



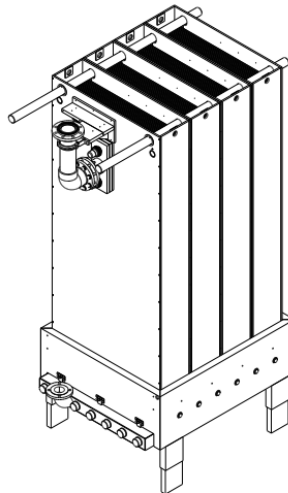
MICRODYN BIO-CEL[®] 416

Submerged MBR Module for Wastewater Treatment

The MICRODYN 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	Polyvinyl chloride (PVC), Polyethylene (PE)	
	Drainage Layer	Polyester (PET)	
	Diffusors Material Options	Membrane hose:	Polyurethane (PUR)
		Support tube:	Polypropylene (PP)
	Nominal Membrane Area	416 m ² (4478 ft ²)	

PHYSICAL DIMENSIONS



Dry Weight	800 kg (1763 lb)
Wet Weight without Solids	1100 kg (2425 lb)
Maximum Load for Lifting^a	2800 kg (6173 lb)
Length	1810 mm (5.9 ft)
Width	1152 mm (3.8 ft)
Height	2963 mm (9.7 ft)
Filtration Tank Minimal Water Level	3400 mm (11.2 ft)
Connection for Permeate	Lapped flange PP/steel, DN100 (ISO/DIN 2501, PN16)
Connection for Aeration	Flange DIN 2633 – Type C Series 1 (ISO), PN16, DN65x76.1

^a Sludge deposit must be removed before lifting unit.

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)
Air Scour Rate in V_N^b	$\leq 105 \text{ Nm}^3/\text{h}$ ($\leq 65 \text{ SCFM}$)
Recommended MLSS in MBR Tank	Up to 12 g/L
Maximum Particle Size in MBR Tank	2 mm
Total Chlorine Resistance	500,000 ppm•hr

IMPORTANT INFORMATION

**Scope of Supply,
Accessories & Spare Parts:** Please see *MICRODYN BIO-CEL[®] 416 – Scope of Supply,
Accessories and Spare Parts (TDS-WW007)*.

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

^b V_N is the volumetric flow rate at standard conditions according to DIN ISO 2533:1979-12.



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