

DEERFOS MEMBRANES

The "DEERFOS MEMBRANES" name Is Synonymous With Trust.
Trust Built On Consistent Quality Reliability Products,
Technical Advancements And Excellent Customer Services.

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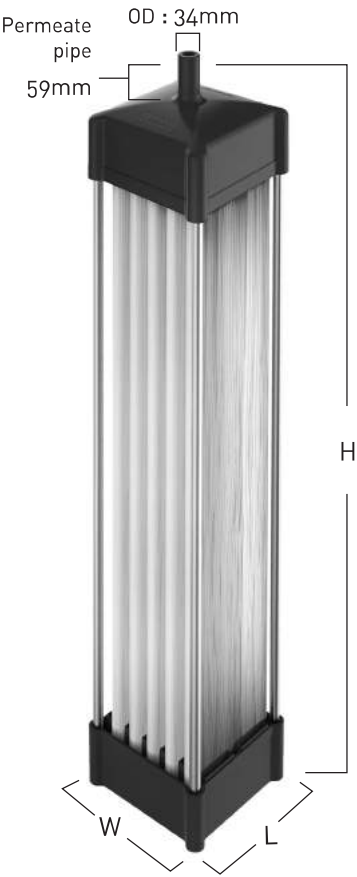
DEERFOS MEMBRANES

Submerged module

The DEERFOS MEMBRANES' submerged product is developed as high strength uniform membranes entirely by our own technology which fully removes finer solid particles, germs, intestinal parasites. We are producing high-quality membranes through the specialized manufacturing process and the stringent control procedures.

DEERFOS Submerged Module Element

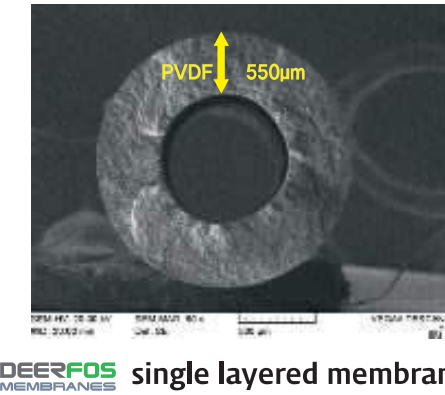
Items	DFX-813	DFX-820	DFX-830
Effective Area	13 m²	20 m²	30 m²
Dimension W*L*H (mm)	222 * 222 * 960	222 * 222 * 1,400	222 * 222 * 1,900
Membrane Configuration	Hollow fiber		
Membrane Material	PVDF		
Membrane Nominal Pore size	0.1 μm		
Membrane Fiber OD / ID	2.2 mm / 0.9 mm		
Design Flux	0.3 ~ 1.2 m³/m²·day		
Module Housing Material	ABS		
Module Potting Material	Epoxy + Urethane		
Operation			
Operating TMP	0.05 ~ 0.4 bar		
MLSS	3,000 ~ 12,000		
pH	2 ~ 10		
Operating Temperature	5 ~ 40 °C		



The Advantages of DFX hollow fiber

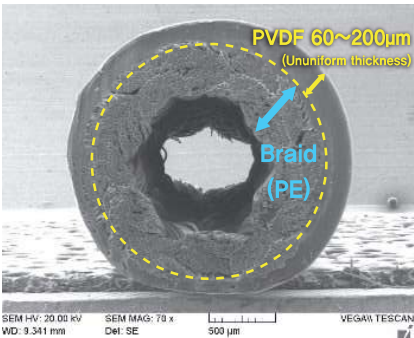
The Advantages of hollow fiber

1. Stable operation



DEERFOS single layered membrane

Structure Comparison

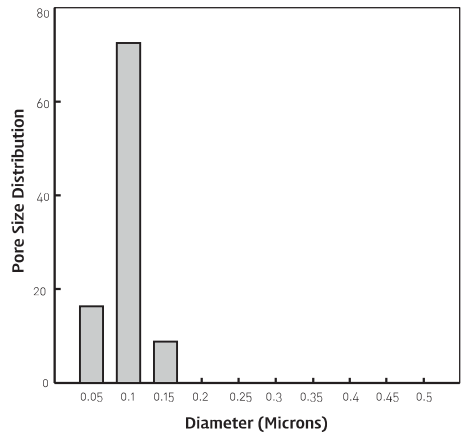


PVDF braid-reinforced membrane

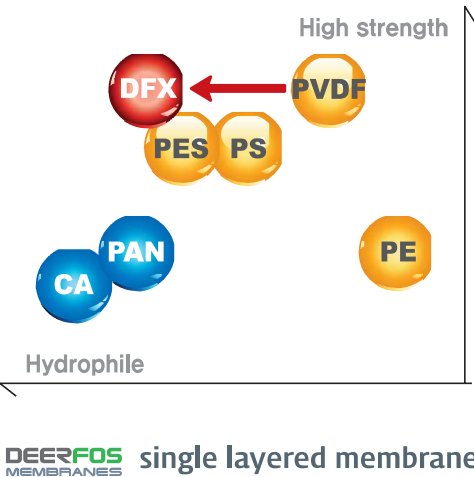
- A. DEERFOS single layered membrane is uniform in thickness (550μm) and thicker than braid-reinforced membrane. These characteristics not only increase efficiency for filtration, but also eliminates the problem of strong backwash.
- B. DEERFOS single layered membrane has a high PVDF content, which results in a significant increase in chemical resistance.

2. High selective permeability

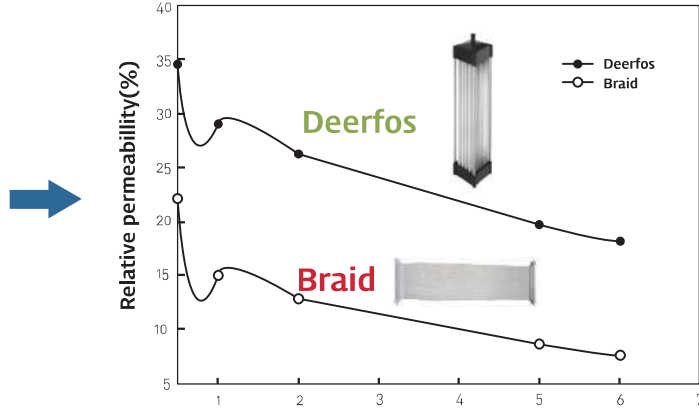
- A. Even in highly turbid sewage. High permeability FLUX retention
- B. 1.5 times higher flux than conventional composite membrane
- C. Clear water permeability FLUX : More than 600 LMH



3. Improved antifouling and water permeability through enhanced hydrophilic

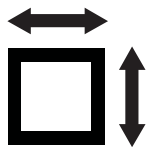


DEERFOS single layered membrane



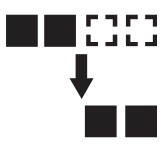
Higher flux than braid-reinforced membrane

Advantages of module



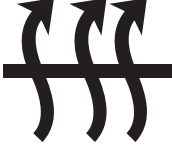
Square housing

--> Minimizing Dead-space



Detachable easily

--> Convenient maintenance



Effective Aeration

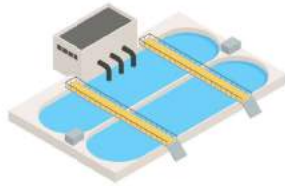
--> Reducing Aeration and maintenance free

Submerged module Application



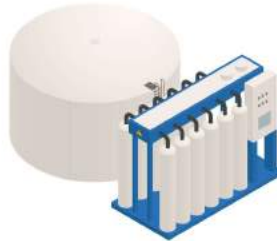
Industrial wastewater treatment field

Organic wastewater treatment
Livestock, manure wastewater treatment
Electronic, leachate wastewater treatment



Sewage treatment field

Municipal wastewater treatment
Individual Sewage Treatment
Septic tanks combined with membrane



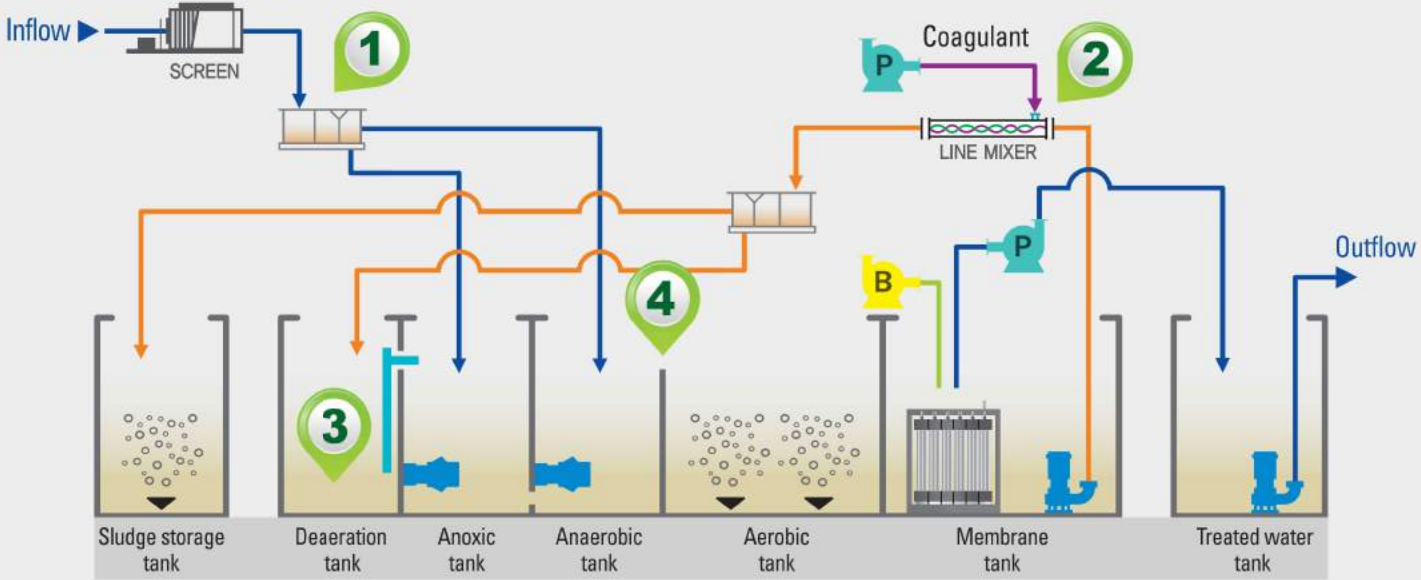
Water reuse field

Rainwater reuse facilities
Wastewater reuse facilities
Waste Water reclamation and reusing system



Design flux can vary depending on feed water or system design basis.

Submerged MBR Process (DF-MBR)



Advantages of DF-MBR

- 1

Dividable influent flow

Influent flow is divided into anoxic tank and aerobic tank as different ratio according to quality of the raw water. So, This process will maximize the effect of the T-N and T-P removal.
- 2

Dosed coagulant into return line

This process will maximize the sludge thickening and the effect of the T-P removal.
- 3

Efficient DO control

Deaeration tank placed in front of the anoxic tank will improve DO reduction effect, reduce the stress of the micro-organism, and maximize the effect of the -T-N removal.
- 4

Efficiently organized reactor

It flows from deaeration tank to aerobic tank through anoxic tank without pressure flow maximize the process not to be needing internal recycle. (Reduction of CAPEX and OPEX)

Efficiency

Description	Inflow	Permeate water		
	Average	Water criteria	Average	Efficiency (%)
BOD	200.0	< 10	< 5.0	98.5
COD	250.0	< 40	< 10.0	96.0
SS	200.0	< 10	< 1.0	98.5
T-N	40.0	< 20	< 18.0	55.0
T-P	6.0	< 2	< 1.5	75.0
E-coli	200,000	< 3,000	N.D	100.0

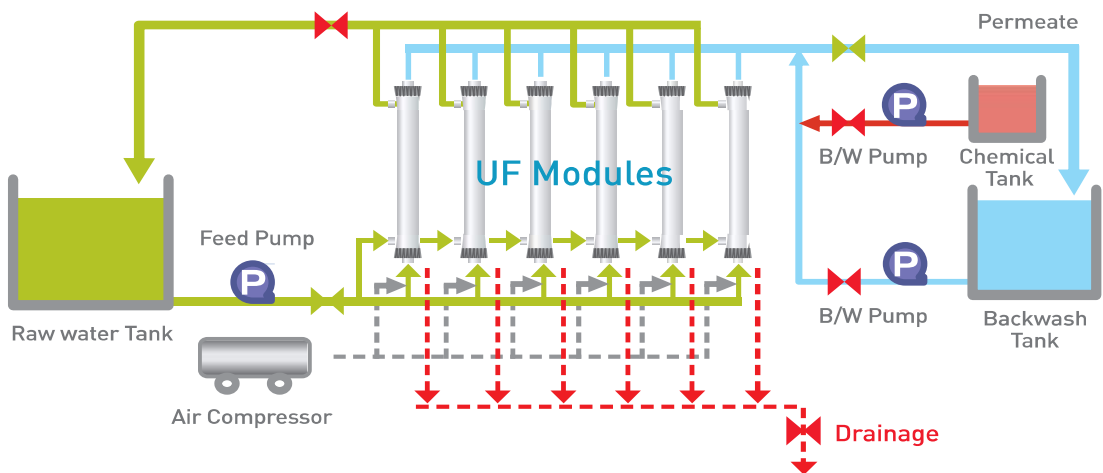


DEERFOS MEMBRANES

UF Module Product Introduction

Application of Domestic and Oversea branch

UF Membrane Filtration Process

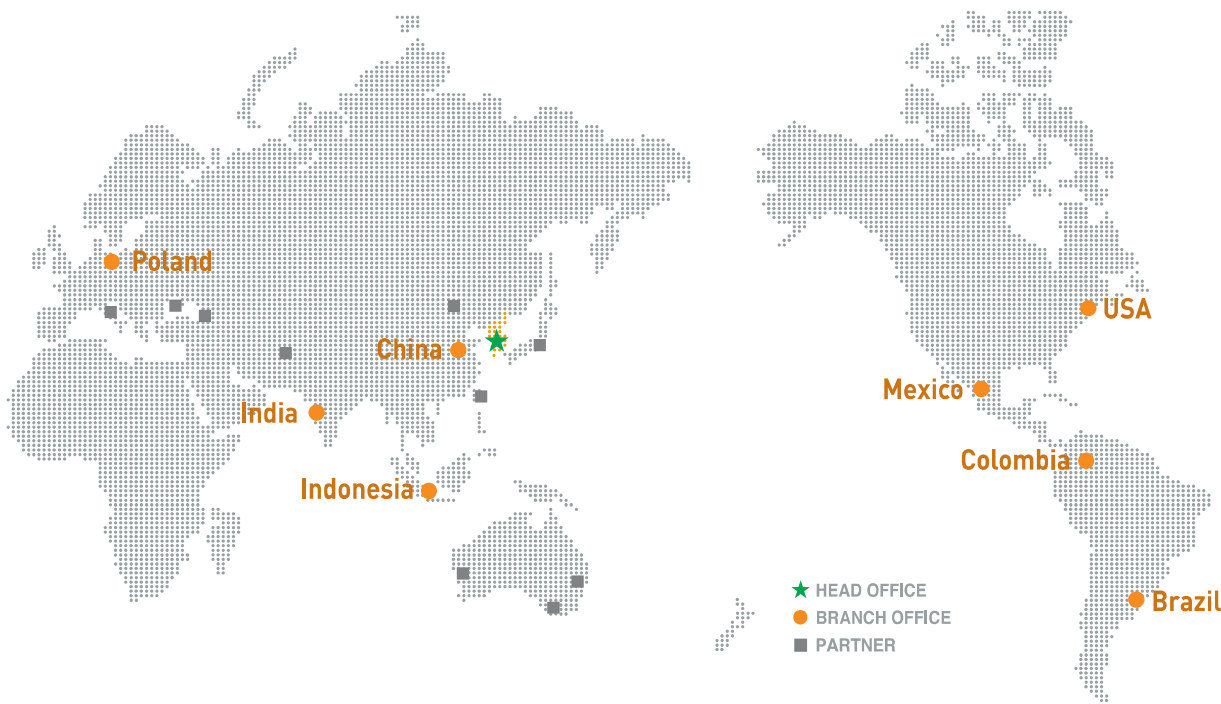


Specification of UF Module

UF MODULE	DFU-0830AD	DFU-0850AD	DFU-0870AD	DFU-0870AP	DFU-0870AS
Effective Surface Area (m ²)	30	50	70	70	71
Designed Flux (m ³ /hr)	1.0 - 3.6	1.7 - 6.0	2.4 - 8.4	2.4 - 8.4	2.1 - 7.8
Dimensions (Φ×Hmm)			216 x 2,275	216 x 2,275	
Hollow-Fiber Membrane Material	PVDF			PES	
Pore size	0.07 μm			150KDa	100KDa
Housing Material	UPVC				
Potting Material	Polyurethane + Epoxy				
Gasket Material	NBR				
Weight(water filled/empty) (kg)	60 / 40	90 / 60	110 / 70	110 / 70	110 / 70
OPERATING CONDITIONS					
Max. Inlet Pressure (kPa)	300				
Max. Operating TMP (kPa)	300				
Max. Temperature (°C)	40				
pH Range (Operating)	6 - 9				
Flow Direction	Outside-to-Inside				
Filtration Method	Dead-end or Cross-flow				
Filtrate Turbidity (NTU)	< 0.1				



DEERFOS MEMBRANES, located in Cheong-Ju, South Korea, is working together with two membrane manufacturers and many partners all over the world.



Certification



Designed flux varies depending on feed water quality, or system design. Please consult DEERFOS Membranes for details.