



# ACHIEVING A NEW LEVEL OF PERFORMANCE IN MEMBRANE TECHNOLOGY

Highest Flux

Withstands the Harshesht Environments

Quick & Easy Cleaning for Full Recovery

Longest Life of Any Membrane



Ideally suited for  
Sludge Thickening,  
High Rate MBR, Tertiary  
Treatment and Wet Weather  
Overflow Applications

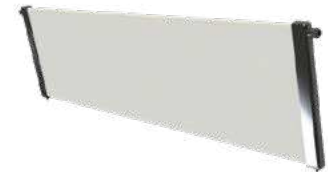
## SILICON CARBIDE FLAT PLATE MEMBRANES

## KEY HIGHLIGHTS

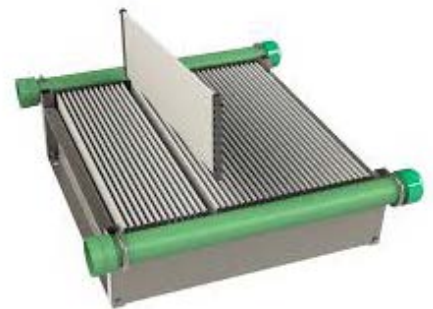
- 0.1  $\mu\text{m}$  pore size
- Completely hydrophilic
- High chemical and temperature tolerance
- Submerged design
- Resistant to damage from debris, grit, and coarse material
- Easily re-wetted after drying

### WHAT'S SO SPECIAL ABOUT SILICON CARBIDE?

Silicon Carbide's natural properties effortlessly attracts water while repelling foulants. This results in extremely high sustainable fluxes and the ability to operate reliably in high solids and oils, as well as under other difficult conditions that polymeric membranes have shied away from. Silicon carbide is also one of the hardest materials in the world and forms membrane plates that are solid as a brick and able to withstand the broadest range of temperature, pH, chemicals, and pressures. SiC membranes have achieved a new level of performance in some of the most demanding applications.



**PLATE**



**MODULE**

## HOW IT'S MADE



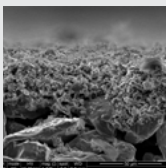
### **SiC POWDER**

Silicon Carbide mixed into paste and extruded



### **SUBSTRATE**

Extrusion fired at 2,000 °C to bind SiC grains



### **MEMBRANE LAYER**

Membrane layer applied to substrate



### **SiC PLATE**

0.1 micron SiC flat plate membrane



**STACK**

## POTENTIAL APPLICATIONS



### HIGH RATE MBR

SiC allows for operation at high MLSS, increasing MBR capacity within the same footprint



### SLUDGE THICKENING

SiC expands the operating window for MBT, easier to recover from dewatering



### TERTIARY TREATMENT

High flux, low footprint design with lower energy consumption than hollow fibers



### WET WEATHER OVERFLOWS

CSO, SSO MBR peak flow, CAS peak flow. SiC can be completely dried, allowing for intermittent storm use



**WITHSTANDS THE HARSHTEST ENVIRONMENTS**

# THE OVIVO DIFFERENCE

200+ YEARS OF HERITAGE • 100% FOCUSED ON WATER

## OPERATING LIMITS/CAPABILITIES

Operating Parameter	Units	Silicon Carbide
TSS	mg/l	< 45,000
Oil & Grease	mg/l	< 500
Free Oil	mg/l	< 500
pH	-	1 - 14
Temperature	°C	1 - 80
Backwash Pressure	psi	< 30
Chlorine Tolerance	wt%	1.0



**CSO Results**  
(Raw Sewage)



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