

# 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          | UV400T                               |
| Membrane Polymer  | Polyvinylidene fluoride (PVDF)       |
| Nominal Pore Size | 0.06 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> ) |

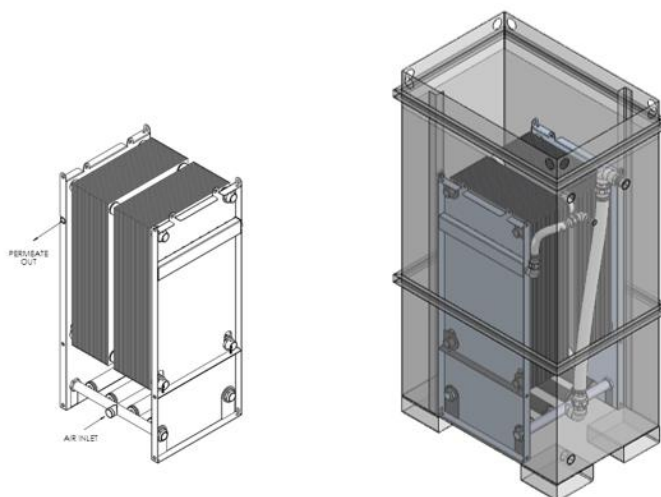
### OPERATING PARAMETERS

|   |                                 |
|---|---------------------------------|
| 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) |
| Diffusors Pressure Loss at Recommended Air Scour Rate | 70 mbar (1.02 psi)              |
| Diffusor Total Pressure Loss at Min Water Level       | 220 mbar (3.2 psi)              |
| 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                  |
|---|-----------------------|-----------------------|
| <b>Length</b>                               | 682 mm (2.2 ft)       | 1126mm (3.7ft)        |
| <b>Width</b>                                | 595 mm (1.9 ft)       | 766 mm (2.5ft)        |
| <b>Height</b>                               | 1428 mm (4.7ft)       | 2,036 mm (6.6 ft)     |
| <b>Dry Weight</b>                           | 110kg (243lb)         | 246 kg (542lbs)       |
| <b>Wet Weight without Solids</b>            | 140kg (309lb)         | N.A.                  |
| <b>Maximum Load for Lifting<sup>c</sup></b> | 330 kg (727 lb)       | N.A.                  |
| <b>Filtration Tank Minimal Water Level</b>  | 1633 mm (5.4 ft)      | N.A.                  |
| <b>Water Level</b>                          | N.A.                  | 1651 mm (5.4 ft)      |
| <b>Connection for Permeate</b>              | ¾" G (inner thread)   | ¾" G (inner thread)   |
| <b>Connection for Aeration</b>              | 1 ½" G (outer thread) | 1 ½" G (inner thread) |
| <b>Connection for Sludge Recirculation</b>  | 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-WW039).

### 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 & Membrane Solutions reserves the right to change specifications without prior notification.

## Contact

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