porvair filtration group

Biofil™2

Polyethersulfone Membrane Cartridge Filters

Biofil™ 2 cartridges are based on a naturally hydrophilic polyethersulfone (PES) membrane with a mirrored asymmetric pore structure. When combined with quality all-polypropylene cartridge components and high integrity manufacturing techniques, the polyethersulfone membrane provides a high strength, long life cartridge of consistently precise microbial retention.

Biofil™ 2 cartridges exploit the narrow pore size distribution and high void volume of the media to provide a choice of cartridges capable of meeting the requirements of most applications. Biofil™ 2 cartridges offer high flux rates and low differential pressures, a feature common to polyethersulfone membranes.

Biofil™ 2 cartridges benefit from the low non-specific protein binding characteristics of polyethersulfone membranes. They are highly resistant to integrity failure caused by steam sterilisation and have excellent chemical compatibility characteristics. As they have excellent stability to hydrolysis, Biofil™ 2 cartridges are ideal for use in ultra pure water supply systems (18MΩ. cm).

Typical Applications

- Biopharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Fine chemicals
- Beverages
- Pure water supply

Ordering Information

Product Code: 1 2 3 4 5 6 7

1: Membrane	
BT	Biofil™ 2

2: Pore rating	
10	0.1µm
20	0.2µm
45	0.45µm
65	0.65µm
120	1.2µm

3: Version	
R	Rinsed
S	Standard

4: Length (Nominal)	
1	10" (254mm)
2	20" (508mm)
3	30" (762mm)
4	40" (1016mm)
5	5" (125mm)

5: End Fitting	
A	Code 3
B	Code 7
C	Code 8
F	N SOE
G	G DOE (short)
H	G SOE
J	216 (218), fin
K	Code 2
L	223, fin (no lugs)
M	DOE
S	Code 28, fin (3 lugs)
T	223, flat (no lugs)
U	224, fin
V	226, fin
W	F20 +Code 7 (SS Core)
X	F20 +Code 2 (SS Core)
Y	BS832, flat
Z	F20 +Code Y (SS Core)

6: Seals	
A	Ethylene Propylene
B	Silicone
C	Viton®
D	Nitrile
E	FEP Encap. Viton®
G	FEP Encap. Silicone
J	DOE PTFE

7: Additional	
A	N+U
N	Non-steamable (no insert)
P	Pharma Grade
U	Unbranded

Features and Benefits

- Guaranteed microbial ratings
- Low protein binding
- 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

Cartridge Dimensions (Nominal)

Effective Filtration Area:		0.69m² (7.4ft²) (per 10" module)
Diameter:		70mm (2.8")
Length:	1 module:	254mm (10")
	2 modules:	508mm (20")
	3 modules:	762mm (30")
	4 modules:	1016mm (40")

Cartridge Treatment

Standard:	Cleaned and flushed with pyrogen-free water
Rinsed:	Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm

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):	6.0bar (87psi)
80°C (176°F):	4.0bar (58psi)
100°C (212°F):	3.0bar (44psi)
120°C (248°F):	2.0bar (29psi)
Reverse flow direction at:	
20°C (68°F):	2.1bar (30psi)
80°C (176°F):	1.0bar (15psi)
100°C (212°F):	0.5bar (7psi)

Operating Temperature

Maximum continuous: 85-90°C (185-194°F)

Sterilisation

In situ steam 80 x 30 minute cycles at 135°C (275°F)
Hot water 100 x 20 minute cycles at 90°C (194°F)

Extractables

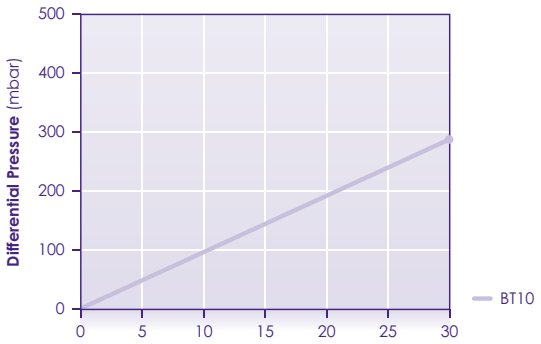
Minimum total extractables. Please refer to the Biofil™ 2 Validation Guide.

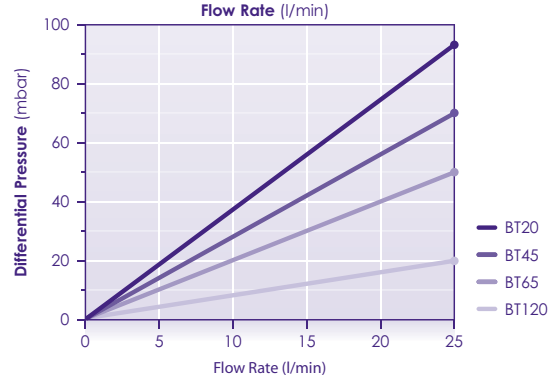
Integrity Testing

Each Biofil™ 2 module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-05 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

- Typical clean water flow rate:
  A 254mm (10") Biofil™ 2 single cartridge exhibits the flow-**Δ**P characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
  For solutions with a viscosity of greater than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.





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