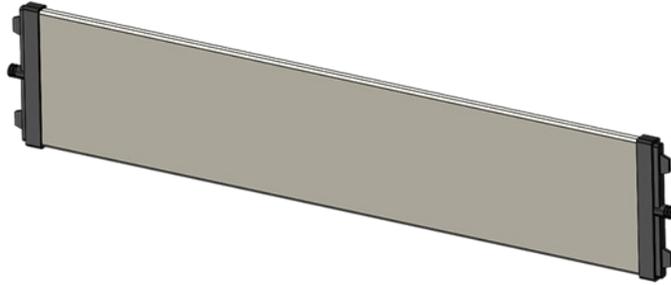


A black and white photograph of a ceramic flat sheet membrane (FSM) in a tank. The membrane is a long, narrow, wavy sheet that runs across the width of the tank. It is supported by a metal frame. The water level is visible, and the membrane is partially submerged. The background is dark, and the lighting highlights the texture of the membrane and the reflections on the water surface.

CERAMIC FLAT SHEET MEMBRANE

The high flux Flat Sheet Membrane
(FSM)



LiqTech Ceramic Flat Sheet Membrane

The high flux Flat Sheet Membrane (FSM) from LiqTech is designed for submerged outside-in filtration applications.

The high flux Flat Sheet Membrane (FSM) from LiqTech is designed for submerged outside-in filtration applications.

The FSM carrier and the selective layers are made of recrystallized silicon carbide which gives the product some unique advantages such as high flux, total chemical resistance (pH 0-14), and long lifetime.

The FSM is built into a submerged vacuum-driven filtration system, which consists of racks of modules each with multiple FSM's.

- Market-proven
- The second hardest material in the world next to diamonds
- Made by filtration experts
- Selected by market leaders
- Highly flexible & stackable design

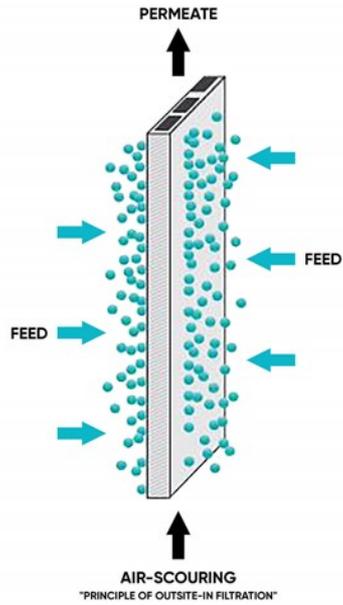
Superior Ceramic Flat Sheet Membrane

FEATURES & BENEFITS

- ✓ Unmatched flux
- ✓ Small footprint
- ✓ Excellent thermal properties
- ✓ Unmatched performance
- ✓ Chemically inert
- ✓ Efficient cleaning
- ✓ Robustness
- ✓ Long service life - less maintenance
- ✓ Lowest fouling tendency of any polymeric or ceramic membrane material

APPLICATION AREAS

- ✓ Wastewater treatment
- ✓ Wastewater reuse
- ✓ Ground water
- ✓ Drinking water
- ✓ Pre-RO treatment
- ✓ Others



Flat Sheet Membrane Principle (Outside-In)

The filtration mode is outside-in and cleaning is done by a combination of air-scouring underneath the modules and by back washing along with chemical cleaning.

FSM Datasheet

ELEMENT DATA

Configuration	Rectangular with permeate channels inside - Outside-in-filtration
Membrane material	Silicon Carbide (SiC)
Substrate material	Silicon Carbide (SiC)
Temperature tolerance	Up to 800°C / 1472°F
Maximum pressure	3 bar / 43.5 psi

APPLICATION DATA

Operating pressure	Depends on feed characteristics
Maximum operating temperature	Determined by system components
Maximum chlorine concentration	Unlimited
pH tolerance	0 - 14
Cleaning	Chlorine, acid, caustic, solvents

FLUX

Pore size	Typical flux at 25°C - Ultra pure water @ 1 bar
UF Membrane	> 3000 LMH / 1764 GFD

SPECIFICATION SHEET - FSM

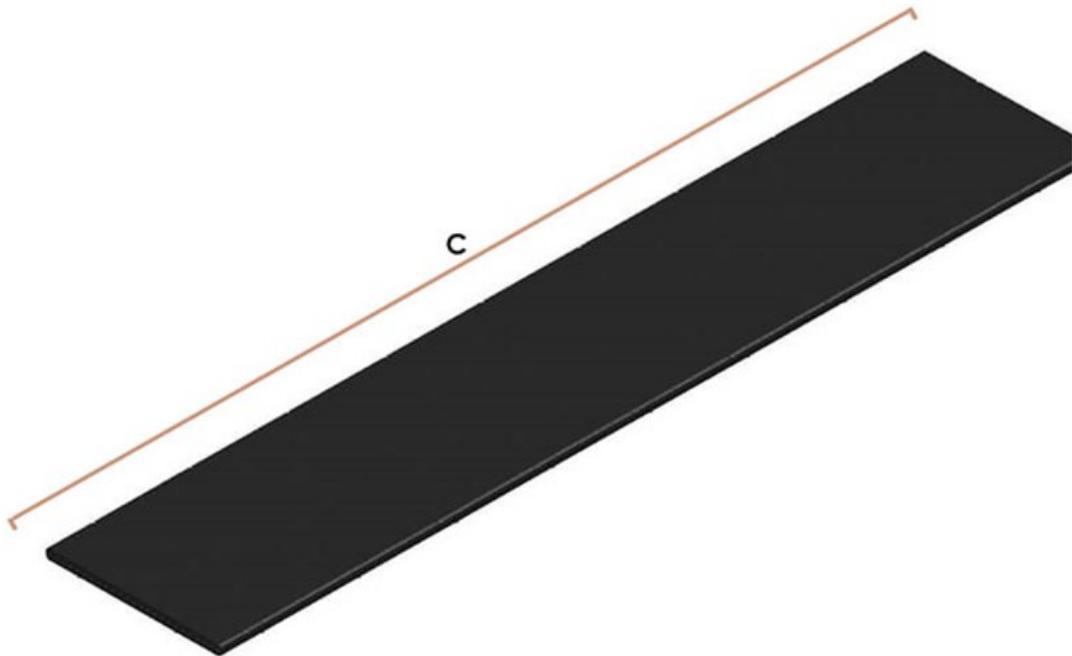
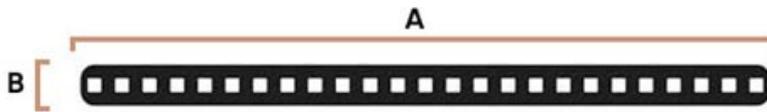
Model	Element dimensions - A (mm/in) x B (mm/in) x C (mm/in)	Channel dimension (mm/in)	Membrane area (m ² /ft ²)
FSM500100UF-22	(mm) 100 ± 1.5 x 6 ± 1.0 x 500mm ±2.0	2 x 2mm	0.106 m ²
	(inch) 3.9 ± .06 x .24 ± .04 x 19.7 inch ±.08	.08 x .08 inch	1.1 ft ²

Bending tolerances on the concave side:

Side A: 1.0mm / .04 inch

Side B: N/A

Side C: 2.0mm / .08 inch





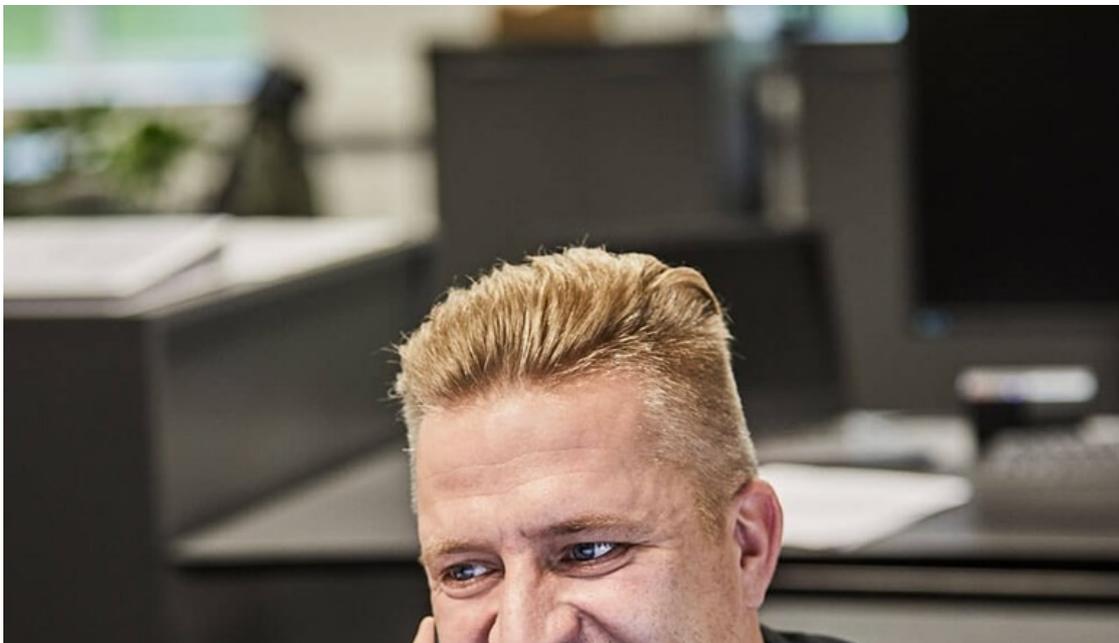
Highly Flexible & Stackable Rack Design

Highly flexible system with state-of-the-art silicon carbide ceramic flat sheet membranes.

Flat sheet systems are usually pressureless and submerged into a "feed" tank. It's often a way to compress a large amount of membrane area in a small footprint. LiqTech's FSM towers can be customized with different rack sizes and tower heights. Permeate is "sucked" out of the racks, aided by the water level in the tank. This means the membrane coating is on the outside of the sheets, and permeate is drawn in, and is an "outside-in" membrane design.

TECHNICAL DATA

Number of FSM membranes / racks	Up to 55 FSM per rack / Up to 12 racks
Membrane surface area	Up to 5.8 m ² /62.4 ft ² per rack - Up to 70 m ² /753 ft ² per tower
Tower / module material	316L / 1.4404 or super duplex
pH tolerance	0 - 14
Maximum operating temperature	Determined by system components
Operating pressure	Depends on feed characteristics



Talk to a Membrane Expert

If you need more information, please do not hesitate to contact us.

We are here to help you



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