ESNA

Energy Saving Nanofiltration Membranes

High performance energy saving ESNA nanofiltration membranes are ideal for softening applications and the removal of pesticides, pathogens, bacteria or viruses. They provide optimum salt rejection with ultra-low-pressure operations, increased energy savings, and significantly lower installation and operating costs. They can effectively remove organics that can form disinfection by-products in municipal water.

Hydranautics also offers Integrated Membrane Solutions® (IMS) combining a range of RO, NF, UF and MF membrane technologies to achieve the most comprehensive, effective, low-cost solutions for the industry.

ESNA Applications:

- Brackish water softening
- Removal of NOM, TOC and other organics
- Industrial waste water reclamation to achieve high recovery

ESNA Product Offerings:

- **ESNA1-LF-LD:** This membrane is globally acclaimed for high hardness rejection characteristics in softening applications. It significantly reduces operating costs and provides optimum hardness rejection.
- **ESNA1-LF2-LD:** This is a high flow nanofiltration membrane that provides superior Natural Organic Matter (NOM) rejection and moderate hardness rejection, operating at less than 100 psi pressures.

The ESNA membranes are available in the LD variant. Low differential LD Technology® models are offered to minimize colloidal fouling when used with conventional pre-treatment equipment. These membranes offer consistently low feed pressures and longer intervals between cleanings. These membranes are available in 4” and 8” diameters.

Specified Performance* and General Product Description:

Membrane Product	Model	Permeate flow* gpd (m^3/d)	$CaCl_2$ Rejection*	Feed Spacer Thickness (mil)	Membrane Active Area ft^2 (m^2)
ESNA1	**ESNA1-LF-LD-4040**	1,900 (7.2)	93%	34	80 (7.4)
	ESNA1-LF-LD	9,500 (36.0)	93%	34	400 (37.2)
	ESNA1-LF2-LD-4040	2,400 (9.1)	91%	34	80 (7.4)
	ESNA1-LF2-LD	12,000 (45.4)	91%	34	400 (37.2)

*The Specified Performance is based on data taken after approximately 30 minutes of operation. Actual testing of elements may be done at conditions which vary from these exact values; in which case, the performance is normalized back to these standard conditions. Permeate flow for individual elements may vary ±15 percent from the value specified.

Solutions You Need.

Technologies You Trust!

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