

EPM.F4 (KFM.F4)

Hydrophobic PTFE membrane Filter Elements and Cartridges

For high flow sterilizing filtration of air, gases and aggressive liquids (acids, alkali, bases), solvents



Description

EPM.F4 membrane filter cartridges are produced on the basis of the hydrophobic fluoroplastic (PTFE) membrane with the micron rating of 0.2 μm. The hydrophobic cartridge cartridge with absolute filtration rating is designed for sterilizing filtration of air, gases and aggressive liquids in medical, pharmaceuticals, food and other industries.

Filter Cartridges EPM.F4 have high throughput and chemical compatibility.

Features and advantages

Features	Advantages
Fluoroplastic (PTFE) hydrophobic sterilizing membrane	<ul style="list-style-type: none"> The membrane is stable to clogged by wetness, it provides high indexes of rate of air and gas flow rate at low differential pressure; Wide chemical compatibility (pH 1-14); Excellent thermochemical resistance; Ensures full retention of bacteria, bacteriophages and aerosol particles in flows of compressed air and gases.
High strength of the structure of the cartridge	<ul style="list-style-type: none"> Reliable maintenance of filter integrity under heavy duty operational conditions; Withstands multiple steam sterilization; Guaranteed integrity after multiple sterilization cycles.
100 % integrity control	<ul style="list-style-type: none"> Control performed with the dry method using aerosol particles and the wet method – measurement of bubble point pressure; Guaranteed integrity and efficient operation of the product.

General applications

- Sterilizing filtration of air and gases:
 - In air supply systems;
 - For sterile ventilation of vessels;
 - At the input of filling devices;
 - At the input and output of bioreactors.
- Sterile aeration of fermenters;
- Sterile purging of equipment;
- For filtration of aggressive liquids (acids, alkali, solvents, non-aqueous solutions, technical fluids) in the pH range of 1-14.

Cartridge materials

Membrane	PTFE
Draining layer	Polypropylene
Outer and inner bodies, end parts, adapter	Polypropylene
Supporting (encapsulated) adapter ring	Stainless steel
O-rings	Silicone (other materials available)

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 ²
100 (4")	70	0.35
250 (10")	70	0.9
500 (20")	70	1.8
750 (30")	70	2.7
1000 (40")	70	3.6

Capsule filters

H, mm	D, mm	S, m ²
250 (10")	94	0.9
125 (5")	92	0.44
60 (2,5")	92	0.2

H - height
D - diameter
S - filtration surface area

Test values of EPM.F4 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 cm³/s·cm² * < 0.0004 %

* This test fully correlates with the test for sterilization capability using the aerosol containing Brevundimonas Diminuta bacteria with the concentration of 2x10¹⁰ CFU/cm².

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)

Sterilization and washing

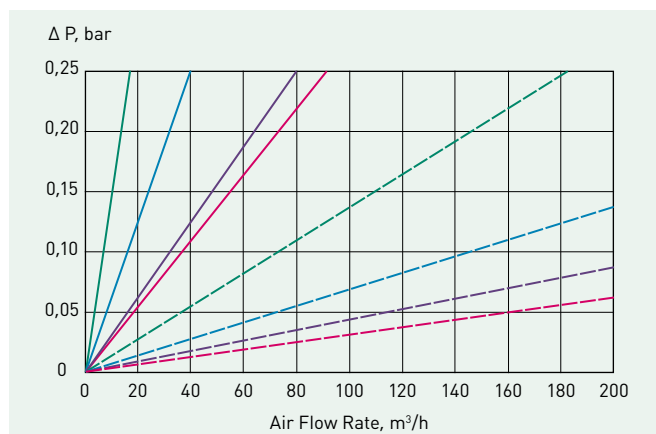
Autoclaving 121-132 °C, 30-45 min, 100 cycles (Filter Cartridges)
121 °C, 0.12 MPa, 30 min, 10 cycles (Capsules)

Steam sterilization* 121 °C, 0.12 MPa, 30 min, 100 cycles
132 °C, 0.02 MPa, 30 min, 50 cycles

* Only for filter cartridges

Air Flow Rates of EPM.F4

—	MKM.F4-020
—	KFM.F4-020-60
—	EPM.F4-020-100
—	MKM.F4-020-125
—	KFM.F4-020-250
—	EPM.F4-020-500
—	KFM.F4-020-750
—	EPM.F4-020-1000



Filter Cartridges ordering information

EPM.F4	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")	
		D1	250 mm (10")	P - food industry
		A1	500 mm (20")	
		A4	750 mm (30")	
		B	1000 mm (40")	
		B(SI)		E – microelectronics industry

Capsules ordering information

KFM.F4	020	K	60
Brand	Micron rating	Connection type	Cartridge height
	Code	K – sanitary flange connection	60 mm
	020		125 mm
		P – thread tapered connection	250 mm