eNPure UFS-Series ULTRAFILTRATION SYSTEM

Water Treatment Equipment and Solutions

Ultrafiltration covers a wide range of filtration and separation technologies.

Separation of both suspended and dissolved particles can be achieved by applying pressure to the feedwater utilizing a semi-permeable hollow fiber or flat sheet. Significant improvement in feedwater turbidity (as low as .01 NTU) can be achieved by utilizing ultrafiltration technologies to remove particulate, down to particles as small as 0.03 µm. Membranes are available in two configurations: Hollow Fiber or Spiral Wound Flat Sheet. Selection of the appropriate membrane is a function of two factors: the filtration / separation required and the cost to implement it.

Hollow fiber membranes are manufactured in two configurations: inside-out and outside-in. For inside-out, the feedwater is introduced on the inside of the fiber with permeate collected on the outside, and particulate retained on the inside. For outside-in, the flow is reversed, with permeate collected on the inside, and particulate retained on the outside. Experience has proven that inside-out ultra-filtration is more reliable, with membranes lasting longer, producing more consistent permeate, and reducing total invested capital and operating costs.

As an integrator of Ultrafiltration technologies, as opposed to a manufacturer of membranes, eNPure is best positioned to select the most appropriate and cost effective technology for our customer's applications. Ultrafiltration membranes and technologies are integrated in three general system configurations:

Crossflow:

In a crossflow application, the feed stream passes over the membrane surface in a controlled flow path under pressure. A percentage (varying from application to application) of the feed stream passes through the membrane as permeate (product), with the rejected material flushed away in the concentrate stream. An added benefit is that the high flowrate enhances permeate passage and reduces membrane fouling.

Dead End:

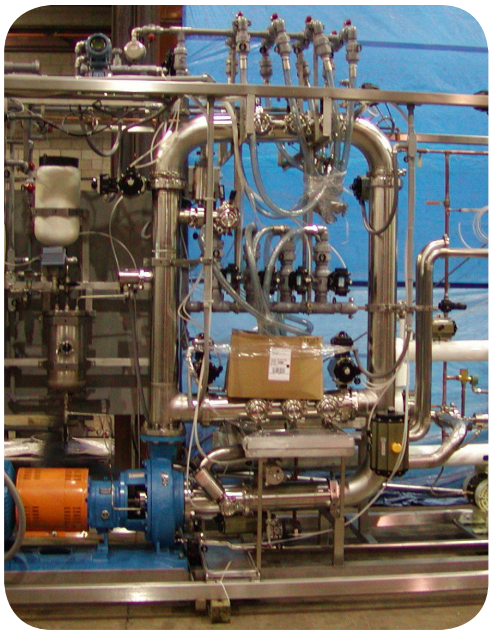
In a dead end application, the feed stream passes through the membrane under pressure. Dissolved molecules or suspended particles that are larger than the membrane pores are prohibited from passing through. Unlike a crossflow application, the membrane must be backwashed / drained periodically to remove accumulated particulate material, to avoid fouling, and to enhance the long term operation of the system.

Submerged:

In a submerged application, the membrane is immersed in a tank or body of water or liquid. A slight negative pressure draws the water from the outside to the inside of the membrane, providing a high quality effluent meeting or exceeding discharge regulations.

Typical Applications:

- Reverse Osmosis Pretreatment
- Seawater Reverse Osmosis Pretreatment
- Oily Wastewater
- Removal of Suspended Solids from Potable Water
- Municipal Wastewater Reuse



Available Options

- Stainless Steel Piping
- High Purity Non-metallic piping
- Backwash / Transfer pumps
- Backwash / Break Tanks
- Targeted Instrumentation
- Chemical Feed Sets

Your source for Value Engineered Water Treatment Equipment and Solutions

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