

# Membrane Filtration

## BECO MEMBRAN H (0,2 µm)

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07/2004

### For Sterile Gas Filtration

The BECO MEMBRAN H filter cartridge was developed for a variety of different gas filtration applications. It is particularly suitable for separating microbiological aerosols from technical gases.

The specific advantages of BECO MEMBRAN H:

- ▶ Long-term steam-resistance at 145 °C.
- ▶ Can be sterilized against the filtration direction.
- ▶ Validated bacteria retention capacity.
- ▶ High throughput through very low inherent membrane resistance.

#### Application

BECO MEMBRAN H filter cartridges are used for the technical and sterile filtration of gases and air, for example in the food and beverage industry for sterilizing fermenter supply air, for tank venting, or for purging storage tanks after steam sterilization.

#### Product Characteristics

BECO MEMBRAN H filter cartridges are hydrophobic and durable and have a long service life. Under standard conditions, the filter cartridges can be operated for up to one year at a continuous temperature of approximately 80 °C.

During the manufacturing process, each filter cartridge is checked for integrity by means of a pressure holding test. Integrity is ensured even after several steaming cycles or continuous steaming over 165 hours.

#### Technical Specifications

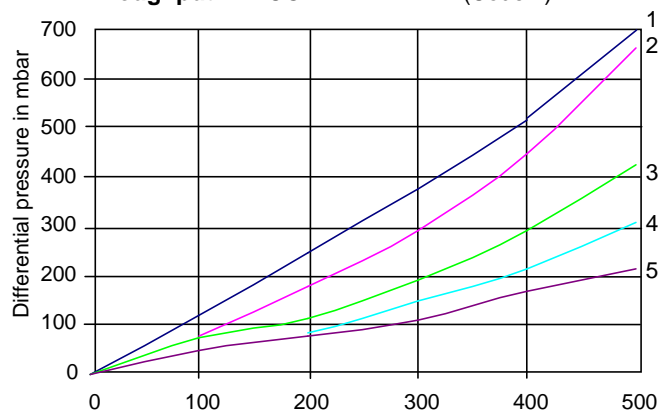
##### Materials:

- ▶ Hydrophobic PTFE membrane; internal and exterior support body and end caps made from polypropylene; dual O-ring made from silicone.
- ▶ Nominal cartridge length and filter surface area:

Length:	Filtration area:
25 cm/10"	0.7 m <sup>2</sup>
50 cm/20"	1.4 m <sup>2</sup>
75 cm/30"	2.1 m <sup>2</sup>

- ▶ **Pore size:** 0.2 µm
- ▶ **Differential pressure:**  
Max. differential pressure:  
7.00 bar at 25 °C  
1.75 bar at 80 °C  
0.35 bar at 145 °C  
Max. counter pressure:  
5.2 bar at 25 °C, periodic
- ▶ **Adapter:**  
Code 7, single open end with double O-ring and double bayonet (2-226 with spear)

##### ▶ Throughput : BECO MEMBRAN H (Code 7)



Flow rate in Nm<sup>3</sup> per hour based on a 10" element

- 1 = 0.0 bar outlet pressure
- 2 = 1.0 bar inlet pressure
- 3 = 2.1 bar inlet pressure
- 4 = 3.5 bar inlet pressure
- 5 = 5.0 bar inlet pressure

##### ▶ Sterilizability:

BECO MEMBRAN H filter cartridges can be sterilized up to 150 times in filtration direction and 50 times against the filtration direction at 145 °C for 30 minutes with steam

- ▶ Integrity test:  
Nitrogen diffusion at 23 °C per 10" cartridge element:  
≤ 15 ml/min at 0.7 bar with 60 % isopropanol.  
Bubble point pressure at 23 °C:  
≥ 895 mbar with 60 % isopropanol.  
Virus aerosol retention:  
A 10" filter cartridge subjected to 10<sup>8</sup> - 10<sup>10</sup> ΦX-174 phages will fully retain all phages even after 50 application cycles (SIP) at 145 °C and a flow rate of 85 Nm<sup>3</sup>/h.
- ▶ Bacterial penetration:  
No penetration of *Pseudomonas diminuta* occurs for at least 21 days if the product is subjected to 10<sup>7</sup> organisms/cm<sup>2</sup>.
- ▶ Bacterial endotoxins:  
The bacterial endotoxin content of a 10" filter cartridge is < 0.5 Eu/ml after the LAL test.
- ▶ Extractable ingredients:  
≤ 35 mg per 10" filter cartridge after soaking for 24 hours in 100 % isopropanol.

### Delivery Information

Cartridges with protective foil in carton.

Pore size	Cartridge length	Adapter code	Throughput
		Code 7*	Nm <sup>3</sup> /h at 3.5 bar Inlet pressure
0.20 µm	10"/25 cm	KVLL71 TA	250
0.20 µm	20"/50 cm	KVLL72 TA	500
0.20 µm	30"/75 cm	KVLL73 TA	700

\* Code 7: single open end with double O-ring and double bayonet (2-226 with spear).

BECO MEMBRAN H is also available in Code 0 or 5 design. Delivery times are available on request

### Safety

When used and handled correctly, there are no known unfavorable effects associated with this product. BECO MEMBRAN H 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 of the product.

### Disposal

BECO MEMBRAN H filter cartridges should be treated as industrial waste. Any local and other official regulations must be followed

### Storage

BECO MEMBRAN H filter cartridges should be stored in their original packaging, and in a dry and odor-free 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

BECO MEMBRAN H filter cartridges are monitored for uniformly high product quality during the production process. The materials used meet the requirements of UPS, Class VI, for synthetic materials, and the current UPS Mouse Safety Test.



Reg. No. 000480 QM

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