



The image shows five vertical cylindrical ultrafiltration modules mounted on a blue metal frame. Each module has a white central section and blue top and bottom sections. A black horizontal pipe with several flexible grey hoses is connected to the top of the modules. A green rectangular text box is overlaid on the center of the modules.

iSEP Ultrafiltration Modules

Robust Membrane with
Innovative Module Design



iSEP 500

Fresh water scarcity is one of today's most pressing issues, forcing both industry and municipalities to look at water in a new light. *iSep* ultrafiltration (UF) membrane modules are helping solve today's water problems by working on some of the most difficult water reuse and wastewater treatment applications at a lower cost.

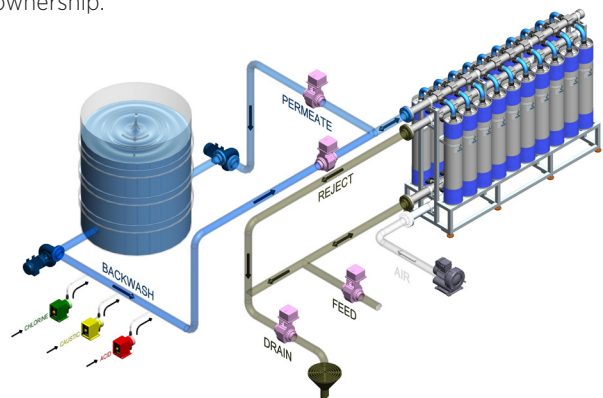
When it comes to UF membrane performance, not all designs are created to handle extreme feed water parameters. Many UF products are simply unable to withstand the rigors of wastewater treatment or peak solids in water treatment. *iSep* modules are built to handle the toughest waste streams, ensuring system owners see the same consistent and reliable performance time and time again.

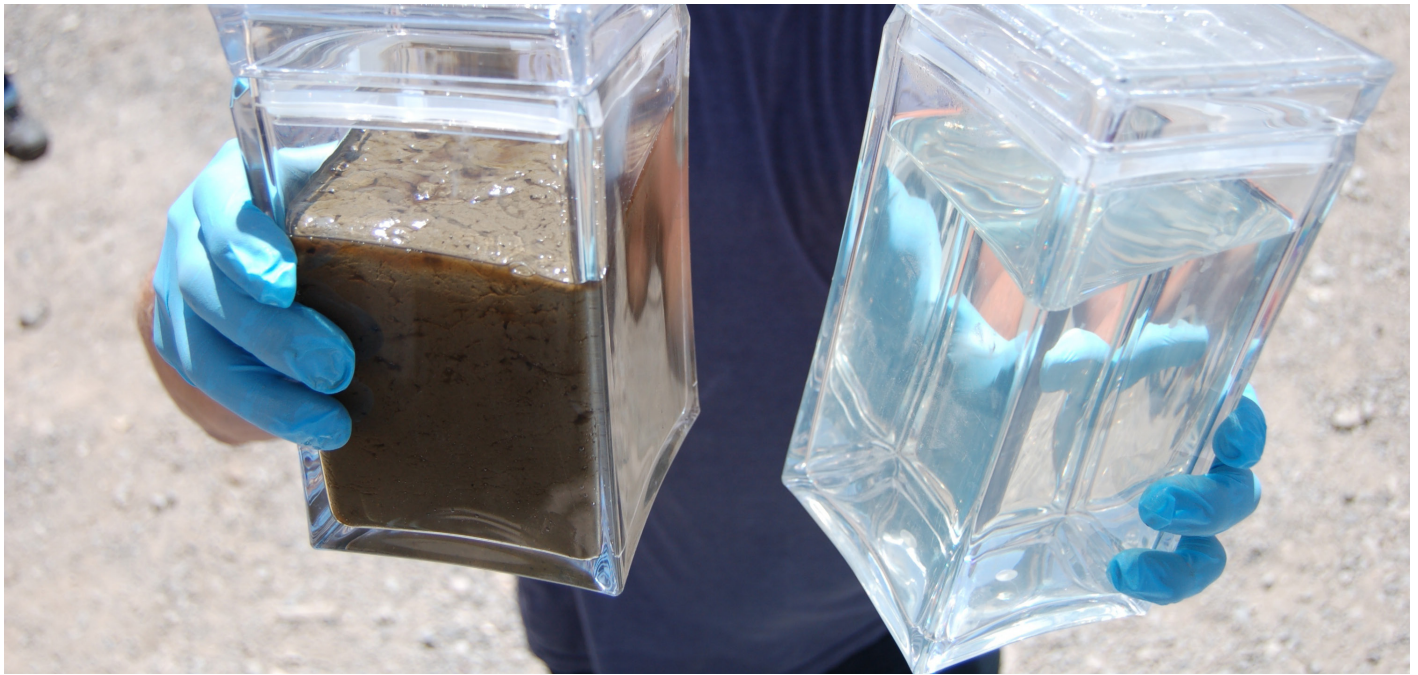
BETTER PERFORMANCE AT A LOWER COST

iSep modules were specifically designed to lower UF treatment costs on challenging water and wastewater applications.

- Toughest flat-sheet UF membrane
- Unique module design
- Lowest operating cost
- Superior filtrate quality

Elimination of extensive UF pre-treatment, especially for wastewater treatment and high-solids water treatment applications, coupled with ultra-low energy and chemical consumption provides an extremely low total cost of ownership.





Produced water feed turned into *iSep* filtrate

FEATURES AND BENEFITS

- Vacuum-driven operation > **Ultra-low energy**
- Spiral-wound flat-sheet UF membrane > **No fiber breakages**
- Proprietary backwashable membrane with air scouring capability > **Increased cleanability**
- Low fouling feed channel design > **Ultra-low chemical consumption**
- Skid mounted integrated tank design > **Simple operation**

TOUGH MEMBRANE MODULE

Wastewater applications can be both aggressive and unrelenting, often pushing membrane operation beyond their limits. The patented *iSep* membrane design is easily cleaned, even after major process upsets and solids spikes, thus eliminating irreversible fouling. The tough and forgiving membrane ensures unsurpassed effluent quality over the entire life of the element.

HIGHEST EFFLUENT QUALITY

With a robust membrane and innovative module design, *iSep* eliminates fiber breakage and membrane plugging issues commonly associated with conventional hollow-fiber UF membrane. *iSep* provides reliable and consistent performance needed for today's demanding wastewater and difficult-to-treat water applications.

MAXIMUM FEED LIMITS*

TSS	1000 mg/l
BOD	150 mg/l
OIL & GREASE	100 mg/l

*Higher values can be treated

TYPICAL *iSEP* FILTRATE QUALITY

TSS	< 1.0 mg/l
Turbidity	≤ 0.1 NTU
SDI	≤ 3



iSEP 500

Application Experience



The low fouling design of *iSep* membranes enable it to operate on some of the most challenging water and wastewater streams:

- Produced Water
- River Water
- Power Plant Wastewater
- Secondary & Tertiary Wastewater
- Food & Dairy Wastewater
- Industrial Wastewater

MANN+HUMMEL has found success installing *iSep* for some of the toughest applications:

- Peak Flow Management
- Leachate Treatment
- RO Pretreatment

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