

Supor® Beverage Filter Cartridges For Final Filtration of Wine

Supor Beverage filter cartridges are hydrophilic membrane filters designed for reliable retention of spoilage microorganisms in the final filtration wine.

Description

The **Supor Beverage** filter was developed and validated for removal of spoilage microorganisms.

The cartridge is constructed from one layer of 0.45 micron 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.



Supor Beverage Filter Cartridges

Features	Benefits
Proprietary Supor (PES) media	<ul style="list-style-type: none"> Maintaining organoleptic characteristics of filter product Minimal interaction with valuable colloids Wide range of chemical compatibility
Cartridges resistant to numerous sanitization cycles	<ul style="list-style-type: none"> Process reliability Economical operation Consistent filtrate quality
Hydrophilic membrane	<ul style="list-style-type: none"> Easy to wet and integrity test Microbial stabilization of wine
Validated with wine spoilage microorganisms	<ul style="list-style-type: none"> Brand protection Increased process safety
Individually serialized cartridges	<ul style="list-style-type: none"> Full traceability
Integrity testable	<ul style="list-style-type: none"> Brand protection Documentation for quality records
Multiple adaptor options	<ul style="list-style-type: none"> Easy installation into sanitary housings

Microbial Removal Rating

Test Organism	Log Reduction Value (LRV)
<i>Serratia marcescens</i> (ATCC 14756)	>10
<i>Oenococcus oeni</i> (ATCC 23279)	>8 [^]
<i>Saccharomyces cerevisiae</i>	Yeast free*
<i>Dekkera bruxellensis</i> (ATCC 64276)	Yeast free*

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

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

* Filters provided a yeast free effluent when challenged.

Quality

- Cartridges produced in a controlled environment
- Manufactured according to ISO 9001:2008 certified Quality Management System

Food Contact Compliance

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

Materials of Construction

Filter Medium*	Polyethersulfone (hydrophilic)
Support and Drainage	Polypropylene
Core, Cage, End Cap and Fin End	Polypropylene
Adaptor	Polypropylene with an internal stainless steel reinforcing ring
O-ring Seal	Ethylene propylene rubber or Silicone elastomer

* Each 10" module contains 0.77 m² (8.3 ft²) of effective filtration area.

Technical Information

Operating Characteristics in Compatible Fluids¹

Maximum Differential Pressure (ΔP)	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 <i>in-situ</i> steam sterilization

¹ Compatible fluids are defined as those which do not swell, soften or attack any of the filter components.

Sterilization and Sanitization

Media	Temperature	Cumulative Exposure Time/Cycles ²
Steam	125 °C (257 °F)	125 20-minute cycles
Hot water	90 °C (194 °F)	100 hours / 200 30-minute cycles
Peracetic acid* (PAA) (325 ppm)	Ambient	1000 hours
Potassium metabisulphite (1110 ppm)	Ambient	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.

* Product containing 325 ppm PAA and 1275 ppm H₂O₂ to give 1600 ppm of total peroxides

Chemical Cleaning (static soak conditions)

Media	Temperature	Cumulative Exposure
Caustic 2%	50 °C (122 °F)	200 hours
Caustic 2%	80 °C (176 °F)	100 hours

² Measured under laboratory test conditions. The actual cumulative time depends on the process conditions.

Pressure Drop vs. Liquid Flow Rate³

30 liters per minute @ 100 mbar 5.4 US gpm @ 1 psi

Typical initial clean media differential pressure (ΔP) per 250 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

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

Part Number: AB SBB W
Table 1 Table 2 Table 3

Table 1: Nominal Length

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

Table 2: 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 3: O-ring Seal Material

Code	Description
H4	Silicone Elastomer
J	Ethylene Propylene Rubber



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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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