

# ZeeWeed\* 1000 Immersed Ultrafiltration Membranes

## FACT SHEET

WATER TECHNOLOGIES



### Description and Use

Veolia leverages decades of research, development, and operational experience to offer a suite of advanced ultrafiltration membranes, including the ZeeWeed 1000 immersed membrane (Figure 1).

ZeeWeed 1000 membranes produce superior water quality and are virtually unaffected by variable raw water quality – all at a cost comparable to conventional filtration technology.

Compared to pressurized ultrafiltration technology, ZeeWeed 1000 membranes offer best in class:

**Footprint** - membranes can be stacked in columns up to 4 high, providing maximum flow in minimal space. Footprint savings become substantial at flows above 10 MGD (40 MLD).

**Energy** - because ZeeWeed 1000 membranes are immersed, they use a vacuum - not pressure - to produce permeate. They can even operate by siphon alone. Significant energy can be saved.

### Typical Applications

ZeeWeed 1000 has membranes optimized for specific applications:

- ZW1000-450 and -550 for drinking water.
- ZW1000-700 for drinking water, pre-treatment for RO in low suspended solids applications
- ZW1000-500 for filtration of tertiary treated wastewater.

### General Properties

- 0.02  $\mu\text{m}$  nominal pore diameter - optimal removal of particulates, bacteria and viruses.
- PVDF hollow fiber membrane - provides high mechanical strength and chemical resistance.
- Outside-in filtration - provides high solids tolerance.



Figure 1: ZeeWeed 1000 ultrafiltration module

## ZeeWeed 1000 Module Specifications

Specification	Measurement			
Flow Path	Immersed, Outside-in			
Membrane Material	PVDF, non-ionic and hydrophilic			
Nominal Pore Size	0.02 micron			
Module Dimensions	Height 685 mm (27.0 in)	Length 691 mm (27.2 in)	Width: 107 mm (4.2 in)	
Shipping Weight	23 kg (50 lb)			
Typical Lifting Weight <sup>1</sup>	21-27 kg (50-70 lb)			
Housing Material	ABS, PPE/PPO			
ZeeWeed 1000 Model	<b>450</b>	<b>550</b>	<b>500</b>	<b>700</b>
SAP#	3134285	3134589	3147910	3156355
Surface Area	41.8 m <sup>2</sup> (450 ft <sup>2</sup> )	51.1 m <sup>2</sup> (550 ft <sup>2</sup> )	46.5 m <sup>2</sup> (500 ft <sup>2</sup> )	65 m <sup>2</sup> (700 ft <sup>2</sup> )
Fiber Diameter (OD/ID)	0.95/0.47 mm	0.95/0.47 mm	0.8/0.47 mm	0.8/0.47 mm
Certifications	NSF61, DWI, ACS			

<sup>1</sup> Will vary with solids accumulation.

## Operating, Cleaning and Storage Information

Parameters	Item Description	Measurement
Performance	Flow range	55 – 110 m <sup>3</sup> /day (10-20 gpm)
Operating Conditions	TMP range	0-90 kPa (0-13 psi)
	Maximum temperature	40°C (104°F)
	Operating pH	5.0-10.0
	Maximum air scour flow	3- 5 dm <sup>3</sup> /hr (2-3 dcfm) / stack
Cleaning	Cleaning pH range	2.0-12.0
	Maximum chlorine concentration per clean <sup>2</sup>	1,000 mg/L (as Cl <sub>2</sub> )
Preservative <sup>3</sup>		50% glycerine, 50% water solution
Storage in Packaging	Maximum storage time Storage temperature	1 year 5°C to 35°C (41°F to 95°F) Protect from UV exposure

<sup>2</sup> Higher concentrations are possible depending on feedwater, pH and long term chlorine exposure.

<sup>3</sup> Replacement membranes can be provided glycerine-free for an extra cost. Talk to Veolia to learn more.