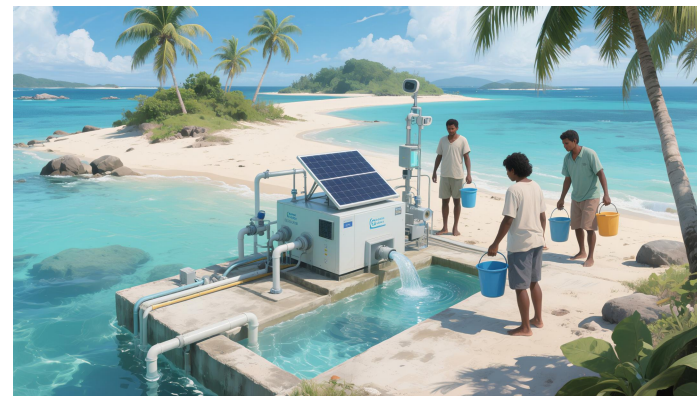


零药剂、高效节能Zero Chemicals, Energy Efficient

小型海水（苦咸水）淡化装置

Small-scale seawater (brackish water) desalination device





公司介绍

Company Introduction

南京西普环保科技有限公司
Nanjing C-hope Environmental Protection Technology Co.,Ltd



01 公司概况Company Overview

南京西普环保科技有限公司成立于2013年，位于江苏省南京市溧水经济开发区，距离南京禄口机场5Km，紧靠S55、G4221、G25高速出口。注册资本6000万元，生产厂房面积21000平方米，办公面积9000平方米，员工总数超100余人。专业从事海水淡化资源化研究、环境污染治理及保护工作研究。形成了以环保技术研发、工程设计、装备研发、装备制造为主导，运营服务为主体的综合型环保科技公司。



01 公司概况 Company Overview

Nanjing C-hope Environmental Protection Technology Co.,Ltd was established in 2013, located in Lishui Economic Development Zone, Nanjing City, Jiangsu Province, 5Km away from Nanjing Lukou Airport, close to S55, G4221 and G25 highways exit. With a registered capital of CNY 60 million, a production plant area of 21,000 square meters, an office area of 9,000 square meters, and a total employees of more than 100 people. We specialize in the research of seawater desalination resource utilization, environmental pollution control and protection. We have formed a comprehensive environmental protection technology company with environmental protection technology research and development, engineering design, equipment research and development, equipment manufacturing as the leading part, and operation services as the main body.



01 荣誉与资质Honors and Qualifications

以科技创新为发展理念，累计取得专利数80余个，“南京市工程研究中心”、“高新技术企业”、“江苏省科技型中小企业”、“全国科技创新示范单位”、“江苏省质量服务诚信AAA级优秀企业”、“环保工程专业承包三级资质”。先后完成ISO质量-环境-职业健康管理三体系认证、品牌服务认证、售后服务认证、企业诚信管理体系认证、两化融合管理体系评定。产品也多次获得政府和行业的肯定，被江苏省科技厅、江苏省工信厅评为江苏省高新技术产品、江苏省重点推广应用的新技术新产品。公司承担并成功验收了江苏省工业支撑计划项目。其中自主研发的海水淡化能量装置目前处于行业领先地位，不加药剂的海淡装置避免了海洋的二次污染。为海洋开发储备了大量的潜在技术。为向海图强贡献一份力量。

01 荣誉与资质Honors and Qualifications

With scientific and technological innovation as the development concept, the company has obtained more than 80 patents in total and won the titles of "Jiangsu Cement Kiln Exhaust Engineering Research Center", "Nanjing Engineering Research Center", "High-tech Enterprise", "Jiangsu Science and Technology-based Small and Medium-sized Enterprises", "National Science and Technology Innovation Demonstration Unit", "Jiangsu Quality Service Integrity AAA-level Excellent Enterprise", and "Level 3 Qualification for Environmental Protection Engineering Professional Contracting". We have successively completed ISO quality-environment-occupational health management three-system certification, brand service certification, after-sales service certification, corporate integrity management system certification, and two-in-one integration management system assessment. Our products have also been recognized by the government and the industry for many times, and have been awarded as Jiangsu Province's high-tech products and new technologies and Jiangsu key new technology and new products of promotion and application by Jiangsu Science and Technology Department and Jiangsu Industry and Information Technology Department. We have undertaken and successfully accepted the project of Jiangsu Province Industrial Support Program. Among them, the independently developed seawater desalination energy device is currently in the leading position in the industry. The seawater desalination device without adding chemicals avoids secondary pollution of the ocean. It reserves a large number of potential technologies for marine development and contributes to the development of the ocean.

01 公司主营业务Main Business

统一社会信用代码

91320117062618631U

营 业 执 照

编 号 320124666202106280042

扫描二维码登录“国家企业信用信息公示系统”了解更多登记、备案、许可、监管信息。

名 称 南京西普环保科技有限公司

类 型 有限责任公司(自然人投资或控股)

法 定 代 表 人 巫世财

经 营 范 围 环保工程设计、施工; 环保设施运营; 环保设备研发、制造、销售; 环保工程技术开发、转让、咨询、服务; 教学、科研实验装置及设备的研发、设计、销售; 机械式停车设备制造、销售; 经营本企业自产产品及技术的出口业务和本企业所需的机械设备、零配件、原辅材料及技术的进口业务, 但国家限定公司经营或禁止进出口的商品及技术除外。(依法须经批准的项目, 经相关部门批准后方可开展经营活动)。
一般项目: 环境卫生公共设施安装服务(除依法须经批准的项目外, 凭营业执照依法自主开展经营活动)
一般项目: 专用设备修理; 生物有机肥料研发; 肥料销售; 软件开发; 水污染治理(除依法须经批准的项目外, 凭营业执照依法自主开展经营活动)

注 册 资 本 6000万元整

成 立 日 期 2013年03月13日

营 业 期 限 2013年03月13日至2033年03月12日

住 所 南京市溧水经济开发区淮源大道502号

登 记 机 关

2021 年 06 月 28 日

国家企业信用信息公示系统网址: <http://www.gsxt.gov.cn>

国家市场监督管理总局监制

01 资质文件 (1) Qualification documents



ISO9001;14001;45001
三体系统认证



国家高新技术企业



全国科技创
新示范单位



亚洲博鳌论坛
供货单位

江苏省工程中心

南京市工程研究中心

南京市首批创新产品
推广示范项目

江苏省质量服务诚
信AAA级优秀企业



江苏省科技型中小
企业



核心技术掌控



企业诚信管理
体系认证

南京市创新型
领军企业



质量/职业健康/环境三体系认证

Quality/occupational health/environment three-system certification

环境管理体系认证

兹证明

南京西普环保科技有限公司

注册地址: 南京市溧水经济开发区淮源大道 502 号

审核地址: 江苏省南京市溧水区经济开发区淮源大道 502 号

其环境管理体系已通过 NOA Certification 的评审, 符合

GB/T 24001-2016 idt ISO14001:2015 标准

认证范围

环保设备(窑炉尾气脱硝设备及协调废弃物设备和餐厨垃圾处理设备)
设计、制造、销售; 环保工程的技术咨询服务

认证证书编号: NOA2115922
统一社会信用代码: 91320117062618631U
首次注册日期: 2021 年 12 月 21 日

监督审核通过标签: 第一次监督审核标签处 第二次监督审核标签处 第三次监督审核标签处

认证经理



职业健康安全管理体系认证

兹证明

南京西普环保科技有限公司

注册地址: 南京市溧水经济开发区淮源大道 502 号

审核地址: 江苏省南京市溧水区经济开发区淮源大道 502 号

其职业健康安全管理体系已通过 NOA Certification 的评审, 符合

GB/T 45001-2020 idt ISO45001:2018 标准

认证范围

环保设备(窑炉尾气脱硝设备及协调废弃物设备和餐厨垃圾处理设备)
设计、制造、销售; 环保工程的技术咨询服务

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认证经理



质量管理体系认证

兹证明

南京西普环保科技有限公司

注册地址: 南京市溧水经济开发区淮源大道 502 号

审核地址: 江苏省南京市溧水区经济开发区淮源大道 502 号

其质量管理体系已通过 NOA Certification 的评审, 符合

GB/T 19001-2016 idt ISO9001:2015 标准

认证范围

环保设备(窑炉尾气脱硝设备及协调废弃物设备和餐厨垃圾处理设备)
设计、制造、销售; 环保工程的技术咨询服务

认证证书编号: NOA2115921
统一社会信用代码: 91320117062618631U
首次注册日期: 2021 年 12 月 21 日

监督审核通过标签: 第一次监督审核标签处 第二次监督审核标签处 第三次监督审核标签处

认证经理



高新技术企业 / 科技型中小企业 / 全国科技创新示范单位 / 民营科技企业
High-tech Enterprises / Technology-based Small and Medium-sized Enterprises / National Science and Technology Innovation Demonstration Units / Private Technology Enterprises



售后服务 / 品牌服务 / 企业诚信管理体系认证

After-sales Service / Brand Service / Enterprise Integrity Management System Certification



设备简介

Equipment Introduction



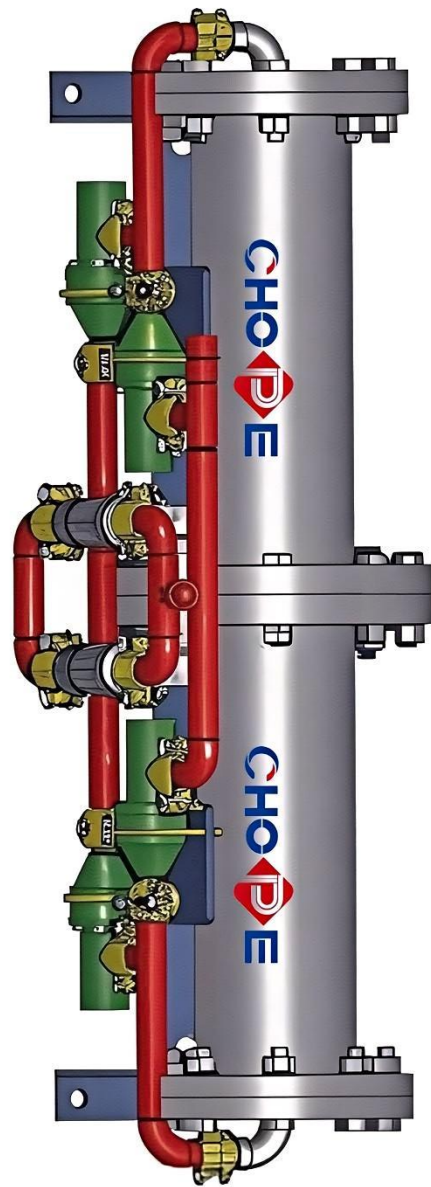


创新驱动，智慧节能

Innovation-driven, Intelligent Energy Saving

能源回收器巧妙利用过膜后的高压卤水，将其作为强大动力源。高压卤水进入无杆腔后，凭借自身压力推动有杆腔内的低压原水，使其迅速转化为高压原水。这一过程实现了能量的高效回收与再利用，极大地减少了高压泵的能耗。通过这种创新设计，能源回收器打破了传统膜法淡化的能耗困局，开启了膜法淡化节能的新篇章。

The energy recycler device cleverly utilizes the high-pressure brine after the membrane, and uses it as a powerful power source. After the high-pressure brine enters the rodless cavity, it pushes the low-pressure raw water in the rodDED cavity by its own pressure, so that it is rapidly converted into high-pressure raw water. This process achieves the efficient recovery and reuse of energy and greatly reduces the energy consumption of the high-pressure pump. Through this innovative design, the energy recycler breaks the energy consumption dilemma of traditional membrane desalination and opens a new chapter of energy saving in membrane desalination.

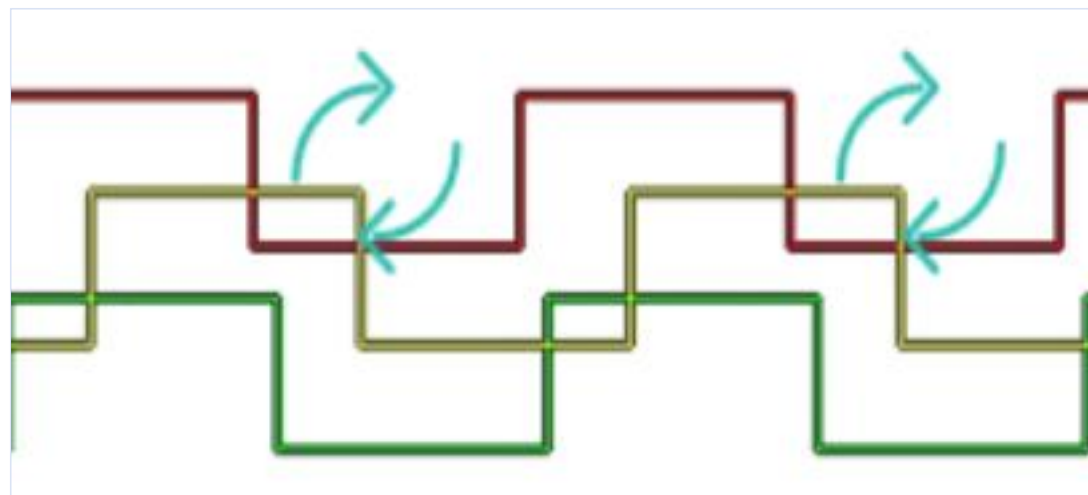


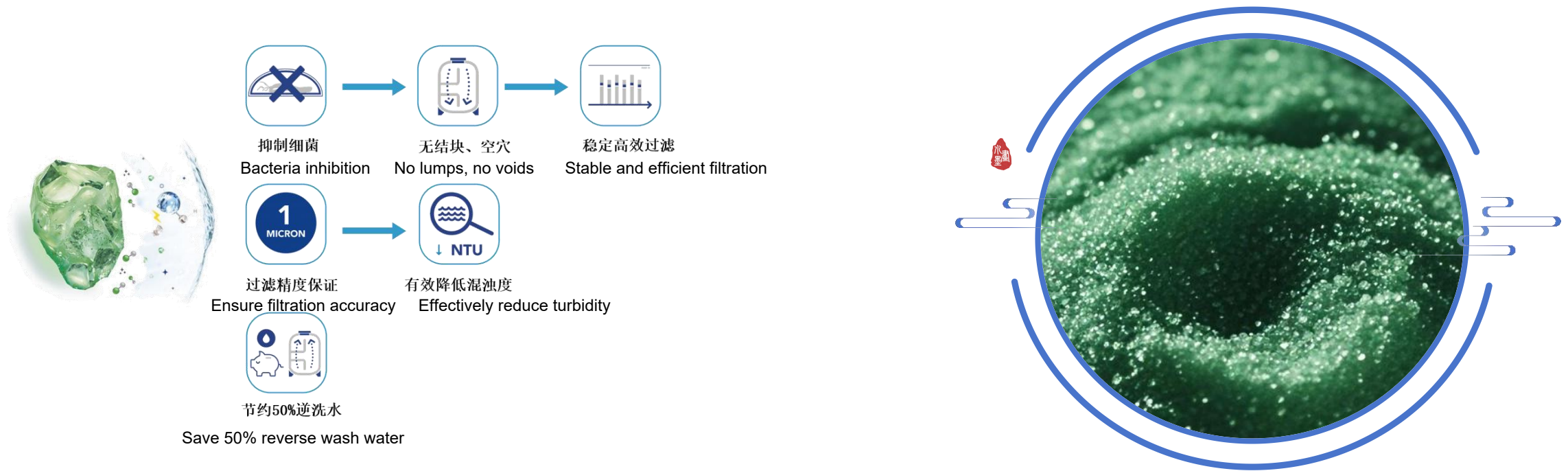
独特的脉冲设计

Unique Pulse Design

通过独特的设计理念，配合系统运行精准控制，产生有效的水流脉冲波，防止微生物着床以及碳酸盐沉降，使微生物、碳酸盐及其它杂质快速通过RO膜表面，随卤水排出。避免频繁洗膜导致的使用时长缩短。在中国台湾金门岛和澎湖岛万吨海淡厂已有超过8年不洗膜不换膜的成功案例。

Through the unique design concept, together with the precise control of system operation, it generates effective water flow pulse waves to prevent microorganisms from bedding as well as carbonate deposition, so that microorganisms, carbonates and other impurities can quickly pass through the surface of RO membrane and be discharged with the brine. Avoiding the shortening of service time caused by frequent membrane washing. In Taiwan, China, Kinmen Island and Penghu Island tons of tons of desalination plants have more than 8 years of successful cases of not washing the membrane and not changing the membranes.



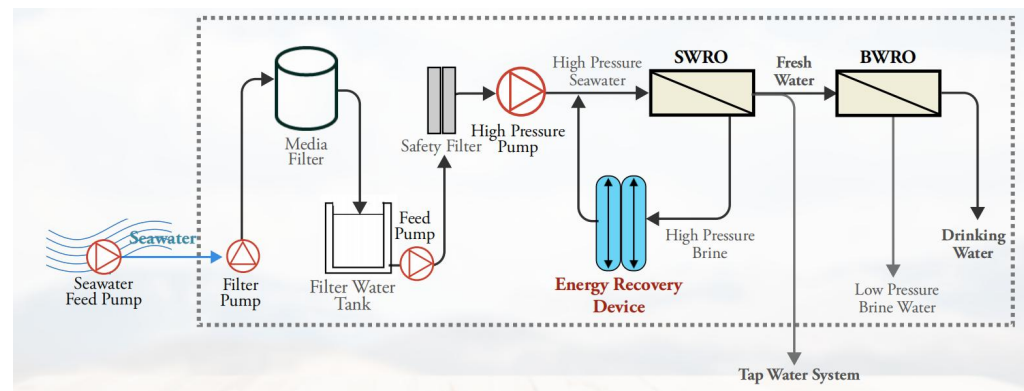
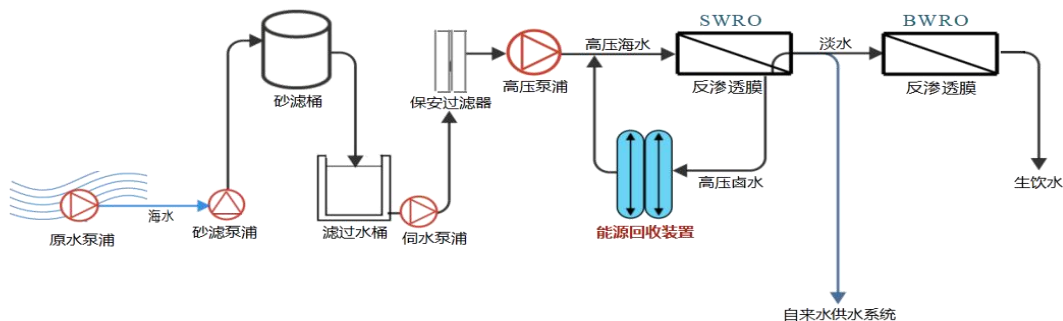


使用人造玻璃砂过滤取代传统石英砂滤以及UF膜过滤，不仅抑制细菌滋生、无结块、无空穴、保证过滤精度、实现长期稳定高效过滤效果，还降低海水预处理的运行费用。体现在（1）玻璃砂损耗低（年损耗小于1%），近乎无耗材，（2）系统根据压差自动反洗，不需要人工维护，（3）缩短系统流程、降低故障率。

Using artificial glass sand filtration instead of traditional quartz sand filtration and UF membrane filtration not only inhibits bacterial growth, no clumping, no cavities, ensures filtration precision, and achieves long-term stable and efficient filtration effects, but also reduces the operating costs of seawater pretreatment. This is reflected in (1) low loss of glass sand (annual loss of less than 1%), nearly no consumables, (2) the system according to the differential pressure automatic backwashing, no need for manual maintenance, (3) shorten the system process, reduce the failure rate.

根据用户实际使用需求，50t/d~500t/d系列化小型海水淡化装置可设计为模块拼接、整体撬装、以及标准集装箱等形式，产品具有安装方便、使用维护简单、一键启停无人值守等诸多优点。可配合远程通信模块，实现全球范围内远程故障诊断、远程升级等智能化功能。

According to the actual needs of users, 50t/d~500t/d series of small-scale seawater desalination devices can be designed as module splicing, overall skid mounting, and standard containers, etc. The products have the advantages of easy installation, simple use and maintenance, and unmanned start/stop with one key. With remote communication module, it can realize worldwide remote fault diagnosis, remote upgrades other intelligent functions.



设备性 Equipment performance		
	耗电Power consumption	≈ 2.84 kWh/ m3
	产水导电度 Conductivity of produced water	小于100μS/cm
	反渗透膜回收率 RO membrane recovery rate	一级产出淡水: 33% Level 1 output fresh water: 33% 二级产出生饮水: 小于75% Secondary drinking water: less than 75%
	系统操作压力 System operating pressure	最大值 53.84 barg Maximum 53.84 barg
操作条件 Operating conditions		
	原水水质标准 Raw water quality standards	TDS<35' 000ppm, NTU<10
	海水温度 Sea water temperature	10-35℃
	电源power supply	3PH' 380V AC' 50Hz



产品优势Product Advantages:

- 海水淡化系统操作不须添加化学药剂，达到海洋排放零污染
 Seawater desalination system operates without adding chemicals, achieving zero pollution of marine discharge.
- 采用反渗透膜双膜法二级产水设计，产出水质达可生饮标准
 Adopting reverse osmosis membrane double membrane method of secondary water production design, the output water quality up to the standard of raw drinking water
- 系统低能耗、保养维护简易、反渗透膜使用寿命多一倍以上
 Low energy consumption, easy maintenance, more than double the service life of the reverse osmosis membrane

关键设备配置清单Key equipment configuration list

组件名称（基础参数）	50T	100T	200T
砂滤泵：多级离心泵、过流材质316	Q=7.0m³/h, H=0.415MPa P=1.5KW, 380V50Hz	Q=15m³/h, H=0.47MPa P=4KW, 380V50Hz	Q=32m³/h, H=0.46MPa P=7.5KW, 380V50Hz
砂滤桶：玻璃纤维材质、反洗侧出水	流速：10m/hr 滤材：AFM-grade1	流速：10m/hr 滤材：AFM-grade1	流速：10m/hr 滤材：AFM-grade1
伺水泵：多级离心泵、过流材质316	Q=7.0m³/h, H=0.2MPa P=1.5KW, 380V50Hz	Q=15m³/h, H=0.47MPa P=4KW, 380V50Hz	Q=32m³/h, H=0.46MPa P=7.5KW, 380V50Hz
保安过滤器：材质FRP, 单袋式（含5微米滤袋）	L20-1B(2只), 流量10~20t/h	L40-1B(2只), 流量25~30t/h	L40-1B(3只), 流量40~50t/h
高压泵：高压柱塞泵、泵头材质：2205双相不锈钢；柱塞材质：固体陶瓷	Q=2.5m³/h, H=6.3MPa P=5.5KW, 380V50Hz	Q=5m³/h, H=6.3MPa P=11KW, 380V50Hz	Q=10m³/h, H=6.3MPa P=22KW, 380V50Hz
RO膜管壳：POPV 1000psi 8吋膜壳	R8040B1000S-3W （2支）	R8040B1000S-3W （4支）	R8040B1000S-4W （6支）
RO膜：反渗透膜(8040)	DOW.US SEAMAXX-440 （4支） DOW.US SW30HRLE-440 （2支）	DOW.US SEAMAXX-440 （8支） DOW.US SW30HRLE-440 （4支）	DOW.US SEAMAXX-440 （18支） DOW.US SW30HRLE-440 （6支）
能源回收器：316主体、POM活塞头，SKF密封、专用换向阀	切换时间≈7S、回收效率大于93%	切换时间≈10S、回收效率大于93%	切换时间≈10S、回收效率大于93%
电气配置：主控单元：SIEMENS-PLC：smart200/配专用屏；变频器：ABB/SIEMENS，3台（砂滤泵+伺水泵+高压泵）；压力传感器：316材质、扩散硅芯片、200%过载能力，0-1MPa 5只，0-10MPa 2只；流量传感器：赫斯曼型涡轮流量计、精度0.5%、公称压力1.6MPa、材质316L，2只；电气元件：断路器、继电器、按钮、接头、熔断器（品牌：施耐德）；电气柜体：非标制定或施耐德电气柜			

关键设备配置清单Key equipment configuration list

组件名称（基础参数）	300T	500T	
砂滤泵：多级离心泵、过流材质316	Q=42m³/h, H=0.41MPa P=7.5KW, 380V50Hz	Q=70.0m³/h, H=0.48MPa P=15KW, 380V50Hz	
砂滤桶：玻璃纤维材质、反洗侧出水	流速：10m/hr 滤材：AFM-grade1	流速：10m/hr 滤材：AFM-grade1	
伺水泵：多级离心泵、过流材质316	Q=42m³/h, H=0.41MPa P=7.5KW, 380V50Hz	Q=70.0m³/h, H=0.48MPa P=15KW, 380V50Hz	
保安过滤器：材质FRP, 单袋式（含5微米滤袋）PP熔喷滤芯	L40-3B(2只), 流量80~100t/h	L40-3B(3只), 流量120~150t/h	
高压泵：类型-高压柱塞泵；材质：2205双相不锈钢泵头、固体陶瓷柱塞	Q=15m³/h, H=6.3MPa P=37KW, 380V50Hz	Q=25m³/h, H=6.3MPa P=55KW, 380V50Hz	
RO膜管壳：POPV 1000psi 8吋膜壳	R8040B1000S-4W （8支）	R8040B1000S-4W （12支）	
RO膜：反渗透膜(8040)	DOW.US SEAMAXX-440-24支 DOW.US SW30HRLE-440-8支	DOW.US SEAMAXX-440-36支 DOW.US SW30HRLE-440-12支	
能源回收器：316主体、POM活 塞头，SKF密封、专用换向阀	切换时间≈10S、回收效率大于93%	切换时间≈10S、回收效率大于93%	
电气配置：主控单元：SIEMENS-PLC：smart200/配专用屏；变频器：ABB/SIEMENS，3台（砂滤泵+伺水泵+高压泵）；压力传感器：316材质、扩散硅芯片、200%过载能力，0-1MPa 5只，0-10MPa 2只；流量传感器：赫斯曼型涡轮流量计、精度0.5%、公称压力1.6MPa、材质316L，2只；电气元件：断路器、继电器、按钮、接头、熔断器（品牌：施耐德）；电气柜体：非标制定或施耐德电气柜			

感谢您选择我们的海水淡化设备，您不仅选择了高品质设备，还获得超过20年的成功经验分享，竭诚为您服务
Thank you for choosing our desalination equipment, you not only choose high quality equipment, but also get more than 20 years of successful experience to share, dedicated to serve you

设备名称 Reverse Osmosis Desalination Device	型号 model	产水量 Water production	装机功率 Installed power
反渗透海水淡化装置	CPSW-50	50T/D(20℃)	9Kw
反渗透海水淡化装置	CPSW-100	100T/D(20℃)	18Kw
反渗透海水淡化装置	CPSW-200	200T/D(20℃)	33Kw
反渗透海水淡化装置	CPSW-300	300T/D(20℃)	52Kw
反渗透海水淡化装置	CPSW-500	500T/D(20℃)	86Kw

整机设备采用开放式机架，304材质，关键配件均来自国内一线品牌。报价范围含必要的易损件费用，国内一次调试培训费用，国外提供远程无限次技术指导。整机质保12个月或出厂后18月。报价不含取水、纯水和卤水排放输送工序，需要用户自行考虑，如有需要可以一并供货，价格另议。

The whole machine adopts an open frame, 304 material, and key accessories are all from domestic first-line brands. The quotation range includes the necessary wearing parts, one domestic commissioning training fee, and unlimited remote technical guidance abroad. The whole machine is guaranteed for 12 months or 18 months after leaving the factory. The quotation does not include the water intake, pure water and brine discharge and transportation processes, which need to be considered by the user. If necessary, it can be supplied together, and the price is negotiable.

注意条款

1. 海水水质标准:
 - 报价前客户须提出海淡机组安装所在地之海水水质报告表，为机组设计、操作参考与前处理做调整之用
 - 总溶解性固体物(Total Dissolved Solid ,TDS): 35,000ppm 海水浊度须小于10NTU，若高于此数值须再评估海水前处理方式
2. 海水取水温度:
 - 海水温度10℃~35℃
3. 设备安装位置:
 - 货柜安装位置需有夯实地基以接近海水取水点为佳，或引水至货柜旁以原水桶取代之
4. 设备施工规范:
 - 海水淡化设备施工平面设计图，以货柜四边外延15公分为界线 海水抽取工程、取排水管线与淡水储槽等费用，需视设备安装现勘情况，另行估价现场需有电源。若无，用户须自备发电系统
5. 产水规范:
 - 依客户事先约定之淡水水质标准为规范，做为客制化生产海淡设备之产品规格依据
 - 如无事先约定，则以所在地政府之自来水标准为出水规范
6. 自来水出水水质【选项】:
 - 产水若进入自来水供水管线，水质符合蓝氏饱和指数(LSI): $-1 < LSI < 1$ 。（需外加设备）
7. 设备试车:
 - 安装后正常出水，若机组及水质正常则试车完成
8. 教育训练:
 - 安装试车完成验收后，进行1天教育训练
9. 产品保固:
 - 海水淡化设备保固期限1年。正常操作下，RO膜可3年无需药洗
 - 设备远程监控在线障碍排除(设备需可上网)
10. 其他注意事项:
 - 海淡系统操作连续运转会有最佳使用寿命和效能表现 设备进行例行性保养检查需暂停运作



Note the terms

1. Seawater quality standard:

- Before quoting, the customer should submit the seawater quality report of the location where the desalination unit is installed, which will be used for unit design, operation reference and pre-treatment adjustment
- Total dissolved solids (TDS): 35,000ppm. The turbidity of seawater shall be less than 10NTU. If it is higher than this value, seawater pre-treatment shall be re-evaluated

2. Seawater intake temperature:

- Seawater temperature 10°C~35°C

3. Equipment installation location:

- Container installation location needs to have a compacted foundation to close to the seawater intake point is better, or water to the container next to the original water barrel instead of

4. Equipment construction specifications:

- Construction plan of desalination equipment, with the four sides of the container extended by 15 centimeters The cost of seawater extraction works, water intake and drainage pipelines and fresh water storage tanks, etc., should be estimated separately depending on the equipment installation survey. If there is no power supply, users must provide their own power generation system.

5. Water production specifications:

- The fresh water quality standards agreed upon by the customer in advance are used as the specifications for customized desalination equipment
- If there is no prior agreement, the tap water standards of the local government are used as the water output specifications

6. Tap water output quality [option]:

- If the produced water enters the tap water supply pipeline, the water quality meets the Blue Saturation Index (LSI): $-1 < \text{LSI} < 1$. (External equipment is required)

7. Equipment test run:

- After installation, the water is discharged normally. If the unit and water quality are normal, the test run is completed

8. Education and training:

- After the installation and test run are completed and accepted, 1 day of education and training will be carried out

9. Product warranty:

- The warranty period of seawater desalination equipment is 1 year. Under normal operation, the RO membrane can be used for 3 years without chemical cleaning
- Equipment remote monitoring and online troubleshooting (equipment must be connected to the Internet)

10. Other precautions:

- Continuous operation of the desalination system will have the best service life and performance. The equipment needs to be suspended for routine maintenance inspections



团队简介



我们累积海水淡化系统设备操作实务经验超过15000公吨（主要为中国台湾省澎湖、金门离岛的海水淡化厂），并拥有6000公吨以上海水淡化厂的规划设计能力，对于海淡系统拥有自主知识产权以及从设计规划、设备组装生产、系统维护操作与售后服务的一条龙服务的全方位解决方案能力。

在实践海水淡化设备低能耗、小型化、模块化上的努力，我们针对海淡系统最关键核心的能源回收装置，进行了多年的自主研发，终于突破小型海淡机组高能耗的限制，成功研发全球第一款整合增压泵浦的能源回收装置。

本团队集合产品设计、生产制造、售后服务的专业团队，核心技术成员在海水淡化系统范畴有超过20年的务实经验，面对全球日趋复杂的水环境挑战，将持续扮演引领技术研发与系统创新的领航者角色。



About the Team

This team is a collection of product design, manufacturing, after-sales service of the professional team, the core technology members in the sea we have accumulated more than 15,000 metric tons of practical experience in the operation of desalination system equipment (mainly for the desalination plant in Penghu, Taiwan Province of China, Kinmen Islands), and has more than 6,000 metric tons of seawater desalination plant planning and design capabilities for the desalination system has independent intellectual property rights as well as from the design and planning, We have independent intellectual property rights for seawater desalination system and all-round solution capability from design and planning, equipment assembly and production, system maintenance and operation to after-sales service.

In the practice of desalination equipment, low energy consumption, miniaturization, modularity of efforts for the most critical core of the desalination system for the energy recovery device, for many years of independent research and development, and finally broke through the limitations of the high energy consumption of small-scale desalination units, the successful development of the world's first integration of the booster pump energy recovery device.

The team is a collection of product design, manufacturing, after-sales service professional team, the core technical members in the field of desalination system has more than 20 years of practical experience, in the face of the world's increasingly complex water environment challenges, will continue to play the role of leading technology research and development and system innovation leader.