

Biofil™ 1

Polyethersulfone Membrane Cartridge Filters



Porvair Biofil™ 1 cartridges utilise a single layer of polyethersulfone (PES) membrane, providing a filter with effective bioburden retention properties to support the manufacture of food and beverage products.

The inherently hydrophilic and asymmetric nature of the PES membrane facilitates high flux rates and enhances the wettability characteristics of the cartridges.

By combining this membrane with quality all-polypropylene support components and high integrity manufacturing techniques, Biofil™ 1 filter cartridges are ideally suited to the most demanding process conditions.

Typical Applications

- Beverages
- Mineral Water
- Pure water supply

Ordering Information

Product Code: 1 2 3 4 5 6					
1: Membrane		2: Pore rating		3: Version	
B	Biofil™ 1	20	0.2µm	S	Standard
		45	0.45µm		
		65	0.65µm		
4: Length (Nominal)		5: End Fitting		6: Seals	
1	10" (254mm)	A	Code 3	A	Ethylene Propylene
2	20" (508mm)	B	Code 7	B	Silicone
3	30" (762mm)	C	Code 8	C	Viton®
4	40" (1016mm)	F	N SOE	D	Nitrile
5	5" (125mm)	K	Code 2	E	FEP Encap. Viton®
		M	DOE	G	FEP Encap. Silicone
		U	224, fin		

Features and Benefits

- Guaranteed microbial ratings
- Excellent hydrolysis resistance
- Excellent chemical compatibility
- Suitable for steam sterilising
- Full traceability
- Controlled manufacturing environment

Specifications

Materials of Manufacture

Filter membrane:	Polyethersulfone
Membrane support:	Polypropylene
Irrigation mesh (support):	Polypropylene
Drainage layer:	Polypropylene
Inner core:	Polypropylene
Outer support:	Polypropylene
End fittings:	Polypropylene
Support ring:	Stainless steel

All polymeric materials used in the manufacture of Biofil™ 1 are FDA CFR 21 & EC 10/2011 compliant.

Cartridge Dimensions (Nominal)

Effective Filtration Area:	0.6m ² (6.5ft ²) (per 10" module)
Diameter:	70mm (2.8")
Length:	1 module: 254mm (10")
	2 modules: 508mm (20")
	3 modules: 762mm (30")
	4 modules: 1016mm (40")

Gaskets and O-Rings

FDA approved Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile.

Maximum Differential Pressure

Normal flow direction at:	
20°C (68°F):	5.0bar (73psi)
80°C (176°F):	2.4bar (35psi)
Reverse flow direction at:	
20°C (68°F):	3.0bar (44psi)

Operating Temperature

Maximum continuous: 80°C (176°F)

Sterilisation

In situ steam 50 x 30 minute cycles at 135°C (275°F)
Hot water 100 cycles at 90°C (194°F)

Integrity Testing

Each Biofil™ 1 module of every cartridge is individually integrity tested, which correlates to the HIMA and ASTM F838-20 bacterial challenge tests. Non-destructive integrity tests, such as Pressure Hold, Diffusive Flow and Bubble Point, can be performed by customers. Please contact us for procedural detail.

Clean Water Flow Rates

- A 254mm (10") Biofil™ 1 single cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.

