

Membrane Filtration

BECO MEMBRAN PFplus Filter Cartridges

1 A 4.3.1.5 · EB
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BECO MEMBRAN PFplus filter cartridges are pleated membrane filter cartridges made of polyvinylidene fluoride that can be checked for integrity.

They feature a newly developed end cap resulting in excellent mechanical robustness.

The specific benefits of BECO MEMBRAN PFplus filter cartridge are:

- ▶ Long service life through larger filter area and excellent mechanical stability
- ▶ High microbiological safety due to uniform pore sizes
- ▶ Very good resistance to sterilization media and cleaning solutions
- ▶ Resistant to hot water rinsing up to 95 °C (203 °F)
- ▶ The filter can be sterilized many times with steam or hot water
- ▶ Used filter cartridges can be stored dry; the membrane retains its wettability and elasticity during storage

Application

BECO MEMBRAN PFplus filter cartridges were developed specially for application under extreme processing conditions. The preferred area of application is microbiological stabilization of various beverages.

Technical Data

Materials used

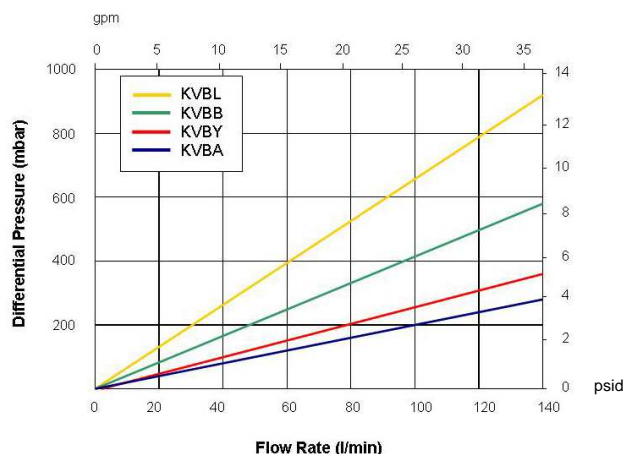
| | |
|--|--|
| Filter membrane: | Hydrophilic PVDF |
| Support fleeces: | Polypropylene |
| Internal and external support body: | Polypropylene |
| End cap/adaptor: | Polypropylene, adapter with reinforcing ring |
| O-rings: | Silicone (standard) |

All material components meet the FDA guidelines for indirect food additives 21 CFR 177-182.

| Length | Filter area: |
|-------------|---|
| 10"/ 25 cm | 0.78 m ² (8.4 ft ²) |
| 20"/ 50 cm | 1.56 m ² (16.8 ft ²) |
| 30"/ 75 cm | 2.34 m ² (25.2 ft ²) |
| 40"/ 100 cm | 3.12 m ² (33.6 ft ²) |

| | |
|---------------------------------------|---|
| Diameter: | 69 mm (2.7 in) |
| Maximum operating temperature: | 80 °C (176 °F) |
| Maximum differential pressure: | |
| In flow direction: | 5.5 bar (80 psid) at 25 °C (77 °F) 1.7 bar (25 psid) at 80 °C (176 °F) 0.35 bar (5 psid) at 121 °C (250 °F) |
| Against flow direction: | 3.5 bar (50 psid) at 25 °C (77 °F) (intermittent) |
| Sterilization with steam: | 100 cycles at 109 °C (228 °F) for 30 minutes |

Flow rate measured per 30" element with water at 25 °C (77 °F):



Integrity Test

| BECO MEMBRAN PFplus | Test pressure | Max. diffusion rate per 10" filter cartridge |
|---------------------|-------------------|--|
| 0.22 µm KVBL | 2.8 bar (40 psig) | 15.2 ml/min |
| 0.45 µm KVBB | 1.5 bar (22 psig) | 17.1 ml/min |
| 0.65 µm KVBY | 0.6 bar (9 psig) | 9.1 ml/min |
| 1.0 µm KVBA | 0.5 bar (7 psig) | 6.3 ml/min |

The procedure for the integrity tests is described in the operation manual supplied with the device.

Titer Reduction per cm²

| Pore size | Test organism | Titer reduction |
|----------------|---|---------------------|
| KVBL (0.22 µm) | Pseudomonas aeruginosa; Escherichia Coli | >/= 10 ⁷ |
| KVBB (0.45 µm) | Lactobacillus hilgardii; Oenococcus oeni | >/= 10 ⁷ |
| KVBY (0.65 µm) | Saccharomyces cerevisiae | >/= 10 ⁷ |
| KVBA (1.0 µm) | Saccharomyces cerevisiae | >/= 10 ⁷ |

Flushing/regeneration:

Note: More detailed information regarding regeneration can be found in our Technical Information 1 A 4.3.1.6

Ordering Information

Filter cartridges with protective foil in carton

| Filter cartr. type | Retention rate | Adapter | Nom. length | Gasket |
|--------------------|----------------|------------|----------------|----------|
| KVBL | 0.22 µm | 0 = Code 0 | 1 = 10"/ 25 cm | P A = |
| KVBB | 0.45 µm | 5 = Code 5 | 2 = 20"/ 50 cm | silicone |
| KVBY | 0.65 µm | 7 = Code 7 | 3 = 30"/ 75 cm | |
| KVBA | 1.0 µm | | 4 = 40"/100 cm | |

KV...73PA (Code 7; 30") standard product, other adapters and lengths available on request

HS customs tariff: 8421 99 00

Adapter Codes

| Code 0 | Code 5 | Code 7 |
|------------------------------|---------------------------|--|
| 2-222 | 2-222 | 2-226 |
| O-ring without centering tip | O-ring with centering tip | O-ring dual bayonet adapter with centering tip |

Safety

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

There are no known risks to humans or the environment during storage, handling and transport.

Disposal

BECO MEMBRAN PFplus filter cartridges should be treated as industrial waste. Any local and other official regulations must be followed, depending on the product to be filtered.

Storage

BECO MEMBRAN PFplus filter cartridges should be stored in their original packaging, and in a dry, odor-free and UV ray protected place. Never store the product near evaporating chemicals, oils or fuels etc. The filter cartridges should be used within 2 years after delivery.

Certified Quality

During the production process, BECO MEMBRAN PFplus filter cartridges are monitored constantly to ensure consistently high quality.

All BECO MEMBRAN PFplus filter cartridges are tested for 100 % integrity as part of the manufacturing process.



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