

CANDEFILT - HMVE

New “evolution” membrane filter cartridge for general applications

- PES membrane with mirrored asymmetric pore structure
- higher effective filter area
- increased retention capacity
- repeatedly steamable in situ
- easy integrity testable in situ
- sanitizable and regenerable
- highly reinforced thermowelded construction

CANDEFILT - HMVE pleated PES (hydrophilic mirrored asymmetric polyethersulphone) membrane cartridges are designed for example as sterilizing filters for beverage filtration (wine, beer, mineral and drinking water and other). These elements offer high flux rates and low differential pressures. It can be easily tested before use. The new materials adopted and the innovative configuration provide additional service life. The construction is carried out in a controlled environment, with constant monitoring of all production parameters. The cartridges are 100% integrity tested and verified in production.



FEATURES & BENEFITS

- new type PES membrane with mirrored asymmetric pore structure for better efficiency
- highly reinforced thermowelded construction
- polypropylene drainage layers upstream and downstream
- great performance in cold microbiological stabilization of wine and beer

MAERIALS OF CONSTRUCTION

Filter Media:	mirrored asymmetric polyethersulfone membrane
Upstream support	polypropylene
Downstream support:	polypropylene
Internal core:	polypropylene
External cage:	polypropylene
End caps / adapters:	polypropylene

FOOD-SAFETY

CANDEFILT - HMVE filter element materials meet (EU) regulation 10/2011 and its amendments, regulations (EC) 1935/2004 and 1895/2005. Construction materials are in compliance with FDA requirements according to CFR 21; par. 177-199.

QUALITY STANDARDS

Produced under an ISO 9001 certified Quality System to guarantee traceability of manufacturing records and integrity testing results.

RECOMMENDED OPERATING CONDITONS

- | | |
|---|--|
| - max. continuous temperature | 75°C |
| - max. cumul. time of steam sterilisation | 100 cycl. @125°C, (max Δp=0,3 bar) |
| - sanitization with hot water | max 85°C |
| - sanitization with chemicals | sanitizable by usual chemical agents |
| - regenerability | NaOH solution up to 2% at <65°C |
| - max. differential pressure | 6,9 bar at 25°C and
2,4 bar at 80°C |
| - recommended change out diff. pressure | 2,1 bar at 25°C |



INTEGRITY TEST DATA

FILTRATION CODE	PRESSURE HOLD TEST VALUE* (RELATED TO 5 MIN - INDICATIVE)	TEST PRESSURE	MAX. DIFFUSION FLOW VALUE IN WATER FOR 10" CARTRIDGE (ml/m)
	8x 30" cartridges		
04	≤ 0,159 bar	1,3 bar	≤ 18
06	≤ 0,159 bar	0,8 bar	≤ 18

* The values are related to 5 min. and are indicative as they depend on volume of the housing upstream the filter element.

FILTRATION RATINGS		TYP. WINE FLOW RATE FOR 10" CARTRIDGE	TYP. BEER FLOW RATE FOR 10" CARTRIDGE	TYP. WATER FLOW RATE FOR 10" CARTRIDGE
FILTR. CODE	F. RATING	l/h ($\Delta p = 0,1$ bar)	l/h ($\Delta p = 0,1$ bar)	l/h ($\Delta p = 0,1$ bar)
04	0,45 μm	900	900	1500
06	0,65 μm	900	900	1500

Flow rates for wine and beer are indicative as they depend on the type of wine/beer, wine sugar grade, beer fermentation type and pre-filtration treatment used.

WINE FILTRATION - BACTERIAL RETENTION

FILTRATION CODE	F. RATING (μm)	BACTERIAL RETENTION* $>10^7$ per cm^2
04	0,45	Oenococcus oeni / Saccharomyces cerevisiae / Brettanomyces bruxellensis / Lactobacillus brevis
06	0,65	Saccharomyces cerevisiae / Brettanomyces bruxellensis

* As per ASTM F838 - filtration rating 0.45 micron is able to retain Oenococcus Oeni at $\geq \log 7$ reduction with a challenge of 10^7 colony forming units (CFU)/ cm^2 membrane area

BEER FILTRATION - BACTERIAL RETENTION

FILTRATION CODE	F. RATING (μm)	BACTERIAL RETENTION* $>10^7$ per cm^2
04	0,45	Acetobacter oeni / Pediococcus damnosus / Saccharomyces cerevisiae / Brettanomyces bruxellensis / Lactobacillus brevis
06	0,65	Saccharomyces cerevisiae / Brettanomyces bruxellensis

* As per ASTM F838 - filtration rating 0.45 micron is able to retain Saccharomyces cerevisiae at $\geq \log 7$ reduction with a challenge of 10^7 colony forming units (CFU)/ cm^2 membrane area

WATER FILTRATION - BACTERIAL RETENTION

FILTRATION CODE	F. RATING (μm)	BACTERIAL RETENTION* $>10^7$ per cm^2
04	0,45	Serratia marcescens / Clostridium perfringens / Oocystis criptosporidium / Giardia cysts
06	0,65	Oocystis criptosporidium / Giardia cysts / Clostridium perfringens

* As per ASTM F838 - filtration rating 0.45 micron is able to retain Serratia marcescens at $\geq \log 7$ reduction with a challenge of 10^7 colony forming units (CFU)/ cm^2 membrane area

CANDEFILT - HMVE ordering instruction:

HMVE	>porosity<	>adapter<	>length<	>gasket<
04	> 0,45 μm	BS > 2,226 s	10 > 10"	S > silikon
06	> 0,65 μm	S > 2,222 s	20 > 20"	
		F > 2,222 f	30 > 30"	
		TBS > 2,222 s	40 > 40"	

Example: **HMVE 06 BS 30 S**

