

BIO-CEL® L-2 Double

Submerged MBR Module for Wastewater Treatment

The BIO-CEL® MBR series is ideal for biological wastewater treatment in industrial and municipal applications. BIO-CEL MBR combines the benefits of traditional hollow fiber and plate and frame configurations without any of their inherent disadvantages. The module has an extremely high packing density due to the thin and self-supporting membrane sheets, and the laminate offers a self-healing mechanism.

MEMBRANE CHARACTERISTICS

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

MODULE SPECIFICATIONS

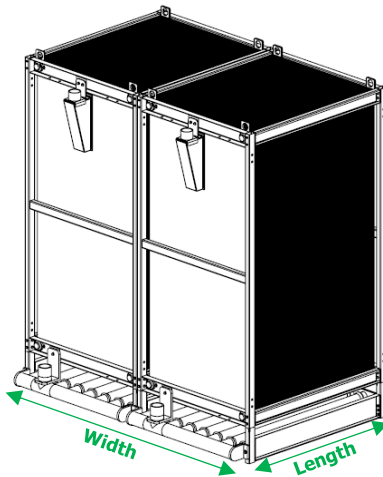
Housing Material Options	Stainless Steel 1.4301/304 (V2A) On request: SS 1.4571/316Ti (V4A)
Drainage Layer	Polyester (PET)
Diffusors Material Options	Membrane hose: Silicone (SI) Support tube: Polypropylene (PP)
Nominal Membrane Area	960 m ² (10333 ft ²)

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)
Recommended Air Scour Rate ^a	180 Nm ³ /h (106 SCFM)
Maximum Air Scour Rate ^a	230 Nm ³ /h (134 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 Volumetric flow rate at standard conditions according to DIN ISO 2533:1979-12

PHYSICAL DIMENSIONS



Dry Weight	680 kg (1500 lbs)
Wet Weight without Solids	1260 kg (2780 lbs)
Maximum Load for Lifting ^b	3000 kg (6614 lbs)
Length	1524 mm (5.0 ft)
Width	2160 mm (7.0 ft)
Height	2435 mm (8.0 ft)
Filtration Tank Minimal Water Level	3025 mm (9.9 ft)
Connection for Permeate ^c	G 2 ½" BSPP inner thread, Stainless Steel
Connection for Aeration ^c	DN80 (PN10) Pipe End, Polypropylene (DN80 Flange Adapter available)

b Sludge deposit must be removed before lifting unit
 c Adapters available

IMPORTANT INFORMATION

Scope of Supply, Accessories & Spare Parts: Please see BIO-CEL L-2 Double– Scope of Supply, Accessories and Spare Parts (TDS-WW028).

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 reserves the right to change specifications without prior notification.

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