Product Specification

MICRODYN NADIR
ADVANCED SEPARATION TECHNOLOGIES

MICRODYN *i*Sep™ 500-PES

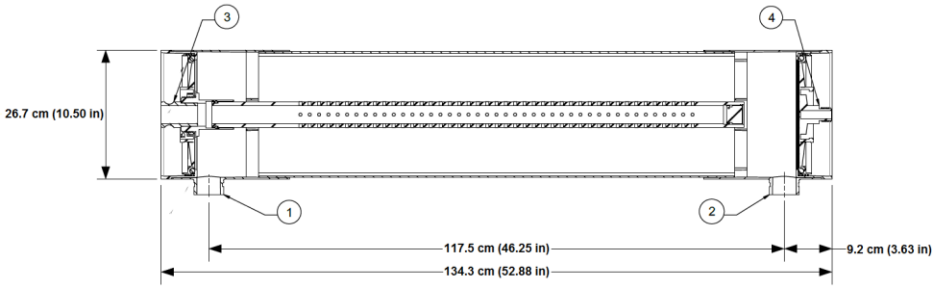
Ultrafiltration Modules

MICRODYN *i*Sep™ 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, *i*Sep modules can handle significantly higher solids than many standard polymeric UF designs on the market today. As the latest evolution of the SpiraSep™ product line, *i*Sep 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, *i*Sep is able to drastically reduce capital and operational costs while simplifying the overall treatment process.

MEMBRANE CHARACTERISTICS	**Membrane Chemistry**	Polyethersulfone (PES)
	Construction	Submerged, Negative Pressure Ultrafiltration Module
	Pore Size	0.03 micron
ELEMENT SPECIFICATIONS	**Model**	*i*Sep 500-PES
	Feed Channel Spacer	90 mil corrugated
	Membrane Area – m^2 (ft^2)	27.4 (295)

PHYSICAL DIMENSIONS



Item 1	Overflow	2.0” Grooved End Coupling
Item 2	Feed/Drain	2.0” Grooved End Coupling
Item 3	Permeate	1.5” Cam & Groove Coupling
Item 4	Air	0.75” MNPT
Element Weight – kg (lb)	23 (50)	

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[1]	1,000 mg/L
	Maximum Feed TSS[2]	1,000 mg/L
	Maximum Feed Oil & Grease[2]	300 mg/L

IMPORTANT INFORMATION

Start-up:	MICRODYN-NADIR recommends an operational sequence that incorporates permeate production, cleaning, and module draining steps. For a more detailed operational sequence, please see *i*Sep™ Product Manual pages 10-11.
Cleaning:	*i*Sep 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 *i*Sep Product Manual pages 12-15.
Storage:	*i*Sep ultrafiltration modules must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see *i*Sep Product Manual pages 18-19.

1 Temperature, pH limits, and cleaning procedures are further detailed in the *i*Sep Product Manual.
2 Depending on feed water quality and operating conditions.

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