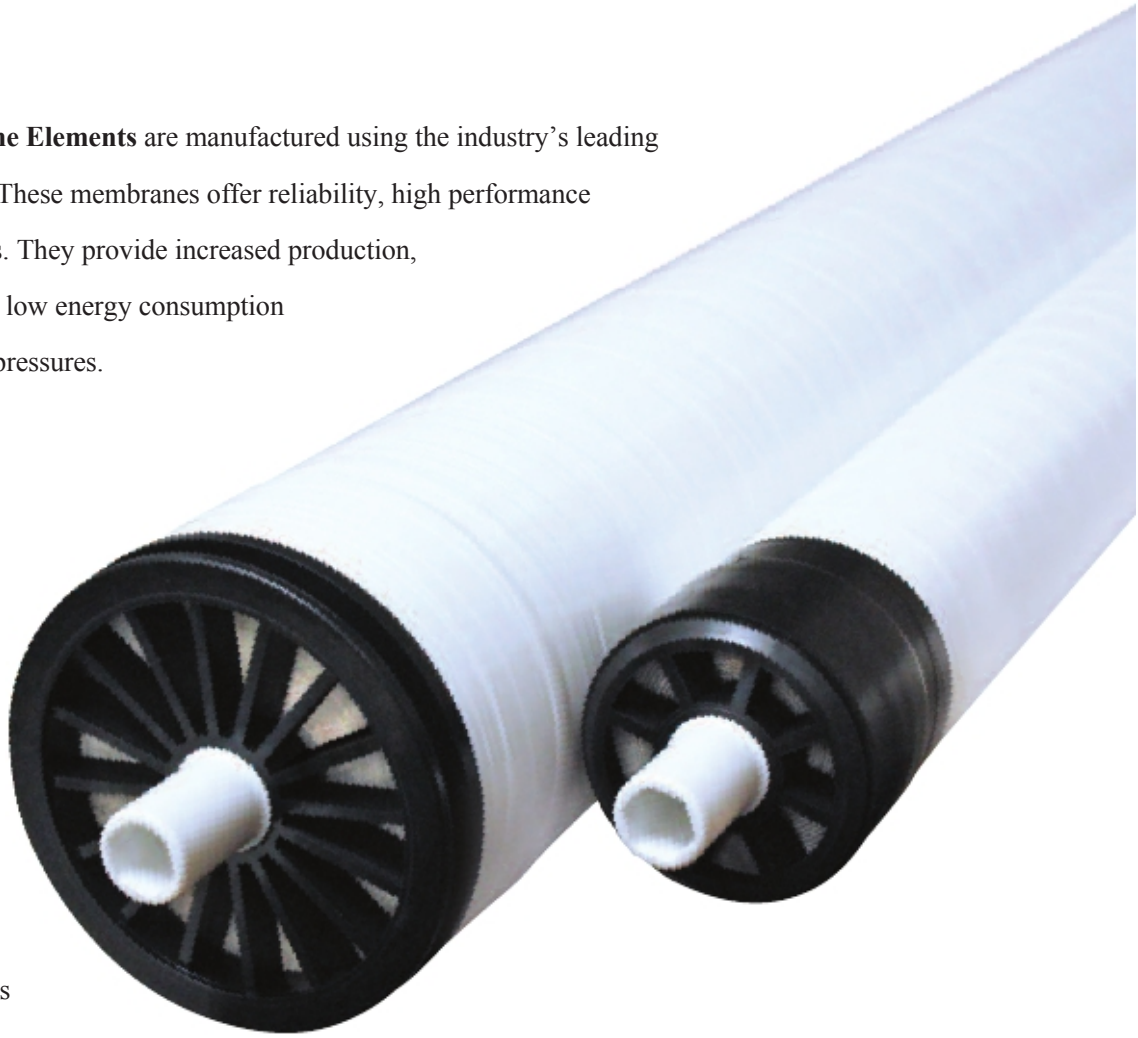
MEMBRANAS HF5 “Ultra Low Energy”

AX HF5 – Series Membrane Elements are manufactured using the industry’s leading membrane film technology. These membranes offer reliability, high performance and deliver consistent results. They provide increased production, high rejection rates and ultra low energy consumption by operating at low applied pressures.



Benefits

- All Industry Standard Sizes
- Ultra Low Energy with High Flow Rates
- Improved RO System Performance
- Superior Quality and Cost Savings
- Individually Inspected, Qualified and Vacuum Tested
- Private Labeling and Customization Available

MEMBRANAS HF5

AX HF5 – Series Membrane Elements are the only elements on the market that operate at a pressure of only 80 psi. **AX HF5 – Series Membrane Elements** are available in all standard 2.5 – inch and 4 – inch commercial sizes and feature a tape – wound exterior. **AX HF5 – Series Membrane Elements** are the best choice to counter the negative effects of cold water temperatures on reverse osmosis production. All elements are shipped dry for an indefinite shelf life, easier handling, and a lighter shipping weight. **AX HF5 – Series Membrane Elements** are 100% vacuum integrity tested and may also be ordered as individually wet tested.

Operating Limits

- Membrane Type: Polyamide Thin – Film Composite
- Maximum Operating Temperature (° F / ° C): 113 / 45
- Maximum Operating Pressure (psi / bar): 400 / 27.58
- pH Range, Continuous Operation*: 2 – 11
- pH Range, Short Term Cleaning (30 Min.): 1 – 13
- Maximum Feed Silt Density Index (SDI): 5
- Chlorine / Chloramine Tolerance (ppm): 0
- Maximum Feed Flow Rate (gpm): 2.5" = 6
  4.0" = 14

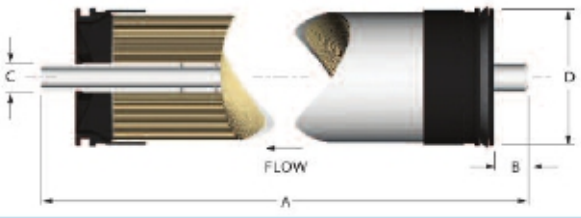
* Maximum temperature for continuous operations above pH10 is 95° F / 35° C.

Product Specifications

Part Number	Description	Applied Pressure (psi / bar)	Permeate Flow Rate (gpd / m3/d)	Nominal Salt Rejection (%)
208125	HF5 – 2514	80 / 5.52	225 / 0.85	98.50
208083	HF5 – 2521	80 / 5.52	400 / 1.51	98.50
208084	HF5 – 2540	80 / 5.52	850 / 3.22	98.50

Part Number	Description	Applied Pressure (psi / bar)	Permeate Flow Rate (gpd / m3/d)	Nominal Salt Rejection (%)
200392	HF5 – 4014	80 / 5.52	600 / 2.27	98.50
200393	HF5 – 4021	80 / 5.52	1000 / 3.79	98.50
200394	HF5 – 4040	80 / 5.52	2500 / 9.46	98.50

Warranty Evaluation Test Conditions: Permeate flow and salt rejection based on the following test conditions – 550 ppm, filtered and dechlorinated municipal tap water, 77° F / 25° C, 15% recovery and the specified operating pressure. Minimum salt rejection is 96%. Permeate flows for warranty evaluation may vary +/-20%. Maximum pressure drop at 13 psig / 0.9 bar.



Description	A	B	C	D
HF5–2514	14/355.60	1.1/27.94	0.75/19.05	2.40/60.96
HF5–2521	21/533.40	1.1/27.94	0.75/19.05	2.40/60.96
HF5–2540	40/1016.00	1.1/27.94	0.75/19.05	2.40/60.96

Description	A	B	C	D
HF5–4014	14/355.60	1.1/27.94	0.75/19.05	3.95/100.30
HF5–4021	21/533.40	1.1/27.94	0.75/19.05	3.95/100.30
HF5–4040	40/1016.00	1.1/27.94	0.75/19.05	3.95/100.30

- Feed pressure should be increased gradually over a 30 – 60 second time frame.
- Permeate obtained from first hour of operation should be discarded.
- Avoid static permeate – side backpressure at all times.
- Cross – flow velocity at set operating point should be achieved gradually over 15 – 20 seconds.
- Maximum pressure drop across an entire pressure vessel (housing) is 30 psi / 2.1 bar.

All 2514, 2521 and 2540 elements fit nominal 2.50" I.D. membrane housings and all 4014, 4021 and 4040 elements fit nominal 4.00" I.D. membrane housings.

Proper start – up of reverse osmosis water treatment systems is essential to prepare the membranes for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Before initiating system start – up procedures, membrane pretreatment, loading of the membrane elements, instrument calibration and other system checks should be completed.
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: