



Introduction

Vinofil membrane cartridges have been specifically designed, by Microfiltrex for wine and sparkling wine filtration, as a final filter for cold biological stabilisation. Vinofil utilises a double layer of naturally hydrophilic polyethersulphone (PES) membrane with a mirrored asymmetric pore structure, which provides graded filtration throughout its depth, resulting in higher throughputs and long service life. When combined with quality all-polypropylene components and high integrity manufacturing techniques, the Vinofil filter cartridge is ideally suited to the most demanding process conditions.



Vinofil Double Layer Membrane Filter for Wine Filtration

Features and Benefits

- The double layer PES membrane offers high flow with low pressure drop and exceptionally high dirt holding capacity.
- The PES membrane exhibits low colour-binding and non-specific protein binding; these characteristics are regarded as essential to the organoleptic quality of wine and improved regeneration.
- The Vinofil 0.65 μm rated filter removes contaminating yeast, moulds, and spoilage bacteria from liquids. The Vinofil 0.45 μm rated filter removes yeasts and moulds including the smallest spoilage bacteria such as *Oenococcus oeni*. The Vinofil 0.2 μm rated cartridges provide sterile filtration for bottled water and other beverage grade water applications.
- Vinofil cartridges are 100% integrity tested during manufacture and integrity testing can be repeated while the filters are in service, thus providing assurance of the filter's efficiency to remove spoilage microorganisms.
- Chemical compatibility – extremely resistant to all conventional chemical regenerating agents and processes across the entire pH spectrum from 1 to 14.
- Vinofil cartridges contain no added surfactants or wetting agents that could alter taste.
- Advanced cartridge design coupled with enhanced thermal stability of the PES membrane ensures the cartridge integrity is maintained during multiple cycles of hot water sanitation and in-line steam sterilisation.
- Validation Guide available on request.

Cartridge Construction

Vinofil cartridges incorporate a double layer Polyethersulfone (PES) membrane pleated with polypropylene upstream irrigation and downstream drainage materials. The outer sleeve, inner core and integral end-cap adapters are made of polypropylene. Multiple length cartridges with industry standard adapter styles are produced to fit most housing designs and system sizes. All materials are traceable and CFR 21 listed for direct food contact. Cartridges are constructed in a clean room under tightly controlled conditions using advanced, highly specialised machinery. Quality and consistency of product is assured by the quality control and manufacturing procedures, which are in place throughout all stages of manufacture.

Food and Biological safety

The Vinofil cartridges are manufactured using high quality components made from non-toxic and biologically inert raw materials. All components are FDA listed for food contact in the Code of Federal Regulations (CFR), Title 21.

Specifications

Materials of Manufacture

Filter membrane	Polyethersulphone
Irrigation/support	Polypropylene
Drainage Layer	Polypropylene
Cartridge Hardware	Polypropylene
Adapter Insert	316 Stainless Steel
<i>(where applicable)</i>	
Standard 'O' Ring	Silicone/EPDM

Cartridge Dimensions

Diameter	70mm (2.8")	
Length	125mm (5")	760mm (30")
	250mm (10")	1020mm (40")
	510mm (20")	

Effective Filtration Area

0.92m² (10ft²) per 250mm (10") module

Maximum Differential Pressure

Normal Flow Direction at:

20° C (68° F)	6.0 bar (87lb/in ²)
80° C (176° F)	4.0 bar (57lb/in ²)
100° C (212° F)	3.0 bar (43lb/in ²)
120° C (248° F)	2.0 bar (29lb/in ²)
125° C (257° F)	1.5 bar (22lb/in ²)

Reverse Flow Direction at:

20° C (68°F)	2.1 bar (30lb/in ²)
80° C (176°F)	1.0 bar (15lb/in ²)
100° C (212°F)	0.5 bar (7lb/in ²)

Maximum recommended short term operating temperature

80° C (180° F)

Sterilisation

In-line steam sterilisation – Cartridges can be in-line steam sterilised for a minimum of 80 cycles @ 125°C – duration 20 minutes per cycle.

Hot water sanitation – Cartridges can be hot water sanitised for a minimum of 200 cycles @ 80°C - duration 20 minute per cycle.

Chemical Regeneration

Vinofil cartridges are manufactured to withstand a mild alkaline / acid flush in the normal flow direction.

Retention Characteristics

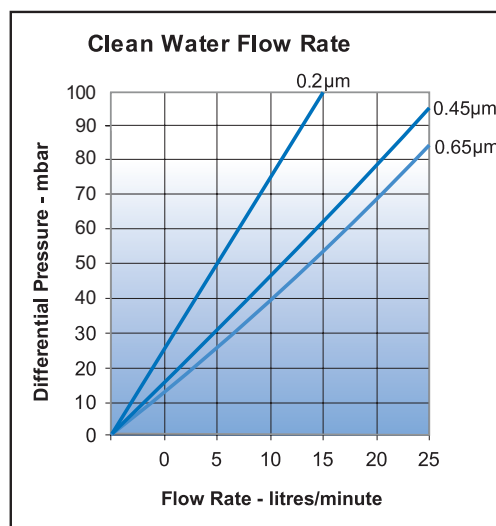
Vinofil 0.2µm rated cartridges provide log reduction values (LRV's) of >10 for *Brevundimonas diminuta* at minimum challenge levels of 1×10^7 CFU/cm² of membrane surface area.

Vinofil 0.45µm rated cartridges provide log reduction values (LRV's) of >10 for *Serratia marcescens* at minimum challenge levels of 1×10^7 CFU/cm² of membrane surface area.

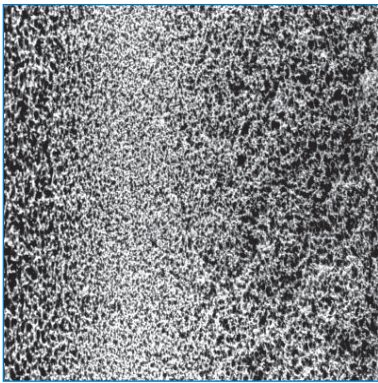
Vinofil 0.65 µm rated cartridges provide log reduction values (LRV's) of >10 for the spoilage yeast *Saccharomyces cerevisiae* at minimum challenge levels of 1×10^7 CFU/cm² of membrane surface area.

Clean Water Flow Rates

Typical Clean Water Flow Rate - Based on a 250mm (10") single cartridge in situ in a Microfiltrex housing exhibit the differential characteristics indicated below:



Filter Media and Housings



*PES Membrane - cross section
(x675)*



Sanitary Housing Group

Applications

- *Wine / Sparkling wine*
- *Beer*
- *Spirits*
- *Soft drinks and bottled water*



A Division of the Porvair Filtration Group

1 Concorde Close, Segensworth, Fareham, Hampshire PO15 5RT UK

Tel: +44 (0)1489 864330

Fax: +44 (0)1489 864399

Email: info@porvairfiltration.com

Web: www.porvairfiltration.com

*The company reserves the right to change specifications without notice.
Freedom from patent restrictions must not be assumed.*



ISO 9001:2000
FM 00374

6027M(GB)-0508

Ihr zuständiger Distributor:



WM consult & sales
GmbH + Co. KG

**Heinrich – Böll – Str. 10
D - 52372 Kreuzau**
Tel. 0049 – 2422 - 902609
Fax 0049 – 2422 - 901465
E-mail info@wmc-s.com
Web www.wmc-s.com