

Biofil™ 2 Plus

Double Layer
Polyethersulfone
Membrane Cartridge
Filters



A Biofil™ 2 Plus microbial rated cartridge has been developed and manufactured for the filtration of liquids within pharmaceutical, biotechnology and other critical applications.

Biofil™ 2 Plus utilises a naturally hydrophilic polyethersulfone (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™ 2 Plus filter cartridge is ideally suited to the most demanding process conditions.

Ordering Information

Quality and consistency of product are assured by the quality control and manufacturing procedures which are in place throughout all stages of manufacture. Biofil™ 2 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

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

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:	Polyethersulfone
Final 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:	0.48m 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 112 x 20 minute cycles at 125°C (257°F)
Hot water 100 x 20 minute cycles at 85-90°C (185-194°F)

Extractables

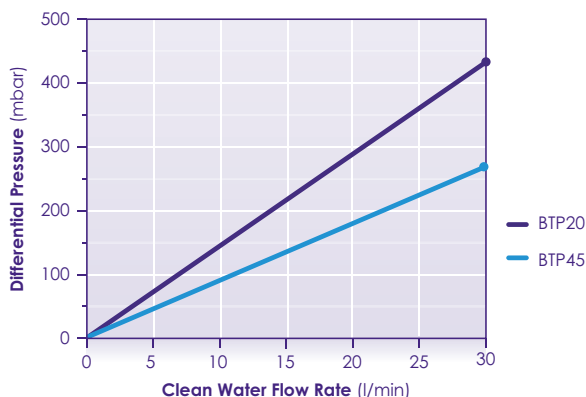
Minimum total extractables. Please refer to the Biofil™ 2 Plus Validation Guide.

Integrity Testing

Each Biofil™ 2 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™ 2 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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