

# iSep™ 500

## Ultrafiltration Modules

iSep™ 500 ultrafiltration (UF) modules feature a vacuum-driven, backwashable, spiral-wound membrane design to handle high fouling water and wastewater streams. With open feed channels and an integrated tank design, iSep modules can handle significantly higher solids than many standard polymeric UF modules on the market today. As the latest evolution of the SpiraSep™ product line, iSep modules consistently deliver high-quality permeate regardless of feed conditions with the additional benefits of reduced footprint, higher membrane area, integrated aeration, and the ability to quickly drain solids from the modules between backwashes.

Extensive pre-treatment for UF systems, such as clarifiers, adds significant and unnecessary cost, footprint, and complexity. With the ability to directly treat some of the most difficult water and wastewater streams, iSep is able to drastically reduce capital and operational costs while simplifying the overall treatment process.

### MEMBRANE CHARACTERISTICS

<b>Membrane Chemistry</b>	PVDF (Polyvinylidene Fluoride) and Polyethersulfone (PES) options available
<b>Construction</b>	Submerged, Negative Pressure Ultrafiltration Module
<b>Pore Size</b>	0.03 micron

### MODULE SPECIFICATIONS

<b>Models</b>	iSep™ 500-PVDF iSep™ 500-PES
<b>Feed Channel</b>	90 mil corrugated
<b>Membrane Area - m<sup>2</sup> (ft<sup>2</sup>)</b>	27.4 (295)

### OPERATING PARAMETERS

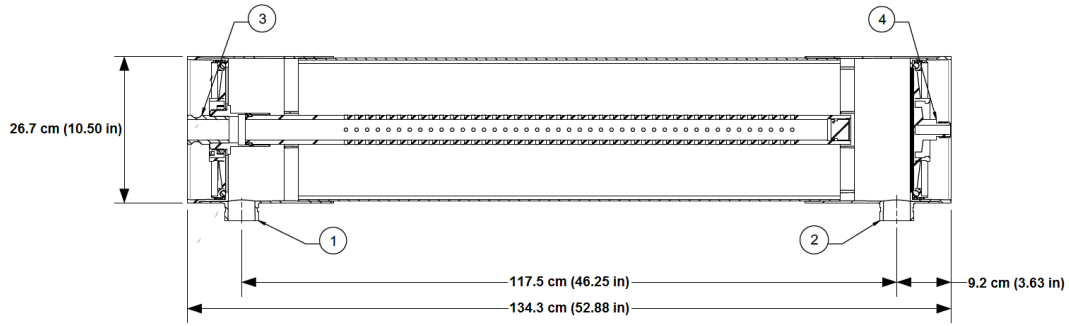
<b>Transmembrane Pressure Range</b>	0.07 – 0.7 bar (1 – 10 psi)
<b>Temperature Range<sup>1</sup></b>	1 – 45°C (34 – 113°F)
<b>pH Range<sup>1</sup></b>	2.0 – 11.0
<b>Applicable Air Scour Rate</b>	5.6 Nm <sup>3</sup> /hr (3.5 scfm)
<b>Cleaning Chlorine Tolerance</b>	PVDF model: 2,000 mg/L PES model: 1,000 mg/L
<b>Maximum Feed TSS<sup>2</sup></b>	1,000 mg/L
<b>Maximum Feed Oil &amp; Grease<sup>2</sup></b>	100 mg/L

<sup>1</sup> Temperature, pH limits, and cleaning procedures are further detailed in the iSep™ 500 Product Manual.

<sup>2</sup> Depending on feed water quality and operating conditions.



**PHYSICAL DIMENSIONS**



<b>Item 1</b>	Overflow	2.0" Grooved End Coupling
<b>Item 2</b>	Feed/Drain	2.0" Grooved End Coupling
<b>Item 3</b>	Permeate	1.5" Cam & Groove Coupling
<b>Item 4</b>	Air	0.75" MNPT
<b>Dry Module Weight - kg (lb)</b>	23 (50)	

**IMPORTANT INFORMATION**

- Start-up:** MANN+HUMMEL Water & Fluid Solutions recommends an operational sequence that incorporates permeate production, cleaning, and module draining steps. For a more detailed operational sequence, please see *iSep 500 Product Manual* pages 10-11.
- Cleaning:** *iSep 500* ultrafiltration modules must be cleaned routinely via backwash, chemically enhanced backwash (CEB), and clean-in-place (CIP) to ensure proper operation and to prevent membrane damage. Please see *iSep 500 Product Manual* pages 12-15.
- Storage:** *iSep 500* ultrafiltration modules must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see *iSep 500 Product Manual* pages 18-19.

**CUSTOMIZABLE SPECIALTY ELEMENTS**

MANN+HUMMEL Water & Fluid Solutions offers a full range of membranes and element designs for challenging water and process applications. Technologies include low-fouling RO, submerged UF, continuous high temperature, ultra-high pressure, unique sanitary designs and more. Contact us to customize a product that satisfies your specific requirements.

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