

Pobrano ze strony

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BEVPOR PT 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 PT is an advanced membrane filter cartridge designed for the beverage industry to meet and surpass these criteria.

Specifically developed as a beverage grade cartridge, BEVPOR PT utilizes an advanced polyethersulphone membrane and an integral membrane prefilter layer to give high flow rates, long life and improved throughputs. Both prefilter and final membrane layers have an asymmetrical pore structure, providing graded filtration throughout their depth and resulting in increased capacity to hold contaminants. BEVPOR PT is especially suited to filtration of products that contain submicron colloidal species that may block unprotected sterilising-grade membranes.

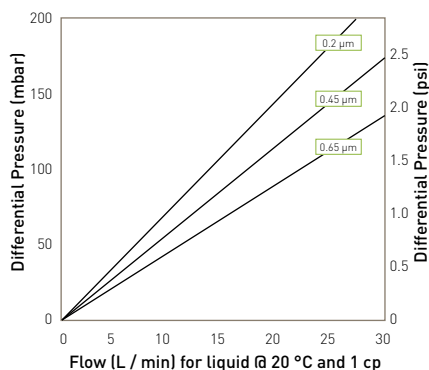
Features and Benefits

- Removal ratings from 0.2 to 0.65 micron
- 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" size differential pressure by 2

10" Size (250 mm) Cartridge

Specifications

Materials of Construction

- Filtration Media: 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

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 PT 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 PT 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> ^a	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> ^c	1.5 - 3.5 x 2.0 - 19.0

Organism	0.2	LRV 0.45	0.65
<i>Brevundimonas diminuta</i>	6	-	-
<i>Serratia marcescens</i>	9	8	6
<i>Escherichia coli</i>	>9	>9	6
<i>Lactobacillus brevis</i>	>9	>9	5
<i>Saccharomyces cerevisiae</i>	>7	>7	-
<i>Brettanomyces</i>	>6	>6	4

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

Ordering Information

Cartridges

BPT

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 domnick hunter contact.	
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		
		Code Endcap (Demi)		
		T TRUESEAL		
		Y Demi Stub		
		Z Demi A & B Std		

* Supplied in packs of 3.

* EPDM gaskets supplied as standard

Capsules

BPT - -									
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., Sneath, P.H.A., Staley, J.T., Williams, S.T., 1994, *Bergey's Manual of Determinative Bacteriology*, Ninth Edition, Williams & Wilkins".
 * Kurzmarm, C.P., Fell, J.W., 1998 *The Yeasts, A Taxonomic Study*, Elsevier Science Publisher BV, Amsterdam, The Netherlands.
 * PDA Technical Report 26, *Sterilizing Filtration of Liquids*