



WATER PURIFIER

LB-39WP

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1. Safety Measures

When using a water purification system:

- Do not operate the water purification system under overheated conditions (temperature should not exceed 60°C) to avoid damage to the machine.
- Do not place articles on the water purification system.
- Do not strike or drop the water purification system.
- Do not splash any liquids on the water purification system to prevent combustion.
- Do not place any items on the water purification system's power line and ensure the power cable cannot be easily trampled.
- Do not use water purification under the following circumstances:
 - 1) Environment that temperature is lower than 4°C or higher than 45°C (overheated environmental temperature will accelerate the aging of electronic components, and therefore cut down the service life of the water purification system).
 - 2) Humidity is more than 80% (electric leakage easily leads to inflammation of the water purification system).
 - 3) Dusty environment (in this condition, static is easily generated and burns the machine).
 - 4) Vibration environment (long-time vibration easily causes water pipe joint leakage).
 - 5) Outdoor.

2. Introduction

Water Purifier LB-39WP is a low TOC ultrapure system that provides a complete solution with a pure or distilled water inlet to produce deionized and ultrapure water that is ideal for high grade experiments requiring up to 2 liters/minute of water with a resistivity $>5\text{M}\Omega\cdot\text{cm}$. Water can be dispensed from the system using three water quality sensors and one pump, due to its simple and ergonomic design. It has a microcomputer control system with an LCD display that shows the system's running state as well as various real-time parameters.

3. Features

1. Circulation function achieves ultrapure water circulation to keep top-quality water
2. Consists of all cartridges replacing alarm function
3. Multiple alarm function: no feed water, full water, water quality's standard exceeding, and cartridge life expiring
4. Auto self-flushing of RO membrane function, extending RO's membrane life
5. System time setting, timing standby and timing shutdown function
6. Level II password protect, protect all parameters prohibiting unauthorized access
7. 2 kinds of pure water tank
8. 3-door and easy-to-replace cartridge design
9. Optimized pre-treatments protect RO membrane
10. RO module with DOW's membrane, ensures long life, stable operation, and a high desalinization rate
11. 4 in 1 ultrapure cartridge with top polishing resin
12. Dual wavelength (185&254 nm) ultraviolet lamp module
13. MWCO 5000D ultrafiltration module, effectively eliminates endotoxin
14. Autorun data storing function with built-in SD card, and data can be exported via USB

4. Specifications

Model No.	LB-39WP
Output (25°C)	2 L/H (less output with UF cartridge)
Pure Water Outlet	2; deionized water and ultrapure water
Ultrapure Water Resistivity	18.2 MΩ.cm
TOC	<3 ppb
Ultrapure Water Bacteria	<0.1 cfu/ml
Particle	< 1/ml
Deionized Water Resistivity	> 5MΩ.cm
Feed Water Requirement	RO water, distilled and deionized water
Temperature	5 – 45°C
Pressure	1 atm*
Power	120 W
Electrical Requirement	AC 100-240V, 50/60Hz
Dimension (L×W×H)	500×360×540 mm
Weight	18 Kg

5. Applications

It is widely used in HPLC, DNA sequencing, TOC testing, and Ion Chromatography in the fields of general laboratories, molecular biology, life science and analytical applications, etc.

6. Instrument Introduction

Front view

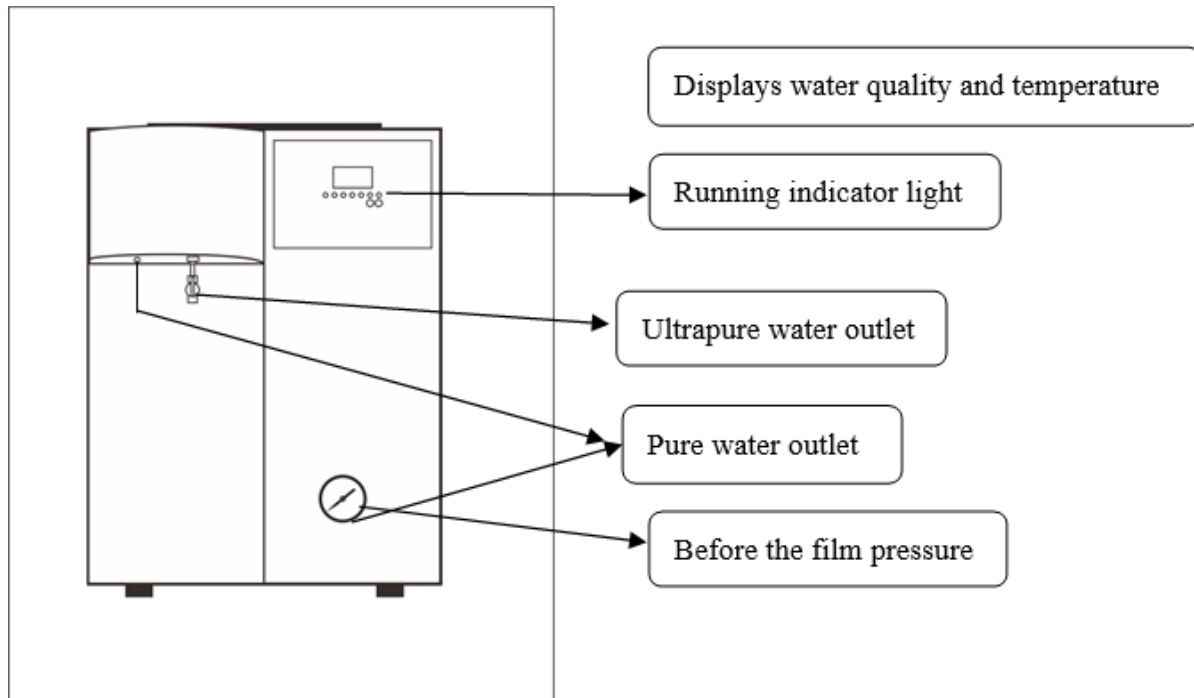


Figure-1

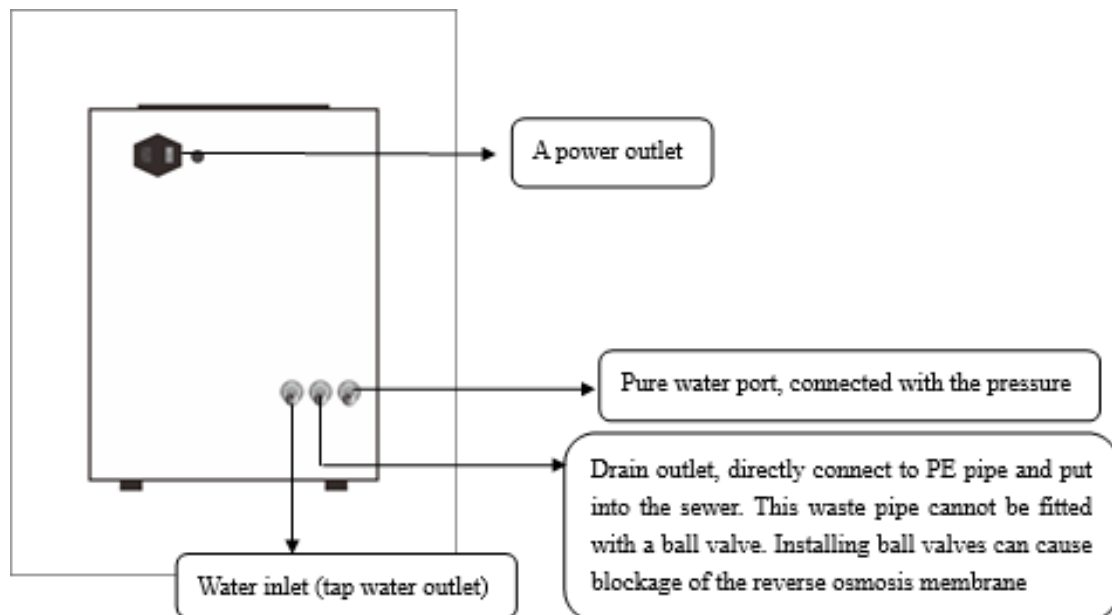


Figure-2

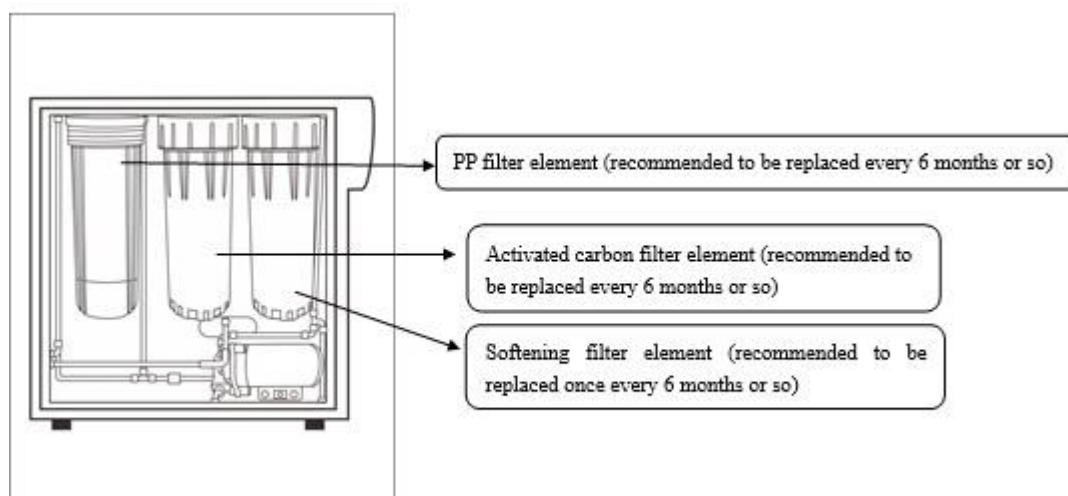


Figure-3

7. Installation

7.1 Conditions

7.1.1 Operating Environment Requirements of the Device

- **Ambient temperature:** 5 to 30°C.
- **Humidity:** Maximum 80%.
- No pollutants or vibration.
- The environment is cool, dry, ventilated, and without direct sunlight.
- Smooth drainage, the shorter the distance from the machine wastewater discharge port to the drainage trench, the better.

7.1.2 Device Water Intake Requirements

- **Raw water:** Urban tap water (in line with GB5749-85 national drinking water sanitation standards).
- **Minimum feed water pressure:** 0.15-0.35mpa (pressure at minimum feed water flow).
- **Minimum feed water flow:** 0.3m³/Er.
- **Water temperature:** 10 ~ 35°C.
- **PE:** 4 to 9.
- **Total Dissolved solids (TDS):** ≤200mg/L (If TDS exceeds 300 mg/L, water softener should be selected).
- **Residual chlorine:** ≤0.3mg/L.
- **Total iron:** ≤0.1mg/L.
- **Manganese:** 0.5 mg/L or less.
- **Drainage:** General drainage sewer or wash basin.
- **Power supply:** 220VAC (50Hz,5A) three-hole power socket with ground wire.
- The Device is connected to water.

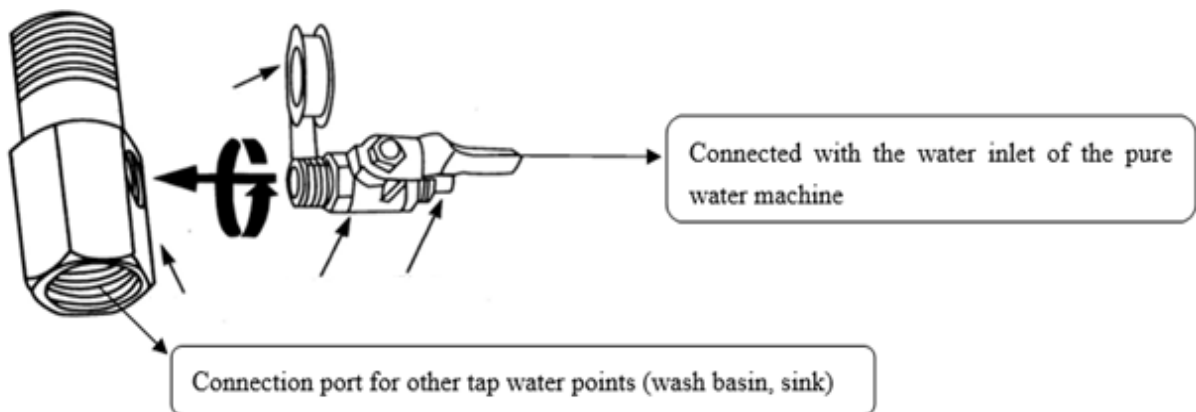


Figure-4

7.1.3 The guideline for fast interfaces

- Kindly first check the installation parts package attached to the machine (according to the packing list) and then install the fast interface based on the following procedure.
- According to the picture, we press button (2) and pull button (1), and then the endcap will be easily pulled out.

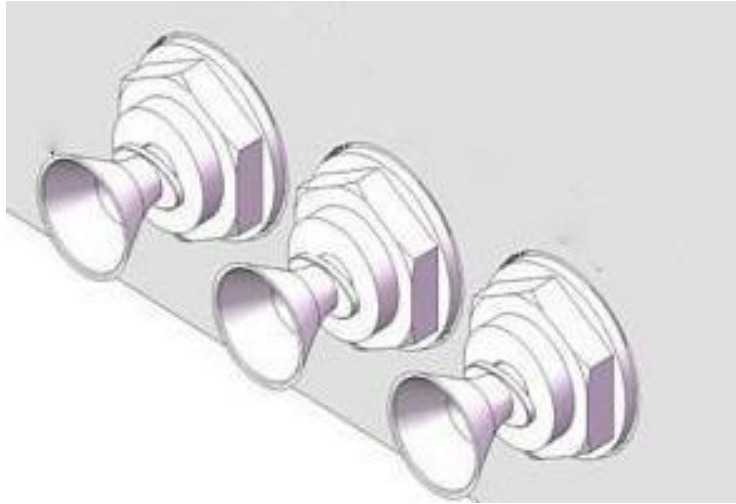


Figure-5

8. Operations

8.1 Starting up the machine.

The machine should be properly installed in strict accordance with the following requirements before starting it.

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 - **Total iron:** ≤0.1mg/L.
 - **Manganese:** 0.5 mg/L or less.
 - **Drainage:** General drainage sewer or washbasin.
 - **Power supply:** 220VAC (50Hz, 5A) three-hole power socket with ground wire.
 - The Device is connected to water.
1. Open the stainless-steel intake valve and connect the water supply, plug in power after 10 to 20 seconds, and then turn on the power switch on the machine.
 2. After running for some time, the pure water bucket will be full of water and the machine automatically shuts down; when the pure water level drops, the machine automatically starts and produces pure water.

8.2 Shutting down machine

- Turn off the water supply and power before leaving to ensure safety and prolong the service life of the machines and consumables.
- Normally, a pure water machine should not stop running for a long time.
- If the pure water machine is left unused after installation, you should regularly (3 days in summer, 5 days in winter) take UP ultrapure water (2 ~ 3 liters/time) to wash away the bacteria and other microorganisms.

9. Troubleshooting

Faults	Causes	Resolutions
The pump can't start.	Low inflow pump pressure or inability to inflow water.	
	Low-pressure valve failure.	If the pump activates when the signal input plug of the low-pressure valve is short-circuited.
	Pump Failure.	Repair or replace the pump.
	Electric board Malfunction.	Repair or replace the circuit.
	Power failure.	Check the main voltage and output voltage of the direct current power supply.
Low inflow pump pressure or cannot inflow water.	Low tap water pressure. ($\leq 0.15\text{Mpa}$)	Check and adjust tap water pressure, add tap water pump or transform tap water pipe if necessary.
	Inflow electromagnetic valve failure.	Repair or replace the intake electromagnetic valve.
	Obstruction of preprocessor.	Replace the preprocessing filter.
	Obstruction of pump pipe.	Check the fold and obstruction of the pump pipe.
Pump leakage.	Aging of Glue cushion of pump head or scale blocking.	Overhaul or replace the pump.
	High pump pressure.	Repair or change the wastewater ratio.
	Pump Failure.	Repair or replace the pump.
No or low-production water when the pump running.	Intake electromagnetic valve failure.	Repair or replace the intake electromagnetic valve.
	Check valve failure of reverse osmosis membrane.	Replace reverse osmosis membrane.
	Check valve failure of reverse osmosis membrane.	Replace the check valve of the reverse osmosis membrane.
	Electromagnetic valve failure of the flush system.	Repair or replace the resin electromagnetic valve.
The pump frequently restarts.	Low-inflow pump pressure.	- Shut down the machine and wait for stable water pressure. - Add a tap water pump or make sure to transform the tap water pipe if necessary.
	Abnormal or high gas bag pressure.	Inflate the gas bag to 7PSI (0.05MPa) replace the pressure water storage tank or replace the high-pressure valve.

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The pressure tank is filled with water, but pure water cannot flow out.	Low-pressure airbag or airbag damage.	Inflate the gasbag to 7PSI(0.05MPa) or replace the pressure water storage tank.
Unable to shut down after the tank is filled with water.	High-pressure valve failure.	Replace the high-pressure switch gear.

10. Replacement

10.1 Replacement of preprocessor

- First, we turn off the stainless-steel ball valve and water storage bucket valve, turn the power switch off, and disconnect the power plug.
- Then open the right-side door of the host, unplug the blue PE pipe clamp, and pullout the PE pipe.
- Then we install a new module, insert the blue PE pipe clamp, and carefully wipe sprinkling with a towel.
- After that, we open all valves and turn on the machine to produce pure water.
- Finally, we must observe whether there is a water leakage phenomenon.
- If there are any, kindly reinstall the leaking points. If there is no leakage, just let the machine continue running.

10.2 Replacement of reverse osmosis membrane

Under different conditions of raw water quality, there are great differences in the water yield and quality of RO pure water, as shown in the following table.

The effect of raw water quality on RO effluent quality and RO membrane replacement cycle:

Raw Water Quality	100 ~ 200ppm	200 ~ 350ppm	350 ~ 600ppm	>600ppm
Water quality preprocessor.	The matches	Add a softening filter element	Add water softener	Add water softener
RO membrane water volume (ton/unit).	20 ~ 30	10 ~ 15	10 ~ 15	10 ~ 15
The conductivity of pure water of single-stage RO (Inner Mongolia /cm).	3 ~ 6	6 ~ 15	15 ~ 50	>50
The conductivity of purewater from Inner Mongolia (Inner Mongolia/cm).	1 ~ 3	2 ~ 6	3 ~ 10	5 ~ 10

RO membrane replacement should be carried out according to the following procedures:

1. Close the stainless-steel inlet ball valve.
2. Close the pressure pure water barrel ball valve (Ball valve and PE pipe in the direction of open, vertical is closed).
3. Take RO pure water to empty the "RO" pipeline Residual water pressure in
4. Take out the RO membrane (open it with the wrench of the membrane shell)
5. Load the new RO membrane (tighten it with the membrane shell wrench)
6. Observe RO in the process of water production Membrane effluent water quality
7. Carefully dry the water in the machine with a towel.

10.3 Purification column replacement:

- Closed stainless steel ball valve and the water storage barrel valve (the valve and the consequent PE tube for open, vertical for clearance).
- Turn the power switch off and unplug the power plug.
- Finally, the host on the right side of the door is opening, the blue PE pipe clamp unplug and then pull out the PE pipe to install a new module card the blue PE pipe clamp.
- If there is water leakage, then reinstall the water leakage point.
- If there is no water leakage, then let the water machine continue to run.



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