta bacteria in the concentration of $T_R > 10^7$ CFU/cm².

Bacterial endotoxins (pyrogenicity)

Filtrate samples are examined for bacterial endotoxin (BE) content using the LAL test. BE content – 0.05 EU/ml, the allowable value for water intended for preparation of injection solutions is less than 0.25 EU/ml.

Operational parameters

Maximal differential pressure	0.5 MPa at 20 °C, 0.2 MPa at 80 °C (Filter Cartridges) 0.4 MPa at 20 °C, 0.2 MPa at 60 °C (Capsules)
Maximal reverse differential pressure	0.2 MPa at 20 °C
Maximal operational temperature	90 °C (Filter Cartridges)

Sterilization and washing

Direct flow wash out	Hot water (up to 95 °C) and chemical agents compatible with membrane pH (1-14)
Autoclaving	121 °C, 0.12 MPa, 30 min, 80 cycles (Filter Cartridges) 132 °C, 0.2 MPa, 30 min, 20 cycles (Filter Cartridges) 121 °C, 0.12 MPa, 30 min, 10 cycles (Capsules)
Steam sterilization*	up to 132 °C, 30 min, 10 cycles

* Only for filter cartridges

Specifications

Micron rating

0.2/0.2 µm
 0.45/0.2 µm
 0.80/0.45 µm

Nominal Dimensions and Filter Areas

Filter Cartridges

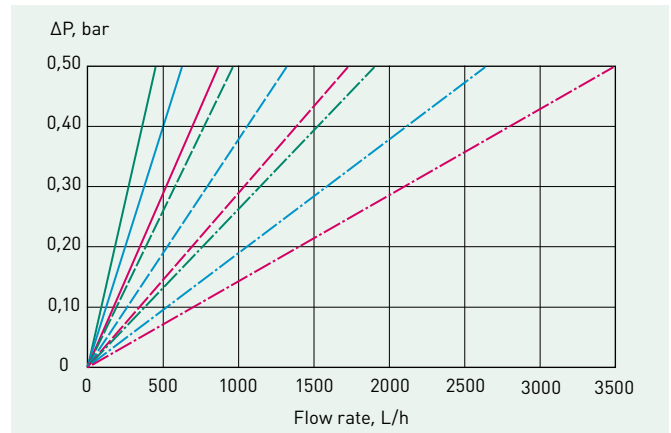
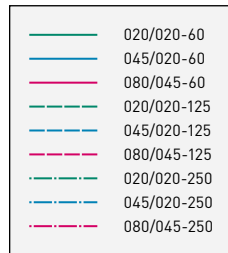
H, mm	D, mm	S, m ²
125 (5")	70	0.33
250 (10")	70	0.7
500 (20")	70	1.4
750 (30")	70	2.1
1000 (40")	70	2.8

Capsule filters

H, mm	D, mm	S, m ²
250 (10")	94	0.7
125 (5")	92	0.33
60 (2,5")	92	0.14

L - height
D - diameter
S - filtration surface area

Flow Rates of EPM.PS and KFM.PS



Filter Cartridges ordering information

EPM.PS	045/020	D1	250	M
Brand	Micron rating prefilter/membrane	Adapter code	Cartridge height	Application
	Code	D	100 mm (4")	M - medicine and biopharmaceutical industry
	020/020 0.2/0.2 µm	D1	125 mm (5")	
	045/020 0.45/0.2 µm	A	250 mm (10")	
	080/045 0.8/0.45 µm	A1	500 mm (20")	
		A4	750 mm (30")	
			1000 mm (40")	

Capsules ordering information

KFM.PS	045/020	K	60
Brand	Micron rating prefilter/membrane	Connection type	Cartridge height
	Code	K – sanitary flange connection	60 mm
	020/020 0.2/0.2 µm		125 mm
	045/020 0.45/0.2 µm		250 mm
	080/045 0.8/0.45 µm		