



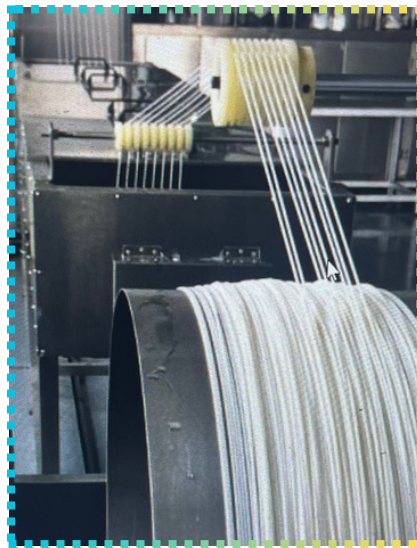
GES KO
Ocean of Membranes

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 first and only Indian company dedicated to manufacturing Polyacrylonitrile (PAN) 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.



Hollow Fiber Membrane Production Line



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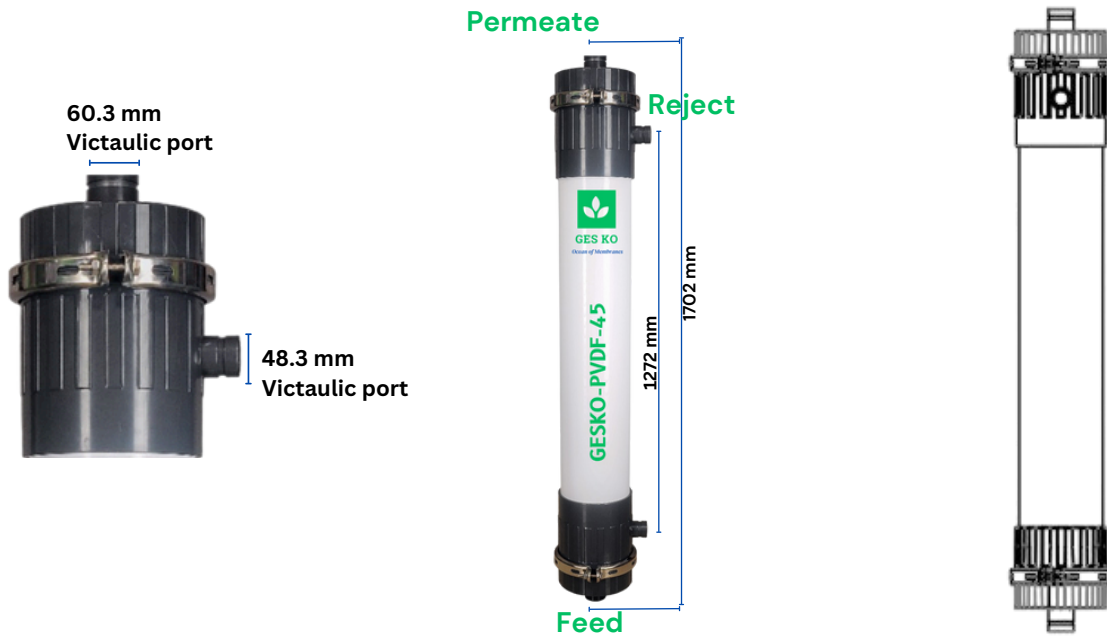
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MF/UF Technical Specifications

Parameters	UF				MF
Model No	GES KO-PES6	GES KO-PVDF4	GES KO-PVDF6	GES KO-PAN4	GES KO-PVDF5
Surface Area (m ²)	60	45	60	40	50
MOC	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 (m ³ /hr)	2.4 - 3.6	2 - 2.7	2.4 - 3.6	2.4 - 3	3 - 3.5
Operating pressure (bar)	0.5 - 2.5				
Back wash	1.5 Times higher then filtration				
Operating Temp(°C)	20 - 40 °C				
TMP (bar)	1.5				

UF – PVDF45 m2

UF – PAN 40 m2



UF – PES/PVDF 60 m2

MF – PVDF 50 m2





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UF Technical Specifications- 4040

Model No	GES KO-PES/PVDF-4040
Surface Area (m ²)	5
MOC	PES/PVDF
Fiber OD/ID (mm)	1.7/1.3
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 1000
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



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MBR - Technical Specifications

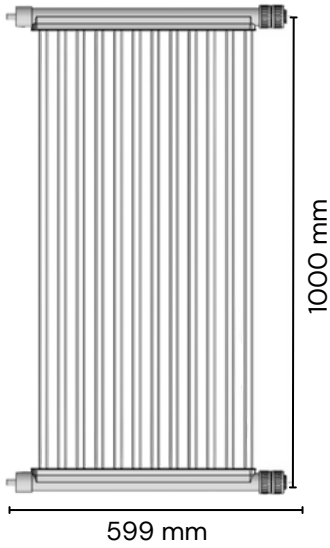
Model		GES-KO-MBR-10	GES-KO-MBR-15	GES-KO-MBR-20	GES-KO-MBR-30
Element size	W*H*T (mm)	599 *1000 * 40	599 *1570 * 40	599 *2000 * 40	1500*2000* 30
	Connection	φ48	φ48	φ48	φ48
Element Parameters	Pore Size Average Pore Size	0.03 to 0.1 μm 0.06 μm			
	Material	PVDF coating on PET Braid			
	Water flow mode	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			
	Aeration rate (Nm ³)/projected area	15:1 ~20:1			
Performance	Product Water	Turbidity <0.3NTU SS~0 SDI <4			
	Working life	≥ 5 Year Under normal Usage			



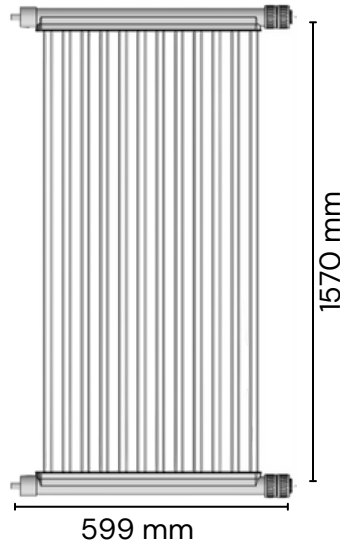
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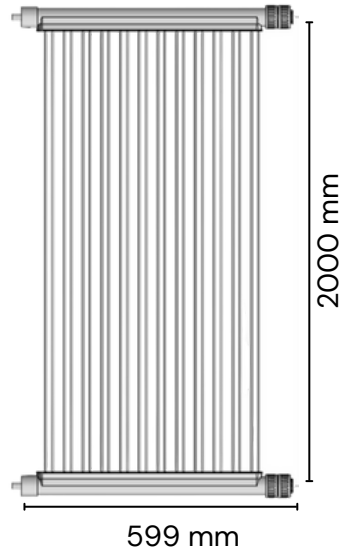
GES-KO-MBR-10



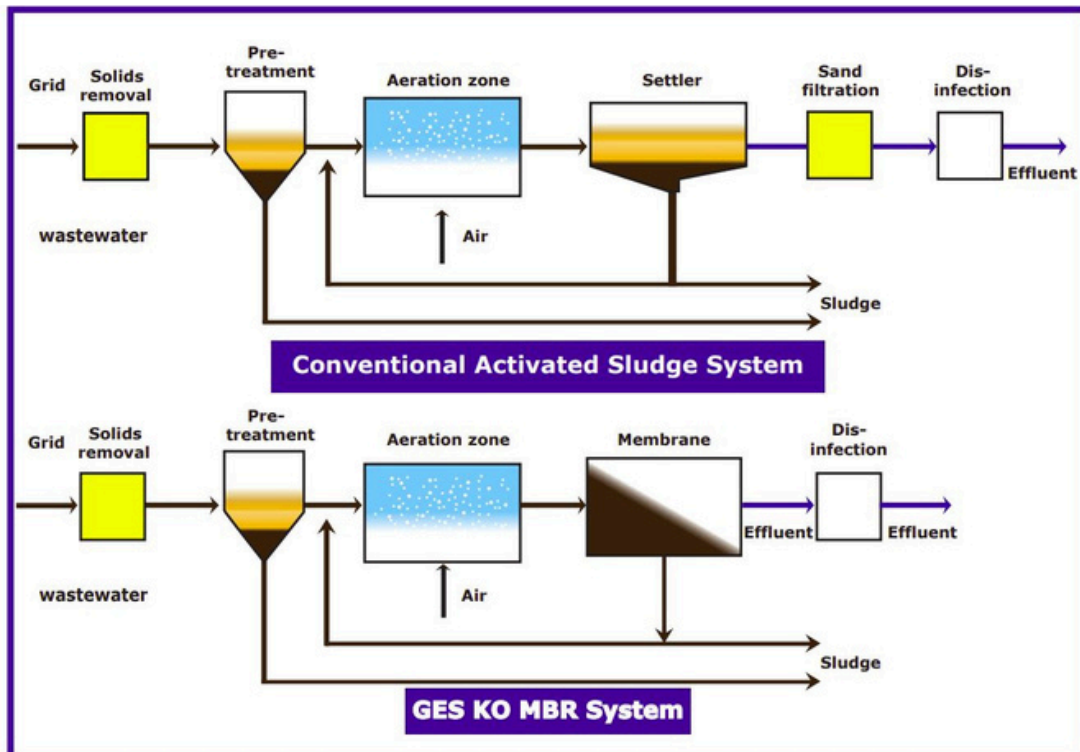
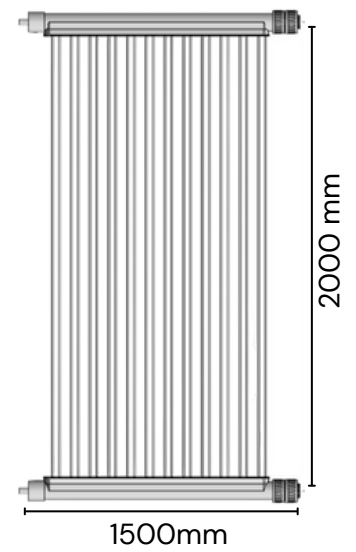
GES-KO-MBR-15



GES-KO-MBR-20



GES-KO-MBR-30



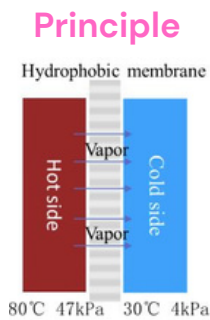


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Technologies in Pilot Scale Level



- **Membrane distillation (MD)** 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.



MD Modules



Applications

 Concentration Separation	<ul style="list-style-type: none">• Pharm & juice & drink• Bio-chem & fine-chem & petroleum• Electronics & electrode & petrochem
 Wastewater treatment	<ul style="list-style-type: none">• Coal-fired power plants & metallurgy• Petrochem & petroleum• Coal to chem & landfill leachate
 Desalination	<ul style="list-style-type: none">• RO brine re-concentration• Solar energy desalination• Li extraction from salt lake

- **Hollow fiber nanofiltration (NF)** membranes have gained significant attention in recent years due to their unique properties and applications.

Advantages of Hollow Fiber NF Membranes:

- **Geometry:** Hollow fiber membranes offer advantages over traditional spiral-wound configurations. Their geometry provides low fouling tendencies and effective hydraulic cleaning options.
- **Chemical Stability:** Alternatives to polyamide-based layers are more chemically stable, allowing operation and cleaning under extreme conditions.
- **Graphene oxide (GO)** hollow fiber ultrafiltration (UF) membranes have garnered significant interest due to their potential for higher flux in lower pressure with very high molecular separation..



Pilot Trails are ongoing





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Reach us



Registered Office
Address

**C-246 Kandhasamy Salai, Periyar Nagar,
Chennai, Tamilandu, Chennai – 600082**



**Sri Balaji Avenue ,2nd Cross
Street, Salamangalam Village, Padappai,
Kancheepuram, Tamil Nadu, 601301**



**enquiry@geskomem.com,
ram@geskomem.com**



**+91 9042137617
+91 9791332650**



www.geskomem.com

