FBDSSBBENd

# Supor® Beverage Filter Cartridges
## For Final Filtration

Supor Beverage filter cartridges are hydrophilic membrane filters designed for reliable retention of spoilage microorganisms in the final filtration of a range of beverages including wine and water.

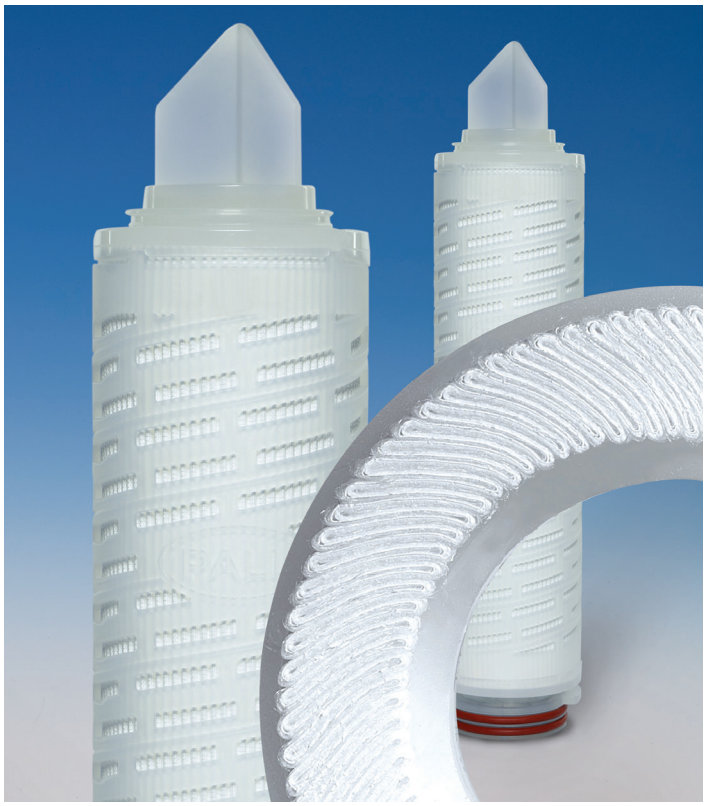
## Description

The Supor Beverage filters were developed and validated for removal of common spoilage microorganisms. These filters come in two filter grades to best suit application needs.

The cartridges are constructed from one layer of polyethersulfone (PES) membrane in a laid-over pleat configuration. The single open ended (SOE) configuration is designed to fit into sanitary housings to ensure effective microbial reduction and assembly integrity.

Supor Beverage filter cartridges are suitable for exposure to repeated hot water sanitization and in situ steam sterilization cycles for longer service life. The laid-over pleat configuration combined with optimized support and drainage materials, provide increased mechanical strength during operation, repeated hot water, chemical and steam sanitization and thus, high throughput.

| Features | Benefits |
|---|---|
| Inert polyethersulfone (PES) media | · Maintaining organoleptic characteristics of the filtered product<br>· Minimal interaction with valuable colloids<br>· Wide range of chemical compatibility |
| Cartridges resistant to numerous sanitization cycles | · Economical operation<br>· Consistent filtrate quality |
| Hydrophilic membrane | · Easy to wet and integrity test |
| Validated with wine spoilage microorganisms | · Increased process safety<br>· Microbial stabilization of wine |
| Individually serialized cartridges | · Full traceability |
| Integrity testable | · Brand protection<br>· Documentation for quality records |
| Multiple adaptor options | · Easy installation into sanitary housings |



Supor Beverage Filter Cartridges

## Quality

· Cartridges produced in a controlled environment
· Manufactured according to ISO 9001:2015 certified Quality Management System

## Food Contact Compliance

Please refer to the Pall website http://www.pall.com/foodandbev for a Declaration of Compliance to specific National Legislation and/or Regional Regulatory requirements for food contact use.

### Microbial Removal Rating

| Test Organism | Log Reduction Value (LRV) for BB Grade | Log Reduction Value (LRV) for BK Grade |
|---|---|---|
| *Serratia marcescens* (ATCC 14756) | >10 | |
| *Oenococcus oeni* (ATCC 23279) | >8^ | |
| *Escherichia coli* (ATCC 25922) | | >10 |
| *Saccharomyces cerevisiae* | Yeast free* | Yeast free* |
| *Dekkera bruxellensis* (ATCC 64276) | Yeast free* | Yeast free* |

Challenges were performed at a level of ≥$10^7$ per $cm^2$ of effective filtration area on new and unused filters.

^For *O. oeni* challenges were performed at a level of ≥$10^5$ per $cm^2$ of effective filtration area on new and unused filters.

*Filters provided a yeast free effluent when challenged.

### Materials of Construction

| | |
|---|---|
| Filter medium* | Polyethersulfone (hydrophilic) |
| Support and drainage | Polypropylene |
| Core, Cage, End Cap and Fin End | Polypropylene |
| Adaptor | Polypropylene with internal stainless steel reinforcing ring |
| O-ring seal | Ethylene propylene rubber or Silicone elastomer |

*Each 10" module contains 0.77 $m^2$ (8.3 $ft^2$) of effective filtration area for BB grade and 0.75 $m^2$ (8.0 $ft^2$) of effective filtration area for BK grade.

## Technical Information

### Operating Characteristics in Compatible Fluids[1]

| Maximum Differential Pressure | Operating Temperature |
|---|---|
| 5.5 bard (79.8 psid) (forward pressure) | 25 °C (77 °F) |
| 4.0 bard (58.0 psid) (forward pressure) | 80 °C (176 °F) |
| 1.0 bard (14.5 psid) (reverse pressure) | 40 °C (104 °F) |
| 300 mbard (4.4 psid) (forward pressure) | during *in-situ* steam sterilization |

[1] Compatible fluids are defined as those which do not swell, soften or attach any of the filter components

### Sterilization and Sanitization

| Media | Temperature | Cumulative Exposure Time/ cycles[2] | |
|---|---|---|---|
| | | BB Grade | BK Grade |
| Steam | 125 °C (257 °F) | 100 hours 125 x 20 min cycles | 125 x 20 min cycles |
| Hot water | 90 °C (194 °F) | 100 hours 200 x 30 min cycles | 200 x 30 min cycles |
| Peracetic acid (PAA), 325 ppm PAA (1275 ppm $H_2O_2$ to give 1600 ppm of total peroxides) | ambient | 1000 hours | 2000 hours |
| Potassium metabisulphite (1000 ppm) | ambient | 1000 hours | 1000 hours |

[2] Measured under laboratory test conditions. The actual cumulative time depends on the process conditions. For applications requiring sterilization or sanitization Pall recommends the use of Code 7 adaptors to ensure filter sealing after cooling. Cartridges should be cooled to system operating temperature prior to use. Contact Pall for recommended procedures.

### Chemical Cleaning (static soak conditions)

| Media | Temperature | Cumulative Exposure[3] | |
|---|---|---|---|
| | | BB Grade | BK Grade |
| Caustic 2% | 50 °C (122 °F) | 200 hours | 400 hours |
| Caustic 2% | 80 °C (176 °F) | 100 hours | 200 hours |

[3] Measured under laboratory test conditions. The actual cumulative time depends on the process conditions.

### Pressure Drop vs Liquid Flow Rate[4]

| Code | Value |
|---|---|
| BB | 30 liters per minute @ 100 mbar (5.4 US gpm @ 1 psi) |
| BK | 42.5 liters per minute @ 100 mbar (7.6 US gpm @ 1 psi) |

[4] Typical initial clean media differential pressure (dP) per 254 mm (10") cartridge for water at 20 °C (68 °F); viscosity 1 centipoise. For 508, 762 mm and 1016 mm configurations divide the differential pressure by 2, 3, and 4 respectively.

## Ordering Information

### Cartridge Part Number

AB ☐ S ☐ ☐ W ☐

Table 1 Table 2 Table 3 Table 4

This is a guide to the Part Numbering structure only.
For specific options, please contact Pall.

### Table 1: Nominal Length

| Code | Description |
|---|---|
| 1 | 254 mm (10”) |
| 2 | 508 mm (20”) |
| 3 | 762 mm (30”) |
| 4 | 1016 mm (40”) |

### Table 2: Removal Rating

| Code | Description |
|---|---|
| BB | 0.45 µm |
| BK | 0.65 µm |

### Table 3: Adaptor

| Code | Description |
|---|---|
| 3 | SOE – single open end with flat closed end and external 222 O-rings |
| 7 | SOE – single open end with fin end, 2 locking tabs and external 226 O-rings |
| 8 | SOE – single open end with fin end and external 222 O-rings |
| 28 | SOE – single open end with fin end, 3 locking tabs and external 222 O-rings |

### Table 4: O-Ring Seal Material

| Code | Description |
|---|---|
| H4 | Silicone Elastomer |
| J | Ethylene Propylene Rubber |

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Pall Corporation has offices and plants throughout the world. To locate the Pall office or distributor nearest you, visit www.pall.com/contact.

The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. For current information consult your local Pall distributor or contact Pall directly.

*IF APPLICABLE* Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.



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