High Temperature Resistant DTRO Modules

Contributes to Improved Energy Efficiency

These membranes are engineered to withstand elevated temperatures, making them suitable for processes that involve extreme thermal conditions. Their robust design allows for effective separation and filtration in applications such as wastewater treatment, where high temperatures may be encountered, as well as in the food and beverage industry, where sterilization processes require durable materials.

Additionally, these membranes are increasingly utilized in energy production, particularly in systems that involve heat recovery and concentration processes, thereby enhancing efficiency and sustainability. The versatility and resilience of high-temperature resistant DTRO membranes position them as a critical component in advancing technological solutions across multiple fields.

What is The Difference

Normal DTRO membranes are typically optimized for conventional operating conditions, which include moderate temperature ranges and standard osmotic pressures. These membranes are constructed from materials that may not endure extreme thermal environments, leading to potential degradation or reduced efficiency when exposed to elevated temperatures.

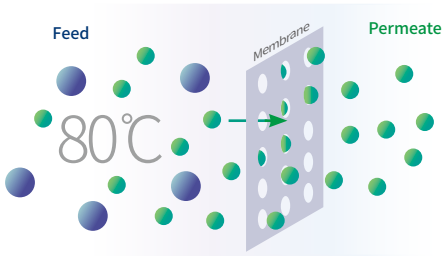
In contrast, high temperature resistant DTRO membranes are engineered with advanced materials and technologies that enhance their thermal stability and mechanical integrity. This allows them to maintain performance and durability under harsher conditions, making them suitable for applications where elevated temperatures are prevalent, such as in certain industrial processes or specialized water treatment systems. The choice between these two types of membranes is crucial, as it directly impacts the efficiency, longevity, and overall effectiveness of the filtration system in which they are employed.

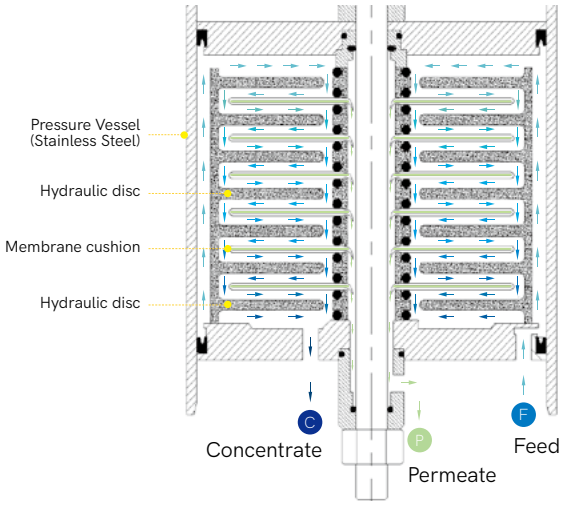
Why Choose UNISOL

This high temperature resistant DTRO membranes are a specialized type of reverse osmosis membrane designed to operate efficiently under high thermal conditions.

Maximum 80°C operating temperature. This resilience is achieved through advanced materials and innovative manufacturing processes, allowing for enhanced filtration capabilities and longer operational lifespans.

Membrane Filtration





Operating Reference

Membrane Type	Heat-resistant composites
Max. Operating Pressure	90 bar (1,305psi)
Max. Operating Temperature	80°C (176 °F)
Effective Membrane Area	9.405m^2
pH Rang	3-11 (Operating), 2-12 (CIP)
Rejection	98.5%
Flux	>250L/h
Wet Weight	105kg (+Pressure vessel)

DTRO Element

Advantages

- Enhanced Performance: High temperature resistant DTRO membranes can operate effectively at temperatures exceeding 80°C, significantly improving the rate of water permeation. This leads to higher productivity in water treatment processes.
- Energy Efficiency: By enabling higher temperature operations, these membranes reduce the need for extensive pre-treatment processes, thereby lowering energy consumption and operational costs.
- Chemical Resistance: The materials used in high temperature resistant DTRO membranes are often more resistant to chemical degradation, allowing for their use in challenging environments where aggressive chemicals are present.
- Reduced Fouling: The ability to operate at elevated temperatures helps mitigate fouling, a common issue in membrane filtration. This results in less frequent cleaning cycles and extended membrane life.

Applications

- Hot water treatment recycling
- Power plants wastewater treatment
- Chemical wastewater treatment
- Industrial wastewater treatment
- Pharmaceuticals
- Mine wastewater treatment
- Electric wastewater treatment

UNISOL Membrane Technology

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