



## BEVPOR MT Filter Cartridges

- liquid filters
- polyethersulphone

The BEVPOR range of membrane cartridge filters is available in a selection of retention ratings to provide protection of beverages from the effects of common spoilage organisms or to enable them to meet regulatory requirements.

However, it is possible that other smaller microorganisms may be present that, while not affecting microbiological stability, may nonetheless be undesirable from a quality viewpoint. BEVPOR MT provides higher removal efficiency than BEVPOR PT, the basis of which is the recognized standard in the pharmaceutical industry for a 0.2 micron sterilizing grade membrane<sup>(1)</sup>. Specifically developed as a beverage grade cartridge, BEVPOR MT utilizes an advanced polyethersulphone membrane configured to provide high flow and cost-effective performance. The membrane has an asymmetric pore structure which provides graded filtration throughout its depth, resulting in increased capacity to hold contaminants. Componentry has been selected to maximize mechanical strength and chemical compatibility enabling the filter to withstand repeated chemical cleaning and sterilization. <sup>(1)ASTM F838-05</sup>

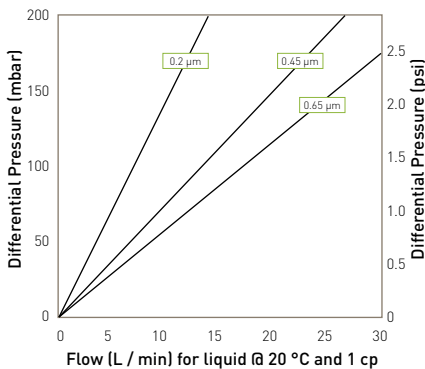
### Features and Benefits

- Enhanced microbial retention based on pharmaceutical industry specifications
- Prefilter layer selected to provide removal of colloidal species providing long service life
- Repeatedly integrity testable
- Cartridge can be regenerated and sanitized for extended service life
- Low adsorption of protein, colour and flavour components
- Asymmetrical membrane pore structure provides high contaminant loading capacity



Note: BEVPOR is a registered trademark of Parker domnick hunter

## Performance Characteristics



For K size for a given flow rate multiply 10<sup>3</sup> size differential pressure by 2

10" Size (250 mm) Cartridge

## Specifications

### Materials of Construction

- Filtration Membrane: Polyethersulphone
- Prefilter Layer: Polyethersulphone
- Upstream Support: Polyester
- Downstream Support: Polyester
- Inner Support Core: Polypropylene
- Outer Protection Cage: Polypropylene
- End Caps: Nylon
- End Cap Insert (if applicable): 316L Stainless Steel\*
- \*Not available in B & L endcap variants
- Standard o-rings/gaskets: Silicone / EPDM
- Capsule Body: Nylon
- Capsule Vent Seals: Silicone

### Food and Biological Safety

Materials conform to the relevant requirements of 21CFR Part 177, EC1935 / 2004 and current USP Plastics Class VI - 121 °C and ISO10993 equivalents.

### Recommended Operating Conditions

Up to 70 °C (158 °F) continuous operating temperature and higher short-term temperatures during CIP to the following limits:

Temperature °C	Temperature °F	Max. Forward dP (bar)	Max. Forward dP (psi)
20	68	5.0	72.5
40	104	4.0	58.0
60	140	3.0	43.5
80	176	2.0	29.0
90	194	1.0	14.5
>100 (steam)	>212 (steam)	0.3	4.0

Whilst BEVPOR MT can withstand reverse pressure, poor control of backwash procedures can result in damage to the product. Consult Parker domnick hunter before using reverse flow or pressurisation techniques.

Capsules may be operated up to a temperature of 40 °C (104 °F) at line pressures up to 5.0 barg (72.51 psig) for liquids.

### Effective Filtration Area (EFA)

10" (250 mm) Up to 0.6 m<sup>2</sup> (6.45 ft<sup>2</sup>)

### Cleaning and Sterilization

BEVPOR MT cartridges can be repeatedly steam sterilized in situ or autoclaved at up to 130 °C (266 °F). They can be sanitized with hot water at up to 90 °C (194 °F) and are compatible with a wide range of chemicals. Capsules can be repeatedly autoclaved up to 130 °C (266 °F).

### Retention Characteristics

The retention characteristics of BEVPOR MT have been determined by a combination of controlled laboratory tests and in-use monitoring for a number of organisms. Bacterial challenge testing is carried out to methods specified in ASTM F838-05.

Organism	Approx. Cell Size* (diameter x length µm)
<i>Brevundimonas diminuta</i> <sup>o</sup>	0.3 x 0.6 - 0.8
<i>Serratia marcescens</i>	0.5 - 0.8 x 0.9 - 2.0
<i>Escherichia coli</i>	1.1 - 1.5 x 2.0 - 6.0
<i>Lactobacillus brevis</i>	0.5 - 1.2 x 1.0 - 10.0
<i>Saccharomyces cerevisiae</i>	1.0 (Spherical Buds)
<i>Brettanomyces</i> *	1.5 - 3.5 x 2.0 - 19.0

Organism	0.2	LRV 0.45	0.65
<i>Brevundimonas diminuta</i>	>10	6	-
<i>Serratia marcescens</i>	>9	9	8
<i>Escherichia coli</i>	>9	>9	>9
<i>Lactobacillus brevis</i>	>9	>9	>9
<i>Saccharomyces cerevisiae</i>	>7	>7	>7
<i>Brettanomyces</i>	>6	>6	>6

### Integrity Test Data

All filters are flushed with pharmaceutical grade purified water prior to despatch. They are integrity tested to the following limits:

Micron Rating	0.2	0.45	0.65
Diffusional Flow (barg)	2.4	1.7	1.4
Test Pressure (psig)	35.0	25.0	20.0
Max. Diffusional Flow (10 <sup>-1</sup> ) (ml / min)	16.0	16.0	16.0
(K)	7.5	7.5	7.5
(A)	6.1	6.1	6.1
(B)	3.0	3.0	3.0
(E)	1.4	1.4	1.4

## Ordering Information

### Cartridges

**BMT** - [ ] - [ ] - [ ] [ ] [ ]

Code   Length (Nominal)	Code   Micron	Code   Endcap (10")	Code   Format	Code   O-rings	
B* 2.5" (65 mm)	02 0.2 µm	B* dh DOE	A 10" Modular	E EPDM	
A* 5" (125 mm)	04 0.45 µm	C BF / 226 Bayonet	D Demi	S Silicone	
K 5" (125 mm)	06 0.65 µm	D Fin / 222	<i>For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker domnick hunter contact.</i>		
1 10" (250 mm)		E Flat Top / 222			
2 20" (500 mm)		G Recess / 222			
3 30" (750 mm)		H UF Retrofit			
4 40" (1000 mm)		J SOE (no o-ring)			
		L* dh DOE			
		N Internal 213			
		R BF / 222 Bayonet			
		<b>Code   Endcap (Demi)</b>			
		T TRUESEAL			
		Y Demi Stub			
		Z Demi A & B Std			

\* EPDM gaskets supplied as standard

### Capsules

**BMT** - [ ] - [ ] - [ ] [ ] [ ]

Code   Length (Nominal)	Code   Micron	Code   Inlet Connection	Code   Outlet Connection	Code   Vent / Drain Seals
E 4.4" (113 mm)	02 0.2 µm	T 1" Tri-Clamp	T 1" Tri-Clamp	S Silicone
B 5.5" (140 mm)	04 0.45 µm	N 1/2" NPT Male	N 1/2" NPT Male	
A 7.9" (200 mm)	06 0.65 µm	H 1/2" Hosebarb	H 1/2" Hosebarb	
		G Stepped Hosebarb	G Stepped Hosebarb	
		M 1/4" NPT Male	M 1/4" NPT Male	

Supplied in packs of 3.

\* Approx. values as in Holt, J.G., Krieg, N.R., Smith, P.H.A., Staley, J.T., Williams, S.T., 1994. *Bergey's Manual of Determinative Bacteriology*, Ninth Edition, Williams & Wilkins.  
 - Kurtzman, C.P., Fell, J.W., 1998 *The Yeasts: A Taxonomic Study*, Elsevier Science Publisher BV, Amsterdam, The Netherlands.  
<sup>o</sup> PDA Technical Report 24, Sterilizing Filtration of Liquids

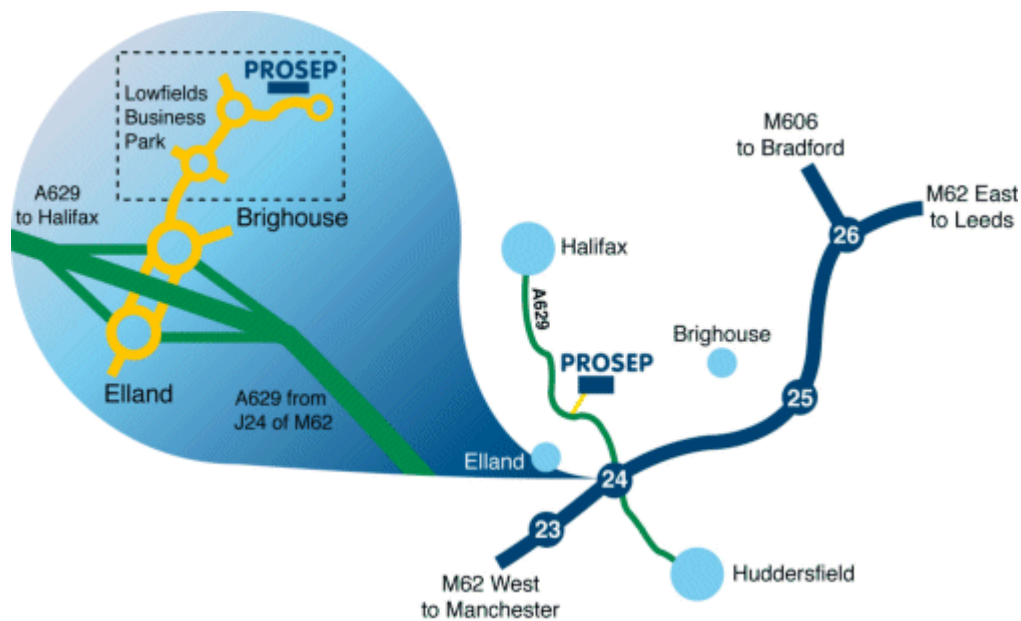
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**Map and Directions to Prosep Filters Limited**



Leave M62 at Junction 24.  
At roundabout adjacent to Cedar Court Hotel take 2nd exit onto dual carriageway (A629), signposted Halifax.  
Take 1st exit slip road.  
At roundabout at end of sliproad, take 3rd exit off.  
This is the entrance to Lowfields Business Park.  
Proceed straight over 1st roundabout.  
At next roundabout take 2nd exit onto River Bank Way - Prosep Filters can be found on the left after the S-bend.

[Link to Google Maps](#)