



反渗透膜产品手册

PRODUCT CATALOGUE

KEENCHEN
深圳市沁宸环保科技有限公司
Shenzhen KEENCHEN Environment Technology Co.,Ltd

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01

公司简介 Company Profile

深圳市沁宸环保有限公司成立于2017年，专业从事家用/商用/工业反渗透膜、DTST、耐高温特种膜、海淡、超滤、纳滤、MBR的研发、生产与销售服务。在行业内已经有20多年的经验。产品主要用于家用净水设备和工业净水设备，应用场景包括：直饮水，中水回用，污水处理以及海水淡化等。产品不仅畅销国内，还远销至中东、东南亚、俄罗斯等50多个国家和地区。

企业秉承“管理创造价值，服务提升优势，品质至上，服务至优”的发展理念，团结、创新、务实、奋进是追求目标”。公司倍加珍惜每一分荣誉，坚持“质量第一、用户至上、以质兴业、以优取胜”的经营宗旨，不断将优秀产品贡献社会，与社会各界优势互补、同创辉煌！



Shenzhen KEENCHEN Environment Technology Co.,Ltd. specializes in the R&D, production and sales services of household/commercial/industrial reverse osmosis membranes, high temperature resistant special membranes, desalination, ultrafiltration, nanofiltration and MBR. The company has over 20 years of experience in the industry. Its products are primarily used in household water purification equipment and industrial water treatment equipment, with applications including drinking water, reclaimed water reuse, wastewater treatment, and seawater desalination. The products are not only sold well in China, but also exported to more than 50 countries and regions including the Middle East, Southeast Asia and Russia etc.

The company adheres to the development philosophy of "Management Creates Value, Service Enhances Advantages, Quality is Paramount, Service is Superior." Unity, innovation, pragmatism, and progress are the goals we pursue. The company cherishes every honor, insisting on the business tenet of "Quality First, Customer Supreme, Prosperity through Quality, and Victory through Excellence." We continuously strive to contribute outstanding products to society, complementing the strengths of various sectors and creating brilliance together!





02

沁宸家用膜元件
KEENCHEN Domestic RO Membrane Element



沁宸家用反渗透膜采用优质材料制造，膜的耐腐蚀性和抗污染能力优秀，延长了使用寿命，降低了维护成本。能有效去除水中的细菌、病毒、重金属和其他污染物，确保家庭饮用水的安全与健康。

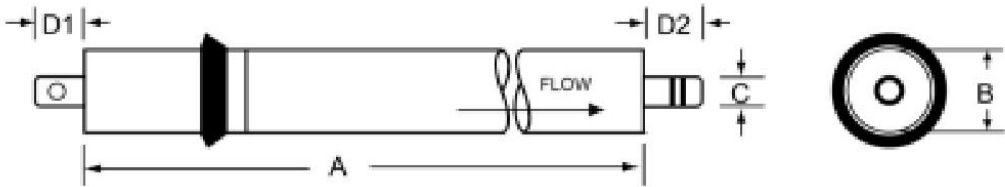
沁宸膜提供多种不同规格以满足不同的生活饮用水需求。

沁宸提供个性化定制服务，根据客户的具体需求和应用场景，设计最合适的膜解决方案

The KEENCHEN household reverse osmosis membrane is manufactured using high-quality materials, featuring excellent corrosion resistance and anti-fouling capabilities that extend its lifespan and reduce maintenance costs. It effectively removes bacteria, viruses, heavy metals, and other contaminants from water, ensuring the safety and health of household drinking water.

KEENCHEN membranes are available in various specifications to meet different domestic drinking water needs. Additionally, KEENCHEN offers personalized customization services to design the most suitable membrane solutions based on specific customer requirements and application scenarios.

产品尺寸
Product dimension



膜元件型号 Model	A/mm(inch)	B/mm(inch)	C/mm(inch)	D1/mm(inch)	D2/mm(inch)
1812	254	43	17	22	22
2012	254	46	17	22	22
2812	254	68	17	22	22
3012	254	73	17	22	22
3013	294	68	17	17.5	21
3213	294	76	17	17.5	21

家用商用小流量反渗透膜元件

Household and Commercial Small Flow Reverse Osmosis Membrane Elements

膜元件型号 Model	稳定脱盐率 Desalination (%)	平均流量 Average Flow Rate GPD(L/H)	测试条件 Testing Conditions		
			测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery %
1812-50	97	50(7.9)	75(0.52)	300	45
1812-75	97	75(11.8)	75(0.52)	300	45
2012-100	97	100(15.7)	75(0.52)	300	45
2012-150	97	150(23.6)	75(0.52)	300	45
2012-200	97	200(31.5)	85(0.59)	300	45
2012-300	97	300(47.3)	85(0.59)	300	45
2812-200	97	200(31.5)	85(0.59)	300	45

家用商用大流量反渗透膜元件

Household and Commercial Large Flow Reverse Osmosis Membrane Elements

膜元件型号 Model	稳定脱盐率 Desalination (%)	平均流量 Average Flow Rate GPD(L/H)	测试条件 Testing Conditions		
			测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery %
3012-300	97	300(47.3)	85(0.59)	300	50
3012-400	97	400(63.1)	90(0.62)	300	50
3012-600	97	600(94.6)	90(0.62)	300	50
3012-800	97	800(126.1)	90(0.62)	300	50
3013-400	97	400(63.1)	90(0.62)	300	50
3013-500	97	500(78.8)	90(0.62)	300	50
3013-600	97	600(94.6)	90(0.62)	300	50
3013-800	97	800(126.1)	90(0.62)	300	50
3213-800	97	800(126.1)	90(0.62)	300	50
3213-1000	95	1000(157.7)	102(0.7)	300	50
3413-1200	95	1200(189.2)	102(0.7)	300	50
3413-1400	95	1400(220.8)	102(0.7)	300	50
3413-1500	95	1500(236.5)	102(0.7)	300	50



韩式快接反渗透膜元件

Quick connect ro membrane element

膜元件型号 Item	稳定脱盐率 Desalination(%)	平均流量 Average Flow Rate GPD(L/H)	测试条件 Testing Conditions		
			测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery %
快接75G	97	75(11.8)	75(0.52)	300	45
快接100G	97	100(15.7)	75(0.52)	300	45
快接125G	97	125(19.7)	75(0.52)	300	45

高TDS反渗透膜元件

High TDS Reverse Osmosis Membrane Elements

膜元件型号 Item	稳定脱盐率 Desalination (%)	平均流量 Average Flow Rate GPD(L/H)	测试条件 Testing Conditions		
			测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery %
1812-13layers	98	75(11.8)	85(0.59)	3500	35
1812-15layers	98	100(15.7)	85(0.59)	3500	35
3012-300	98	300(47.3)	90(0.62)	3500	35
3012-400	98	400(63.1)	90(0.62)	3500	35
3013-400	98	400(63.1)	90(0.62)	3500	35

纳滤膜元件

Nanofiltration Membrane Elements

膜元件型号 Item	稳定脱盐率 Desalination(%)		平均流量 Average Flow Rate GPD(L/H)	测试条件 Testing Conditions			
	Nacl	Mgso4		测试压力 Testing Pressure psi(MPa)	测试液浓度(ppm) Test Solution Concentration		回收率 Recovery %
					NaCl	MgSO ₄	
1812	30	90	100G-300G	75(0.52)	250	250	45
3012	50	90	400G-800G	90(0.62)	250	250	45
3013	70	90	400G-800G	90(0.62)	250	250	45
3213	90	90	600G-1000G	90(0.62)	250	250	45



03

沁宸工业膜元件
KEENCHEN Industrial Membrane Element

● 工业反渗透膜 *Industrial RO Membrane*

沁宸工业反渗透膜采用高强度材料，耐高压和高温，适应严苛的工业环境。在复杂水质条件下仍能保持良好性能，确保生产连续性和稳定性。优化设计降低能耗，帮助企业降低运营成本，提高经济效益。

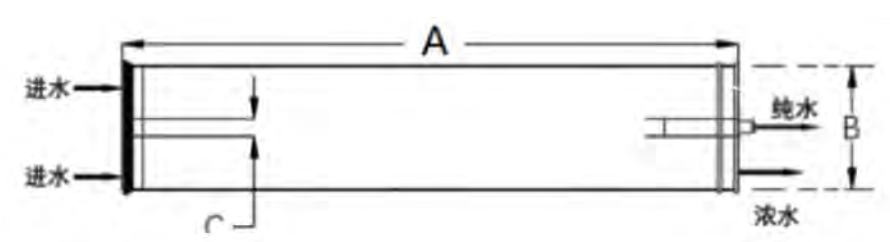
沁宸膜适用于电力、化工、制药等多个行业，能够满足不同工业需求。
沁宸提供个性化定制服务，根据客户的具体需求和应用场景，设计最合适的膜解决方案



KEENCHEN industrial reverse osmosis membranes are made from high-strength materials, capable of withstanding high pressure and temperature, making them suitable for harsh industrial environments. They maintain excellent performance even under complex water quality conditions, ensuring production continuity and stability. The optimized design reduces energy consumption, helping businesses lower operational costs and improve economic efficiency.

KEENCHEN membranes are applicable in various industries, including power generation, chemicals, and pharmaceuticals, meeting diverse industrial needs. Additionally, KEENCHEN offers personalized customization services to design the most suitable membrane solutions based on specific customer requirements and application scenarios.

产品尺寸
Product dimension



型号 Item No.	8040	4040	4021	误差± Error Range ±
A	40.0inch(1016mm)	40.0inch(1016mm)	21.0inch(533.4mm)	1.0mm
B	7.9inch(201mm)	3.9inch(99.0mm)	3.9(99.7mm)	1.0mm
C	1.12inch(28.5mm)	0.75inch(19.1mm)	0.75(19.1mm)	0.5mm
D	/	1.04inch(26.5mm)	1.05(26.7mm)	0.5mm

极低压反渗透膜元件

Extremely Low Pressure Reverse Osmosis Membrane Elements

产品型号: XLP-8040/4040

产品特点: 脱盐率高、操作压力低、膜通量大等;

适用场景: 原水盐浓度低于1500mg/L的脱盐处理, 适用于以市政自来水、地下水等为原水的脱盐水处理项目, 如小区直饮水、食品饮料等企业的生产用水。

Product Model: XLP-8040/4040

Product Features: High desalination rate, low operating pressure, high membrane flux, etc.

Applicable Scenarios: Desalination of feedwater with a salt concentration below 1500 mg/L. Suitable for desalination projects using municipal tap water or groundwater as feedwater, such as community drinking water systems and production water for food and beverage industries.

膜元件型号 Item No.	稳定脱盐率 Desalination (%)	有效膜面积 Effective Membrane Area (ft²(m²))	平均产水量 Average Water Production Rate (GPD(m³/d))	测试条件 Testing Conditions		
				测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery (%)
XLP-8040	99	400(37.2)	11000(41.6)	75(0.52)	500	15
XLP-4040	99	85(7.9)	2800(10.6)	75(0.52)	500	15

超低压反渗透膜元件

Ultra Low Pressure Reverse Osmosis Membrane Elements

产品型号: ULP-8040/4040/4021

产品特点: 脱盐率高、操作压力低、膜通量大等。

适用场景: 原水盐浓度低于3000mg/L的脱盐处理, 适用于以市政自来水、地下水等为原水的脱盐水处理项目, 如小区直饮水、食品饮料等企业的生产用水。

Product Model: ULP-8040/4040/4021

Product Features: High desalination rate, low operating pressure, high membrane flux, etc.

Applicable Scenarios: Desalination of feedwater with a salt concentration below 3000 mg/L. Suitable for desalination projects using municipal tap water or groundwater as feedwater, such as community drinking water systems and production water for food and beverage industries.

膜元件型号 Item No.	稳定脱盐率 Desalination (%)	有效膜面积 Effective Membrane Area (ft²(m²))	平均产水量 Average Water Production Rate (GPD(m³/d))	测试条件 Testing Conditions		
				测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery (%)
ULP-8040	99.2	400(37.2)	11000(41.6)	150(1.03)	1500	15
ULP-8040HR	99.5	400(37.2)	10500(39.7)	150(1.03)	1500	15
ULP-4040	99.2	85(7.9)	2600(9.8)	150(1.03)	1500	15
ULP-4040HR	99.5	85(7.9)	2400(9.1)	150(1.03)	1500	15
ULP-2540	99.2	27(2.5)	850(3.2)	100(0.69)	500	8
ULP-4021	99.2	36(3.3)	900(3.41)	125(0.86)	500	8
ULP-2521	99.2	14(1.3)	365(1.4)	100(0.69)	500	8

苦咸水反渗透膜元件

Brackish Water Reverse Osmosis Membrane Elements

产品型号: BW-8040/8040FR/4040/4040FR

产品特点: 通过膜片的改性处理, 携带极低荷电性的膜元件, 具有高耐污染、清洗恢复性好等。

适用场景: 适用于盐浓度10000mg/L以下的地表水、地下水等水源的脱盐处理以及有机物或微生物含量更高的水体脱盐除色等, 可广泛应用于中水回用、污废水处理等项目。

Product Model: BW-8040/8040FR/4040/4040FR

Product Features: Featuring modified membrane treatment with extremely low charge, these membrane elements offer high fouling resistance and excellent cleaning recovery.

Applicable Scenarios: Suitable for desalination of surface water, groundwater, and other water sources with salt concentrations below 10,000 mg/L, as well as for the desalination and decolorization of water with higher organic or microbial content. Widely applicable in projects such as wastewater reuse and industrial wastewater treatment.

膜元件型号 Item No.	稳定脱盐率 Desalination (%)	有效膜面积 Effective Membrane Area (ft²(m²))	平均产水量 Average Water Production Rate (GPD(m³/d))	测试条件Testing Conditions		
				测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery (%)
BW-8040	99.5	400(37.2)	11000(41.6)	225(1.55)	2000	15
BW-8040FR	99.7	400(37.2)	10500(39.7)	225(1.55)	2000	15
BW-4040	99.5	85(7.9)	2600(9.8)	225(1.55)	2000	15
BW-4040FR	99.7	85(7.9)	2400(9.1)	225(1.55)	2000	15

海水淡化反渗透膜元件

Seawater Desalination Reverse Osmosis Membrane Elements

产品型号: SW-8040/4040

产品特点: 海水淡化系列膜元件, 通过分离层精准控制, 实现脱盐率与产水量的性能平衡, 优化膜元件构型设计, 提高组件承压能力。具有性能稳定、低压节能、规格齐全的特点。

适用场景: 适用于海水淡化、高浓度苦咸水脱盐、发电厂锅炉补给水等各种工业用水处理, 也可用于废水再利用、食品药物等高附加值物质的浓缩回收等多种应用领域。

Product Model: SW-8040/4040

Product Features: The seawater desalination series membrane elements feature precise control of the separation layer to achieve a balance between desalination rate and water production. The optimized membrane element design enhances pressure resistance. These membranes are characterized by stable performance, low-pressure energy efficiency, and a full range of specifications.

Applicable Scenarios: Suitable for seawater desalination, high-concentration brackish water desalination, boiler feed water in power plants, and various industrial water treatment applications. It is also applicable for wastewater reuse and the concentration and recovery of high-value substances in food and pharmaceuticals.

膜元件型号 Item No.	稳定脱盐率 Desalination (%)	有效膜面积 Effective Membrane Area (ft²(m²))	平均产水量 Average Water Production Rate (GPD(m³/d))	测试条件 Testing Conditions		
				测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaCl(ppm)	回收率 Recovery (%)
SW-8040	99.8	400(37.2)	6500(24.6)	800(5.52)	32000	8
SW-HF8040	99.8	400(37.2)	9000(34.1)	800(5.52)	32000	8
SW-4040	99.8	85(7.9)	1600(6.1)	800(5.52)	32000	8
SW-4021	99.7	36(3.3)	700(2.6)	800(5.50)	32000	4
SW-2540	99.7	27(2.5)	500(1.9)	800(5.50)	32000	8
SW-2521	99.7	14(1.3)	250(0.9)	800(5.50)	32000	4



中高压反渗透膜元件

Medium and high pressure Reverse Osmosis Membrane Elements

产品型号: HW-8040//4040/4021/2540/2521
产品特点: 采用 34mil 的宽流道设计, 减少污堵, 降低膜系统压差, 且容易清洗, 延长膜元件的使用寿命。
适用场景: 主要应用于含盐量 5000-20000mg/L 以内的中水、再生水、废水、RO 浓水等的脱盐处理。其应用包括电力、钢铁、电镀、石化、煤化工、印染、市政污水等诸多领域。具有脱盐性能好、清洗恢复性好、压降（压力容器进水压力和浓水之间的压力差值）低的特点
Product Model: BW-8040/8040FR/4040/4040FR
Product Features: The membrane element adopts a 34mil wide flow channel design to reduce fouling, reduce the pressure difference of the membrane system, and is easy to clean, extending the service life of the membrane element.
Applicable Scenarios: Mainly used for desalination treatment of reclaimed water, recycled water, wastewater, RO concentrated water, etc. with a salt content of 5000-20000mg/L. Its applications include many fields such as power, steel, electroplating, petrochemical, coal chemical industry, printing and dyeing, municipal sewage, etc. It has the characteristics of good desalination performance, good cleaning recovery, and low pressure drop (the pressure difference between the inlet pressure of the pressure vessel and the concentrated water).

膜元件型号 Item No.	稳定脱盐率 Desalination (%)	有效膜面积 Effective Membrane Area (ft²(m²))	平均产水量 Average Water Production Rate (GPD(m³/d))	测试条件 Testing Conditions		
				测试压力 Testing Pressure psi(MPa)	测试液浓度 Test Solution Concentration NaC(ppm)	回收率 Recovery (%)
HW-8040	99.70	400(37.2)	8500(32.2)	290(2.0)	5000	15
HW-4040	99.65	85(7.9)	1200(4.54)	290(2.0)	5000	15
HW-4021	99.65	36(3.3)	750(2.84)	290(2.0)	5000	8
HW-2540	99.65	27(2.5)	550(2.08)	290(2.0)	5000	15
HW-2521	99.65	14(1.3)	300(1.14)	290(2.0)	5000	8

沁宸工业反渗透膜极限操作参数

KEENCHEN Industrial Reverse Osmosis Membrane Operating Limits

名称 Model	8040	4040
最高操作压力Psi (Mpa) Maximum operating pressure	1200 (8.28)	1200 (8.28)
最高进水温度 Maximum water inlet temperature	45 °C	45 °C
最大进水流量GPM (m³/H) Maximum water flow	75 (17)	16 (3.6)
最大进水 SDI Maximum water inlet SDI	5.0	5.0
进水自由氯浓度 (ppm) Influent free chlorine concentration	0.1	0.1
连续运行时进水pH范围 Inlet water pH range during continuous operation	3-10	3-10
化学清洗时进水pH范围 pH range of influent water during chemical cleaning	2-12	2-12
单支膜元件最大允许压降Psi (Mpa) Maximum allowable pressure drop of a single membrane element	15 (0.1)	15 (0.1)

● 纳滤膜 Nano filtration membrane

NF 系列产品是沁宸开发的聚哌嗪复合纳滤膜元件，具有选择分离特性。能去除水或溶液中的几乎全部细菌、病毒、微生物和大分子有机物，对抗生素、杀虫剂、农药、重金属和大部分二价及以上离子有较高脱除率，而保留部分钠、钾、钙、镁、偏硅酸等有益的营养矿物质及小分子物质。可用于直饮水、矿泉水、软化水的制备，较高盐浓度和有机物浓度废水的部分脱盐、脱色处理，以及部分无机盐、有机物等物料的分离提纯。

纳滤系列产品操作压力极低，可极大节省设备或系统的运行成本，广泛应用在饮用水、食品饮料、医药、中水回用、废水治理等行业。



The NF series products are polypiperazine composite nanofiltration membrane elements developed by KEENCHEN, which have selective separation characteristics. They can remove almost all bacteria, viruses, microorganisms and macromolecular organic matter in water or solution, and have a high removal rate for antibiotics, insecticides, pesticides, heavy metals and most divalent and above ions, while retaining some beneficial nutrient minerals and small molecules such as sodium, potassium, calcium, magnesium, and metasilicic acid. It can be used for the preparation of direct drinking water, mineral water, and softened water, partial desalination and decolorization of wastewater with high salt concentration and organic concentration, and separation and purification of some inorganic salts, organic matter and other materials.

The operating pressure of the nanofiltration series products is extremely low, which can greatly save the operating cost of equipment or systems, and is widely used in drinking water, food and beverage, medicine, reclaimed water reuse, wastewater treatment and other industries.

膜元件型号 Item	有效膜面积 Effective Membrane Area	平均产水量(GPD (m³/d)) Average Water Production Rate		去除率(%) Removal Rate		测试条件 Testing Conditions			
		NaCl	MgSO ₄	NaCl	MgSO ₄	测试压力 Testing Pressure psi(MPa)	测试液浓度(mg/L) Test Solution Concentration		回收率 Recovery(%)
							NaCl	MgSO ₄	
NF1-8040	400(37.2)	11000(41.6)	9000(34.0)	50-70	> 98	70(0.48)	500	2000	15
NF1-8040R	400(37.2)	11000(41.6)	9000(34.0)	> 85	> 99	70(0.48)	500	2000	15
NF2-8040	400(37.2)	13000(49.2)	11000(1.6)	30-50	> 97	70(0.48)	500	2000	15
NF1-4040	85(7.9)	2200(8.3)	1800(6.8)	50-70	> 98	70(0.48)	500	2000	15
NF1-4040R	85(7.9)	2200(8.3)	1800(6.8)	> 85	> 99	70(0.48)	500	2000	15
NF2-4040	85(7.9)	2600(9.8)	2200(8.3)	30-50	> 97	70(0.48)	500	2000	15

沁宸纳滤膜极限操作参数

KEENCHEN Nanofiltration Membrane Operating Limits

最高操作压力 600 psi (4.14 MPa) 允许的最大进水流
量: 17m³/h

最高操作温度(注) 45°C (113°F) 允许的连续操作
pH 范围: 3-10

最高给水污泥指数 (SDI15) 5 允许的短时清洗 pH 范
围: 1-13

允许的最大游离氯含量: <0.1 mg/L

单支膜元件最大允许降压: 15psi (0.1MPa)

Maximum operating pressure: 600 psi (4.14 MPa)

Maximum water inlet temperature: 45°C (113°F)

Maximum Feedwater Sludge Index (SDI15): 5

Maximum allowable pressure drop of membrane
element: 15psi (0.1MPa)

Maximum water flow: 17m³/h

Permissible continuous operating pH range: 3~10

Permissible pH range for short cleaning: 1~13

Maximum free chlorine content allowed: <0.1 mg/L

● PVDF超滤膜 *PVDF ultrafiltration membrane*

PVDF 中空纤维超滤膜具有耐氧化、耐光老化、耐化学药品、耐污染等优良特性，并且具有抗污染性强、使用寿命长的特点。膜丝经过特殊的亲水化处理，大大增强了膜的亲水性，使膜丝具有更高的透水通量。



PVDF hollow fiber ultrafiltration membrane has excellent properties such as resistance to oxidation, light aging, chemicals, and pollution. It also has the characteristics of strong anti-pollution and long service life. The membrane filaments undergo special hydrophilization treatment, which greatly enhances the hydrophilicity of the membrane and enables the membrane filaments to have higher water permeability flux.

产品型号: UFOB160/UFOA200/UFOA225/UFOA250/UFOA225L

产品特点: 抗污染、耐氧化，良好的亲水性，良好的机械强度

应用领域: 市政给水，中水回用，污水深度处理，废水循环与再生利用，工业废水处理，苦咸水脱盐，海水淡化

Product model: UFOB160/UFOA200/UFOA225/UFOA250/UFOA225L

Product features: anti-pollution, oxidation resistance, good hydrophilicity, good mechanical strength

Application areas: municipal water supply, reclaimed water reuse, advanced sewage treatment, wastewater recycling and recycling, industrial wastewater treatment, brackish water desalination, seawater desalination

PVDF膜进水水质要求

- 浊度: $\leq 10\text{NTU}$
- 铁离子: $< 0.5\text{mg/L}$
- 有机溶剂: 不得含有醇、酮、苯等有机溶剂
- 瞬时余氯耐受总量: 300ppm
- 颗粒物直径: $< 0.5\text{mm}$
- CODcr: $< 50\text{mg/L}$
- pH 范围: $2 \sim 10$

PVDF membrane inlet water quality requirements

- Turbidity: $\leq 10\text{NTU}$
- Iron ion: $< 0.5\text{mg/L}$
- Organic solvents: must not contain alcohol, ketone, benzene and other organic solvents
- Total instantaneous residual chlorine tolerance: 300ppm
- Particle diameter: $< 0.5\text{mm}$
- CODcr: $< 50\text{mg/L}$
- PH range: $2 \sim 10$



技术参数

Technical parameters

型号 Item No.	UFOB160	UFOA200	UFOA225	UFOA250	UFOA225L
最大进水压力 (MPa) Maximum water inlet pressure	0.3				
截留分子量 (Da) molecular weight cutoff	100000				
操作形式 Operation form	外压式 External pressure type				
纤维内外径 (mm) Fiber inner and outer diameter	0.8/1.3				
设计水通量(L/m ² ▪ h ▪ 25°C ▪ 0.1MPa) Design water flux	60				
有效膜面积 (m ²) Effective Membrane Area	30	60	55	75	75
最大跨膜压差 (MPa) Maximum transmembrane pressure difference	0.15				
使用温度 (°C) operating temperature	5-45				
PH 值范围 PH range	2 ~ 11 (清洗时 1-12) 2 ~ 11 (1-12 during cleaning)				
运行方式 Operation mode	全量过滤或错流过滤 Full volume filtration or cross flow filtration				
气洗时间 (s) Air wash time	20 ~ 60				
反洗水压力 (MPa) Backwash water pressure	< 0.15				
反洗水量 (L/m ² ▪ h) Backwash water volume	100 ~ 150				
反洗时间 (秒) Backwash time	30 ~ 60				
化学清洗周期 chemical cleaning cycle	60 ~ 18 天视具体情况 60~18 days depending on specific circumstances				

● MBR膜生物反应器 *Membrane Bioreactor System*

高抗污染MBR膜主要由产水集水管、PU/环氧灌封胶、高抗污染中空纤维膜丝组成。其具有以下特点：

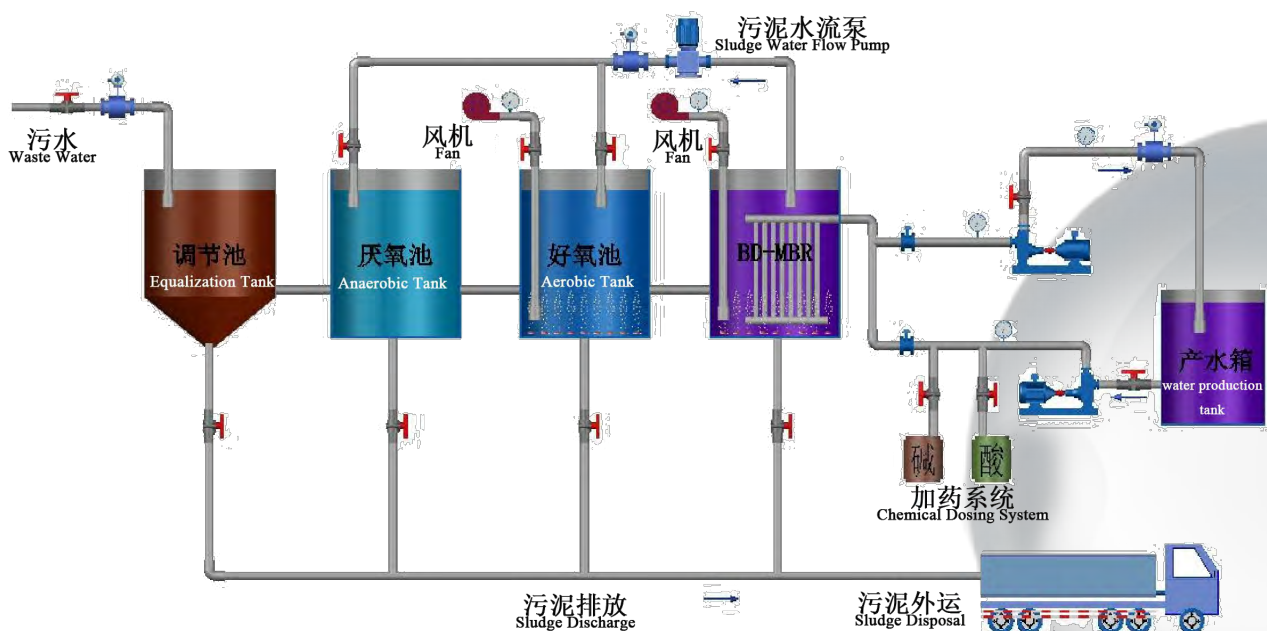
- 选用聚偏氟乙烯材质，化学性质稳定
- 抗污染能力强，易清洗
- 产水通量高，运行成本低
- 膜强度大，过滤精度高

The highly anti-pollution MBR membrane is mainly composed of water production collection pipes, PU/epoxy potting glue, and highly anti-pollution hollow fiber membrane filaments. It has the following characteristics:

- Made of polyvinylidene fluoride material with stable chemical properties
- Strong anti-pollution ability and easy to clean
- High water production flux and low operating costs
- High membrane strength and high filtration accuracy

MBR膜工艺流程图

MBR membrane process flow Diagram





MBR膜规格参数

MBR membrane specifications parameters

型号 Item No.		BD-MBR-10	BD-MBR-15	BD-MBR-20	BD-MBR-25	BD-MBR-30
组件参数 Component parameters	膜面积 membrane area	10	15	20	25	30
	高*宽*厚（mm） Height * Width * Thickness	1050*534*46	1550*534*46	2000*534*46	2050*620*46	2050*785*40
	膜材质 Membrane material	聚偏二氟乙烯+聚对苯二甲酸乙二醇酯+特种纳米粒子 PVDF) + PET + Special Nanoparticles				
	平均孔径 average pore size	0.2μm				
	膜丝内外径 Membrane inner and outer diameter	1.0/2.1mm				
	两端集水管 Collecting pipes at both ends	Φ40mm				
接口 interface	ABS 出水接口 ABS water outlet interface	活接/软管/承插口 Union/Hose/Socket				
	设计膜通量 Design membrane flux	10~25 L/（m².h）				
	过滤方式 Filtering method	负压抽吸过滤 Negative pressure suction filtration				
使用条件 Conditions of use	正常抽吸负压 Normal suction negative pressure	-40KP（负压越低越好） -40KP (the lower the negative pressure, the better)				
	最大跨膜压差 Maximum transmembrane pressure difference	-60kpa				
	推荐工作温度 Recommended operating temperature	15~35 ℃				
	清洗 PH 值 Cleaning PH	1~13				
	组件平均曝气量 Average aeration volume of components	4.5-5.5 m³/h.帘				
	推荐污泥浓度（MLSS） Recommended sludge concentration	6000~8000mg/L（Min:3000mg/L Max: 10000mg/L）				
	推荐运行周期 Recommended operating cycle	产水 8 分钟，停止 2 分钟 Produce water for 8 minutes, then stop for 2 minutes.				

注/Note:

- 1.对于不同的水质，其设计膜通量会有较大区别，用户应进行充分试验或者咨询我司；
1. The design flux of the membrane will vary significantly depending on water quality. Users should conduct thorough testing or consult our company for guidance.
- 2.在耐受值水质条件下运行时，需要评估其对系统运行性能的影响；
2. When operating under water conditions at the tolerance limit, it is necessary to assess its impact on system performance.
- 3.膜片的尺寸及规格参数可根据要求订制，以实际为准；
3. Membrane sheet size and specifications can be customized according to requirements and should be based on actual conditions.
- 4.膜建议在推荐工作温度内工作，温度高于 35℃会降低膜丝强度，破坏膜孔结构，甚至导致膜过滤层脱落，低温则会导致膜通量、产水量的下降外，也会抑制膜的透水性,同时生物活性下降，黏滞性增大，水温 10℃时的膜通量相对 30℃时约低 32%；
4. It is recommended to operate the membrane within the recommended working temperature. Temperatures above 35℃ can reduce the strength of membrane fibers, damage pore structures, and may even cause the membrane layer to detach. Conversely, low temperatures will not only reduce flux and water production but also inhibit water permeability. Additionally, low temperatures can decrease biological activity, increase viscosity, and reduce permeability. For instance, at 10℃, the membrane flux is approximately 32% lower compared to operation at 30℃.

04 工程实例 Project Cases

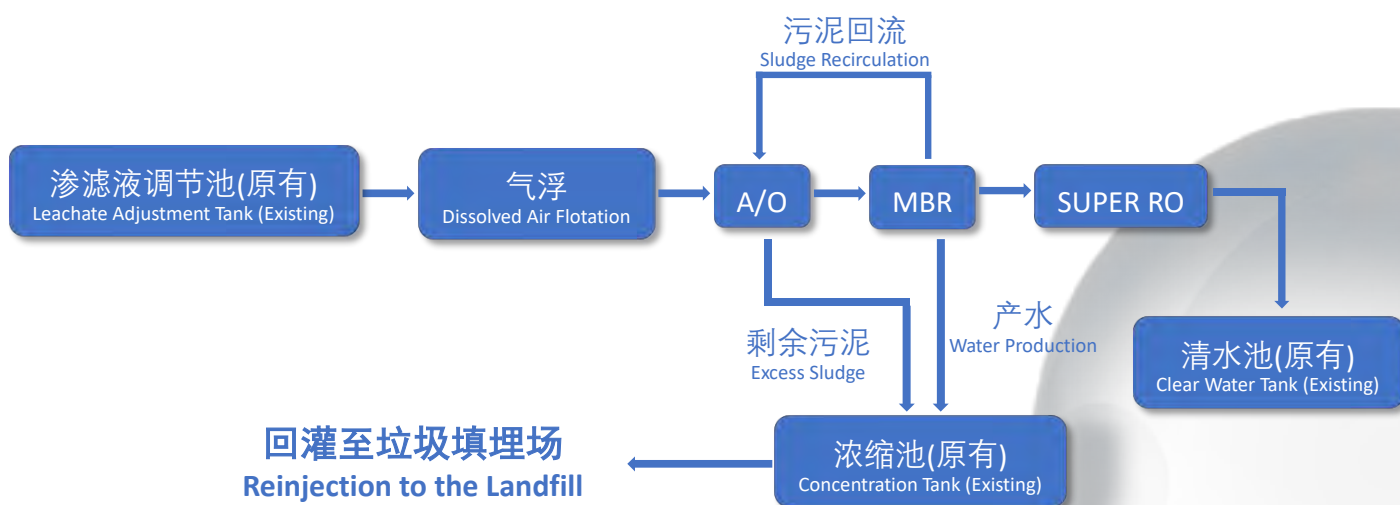
实例一.四川某垃圾填埋场渗滤液处理项目

Project 1: Leachate Treatment Project at a Landfill in Sichuan

该垃圾渗滤液项目处理量120tph，具有有机污染物浓度高、水质变化大、电导率高、盐份含量高、可生化性较差等特点，之前项目采用生化加传统卷式膜工艺，出水水质一直无法达标。沁宸对该项目进行改造和项目运营。采用AO-MBR与SUPER RO结合工艺，出水达《生活垃圾填埋场污染控制标准》（GB16889-2008）中相应标准。

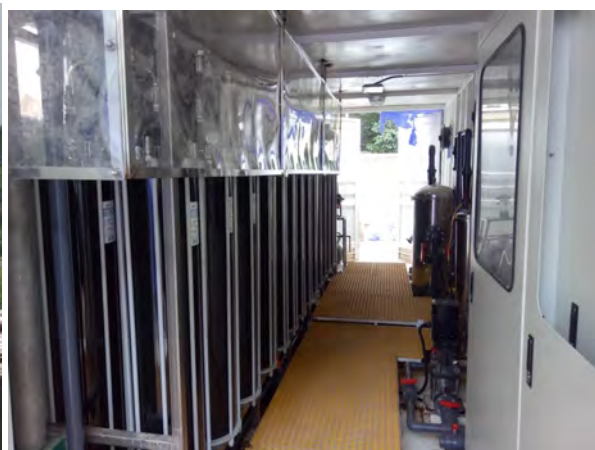
This landfill leachate project has a treatment capacity of 120 tph and is characterized by high concentrations of organic pollutants, significant water quality fluctuations, high conductivity, high salt content, and poor biodegradability. The previous approach, which utilized a biochemical process combined with a traditional spiral-wound membrane system, consistently failed to meet the required discharge standards. KEENCHEN undertook the project's renovation and operation, implementing an AO-MBR (Anoxic-Oxic Membrane Bioreactor) combined with a SUPER RO process. The treated effluent now meets the relevant standards outlined in the Pollution Control Standard for Domestic Waste Landfills (GB16889-2008).

工艺流程图 Process Flow Diagram





项目现场图片 Project Site Photos





实例二.宜宾某食品厂用水处理项目

Project 2: Water Treatment Project at a Food Factory in Yibin

宜宾某食品厂处理项目，以市政府自来水为原水，才用多介质、活性炭等作为预处理，预处理出水再经反渗透系统除盐。双级反渗透膜系统机组采用沁宸反渗透“ULP-8040”膜元件，处理规模为 100T/H，系统产水水质及水量均满足客户使用要求。

The water treatment project at a food factory in Yibin utilizes municipal tap water as the feedwater. It employs multi-media filtration and activated carbon as pre-treatment methods, followed by reverse osmosis for desalination. The two-stage reverse osmosis membrane system uses KEENCHEN"ULP-8040" membrane elements, with a treatment capacity of 100T/H. The quality and quantity of the produced water meet the customer's requirements.

工艺流程图 Process Flow Diagram



应用产品与膜机组参数

Applied Products and Membrane System Parameters

膜原件型号 Model	设计膜通量 RO Membrane Flux	回收率 Recovery Rate	测试条件 Testung Condition	运行压力 Working Pressure
ULP-8040	25.0LMH	75%	≥98.0%	0.8-1.1MPa

项目现场图片 Project Site Photos



实例三.煤矿高盐废水零排放工程

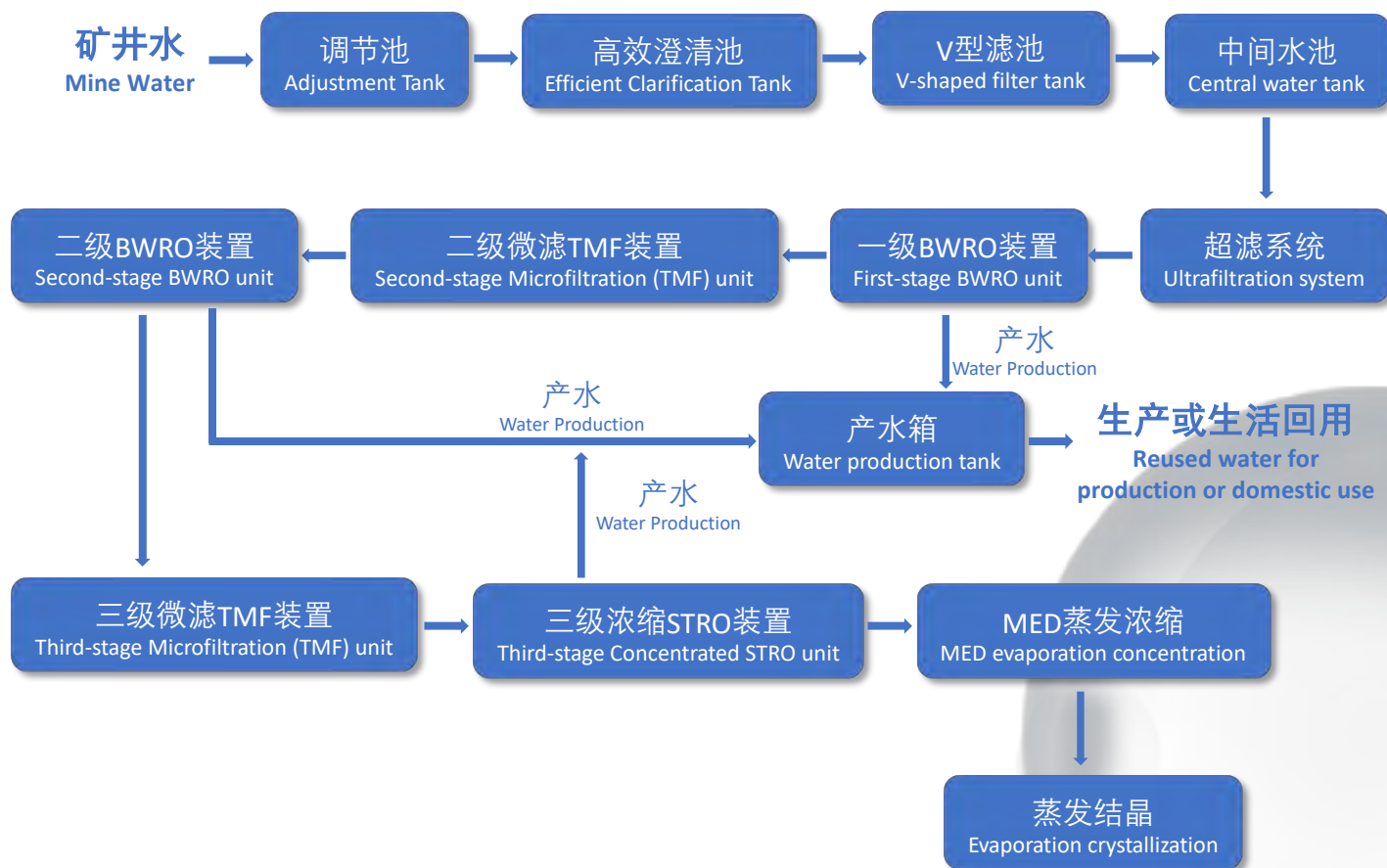
Project 3: Zero Discharge Project for High Salinity Wastewater in Coal Mining

本项目为 5000m³/d 的矿井高盐废水处理工程，主要工艺：预处理澄清+超滤系统+级 BWRO 系统+TMF 微滤+二级 BWRO+TM微滤+三级 STRO+蒸发系统，系统产水用于生或生产回用，系统浓水蒸发结晶产生盐回用，发冷凝液达标排放。

This project is a high-salinity wastewater treatment system for coal mines, with a capacity of 5,000 m³/d. The main process includes: Pre-treatment clarification + Ultrafiltration system + Stage BWRO (Brackish Water Reverse Osmosis) system + TMF (Tube Module Filtration) microfiltration + Secondary BWRO + TM microfiltration + Tertiary STRO (Seawater Reverse Osmosis) + Evaporation system

The system produces water for both direct and production reuse, while the concentrated wastewater is subjected to evaporation and crystallization to recover salts. The condensate is treated to meet discharge standards.

工艺流程图 Process Flow Diagram





项目现场图片 Project Site Photos



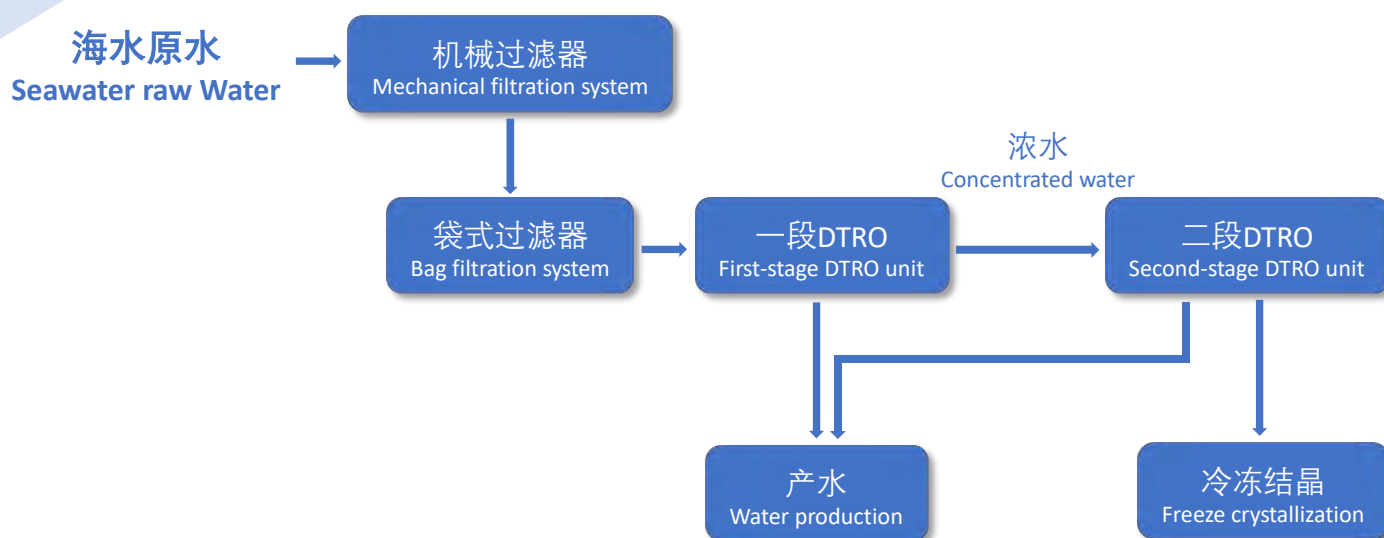
实例四.DTRO+冷冻脱盐技术（海水淡化）

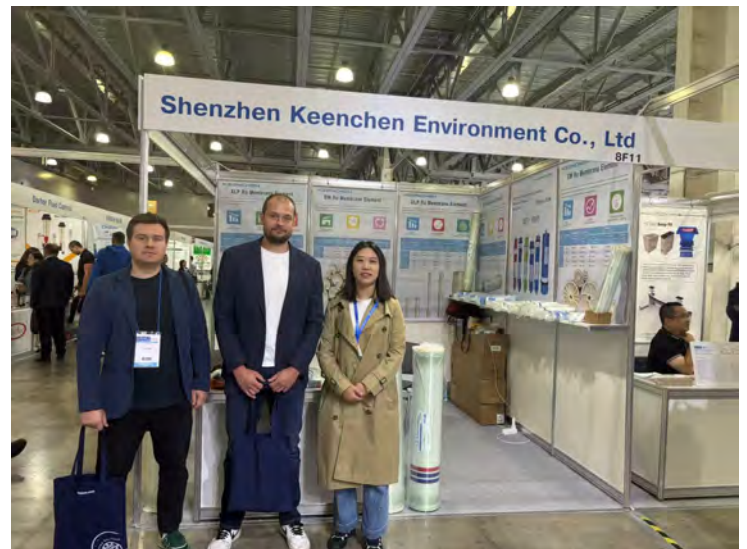
Project 4: DTRO + Freeze Desalination Technology (Seawater Desalination)

采用“预处理+DTRO 膜装置+冷冻结晶”处理工艺，将海水预处理后通过 DTRO 膜，膜过滤后的盐水采用冷冻产生结冰过程将盐、水进行分离。通过结晶将大量的盐分被排除在冰晶之外，大大降低了盐水中的盐分。

The treatment process employs "pre-treatment + DTRO membrane unit + freeze crystallization." Seawater is pre-treated and then passed through the DTRO membrane. The brine filtered by the membrane undergoes a freezing process to separate the salt from the water. During crystallization, a significant amount of salt is excluded from the ice crystals, greatly reducing the salt concentration in the brine.

工艺流程图 Process Flow Diagram







KEENCHEN



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