

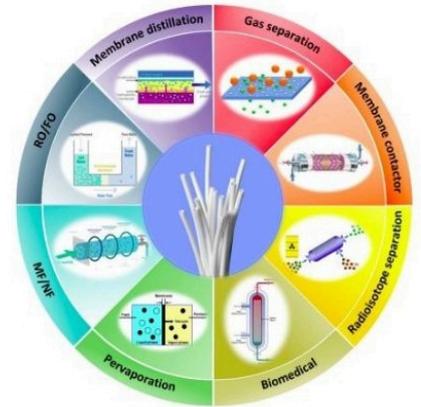


# GES KO MEMBRANES PVT LTD

**GES KO** is an advanced technology company specializing in the development and application of membrane technology. Our core technology includes membrane separation technologies, such as Membrane Bio-Reactors (MBR), Ultrafiltration (UF), and Microfiltration (MF). The company boasts a professional research and development team dedicated to continuously innovating and improving membrane materials and structures to meet the needs of customers in different fields.

## GES KO Uniqueness:

GES KO Membranes proudly stands as the Pioneer and only Indian company dedicated to manufacturing Polyacrylonitrile (PAN) hollow fiber membranes along with general PES and PVDF Hollow Fiber Membranes. These cutting-edge membranes are specifically designed for wastewater treatment and oil/water separation. Notably, GES KO's PAN membranes exhibit remarkable resilience, withstanding up to 10 to 20 ppm of oil and grease in wastewater.



Large Scale Spinning line - Hollow Fiber Membranes

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## MF/UF Technical Specifications

Parameters	UF				MF
Model No	Memstraw - PES6	Memstraw - PVDF4	Memstraw - PVDF6	Memstraw - PAN4	Memstraw - PVDF5
Surface Area m <sup>2</sup>	60	45	60	45	50
MOC m2	PES	PVDF	PVDF	PAN	PVDF
Fiber OD/ID (mm)	1.3/0.7			1.7/1.4	1.3/0.7
Pore Size (micron )	0.03				0.1
Mode	Out - to - In				
MWCO (Daltons)	100 kDa				0.1
End caps & Pipe	uPVC				
End caps Port	Permeate 2", Feed and Reject 1.5" Victaulic coupling				
Module Dimensions (mm)	D 200 X H 2350	D 200 X H 1700	D 200 X H 2350	D 200 X H 2350	D 200 X H 2350
Operation flux (LMH)	40 - 120	40 - 160		40 - 120	40 - 160
Flow/Module (m3/hr)	2.4 - 3.6	2 - 2.7	2.4 - 3.6	2.4 - 3	3 - 3.5
Pressure (bar)	0.5 - 2.5				
Back wash	1.5 Times higher then filtration				
Operating Temp(°C)	20 - 40 °C				
TMP(bar)	1.5				

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## UF - PVDF 45 m<sup>2</sup>



## UF - PAN 45 m<sup>2</sup>



## UF - PVDF/PES 60 m<sup>2</sup>



## MF - PVDF 50 m<sup>2</sup>



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## UF Technical Specifications- 4040

Model No	MEMSTRAW -4040
Surface Area (m2)	5
MOC	(PES/PVDF) / PAN
Fiber OD/ID (mm)	(1.3/0.7) / 1.7/1.4
Pore Size (micron )	0.03
Mode	Out - to - In
MWCO (Daltons)	100 kDa
End caps & Pipe	uPVC
End caps Port	Permeate 3/4.", Feed Permeate and Reject
Module Dimensions (mm)	D 90 X H 1150
Operation flux (LMH)	40 - 160
Flow/Module (LPH)	500 - 1000
Operating pressure (bar)	0.5 - 2
Back wash	1.5 Times higher then filtration
Operating Temp(°C)	20 - 40 °C
TMP (bar)	1.5

### 4 inch Module



All ports 3/4"  
Feed, Reject and  
Permeate

**Note: Customizable membrane modules can be manufactured in large Quantities**

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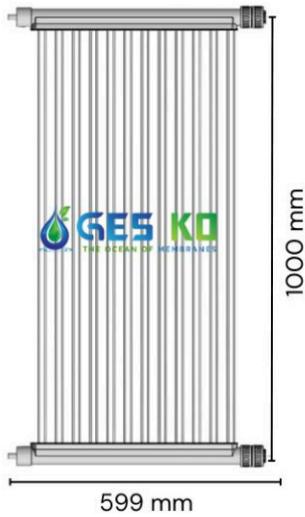
## MBR - Technical Specifications

Model No		Memstraw - MBR-10	Memstraw - MBR-15	Memstraw - MBR-20	Memstraw - MBR-30
Effective Membrane Area (m2)		10	15	20	30
Element size	W*H*T (mm)	599 *1000 * 40	599 *1570 * 40	599 *2000 * 40	1500*2000* 30
	Connection	φ48	φ48	φ48	φ48
Element Parameters	Pore Size Average	0.03 to 0.1 μm 0.06 μm			
	Material	PVDF coating on PET Braid			
	Water flow mode	Both the end catchment			
	Filtration Mode	Negative Pressure			
Operating Conditions	Trans Membrane Pressure (TMP)	-0.02~0.05 MPa			
	Max Backwash Pressure	0.01 MPa			
	Temperature	10~45 °C			
	pH Tolerance (Running)	5~9			
	pH Tolerance (Cleaning)	2~10			
	Air Flow(m3/hr/m2)	0.3			
Performance	Product Water	Turbidity <0.3 NTU, SS~0, SDI <4			
	Working life	≥ 5 Year Under normal Usage			

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Memstraw  
MBR-10



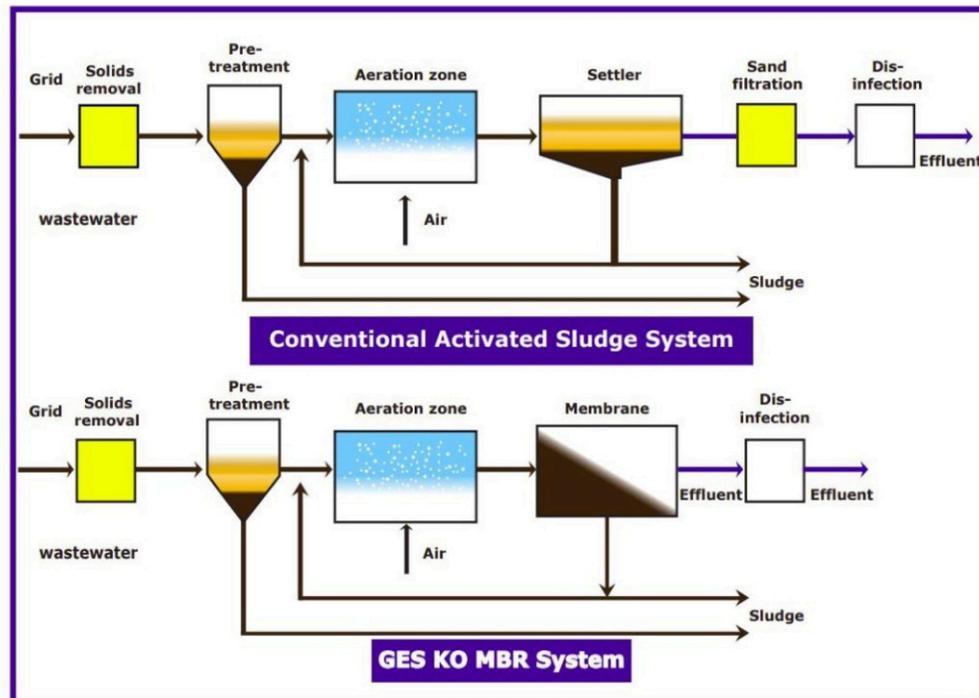
Memstraw  
MBR-15



Memstraw  
MBR-20



Memstraw  
MBR-30



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## About Submerged UF (SUF)

The membrane is manufactured with special spinning method developed by **GES KO** and the nature of the membrane surface is modified for high fouling resistance. As a result, this membrane enables very high filtration flux compared to other PVDF membranes. In addition, the physical strength of the membrane fiber is so high, that it hardly doesn't get breakage during the normal operation.

## SUF Product Uniqueness

Submerged PVDF ultrafiltration membrane module adopts open filtration, reduces the requirement of influent pretreatment, and reduces the footprint of the whole installation. It has become a new type of SUF membrane technology which accomplishes to reduce above mentioned requirements



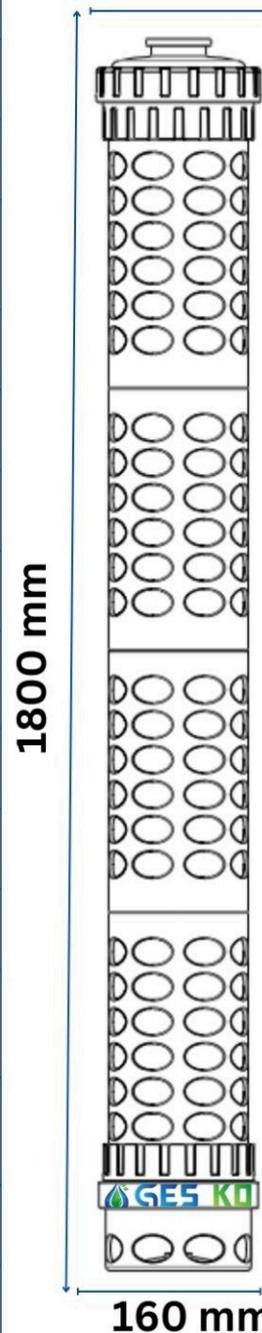
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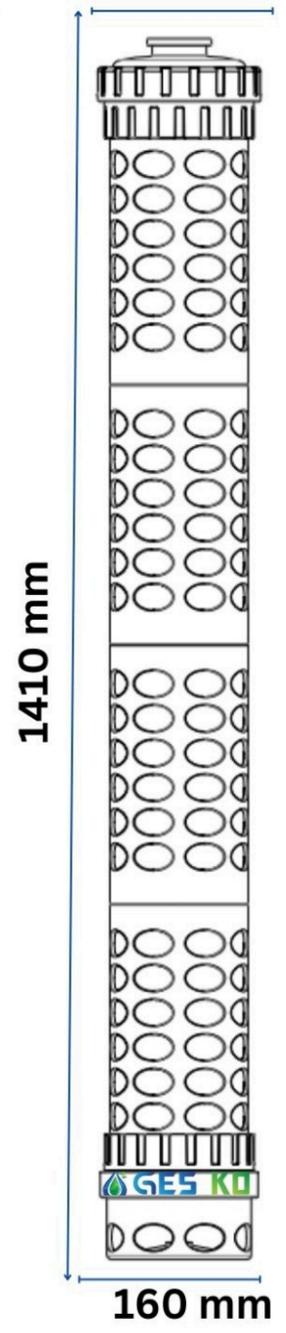
## SUF - Technical specifications

Model No	MEMSTRAW - SUF-20	MEMSTRAW - SUF-35
Surface Area (m2)	20	35
MOC	PVDF	
Fiber OD/ID (mm)	1.3/0.7	
Pore Size (micron )	0.03	
Mode	Out - to - In	
MWCO (Daltons)	100 kDa	
End caps & Pipe	uPVC	
End caps Port	Permeate 3/4.", Permeate	
Module Dimensions (mm)	D 160 X H 1410	D 160 X H 1800
Operation flux (LMH)	10-40	
Max TMP(kpa)	50	80
Air scouring during air Backwash (Nm3/hr)	3-4	3-5
Water flux during Back wash	1.5 Times higher then filtration	
Operating Temp(°C)	20 - 40 °C	
weight (kgs)	16	19

**MEMSTRAW  
SUF-20  
160 mm**



**MEMSTRAW  
SUF-35  
160 mm**



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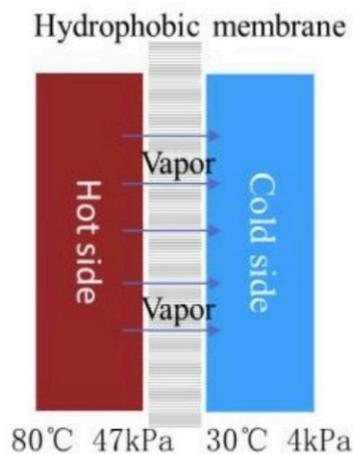


## Pilot stage Innovations

### MEMBRANE DISTILLATION (MD)

- It is a promising technology for treating saline water and wastewater with high rejection factors, which cannot be accomplished by conventional technologies. MD is a thermally driven separation process in which only the vapor molecules pass through a microporous hydrophobic membrane.

#### Principle



#### MD Modules



#### Applications



Concentration  
Separation

- Pharm & juice & drink
- Bio-chem & fine-chem & petroleum
- Electronics & electrode & petrochem



Wastewater  
treatment

- Coal-fired power plants & metallurgy
- Petrochem & petroleum
- Coal to chem & landfill leachate



Desalination

- RO brine re-concentration
- Solar energy desalination
- Li extraction from salt lake

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## Pilot stage Innovations

### HOLLOW FIBER NANO FILTRATION (NF)

- These membranes have gained significant attention in recent years due to their unique properties and applications.

#### Advantages of Hollow Fiber NF (HF-NF) Membranes:

- **Geometry:** Hollow fiber membranes offer more advantages over traditional spiral-wound configurations, especially their geometry provides low fouling tendencies and effective hydraulic cleaning options with lowering the foot print
- **Chemical Stability:** It is an Alternative to polyamide based spiral membranes, HF-NF membranes are more chemically stable, allowing operation and cleaning under extreme conditions.

### NEXT GENERATION GRAPHENE OXIDE (GO) HOLLOW FIBER

- **Ultrafiltration (GOUF)** membranes have garnered significant interest due to their potential for higher flux in lower pressure with very high molecular separation along with high anti fouling properties.



Pilot  
Trails are  
ongoing



# GES KO MEMBRANES PVT LTD



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# GES KO MEMBRANES PVT LTD



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