DOW FILMTEC™ Membranes

DOW FILMTEC Maple Sap Mark I Nanofiltration Element

Features

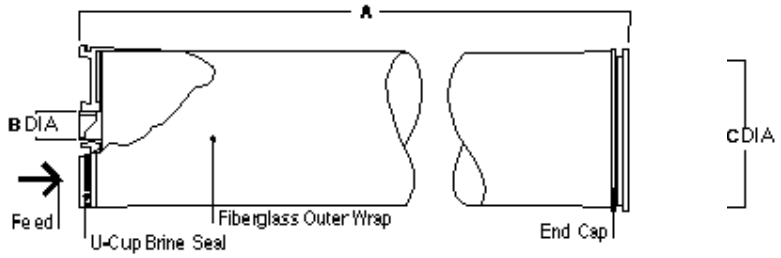
The DOW FILMTEC™ Maple Sap Mark I is a premium nanofiltration element designed specifically for maple sap concentrators. It takes full advantage of DOW FILMTEC's automated rolling technology to produce an extremely efficient design with the highest possible active area in a standard sized eight-inch diameter element.

The Mark I delivers exceedingly high retention of sugars and minerals and is able to withstand repeated caustic cleaning cycles without compromising membrane retention or flow. This combination of high retention and high flow make the Mark I an excellent choice for maple sap applications.

Product Specifications

Product	Part Number	Nominal Active Surface Area ft² (m²)
Maple Sap Mark I	239707	440

Figure 1



Product	Dimensions – Inches (mm) A	B	C
Maple Sap Mark I	40 (1,016)	1.125 (29)	7.9 (201)

1. Element to fit nominal 8.00-inch (203 mm) I.D. pressure vessel.

1 inch = 25.4 mm

Operating Limits

- Membrane Type: Polyamide Thin-Film Composite
- Maximum Operating Temperature: 113°F (45°C)
- Maximum Operating Pressure: 600 psig (41 bar)
- Maximum Pressure Drop: 15 psig (1.0 bar)
- pH Range, Continuous Operation[a]: 3 - 9
- pH Range, Short-Term Cleaning[b]: 1 - 13
- Maximum Feed Flow: 70 gpm (15.9 m^3/hr)
- Maximum Feed Silt Density Index: SDI 5
- Free Chlorine Tolerance[c]: <0.1 ppm

[a] Maximum temperature for continuous operation above pH 10 is 95°F (35°C).

[b] Contact Original Equipment Manufacturer (OEM) for specific cleaning recommendations.

[c] Under certain conditions, the presence of free chlorine and other oxidizing agents will cause premature membrane failure. Since oxidation damage is not covered under warranty.

Important Information

Proper start-up of membrane systems is essential to prepare the elements for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system retention quality and productivity goals can be achieved.

Before initiating system start-up procedures, membrane pretreatment, loading of the membrane elements, instrument calibration and other system checks should be completed.

Operation Guidelines

Avoid any abrupt pressure or cross-flow variations on the spiral elements during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. During start-up, a gradual change from a standstill to operating state is recommended as follows:

- Feed pressure should be increased gradually over a 30-60 second time frame.
- Cross-flow velocity at set operating point should be achieved gradually over 15-20 seconds.
- Permeate obtained from first hour of operation should be discarded.

General Information

- Keep elements moist at all times after initial wetting.
- If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.
- To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a preservative solution.
- The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements.
- Avoid permeate-side backpressure at all times.

Certified to NSF/ANSI 61

These products are listed to NSF/ANSI 61.
For more information visit: http://www.nsf.org/Certified/PwsComponents/Listings.asp?Company=0N280&Standard=061

DOW FILMTEC™ Membranes
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Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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