



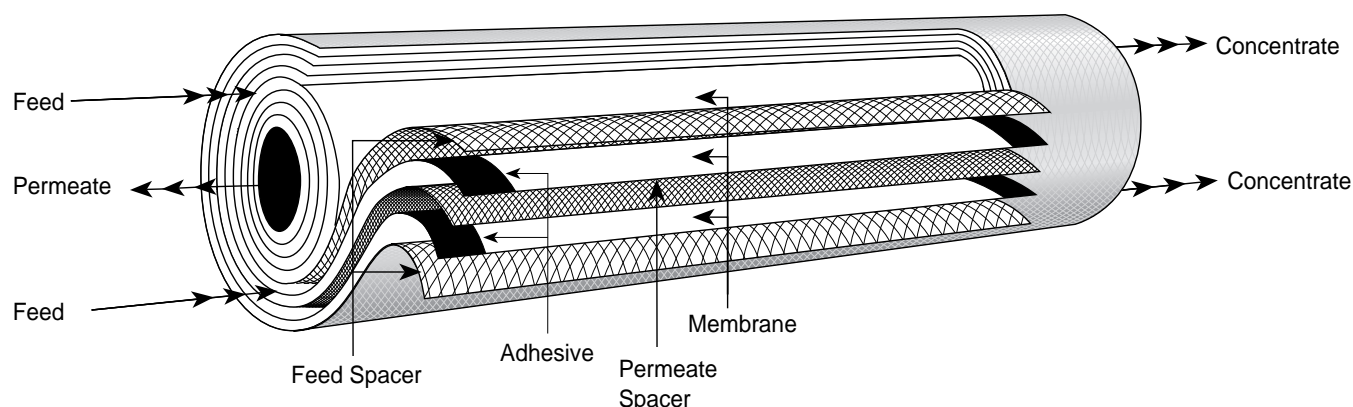
FILMTEC Membranes

Background Information on Membrane Filtration Using Spiral Elements

FILMTEC® food processing elements are specially designed and manufactured for food and dairy applications. The spiral element design is one of the most compact and inexpensive designs available for filtration modules. Through innovative design, high-quality membrane and superior filtration capabilities,

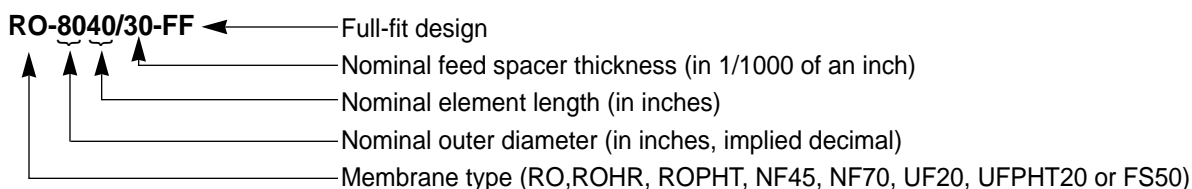
FILMTEC membranes are the best in the market. In a spiral element the feed solution flows across the membrane surface. Liquid permeates through the membrane while selected components in the feed are retained. Turbulent mixing of the feed flow is created with a plastic netting material, referred to as the "feed

spacer." Depending on the thickness and design of the feed spacer, spiral elements can be used for filtering liquids with different viscosities and suspended solids content. The permeate flow is carried through a synthetic fabric called "permeate spacer" and is collected in the permeate tube.



Nomenclature

8.0" diameter, 40" long spiral-wound RO module with 30-mil-thick feed spacer



Product	Membrane Type	Typical Applications	Available in USDA/3A Configuration?
RO	Reverse osmosis	Product concentration/dewatering	Yes
ROHR	High rejection reverse osmosis	Condensate polishing	No
ROPHT	High temperature/pH reverse osmosis	Product concentration/dewatering	Yes
NF45	Nanofiltration	Product desalting/enrichment	Yes
NF70	High-rejection nanofiltration	Product concentration	Pending
UF20	20,000 MWCO Ultrafiltration	Whey protein concentration	Yes
UFPHT20	High temperature/pH 20,000 MWCO	Milk standardization/WPC	Yes
FS50	50,000 MWCO Ultrafiltration	Brine clarification	Pending

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FILMTEC Membranes

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

North America 1-800-447-4369
Latin America (+55) 11-546-9345
Europe (+49) 7227-91-0
Japan (+81) 3-5460-2100
Pacific (+852) 2879-7261
<http://www.dow.com/liquidseps>

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