iSep 500+

Ultrafiltration

The iSep 500+ ultrafiltration (UF) modules incorporate a vacuum-driven, backwashable, spiral-wound membrane design, ideal for handling highly fouling water and wastewater streams. With open feed channels and an integrated tank design, iSep modules excel in managing elevated solids and oil concentrations, surpassing the capabilities of many standard polymeric UF modules available today.

As the latest advancement in UF technology, these modules deliver consistent high-quality permeate regardless of challenging feed conditions. Their design minimizes the need for pre-filtration and reduces the system footprint, with the added advantage of allowing rapid solids removal during backwashing. In some cases, iSep modules can even eliminate the need for extensive pre-treatment systems, such as clarifiers, significantly reducing costs, operational complexity, and required space.

Capable of directly treating some of the most difficult water and wastewater streams, iSep 500+ modules provide a low total cost of ownership (TCO) by reducing both capital and operational expenses. This optimization enhances the overall efficiency and performance of wastewater treatment processes.

MEMBRANE CHARACTERISTICS	
Membrane	Ultrafiltration
Membrane Chemistry	PES / PVDF
Construction	Negative Pressure Ultrafiltration Module
Pore Size	0.03μm（PES）/ 0.06μm（PVDF）

MODULE SPECIFICATIONS	
Model	iSep 500+ (PES) / iSep 500+ (PVDF)
Feed Channel	90 mil corrugated
Membrane Area-m^2 (ft^2)	27.4 (295)
Operational gross flux range[1]	25-45 lmh (15-25 gfd)
Recommended Backwash Flux Rate	68-102 lmh (40-60 gfd)

1 Depending on feed water quality and operating conditions.

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

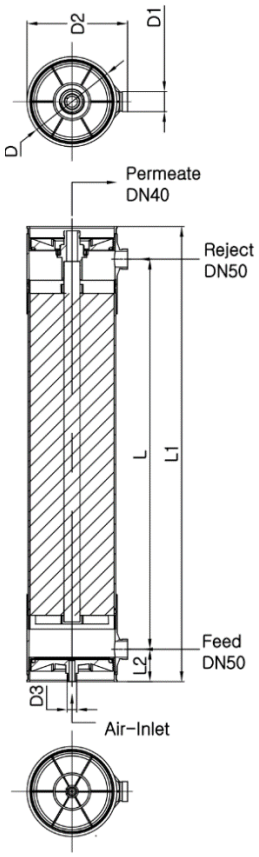
1 Temperature, pH limits, and cleaning procedures are further detailed in the iSep Product Manual (KUN-RD-I-A050).

Leadership in Filtration

MANN+HUMMEL

2 Depending on feed water quality and operating conditions.

PHYSICAL DIMENSIONS



MODULE	
L	1175mm (46.2”)
L1	1370mm (53.9”)
L2	97.5mm (3.8”)
D	271.3mm (10.7”)
D1	60.3mm (2.4”)
D2	303mm (11.9”)
Dry Module Weight	35 kgs (76 lbs)
Wet Module Weight	39 kgs (82 lbs)

PHYSICAL Function	Measure and Type
Feed Port	50.8mm (2”) Grooved End Coupling
Filtrate Port	38.1mm (1.5”) Grooved End Coupling
Concentrate Port	50.8mm (2”) Grooved End Coupling
Air Inlet Port	25.4mm (1’’) MNPT

IMPORTANT INFORMATION

Start-up: MANN+HUMMEL Water & Membrane Solutions recommends an operational sequence that incorporates permeate production, cleaning, and module draining steps.

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.

Storage: iSep 500+ ultrafiltration modules must be stored appropriately to ensure proper operation and to prevent membrane damage.

CUSTOMIZABLE SPECIALTY ELEMENTS

MANN+HUMMEL Water & Membrane 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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