



BEVPOR PW Filter Cartridges

- liquid filters
- polyethersulphone

Minimizing the cost of microbiological stabilization per unit volume while maintaining quality and product characteristics is a key requirement within beverage production.

BEVPOR PW is an advanced membrane filter cartridge designed to meet and surpass these criteria.

Specifically developed for the microbiological stabilization of bottled water, BEVPOR PW utilizes an advanced polyethersulphone membrane and integral prefilter layer to give high flow rates, long life and improved throughput. The combination of prefilter and the asymmetrical pore structure of the membrane provides graded filtration through the depth of the media, resulting in increased capacity to hold contaminants. Componentry has been selected to withstand repeated chemical cleaning and steam sterilization.

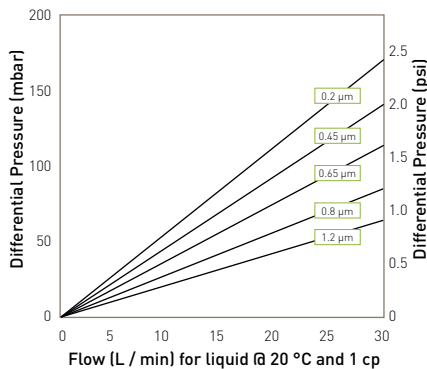
Features and Benefits

- Optimized for the microbiological stabilization of bottled water
- Removal ratings from 0.2 to 1.2 micron
- Integral prefilter layer and high surface area combine to maximize service life
- Repeatedly integrity testable
- Cartridge can be regenerated and sanitized for extended service life
- 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" size differential pressure by 2

10" Size (250 mm) Cartridge

Specifications

Materials of Construction

- Filtration Membrane: Polyethersulphone
- Prefilter Layer: Polyester
- 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		Max. Forward dP	
°C	°F	(bar)	(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

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 m² (6.45 ft²)

Cleaning and Sterilization

BEVPOR PW 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 PW 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	LRV				
	0.2	0.45	0.65	0.8	1.2
<i>Brevundimonas diminuta</i>	6	-	-	-	-
<i>Serratia marcescens</i>	9	8	6*	-	-
<i>Escherichia coli</i>	>9	>9	6	2	1
<i>Lactobacillus brevis</i>	>9	>9	5	-	-
<i>Saccharomyces cerevisiae</i>	>7	>7	-	-	-
<i>Brettanomyces</i>	>6	>6	4	2	1

*Results based on BEVPOR PT

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	0.8	1.2
Diffusional Flow (barg)	1.7	1.4	1.0	0.8	0.6
Test Pressure (psig)	25.0	20.0	15.0	12.0	9.0
Max. Diffusional Flow (10 ⁻¹) (ml / min)	16.0	16.0	16.0	16.0	16.0
(K)	7.5	7.5	7.5	7.5	7.5
(A)	6.1	6.1	6.1	6.1	6.1
(B)	3.0	3.0	3.0	3.0	3.0
(E)	1.4	1.4	1.4	1.4	1.4

Organism	Approx. Cell Size* (diameter x length µm)
<i>Brevundimonas diminuta</i> *	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

Ordering Information

Cartridges

BPW - [] - [] - [] - [] - []

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	For detailed operational procedures and advice on cleaning and sterilization, please contact the Technical Support Group through your usual Parker dominick hunter contact.	
1 10" (250 mm)	08 0.8 µm	E Flat Top / 222		
2 20" (500 mm)	12 1.2 µm	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		
Code Endcap (Demi) T TRUESEAL Y Demi Stub Z Demi A & B Std				

* EPDM gaskets supplied as standard

Capsules

BPW - [] - [] - [] - [] - []

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	
	08 0.8 µm	G Stepped Hosebarb	G Stepped Hosebarb	
	12 1.2 µm	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., Sneath, P.H.A., Staley, J.T., Williams, S.T., 1994. *Bergey's Manual of Determinative Bacteriology*, Ninth Edition, Williams & Wilkins.
 * Kurzman, C.F., Fell, J.W., 1998 *The Yeasts: A Taxonomic Study*. Elsevier Science Publisher BV, Amsterdam, The Netherlands.
 © PDA Technical Report 24, Sterilizing Filtration of Liquids

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