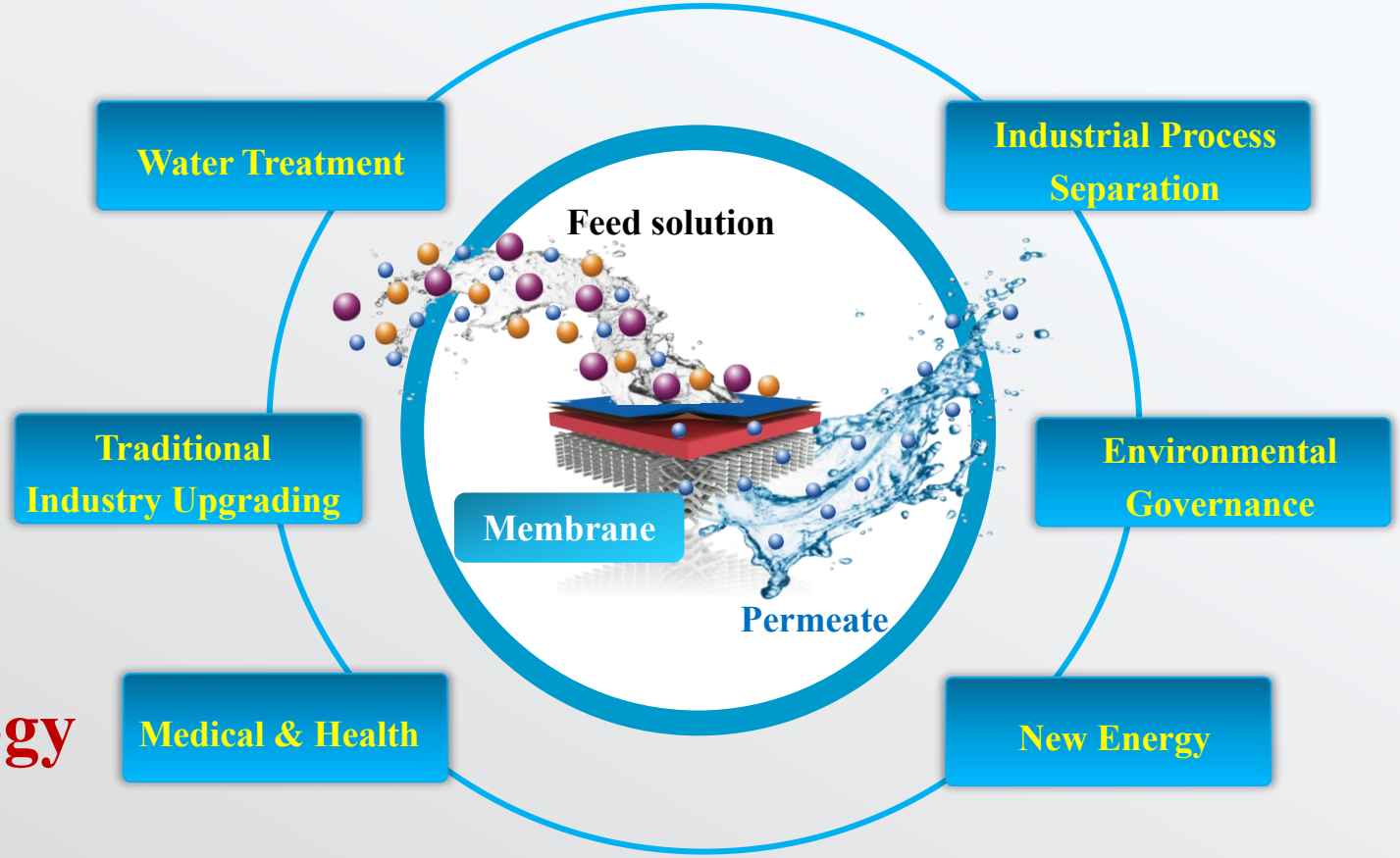
COOPERATE

Anhui Cooperate Environment Technology Products Introduction



Focus on Membrane Technology

COOPERATE

Catalogue

1 Company Introduction

2 Main Products

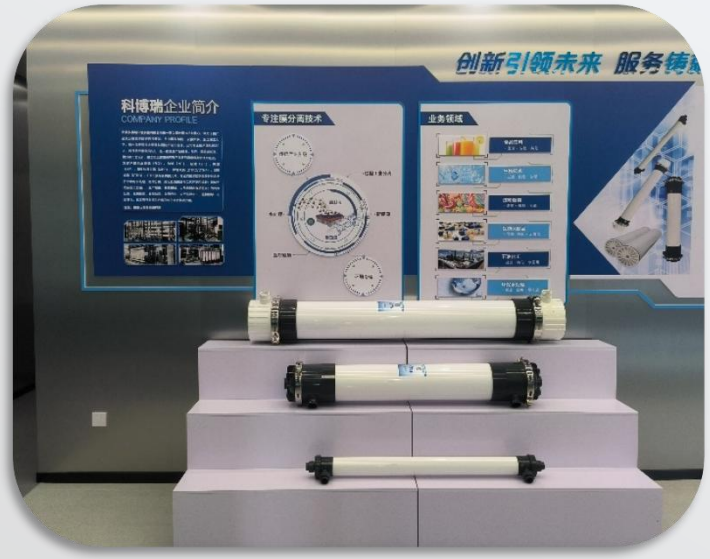
3 Projects Cases

4 Contact Us

COOPERATE

Company Introduction

Company Introduce



COOPERATE is a **national high-tech enterprise** with **membrane separation technology**, dedicated to the research and development of **membrane products and separation technologies**. We cooperate with University of Science and Technology of China, Chinese Academy of Sciences, Anhui University, Zhejiang Sci-Tech University etc., and have 5 professor-level expert advisors.

We can provide kinds of **Water Treatment Membrane Elements** (MBR, UF, NF, RO, PTFE deamination membrane etc.), **Special Membrane Elements** (Degassing membrane, CO2 capture membrane, Acid-resistant membrane, Alkali-resistant membrane, Antioxidant membrane, etc.) and **Containerized Water Treatment System**. We have professional technical team and provides comprehensive separation and purification solutions (wastewater treatment, pure water, water reuse, seawater desalination, resource utilization etc.) for the semiconductor microelectronics, biomedicine, food and beverage, new energy, chemical industry etc.

COOPERATE is committed to becoming an internationally leading supplier of functional Membrane Separation Materials and Solutions.

Main Products

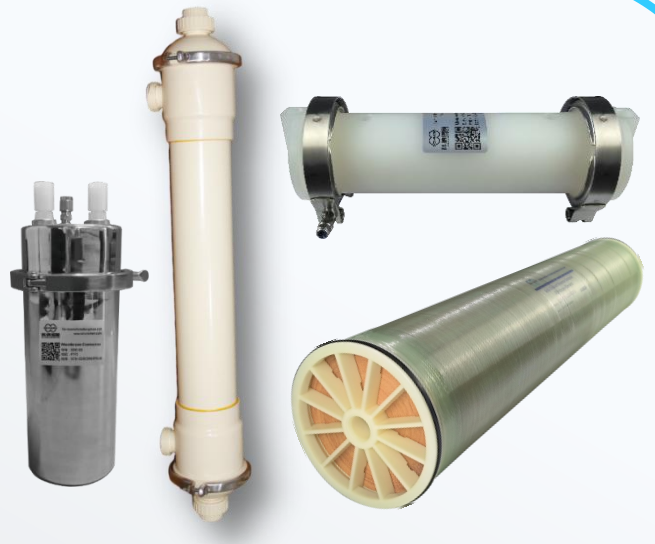
Main Products

Containerized Water Treatment System

- Containerized pure water system
- Containerized seawater desalination system
- Integrated MBR system
- Integrated water purification system
- ……

Water Treatment Membrane Elements

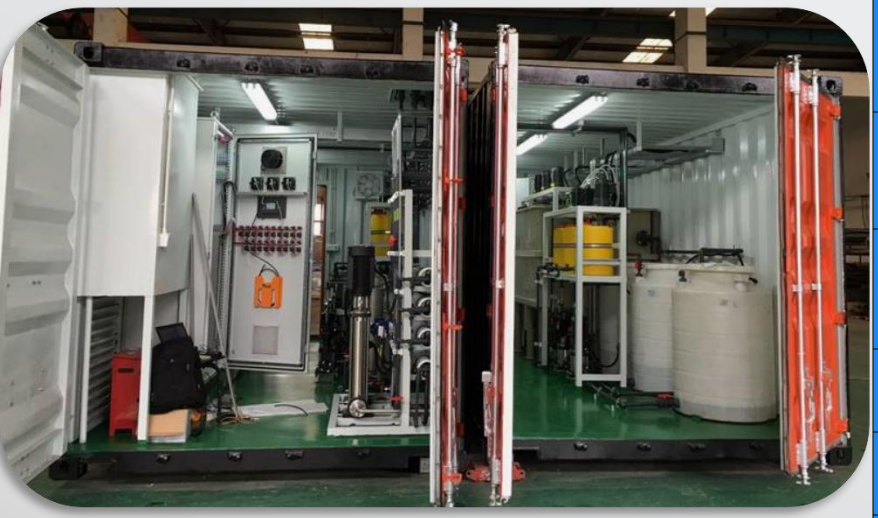
- MBR membrane element
- UF membrane element
- RO membrane element
- Deamination membrane element
- ……



Special Membrane Elements

- Degassing membrane element
- Acid-resistant membrane element
- Acid-resistant membrane element
- Antioxidant membrane element
- ……

(1) Containerized Pure Water System



Model No.	KBR-CPWS -PW50	KBR-CPWS -PW100	KBR-CPWS -PW200	KBR-CPWS -PW300	KBR-CPWS -PW500
Capacity	50m3/day	100m3/day	200m3/day	300m3/day	500m3/day
Feedwater Connection	DN32	DN50	DN65	DN80	DN100
RO Permeate Connection	DN25	DN32	DN40	DN50	DN65
RO Concentrate Connection	DN25	DN25	DN32	DN40	DN65
Length	6000mm	6000mm	6000mm	6000mm	12000mm
Width	2400mm	2400mm	2400mm	2400mm	2400mm
Height	2900mm	2900mm	2900mm	2900mm	2900mm
Container Size	20(ft)	20(ft)	20(ft)	20(ft)	40(ft)

(2) Containerized Seawater Desalination System

Model No.	KBR-CSDS -SW50	KBR-CSDS -SW100	KBR-CSDS -SW200	KBR-CSDS -SW300	KBR-CSDS -SW500
Capacity	50m3/day	100m3/day	200m3/day	300m3/day	500m3/day
Energy Recovery Device	V	V	V	V	V
Feedwater Connection	DN40	DN50	DN80	DN100	DN125
RO Permeate Connection	DN25	DN32	DN50	DN65	DN80
RO Concentrate Connection	DN32	DN40	DN65	DN80	DN100
Installed Power	15kw	25kw	45kw	75kw	110kw
Length	6058mm	6058mm	6058mm	12192mm	12192mm
Width	2438mm	2438mm	2438mm	2438mm	2438mm
Height	2896mm	2896mm	2896mm	2896mm	2896mm
Container Size	20(ft) HQ	20(ft) HQ	20(ft) HQ	40(ft) HQ	40(ft) HQ

(3) Integrated MBR Sewage Treatment System

No.	Model	Capacity (m^3/d)	Size (m)	Installed Power (kw)	Discharge standard	Treatment Process
1	KBR-SA15	15	4.5×2.4×2.8	6.2	Grade 1A	A2O+MBR
2	KBR-SA30	30	6.0×2.4×2.8	7.7	Grade 1A	
3	KBR-SA50	50	7.0×2.4×2.8	9.0	Grade 1A	
4	KBR-SA80	80	8.5×2.4×2.8	13.5	Grade 1A	
5	KBR-SA100	100	10.0×2.4×2.8	15.8	Grade 1A	
6	KBR-SA150	150	13.5×2.4×2.8	21.0	Grade 1A	
7	KBR-SA200	200	13.5×3.0×3.0	24.0	Grade 1A	
8	KBR-SA250	250	16.0×3.0×3.0	26.5	Grade 1A	

(4) Integrated Water Purification System

No.	Model	Capacity (m^3/d)	Size (m)	Installed Power (kw)	Outlet Standard	Treatment Process
1	KBR-WP80	80	6.3*2.4*2.7	7.0	WHO Drinking Water	Immersed Ceramic UF Membrane
2	KBR-WP100	100	6.5*2.4*2.7	7.5		
3	KBR-WP200	200	7.0*2.4*2.7	12.5		
4	KBR-WP300	300	7.5*2.4*2.7	15.0		
5	KBR-WP400	400	8.0*2.4*2.7	21.0		
6	KBR-WP400	500	8.5*2.4*2.7	25.0		
7	KBR-WP500	600	9.0*2.4*2.7	31.5		
8	KBR-SA250	1000	12.0*2.4*2.7	48.0		

(5) Water Treatment Membrane Elements

MBR Membrane Elements

The MUF series products are mainly applied in the MBR (Membrane Bioreactor) process. It combines biological treatment with membrane separation technology. It replaces traditional secondary sedimentation tanks with high-efficiency membranes, effectively intercepting suspended solids, bacteria and macromolecular substances.

This process features compact structure, small footprint, high effluent quality and stable operation. It achieves high sludge concentration, low sludge production and strong impact resistance. Treated water can be directly reused, making MBR widely applied in sewage treatment and reclamation with remarkable environmental and economic benefits.

Product Advantages:

- **Wide tolerance range for MLSS 12,000~15,000 mg/L;**
- **Low operating energy consumption with ultra-low pressure operation;**
- **High separation efficiency and excellent water quality, turbidity ≤ 1 NTU;**
- **Widely applied in projects with limited space or upgrading and expansion;**
- **High permeability with a high flux > 20 L/(m²·h);**
- **High system integration, modular design, small floor area;**
- **Excellent oxidation and pollution resistance, lifetime > 6 years.**

(5) Water Treatment Membrane Elements

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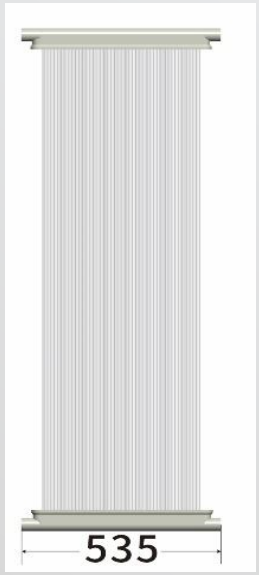
MBR membrane element Products Data Sheet

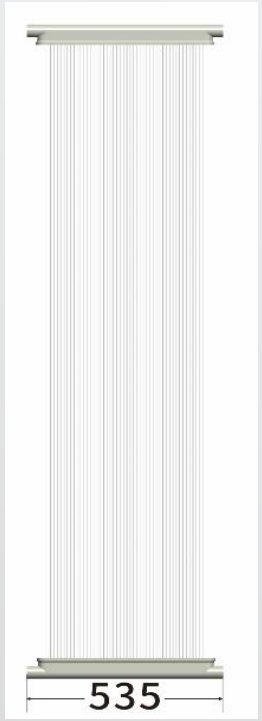
Model			MBR-535	MBR-720/814	MBR-785/880	MBR-844	MBR-1250
Size	Size	mm	1500*535*46 2000*535*46	2000*720*50 2100*814*42	2000*785*42 2000*880*42	2000*844*49	2000*1250*30
	Inner/outer diameters	mm	1.0/2.0（Other specifications can be customized）				
	Pore size	μm	0.03（Other specifications can be customized）				
	Area	m2	15/20	30/35	35/40	40	30
	Tensile strength	N	≥200				
Material	Material	-	PVDF				
	Sealant	-	Epoxy resin + Polyurethane				
	Inner liner pipe	-	PET				
	Collector pipe	-	ABS				
Using Conditions	Temperature	℃	10-35（5-40）				
	pH	-	2-12				
	Animal and vegetable oil	mg/L	10（20）				
	Mineral oil	mg/L	0（3）				
	Sludge concentration	MLSS mg/L	10000~15000				
	Filtration mode	-	Suction-type full-flow filtration				
	Flux	L/(m2*h)	10-30				
	Aeration Intensity	Nm3/(m2*h）	60-120				
	Transmembrane pressure	kPa	10-60（80）				
Cleaning Conditions	Backwash flux	L/(m2*h)	20-60				
	Operation time	min	8-10				
	Off-time	min	1-2				
	Backwash Frequency	time	120-300 operation cycle				
	CEB	time	3-5 backwash cycle				
	Chemical cleaning pH	-	1-13				
	NaClO resistant	ppm*h	300				

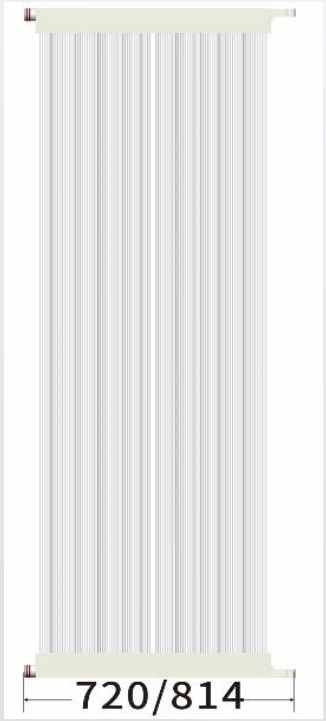
Recommended design		
Feed Water Type	MLSS mg/L	Flux L/(m2*h)
Municipal Sewage	8000-12000	15-25
Food Industry Wastewater	800-1500	13-20
Industrial Wastewater	8000-15000	10-18
Landfill leachate	100-2000	5-10
Surface Water	-	20-50

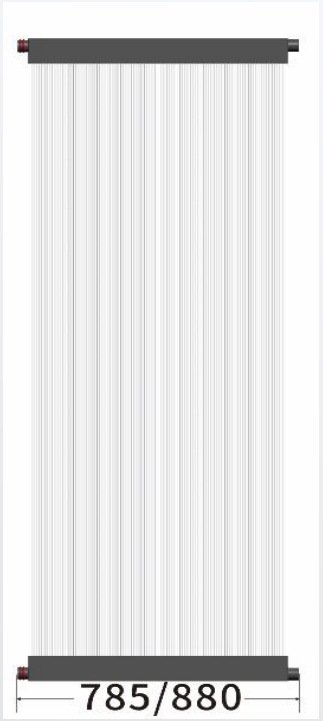
(5) Water Treatment Membrane Elements

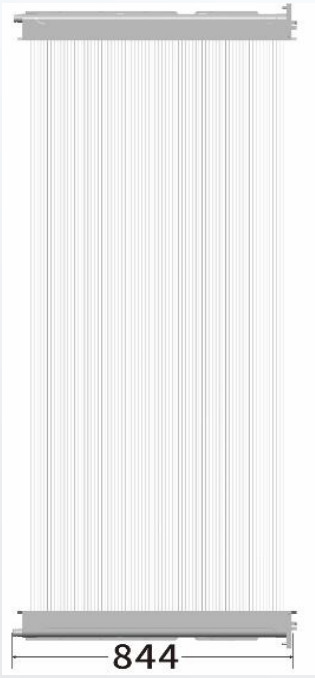
MBR Membrane Elements

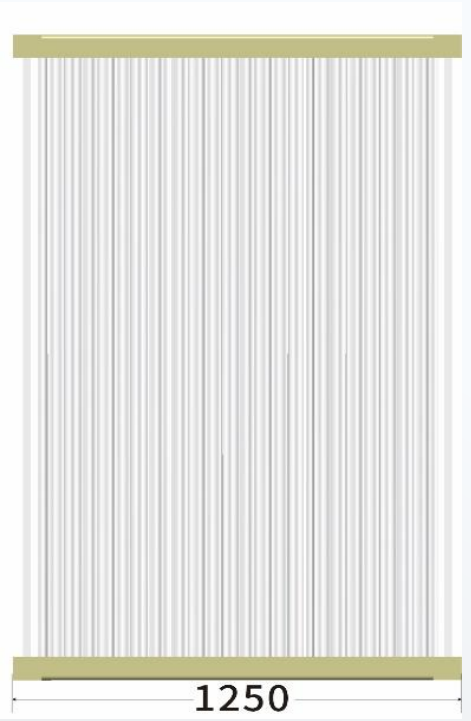












MBR-535：535*45*1500/2000mm；

MBR-720-30：720*50*2000mm；

MBR-785-35：785*42*2000mm；

MBR-814-35：814*42*2100mm ；

MBR-844：844*49*2198mm (Equal to Suez MBR membrane) ；

MBR-1250：1250*30*2000mm (Equal to Mitsubishi MBR membrane).

(5) Water Treatment Membrane Elements

UF Membrane Elements

The CUF series- Pressure-driven ultrafiltration system uses polyvinylidene fluoride (PVDF) raw materials and an enhanced NIPS process. The product can withstand high concentrations of oxidants for a long time and effectively inhibit microbial pollution. The UF membrane element adopt a whole-body structure with a higher filtration capacity, larger filling area, and lower filtration resistance. It can minimize membrane fouling, facilitate cleaning, and quickly restore membrane flux.

The CUF series - Internal pressure-driven ultrafiltration (oil-resistant type) uses modified polyether sulfone (PES) material, with stronger anti-fouling properties and higher separation accuracy with 0.02 μm pore size. While ensuring stable high output water quality, it significantly reduces floating oil pollution and protects the NF or RO system as pre-treatment process.

Product Advantages:

- **The applicable range is wide, feed water with turbidity ≤ 20 NTU;**
- **Low operating energy consumption, ultra-low pressure operation;**
- **High separation efficiency, outlet water SDI ≤ 3 and turbidity ≤ 0.1 NTU;**
- **Low membrane filtration resistance, high permeability with 60-90 L/(m²·h);**
- **High system integration, modular design, and small floor area;**
- **Excellent oxidation resistance and anti-fouling performance, the lifetime >8 years.**

(5) Water Treatment Membrane Elements

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UF membrane element Products Data Sheet

	Model	Unit	UF01-160/ UF02-160	UF03-160	UF04-165	UF05-180	UF06-216	UF07-216	UF08-0860/ UF09-0880	UF10-219	UF11-250/ UF12-250	UF13-273
Size and Weight	Size	mm	160*1860	160*1816	165*2418	180*1919	216*2160	216*2340	225*1860 225*2360	219*1901	250*1715 250*2215	273*2115
	Inner/outer diameters	mm	0.6/1.1-0.7/1.3-0.8/1.3-0.9/1.4-1.0/1.6-0.9/4.0									
	Pore zise	μm	0.02/0.03									
	Area	㎡	33/38	40	50	55.7	72/90	60	51/77	5/64/75	50/65	81
Material	Material	-	PVDF/PES									
	Sealant	-	Epoxy resin (hard rubber) + Polyurethane (soft rubber)									
	Shell	-	UPVC									
Using Conditions	Temperature	℃	5-40									
	pH	-	2-12									
	Oil resistant	mg/L	0 (PVDF)/2 (PES)									
	COD	mg/L	30 (100)									
	Operation way	-	External pressure							Internal pressure		
	Flux	L (㎡*h)	30-120									
	Free chlorine content	mg/L ·h	0.5（200）							0（10）		
	Maximum inlet pressure	kPa	300									
	Maximum transmembrane pressure	kPa	200									
	Backwashing flux	L/(㎡*h)	30-120									
Produced Water Quality	Turbidity	NTU	≤0.1									
	Pollution Index	SD15	≤3									
	Coliform	-	ND.									
	Total bacterial count	CFU/ml	<3									

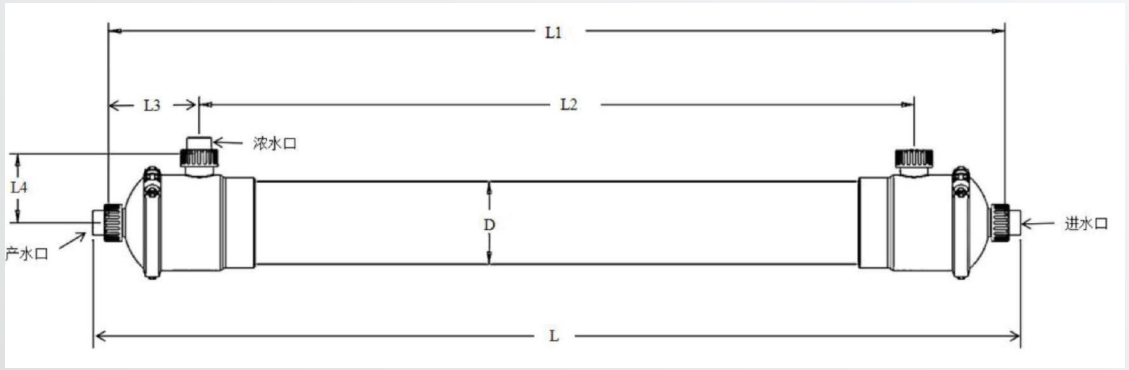
(5) Water Treatment Membrane Elements

UF Membrane Elements

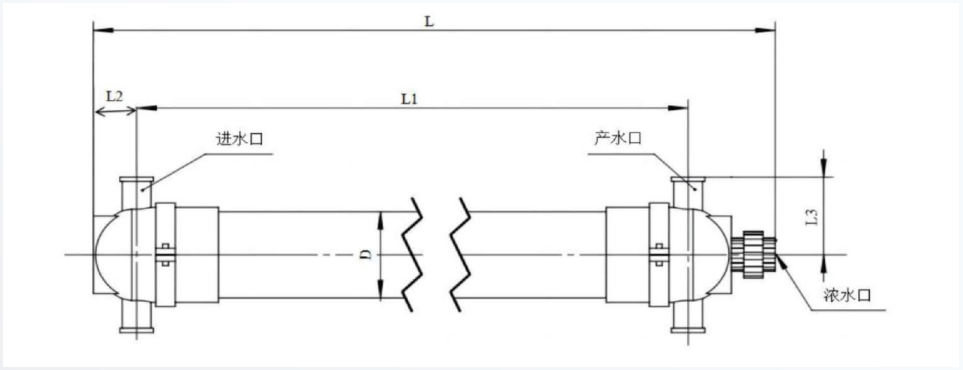
01：膜天膜640H；
02：陶氏/杜邦2660双耳；
03：陶氏/杜邦2660单耳；
04：旭化成UNA-620A；
05：威立雅/苏伊士/GE1500/1500X；
06：凯发2000T；
07：东丽HFU-2020AN；
08：诺瑞特/滨特尔Aquaflex型立式；
09/10：陶氏/杜邦2860/2880；
11：坎普尔1060/1080；
12：坎普尔双耳250；
13：科氏V1072-35.

(5) Water Treatment Membrane Elements

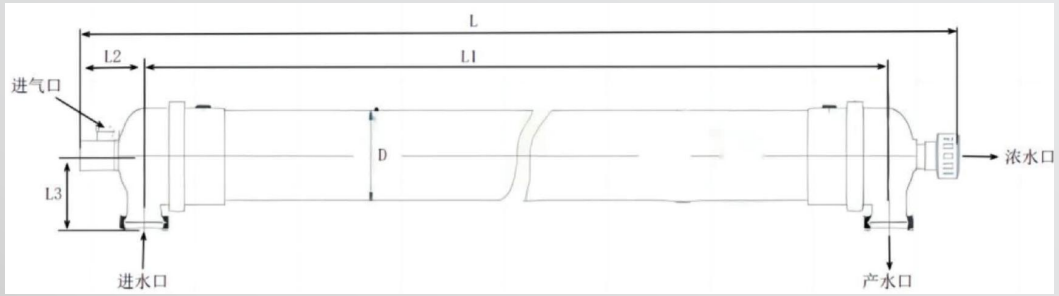
UF membrane dimensional drawing



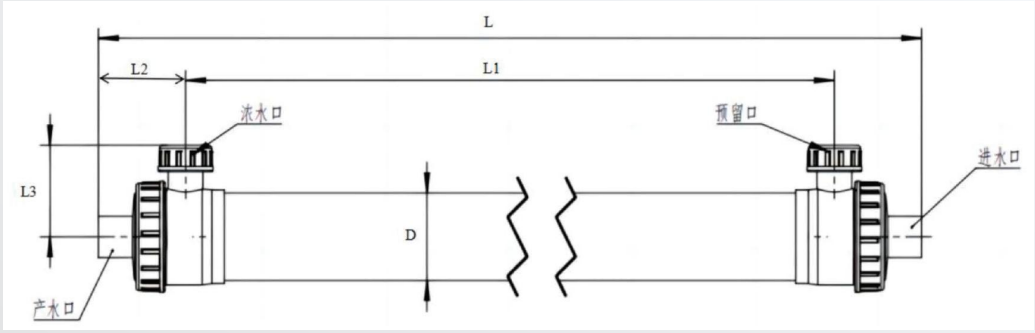
UF01-160									
Item	L	L1	L2	L3	L4	D	Inlet	Outlet	Concentrate
（MM）	1816	1730	1386	172	130	160	DN32	DN32	DN32



UF02-160								
Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate
（MM）	1800	1610	50	123	160	DN32	DN32	DN32



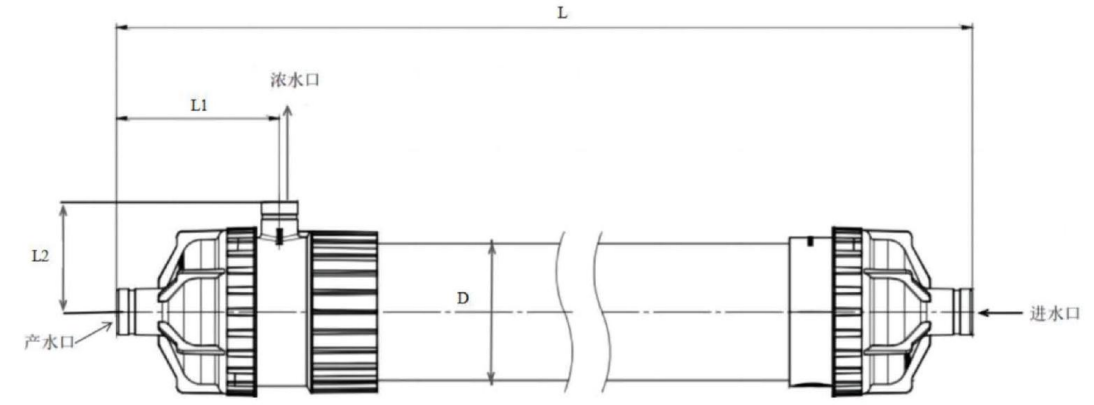
UF03-160									
Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate	Gas inlet
（MM）	1860	1610	106	125	160	DN65-73	DN65-73	DN32	Rp3/8"



UF04-165								
Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate
（MM）	2418	1988	215	164.5	165	PVC quick coupler	PVC quick coupler	DN40

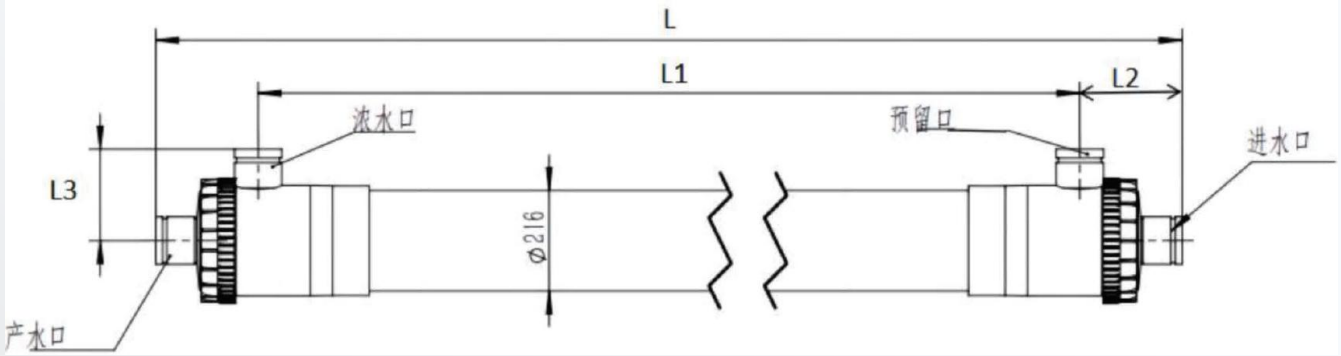
(5) Water Treatment Membrane Elements

UF membrane dimensional drawing



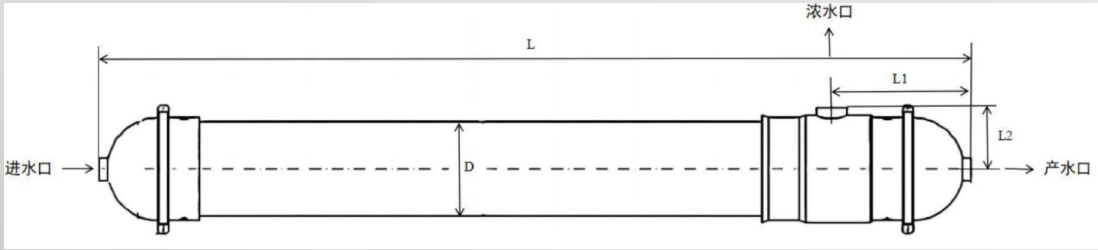
UF05-180

Item	L	L1	L2	D	Inlet	Outlet	Concentrate
（mm）	1919	216	145	180	DN50 Copylin	DN50 Copylin	DN50 Copylin



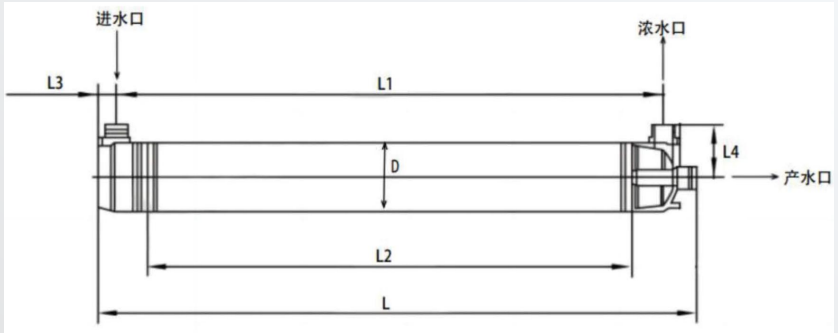
UF07-216

Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate	Standby
（mm）	2160	1722	219	175.5	216	DN80 Copylin	DN80 Copylin	DN65 Copylin	DN65 Copylin



UF06-216

Item	L	L1	L2	D	Inlet	Outlet	Concentrate
（mm）	2340	320	160	216	PVC quick coupler	PVC quick coupler	DN40

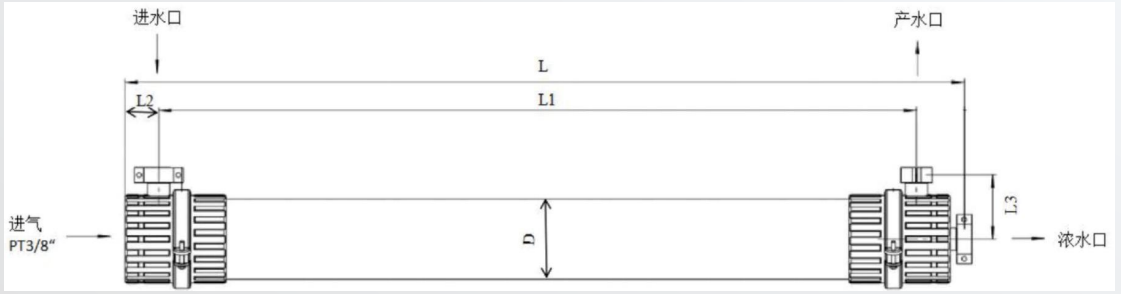


UF08-220

Item	L	L1	L2	L3	L4	D	Inlet	Outlet	Concentrate
（mm）	1901	1738	1538	56	165	220	DN65	DN65	DN65

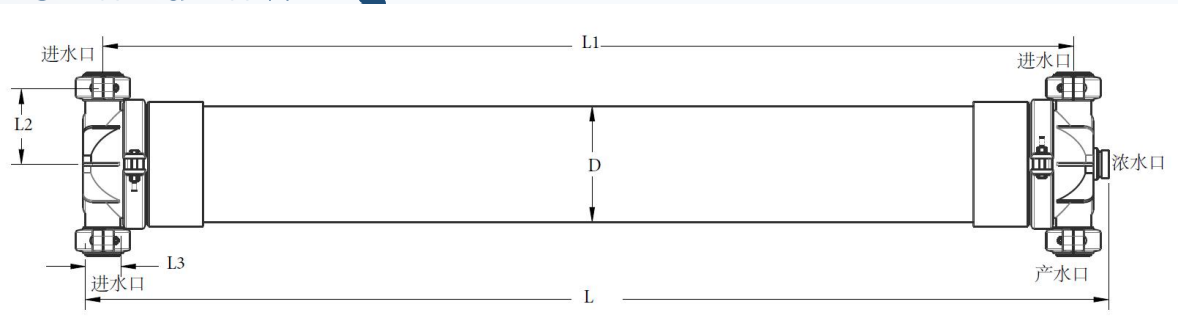
(5) Water Treatment Membrane Elements

UF membrane dimensional drawing



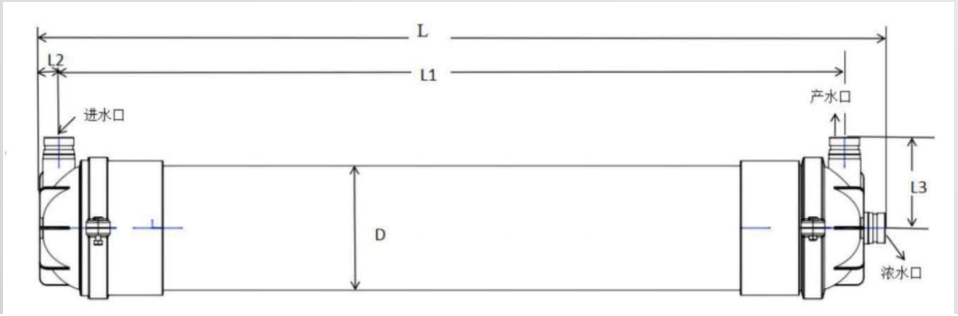
UF09-0860/UF10-0880

Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate
2860 (mm)	1860	1630	95	180	225	DN50 Copylin	DN50 Copylin	DN50 Copylin
2880 (mm)	2360	2130						



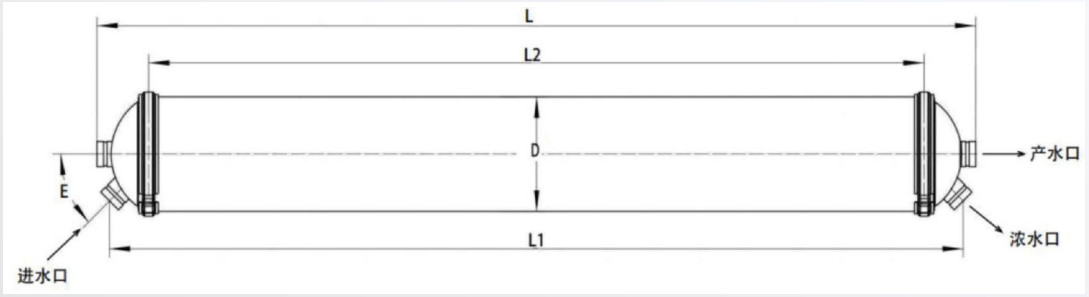
UF12-250 (SVF-1060/SVF-1080)

Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate
SVF-1060 (mm)	1722	1615	161	76	250	DN65 Copylin	DN65 Copylin	DN50 Copylin
SVF-1080 (mm)	2222	2115						



UF11-250 (1060/1080)

Item	L	L1	L2	L3	D	Inlet	Outlet	Concentrate
1060 (mm)	1715	1600	40	172	250	DN50 Copylin	DN50 Copylin	DN50 Copylin
1080 (mm)	2215	2100						



UF13-273

Item	L	L1	L2	D	E	Inlet	Outlet	Concentrate
(mm)	2115	2023	1829	273	45°	DN50 Copylin	DN50 Copylin	DN50 Copylin

(5) Water Treatment Membrane Elements

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RO Membrane Elements

Product Model	Permeate Flow Rate③ GPD (m3/d)	Salt Rejection (%)		Active area ④ ft² (m²)	Feed Spacer (mil)
	Typical Stabilized	Typical Stabilized	Minimum		
BW-8040-400-LP①	11000 (41.6)	99.70	99.40	400 (37.2)	34
BW-8040-440-LP①	12100 (45.8)	99.70	99.40	440 (40.9)	28
BW-8040-400-FR①	11000 (41.6)	99.70	99.40	400 (37.2)	34-LD
BW-8040-400-ULP②	11000 (41.6)	99.50	99.30	400 (37.2)	34-LD
BW-8040-440-ULP②	12650 (47.9)	99.50	99.30	440 (40.9)	28

① Test Condition: 2000mg/L NaCl, 225 psi, 25℃, pH7, Ry15%

② Test Condition: 1500mg/L NaCl, 150 psi, 25℃, pH7, Ry15%

③ Flow rates for individual elements may vary but will be no more than ±15%

④ Active area guaranteed ±3%

(5) Water Treatment Membrane Elements

COOPERATE

RO Membrane Elements

Product Model①	Permeate Flow Rate② (GPD)	Salt Rejection (%)		Boron Rejection (%)	Active area ③ ft² (m²)	Feed Spacer (mil)
	Typical Stabilized	Typical Stabilized	Minimum	Typical Stabilized		
SW-8040-400-XHR	6000 (22.7)	99.85	99.70	93.00	400 (37.2)	34-LD
SW-8040-440-XHR	6600 (25.0)	99.85	99.70	93.00	440 (40.9)	28
SW-8040-400-HR	7500 (28.4)	99.80	99.70	92.00	400 (37.2)	34-LD
SW-8040-440-HR	8250 (31.2)	99.80	99.70	92.00	440 (40.9)	28
SW-8040-400-HF	9000 (34.1)	99.80	99.60	91.00	400 (37.2)	34-LD
SW-8040-440-HF	9900 (37.5)	99.80	99.60	91.00	440 (40.9)	28

① Test Condition: 32,000ppm NaCl, 5ppm B, 800psi (55.2 bar), 25°C (77°F), pH=8

② Flow rates for individual elements may vary but will be no more than ±15%

③ Active area guaranteed ±3%

(5) Water Treatment Membrane Elements

Ceramic Flat Membrane

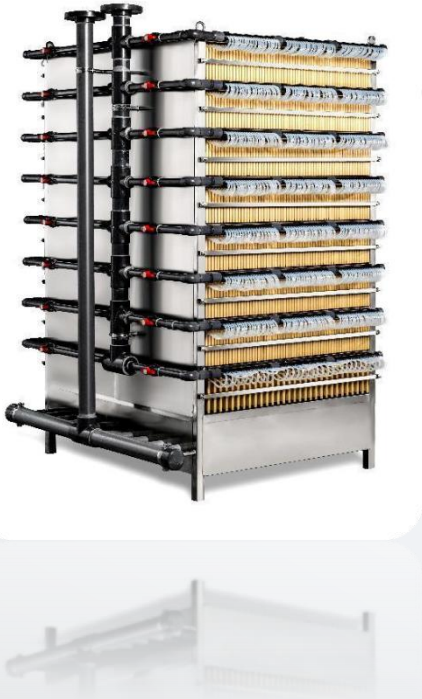
Model	CFM-620A-M0.1	CFM-540B-M0.1	CFM-1040B-M0.1
Membrane Area (m²)	0.176	0.250	0.500
Size (mm)	620*150*12	540*260*12	1040*260*12
Weight (kg)	0.72	1.25	2.50
Water Outlet	Conducting/Hose Connection	Conducting/Hose Connection	Conducting/Hose Connection
Operating Temperature (°C)	0-85	0-85	0-85
pH Range	2-12	2-12	2-12

- **The data provided has been verified for accuracy, while variations may occur under different testing methods and conditions. Customers should rely on mutually confirmed technical specifications for purchase and application.**
- **Customizable length**

(5) Water Treatment Membrane Elements

Ceramic Flat Membrane Module

Model	CFMM-S-18C	CFMM-S-36C	CFMM-S-54C	CFMM-S-72C
Ceramic Membrane Model	CFM-616A-M0.1	CFM-616A-M0.1	CFM-616A-M0.1	CFM-616A-M0.1
Membrane Area (m²)	18	36	54	72
Size (mm)	960*780*400	960*780*800	960*780*1200	960*780*1600
Weight (kg)	100	200	300	400
Membrane Frame Material	Stainless steel/PPO	Stainless steel/PPO	Stainless steel/PPO	Stainless steel/PPO
Number of Membrane (pcs)	102	204	306	408



- **The data provided has been verified for accuracy, while variations may occur under different testing methods and conditions. Customers should rely on mutually confirmed technical specifications for purchase and application.**
- **Customizable length**

(5) Water Treatment Membrane Elements

Ceramic Flat Membrane Module

Model	CFMM-S-20	CFMM-S-50	CFMM-S-100	CFMM-S-200
Ceramic Membrane Model	CFM-620A-M0.1	CFM-620A-M0.1	CFM-620A-M0.1	CFM-620A-M0.1
Membrane area (m²)	20	50	100	200
Size (mm)	720*790*1035	1266*865*1480	1940*900*1700	2310*930*2560
Weight (kg)	160	320	750	1,400
Membrane Frame Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Number of Membrane (pcs)	120	300	600	1,200

- **The data provided has been verified for accuracy, while variations may occur under different testing methods and conditions. Customers should rely on mutually confirmed technical specifications for purchase and application.**
- **Customizable length**

(5) Water Treatment Membrane Elements

COOPERATE

Denitrification Membrane Elements (Ammonia Removal Membrane Contactor)

Item	Model	PTFE-TMCS-2020	PTFE-TMCS-4040	PTFE-TMCS-8040
Membrane Element Parameters	Membrane material	PTFE	PTFE	PTFE
	Effective membrane area	1.7㎡	12㎡	65㎡
	Nominal pore	0.1μm	0.1μm	0.1μm
	Membrane form	Hollow fiber membrane	Hollow fiber membrane	Hollow fiber membrane
Membrane Element Size	Dimensions	Φ50*800mm	Φ90*1225mm	Φ200*1375mm
	Inlet and outlet	DN10	DN25	DN40
Material	Sealing material	UPVC	UPVC	UPVC
	Sealing material	Epoxy resin	Epoxy resin	Epoxy resin
Temperature -resistant		≦60℃	≦60℃	≦60℃
Tolerance pH value		0-14	0-14	0-14
Aammonia nitrogen removal rate		99.9%	99.9%	99.9%

(6) Special Membrane Element

Ink Degassing Membrane Contactor

Product number	MDG-M5	MDG-M6
Membrane Material	Polytefluoroethylene (PTFE)	PMP
Shell Material	PVC	PP
Sealing Resin	Epoxy resin	Epoxy resin
Connection	NPT1/4	NPT1/4
Maximum Flow	400ml/min	500ml/min
Maximum Use Pressure	0.3MPa@50℃	0.4MPa@50℃
Maximum Use Temperature	50℃/122℉	50℃/122℉

Application field：

· Ceramic printing

· Textile printing

· Wide printing

· Packaging printing

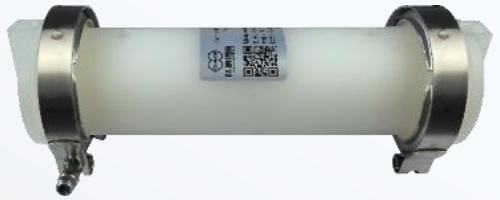
· 3D printing

(6) Special Membrane Element

COOPERATE

Anti-static Membrane Contactor

Item	Product Manual		
Model	MBC2508		
Membrane Area	1.8㎡		
Range	30-500L/h		
Membrane Material	PMP		
Membrane Type	Scope of application: water and solvents, surface tension ≧ 40mn/m, high membrane wire strength, good flux		
Shell Material	PPO		
Irrigation Material	Epoxy resin		
Temperature -resistant	**Shell**	5-35℃	55℃
		0.5MPa	0.2MPa
	Pipeline	55℃	
		0.3MPa	
Sealing Circle Material	**EPDM**		
Connection Specification	**Liquid import and export**		NPT 1/4
	Qi interface		NPT 1/4
Preservation Scheme	Dry		



Application field:

· Semiconductor

· Microelectronics fields

(6) Special Membrane Element

COOPERATE

Anti-static Membrane Contactor

Item	Product Manual		
Model	MBC004D（diameter：90mm, total length：280mm）		
Product Structure	The tube side is filled with liquid, and the shell side is filled with air or negative pressure		
Range	3-400L/h		
Membrane Material	Polytetrafluoroethylene (PTFE)		
Membrane Type	Scope of application: water and solvents, surface tension ≧ 40mn/m, high membrane wire strength, good flux		
Shell Material	PP		
Irrigation Material	Epoxy resin		
Temperature -resistant	**Shell**	5-35℃	55℃
		0.3MPa	0.2MPa
	Pipeline	55℃	
		0.2MPa	
Sealing Circle Material	**EPDM**		
Connection Specification	**Liquid import and export**	RC 3/8	
	Qi interface	RC 1/4	
Preservation Scheme	Dry		

Application field：

· Microcircuit chip cutting and cleaning

· Semiconductor silicon wafer cutting and cleaning

· Photomask cutting and cleaning,

· Solar cell cutting and cleaning

· Wafer cutting and cleaning

· Special industrial controlled ultrapure water resistors, etc.

(6) Special Membrane Element

Chemical Solvent Degassing Membrane Contactor

Product Model	SDG-03
Case	SS-316L
Membrane Filament	Polytefluoroethylene
Encapsulating Giue	Fluorine resin
Maximum Flow	500ml/min
Connection	Liquid interface PFA-6MM vacuum interface RC1/8
Maximum Use Pressure	0.3MPa@40℃
Maximum Use Temperature	40℃

Application field:

· Semiconductor

· Microelectronics fields

(6) Special Membrane Element

Project	Model	PTFE-MD-2020	PTFE-MD-4040	PTFE-MD-6040
Membrane Element Parameters	Membrane material	PTFE		
	Effective membrane area（㎡）	0.67m²	6m²	20m²
	Nominal pore	0.05μm		
	Membrane form	Hollow fiber membrane		
Membrane Element Size	Dimensions	Φ50*660mm	Φ90*1225mm	Φ160*1360mm
	Water inlet and out	NPT1/4 G1/2	DN25	DN40
Material	Housing material	CPVC		
	Sealing material	High temperature resistant epoxy resin		
Temperature -resistant		≤95℃		
Tolerance pH value		0-14		
Evaporation flux		2-4L/ h	18-30L/ h	30-100L/ h

(6) Special Membrane Element

Acid-Resistant NF Membrane Element

Type	Salt Rejection (%)	Salt Solution	Flux GPD （m^3/d）	Area ft^2 （m^2）	Pressure/psi	Recovery
AC-NF-4040HR	≥98.0	2000ppm $MgSO_4$	1000 （3.8）	80 （7.5）	110	15%
AC-NF-8040HR	≥98.0	2000ppm $MgSO_4$	5000 （18.9）	365 （33.9）	110	15%
AC-NF-4040	≥96.0	2000ppm $MgSO_4$	1300 （4.9）	80 （7.5）	110	15%
AC-NF-8040	≥96.0	2000ppm $MgSO_4$	6500 （24.6）	365 （33.9）	110	15%
AS-NF-4040	≥98.0	2000ppm $MgCl_2$	2000 （7.6）	80 （7.5）	110	15%
AS-NF-8040	≥98.0	2000ppm $MgCl_2$	10000 （37.8）	365 （33.9）	110	15%

Tolerable to 20% H_2SO_4, 20% HCl, 4% HNO_3 or 30% H_3PO_4 etc.

Test conditions: 25℃, pH value 7.0 ± 0.5

(6) Special Membrane Element

Acid-Resistant RO Membrane Element

Type	Salt Rejection (%)	Salt Solution	Flux GPD （m^3/d）	Area ft^2 （m^2）	Pressure/psi	Recovery
AC-HPRO-4040	≥99.7	32000ppm NaCl	1500 （5.7）	80 （7.5）	800	8%
AC-HPRO-8040	≥99.7	32000ppm NaCl	7400 （28.0）	365 （33.9）	800	8%

Tolerable low pH solutions with pH ranging from 1 to 10

Test conditions: 25℃, pH value 7.0 ± 0.5

(6) Special Membrane Element

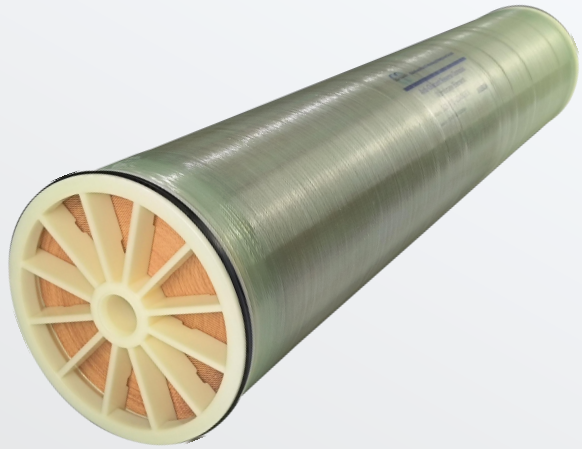
COOPERATE

Anti-Oxidation RO Membrane Element

Type	Salt Rejection (%)	Salt Solution	Flux GPD （m^3/d）	Area ft^2 （m^2）	Pressure/psi	Recovery
AO-RO-8040	99.6	2000ppm NaCl	9000(34. 1)	365(33.9)	225	15%
AO-RO-8040HR	99.8	32000ppm NaCl	7500 (28)	400 (37.2)	800	8%

The low-pressure anti-oxidation membrane element (AO-RO-8040) is manufactured through a special process, which enhances the anti-oxidation property of the membrane element, enabling it to withstand a certain amount of oxidative substances. It features extremely low operating pressure, high salt rejection etc. It is suitable for the treatment of brackish water containing a small amount of oxidative substances, as well as dual oxidation purification, etc.

The electronic-grade H2O2 purification membrane element (AO-RO-8040HR) has long lifetime, stable desalination performance, and good durability, and is suitable for the purification treatment of electronic-grade H_2O_2.



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Project Cases

Case 1-Containerized Pure Water System Cases

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The Containerized Pure Water System is designed and constructed on a reduce footprint, generally adopting membrane treatment system. By using new innovation of integrated Membrane treatment with Softening resin.

Client	Russia	
Item	Feed Water	Effluent Water
Capacity (m3/d)	1500	960
Turbidity	24.6	ND
Salt Content (mg/L)	247.0	ND
Total Hardness (mg/L)	10.0	<0.01
Applied Pressure (Bar)	<5	-

Case 2-Containerized Seawater Desalination System Cases

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The containerized seawater desalination unit features an integrated design for instant use. With exceptional mobility, it can be rapidly deployed to water-scarce areas such as islands and construction sites. It delivers stable and excellent water quality that meets drinking standards. Its compact footprint and high automation significantly shorten the construction cycle, making it the optimal solution for emergency and long-term water supply.

Client	Shandong	
Item	Feed Water	Effluent Water
Capacity (m3/d)	200	100
Feed EC (us/cm)	43500	<310
Temp (℃)	10~35	10~35

Case 3-Integrated MBR System Cases

The integrated MBR+NaClO disinfection process integrates membrane separation and high-efficiency disinfection, featuring small footprint and high automation. It deeply removes suspended solids and pathogens, ensuring stable and excellent effluent quality for easy discharge. Easy to install, simple to operate and maintain, it effectively resolves pain points of limited land and non-compliant effluent.

Client	Anhui	
Item	Feed Water	Effluent Water
Capacity (m3/d)	60	60
COD (mg/L)	240~350	<40
NH_3-N(mg/L)	40~50	<10
TP (mg/L)	2.5-3.0	<0.3
Colibacillus (MPN/L)	$10^6 \sim 10^8$	<10

Application: Domestic Wastewater or Hospital Wastewater

Case 4-Integrated Water Purification System Case

The Integrated water purification system treats river water by removing suspended solids and colloids through coagulation-sedimentation, followed by deep purification with ceramic membranes. Ceramic membranes feature wear resistance, anti-fouling and easy cleaning, ensuring low effluent turbidity and stable water quality. The process is highly integrated with small footprint and reliable operation, enabling long-term stable water production for high-standard municipal water and drinking water.

Client	Anhui	
Item	Feed Water	Effluent Water
Capacity (m3/d)	400	400
Turbidity (NTU)	5~100	<0.1
Colibacillus (MPN/L)	$10^6 \sim 10^8$	ND
Model	KBR-WP400	

Case 5-UF membrane for Coal Industry Zero Liquid Discharge

Client	Inner Mongolia
Start-Up Date	2025.08
Feed Water Intake	Industrial Waste Water
Feed Turbidity	2~5 NTU
Temp Range	20~30℃
Modules	96 pcs/train
Trains	2
Filtrate Flow Rate	260 m^3/h
Recovery	> 92%
Feed Pressure	< 100 KPa
Transmembrane Pressure	30~50 KPa
Membrane Model	UF10-0880

The raw water of the ZLD project is the industrial waste water. The project adopted the UF+RO process, and we provides the UF modules to ensure high-quality produced water and the stable operation of the reverse osmosis system.

Case 6–RO Membrane for Steel Industry Waste Water Reuse

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Waste Water → Sedimentation → MMF → UF → RO First Stage → Reclaimed Water

Client	Hubei
Start-Up Date	2024.09.26
Feed Water Intake	Industry Waste Water
Feed EC	~2000 us/cm
Temp Range	20~30℃
Configuration	Two-stage
Element per PV	6 pcs
Permeate Flux	260 m^3/h
Recovery	75%
Feed Pressure Range	7~10 bar
Salt Rejection	> 98%
Membrane Model	BW-8040-400-FR

The RO elements are characterized by high salt rejection, high flux and strong fouling resistance. which are widely used in brackish water desalination, wastewater reuse, industrial pure water preparation, electric high purity water preparation, seawater desalination as well as other applications.

Case 7-Seawater RO membrane on the Island for Drinking Water

Model	NA	SW-8040-400-HR
RO Feed EC	us/cm	46000
Feed Boron	ppm	3
Temp	℃	15-30
Start-Up Date	-	2025.12
Permeate Flux	m3/h	3.5
Recovery	%	40
PV Configuration	NA	1:1:1
Element per PV	NA	3
Product EC	us/cm	320
Product Boron	ppm	0.56
Salt Rejection	%	99.3
Boron Rejection	%	81
Feed Pressure	bar	40-50

The containerized seawater desalination unit features an integrated design for instant use. With exceptional mobility, it can be rapidly deployed to water-scarce areas such as islands and construction sites. It delivers stable and excellent water quality that meets drinking standards. Its compact footprint and high automation significantly shorten the construction cycle, making it the optimal solution for emergency and long-term water supply.

Case 8- PTFE membrane for High Ammonia-nitrogen Wastewater

Project Type	**Vanadium mine high ammonia nitrogen wastewater**	**Water volume**	**360m³/day**
Require	**Feed water ~5000mg/L, effluent <100mg/L**	**Technology**	**Pretreatment + PTFE-TMCS**

PTFE Denitrification membrane has excellent chemical stability and hydrophobicity, with strong acid and alkali resistance, fouling resistance and long service life. Featuring uniform pore size and high mass transfer efficiency, they deliver stable ammonia nitrogen removal and can operate under a wide range of pH and temperature conditions. Requiring minimal chemicals, low energy consumption and no secondary pollution, they are ideal for advanced treatment of high-ammonia wastewater with high efficiency and low operating cost.

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THANKS

BUSINESS POWERPOINT

@LEO08982026

WhatsApp：+86 15556910898
Email:boruike15@gmail.com
15556910898@163.com
www.coopmem.com