

# EPM.PP (KFM.PP)

## Hydrophobic polypropylene membrane Filter Cartridges and Capsules

For high flow sterilizing filtration of air, gases and aggressive media critically contacting with the product



### Description

EPM.PP membrane filter cartridges are produced on the basis of highly porous polypropylene hydrophobic membrane that provides excellent chemical compatibility in a wide range of applications. High thermal resistance and hydrophobic nature of the polypropylene membrane makes it the best choice for such industrial processes as filtration of gases, air, aggressive media, for various chemical processes, for production of photosensitive resists and other industrial applications.

EPM.PP filter cartridges have high throughput and chemical compatibility.

### Features and advantages

Features	Advantages
Polypropylene based hydrophobic sterilizing membrane	<ul style="list-style-type: none"> <li>The membrane is not clogged/wetness, it provides high indexes of rate of air and gas flow rate at low differential pressure;</li> <li>Wide chemical compatibility (pH 1-14);</li> <li>Excellent thermochemical resistance;</li> <li>Ensures full retention of bacteria, bacteriophages and aerosol particles in flows of compressed air and gases.</li> </ul>
High strength of the structure of the cartridge	<ul style="list-style-type: none"> <li>Reliable maintenance of filter integrity under heavy duty operational conditions;</li> <li>Withstands multiple steam sterilization;</li> <li>Guaranteed integrity after multiple sterilization cycles.</li> </ul>
100 % integrity control	<ul style="list-style-type: none"> <li>Control performed with the dry method using aerosol particles and the wet method – measurement of bubble point pressure;</li> <li>Guaranteed integrity and efficient operation of the product.</li> </ul>

### Materials

Membrane	Polypropylene
Draining layer	Polypropylene
Outer and inner bodies, end parts, adapter	Polypropylene
Supporting (encapsulated) adapter ring	Stainless steel
O-rings	Silicone (viton, fluorine rubber, EPDM, PTFE are available on request)

### Specifications

#### Membrane micron rating

0.2 µm

#### Micron rating (for air and gases)

< 0.003 µm

#### Nominal Dimensions and Filter Areas

##### Filter Cartridges

H, mm	D, mm	S, m <sup>2</sup>
100 (4")	70	0.28
250 (10")	70	0.75
500 (20")	70	1.5
750 (30")	70	2.25
1000 (40")	70	3.0

##### Capsule filters

H, mm	D, mm	S, m <sup>2</sup>
250 (10")	94	0.75
125 (5")	92	0.36
60 (2,5")	92	0.15

**H** - height  
**D** - diameter  
**S** - filtration surface area

### Test values of EPM.PP with the height of 250 mm

Bubble point for the mixture of isopropanol/water with the ratio of 60/40	> 0.12 MPa (1.2 bar)
Permeability with aerosol particles (size 0.2-0.3 µm) at linear flow rate 1.0-1.7 cm <sup>3</sup> /s·cm <sup>2</sup> *	< 0.0004 %

\* This test fully correlates with the test for sterilization capability using the aerosol containing Brevundimonas Diminuta bacteria with the concentration of 2x10<sup>10</sup> CFU/cm<sup>2</sup>.

### 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 operational temperature	90 °C (Filter Cartridges)
Recommended gas flow rate (at 7 bar) for the cartridge of 250 mm height	300

### Sterilization and washing

Autoclaving	121-132 °C, 30-45 min, 100 cycles (Filter Cartridges) 121 °C, 0.12 MPa, 30 min, 10 cycles (Capsules)
Steam sterilization*	121 °C, 0.12 MPa, 30 min, 100 cycles 132 °C, 0.02 MPa, 30 min, 50 cycles

\* Only for filter cartridges

### Filter Cartridges ordering information

EPM.PP	020	D1	250	M
Brand	Micron rating	Adapter code	Cartridge height	Application
	Code	A	100 mm (4")	M - medicine and biopharmaceutical industry
	020	D	125 mm (5")	
	0.2 µm	D1	250 mm (10")	
		A1	500 mm (20")	
		A4	750 mm (30")	P - food industry
		B	1000 mm (40")	E - microelectronics industry
		B(SI)		

### Capsules ordering information

KFM.PP	020	K	60
Brand	Micron rating	Connection type	Cartridge height
	Code	K - sanitary flange connection	60 mm
	020		125 mm
	0.2 µm	P - thread tapered connection	250 mm