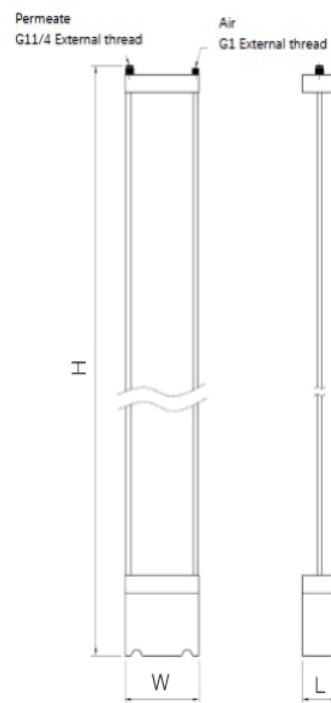


PCI - HF Zmbr2 Module Datasheet

Submerged hollow fibre membranes are installed in the filtration tank to separate the treated effluent from the biomass, providing a high-quality effluent (free of suspended solids and partly disinfected). The unique design of these reinforced membranes incorporates braiding to significantly improve their ability to withstand the harsh operating environment of a Membrane Bioreactor, increasing their lifespan. The hollow fibre membranes are mounted in proprietary modules that provide the optimal degree of restraint and system robustness.

Membrane Specifications :

- Membrane type: reinforced hollow fibre
- Membrane material: PVDF
- Membrane fibre diameter: 1.0 mm (ID) / 2.0 mm (OD)
- Nominal pore size: 0.02 μm
- Filtration direction: out-to-in
- Max operation pressure: -0.6 bar (filtration) / +1.0 bar (backwash)
- Temperature range: 5 to 45°C
- pH range: 1 to 12



Module Dimensions

Product	Membrane surface area m ²	Height (H) mm	Width [W] mm	Length [L] mm
ZENmbr2-S	40	1948	380	176
ZENmbr2-U	52	2448	380	176

PCI - HF Zmbr2 Membrane Cassette Datasheet

Membrane modules are fitted within supporting frames called cassettes, which can be equipped with a variable number of modules according to your specific requirements.

Frame material *: SS AISI 316L

Cleaning Chemical Resistance

- Sodium Hypochlorite**

- Typical: 500 to 1,500 ppm at $\leq 40^{\circ}\text{C}$
- Maximum: 5,000 ppm
- Cumulative exposure: 2,880,000 ppm hour

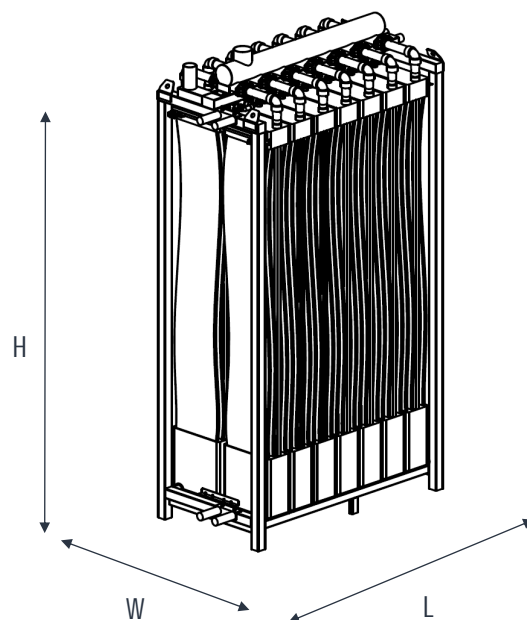
- Hydrochloric Acid**

- Typical: 2,000 ppm at $\leq 40^{\circ}\text{C}$
- Maximum: 3%
- Cumulative exposure: 1,440,000 ppm hour

- Citric Acid**

- Typical: 5,000 ppm at $\leq 40^{\circ}\text{C}$
- Maximum: 15,000 ppm
- Cumulative exposure: 1,440,000 ppm hour

NOTE : During chemical cleaning, PCI Membranes recommends keeping the pH range of the cleaning solution within 1 to 11 (at $\leq 40^{\circ}\text{C}$).



Cassette Dimensions

Product	Length [L] mm	Width [W] mm	Height [H] mm
PCI - HF Zmbr2 - S12	1700	695	2129
PCI - HF Zmbr2 - S40	2135	1700	2155
PCI - HF Zmbr2 - U12	1700	695	2629
PCI - HF Zmbr2 - U40	2135	1700	2655

Cassette Technical Data

Product	Modules (max) [pcs.]	Membrane area (max) [m²]	Air Connection	Permeate Connection	Shipping Weight (max) [kg]	Lifting Weight (max) [kg]
PCI - HF Zmbr2 - S12	12	480	1"Φ76	2"Φ76	560	1300
PCI - HF Zmbr2 - S40	40	1600	1"Φ159	1"Φ89	1860	4330
PCI - HF Zmbr2 - U12	12	624	1"Φ76	2"Φ76	700	1625
PCI - HF Zmbr2 - U40	40	2080	1"Φ159	1"Φ89	2325	5412

* Cassettes' dimension, frame material and connections can be customised according to specific requests.

PCI - HF Zmbr2 Submerged Membrane Cassette Datasheet

Storage & Transportation

During transportation, modules must be protected from moisture, sun exposure, heavy loads, and violent collisions or bumps, and be secure in such way to prohibit capsizing. The environmental temperature range shall be between 0 to 40°C.

The membranes are preserved with a solution containing: 79% water, 20% Glycerin, 0.5% Sodium Dodecyl Sulfate, 0.5% Isothiazolinone), which protects the membrane from drying out and prevents the growth of microorganisms. Hence, the vacuum-sealed package shall be intact during and after transportation/storage.

During storage, membrane modules must always be fully protected and be stored in a dry, clean, non-corrosive, non-polluted, and far from sources of cold or heat environment. The environmental temperature range shall be between 0 to 40°C.

During transportation from the storage to the installation sites, membrane modules must be placed within a dedicated area and adequately covered to avoid direct sunlight and wind exposure.

If the modules are stored according to the above conditions, the maximum storage time can be 1 year. After 1 year, the preservation solution must be renewed (according to the same formula specified above).

Once the membrane cassettes and modules are installed in the membrane tank, in case of a short-term process downtime, the membranes must be chemically cleaned before re-starting the normal operation. In case of a long-term process downtime, the membranes must be chemically cleaned and soaked with water and sodium hypochlorite (NaOCl, 5 ppm). If the NaOCl concentration within the membrane filtration tank is less than 0.5 ppm, operators must renew the NaOCl solution immediately.