*Technical Data Sheet*

# Membrane Filtration
# BECO® MEMBRAN PS Wine

## Membrane Filter Cartridges

**BECO MEMBRAN PS Wine filter cartridges are designed for reliable removal of spoilage microorganisms of wine and sparkling wine.**

**They perfectly combine long service life with the full maintenance of valuable flavor and color of wines.**

### Features and Benefits

- The asymmetric polyethersulfone membrane provides high microbiological retention and can be integrity tested
- The high filter area and asymmetric membrane structure of polyethersulfone offers exceptionally high flow rates and outstanding service life
- The special design allows for 72.5 psi (5 bar) differential pressure in the direction of flow and 29 psi (2 bar) differential pressure in reverse to support a long service life
- The high thermal stability allows more than 100 steam sterilization cycles
- Available in 0.45 and 0.65 µm, code 2 and 7 and length of 20" (500 mm) and 30" (750 mm). For other dimensions and retention ratings it can be perfectly complemented by BECO MEMBRAN PS Pure Range
- Full maintenance of valuable flavor and color in wines
- Eaton can suggest the most economical configuration of pre and final filter

### Configuration

BECO MEMBRAN PS Wine filter cartridges are made of high-quality polyethersulfone membranes. Polypropylene support fleeces protect the membrane and provides wide chemical compatibility, while the polypropylene cage and core help to ensure maximum mechanical stability.

### Materials

| | |
|---|---|
| **Filter membrane:** | Polyethersulfone |
| **Support fleeces:** | Polypropylene |
| **Cage, core** | Polypropylene |
| **End cap/adapter:** | Polypropylene, adapter with reinforcing ring |
| **O-rings:** | Silicone (standard) |

The plastic components meet the requirements of Directive 10/2011/EC and amendments. All materials used meet the FDA requirements according to 21 CFR.

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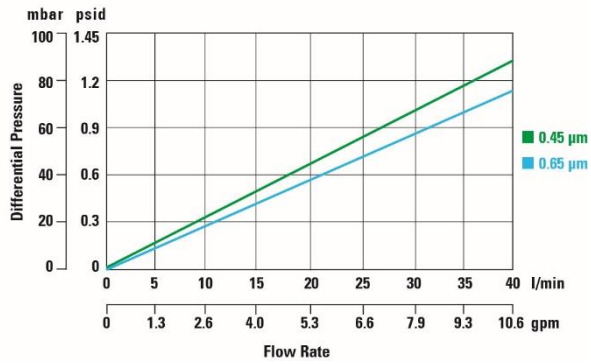
## Technical Data

| Nominal length | Filter area |
|---|---|
| 20" (500 mm) | 16.8 ft² (1.56 m²) |
| 30" (750 mm) | 25.2 ft² (2.34 m²) |

| | |
|---|---|
| **Diameter:** | 2.75 in (70 mm) |
| **Maximum operating temperature:** | 176 °F (80 °C) |
| **Maximum differential pressure in flow direction:** | 72.5 psid at 68 °F (500 kPa, 5.0 bar at 20 °C)<br>29 psid at 176 °F (200 kPa, 2.0 bar at 80 °C)<br>4 psid at 250 °F (30 kPa, 0.3 bar at 121 °C) |
| **Maximum differential pressure against flow direction:** | 29 psid at 68 °F (200 kPa, 2.0 bar at 20 °C) |
| **Hot water sanitization:** | Max. 194 °F (90 °C), 30 minutes |
| **Steam sterilization:** | Max. 250 °F (121 °C)<br>100 cycles at 221 °F (105 °C) for 30 minutes |

## Flow Rate

30" with water at 68 °F (20 °C) (standard values)




## Integrity Test

| Types | Test pressure psig | (bar) | Max. diffusion rate per 10" element |
|---|---|---|---|
| PSW 04 | 21.8 | (1.5) | </= 15 ml/min |
| PSW 06 | 14.5 | (1.0) | </= 10 ml/min |

The operation manual supplied with the device describes the procedure for the integrity test.

## Titer Reduction

| Pore size | Test organism | Titer reduction/cm² (LRV) |
|---|---|---|
| PSW04 (0.45 µm) | *Serratia marcescens* | > $10^7$ (LRV > 7) |
| PSW04 (0.45 µm) | *Oenococcus oeni* | > $10^7$ (LRV > 7) |
| PSW06 (0.65 µm) | *Saccharomyces cerevisiae* | > $10^7$ (LRV > 7) |

## Adapter Codes

| Code 2 | Code 7 |
|---|---|
| Single open end (SOE)<br>2-222 O-ring<br>triple bayonet adapter with spear | Single open end (SOE)<br>2-226 O-ring<br>double bayonet adapter with spear |
|  |  |

## Ordering Information

BECO MEMBRAN PS Wine filter cartridges with protective foil in carton.

| Type | Retention rating | Adapter | Nominal length | Gasket |
|---|---|---|---|---|
| PSW | 04 = 0.45 µm | 2 = Code 2* | 2 = 20" (500 mm) | S = Silicone |
| | 06 = 0.65 µm | 7 = Code 7 | 3 = 30" (750 mm) | |

* in 20" on request

**Example**

| | | | | |
|---|---|---|---|---|
| PSW | 04 | 7 | 3 | S |

BECO MEMBRAN PS Wine filter cartridges; 0.45 µm retention rating; Code 7, 30" (750 mm); silicone gasket

## Sterilization

**Steam Sterilization**
With steam at 221°F (105 °C)/7.25 psig (50 kPa, 0.5 bar).

Duration: 30 minutes after steam emerges from all openings of the filtration system.

**Hot Water Sanitization**
Using water up to 194 °F (90 °C) max.

Duration: at least 30 minutes once the temperature reaches 185 °F (85 °C) from all openings of the filtration system. Soften and filter (ca. 1 µm) the water to avoid lime precipitation that could lead to premature clogging of the filter cartridge.

## Regeneration

Rinse BECO MEMBRAN PS Wine filter cartridges after each use in the direction of flow using approximately 1 µm of filtered, softened water under counter pressure. Rinsing will primarily remove any deposited, water-soluble haze substances such as polysaccharides (glucanes), proteins, tannins, tartaric acid crystals. Rinsing with hot water (176 °F/80 °C) will typically remove persistent residues, if used in a timely manner. The hot water may remain in the filter overnight.

Note: Detailed information on regeneration and chemical cleaning can be found in Application Note 1 A 4.3.5.1

## Safety

When used as directed and handled correctly, there are no known unfavorable effects associated with this product. BECO MEMBRAN PS Wine filter cartridges do not require the provision of safety-relevant information.

Storage, handling and transport does not present any environmental and health risks.

## Disposal

BECO MEMBRAN PS Wine filter cartridges should be treated as industrial waste. Any local and other official regulations in relation to the filtered product must be followed.

## Storage

Store cartridges in their original packaging and in a dry, odor-free and UV ray protected place.

Use filter cartridges within 60 months after production date.

## Certified Quality

During the production process, BECO MEMBRAN PS Wine filter cartridges are regularly monitored to ensure consistent excellent quality control and are tested for 100% integrity as a part of the manufacturing process.

North America
44 Apple Street
Tinton Falls, NJ 07724
Toll Free: 800 656-3344
(North America only)
Tel: +1 732 212-4700

Europe/Africa/Middle East
Auf der Heide 2
53947 Nettersheim, Germany
Tel: +49 2486 809-0

Friedensstraße 41
68804 Altlußheim, Germany
Tel: +49 6205 2094-0

An den Nahewiesen 24
55450 Langenlonsheim, Germany
Tel: +49 6704 204-0

China
No. 3, Lane 280,
Linhong Road
Changning District, 200335
Shanghai, P.R. China
Tel: +86 21 5200-0099

Singapore
100G Pasir Panjang Road #07-08
Singapore 118523
Tel: +65 6825-1668

**For more information, please email us at *filtration@eaton.com* or visit *www.eaton.com/filtration***

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1A 4.3.5.3
04-2021



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