WineClear 6

Microfiltration membrane module for beverage and liquid processing applications

GENERAL INFORMATION

The **WineClear 6** microfiltration module delivers high-quality clarification for a wide range of beverages, including wine, beer, tea, cider, and specialized process liquids across the beverage, dairy, biotechnology, and pharmaceutical sectors. Its advanced hollow fiber membrane technology ensures the effective and sharp removal of bacteria, yeast, and haze-forming colloidal particles, resulting in consistently clear, stable, and visually appealing end products.

As a modern, eco-sustainable upgrade to traditional filtration methods such as diatomaceous earth (Kieselgur) and sheet filters, the WineClear 6 enhances process safety while drastically improving operational yield and automation simplicity. Built from high-performance, food-grade materials, the WineClear 6 is engineered to withstand demanding thermal sanitation and rigorous chemical CIP (Cleaning-In-Place) procedures, ensuring superior hygiene, extended operating lifespan, and dependable performance in industrial processing plants.

MEMBRANE CHARACTERISTICS

Parameter	Specification
Membrane Material	Hydrophilic Polyethersulfone (PES)
Pore Size	0.1 µm
Membrane Fiber Inner Diameter	1.5 mm
Filtration Mode	Inside-Out; Vertical orientation
Operation Mode	Dead-end or Cross-flow

OPERATING CONDITIONS [1]

Operational Parameter	Standard Value / Limit
Typical Operating Flux	25 – 100 l/m²·h
Backwash Flux	50 – 200 l/m²·h
Max. System Pressure	5 bar (72.5 psi)
Max. Filtration Transmembrane Pressure (TMP)	3 bar (43.5 psi)
Max. Backwash Pressure	2 bar (29.0 psi)
Max. Active Chlorine Concentration	500 ppm @ pH > 10 & T < 20°C (68°F)
Max. Cumulative Active Chlorine Exposure	250,000 ppm-hours @ pH > 10 & T < 20°C (68°F)
Max. Particle Size (Pre-filtration requirement)	300 µm
Max. Total Suspended Solids (TSS)	100 ppm
Max. Turbidity	100 NTU
Max. Temperature during Operation	30°C (86°F)
Max. Temperature during Cleaning (CIP)	65°C (131°F)
Max. Temperature Ramp Rate [2]	3°C / min
pH Range during Operation	2 – 12
pH Range during Cleaning	1 – 13

1 Water hammer and hydraulic pressure spikes must be avoided at all times! Pressure surges cause mechanical stresses leading to module failure, especially at elevated operating temperatures during ramp up and ramp down. The combination of high pressure, high temperature, and harsh oxidizing cleaning agents reduces overall membrane life.

2 Avoid sudden thermal shocks to the membrane module. The maximum gradient of 3°C/min should never be exceeded during heating or cooling cycles to prevent irreversible mechanical damage.



WineClear 6

Dimensions, Material Specifications & Operational Instructions

MATERIALS OF CONSTRUCTION

Housing Material	Polysulfone (PSU)
Potting Material	High-grade Epoxy Resin

MODULE DIMENSIONS

Membrane Surface Area	**14.5 m²**
L1.0 (Total Length)	1507 mm (59.33")
L1.1 (Port-to-Port Distance)	1230 mm (48.43")
L1.2 (Port Centerline Off-set)	151 mm (5.94")
D1.0 (Module Body Diameter)	165 mm (6.50")
D1.1 (Feed / Retentate Connections)	Tri-Clamp DIN 32676 DN50 (2")
D1.2 (Permeate Connections)	Tri-Clamp DIN 32676 DN65 (3")
D1.3 (End-Cap Outer Diameter)	222 mm (8.74")

ORDERING & PRODUCT CODE

Available Module Type	**WineClear 6**
Product / Part Code	**ELEMF0050**

WEIGHT SPECIFICATIONS

Dry Weight (Module only)	13 kg (29 lbs)
Dry Weight (with assembly components)	16 kg (35 lbs)

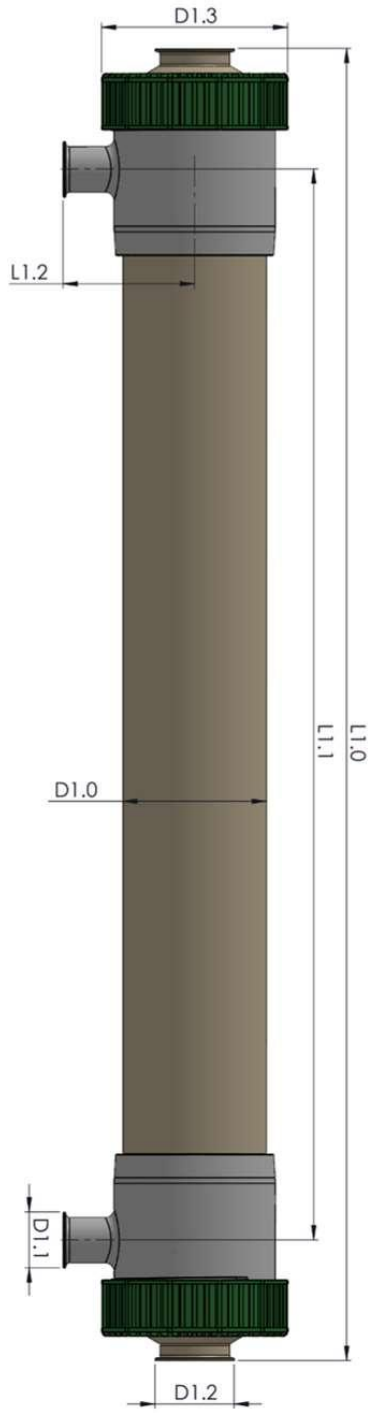
STORAGE GUIDELINES

Storage Conditions: The dry WineClear 6 modules must be stored in their original sealed packaging in dry, moderately ventilated conditions at a relative humidity below 80%, strictly protected from direct sunlight and radiant heat sources. Storage and transport temperature range: **0°C to 40°C**.

ASSEMBLY & MAINTENANCE

Assembly Guidelines: Do NOT use lubricants, greases or sealants containing silicone or mineral oils. Only glycerine or pure water may be used as lubricant for gaskets, EPDM O-rings, and Tri-Clamp couplings. Apply food-grade anti-seize lubricant strictly to the stainless steel bolts/nuts during installation (never apply anti-seize onto elastomeric seals or O-rings).

TECHNICAL DRAWING & PORT DIMENSIONS



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