

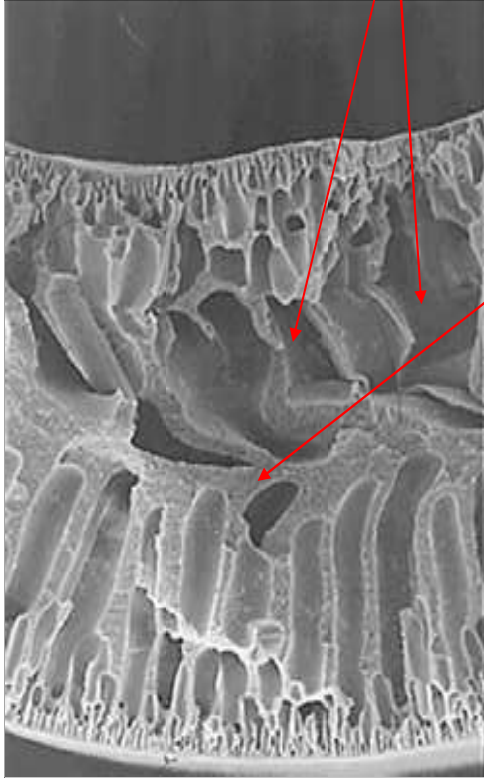


MEMBRANFILTER - TEKNIK och SYSTEM

Ultrafilter - Nanofilter - MBR - RO



CAM U860UF Membran

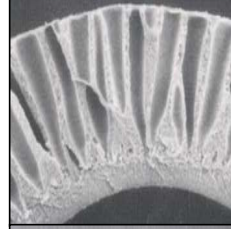
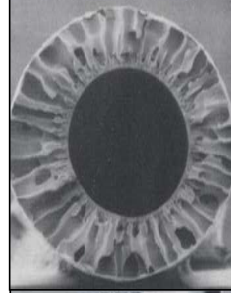
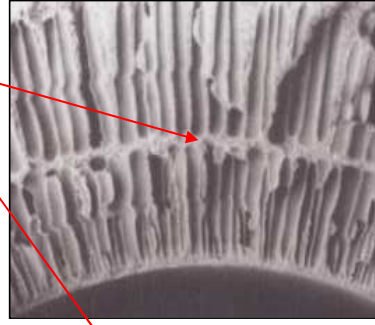
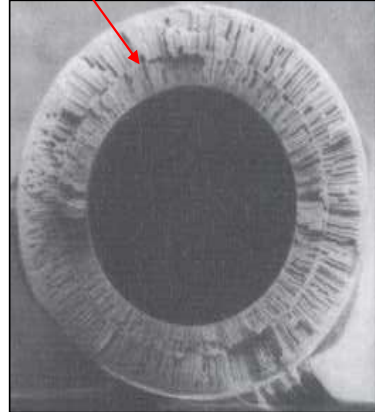


IDAG: 3:e Generationens membran

3:e generationens membran medför ytterligare porositet vilket ökar hålligheterna med bibehållen styrka tack vare centrumväggen.

HÅLIGHETER

CENTRUMVÄGG



1:a Generationens Membran

2:a Generationens Membran



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CAM Ultra Flow U860 Patron

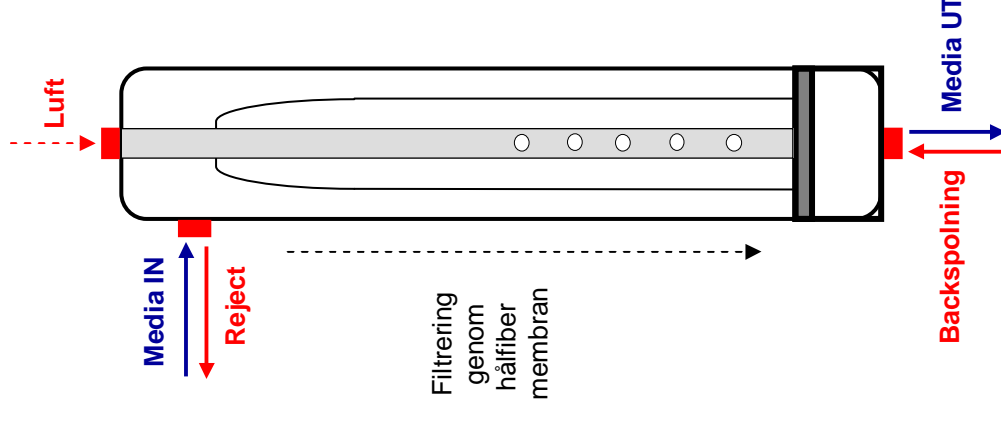


Specifikationer

Utförande	Hålfiber (filtrering utifrån till in)
Material	Hydrofilit modifierad PAN
Fiber diameter	2.0 mm (yterdiameter)
Yta (membran)	42 m ²
Dimension	Ø = 200 mm, L = 1520 mm
Vikt	36 kg
Drifttemperatur	< 40 °C
Drifttryck (TMP)	< 55 kPa (In), < 55 kPa (Backspolning)
pH	3 ~ 9 (Drift); 2 ~ 11 (Tvätt)
Flöde / Flux:	
Stadsvatten	4.0 m ³ /h (56gfd)
Flod / Borrhål	2.5 m ³ /h (35gfd)
Behandlat spillvatten	1.5 m ³ /h (21gfd)

Drift

Filtrering: Utifrån och in	Re-generering: Inifrån och ut
Filtrat och produkt i "Dead End Mode"	Luftscrubning med backspolning





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ULTRAFILTER I MODULSYSTEM



MU01-8



MU04-8



MU08-8



MU24-8

Systemen består av:

- U860 UF-membranpatroner @ 4 m³/hr (stadsvatten)
- Media- och backspolningspumpar
- Kontrollventiler
- Tryckmätare för Media, Luft och Backspolning
- Flödesmätare
- Ramverk i Rostfritt stål
- PVC rör, slangar och snabbkopplingar
- Kontrollpanel med PLC

System	MU01	MU02	MU04	MU06	MU08	MU10	MU12	MU14	MU16	MU18	MU20	MU24
Ei	230V 5A	230V 8A	230V 8A	400V 9A	400V 9A	400V 10A	400V 10A	400V 14A	400V 14A	400V 14A	400V 14A	400V 18A
Vikt (kg)	80	130	230	350	470	750	880	1010	1140	1270	1400	1800
Längd	0.8	0.8	1.3	2.0	2.4	2.8	3.2	3.5	3.9	4.2	4.5	5.1
Bredd	0.7	1.0	1.0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Höjd	1.8	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2

2007

FROST & SULLIVAN

Industry All Technologies Award
Industry Innovation and Advancement Leadership
Industrial Water and Wastewater Treatment Equipment Markets
(Hong Kong, Singapore)



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MEMBER



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CAM Membran Bio Reaktor FÖR EBARA CORPORATION, SINGAPORE



CAM "MBR-50"-anläggning för behandling av 20 m³/dag spillvatten med hög COD



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CAM UF-anläggning vid oljeraffinaderi, Baku, Azerbajjan



2 X M-20 SYSTEM PRODUCE WATER TREATMENT PLANT



Vatten UT Vatten IN Backspolning



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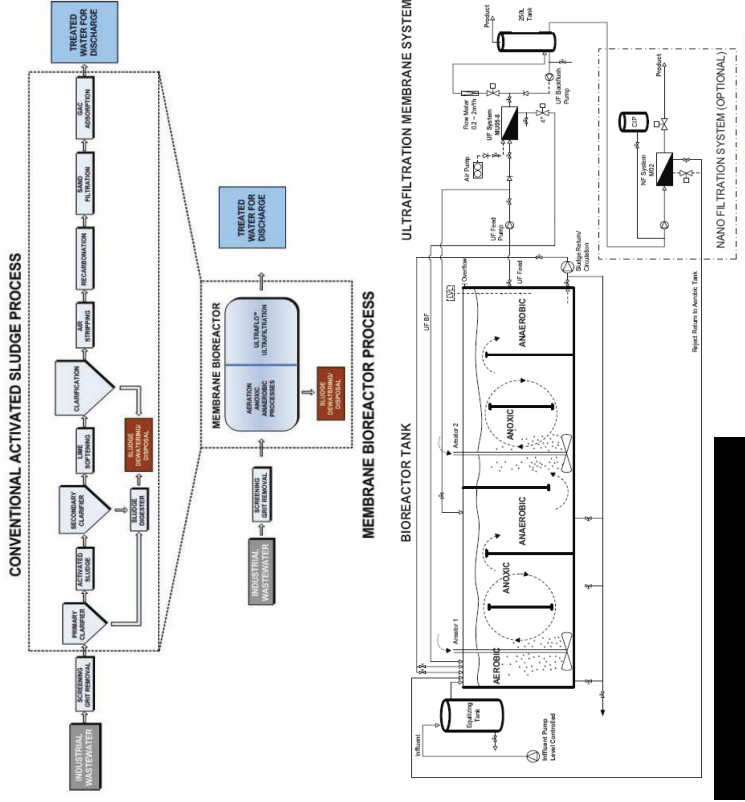


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CAM MBR 50



DEFINITION:

- ❖ MBR is a combination of two basic processes – biological degradation and membrane separation – into a single process where suspended solids and microorganisms responsible for biodegradation are separated from the treated water by membrane filtration unit.

GENERAL OPERATION:

- ❖ The influent enters the bioreactor, where it is brought into contact with the biomass. The mixture is pumped from the bioreactor and then, under pressure, filtered through the membrane. The permeate is discharged from the system while the entire biomass is returned to the bioreactor. Excess sludge is pumped out in order to maintain a constant sludge age and the membrane is regularly cleaned by backwashing, chemical washing, or both.
- ❖ The entire biomass is confined within the system, providing both perfect control of the residence time for the microorganism in the reactor (sludge age) and the disinfection of the effluent.



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CAM MBR-50 DESIGN ADVANTAGES:

- ❖ Efficient Low Pressure Ultrafiltration with Minimum Fouling
- ❖ Compact Design with Small Footprint
- ❖ Low System and Operating Cost
- ❖ No offensive odour
- ❖ No chemicals needed
- ❖ Removal of COD/BOD, Solids and Nutrient in a single unit
- ❖ No problems with sludge bulking
- ❖ Rapid Startup

APPLICATIONS:

- ❖ Industrial wastewater with high BOD and COD:
 - Tannery
 - Abattoir
 - Food
 - Pharmaceutical
 - Landfill
- ❖ Decentralized municipal sewerage
- ❖ Small industrial estates
- ❖ Hotels and Resorts
- ❖ Condominiums
- ❖ Remote residential communities

SYSTEM INCLUDES:

- 5 x U860 Ultra-Flo® membrane cartridge
- Feed and Backflush Pumps
- 2 control valves
- Feed, Air and Backflush Pressure Gauges
- Product Flow Meter
- Air-scouring Blower
- Stainless or Galvanised Steel Frame
- PVC Piping, Hoses and Quick couplings
- Electrical Control Panel with PLC
- Bio-reactor Tank
- 2 Submersed Aerators

Membrane Specifications:

Configuration	Modified PAN Hollow Fibre
Operation Process	Dead-end filtration (Out to In) Air scouring with backflush (In to Out)
Recovery	90 ~ 95 %*
Operating Temperature	< 50° C
Operating Pressure (TMP)	< 5 psi (Feed) <14 psi (Backflush)
Flow Rate	
COD < 3,000	30 m ³ /day
COD < 1,000	50 m ³ /day
Product Turbidity	< 0.5 NTU

System Specifications:

Design	Bio-reactor with Membrane Filtration Unit
Capacity	30 ~50 m ³ /day
People Equivalent	100 ~ 200 persons
Electrical Power	400V; 50Hz; 6A; 3-Phase
Dimensions (Meter)	6.0m (L) X 2.45m (W) 2.45m (H)
Weight	4,500 kg

* Subject to feed water condition