

ULTRA FILTRATION



Euroteck Environmental is one of the authorized partners of **Memstar USA Inc** in Indian Sub-continent. Memstar, a CITIC Envirotech Group Company, is a global leader in research, manufacturing, and application development of polyvinylidene fluoride (PVDF) hollow fiber membrane technology.

Key products from Memstar

1. **Ultrafiltration (UF)**
2. **MBR (Membrane Bio-reactor)**

What is Ultrafiltration?

Ultrafiltration (UF) is a variety of membrane filtration in which forces like pressure or concentration gradients lead to a separation through a semipermeable membrane. Ultrafiltration membranes are defined by the molecular weight cut-off (MWCO) of the membrane used.

How does Ultrafiltration Works?

Ultrafiltration (UF) involves pressure-driven separation of materials from a feed solution. The technology is used to remove particulate and microbial contaminants. Pressure drives the process, which typically operates with a feed pressure of 4 to 100 psi. UF plants are automated and have low operational labor requirements. UF modules are commercially available in tubular, hollow-fiber, plate and frame, and spiral wound configurations.

Key advantages of TIPS membrane in the process of Ultrafiltration:

1. High Recovery (>97%)
 - a) Unique air scouring process effectively removes solids and eliminates traditional backwash.
2. Minimal Footprint (Up to 120 m² per module)
 - a) Large surface area modules to eliminate large foot print for skids.
 - b) High fiber packing density.
3. Lower Operating Cost
 - a) Long membrane life due to high mechanical strength and superior chemical resistance.

- b) High permeability due to permanent hydrophilicity.
 - c) Dual filtrate ports allow for lower operating pressure.
 - d) Stable high flux with reduced fouling
 - e) Reduce chemical usage.
 - f) Symmetric TIPS PVDF technology eliminates the risk of delamination and minimizes the impact of abrasion.
4. Ability to treat most challenging waters – (TIPS Fiber & Centrifugal Potting)
- a) High mechanical strength to minimize fiber breakage
 - b) Extreme pH and oxidant (including Ozone) tolerance to remove/prevent severe fouling and restore performance.

Applications:

- Wastewater reuse
- Seawater desalination
- Ground/surface water clarification
- Point of use water filter

Module Specifications:

Module Types	UF-0615ET UF-0615EDT	UF-0615EAT UF-0615EDAT	UF-0620ET UF-0620EDT	UF-0620-EAT UF-0620-EDAT
Membrane Material	PVDF (TIPS)			
Pore Size (µm)	0.04			
Filtration Mode	Outside-in			
Housing Material	uPVC/ABS			
Potting Material	Epoxy/Polyurethane			
Filtration Surface Area (m²)[ft²]	40 [430]	45 [484]	50 [538]	60 [646]
Typical Filtrate Flowrate (m³/hr) [gpm]	2.2 - 2.8 [10 - 12]	2.5 - 3.2 [11 - 14]	2.8 - 3.5 [12 - 15]	3.3 - 4.2 [15 - 18]
Column volume (L) [gal]	15 [4]		20 [5.3]	
Weight (kg) [lbs]	22 [49]		30 [66]	
L1 (mm) [inches]	1,386 [54.6]		1,856 [73.1]	
L2 (mm) [inches]	172 [6.8]			
L3 (mm) [inches]	1,730 [68.1]		2,200 [86.6]	
L4 (mm) [inches]	130 [5.1]			
R (mm) [inches]	160 [6.3]			



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