

# BIO-CEL® EASY

## Submerged MBR Module for Wastewater Treatment

BIO-CEL® EASY is a small but mighty MBR system built for customers whose water treatment needs fall into the 10 – 100 m<sup>3</sup>/d 'sweet spot' for the modules. This simple and efficient MBR module is easy to design, assemble, connect, move, and expand in any customer facility. The BIO-CEL EASY module fits perfectly in the filtration tank: BIO-CEL EASY TANK. The perfect pair of tank and module(s) ensures a plug-and-play experience.

### MEMBRANE CHARACTERISTICS

Membrane	NADIR® UP150
Membrane Polymer	Polyethersulfone (PES)
Nominal Pore Size	0.04 µm
Preservative	Glycerine 20 % / Sodium benzoate 3 %

### MODULE SPECIFICATIONS

Housing Material Options	Stainless Steel 1.4301/304 (V2A)
Drainage Layer	Polyester (PET)
Diffusors Material Options	Membrane hose: Silicone
Nominal Membrane Area	50 m <sup>2</sup> (538 ft <sup>2</sup> )

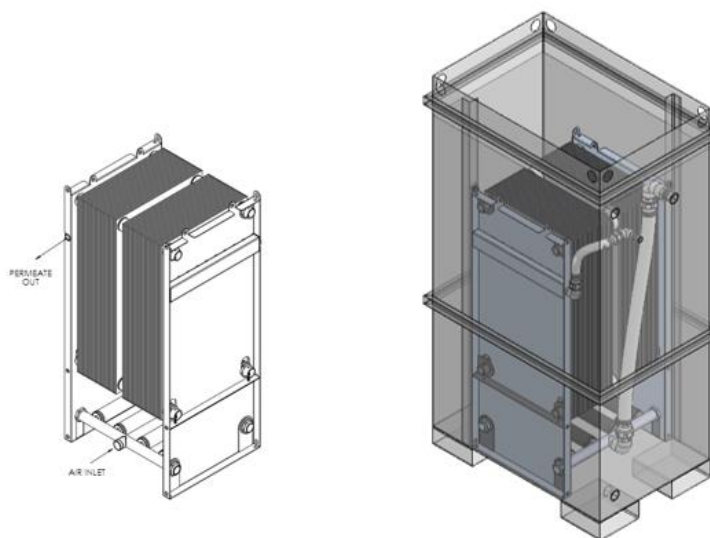
### OPERATING PARAMETERS

pH Range	2.0 – 11.0
Temperature Range	5 – 40°C (41 – 104°F)
Maximum TMP during Filtration	- 400 mbar (-5.8 psi)
Maximum TMP during Regular Backwash	+150 mbar (+2.2 psi)
Flow Rate Municipal <sup>a</sup>	1,000 L/h
Flow Rate Industrial <sup>a</sup>	500 L/h
Recommended Air Scour Rate <sup>b</sup>	32 Nm <sup>3</sup> /h (19 SCFM)
Recommended MLSS in MBR Tank	8 - 12 g/L
Maximum MLSS in MBR Tank	15 g/L
Maximum Particle Size in MBR Tank	2 mm
Total Chlorine Resistance	1,000,000 ppm•hr

a Flowrate at 20°C water temperature, depending on wastewater quality. Please Contact us for more information.

b Volumetric flow rate at standard conditions according to DIN ISO 2533:1979-12.

PHYSICAL DIMENSIONS



	Module	Tank
Length	682 mm ( 2.2 ft)	1126mm ( 3.7ft)
Width	590 mm ( 1.9 ft)	766 mm ( 2.5ft)
Height	1428 mm ( 4.7ft)	2,036 mm (6.6 ft)
Dry Weight	110kg ( 243lb)	246 kg ( 542lbs)
Wet Weight without Solids	140kg ( 309lb)	N.A.
Maximum Load for Lifting <sup>c</sup>	330 kg (727 lb)	N.A.
Filtration Tank Minimal Water Level	1651 mm ( 5.4 ft)	N.A.
Water Level	N.A.	1651 mm (5.4 ft)
Connection for Permeate	¾" G (inner thread)	¾" G (inner thread)
Connection for Aeration	1 ½" G (outer thread)	1 ½" G (inner thread)
Connection for Sludge Recirculation	N.A.	1 ½" (inner thread)

c Sludge deposit must be removed before lifting unit

IMPORTANT INFORMATION

Scope of Supply, Accessories & Spare Parts: Please see BIO-CEL EASY – Scope of Supply, Accessories and Spare Parts (TDS-WW029).

Storage & Handling: BIO-CEL MBR modules must be handled and stored appropriately to ensure proper operation and to prevent membrane damage. Please see BIO-CEL MBR – Storage Conditions (TB-WW002).

MANN+HUMMEL Water & Fluid Solutions reserves the right to change specifications without prior notification.

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