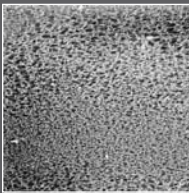


# BEVPOR PH



- Removal ratings from 0.2 to 1.2 micron
- Integral prefilter layer and high surface area combine to maximise service life
- Repeatedly integrity testable
- Cartridge can be regenerated and sanitised for extended service life
- Low adsorption of protein, colour and flavour components
- Asymmetrical membrane pore structure provides high contaminant loading capacity



Minimising the cost of microbiological stabilisation per unit volume whilst maintaining quality and product characteristics is a key requirement within beverage production. BEVPOR PH 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 PH utilises 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 sterilisation.

available formats



## Technical 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               |
| Endcap Insert (if applicable) | : 316 Stainless Steel |
| 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 and current USP Plastics Class VI - 121 °C and ISO10993 equivalents.

### Effective Filtration Area

Up to 0.8 m<sup>2</sup> (8.4 ft<sup>2</sup>) per 250mm (10" module).

### Retention Characteristics

BEVPOR PH Sterilising Grade filters are validated by bacterial challenge testing to methods specified in ASTM F838-83 (10<sup>7</sup> organisms/cm<sup>2</sup> minimum) with typical in-house challenge levels being 10<sup>11</sup> per 10 inch module. Bacterial challenge testing is carried out to methods specified in ASTM F838-83 (10<sup>7</sup> organisms/cm<sup>2</sup> minimum)

| Organism                        | Approx. cell size<br>(Diameter x length µm) | Typical titre reduction<br>organisms cm <sup>2</sup> |                  |                  |                  |                 |
|---------------------------------|---|--|------------------|------------------|------------------|-----------------|
|                                 |   | 0.2  | 0.45             | 0.65             | 0.8              | 1.2             |
| <i>Pseudomonas aeruginosa</i>   | 0.5 - 1.0 x 1.5 - 5.0                       | 10 <sup>7</sup>                                      | 10 <sup>5</sup>  | 10 <sup>3</sup>  | -                | -               |
| <i>Serratia marcescens</i>      | 0.5 - 0.8 x 0.9 - 2.0                       | 10 <sup>7</sup>                                      | 10 <sup>5</sup>  | 10 <sup>3</sup>  | -                | -               |
| <i>Oenococcus oenos</i>         | 0.5 - 0.7 x 0.7 - 1.2                       | >10 <sup>7</sup>                                     | 10 <sup>5</sup>  | 10 <sup>4</sup>  | -                | -               |
| <i>Escherichia coli</i>         | 0.5 - 0.7 x 0.7 - 1.2                       | >10 <sup>7</sup>                                     | >10 <sup>7</sup> | 10 <sup>7</sup>  | -                | -               |
| <i>Lactobacillus brevis</i>     | 0.5 - 1.2 x 1.0 - 10.0                      | >10 <sup>7</sup>                                     | >10 <sup>7</sup> | >10 <sup>7</sup> | -                | -               |
| <i>Saccharomyces cerevisiae</i> | 1.0 (Spherical Buds)                        | >10 <sup>7</sup>                                     | >10 <sup>7</sup> | >10 <sup>7</sup> | >10 <sup>7</sup> | 10 <sup>7</sup> |

### Recommended Operating Conditions

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

| Temperature  |              | Maximum Forward dP |       |
|--------------|--------------|--------------------|-------|
| °C           | °F           | (bar)              | (psi) |
| 20           | 68           | 5.0                | 73    |
| 40           | 104          | 4.0                | 58    |
| 60           | 140          | 3.0                | 44    |
| 80           | 176          | 2.0                | 29    |
| 90           | 194          | 1.5                | 15    |
| >100 (steam) | >212 (steam) | 0.3                | 4     |

Capsules may be operated up to a temperature of 40°C (104°F) at line pressures up to 5.0 bar (73 psig) for liquid applications and 4.0 barg (58 psig) for gas applications.

### Cleaning and Sterilisation

BEVPOR PH cartridges can be repeatedly steam sterilised in situ or autoclaved at up to 130°C (266°F). They can be sanitised 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).

For detailed operational procedures and advice on cleaning and sterilisation, please contact the Technical Support Group through your usual domnick hunter contact.

### Integrity Test Data

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

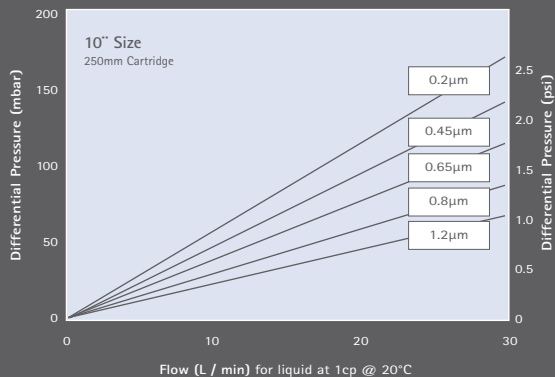
| Micron Rating                  |                    | 0.2  | 0.45 | 0.65 | 0.8  | 1.2  |
|--------------------------------|--------------------|------|------|------|------|------|
| Diffusional Flow Test Pressure | (barg)             | 1.7  | 1.4  | 1.0  | 0.8  | 0.6  |
|                                | (psig)             | 25   | 20   | 15   | 12   | 9    |
| Max Diffusional Flow           | (ml/min)           |      |      |      |      |      |
|                                | (10 <sup>7</sup> ) | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
|                                | (K)                | 9.8  | 9.8  | 9.8  | 9.8  | 9.8  |
|                                | (A)                | 8.0  | 8.0  | 8.0  | 8.0  | 8.0  |
|                                | (B)                | 3.9  | 3.9  | 3.9  | 3.9  | 3.9  |
| (E)                            | 1.8                | 1.8  | 1.8  | 1.8  | 1.8  |      |

### Recommended Rinse Volume

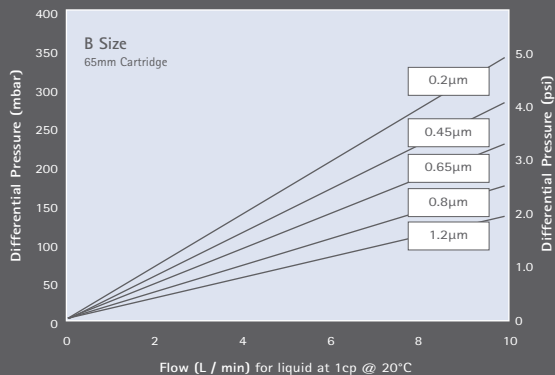
Prior to use - 5 litres per 10" cartridge.

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## Cartridge Flow Rates

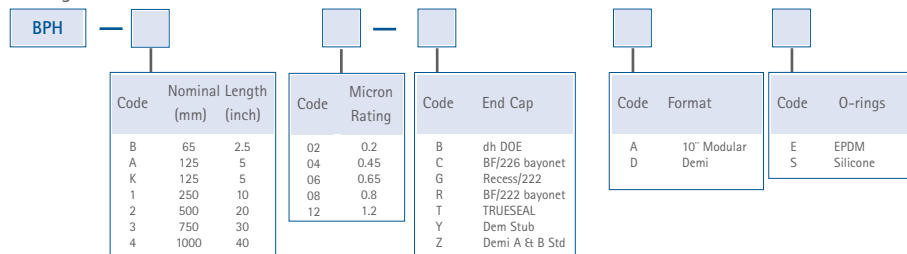


For K size for a given flow rate multiply 10" size differential pressure by 2

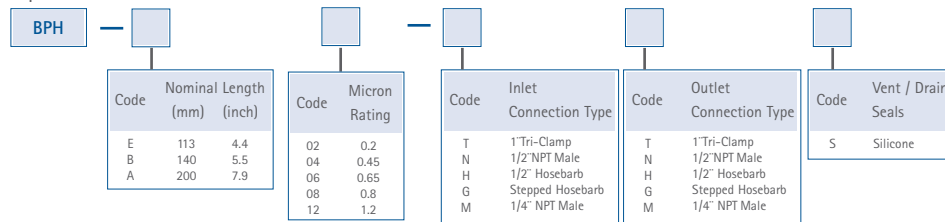


For A size for a given flow rate divide B size differential pressure by 2  
For E size for a given flow rate multiply B size differential pressure by 2

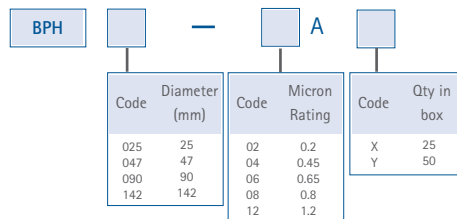
### Cartridges



### Capsules



### Discs



Durham Road, Birtley, Co. Durham, England DH3 2SF • Tel: +44 (0)191 410 5121  
E-mail: process@domnickhunter.com • Website: www.domnickhunter.com

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