



FILMTEC Membranes

Elements Used in Maple Sap Concentration

A variety of FILMTEC™ elements are used for maple sap concentration. Below is a list of these elements with a description of each.

8-inch Elements

FILMTEC Maple Sap Mark I is the newest product for use in maple sap concentration. It offers the combination of high flows and extremely reliable sugar retention, even after repeated high pH cleanings. The Mark I takes full advantage of FilmTec's automated rolling technology to produce an extremely efficient design with the highest possible active area in a standard-sized eight-inch element, and it is designed to balance the need for tighter mineral and sugar retention with high flow rates. Because of its unique performance, FilmTec recommends The Maple Sap Mark I element for use in maple sap concentrators.

Although FilmTec no longer specifically recommends the following elements, they have been and can be used for maple sap concentration:

FILMTEC NF270-400: Preferred by smaller farmers who seek the highest possible production rates at the expense of some sugar passage, this element delivers extremely high flow rates, but it may fail to retain sugar at high concentrations. NF270-400 cannot be cleaned above pH 10 and a temperature above 40°C.

FILMTEC NF90-400: This is a standard FILMTEC element that uses a "tight" nanofiltration membrane. While it offers stable sugar retention, it is lower flow than the Maple Sap Mark I and NF270-400 elements. This element is generally considered to be too low in flow to be used in maple sap concentrators.

FILMTEC XLE-440: Often the element of choice for organic producers, this is FilmTec's highest flowing RO element that will deliver tighter retention of minerals than nanofiltration elements.

4-inch Elements

Since Maple Sap Mark I is not available in a 4-inch element, the following elements are recommended for use in smaller Maple sap concentrators:

FILMTEC NF270-4040: Preferred by smaller farmers who seek the highest possible production rates at the expense of some sugar passage, this element is the 4-inch version of the NF270-400, offering the same high flow rates, but it may fail to retain sugar at high concentrations. It cannot be cleaned above pH 10 and a temperature above 40°C.

FILMTEC NF90-4040: This element offers highly stable sugar retention but at much lower flow rates than the NF270-4040.

FILMTEC XLE-4040: This is FilmTec's highest flowing 4-inch RO element which ensures higher retention of trace minerals but at lower flows than the NF90-4040.

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For more information about FILMTEC membranes, call the Dow Liquid Separations business:

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