

Biofil™ Junior

Polyethersulfone
Membrane Cartridge
Filters for Small-Scale
Applications



Biofil™ Junior cartridges are based on a naturally hydrophilic polyethersulfone 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™ Junior 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. Careful media selection ensures that Biofil™ Junior cartridges are suited to critical particle control down to 0.01 micron ratings. These cartridges offer high flux rates and low differential pressures, a feature common to polyethersulfone membranes.

Ordering Information

Product Code: **1** **B** **2** **3** **4**

1: Configuration		2: Pore rating		3: Length		4: Seals (J/L Style)	
J	J-Style	10	0.1µm	25	77.5mm (2.5")	A	Ethylene Propylene
S	S-Style	20	0.2µm	50	136mm (5")	B	Silicone
L	L-Style	45	0.45µm			C	Viton®
		65	0.65µm			D	Nitrile
		120	1.2µm			E	FEP Encap. Viton®
						G	FEP Encap. Silicone

Typical Applications

- Small-scale biopharmaceuticals
- Ophthalmic solutions
- Electronics and semiconductors
- Small-scale fine chemicals
- Pilot-scale studies
- Point-of-use water supply
- Ultra pure water supply systems (18MΩ.cm).

Features and Benefits

- Guaranteed removal ratings
- Low protein binding
- Will not hydrolyse
- 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:	0.19m ² (2.05ft ²) per 5" length
Diameter:	56mm (2.2")
Length:	77.5mm (2.5") 136mm (5")

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

J-style:	Silicone (other materials are available on request)
S-style:	Not supplied
L-style:	Silicone (other materials are available on request)

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)
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Sterilisation

J-style:	<i>In situ</i> steam 70 x 25 minute cycles at 125°C (257°F)
S-style:	Autoclave 100 x 25 minute cycles at 125°C (257°F)
L-style:	<i>In situ</i> steam 70 x 25 minute cycles at 125°C (257°F)

Extractables

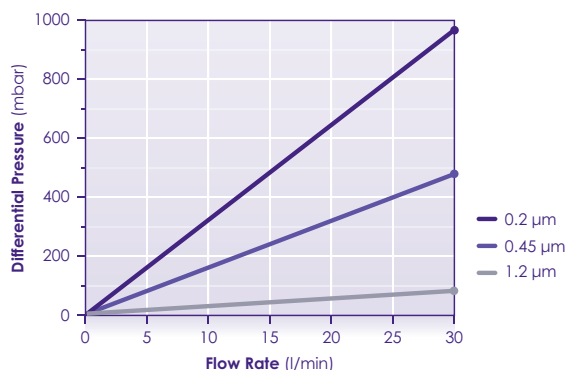
Minimum total extractables. Please refer to the Biofil™ II Validation Guide.

Integrity Testing

Each Biofil™ Junior 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 136mm (5") Biofil™ Junior cartridge exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions:
For solutions with a viscosity other than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.



Biopharmaceutical

Our disposable polymeric cartridge filters are constructed from FDA approved materials carrying the CFR 21 number for biological safety and our materials of construction meet USP Class VI-121°C plastics.