







WATER TREATMENT

PRODUCTS AND SOLUTIONS

-  Water Demands
-  Proposal Design
-  Equipment
-  Installation and Commissioning
-  After-sales Service
-  Technical Consulting



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CONTENTS

About QIQIN

01

Company Profile	01
Company Certificates	02

Pure Water Equipment for Laboratory

02

Central Pure Water System for Laboratory (dual-core)	03
Central Pure Water System for Laboratory (single-core)	04
Ultrapure Water System Q-LAB series	05
Ultrapure Water System Q-MID series	06
Ultrapure Water System Q-STER-T Series (high-end type)	07
Ultrapure Water System Q-STER-G Series (high-end type)	08
Ultrapure Water System Q-STER-E Series (high-end type)	09

Medical Pure Water Equipment

03

Pure Water Equipment for Clinical Laboratory	11
Pure Water Equipment for Endoscope and Stomatology	12
Pure Water Equipment for CSSD	13
Pure Water Equipment for Hemodialysis	14
Overall Water Supply System for Hospital	15

Industrial Water Purification Equipment

04

Purified Water Equipment For Biopharmaceuticals	17
Water Purification Equipment For Injection	18
Ultrapure Water Equipment For New Energy and Semiconductor	19

Clean Pipe Network Construction

05

Clean Pipe Network Construction	21
---------------------------------	----

Wastewater Treatment Equipment

06

Wastewater Treatment For Laboratory- Indoor Type	23
Wastewater Treatment For Laboratory - Outdoor Type	24
Industrial Wastewater Treatment	25
Large-scale Sewage Treatment	26
Low-temperature heat pump evaporation concentration system QQ-LTHP series	27
Electrochemical wastewater treatment	29

Water Resource Recycling

07

Reclaimed Water Reuse	31
-----------------------	----

Classic Cases

08

Purified Water and Ultrapure Water Equipment (For Biopharmaceuticals, Food, Electronics, Chemicals, Semiconductors, etc)	33
Laboratory Pure Water Equipment	35
Wastewater Treatment Equipment	37

Marketing Network

09

Marketing Network	39
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01 | About QIQIN

COMPANY PROFILE

Qiqin Environmental Protection is located in the historical and cultural city of Changsha. In 2000 year, Qiqin began to engage in the research and development, production and manufacturing of water treatment equipment. The main services include sewage (wastewater) treatment equipment, ultra-pure water equipment, pure water equipment, hospital overall water supply, water recycling, pipe network construction, etc. Products are widely used in hospitals, scientific research institutes, enterprises and other fields.

As a professional manufacturer of water treatment equipment, the excellent performance of our products is only one of our commitments to customers, we pursue not only technical excellence, but also high standards in service, to provide customers with excellent experience.

Qiqin Environmental Protection is not only a practitioner of environmental sustainable development, but also an active promoter of this concept. Based on innovative technology, we are committed to providing high-quality services, and work with you to protect clear water and blue sky, restore ecological balance, and benefit future generations.



Serve Customers
6000+



Markets
China, Asia, Europe,
North America,
South America, Africa



Headquarter
Changsha,
Hunan Province, China

Company Certificates



02 | Pure Water Equipment for Laboratory

Central Pure Water System for Laboratory (dual-core)



Product features and advantages

- ✓ Dual-module uninterrupted water production self-adaptation of high and low peak water supply
- ✓ Six-channel high sensor Real-time monitoring of water quality
- ✓ Date and time setting Optional timed power on/off Fault, Alarm record
- ✓ Permission confirmation, Security Separation of water and electricity, Voltage safety protection
- ✓ Dual 10-inch HD touchscreens Minimalist interactive design
- ✓ Integration and built-in dual-module Small footprint less than 2m²
- ✓ Antibacterial design ,Sterilizing respirators Dual-Wavelength UV Lamps Strictly control the growth of bacteria in water
- ✓ Built-in integrated water tank

System Parameters

Model	Q-CenTwo integrated two-module central pure water system		
Water supply method	24-hour unattended automatic water supply (water supply for one standby and one use) and can realize function of automatic power on/off		
cover an area	Footprint less than 2m ²		
Water production	200-600(L/H)		
RO water quality	≤15μs/cm (Single-stage reverse osmosis) ≤5μs/cm (Two-stage reverse osmosis)		
UP water quality	It conforms to the type I water standard of "China National Standard for Water Use in Analytical Laboratories" GB-T6682-2008.		
	Output water resistivity	18.25MΩ.cm @25℃	
	TOC	<5ppb	
	Particulate matter	(≥0.2μm) <1/ml	
	Heavy metal ions	<0.1ppb	
	Microorganism	<1 cfu/ml	
	Pyrogen	<0.001Eu/ml	
	RNases	<1pg/ml	
	DNases	<5pg/ml	
	Length*Width*Height	1180*880*1800mm	
	Weight	200KG	
	Power	2KW	

Central Pure Water System for Laboratory (single-core)

The produced water meets the highest water quality standards of GB6682-2008, ASTM, CAP, CLSI, EP and USP, as well as CE regulations by European Union.



Product advantages

- ✓ Fully automatic operation
Water quality monitoring
Touch buttons
- ✓ All-in-one integrated design
Built-in integrated water tank
Floor space saving
- ✓ Municipal tap water
High quality pure water≤5μs/cm
Ultra pure water≥18.2MΩ.cm
- ✓ Support remote monitoring
Internet of Objects + Interface

Application area

- Laboratories of scientific research institutes and universities, medical laboratory departments, various laboratories of physical and chemical, microbiological, analytical, scientific research, etc.

Technical Parameters

Model	Q-Center-2RO Two-stage reverse osmosis series	Q-Center-RED (Reverse osmosis + EDI)	Q-Cente-2RED (Two-stage reverse osmosis + EDI + Purification)
Water Production	200 /300 /500/1000/1500 /2000(L/H)		
Operating conditions	Feed water requirements: Municipal tap water (pressure 0.2-0.4MPa, temperature 5-45℃) Electrical requirements: 380V/AC 50Hz, Power: 2-6KW		
Primary reverse osmosis conductivity	≤10μs/cm(25℃)		
Secondary reverse osmosis conductivity	≤5μs/cm(25℃)		
EDI resistivity	N/A	10-15MΩ.cm(25℃)	
Pure water resistivity	18.25MΩ.cm(25℃)		
Bacteria	<10/ml	<1/ml	<1/ml
Particulate matter	N/A	(≥0.2μm) <1/ml	
Length*Width*Height	1180*880*1800mm		

Ultrapure Water System Q-LAB Series



Product features

The produced water meets the highest water quality standards of GB6682-2008, ASTM, CAP, CLSI, EP and USP, as well as CE regulations by European Union.

- ✓ Fully automatic operation
Self-checking when powered on, Protection for water shortage and water full
Low pressure and overpressure protection
- ✓ Microcomputer controlled
Touch buttons
Display real-time water quality
- ✓ Plug-in all-in-one design
No special tools are required for maintenance
Imported terminal microfilter
Imported ultraviolet lamp
- ✓ Low operating power and low noise
Anti-interference, A variety of configurations are available

Technical Parameters

Ultrapure Water System Q-LAB Series			
Name	Ultrapure Water System Q-LAB Series		
Model	Q-LAB-DI	Q-LAB-DV	LBA-ZW ultrapure water machine
Water Production	10-125(L/H)		10~250L/H
UP water resistivity	18.25 MΩ.cm(25°C) (Online monitoring)		
RO water quality	≤Inlet conductivity x3% (online monitoring). Two-stage reverse osmosis ≤5us/cm		/
Feed water requirements	TDS < 200ppm; Water pressure 0.10 ~ 0.40MPa, Water temperature 5 ~ 45°C; TOC < 100ppb		Reverse osmosis water, distilled water, or deionized water, 5-45°C, RO water conductivity ≤ 10μs/cm
UP water quality	Particulate matters ≤ 1/ml Heavy metal ions ≤ 0.1ppb Microorganism ≤ 1cfu/ml TOC ≤ 15ppb	Microorganisms ≤ 1cfu/ml Heavy metal ions ≤ 0.1ppb TOC ≤ 10ppb Pyrogen ≤ 0.001EU/ml	Heavy metal ions < 0.1ppb TOC < 3ppb Bacteria < 1cfu/ml Particulate matter (≥ 0.2μm) < 1/ml Pyrogen < 0.001EU/ml RNases < 1pg/ml
UV ultraviolet digestion instrument	N/A	185/254NM	
Applications range	AAS, AES, IC, MC, ICP, HPLC, Electrochemical interface studies, In vitro fertilization	IVF, PCR, ICP-MS, HPLC, Electrochemical interface studies, Plant and animal cell culture, Genetic studies	HPLC, GC-MS, ICP-AES, ICP-MS, AAS, GF-AAS, Cell and culture media preparation, PCR application and analysis, TOC analysis, IC monoclonal antibody production, DNA sequence analysis, Ultra-trace and trace inorganic and organic analysis, cell culture
Dimensions of the main unit	5-30L/H (420*350*520mm); 40-60 L/H, (520*400*940); 80-125 L/H(630*450*1230mm)		(420*350*520mm)
Power supply	AC 220V~50Hz (Power50-200W)		220V、50Hz/50W

Ultrapure Water System Q-MID Series



Product features and advantages

Conforms to type I water highest standard of GB6682-2008, ASTM, CAP, CLSI, EP and USP.

- ✓ 3.2 inch HD screen
Display real-time water quality and status
- ✓ Reminder and setting of consumables
Display real-time remaining time
- ✓ The system operates automatically with two pumps
Automatic cycle at regular intervals
Ensure stable water quality
- ✓ Patented sterile water tank
Hygienic one-piece molding
Water and electricity separation structure
- ✓ Optional capacitive screen, WIFI module, etc.
The optional water tank can be used in multiple scenarios
- ✓ Display RO water, UP water and liquid level

Technical Parameters

Ultrapure water system Q-MID series		
Name	Ultrapure water system Q-MID series	
Model	Q-MID-DI	Q-MID-DV
Water production	10/20/40/60/(L/H)	
UP water resistivity	18.25 MΩ.cm(25°C) (Online monitoring)	18.25 MΩ.cm(25°C) (Online monitoring)
RO water quality	≤Inlet conductivity x2% (online monitoring)	
Feed water requirements	TDS < 200ppm; Water pressure 0.10 ~ 0.40MPa, Water temperature 5 ~ 45°C; TOC < 100ppb	
UP water quality	Resistivity 18.25MΩ.cm Particulate matter ≤ 1/ml, Heavy metal ions ≤ 0.1ppb, Microorganisms ≤ 1cfu/ml, TOC ≤ 10ppb,	Resistivity 18.25MΩ.cm Heavy metal ions ≤ 0.1ppb, Microorganism ≤ 0.01cfu/ml, TOC ≤ 5ppb, Pyrogen ≤ 0.001EU/ml
UV ultraviolet digestion instrument	N/A	185/254NM
Applications range	AAS, AES, IC, MC, ICP, HPLC, Electrochemical interface studies, In vitro fertilization	IVF, PCR, ICP-MS, HPLC, Electrochemical interface studies, Plant and animal cell culture, Genetic studies
Dimensions of the main unit	10-20L/H (405*305*550mm) 40-60 L/H (515*350*940mm)	
Power supply	AC 220V ~ 50Hz (Power 50-200W)	

Ultrapure Water System Q-STER-T Series (high-end type)

The best choice for high-end ultrapure water users

The Q-STER-T series is an efficient, convenient and high-quality ultrapure water system, the series uses tap water as the water source, and the MV series uses pure water, distilled water, reverse osmosis water and secondary water as the inlet water to produce high-quality ultrapure water. The output water meets and exceeds type I water quality standards of ASTM, CLSI and GB-T6682-2008 for analytical laboratory water.

Product features

- ✓ ABS integrated molding engineering plastics are used to eliminate corrosion and rust
- ✓ 5-inch large screen, real-time display of running status
- ✓ USB interface, support data copying, downloading, printing, storage
- ✓ Automatically record 5 years of water quality data to help laboratory data statistics
- ✓ Real-time monitoring of raw water, RO water, and UP ultrapure water quality
- ✓ It can detect data such as water temperature, TOC value, and tank level
- ✓ The circulating system starts and stops as needed to keep the system pollution-free
- ✓ The two-levels passwords to the factory and the user, and the system settings are password protected to prevent unauthorized changes



Technical Parameters

Ultrapure Water System Q-STER-T series			
Name	Ultrapure Water System Q-STER-T series		
Model	Q-STER-T-DI	Q-STER-T-DV	Q-STER-T-MV
Feed water requirements	TDS<200ppm; Water pressure0.10~0.40MPa ,Water temperature5~45℃ ; TOC<100ppb		pure water, distilled water, reverse osmosis water and secondary water are as inlet water
UP water resistivity	18.25 MΩ.cm(25℃) (Online monitoring)		
Water production	T10/20/40/60/(L/H)	L40/60/80/100/125(L/H)	1-90L/H ≥1.5(L/min)
RO water quality	≤Inlet water conductivity x2% (online monitoring)		/
UP water quality	Resistivity18.25MΩ.cm Particulate matter≤1/ml Heavy metal ions≤0.1ppb Microorganisms≤1cfu/ml TOC≤10ppb	Microorganism≤0.01cfu/ml Heavy metal ions≤0.1ppb TOC≤3ppb Pyrogen≤0.001EU/ml RNase≤1pg/ml DNase≤5pg/ml	TOC(ppb)≤3(Online monitoring) Bacteria(CFU/ml)≤0.01 Particulate matter≥0.22μm≤1/ml Endotoxin(Eu/ml)≤0.001 Soluble silica≤0.01mg/L RNase≤1pg/ml DNase≤5pg/ml
UV ultraviolet digestion instrument	N/A	185/254NM	185/254NM
Applications range	AAS, AES, IC, MC, ICP, HPLC, Electrochemical interface studies, In vitro fertilization	IVF, PCR, ICP-MS, HPLC, Electrochemical interface studies, Plant and animal cell culture, Genetic studies	Water for gene research, molecular biology, life science, tissue culture, bioengineering, animal and plant cell culture, amino acid analysis, protein purification, toxicology research, IVF experiments, DNA sequencing, ICP-MS, LC-MS, HPLC, GC, AAS, PCR, TOC, peptide profiling, other high-end research and high-precision analysis experiments.
Applications range	AC 220V~50Hz (power50-200W)		
Water tank	QIQIN patented 60L water tank		
Dimensions of the main unit	10-30L/H(530*350*500mm)	40-60 L/H(550*380*1020mm)	530*350*500mm
Weight	10-20L/H (35KG)	40-60L/H (60KG)	80-125L/H (80KG)

Ultrapure Water System Q-STER-G Series (high-end type)

The system adopts pretreatment and two-stage reverse osmosis configuration to produce lab type III water quality, combined with the ultra-purification module to obtain ultrapure water with resistivity 18.25MΩ.cm (25℃) . The perfect process and system performance is suitable to a variety of complex water sources, and the produced water can meet various experimental requirements. It is the best choice for high-end laboratory users.

Water production: 10L/H - 60L/H

System features and advantages



- ✓ ABS integrated molding engineering plastics are used to eliminate corrosion and rust.
- ✓ The 5-inch large touch color screen operation interface displays the real-time operation status and water quality is fully monitored. It has a USB interface, which supports data copying, downloading, printing, storage. It automatically record water quality data for five years to help laboratory data statistics.
- ✓ Online 3-channel water quality monitoring, real-time monitoring of raw water/RO water, RO water/EDI pure water, UP ultrapure water quality, and can also detect water temperature, TOC value, water tank level and other data.
- ✓ Fully automatic RO membrane anti-scale rinsing procedure to prolong the service life of RO membrane
- ✓ The ultrapure water circulation system can be started and shut down freely, maintaining a low level of bacterial contamination in the system.
- ✓ Two-levels passwords to factory and user, system settings are protected by passwords to prevent unauthorized changes.
- ✓ The lifetime of pretreatment, RO membrane, UV lamp and ultra-purification column can be set, showing the used and remaining time of consumables, and automatic reminders when consumables are due to be replaced to avoid water quality degradation.
- ✓ Metered water intake function (timing: 1-60 liters)
- ✓ Pretreatment, RO membrane, and ultra-purification components adopt a modular independent structure, which makes system maintenance and filter element replacement more convenient, and conforms to GLP specifications. Using DOW original imported RO membrane and DOW ultra-purification resin, the combination of long life of RO membrane and high-quality water quality is realized.

- ✓ Dual-wavelength (185nm&254nm) UV lamp assembly (imported lamp) can effectively sterilize, reduce TOC, and enhance the scope of application of the system.
- ✓ (0.45+0.1)μm imported PES polyethersulfone composite membrane terminal sterilization filter to ensure water quality sterility.

- ✓ 5000DUF ultrafiltration assembly (original imported), effectively remove pyrogen (endotoxin), can be used for precision cell culture and IVF.
- ✓ QIQIN water tank is integrally molded with sanitary non-transparent plastic, top air filter, three-stage liquid level control and ultraviolet sterilization of the water tank to strictly control growth of bacteria in the water tank.

Technical Parameters

Ultrapure Water System Q-STER-G series			
Name	Ultrapure Water System Q-STER-G series		
Model	Q-STER-G10/20/40/60/2RDI	Q-STER-G10/20/40/60/2RDV	
Feed water requirements	TDS<200ppm; Water pressure0.10~0.40MPa ,Water temperature5~45℃ ; TOC<100ppb		
RO water quality	≤5 μs/cm(Two-stage reverse osmosis process)		
Resistivity	18.25 MΩ.cm(25℃) (Online monitoring)		
Water production	10/20/40/60/(L/H)		
UP water quality	Resistivity18.25MΩ.cm Particulate matter≤1/ml Heavy metal ions≤0.1ppb Microorganism≤1cfu/ml TOC≤10ppb	Resistivity18.25MΩ.cm Microorganism≤0.01cfu/ml, Heavy metal ions≤0.1ppb, TOC≤3ppb, Pyrogen≤0.001EU/ml RNase≤1pg/ml DNase≤5pg/ml	
UV ultraviolet digestion instrument	N/A	185/254NM	
Dimensions of the main unit	10-20L/H (530*350*500mm)	40-60 L/H (700*520*1300mm)	
Power	AC 220V~50Hz (Power50-200W)		
Weight	10-20L/H (35KG)	40-60L/H (60KG)	
Water tank	QIQIN patented 60L water tank		
Applications range	AAS, AES, IC, MC, ICP, HPLC, Electrochemical interface studies, In vitro fertilization	IVF, PCR, ICP-MS, HPLC, Electrochemical interface studies, Plant and animal cell culture, Genetic studies	

Ultrapure Water System Q-STER-E Series (high-end type)

The system adopts advanced EDI technology and modules, which can obtain stable type I water with resistivity $\geq 10\text{M}\Omega\cdot\text{cm}$ (25°C) without chemical regeneration. It can save the cost of use and reduce wastewater discharge, and can obtain ultrapure water with resistivity $18.25\text{M}\Omega\cdot\text{cm}$ (25°C) by combining with the post-ultra-purification module.

Water production: 10L/H - 150L/H, users can choose the desired model according to their water needs

Product features



- ✓ The QIQIN unique EDI module technology is adopted, the water quality is stable, and the durability is strong
- ✓ ABS integrated molding engineering plastics are used to eliminate corrosion and rust.
- ✓ The 5-inch large touch color screen operation interface displays the real-time operation status and water quality is fully monitored. It has a USB interface, which supports data copying, downloading, printing, storage. It automatically record water quality data for five years to help laboratory data statistics.
- ✓ Online 3-channel water quality monitoring, real-time monitoring of raw water/RO water, RO water/EDI pure water, UP ultrapure water quality, and can also detect water temperature, TOC value, water tank level and other data.
- ✓ Fully automatic RO membrane anti-scale rinsing procedure to prolong the service life of RO membrane
- ✓ The ultrapure water circulation system can be started and shut down freely, maintaining a low level of bacterial contamination in the system.
- ✓ Two-levels passwords to factory and user, system settings are protected by passwords to prevent unauthorized changes.
- ✓ The lifetime of pretreatment, RO membrane, UV lamp and ultra-purification column can be set, showing the used and remaining time of consumables, and automatic reminders when consumables are due to be replaced to avoid water quality degradation.
- ✓ Metered water intake function (timing: 1-60 liters)
- ✓ Pretreatment, RO membrane, and ultra-purification components adopt a modular independent structure, which makes system maintenance and filter element replacement more convenient, and conforms to GLP specifications. Using DOW original imported RO membrane and DOW ultra-purification resin, the combination of long life of RO membrane and high-quality water quality is realized.
- ✓ (0.45+0.1) μm imported PES polyethersulfone composite membrane terminal sterilization filter to ensure water quality sterility.
- ✓ QIQIN water tank is integrally molded with sanitary non-transparent plastic, top air filter, three-stage liquid level control and ultraviolet sterilization of the water tank to strictly control growth of bacteria in the water tank.
- ✓ Dual-wavelength (185nm&254nm) UV lamp assembly (imported lamp) can effectively sterilize, reduce TOC, and enhance the scope of application of the system.
- ✓ 5000DUF ultrafiltration assembly (original imported), effectively remove pyrogen (endotoxin), can be used for precision cell culture and IVF.

Technical Parameters

Model	Ultrapure Water System Q-STER-E series
Water production	10L/hr, 20L/hr, 30L/hr, 40L/hr, 60L/hr, 80L/hr, 100L/hr, 120L/hr
Water intake flow(L/min)	≥ 2 (L/min)(When there is water in the tank)
RO water conductivity	water conductivity=raw water conductivity x2% ($<10\mu\text{s}/\text{cm}(25^\circ\text{C})$)
EDI resistivity (type II water)	$\geq 10\text{M}\Omega\cdot\text{cm}(25^\circ\text{C})$
TOC (ppb)	<3 (Online monitoring)
Bacteria (CFU/ml)	<0.01
UP resistivity	$18.25\text{M}\Omega\cdot\text{cm}(25^\circ\text{C})$ (Online monitoring)
Particulate matter (0.22 $\mu\text{m}/\text{ml}$)	<1
Endotoxin (Eu/ml)	0.001
Soluble silica	$<0.01\text{mg}/\text{L}$
RNase	$\leq 1\text{pg}/\text{ml}$
DNase	$\leq 5\text{pg}/\text{ml}$
PH	Neutral
Dimension (length x width x height)mm	10-30L/H(530*350*500mm)、40-60 L/H (550*380*1020mm)、80-125 L/H (700*520*1300mm)
Power	220V、50Hz/100W-600W
Applications range	Water for gene research, molecular biology, life science, tissue culture, bioengineering, animal and plant cell culture, amino acid analysis, protein purification, toxicology research, IVF experiments, DNA sequencing, ICP-MS, LC-MS, HPLC, GC, AAS, PCR, TOC, peptide profiling, other high-end research and high-precision analysis experiments.

Common Pure Water Standards

Specifications and test methods of high-purity water for instrumental analysis GB/T33087-2016

GB/T33087-2016	
Name	Specifications
Resistivity(25°C)/($\text{M}\Omega\cdot\text{cm}$)	≥ 18
TOG/ $\mu\text{g}/\text{L}$	≤ 50
Sodium ion/ $\mu\text{g}/\text{L}$	≤ 1
Chloride ion/ $\mu\text{g}/\text{L}$	≤ 1
Silicon/ $\mu\text{g}/\text{L}$	≤ 10
Total number of bacteria/CFU/mL	Acceptance

Water specifications for analytical laboratory GB/T 6682—2008

Name	Type I	Type II	Type III
PH value (25°C)	—	—	5.0-7.5
Conductivity(25 $^\circ\text{C}$) (mS/m)	<0.01	<0.10	<0.50
Oxidizable substance content (O)/(mg/L)	—	<0.08	<0.4
Absorbance (254nm, 1cm optical path)	<0.001	<0.01	—
Evaporation residue (1051: ± 2.0 Content)/(1 $^\wedge$ /1)	—	<1.0	<2.0
SiO ₂ Content/(mg/L)	<0.01	<0.02	—

Note 1: Because it is difficult to test the true PH value of type I and type II water, the PH value range of type I and type II water is not specified.
Note 2: Due to the difficulty in determining oxidizable substances and evaporation residues in type I water, the limits are not specified. Other conditions and preparation methods can be used to ensure the quality of type I water.

Cleaning water standards (WS310.2-2016)

Technical parameters	Required value
siO ₂	$\leq 1\text{mg}/\text{L}$
Iron	$\leq 0.2\text{mg}/\text{L}$
Lead	$\leq 0.005\text{mg}/\text{L}$
Trace heavy metals other than iron, cadmium, and lead	$\leq 0.1\text{mg}/\text{L}$
Cl	$\leq 2\text{mg}/\text{L}$
P ₂ O ₅	$\leq 0.5\text{mg}/\text{L}$
Conductivity (at 20°C)	$\leq 15\mu\text{s}/\text{cm}$
PH value (acidity)	5-7.5
Color	Colorless
	Clarity
Hardness	No impurities
	$\leq 0.02\text{mmol}/\text{L}$

Water for hemodialysis and related treatments YY0572-2015

Items	Index (mg/L)
Calcium	≤ 2
Magnesium	≤ 4
Sodium	≤ 70
Potassium	≤ 8
Total Chloride	≤ 0.1
Nitrate	≤ 2
Sulfate	≤ 100
Copper, Barium, Zinc, Tin	≤ 0.1
Arsenic, Lead, Silver	≤ 0.005
Cadmium	≤ 0.001
Mercury	≤ 0.0002
Bacteria	$\leq 100\text{CFU}/\text{ML}$
Endotoxins	$\leq 0.25\text{EU}/\text{ML}$

03 | Medical Pure Water Equipment

Pure Water Equipment for Clinical Laboratory

System Introduction

Q-CENTER-RED pure water equipment is used in clinical laboratory, pathology department and other departments of hospital which need ultrapure water. The equipment adopts integrated design, circulating constant pressure water supply, small footprint, modular design components, high-quality water quality assurance.

The Q-CHE-SR pure water system is suitable for biochemical analyzer, automatic analysis equipment, clinical laboratory, etc. The system uses municipal tap water as the inlet water to prepare high-quality deionized pure water ($\leq 0.1 \mu\text{m/cm}$ (25°C)). A variety of configuration options can fully meet the various water needs of the medical laboratory department.

Product features



- ✓ Fully automatic operation, self-checking when booting, protection for raw water low pressure, automatic shutdown when over-pressure or water is full, real-time water quality monitoring, LCD screen display.
- ✓ It adopts Cortex-A8 processor, 7-inch man-machine interface and microcomputer control, real-time animation simulation display throughout the process, and has the functions of parameter modification and data storage and printing.
- ✓ The system sets the user login password, the user name and password can be added and modified to prevent unauthorized operation and data change
- ✓ The cumulative time and real-time of system operation display, the system timing power on and off, the time and week of power on and off can be set freely by the user.
- ✓ Alarm for system fault and consumables replacement, real-time display the alarm content on the window.
- ✓ The automatic flushing design and internal circulation function of the system extend the service life of RO membrane.
- ✓ The components are imported and domestic top brands, so that the system operation is more stable and output water quality is guaranteed.

✓ The system can be upgraded with remote monitoring function, which can realize remote operation, real-time animation simulation monitoring, data display and storage, parameter modification, voice alarm, data printing and other functions

✓ It can use PLC, LCD touch screen, DCS, camera monitoring and other technologies to achieve remote automatic display, operation and control. The computer records operating parameters of the equipment and prints the report, which is convenient for analyzing the data correlation between the experimental water quality and the experimental results.

Technical Parameters	
Model	Q-Cente-RED(All-in-one integration)
Water production	500-1000L/H
Operating conditions	Water inlet requirements: municipal tap water (pressure 0.2-0.4MPa temperature 5-45°C) Electricity: 220V/AC 50Hz Power< 2KW
Reverse osmosis water conductivity	$\leq 10 \mu\text{S/cm}(25^\circ\text{C})$
EDI resistivity	$10-15 \text{M}\Omega \cdot \text{cm}(25^\circ\text{C})$
Ultrapure water resistivity	$18.25 \text{M}\Omega \cdot \text{cm}(25^\circ\text{C})$
Bacteria	<1/ml
Particulate matter	($\geq 0.22 \mu\text{m}$) <1/ml
TOC(ppb)	<10ppb

Pure Water Equipment for Endoscope and Stomatology

System Introduction

It's especially for the cleaning and disinfection of medical equipment, appliances and articles in the stomatology and endoscopy departments of hospitals.

Product core features



Fully automatic and intelligent operation

- ✓ Self-checking when booting
- ✓ Protection for inlet water low-pressure
- ✓ automatic shutdown when over-pressure or water is full
- ✓ real-time water quality monitoring and LCD screen display

Advanced man-machine interaction

- ✓ Cortex-A8 processor
- ✓ 7-inch man-machine interface
- ✓ Microcomputer control and real-time animation simulation display throughout the process
- ✓ parameter modification, data storage and printing functions

Security & Privacy

- ✓ The system sets the user login password
- ✓ Prevent unauthorized operations and data changes

Flexible system management

- ✓ The cumulative time and real-time of system operation display
- ✓ The system has the function of timing power on/off
- ✓ The time and week of power on and off can be set freely by the user

Intelligent alarm system

- ✓ System failure alarm
- ✓ Consumables replacement alarm
- ✓ Real-time display alarm content

Efficient system maintenance

- ✓ Fully automatic flushing design
- ✓ Internal circulation function
- ✓ Extend the service life of RO membrane

High-quality components

- ✓ The components are imported and domestic top brands
- ✓ Ensure the stable operation of the system
- ✓ Ensure output water quality

Remote monitoring and upgrading

- ✓ Remote monitoring function upgrade
- ✓ Realize remote operation and real-time monitoring
- ✓ Data display, storage, and parameter modification
- ✓ Voice alarm and data printing

Advanced technology integration

- ✓ PLC, LCD touch screen, DCS, camera monitoring technology
- ✓ The computer records operating parameters of the equipment
- ✓ Print reports and analyze correlation of water quality with experimental data

Technical Parameters	
Name and model	Q-Center-RO (Single-stage / Two-stage reverse osmosis)
Water production	100/300/500/1000/1500/2000 (L/H)
Operating conditions	Water inlet requirements: municipal tap water (pressure 0.2-0.4MPa temperature 5-45°C), Electricity: 380V/AC 50Hz power: 2-3 KW
Output water conductivity	$\leq 15 \mu\text{S/cm}$ $\leq 5 \mu\text{S/cm}$
Bacteria rate	$\geq 99.9\%$
Total number of colonies	$\leq 10 \text{cfu}/100 \text{ml}$
Standard	WS 507-2016 Technical standard for cleaning and disinfection of flexible endoscopes

Pure Water Equipment for CSSD

System Introduction

Pure water system is suitable for cleaning and sterilizing medical instruments and appliances. It's used with ultrasonic cleaning machine and pressure steam sterilizer.

Product core features



Fully automatic and intelligent operation

- ✓ Self-checking when booting
- ✓ Protection for inlet water low-pressure
- ✓ automatic shutdown when over-pressure or water is full
- ✓ real-time water quality monitoring and LCD screen display

Advanced man-machine interaction

- ✓ Cortex-A8 processor
- ✓ 7-inch man-machine interface
- ✓ Microcomputer control and real-time animation simulation display throughout the process
- ✓ parameter modification, data storage and printing functions

Security & Privacy

- ✓ The system sets the user login password
- ✓ Prevent unauthorized operations and data changes

Flexible system management

- ✓ The cumulative time and real-time of system operation display
- ✓ The system has the function of timing power on/off
- ✓ The time and week of power on and off can be set freely by the user

Intelligent alarm system

- ✓ System failure alarm
- ✓ Consumables replacement alarm
- ✓ Real-time display alarm content

Efficient system maintenance

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Advanced technology integration

- ✓ PLC, LCD touch screen, DCS, camera monitoring technology
- ✓ The computer records operating parameters of the equipment
- ✓ Print reports and analyze correlation of water quality with experimental data

Technical Parameters

Name and model	Q-Center-RO (2+1 mode)	
Water production	500L/1000L/1500L/2000L (L/H)	
Operating conditions	Water inlet requirements: municipal tap water (pressure 0.2-0.4MPa temperature 5-45°C) Electricity: 380V/AC 50Hz power: 2-3 KW	
Output water conductivity	≤5μs/cm (two-stage RO)	≤15μs/cm(single-stage RO)
Bacteria removal rate	≥ 99.9%	
Standard	WS 310.1/2/3-2016 Central Sterile Supply Department	

Pure Water Equipment for Hemodialysis

Product core features

Produced water quality: The chemical pollutants and microbial in water meet the requirements of United States AAMI/ASAIO dialysis water standards, YY0572-2015 "Water for hemodialysis and related treatments".

Product features



- ✓ Welding process: automatic circumferential seam welding, smooth welding inside and outside the pipe, no groove and welding slag in the inner weld when touched by hand, and inert gas protection inside and outside.
- ✓ Stainless steel 304 sanitary membrane shell structure, with bottom fixing, easy to maintain.
- ✓ Flushing when turn on and off, quickly clean the reverse osmosis internal environment.
- ✓ With the night pulse flushing function, the system can be set to prepare water at a regular time according to the user's intention, preventing rapid reproduction of microorganisms in the water pipeline in summer.
- ✓ Disinfection: True one-touch chemical disinfection, operated by electric valve, without any manual valve operation.
- ✓ Emergency conversion: automatic emergency conversion, which can be easily completed by the operator on the control surface of the equipment.

- ✓ Self-diagnosis and alarm: The system have sound and light alarm function, display fault cause, alarm status and other information for convenient for diagnosis. Also the system has alarm functions for pressure, flow, power supply and conductivity exceeded.
- ✓ Control system: Siemens PLC + touch screen, Chinese menu operation, password protection function, expandable IT connection and remote monitoring.
- ✓ Scheduled water production: It can automatically stop working with the dialysis device and set the working time according to the user's requirements.

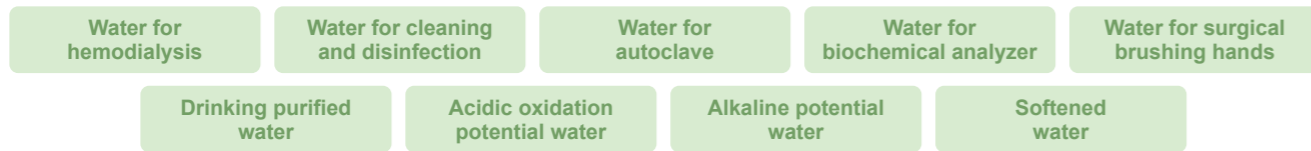
Main Parameters

Two-stage reverse osmosis system, primary and secondary direct coupling, secondary direct supply water, ion removal rate ≥ 99.5%							
Endotoxin	<0.25EU/mL	Bacterial removal rate	≥99%	Dissolved salt removal rate	≥99%	System drain rate	≥99% No dead space
Electrical safety	It meets the requirements of GB4793.1-2007 Part 1 "General Requirements" of "Safety Requirements for Measurement, Control and Laboratory Electrical Equipment"						
Raw water quality	The water quality meets GB5749-2006 "Hygienic Standard for Drinking Water", hardness≤ 200mg/L (CaCosi)						
Raw water pressure	0.25 MPa~0.45 MPa						
Water supply	The feed water is at least twice the designed treatment water						
Standard	YY0572-2015 "Water for Haemodialysis and Related Treatments"						

Overall Water Supply System for Hospital

Overview

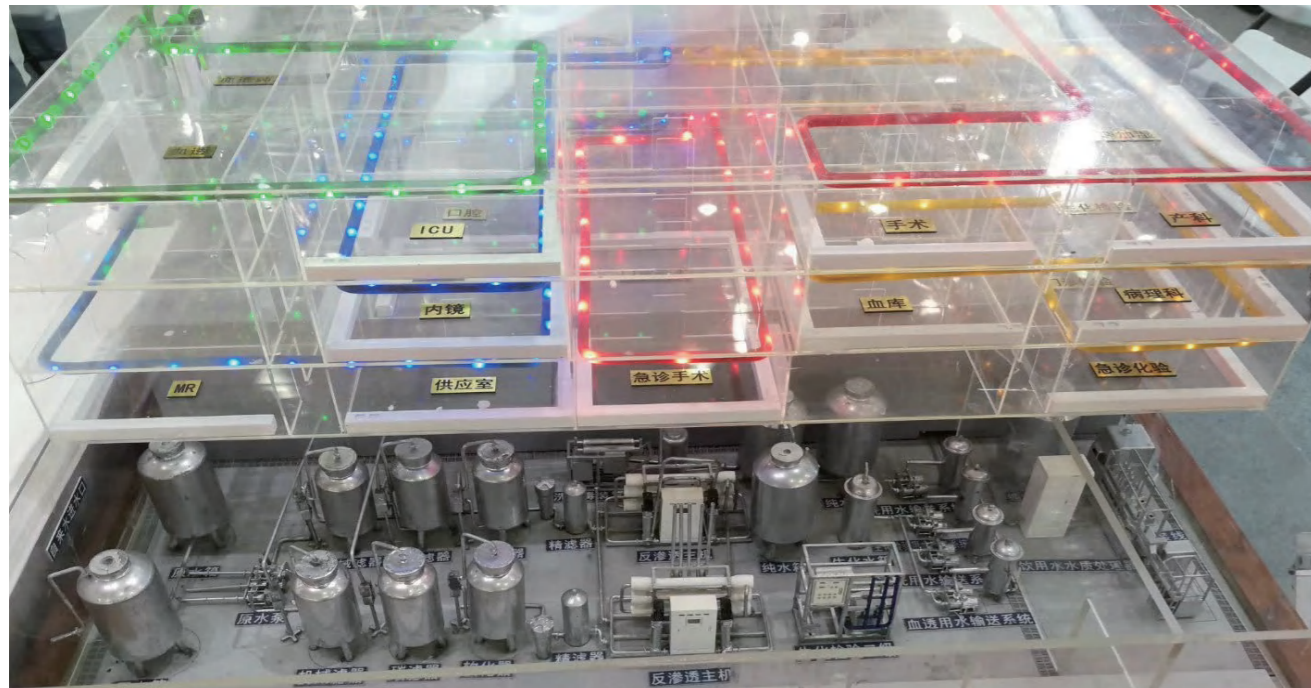
Through the mode of central purification and quality water supply, water use in the whole hospital is solved. The water purification host conducts advanced treatment of tap water to make it meet the basic water quality standards for direct drinking water and direct use by various medical laboratory departments, and then supplies it to all departments through the whole internal circulation pipe network and terminal treatment device. That is, a system with multiple waters, covering the water needs of the whole hospital.



It mainly solves the problems of water use for hospital hemodialysis center, ICU room, disinfection supply room, decontamination room of operating department, DSA catheter cleaning room, endoscopic cleaning room, obstetrics and gynecology, stomatology, biochemical laboratory, pharmacy, pathology, medical laboratory and direct drinking water for hospital outpatient and emergency, office logistics and ward.

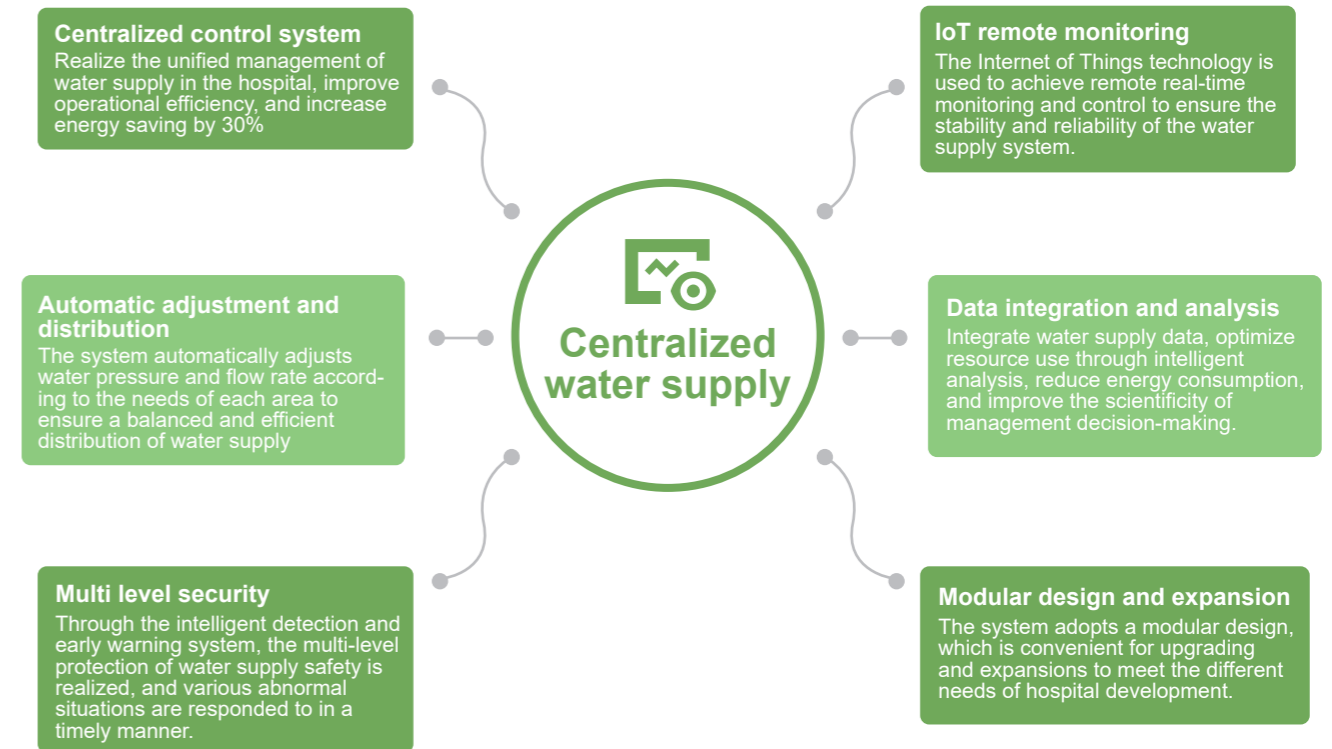
The medical central water supply system solves the different water needs by each department of the hospital, carries out intelligent and integrated unified regulation and management, meets the high level demand for water quality by hospital, and further guarantees the safe water for patients and the healthy drinking water for medical staff.

Most of the water sources come from municipal tap water, so the indicators of raw water should meet the "Sanitary Standards for Drinking Water". However, many professional departments of the hospital need to treat raw water in order to meet the requirements of actual use, and the difference in water quality requirements determines the system characteristics of "centralized water production and quality water supply".



Characteristic

Rational settings and professional designs have been made in terms of hydropower planning, pipe network layout, equipment, terminal use, smart IoT, economic benefits and other aspects, which can not only meet the needs of hospitals, but also make in-depth use of water resources to ensure safety of water production, water supply and water use. The system realizes closed circulation pipeline transportation for the whole process. The transportation pipeline adopts high-quality stainless steel pipes. It can be fully automatic unattended 24H*7 operation, network visual management, seamless docking of management platform, intuitive and humanized interface, visual prediction for consumables life and replacement guiding, multimedia alarm for equipment fault, automatic fault isolation and automatic emergency treatment plan.



Hospital water quality category	Department	Water quality standard
Water for hemodialysis	hemodialysis center, ICU	YY0572-2015 "Water Standard for Hemodialysis and Related Treatments"
Water for biochemical analysis	Biochemical, laboratory, pathology, experimental center, etc	GB/T6682-2008 "National Standard for Water Use in Analytical Laboratories"
Water for medical cleaning	Center Supply Room, Endoscopy Center, DSA, department of stomatology	WS 310.1/2/3-2016 "Disinfection Supply Center of hospital" WS 507-2016 "Technical standard for cleaning and disinfection of flexible endoscopes"
Water for rinsing	Surgery center, obstetric hand brushing, baby washing	Sterile rinse water standard
Softened water	Boiler room, air conditioning, supply center	GB1576-2008 "Industrial boiler water quality"
Drink purified water	Waiting area, office area, nurse's station, ward, boiling water room	CJ94-2005 "Water quality standards for drinking purified water"
Acid-alkaline water	Disinfection Supply Center, Endoscopic Cleaning Center, Hemodialysis Center, Operating Room, Stomatology, Obstetrics, Infectious Diseases	GB28234-2011 "Safety and Hygiene Standards for Acid Oxidation Potential Water Generators"

04 | Industrial Water Purification Equipment

Purified Water Equipment For Biopharmaceuticals

Brief introduction

Provide a complete set of water treatment solutions for biopharmaceutical, the biopharmaceutical water preparation system follows the modular design concept, based on functional units such as pretreatment, oxidation disinfection, multi-media filtration, RO reverse osmosis, UV disinfection, EDI continuous deionization and storage and transportation, and implements advanced technology, exquisite technology and strict quality control to each functional unit in the design, manufacturing and commissioning process; The final water production device is optimized and combined by various functional modules according to different water standards, so as to ensure the high performance and high quality of the whole system, so that the produced water can fully meet or exceed the standards of purified water and water for injection, and meet the water requirements for purified water or distilled water by pharmaceutical factories, hospitals and laboratory diagnostic reagents. The entire system is made of SUS304L or SUS316L stainless steel. Available disinfection methods are: activated carbon pasteurization, CIP cleaning system, ozone sterilization of distribution system, pasteurization of distribution system, pure steam sterilization of distribution system.



Industry System Solutions

According to the water needs of chemical raw materials, chemical preparations, traditional Chinese medicine decoction pieces, Chinese patent medicines, biological drugs and other industries, we provide professional purified water equipment systems, water for injection equipment and water distribution system solutions.



Integrated services for water systems

Provide full-process services including system design consulting, system equipment, GMP verification consulting, upgrading, operation and maintenance, etc.



International standards

Designed in accordance with the latest Chinese, American and European Pharmacopoeia water quality standards, in line with GMP, FDA certification requirements, cGMP, ISPE/FDA guidelines.



Pre-sale service

URS requirements analysis, design, installation, commissioning, verification, training



Validation consulting services

Provide GMP, FDA verification consulting and system DQ, FAT, IQ, QQ, SAT, PQ verification data



Data-based management

Mobile phone Internet of things remote monitoring data platform, timely feedback of system operation problems

Water Purification Equipment For Injection

Brief introduction

Water for injection is not only a requirement for water treatment equipment, but also has strict requirements for on-site pipelines. Only when the pipeline design is reasonable, can it effectively avoid the rebreeding of bacteria and ensure the stability of water quality.

For water injection, it is advisable to use a large circulation pipeline to transport it, and the pipeline design should be simple, and blind pipes and dead angles should be avoided. The tubing should be made of stainless steel or other pipes that have been verified to be non-toxic, corrosion-resistant, and do not leach polluting ions. The valve should be a sanitary grade without dead angles, and the flow direction should be indicated for the delivery of purified water.

Note: Customized according to user needs (URS).



Introduction to Features

Efficient distillation process

- ✓ Scientific Computing and Optimal Design
- ✓ Combined with the advantages of domestic and foreign machines

Operation and maintenance

- ✓ Easy operation
- ✓ Stable operation
- ✓ Compact structure
- ✓ Easy maintenance

Fully automatic control

- ✓ PLC programming or touch screen control
- ✓ Human-machine dialogue interface
- ✓ Fully automatic recording and printing function
- ✓ Automatic protection device

Evaporator design

- ✓ Tube falling film evaporation technology
- ✓ Homogeneous material and water distribution
- ✓ The upper steam provides heat for the lower effect

Gas-liquid separator

- ✓ Split gas and water four separation technology
- ✓ Guarantee the quality of distilled water

Preheater efficiency

- ✓ U-shaped tube heat exchange
- ✓ High heat exchange efficiency
- ✓ Good mechanical properties

Condenser innovation

- ✓ Dual condenser design
- ✓ Multi-way round-trip structure
- ✓ No cooling water required

Piping system

- ✓ No water storage, no dead angle design
- ✓ New hygienic clamp connections
- ✓ Mirror polishing inside and out

High-end configuration

- ✓ Control valves, automatic compensation valves, throttle valves
- ✓ Conductivity meter, thermometer
- ✓ High-tech products at home and abroad

Water source requirements

- ✓ Purified water produced by reverse osmosis water must be used

Ultrapur Water Equipment For New Energy and Semiconductor

Related fields

Application range of electronic grade ultrapure water equipment (resistivity 1-18MΩ.cm ultrapure water)	
Ultrapure water equipment for electronics industry	Pure water for the production process of lithium battery new energy, monocrystalline silicon /polycrystalline silicon, semiconductor wafer cutting and manufacturing, semiconductor chips, semiconductor packaging, lead cabinets, integrated circuits, liquid crystal displays, conductive glass, batteries (batteries), picture tubes, circuit boards, optical communications, computer components, capacitors, clean products and various components.
Ultrapure water equipment for general industrial use	Pure water for glass coating, electroplating, surface coating, textile printing and dyeing, industrial liquid preparation, industrial product cleaning, etc

Internationalization standards

GB-T11446.1-2013 Electronic grade water, GB/T6682-2008 National Laboratory, Analytical Water Standard, GB1214519991 Electric Boiler Water Quality Standard

Industry System Solutions

According to water needs of the industry, we provide professional solutions of ultrapure water and pure water system.

Item	Technical Parameters			
	EW- I	EW- II	EW-III	EW- IV
Resistivity (25℃) /MΩ·cm	≥18 (5% of the time not less than 17)	≥15 (5% of the time not less than 13)	≥12	≥0.5
All-silicon/(μg/L)	≤2	≤10	≤50	≤1000
Particulate matter	0.05μm~0.1μm	500	-	-
	0.1μm~0.2μm	300	-	-
	0.2μm~0.3μm	50	-	-
	0.3μm~0.5μm	20	-	-
	>0.5μm	4	-	-
Bacteria	≤0.01	≤0.1	≤10	≤100

Introduction of ultrapure water equipment

Qiqin ultrapure water equipment adopts the modular design mode of two-stage RO + EDI + polishing mixed bed, integrates Qiqin stable flow and pressure control technology, and is used in conjunction with pre-treatment, using the principle of reverse osmosis to effectively remove various salts and impurities in water. The system has the advantages of advanced technology, stable water quality, easy operation, low operating cost, environmentally friendly and no contamination, convenient maintenance, etc. They are widely used in new energy, semiconductor and related industries.



Equipment advantages

- (1)The overall use of ultra-low pressure permeation filtration technology, energy saving can reach more than 20%, in the long run, it can save you a lot of electricity costs and reduce operating costs.
- (2)Qiqin technology support, high stability of equipment operation, using stable flow and pressure control technology, reduce membrane loss, prolong membrane service life.
- (3)Convenient operation and automatic control
- (4)Quality assurance, lifelong service

Product design advantages

Efficient water treatment technology

- ✓ Two-stage RO + EDI + mixed bed modular design
- ✓ United States GE EDI system, no need to add salt

High recovery rate and energy saving

- ✓ Maximize system recovery
- ✓ Reduce energy consumption and operating costs
- ✓ Ultra-low pressure permeation filtration technology, energy saving of more than 20%.

Water quality assurance measures

- ✓ PH Adjustment System
- ✓ Chemical cleaning system
- ✓ Concentrate displacement technology
- ✓ Special pipes for ultrapure water
- ✓ Nitrogen seal device

Brand & Material Guarantee

- ✓ International well-known brand materials
- ✓ Optimally configured design

Stability and continuity

- ✓ Water quality remains stable for short or long periods of downtime
- ✓ The terminal effluent is at constant pressure and water quality is stable

High-quality components and configurations

- ✓ DOW or Hydenex ESPA2 ultra-low pressure membranes
- ✓ PLC plus touch screen control system
- ✓ Imported electrical components

Maintenance & Service

- ✓ Easy to operate and maintain
- ✓ Quality assurance, lifelong service

05 | Clean Pipe Network Construction

Clean Pipe Network Construction

Clean pipe network, construction specifications that meet GMP standards are essential to ensure water quality and overall construction quality. GMP is a set of production and quality management specifications for the pharmaceutical, biologic, food and other industries to ensure product quality and safety.



Service field

Medical sanitary

1. Provide clean pipe network design and construction services for hospitals, clinics and other medical and health institutions
2. Ensure that the water supply system is sterile and pollution-free, in line with the high standards of the medical and health industry

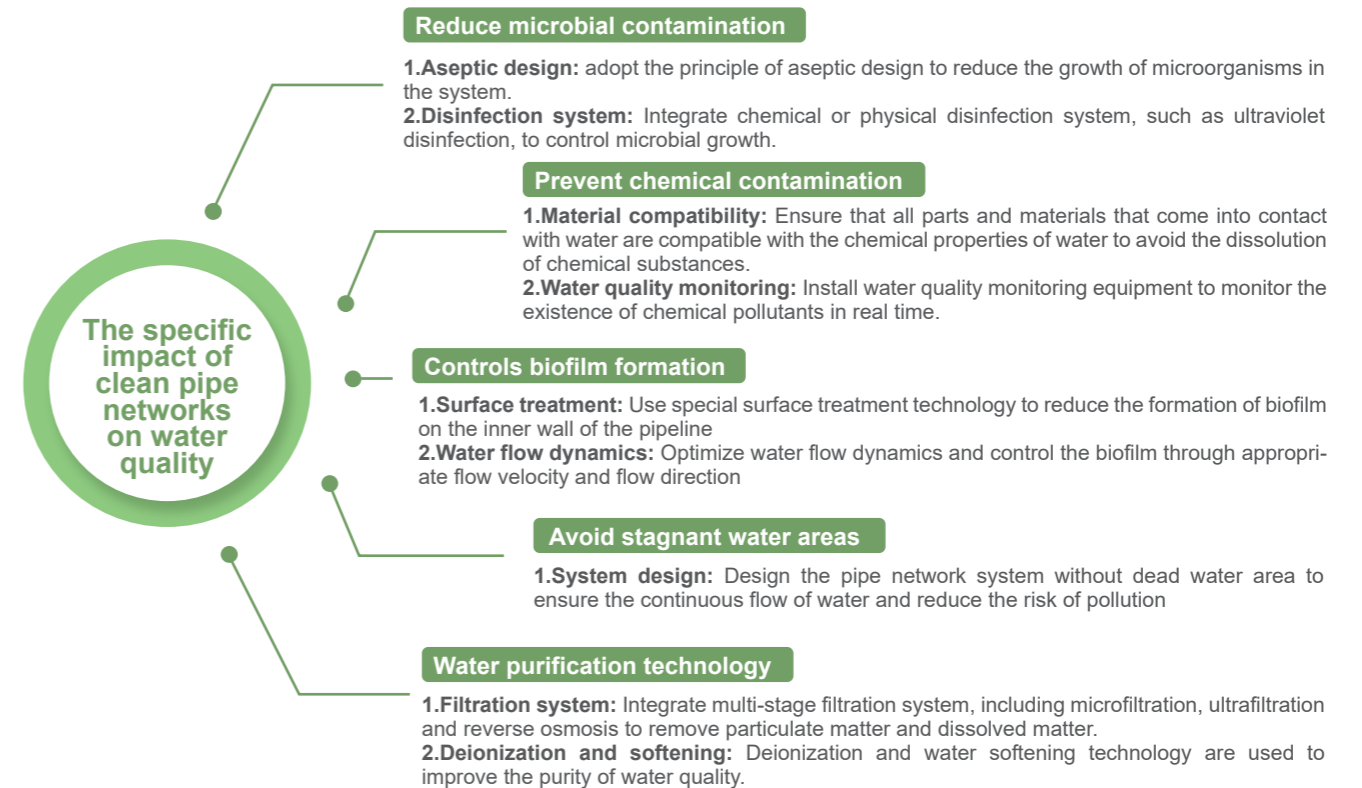
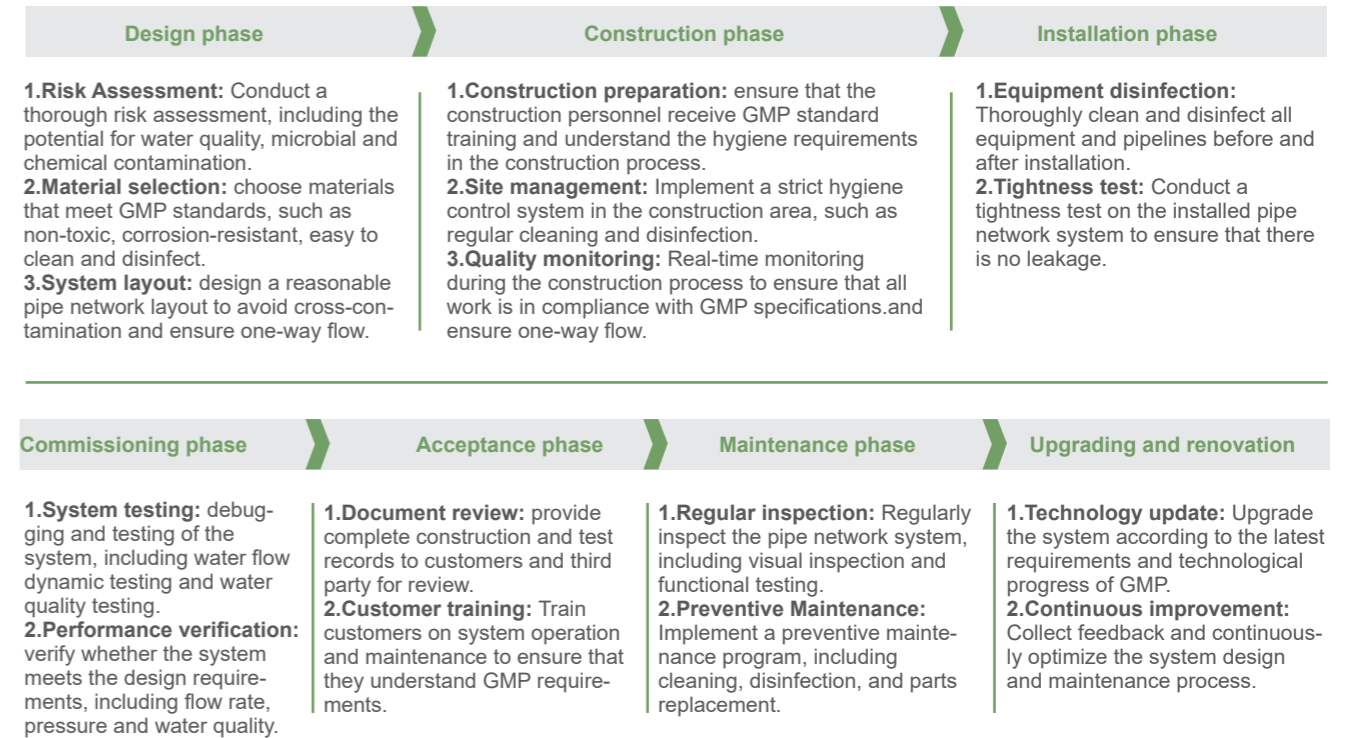
Laboratory

1. Provide high-purity and high-stability clean pipe network solutions for scientific research laboratories and testing centers
2. Design a pipe network system that meets the strict requirements of the laboratory for water quality purity

Dust-free workshop

1. Provide clean water supply system for semiconductor, electronics, optics and other dust-free workshops
2. Adopt advanced management and purification technology to ensure the high cleanliness requirements of the dust-free workshop

Follow the details of GMP regulations



06 | Wastewater Treatment Equipment

Wastewater Treatment For Laboratory — Indoor Type

Application Range

Research institute, center for disease control and prevention, animal husbandry and veterinary, drug testing, central blood station, product quality inspection, environmental monitoring, agricultural technology center, hospital physical examination center, inspection and quarantine bureau, biopharmaceuticals, oilfield petrochemicals, school, testing center, geological survey, and so on.



Wastewater Treatment For Laboratory Q-FS/LAB-IN

Water treatment capacity: 0.5~1m³/d (scalable processing capacity)
 Main device size: 900*650*1450Hmm
 Floor space: 1.6*1.0 m²
 Power supply: AC220V 0.8kW

Wastewater Treatment For Laboratory Q-FS/LAB-IIN

Water treatment capacity: 1~5m³/d (scalable processing capacity)
 Main device size: 1700*880*1850Hmm
 Floor space: 1.9*1.5 m²
 Power supply: AC220V 1.5kW

Advantages

- Small footprint;
- The product is versatile and can meet most experimental wastewater treatment needs;
- High processing efficiency;
- Fast delivery, convenient installation, short debugging cycle.

Standard

Comprehensive sewage discharge standards (GB8978-1996)
 Water quality standards for sewage discharged into urban sewers (GBT31962-2015)
 Four categories of standards for surface water environmental quality (GB3838-2002)
 Water pollutant discharge standards for medical institutions(GB18466-2005)

Features

- Remote control
- One-button start and stop
- High efficiency, energy saving, low noise
- Scalable water treatment capacity
- 4G/WIFI/RS485
- Fully automatic dosing

Wastewater Treatment For Laboratory — Outdoor Type

Product Features

The outdoor model has a beautiful appearance and does not damage the overall environment layout. The equipment uses an anti-corrosion coating to protect against wind, sun and rain. The outdoor model is suitable for no space indoor to place equipment.



Wastewater Treatment For Laboratory Q-FS/LAB-IW

Water treatment capacity: 0.5~2m³/d (scalable processing capacity)
 Main device size: 1400*2200*2100Hmm
 Floor space: 1.6*2.5 m²
 Power supply: AC220V 0.8kW

Wastewater Treatment For Laboratory Q-FS/LAB-IIW

Water treatment capacity: 3~50m³/d (scalable processing capacity)
 Main device size: Customize on order
 Floor space: Customize
 Power supply: AC220V

Features

- Equipment installed outdoors
- Modular design, scalable processing capacity
- Protect against complex working conditions such as wind, rain, sun, etc.

Processed Objects

- Acidic and alkaline substances
- organic matter
- heavy metals
- inorganic matter
- suspended matter
- pathogens

Functions And Features

- Fully automated programmable control, high-definition human-machine touch screen operation.
- It has remote monitoring and operation, and can be connected to the building central control platform. It provides multiple data interfaces such as 4G, WIFI, LAN and RS485.
- Real-time dynamic display of equipment operation, PH monitoring, component status monitoring, flow, pressure and other multi-functional integration.
- Easily expand multi-terminal water quality data monitoring (COD, BOD, ammonia nitrogen, suspended solids, etc.
- Cloud platform data storage.

Sewage Treatment

Features

Applications: hospital sewage treatment, laboratory building sewage treatment, university sewage treatment, domestic sewage treatment, etc

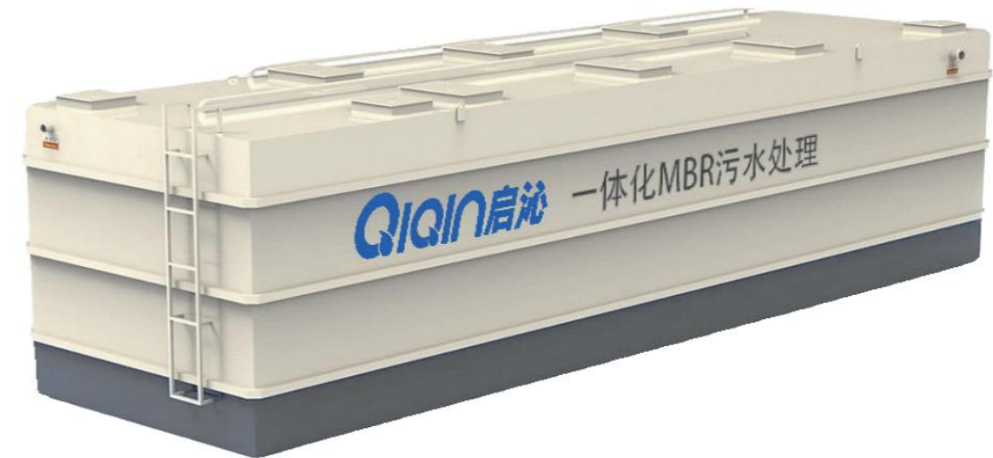
Processing capacity: 5-300 tons/day

Installation: buried in the ground, on the ground (basement), container integration type

Advantages: Customized size according to the available site, can bring its own processing room, integrated integration



Treatment technology: IC anaerobic reaction, A/O, A/O2, electrochemical super oxidation, Fenton, micro-electrolysis, high-efficiency precipitation, high-efficiency filtration, MBR method, UV disinfection, ozone disinfection and other technologies, which can treat different high and low concentrations of wastewater.



Service Contents

- Fully quantitative one-stop sewage treatment solutions: consulting service, scheme design, equipment supply, installation, commissioning and post-service.
- Integrate and intelligent management system to realize real-time monitoring and automatic control of sewage treatment process.
- Provide water quality monitoring and analysis services to ensure that sewage treatment effect meets the design requirements.
- According to customer needs and sewage characteristics, we provide customized sewage treatment design schemes, COD removal rate >90%, BOD removal rate >80%, and SS suspended solids removal rate >95%, and the treated water quality meets the national and local discharge standards.

Applications

- **Educational and research institutions:** university laboratories of chemistry, biology, physics, etc., laboratories of independent research institutions
- **Medical and health industry:** hospital laboratory department, operating room, radiology department, etc., disease control and prevention center, medical research institutions
- **Pharmaceutical industry:** drug R&D laboratories, biopharmaceutical and chemical pharmaceutical production laboratories
- **Chemical industry:** R&D laboratories of chemical product manufacturing enterprises, and petrochemical laboratories
- **Environmental monitoring:** environmental testing laboratory, water quality analysis laboratory
- **Food and beverage industry:** food safety testing laboratory, beverage product R&D laboratory
- **Agricultural field:** agricultural research institutions, agricultural product testing laboratories
- **Materials Science:** new materials R&D laboratory, material performance testing laboratory
- **Electronics industry:** semiconductor R&D laboratory, electronic product testing laboratory
- **Automotive industry:** auto parts testing laboratory, new energy vehicle battery R&D laboratory
- **Aerospace:** aeronautical materials testing laboratory, spacecraft environmental simulation laboratory
- **Textile industry:** textile testing laboratory, clothing fabric research and development laboratory
- **Construction industry:** building materials testing laboratory, building environment monitoring laboratory
- **Forensic field:** forensic analysis laboratory
- **Forensic Science:** laboratory of forensic analysis
- **Cosmetics industry:** cosmetics safety testing laboratory, cosmetics R&D laboratory
- **Scientific research service company:** Laboratories that provide third-party testing and analysis services
- **Government regulatory agencies:** laboratories of the environmental protection agency, food and drug administration, etc
- **Educational institutions:** science laboratories for primary and secondary schools

Standards

"Comprehensive sewage discharge standards" GB8978-1996

"Water pollutant discharge standards for medical institutions" GB18466-2005

"Water quality standards for sewage discharged into urban sewers" GBT31962-2015

"Water pollutant discharge standards for electronics industry" GB39731-2020

"Pollutant discharge standards for petrochemical industry" GB31571-2015

"Water pollutant discharge standards for iron and steel industry" GB13456-2012

"Water pollutant discharge standards for pulp and paper industry" GB3544-2008

Q Equipment suitability

A Sewage treatment equipment is suitable for water treatment in hospitals, schools, etc

Q Installation and start-up of the device

A Installation and commissioning cycle: indoor and outdoor models (1-3 days), large sewage equipment depends on the on-site progress, usually 10-30 days.

Q The energy consumption of the equipment while it is running

A The equipment adopts a proprietary energy-saving design, which can effectively reduce long-term operating costs due to low operating power. The specific energy consumption depends on amount of treatment and composition of wastewater.

Q The treatment efficiency of the equipment for wastewater

A The equipment adopts fully automated processing technology and tailor-made treatment process.

Q Equipment maintenance

A The equipment is easy to maintain. The equipment is provided with detailed operation and maintenance manuals. Routine maintenance includes regular checks on the operating status of the equipment, replacement of consumables, etc.

Q Technical supports

A We offer a full range of technical support services. During the warranty period, we provide free troubleshooting and repair services. In addition, we provide 24/7 emergency technical support.

Q Service life of the equipment

A The equipment are manufactured from durable materials and are typically designed to last more than 10-15 years. Proper operation and regular maintenance can further extend the life of the equipment.

Q Comply with environmental regulations

A Our wastewater treatment equipment is fully compliant with national and local environmental regulations, ensuring that the treated wastewater can be safely discharged or reused.

Low-temperature heat pump evaporation concentration system QQ-LTHP series

The low-temperature heat pump evaporation and concentration system QQ-LTHP series is a vacuum evaporation and concentration system that utilizes heat pump compression. The evaporation temperature of wastewater can be maintained at around 28-30°C, and the highest wastewater recovery rate can reach over 95%. It is specifically designed for industrial wastewater with high organic content and low inorganic salt content. After the main unit is turned on, waste liquid is automatically sucked into the low-temperature evaporation cylinder, the evaporation cylinder is then opened for vacuuming and heating. When the negative pressure inside the cylinder reaches -97KPA, the waste liquid begins to evaporate. The vapor enters the condensation cylinder and condenses into reclaimed water. After aeration treatment, it is discharged into the regeneration water bucket for collection. The concentrated liquid is automatically discharged into the collection bucket for outsourced treatment. The entire process operation is carried out in a fully enclosed negative pressure state, with no exhaust gas emissions. It can achieve both single continuous evaporation and multiple continuous evaporation. The reclaimed water in the reclaimed water bucket can enter the post-treatment system for further filtration and purification in accordance with the customer's reuse requirements and local discharge standards for environmental protection.



Product features



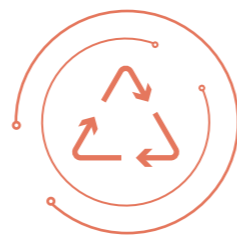
Pure Physical Purification

It is the first in China to achieve ultra-high quality of reclaimed water through low-temperature evaporation at 28°C



Fully automatic and unattended operation

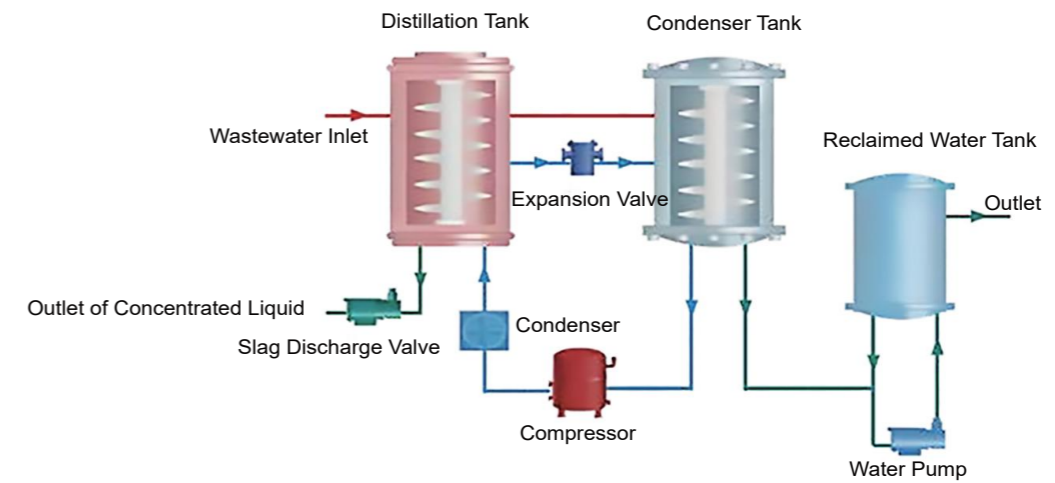
The system works unattended and without consumables, it's easy to maintain.



Flexible direction of produced water

It can be reclaimed or discharged up to standard.

Working principle



Applications



Models

Models	Size of the equipment (mm)	Daily processing (/day)	Monthly processing (ton/month)	Total power (KW)	Concentration rate
QQ-100L	820*860*1290	100L	3T	1.2	80~95%
QQ-200L	1040*905*1500	200L	6T	2.2	80~95%
QQ-300L	1280*1225*1615	300L	9T	3.2	80~95%
QQ-500L	1430*1225*1780	500L	15T	4.8	80~95%
QQ-1000L	1700*1475*1780	1T	30T	9.0	80~95%
QQ-2000L	2660*1860*2380	2T	60T	17.0	80~95%
QQ-3000L	2760*1860*2410	3T	90T	28.0	80~95%
QQ-5000L	3160*2080*2680	5T	150T	50.0	80~95%
QQ-10T	4005*2190*3205	10T	300T	90.0	80~95%
QQ-20T	8300*3100*3200	20T	600T	180.0	80~95%

Electrochemical wastewater treatment



Electrochemical superoxidation technology

Mechanism of the equipment developed by our company for removing COD and total nitrogen in refractory industrial organic wastewater with high salt content, high toxicity, high concentration, strong acid and alkali is: organic pollutants are directly oxidized on the surface of the electrode or indirectly oxidized by strong oxidizing active substances generated by electrocatalysis. In the process of electrooxidation catalysis, only the electrons provided by the external circuit need to be consumed, and it is carried out at room temperature. The mechanism is as follows: Direct oxidation: The contaminants are directly oxidized on the surface of the electrode. Indirect oxidation: Indirect oxidation and degradation of pollutants is carried out by electrochemical reactions to generate highly oxidizing intermediate products.

Technological advantages

- High salt resistance: It can strongly remove COD \leq 450000mg/L in high salt industrial wastewater, removal rate 99%
- High toxicity resistance: It can strongly remove COD \leq 450000mg/L in highly toxic industrial wastewater, removal rate 99%
- High concentration resistance: It can strongly remove COD \leq 450000mg/L in high-concentration organic industrial wastewater, removal rate 99%
- Strong acid and alkali resistance: It can strongly remove COD \leq 450000mg/L in strong acid and alkali industrial wastewater, removal rate 99%
- High safety: The DC voltage of the equipment is between 3-15V, no harm to the human body.

The equipment does not add any chemicals to treat wastewater, and no residues or solid waste produced

Removal rate of the equipment for high total nitrogen, cyanide breaking, decolorization and so on is 75-100%.

There is no need to adjust PH value of wastewater into the equipment, which saves a lot of acid, alkali, labor, site and avoids secondary pollution.

Wastewater entering the equipment does not need to add water to dilute the COD concentration, reducing the treatment capacity of the system and saving resources.

The equipment runs stably, the cost is low, it is 2-9% of the outsourcing processing cost. The equipment investment can be recovered after 3-6 months. The equipment occupies a small area, is about 2% of the traditional process area.

The equipment has no special requirements for the environment, only require no rain nor wind, and ventilation. There is no noise and no secondary pollutant emission during operation of the equipment.

The equipment is automated working, easy and safe to operate, and no manual attendance is required.

Equipment specifications: 1T-50T/D

There is no need to add water to dilute salt of wastewater into the equipment, reducing the amount of treatment and saving resources.

Applications range

It is suitable for treating difficult and refractory organic wastewater of pharmaceutical, pesticide chemical, petrochemical, coking, smelting, printing and dyeing, papermaking, tanning, fine chemicals, winemaking, electroplating, food processing, electrophoresis coating, landfill leachate, etc.

The specific types of contaminant to be treated: polycyclic aromatic hydrocarbon compounds, heterocyclic compounds, chlorinated aromatic compounds, organic cyanide, phenols and formaldehyde compounds, organic synthetic polymer compounds, phenols and their derivatives (such as Phenol), 17B-estradiol, dyes and pigments (such as Methyl Orange), herbicides and insecticides (such as Phosphorus chloride).

Application scenarios

- Pretreatment before evaporation of MVR system, treatment of highly refractory wastewater in new plants, treatment of single refractory wastewater in factory wastewater, treatment of unorganized refractory discharge wastewater in factories.
- Treatment of organized refractory discharge wastewater in factories.
- Treatment of refractory wastewater which needed to outsource treating
- Treatment of refractory wastewater new discharged from the factory
- Temporary wastewater treatment at the non-permanent wastewater treatment facility of the factory
- Rapid treatment of wastewater from environmental accidents
- Upgraded treatment for water discharged from the existing wastewater treatment process of the plant
- Treatment of wastewater in the wild that the treatment site is required frequent movement
- Treatment of refractory wastewater that there is restrictions on the site
- Emergency treatment of wastewater after the collapse of the wastewater treatment system in the plant
- Treatment of wastewater with complex compositions in refractory wastewater treatment laboratories and R&D centers where have restrictions on the surrounding environment of the wastewater treatment system.
- Treatment of refractory wastewater in a certain step in the process of the existing wastewater treatment system of the factory

Process advantages

Serial number	Traditional process	Electrochemical process
1	The civil engineering is large, and it is necessary to build various functional pools and chemical storage points.	There is no need to build functional pools and chemical storage points.
2	The wastewater treatment system occupies a large area.	This is equivalent to about 10% of the floor space compared to conventional processes.
3	Odor: anaerobic odor gas, aerobic fishy gas	No foul-smelling gas.
4	Various chemicals need to be added.	There is no need to add any chemicals.
5	There are requirements for ambient temperature, and biochemistry cannot work in winter.	No special requirements
6	There is a large amount of sludge solid waste generated.	No residue solid waste is generated.
7	The traditional process needs to run continuously and cannot be stopped. In long holiday, need to add flour, sugar and micronutrients to maintain survival of the culture.	It can be started and stopped at any time without adding any nutrients.
8	Conventional process systems cannot be moved.	The device can be moved anywhere at any time.
9	Conventional processes are unable to cope with large fluctuations in COD data.	COD within 300,000-500,000 can be processed.
10	The traditional process has requirements for quality of wastewater influent: COD \leq 2000mg/L.	No requirements
11	There are high professional requirements to operators.	No professional requirements
12	A minimum of two people is required.	There is no need for a dedicated attendee.

07 | Water Resource Recycling

Reclaimed Water Reuse

Reclaimed water reuse technology is a water resource recycling technology that treats domestic sewage or industrial wastewater to meet certain water quality standards, and is used for non-potable purposes. The followings are an overview of the application areas, characteristics and parameters of reclaimed water reuse technology.

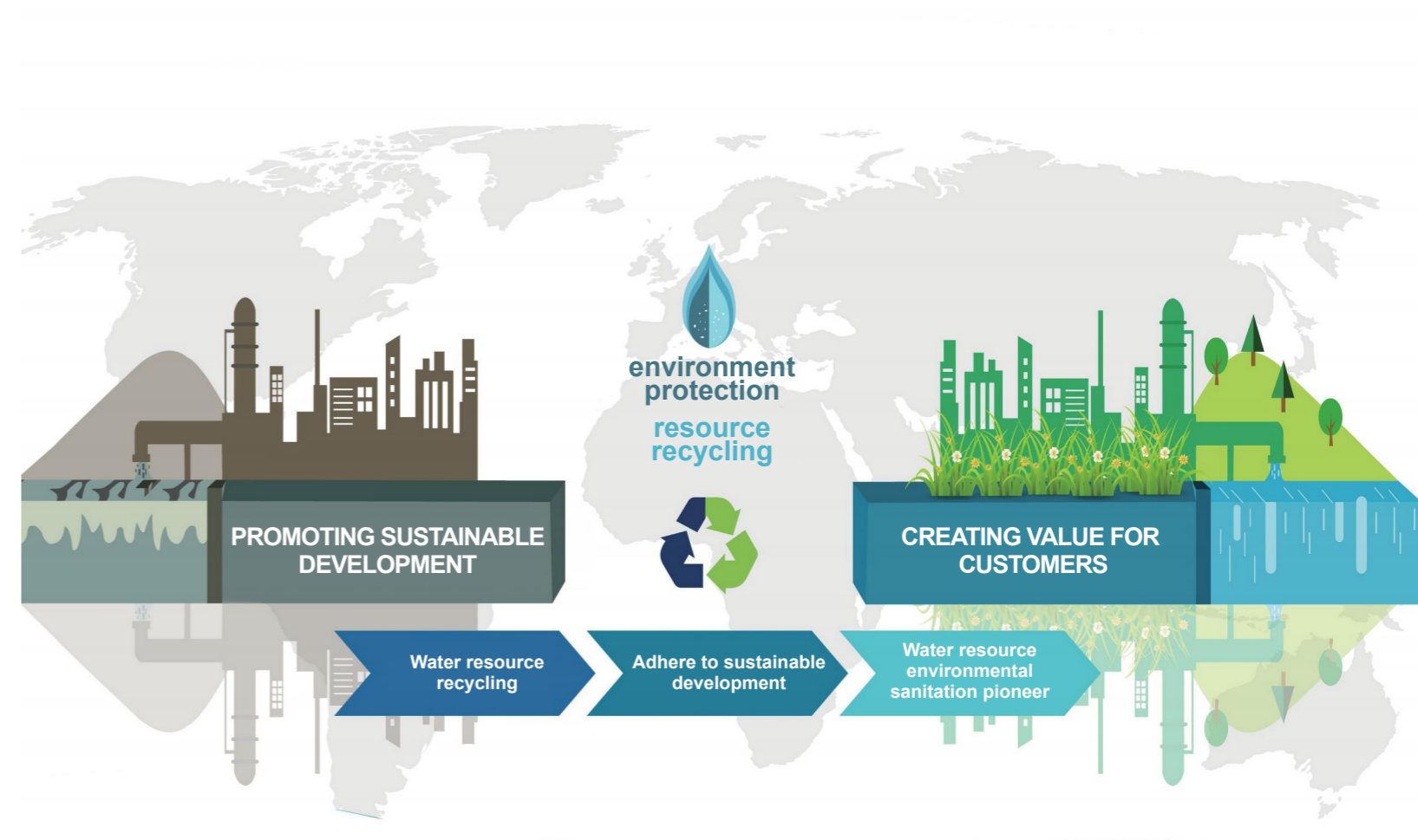


Application fields

- 01 **Industrial recycled water**
It is used for cooling, washing, etc. in industrial production processes.
- 02 **Urban greening**
It is used to water public green spaces, parks, and golf courses.
- 03 **Municipal water replenishment**
It is used to replenish water in urban fountains, rivers and lakes.
- 04 **Rinsing**
It is used for toilet flushing in residences, office buildings, shopping malls, etc.
- 05 **Wash vehicle**
Water for vehicle wash stations
- 06 **Agricultural irrigation**
It is used for irrigation of farmland, gardens and nurseries.

Characteristics

- Save water resources** Reduce dependence on fresh water and improve water utilization efficiency.
- reduce pollution** Wastewater treatment reduces pollutant emissions and protects water environment.
- Economic benefits** Reduce water costs and pollution treatment costs.
- Mature technology** Reclaimed water reuse technology has been developed to a relatively mature level, with a variety of treatment processes.
- High degree of automation** Reclaimed water reuse equipment can be operated automatically and manual operation can be reduced.



08 | Classic Cases

 Purified Water and Ultrapure Water Equipment
(For Biopharmaceuticals, Food, Electronics,
Chemicals, Semiconductors, etc)



Laboratory Pure Water Equipment



Wastewater Treatment Equipment



09 | Marketing Network

