



QA1 Series RO Water Purifier

★Q-100A1

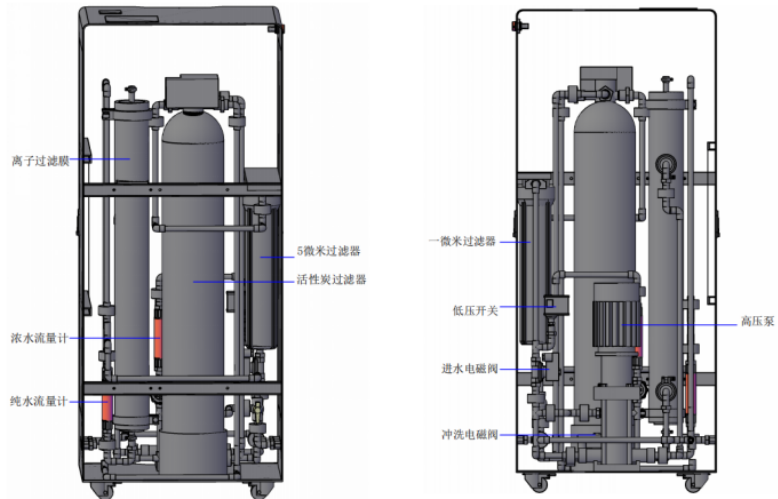
★Q-200A1

★Q-300A1

User Manual

**Before Using the equipment
Please read the manual carefully
and keep it for future reference**

1. Introduction to the Functions of Each Component



5 μ mPPF Filter

The pore size of the PPF filter is 5 microns, which effectively removes suspended solids larger than 5 microns in water, such as sediment, rust, algae, and other larger solid impurities.

Activated Carbon Filter

Effectively removes organic matter, odors, methane, pesticides, fertilizers, residual chlorine, and by-products in water to meet the inlet requirements of the subsequent RO membrane. Residual chlorine can cause irreversible damage to the RO membrane.

1 μ m PPF Filter

The pore size of the PPF filter is 1 micron, which further removes smaller particles, suspended solids, and colloids in water.

Low-Pressure Switch

When the water pressure reaches 1.5kg/cm², the power supply is turned on to operate the machine normally. When there is no water or the water pressure does not reach 1.5kg/cm², the equipment automatically cuts off the power, and there is an indicator light on the microcomputer control box.

Inlet Solenoid Valve

When the power is turned on, tap water passes through the inlet solenoid valve to enable normal water production by the A1 processor. When the machine stops, the water source is cut off to prevent water from passing through and being discharged through the concentrate water route.

High-Pressure Pump

Pressurizes tap water to 5-8 kg/cm² to meet the pressure and

flow rate requirements of the RO membrane for water production

Flush Solenoid Valve

Automatically controlled by the machine (PCB), the A1 processor accumulates 7.5 hours of work time, and the power is turned on once to perform high-pressure and high-flow flushing of the RO membrane, with a flushing time of 1 minute and 40 seconds.

Ion Filter Membrane QL1016

The QL1016 ion filter membrane with a pore size of 0.0001 microns can remove impurities such as bacteria, viruses, heavy metal ions, etc., from water. After passing through the QL1016 ion filter membrane, more than 98% of ions and other soluble solids in the water can be effectively removed.

2、 Technical Parameters

Product Name	A1 Water Purifier		
Product Model	Q-100A1	Q-200A1	Q-300A1
System Process	PPF+AC+PPF+AC+BR0		

Inlet Water Quality	Municipal Tap water: TDS<300ppm (25℃) Temperature: 5-35℃		
Inlet Pressure	105-0.4MPa		
Particles, Microorganisms	Removal Rate>99%		
Microorganisms, Bacteria	Removal Rate>99%		
Input Power	AC 220V		
Operating Power	AC 220V	AC 220V	AC 220V
Operating Power	400W	400W	450W
Rated Water Production Capacity	100L/H	200L/H	300L/H
Product Water Quality	$\leq 10 \mu\text{s/cm}$	$\leq 10 \mu\text{s/cm}$	$\leq 10 \mu\text{s/cm}$
Dimensions (Cm) (H×W×D)	68×55×160	68×55×160	68×55×160

Note: For water with TDS > 500ppm, it is recommended to install an external water softener in areas with high water hardness. Due to product and technological upgrades, the above parameters may be subject to change without prior notice.

3、 Installation and Usage Instructions

(Before installation, please read the installation instructions in this manual carefully)

We recommend that professional personnel install the equipment for you because power tools such as drilling machines will be used during the installation process. If you want to install it yourself, please follow the steps and diagrams below.

1. Pre-installation Preparation

① **Confirm the installation location of the pure water equipment**

Choose a suitable and reasonable location that will be helpful for future use and maintenance. Here are some suggestions for selecting the installation location (the actual installation should be based on the actual situation).

◆ The installation location should not be too far from the water source. If the water source is too far, it will require the use of longer water inlet pipes, leading to

waste of resources or insufficient pipe length.

◆ There should be a usable power source near the installation location for convenient power supply to the equipment.

◆ The installation location should be on a stable and flat surface or other platform to prevent the equipment from sliding or tipping over.

◆ The installation location should be convenient for the use of deionized water and provide sufficient space for future maintenance and upkeep.

② Confirm the tools required for installation.

Adjustable wrench	1
Scissors/Saw	1
Upvc adhesive	1 small can

③ Confirm that all necessary connection fittings for installation are complete.

2. Correct Installation Instructions

(Close the water inlet valve or shut off the tap water during installation)

① Installation of Water Inlet

Connect the tap water to the water inlet (as shown in the diagram on the right). The



connection should be a 3/4-inch male thread connection, and you can use either a hose or a pipe for the connection.

② Drain Outlet Connection

The drain outlet is used for discharging ion-containing water produced during the deionized water preparation process (harmless waste water) and waste water from backwashing the filter (harmless). This interface also requires a 3/4-inch male thread connection, and you can use a corresponding hose or pipe to connect it to the drain pipe or sewer. Ensure that the connection

is watertight and does not leak.

③ Discharge Outlet Connection

◆When the filters of the pure water equipment need to be replaced, use a hose to connect the discharge outlet to a drainage bucket (to be provided separately). The interface size is 3/4-inch male thread.

④ Concentrate Water Pipe Connection (as shown in the diagram on the right)

◆The reserve water does not need to be connected (used for special purposes).

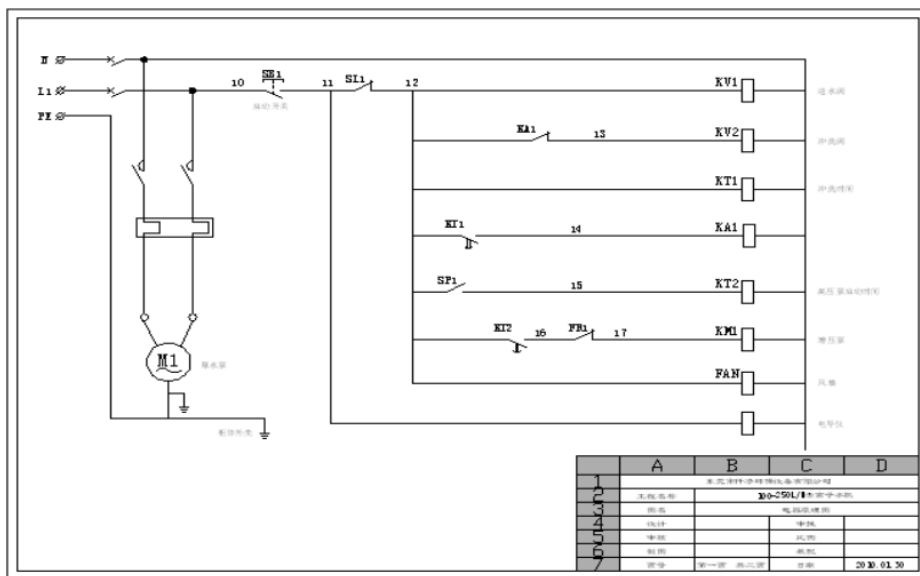


⑤ Purified Water Pipe Connection

The purified water interface of this machine is a 3/4-inch male thread connection, made of PVC. It is recommended to use PVC pipes to connect the purified water to the deionized water tank or water bucket.

⑥ Drinking Water Pipe Connection

Use a drinking water pipe to connect to the drinking water storage tank. All the connection interfaces of this



machine are 3/4-inch male thread connections.

④ Electrical Connection (No installation required by users, pre-configured at the factory)

Electrical schematic diagram (Figure 3)

Figure 3

4. Debugging Procedure

After confirming that the water connections are correct, open the main water valve and proceed with the equipment debugging. Please follow the steps below.

① Connect the Power Supply

Take out the power cord from the accessory box and connect one end to the power interface of the deionized water machine. Make sure to securely plug in the power plug to prevent it from falling out. Connect the other end to the power socket, ensuring that the power supply is AC 220V.

② Open the Pure Water Equipment Inlet Valve

Open the inlet valve of the pure water equipment to ensure that the water pressure is within the range of $0.3\text{MPa}\pm 10\text{MPa}$. You can see the pressure displayed on the pressure gauge at component ④ of the machine.

③ Turn on the "Start" Switch

Press the "Start" button (there is a power switch

located at the left side of the power input). This will start the high-pressure pump, and after a few minutes, the waste water drain outlet will start discharging waste water. After approximately 90 seconds, the microcomputer will automatically close the flushing solenoid valve. Wait for a short period of time, and deionized water will start flowing from the water outlet.

④ Qualification of Debugging

Once the water machine runs stably, check the reliability of all the connections and ensure that there are no leaks. At this point, observe the water quality displayed on the conductivity meter. The machine can be used once the water meets the required standards.

5. Instructions for Use

- ① Keep the water inlet valve open and ensure that the power supply is turned on.
- ② Turn on the "Start" switch to use deionized water.

Initially, the water quality may not meet your requirements. In this case, drain the unqualified water. Once the water quality meets the requirements, observe the conductivity meter. If it reaches the desired conductivity level, you can start using the water after a few minutes. (If the conductivity doesn't decrease even after prolonged flushing, it indicates that the purification resin in the purifying water column has failed and needs to be replaced before trying again)

③ After use, turn off the "Start" switch.

If the machine will not be used for an extended period, close the water inlet ball valve and unplug the power supply.

Note: ① The normal operation of this system requires tap water pressure to be maintained within the range of 0.1-0.4 MPa. If this requirement is not met, the booster pump may not start or may start frequently. In such cases, stop the operation, check the water source, and only use

the machine when the requirements are met.

② When the start switch is turned on, the equipment will perform flushing first. During this time, the booster pump will not start, and purified water will not be produced. After waiting for a few tens of seconds for the flushing to complete, the equipment will begin producing purified water.

6. Safety Precautions Users

are required to read and remember these safety precautions.

Failure to follow the instructions on the signs may result in severe damage to the pure water equipment or certain components, or cause loss of user property.

Warning

To avoid possible harm or property damage to yourself or others, please pay attention to the

following warning precautions.

① Do not disassemble or modify the equipment without authorization.

Unauthorized disassembly or modification of the pure water equipment may result in malfunctions or leaks. If you have any problems, please consult the supplier or manufacturer from whom you purchased the product for better maintenance and timely repairs.

② Do not use the equipment at excessively high or low temperatures.

Excessively high or low temperatures can cause aging or deterioration of certain components of the pure water equipment, affecting water quality and water production, leading to leaks or even serious property damage. The operating temperature range is 5° C to 40° C.

③ Do not use the equipment under high water pressure conditions.

Excessive water pressure (≥ 1.0 MPa) can cause the pure water equipment to burst. It is recommended to use a pressure between 0.1 and 1.0 MPa.

④ **Do not block the waste water discharge pipe or waste water ratio.**

When the waste water discharge pipe or waste water ratio is blocked, it can cause the produced water TDS value of the pure water equipment to be high, blockage of the 1016 ion exchange membrane, or the inability of the pure water equipment to produce water.

⑤ **Do not place the pure water equipment outdoors.**

Placing the pure water equipment outdoors will accelerate the aging of the equipment's pipelines and some components, shortening its lifespan.

7. Maintenance

1. Equipment Maintenance

① Please handle with care to avoid leakage or damage to certain components of the pure water equipment due to dropping or impact.

② Keep the pure water equipment clean and dry, regularly clean the dust and other debris on the equipment.

③ When the purified water quantity significantly decreases or the water quality deteriorates, please promptly check the various filter cartridges and the 1016 ion exchange membrane to confirm if there is any blockage.

2. Replacement Period for filter cartridges and 1016 ion exchange membrane

① The recommended replacement period for various filter cartridges and membranes is estimated based on the average indicators of tap water in different areas. If the actual water quality and machine usage differ significantly from the average values, the actual usage time of the filter cartridges may vary. If the filter cartridges are blocked

or fail prematurely, the actual usage condition should be used as the basis for replacement. Please contact the local after-sales service department in a timely manner.

② Based on experience and using municipal tap water as the source water within the machine's parameter range, the approximate replacement period for filter cartridges and the 1016 ion exchange membrane is as follows (the following data is for reference only):

Filter Stage	Lifespan
First Stage Pre-filter material months	12
Second Stage 5 μ m filter cartridge months	3
Third Stage 1 μ m filter cartridge months	3

years

The above data represents the lifespan measured under the design standard conditions with the machine operating 8 hours per day. In actual use, the lifespan may be higher or lower than the above data due to different water quality. Please refer to the actual situation. In general, if the following situations occur, consider replacing the filter cartridges:

- ◆ Poor water quality with a significant increase in purified water conductivity.

- ◆ The displayed value on the water pressure gauge differs significantly from the municipal water pressure and remains lower than the municipal water pressure for multiple consecutive days.

- ◆ Significant decrease in water flow rate.

- ◆ Filter cartridges are covered in sludge or severely discolored.

3. Replacement method for filter cartridges and 1016 ion exchange membrane (please turn off the power and inlet ball valve):

① Replacement of the first to third-stage filter cartridges

Turn off the water inlet switch and drain the remaining water in the pipes (reduce the system pressure, there is a red button on the filter, press it). Use the provided wrench to unscrew the filter housing counterclockwise, take out the new filter cartridge, remove the outer packaging, place the new filter cartridge into the filter housing, and tighten it clockwise using the wrench.

② Replacement of the 1016 ion exchange membrane:

Remove the top cover of the cabinet with a screwdriver, loosen the clamps at both ends of the RO membrane housing, release the pipes at both ends, and remove the end caps of the membrane housing. Push out the 1016 ion exchange

membrane from the top. Insert the new 1016 ion exchange membrane into the membrane housing, paying attention to the installation direction (there is an arrow on the 1016 ion exchange membrane indicating the direction). To facilitate the installation of the membrane into the housing, it is recommended to apply a small amount of lubricant (specialized) to the O-ring position of the membrane housing. After installation, reconnect the water pipes using the original connection method (refer to Figure 7, membrane structure).

Troubleshooting

Faults	Causes	Troubleshooting
<p>The switch is turned on, but the equipment does not start.</p>	<p>Electrical circuit malfunction, such as loose wiring.</p> <p>The thermal protection component remains activated and needs to be reset.</p>	<p>Check all the connections for wiring.</p> <p>Reset the thermal protection component.</p> <p>Inspect the water supply system to ensure adequate water</p>

	<p>Insufficient water pressure in the water supply.</p> <p>Electrical leakage.</p> <p>Loss of control in the liquid level controller.</p>	<p>pressure.</p> <p>Identify and rectify any electrical leakage.</p> <p>Replace the liquid level controller.</p>
<p>The inlet solenoid valve does not open after the equipment is started.</p>	<p>Disconnected wiring.</p> <p>Internal mechanical malfunction of the solenoid valve.</p> <p>Presence of air inside the pump.</p>	<p>Inspect the wiring connections.</p> <p>Disassemble the solenoid valve for repair or replacement of components and coils.</p>
<p>The pump produces excessive noise when the system pressure rises.</p>	<p>Pump running in reverse.</p> <p>Dirty filter cartridge in the security filter.</p> <p>Air trapped inside the pump.</p> <p>Flushing solenoid valve not fully closed.</p>	<p>Reconnect the wiring.</p> <p>Clean or replace the filter cartridge.</p> <p>Eliminate air trapped inside the pump.</p> <p>Adjust the pressure after flushing.</p>

<p>The pump generates loud noises when the system pressure increases.</p>	<p>Inadequate flow rate of the raw water.</p> <p>Unstable flow of the raw water.</p>	<p>Inspect the raw water pump and pipelines.</p> <p>Inspect the raw water pump and pipelines for any leaks.</p>
<p>The solenoid valve shows a closed status after flushing.</p>	<p>Malfunction in the control components and wiring of the solenoid valve.</p> <p>Mechanical malfunction of the solenoid valve.</p>	<p>Inspect and replace components and wiring.</p> <p>Disassemble the solenoid valve for repair or replacement.</p>
<p>The concentrate water pressure fails to reach the specified value.</p>	<p>Pipeline leakage.</p> <p>Not all flushing solenoid valves have been closed.</p>	<p>Inspect and repair the pipelines.</p> <p>Inspect and replace the flushing solenoid valve.</p>
<p>The pump reverses when the switch is turned off.</p>	<p>Leakage in the suction side pipe.</p> <p>Damaged foot valve or check valve.</p>	<p>Repair or replace.</p>
<p>The pump shaft seal</p>	<p>Damaged shaft seal.</p>	<p>Replace the seal with the same specifications.</p>

is leaking.		
The pump is running, but no water is being discharged.	<p>Blockage in the suction or pump inlet.</p> <p>Stuck foot valve or check valve.</p> <p>Leakage in the suction pipe.</p> <p>Internal air trapped inside the pump.</p> <p>Motor rotation in the opposite direction.</p>	<p>Clean the pipelines.</p> <p>Perform repairs.</p> <p>Change the direction of rotation.</p>



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