



SWISS QUALITY.

DEPTH FILTRATION FOR VALUABLE LIQUIDS. SINCE 1938.

FILTROX CARTRIDGES

CLAROX® MP/W and PL

CARTRIDGES APPLICATION IN WINE

1. Membranes before bottling line

- Aim to guarantee the wine sterility at bottling inlet
- The majority of the particles, yeasts and bacteria has to be filtered out from product before the membrane filtration

2. Membranes cartridges protection

- Just before membranes cartridges
- Aim to extend membranes life time and cycles
- Aim to reduce filtration costs
- Filters before membranes replacement is cheaper than membranes replacement
- Depth filtration (three dimensional) has a better particles retention capacity than membranes (surface filtration only)

3. Polishing filtration

- Fine filtration to obtain a brilliant product only
- Clarification and tartrates removal to obtain a brilliant product only

4. Pre and coarse filtration

- Turbid particles reduction only

CLAROX® MP/W

Membrane cartridges for food & beverage

Applications for CLAROX® MP/W

- Final filtration / cold stabilization of wines, juices and other beverages
- Ideal as safety filter prior to bottling

Benefits of CLAROX® MP/W



- [Integrity testable](#)
- Easy sanitation
- High chemical compatibility pH 1 – 14
- Repeatedly steam cycles
- Stop and go (typically bottling line process) allowed
- Wet storage
- Dry storage



CLAROX® MP/W

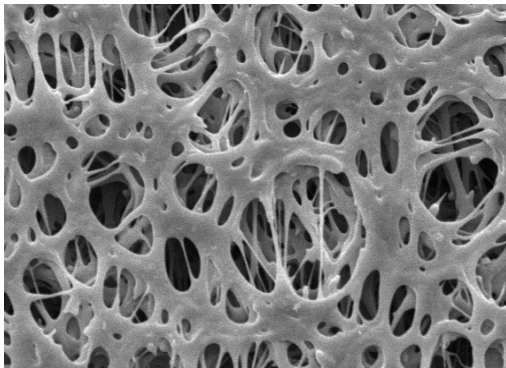
Typical flow rates for CLAROX® MP/W

Performances depend on density, temperature and product characteristics.

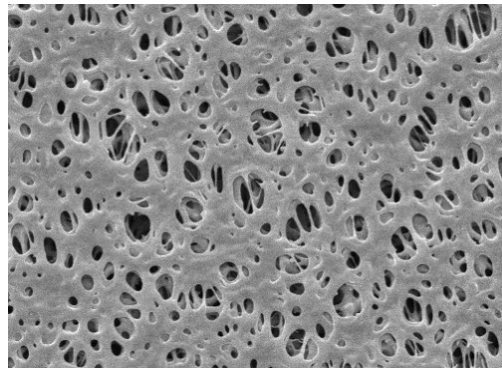
Type	Wine 	Wine 
CLAROX® MP/W 04	750 Lt/h/30"	198 gal/h/30"
CLAROX® MP/W 06	750 – 1050 Lt/h/30"	198 – 277 gal/h/30"
CLAROX® MP/W 08	750 – 1050 Lt/h/30"	198 – 277 gal/h/30"

CLAROX® MP/W

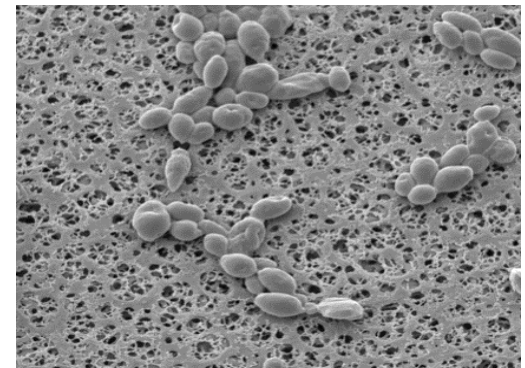
Cartridge component	Material of construction
Filter media	PES hydrophilic polyethersulfone
Upstream support	Polyester
Downstream support	Polyester
Internal/external core	Polypropylene
Outer cage	Polypropylene
Adapter and end caps	Polypropylene



PES membrane;
upstream side



PES membrane;
downstream side



Saccharomyces cerevisiae
On PES membrane 0.65 µm

CLAROX® MP/W

Operating conditions

Recomm. change out diff. pressure	2.0 bar at 25 °C
Max. differential pressure	5.0 bar at 25 °C
Max. continuous operating temp.	65 °C
Re-generation	<2% NaOH* Enzyme*
Thermal sterilization	Water 80 °C
Chemical sterilization	Peracetic* acid and standard chemical agents*
Maximum cumulative time of steam sterilization	40 hours at 121 °C with max. ΔP 0.3 bar (with cycles of 30 minutes)
Chemical resistance, allowed products	Withstands acids and alkalis from pH 1 to 14, alcohols, solvents, light oxidizing cleaning solutions
Chemical resistance, not allowed products	Not compatible with strong oxidizing agents, e.g. 98% sulfuric acid, formic nitric and bromic acid, CHC and aromatic solvents, e.g. benzene, toluene

* Products and additives for the food industry, allowed for cartridges treatment

CLAROX® MP/W

Technical data	CLAROX® MP/W 04	CLAROX® MP/W 06	CLAROX® MP/W 08
Absolute filtration rating	0.45 micron	0.65 micron	0.8 micron
BP value	1.3 bar	1.1 bar	0.7 bar
Max. diffusion flow (10")	< 20 mL/min	< 20 mL/min	< 20 mL/min
Test pressure for pressure holding test	1.1 bar	0.9 bar	0.5 bar
Test limits (per 30" cartridge)*	< 115 mbar	< 115 mbar	< 115 mbar
Bacteria retention	> 1.0 E10 per cm ² (<i>Leuconostoc oenos</i>)	> 1.0 E11 per cm ² (<i>Saccharomyces cerevisiae</i>)	1.0 E10 per cm ² (<i>Saccharomyces cerevisiae</i>)
Filter area per 10" cartridge	0.7 m ²	0.7 m ²	0.7 m ²

* The values are related to 5 minutes and are indicative as they depend on the housing upstream volume of the filter cartridge

CLAROX® PL

Pre-filter cartridges for food & beverage

Applications for CLAROX® PL:

- Pre-filter for a wide range of beverages like wines, beer, juices, soft drinks and water application

Benefits of CLAROX® PL

- Absolute rated (ABS) at 99.98% efficiency (β -ratio 5000)
- Long life service allowing costs reduction per filtered volume.
I.e., beer trap filters at DE filter outlet (depending on beer type):
5'000 – 8'000 hL/cartridge 30" of 10 μ m
- Easy sanitation and effective backwashing (1.5-2 \times filtration flow) effect
- High chemical compatibility pH 1 – 14
- Stop and go allowed
- Wet storage
- Dry storage

CLAROX® PL

Typical flow rates for CLAROX® PL

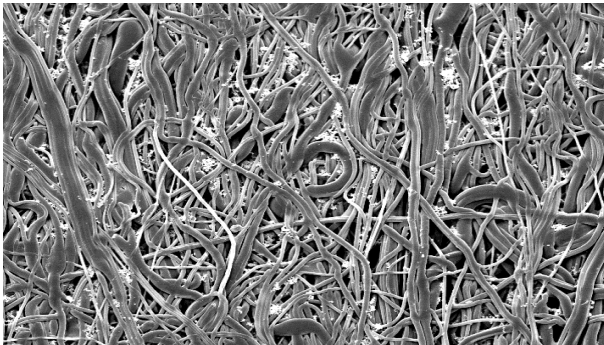
Performances depend on density, temperature and product characteristics.

Type/porosity	Beer 	Wine 	Water 
0.2 / 0.5 / 1.0 µm	6 hL/h/30"	900 Lt/h/30"	2.5 m³/h/30"
3.0 / 5.0 µm	15 hL/h/30"	2000 Lt/h/30"	3.5 m³/h/30"
10 / 20 µm	25 hL/h/30"	3000 Lt/h/30"	5 m³/h/30"

Type/porosity	Beer 	Wine 	Water 
0.2 / 0.5 / 1.0 µm	160 gal/h/30"	240 gal/h/30"	660 gal/h/30"
3.0 / 5.0 µm	400 gal/h/30"	530 gal/h/30"	920 gal/h/30"
10 / 20 µm	660 gal/h/30"	790 gal/h/30"	1320 gal/h/30"

CLAROX® PL

Cartridge component	Material of construction
Filter media	Polypropylene
Upstream support	Polypropylene
Downstream support	Polypropylene
Internal/external core	Polypropylene
Outer cage	Polypropylene
Adapter and end caps	Polypropylene



PP-nonwoven, SEM photo, 413-fold enlarged



Wide pleated depth filter cartridge
Allow an easy backflush

CLAROX® PL

Operating conditions

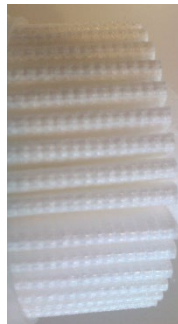
Recomm. change out diff. pressure	2.0 bar at 25 °C
Max. differential pressure	5.0 bar at 25 °C
Max. diff. pressure back-flushing	2.0 bar at 25 °C
Max. continuous operating temp.	65 °C
Thermal sterilization	Water 80 °C
Re-generation	<2% NaOH* Enzyme*
Chemical sterilization	Peracetic* acid and standard chemical agents*
Sterilization	Continuously with cycles of 20 minutes at 121 °C
Chemical resistance, allowed products	Withstands acids and alkalis from pH 1 to 14, alcohols, solvents, light oxidizing cleaning solutions
Chemical resistance, not allowed products	Not compatible with strong oxidizing agents, e.g. 98% sulfuric acid, formic nitric and bromic acid, CHC and aromatic solvents, e.g. benzene, toluene

* Products and additives for the food industry, allowed for cartridges treatment

CLAROX® PL

Technical data	CLAROX® PL
Filtration rating	0.2 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 / 20.0 micron
Micron rating	Absolute (ABS)
Efficiency	99.98%
β -ratio	5000
Filter area per 10" cartridge	0.4 – 0.8 m ²

Large pleating (easy backwashing) of CLAROX® PL vs. regular pleating



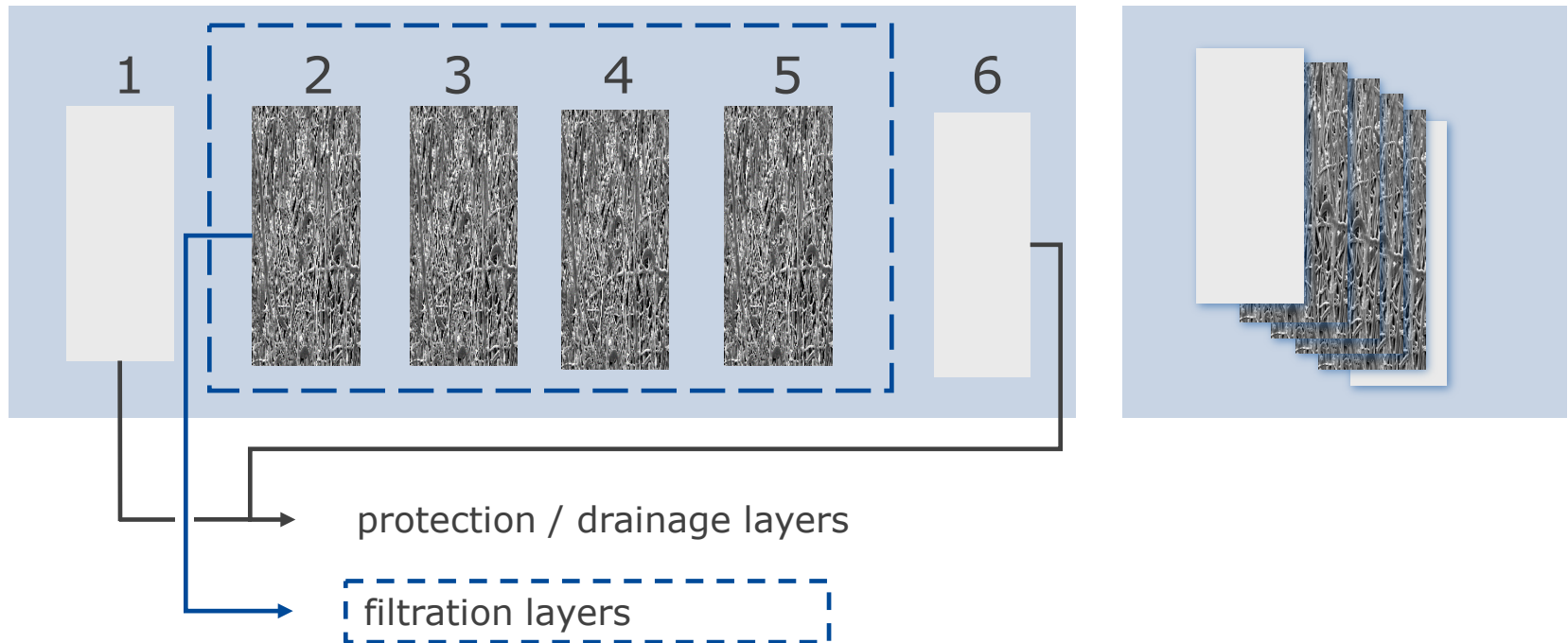
0.35 – 0.8 m² / 10" cartridge
Large pleating; construction type PL



up to 1 m² / 10" cartridge
Regular pleating; construction type MP/W

CLAROX® PL

CLAROX® PL construction (all layers are in polypropylene)



CLAROX® PL 0.2, 0.5, 1.0, 3.0 μm : 4 filtration layers

CLAROX® PL 5.0, 10, 20 μm : 3 filtration layers

QUALITY STANDARDS

CLAROX® TYPE	MP/W	MP/B	MP	PL	PL/E	PL/NR	GF	PL/G	GP	GM	PV	PX/E	PL/H	S/PL
European regulation 10/2011 and its amendments, regulations 1935/2004, 1895/2005 and 2023/2006	●	●	●	●	●	●	●	●	●	●	●	●	●	1935/2004 only
FDA requirements for food contact use, according to Code of Federal Regulation, title 21, paragraph 176.170	●	●	●	●	●	●	●	●	●	●	●	●	●	
Polypropylene meets the requirements contained in FDA 21CFR section 177.1520	●	●	●	●	●	●	●	●	●	●	●	●	●	
Produced under a certified quality system to guarantee traceability of manufacturing records	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Integrity tested in the manufacturing	●	●	●								●			
Filter media and components pass USP biological reactivity and chemical-physical test CLASS VI for plastics	●	●	●	●		●	●		●	●	●	●	●	
Specified for "PH" grade: meets USP "water injection" requirements for particles release and the effluent is non-pyrogenic per USP bacterial Endotoxins (< 0.25 EU/ml)				●									●	
CFR21 non-fiber releasing requirements				●									●	
Application to all Stainless Steel 316 compatible medium														●



SWISS QUALITY.

DEPTH FILTRATION FOR VALUABLE LIQUIDS. SINCE 1938.

Thank you for your attention