

BIO-CEL® XL-2

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

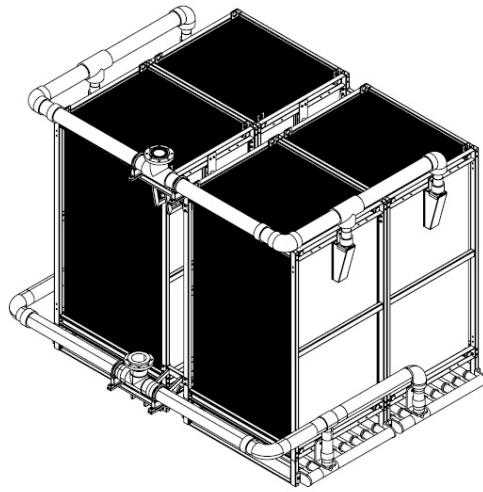
Housing Material Options	Stainless Steel 1.4301/304 (V2A) On request: SS 1.4571/316Ti (V4A)
Drainage Layer	Polyester (PET)
Diffusors Material Options	Membrane hose: Silicone (SI) Support tube: Polypropylene (PP)
Nominal Membrane Area	1920 m² (20667 ft²)

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	90 Nm³/h (53 SCFM)
Maximum Air Scour Rate^a	115 Nm³/h (67 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	750 kg (1653 lb)
Wet Weight without Solids	1500 kg (3306 lb)
Maximum Load for Lifting^b	3000 kg (6615 lb)
Length	3200 mm (10.5 ft)
Width	2750 mm (9.0 ft)
Height	2750 mm (9.0 ft)
Filtration Tank Minimal Water Level	3025 mm (9.9 ft)
Connection for Permeate^c	Lapped flange DN125, PN10, PVC
Connection for Aeration^c	Lapped flange DN125, PN10, PP

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

IMPORTANT INFORMATION

Scope of Supply, Accessories & Spare Parts:

Please see BIO-CEL® XL-2 – Scope of Supply, Accessories and Spare Parts (TDS-WW025).

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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