

Biofil™ Plus

Double Layer
Polyethersulphone
Membrane Cartridge
Filters



A Biofil™ Plus microbial rated cartridge has been developed and manufactured for the filtration of liquids within pharmaceutical, biotechnology and other critical applications.

Biofil™ Plus utilises a naturally hydrophilic polyethersulphone (PES) membrane with a mirrored asymmetric pore structure. The cartridge's unique built in pre-filtration membrane layer provides longer life and higher throughput. When combined with quality all-polypropylene components and high integrity manufacturing techniques, the Biofil™ Plus filter cartridge is ideally suited to the most demanding process conditions.

Ordering Information

Product Code:		1	2	3	4	5	6	7					
1: Membrane		2: Pore rating		3: Version		4: Length (Nominal)		5: End Fitting		6: Seals		7: Additional	
BTP	Biofil™ Plus	20	0.2µm	R	Rinsed	1	10" (254mm)	A	Code 3	A	Ethylene Propylene	A	N+U
		45	0.45µm	S	Standard	2	20" (508mm)	B	Code 7	B	Silicone	N	Non-steamable (no insert)
						3	30" (762mm)	C	Code 8	C	Viton®	P	Pharma Grade
						4	40" (1016mm)	F	N SOE	D	Nitrile	U	Unbranded
						5	5" (125mm)	G	G DOE (short)	E	FEP Encap. Viton®		
								H	G SOE	G	FEP Encap. Silicone		
								J	216 (218), fin	J	DOE PTFE		
								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)				

Quality and consistency of product are assured by the quality control and manufacturing procedures which are in place throughout all stages of manufacture. Biofil™ Plus membrane cartridges are 100% integrity tested during manufacture by the forward flow diffusion test method.

Typical Applications

- Biopharmaceuticals
- Fermentation
- Ophthalmic solutions
- APIs
- LVPs
- Beverages
- Pure water supply

Features and Benefits

- Guaranteed microbial ratings
- Low protein binding
- Will not hydrolyse
- Excellent chemical compatibility
- Suitable for steam sterilising
- Full traceability
- Controlled manufacturing environment

Specifications

Materials of Manufacture

Pre-filter membrane:	Polyethersulphone
Final membrane:	Polyethersulphone
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:	0.48m ² (5.2ft 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")

Other size formats (including juniors) are available upon request.

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 20 minute cycles at 125°C (257°F)
Hot water 100 x 20 minute cycles at 85-90°C (185-194°F)

Extractables

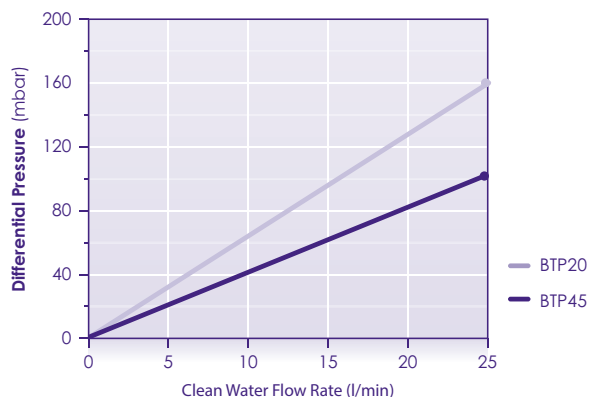
Minimum total extractables. Please refer to the Biofil™ Plus Validation Guide.

Integrity Testing

Each Biofil™ Plus 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 details.

Clean Water Flow Rates

- Typical clean water flow rate:
A 254mm (10") Biofil™ Plus single cartridge exhibits the flow-ΔP 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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