



**Ace MODERN ADVANCE RESEARCH
TECHNOLOGY**



GWB Lab

Pure Water & Ultrapure Water System



Causes



Common experimental water problems

- Frequent replacement of consumables
- The quality of produced water does not meet the requirements
-



Cause analysis

- A. Do not know about water supply and raw water quality
- B. Unclear about experimental water requirements

Method



Raw water quality and water demand questionnaire

Understand your raw water situation and water demand from all angles



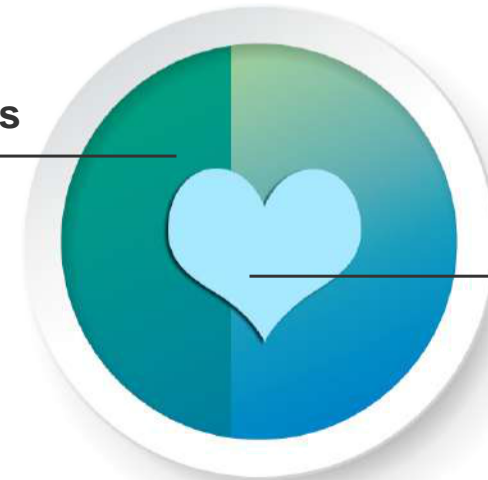
Professional water quality testing service

Deeper interpretation of raw water problems

Principles

Produce water according to requirements

A reasonable pure water system for experiments should meet the requirements of experimental instruments, types of experiments, water quantity and water quality, and meet the requirements of flexible operation, safety, reliability, convenient operation and management, low operating costs, etc.



Produce water according to water source and quality

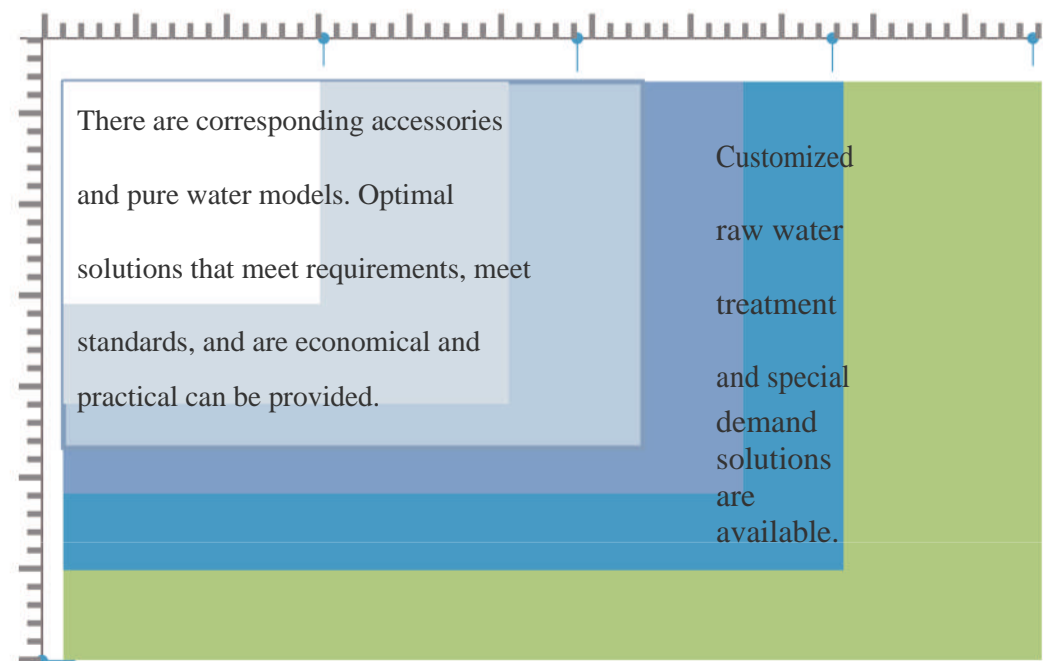
- The selection of pure water system for experiments should start with understanding the source of water supply and the quality of raw water.

Solution

Customized pure water solution for experiments

- Special water
- Conductivity value
- Average daily water consumption
- Water dispensing volume
- Water dispensing in different positions on the
- Water dispensing on multiple floors
- Water for instrumental analysis

Produce water according to water source and quality - Analysis of water supply source and raw water quality



Classic inheritance & strength to create GWB series

Model Quick Selection Table

Model	Influent water quality	Effluent water quality	Pure water dispensing flow (L/h)	Ultrapure water dispensing flow (L/h)	Scope of application				*Basic use of water: glassware washing, reagent preparation, heating water for instruments and equipment; * General chemical instrumental analysis: UV/VIS, AAS, IC, AFS, HPLC, GC, electrochemistry, particle counting; * Biochemical analysis: PCR, DNA sequencing, electrophoresis; * Biological culture: animal and plant cell culture, microbial culture, etc.
					Basic use of water	General chemical instrumental analysis	Biochemical analysis	Biological culture	
GWB-1	Pure water, distilled water or deionized water; Conductivity < 500µs/cm	Pure water Ultrapure water	30	30	√	√	√	√	
GWB-1B			300	30	√	√	√	√	
GWB-2	Pure water, distilled water or deionized water; Conductivity > 500µs/cm		15	15	√	√	√	√	
GWB-2B			300	15	√	√	√	√	

Single-stage or double-stage reverse osmosis process can remove charged ions, dissolved substances, particulate matter and microorganisms. GWB-1/1B is a single-stage reverse osmosis process equipment, which is suitable for areas with good source water quality or distilled water inlet. GWB-2/2B is a two-stage reverse osmosis process equipment, which is suitable for poor source water quality (conductivity: 500-1000µs/cm). It can make the water quality better and stable and extend the service life of the secondary ultrapure water pack.

Model Quick Selection Table

I. Convenient operation design (for all models), as shown in the diagram:

- Professional water dispensing space design to achieve direct ultrapure water dispensing, avoiding secondary pollution
- The pre-pressurized quick disassembly and assembly method realizes no-pipe connection, and the ultra-pure water bag can be replaced conveniently and quickly.



II. Multiple flexible and practical water dispensing methods:

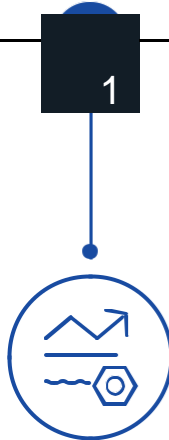
- Take ultra-pure water by timing, volumetric and variable speed
One-touch water dispensing (main unit): Ingenious dual-mode independent water dispensing key, you can tap to turn on or off, or press and hold to get water, release it to stop.
- Quickly dispensing pure water from the water tank.
-Water dispensing from water tank (RO water or UP water can be selected for storage): Large water dispensing flow, >5L/min
-When the tank is selected to store UP water, it can be used for general routine analytical instrument to meet the needs of fast water dispensing and a large amount of water dispensing at one time.



Complete functions of GWB series

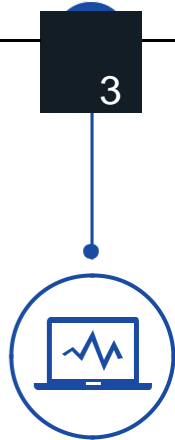
Rigorous technological process

·All models are equipped with 254/185nm dual wavelength UV lamp and 0.22µm terminal filters to effectively control microorganisms, TOC and particulate matters to ensure that the produced water quality meets the standard.



Multi-directional precision monitoring

·The source water, pure water, and ultrapure water are monitored on-line in real time, and an RO status monitoring module is installed to ensure the normal operation of the system to the greatest extent.



Intelligent control

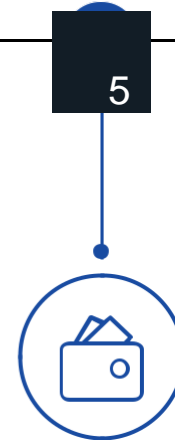
· With microcomputer automatic control, the RO filter is automatically flushed at regular intervals when power on, and the entire system is automatically flushed, the automatic flushing time can be set to maintain the best water quality.
· It can dispense water regularly and volumetrically; automatically control the sterilization of pipelines and water tank.

Automatic flushing

·To avoid the microorganism breeding of the pipes and purified water components caused by the equipment not being used for a long time, the system has a regular automatic flushing function, flushes the pipeline and sterilize the pipeline and water tanks, which can not only keep the system in a clean and protected state, but also minimize the power loss.

Consumable management

·The built-in self-check program monitors the usage status of various consumables and reminds the replacement of consumables in time.
· The consumable warning parameters can be set according to the consumption experience accumulated in the specific operation environment.



Water dispensing record

·Water dispensing record can be viewed to know the water quality, water dispensing volume, water dispensing time, etc.

Security warning

·An automatic protection when the source water pressure is low or the pipeline high pressure alarms in the system.



Optional water storage large water production



Scope of application:

Basic use of water: glassware washing, reagent preparation, instrument and equipment heating water, etc.

Chemical instrumental analysis: UV/VIS, AAS, IC, AFS, HPLC, GC, electrochemistry, particle count.

Biochemical analysis: PCR, DNA sequencing, electrophoresis; animal and plant cell culture, molecular biology and other analytical methods of water.

Model features:

- To avoid water pollution in the storage link water can be dispensed as it is produced.
- The instrument can not only dispense water volumetrically for ultrapure water, but also carry out volumetric control when dispensing a large amount of pure water, and automatically flush the water to ensure the water quality.
- The instrument occupies a small area and is economical.
- Adopt anti-corrosion and waterproof ABS material.
- Comply with the national laboratory water specification GB-6682y first-class water and electronic grade water GB/T 11446.1 first-class water, American ASTM I specifications.
- A 50L dedicated PE water tank is optional to meet the needs of fast water dispensing and large amount of water dispensing at one time.
- The water tank can choose to store pure water or ultrapure water (the factory default settings is to store ultrapure water). When the water tank is selected to store ultrapure water, the ultrapure water can be quickly dispensed from the tank, and the main unit can also dispense ultrapure water with one button

Specification

Model	GWB-1/1B	GWB – 2/2B
Source Water requirement	Tap water, temperature: 5-40℃ , pressure: 0.1-0.5Mpa, conductivity < 500 μs/cm	Tap water, temperature: 5-40℃, pressure: 0.1-0.5Mpa, conductivity: <1200 μs/cm
Dispensing speed of pure water and ultrapure water ①	Dispensing from main unit :30 L/h	Dispensing from main unit :15-20 L/h
Pure water quality ①	Dispensing from water tank :5L/min ≥98% (desalting rate)	Dispensing from water tank :5L/min 5 μs/cm (Grade III laboratory water, source water conductivity<500 μs/cm)
Ultrapure water resistivity	18.2MΩ.cm @25℃	
Display	LCD	
Overall dimension (H × W × T)	565×465×600 mm	
Power	240W	

① The produced water indicator may vary due to the quality, pressure, temperature of the water and the condition of components of the influent water.

Information list of accessories and consumables

Accessory list

Accessories	Model	No.
Intensive preconditioning group	YCL-Q	P1105-14-00-PA
Water tank	50L, PE	P1101-11-PA

Consumable list

Consumables	Model	No.
Fiber filter	10 inches, 5μm	E00201012
Fiber filter	10 inches, 1μm	E00201010
Dual wavelength UV lamp	10W	DG1310151201
Sterile terminal filter	0.45μm +0.22μm	E00201027
Sterile terminal filter	0.22μm	E00201026
Imported ultrafilter	GWB-UF	CE90028
RO filter	100 GPD	E21207006
RO filter	300 GPD	E21207007
RO filter	400 GPD	E21207008
UP package	WP-UP-I	P1101-02-00-PA

Auxiliary accessories

Intensive preconditioning group

For different water source conditions, optional intensive preconditioning group can be used to provide the best configuration combination for your use environment and water requirements.



Model	Applicable source water
YCL-Q Intensive preconditioning group	The interior is filled with high-quality activated carbon to effectively remove TOC in raw water

Automatic replenishing water tank (40cm*87cm)

The water tank is connected to the main unit by communication cable. The main unit can detect the water level of the water tank, and produce water automatically according to the water level, and stop automatically when the water is full.

Water tank material: PE

Water tank capacity: 50L

Water dispensing flow: > 5L/min

Water tank functions:

- Equipped with an air filter
- UV lamp sterilization
- Liquid level sensor: to automatically replenish water and automatically stop at high and low water levels

Overflow port

- The conical bottom of the tank is equipped with a large flow discharge valve for easy flushing and drainage.



Common consumables

Dual wavelength UV lamp

The 185/254nm dual wavelength UV light source technology can effectively reduce the concentration of organic pollutants, kill bacteria and inhibit regeneration, and reduce the content of total organic carbon (TOC) in pure water.



0.22μm sterile terminal filter

As the guarantee of water quality in the final stage of ultrapure water production, all models of GWB series are equipped with terminal filters to ensure the precise retention of microorganisms and particulate matter, in compliance with sterile filtration HIMA and ASTM regulations.



Imported terminal ultrafilter

Terminal ultrafilter can effectively remove heat sources, RNA enzymes, bacteria and so on in ultrapure water. It is suitable for cell culture, biochemical analysis and molecular biology, and is used as an optional part.



Efficient mixed bed ion exchange resin

It is a precision polishing resin that improves the water quality of pure water to ultrapure water. Different analysis methods have different requirements for ultrapure water quality. Ultrapure water package used in various models of GWB series are filled by precision mixed bed resin.



Standard materials

GB/T 6682-2008 Specification and Test Method for Water Used in Analytical Laboratories

Test item	Primary water	Secondary water	Tertiary water
PH value (25℃)	-	-	5.0 ~ 7.5
Conductivity (25℃) (mS/m)	≤0.01	≤0.10	≤0.50
Content of oxidizable matter (O) (mg/L)	-	≤0.08	≤0.4
Absorbance (254nm, 1cm optical path)	≤0.001	≤0.01	None
Content of evaporation residue (105℃ ±2℃) (mg/L)	-	≤1.0	≤2.0
Content of soluble silicon (SiO ₂) (mg/L)	≤0.01	≤0.02	-

Note 1: Since it is difficult to determine the true pH values under the purity of the primary water and secondary water, the pH values of primary water and secondary water are not specified.

Note 2: Since it is difficult to determine the oxidizable matter and evaporation residue under the purity of the primary water, the limit is not specified. Other conditions and preparation methods can be used to ensure the quality of the primary water.

GB/T 33087-2016 Specification and Test Method for Water Used for Instrumental Analysis

Test item	Specification
Resistivity (25℃) ρ _i (MΩ.cm)	≥18
Total organic carbon (TOC) ρ _i (μg/L)	≤50
Na ρ _i (μg/L)	≤1
Cl ρ _i (μg/L)	≤1
Si ρ _i (μg/L)	≤10
Total number of bacteria (CFU/mL)	Pass

Note: The total number of bacteria is determined when necessary