

Sanitary Membranes Overview



Figure 1: GE Sanitary Membranes

GE has served the food and beverage industry for over 30 years with spiral wound membranes to increase value in the process stream. This experience extends into the dairy industry, sugar applications and the wine industry.

GE's broad portfolio covers all key membrane processes implemented in dairies. Applications include: lactose and whey concentration, whey demineralization, lactose clarification, whey and milk protein

concentration, cheese brine clarification and water recovery from UF, NF and RO permeates. In addition, we offer several applications for the sugar and wine industries using MF, NF and RO membranes.

GE's unique 3-layer membrane technology produces one of the world's best NF membranes for process applications with excellent salt permeability while maintaining high rejection of organics such as lactose and proteins, as well as divalent ions.

This results in increased operational efficiency and improves the downstream processes.

GE's Dairy membranes (Figure 1) meet:

- 3A-Sanitary Standard: a manufacturing standard that covers the sanitary aspects of cross-flow modules for use with MF, UF, NF and RO systems for processing milk and milk products
- FDA 21CFR 175, 176, 177, 178 and 182
- EU Framework regulation 1935/2004/EC and relevant sections of the Plastic Regulation 10/2011

Application	Product Name	Membrane Type
Dairy Applications		
Lactose and Whey Concentration	Dairy AF	RO
Whey Demineralization/Lactose Concentration	Dairy DK Dairy DL	NF NF
Hot Water Sanitizable Elements	Dairy HWS	NF and RO
Whey and Milk Protein Concentration	Dairy Ultra UF Dairy PT Dairy PW	UF UF UF
Cheese Brine Clarification	Dairy JX	MF
Hot Water Sanitizable Elements	Dairy HWS	RO/NF



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Application	Product Name	Membrane Type
Dairy Applications (continued)		
UF/NF/RO Permeate Recovery	Polisher RO	RO
Hot Cow Water Recovery	Duratherm* STD	RO
Sugar Applications		
Sugar Concentration	Duracon RO1	RO
	Duracon RO5	RO
	Duracon NF1	NF
Monosaccharide Purification	Duracon NF2	NF
Wine Applications		
Grape Juice and Must Concentration	Vinocon RO1	RO
	Vinocon RO3	RO
	Vinocon RO5	RO
Alcohol Reduction	Vinopro	NF
Wine Clarification	Vinoclear	MF