Emergency Water Purification Equipment

- **BK-010A**
- **BK-030A**
- **BK-050A**
- **BK-100A**

Instruction Manual

Please read this manual carefully and keep it in a safe place before using this device for future reference.

Overview

This manual helps users correctly install and use the A series of emergency water purification equipment to ensure the best operating condition of the equipment and reduce operating costs. Please read this manual carefully before installing and using the device. QCLEAN emergency water purification equipment can purify various water sources into potable pure water.

I. Product features

1) Easy to move and install with small size;

2) Effectively and quickly filter impurities such as sediment, heavy metals and organic particles in the water, as well as microorganisms, viruses and other impurities, to meet the direct drinking water standard;

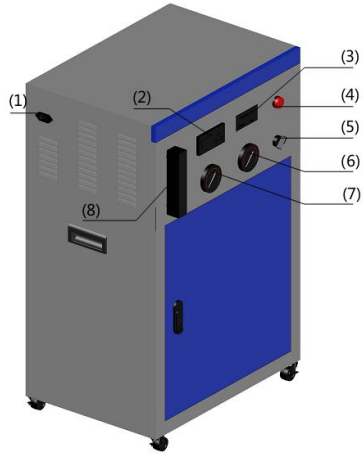
3) Backwash function extends the service life by 2 times;

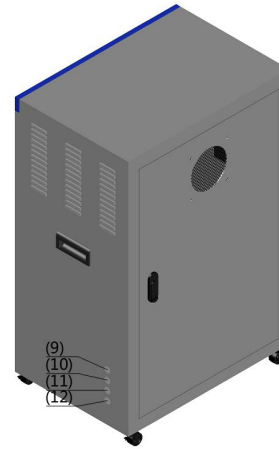
4) Applicable to tap water, ground water, or mountain spring water;

5) Real-time display of water quality thanks to the water quality online detection function;

6) Fully automatic control circuit board and automatic flushing function extend the service life of the filter.

II. Product structure





Front right side view Back right side view

(1)	Power interface	(2)	Online conductivity meter
(3)	Fully automatic RO pure water controller	(4)	Warning light
(5)	Start button	(6)	working pressure
(7)	Inlet water pressure	(8)	Pure water flowmeter
（9）	Water inlet	（10）	Pure water outlet
（11）	Drainage outlet	（12）	Alternate port

III. Main applications

1. Water filtration for oil exploitation and drinking water of engineering team in field;

2. Military outdoor drinking water treatment;

3. Emergency drinking water treatment during the disaster relief

process;

4. Other outdoor operations requiring the drinking water treatment.

IV. Operating parameters

Equipment	Emergency water treatment equipment	Water inlet requirement	Tap water, ground water, mountain spring water
Brand	Qclean	Water inlet temperature	Normal temperature（10－40℃）
Type	BK-100A	Rated water production	100L/H
Control method	Full-automatic control	Rated power	350W
Rated power supply	220V	Water outlet standard	Drinking water

V. Filter specifications and functions

i. Micron filter to filtrate sediment greater than 5 microns, colloid, rust, suspended matter, etc. in the water;

ii. CTO filter to filtrate the smell, color and some organic impurities in the water;

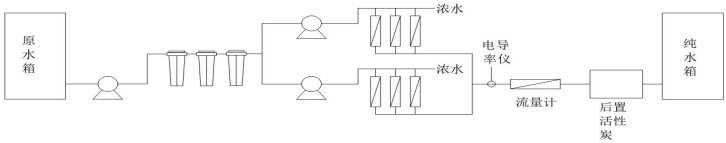
iii. PP filter to remove particulate impurities larger than 1 micron;

iv. BK3564 filter with a filter element of 0.0001 micron to filtrate organic matter, heavy metal ions, bacteria, pesticides, viruses and other impurities in the water, and discharge impurities out of the equipment through the sewage system;

v. Rear CTO filter to remove the odor, and adjust the PH value to

neutral, to reach the standard of drinking water.

VI. Process flow diagram



Original water tank	Concentrated water	Conductivity meter
Flow meter	Rear activated carbon	Pure water tank

VII. Installation

1. Preparations:

A. Choose a good source of water and try to choose tap water or water with a clearer water quality;

B. Prepare the power supply, 220V/AC, 50HZ, power >500W;

C. Keep the water temperature within 10-40 degree centigrade;

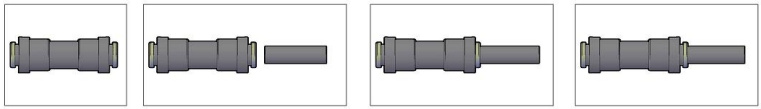
D. Install on flat ground or platform in anti-skid and rainproof conditions;

2. Installation

2.1 Pipe connection

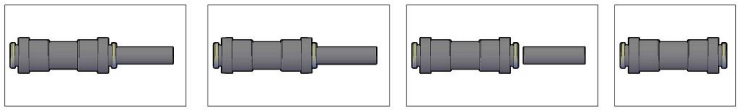
2.1.1 Connection

When connecting the pipe, cut the white water pipe smooth and then insert the pipe into the joint mouth (about 15MM). Water leakage will occur if it is not inserted deep enough. Then pull it out slightly and the pipe connection is completed.



2.1.2 Dismantling

When disassembling the pipe, first push the protruding part of the joint and keep pressing it down by hand. Then the pipe can be easily pulled out. Remember not to pull the pipe directly, which is likely to damage the joint and cause the joint to leak. If the joint is found to be leaking, remove the tube and cut off a small section to reconnect.

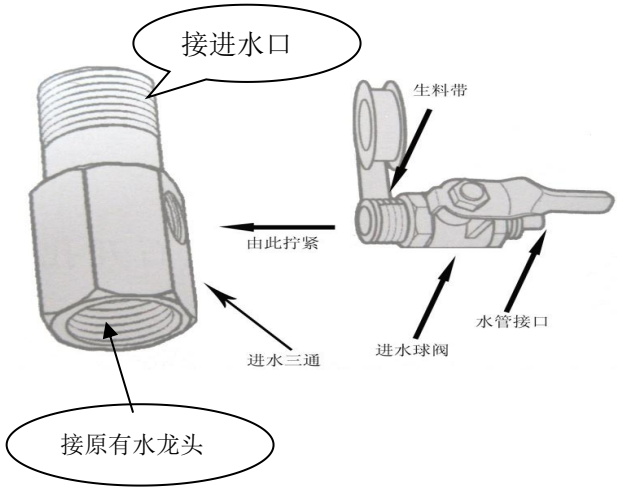


2.2 Equipment installation

2.2.1 The water inlet tee is connected with the faucet and the tap water pipe:

A. Confirm that the tap water valve is closed, unscrew the water tap, and insert the water inlet tee and the inlet ball valve with the external thread to wrap the raw material belt (clockwise wrapped raw material belt), which will enter the water. The tee is connected with the externally threaded to terminate the original faucet position, and the other end (internal thread) is connected to the original faucet.

B. The inlet ball valve is connected to the inner opening of the side opening of the water inlet tee, screw the ball valve nut down, insert the PE water pipe, put the PE water pipe at the ball valve interface, and tighten the nut with a wrench.



接进水	Access to water
接原有水龙头	Connect with faucet
由此拧紧	Tightening here
进水球阀	nlet ball valve
水管接口	Waterpipe joint
进水三通	Water inlet tee
生料带	Teflon tape

2.2.2. The inlet PE pipe should be connected to the raw water outlet of the equipment;

2.2.3. Connect the pure water port to the PE pipe, and connect the pure water control valve to the pure water tank.

2.2.4. Concentrated water inlet is connected to PE pipe to waste water discharge, and can be connected to sewer discharge or other drainage point;

2.2.5. Connect the power cable and activate the switch to check whether the connectors are leaking.

Note: Please refer to 2.3.1 and 2.3.2 above for the connection and dis-assembly of PE water pipes. If there is a blue semi-circular

anti-drop buckle in the accessory kit, the card must be snapped onto the quick interface of the PE water pipe.

VIII. Turn on

1. Before starting the machine, check whether the equipment is properly installed.
2. Open the inlet valve, connect to the water source, turn on the power after 10~20 seconds of water flow, press the start switch, the pump starts, the equipment runs and goes to the flushing state, after 30 seconds of flushing, the device automatically goes to the water-making state, but the water made in the first 30 minutes should not be drunk.
3. The equipment is equipped with automatic protection. When the equipment is running for a period of time and the water is full, the equipment will stop making water; when the water level drops to the set value, the equipment will automatically start and continue to produce water; when the equipment is out of pressure, the equipment will automatically stop.

IX. Equipment Maintenance and Filter Replacement

Replacement of first three levels of filters

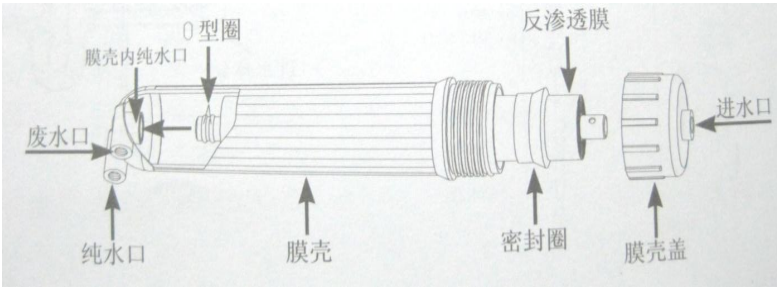
1. Close the inlet ball valve and turn off the power;
2. The first three levels of filters replacement: unscrew the filter casing with a wrench, take out the filter element, replace the new filter element, and seal the outer casing;
3. BK3564 filter replacement: use the tweezers to clamp and remove the old BK3564 reverse osmosis membrane filter, replace the new filter, install it and tighten it;
4. Rear CTO filter replacement

1. Turn off the power supply and the inlet ball valve;
2. Press the pipe clamp down by hand to make it close to the pipe seat, and pull out the PE pipe at the same time.
3. Take out the used CTO filter and replace it with a new one.

VIII.the service cycle of each filter is as follows:

1. Calculate the filter replacement cycle according to the standard of tap water:

First filter element 1-3 months
Second filter 2 - 3 months
Third filter 2 - 3 months
Fourth: BK3564 RO reverse osmosis membrane 8-14 months
Fifth: Rear CTO filter 6 months



废水口	Waste water outlet
纯水口	Pure water outlet
膜壳内纯水口	Pure water port in the membrane shell
O 型圈	O-ring
膜壳	Membrane shell
密封圈	Seal ring
反渗透膜	Reverse osmosis membrane

膜壳盖	Membrane cover
进水口	Water inlet

2. According to the water quality and water use situation, the filter element should be replaced under the following conditions

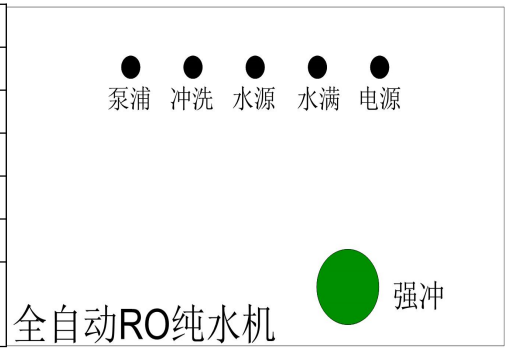
2.1 the effluent water quality deteriorates;

2.2 the flow rate of water is obviously smaller;

2.3 the display value of the inlet water pressure gauge and the tap water pressure are quite different, or the equipment automatically stops for protection;

X. Fully Automatic Controller

泵浦	Pump
冲洗	Flush
水源	Water source
水满	Full water
电源	Power
强冲	Strong flush
全自动 RO 纯水机	Fully automatic RO water purifier



Turn on the power, the power light is on;

Water source detected, water source light is on;

The device goes to initialization, the device starts running, automatically flushes for 30s, and the flushing light is on;

Then goes to the water production state, the booster pump starts, and the pump light is on;

When the water is full, the full water light is on and the equipment stops producing water;

XI. Common faults and solutions

Faults	Cause Analysis	Solution
The device is not running	1. The power is not connected 2. The original water pressure is small or lack of water; 3. The low voltage switch is out of order and cannot be powered on. 4. The high voltage switch cannot be reset 5. Transformer burnout	1. Check the power supply or plug 2. Check the raw water pressure and whether there is any blockage; 3. Replace the low voltage switch; 4. Replace the high voltage switch 5. Measure the voltage and replace it
The booster pump works normally, but no pure water is produced.	1. Pressure loss of booster pump 2. The water inlet solenoid valve is faulty and cannot enter the water. 3. The front filter plug is blocked 4.RO reverse osmosis membrane blockage	1. Measure the water pressure of the pump and replace it. 2. Replace the water inlet solenoid valve 3. Replace the filter 4. Replace the RO reverse osmosis membrane
The equipment is stopped but there is still concentrated water	1. Inlet water solenoid valve fails to effectively cut off water	1. Replace the water inlet solenoid valve

After the water is full, the equipment starts and stops repeatedly	1. High voltage switch failure 2. The system has a pressure relief	1. Replace the high voltage switch 2. Check the pure water pipeline
Insufficient pure water flow	1. The front filter plug is blocked 2.RO reverse osmosis membrane blockage Booster pump 3. The booster pump is under pressure	1.Replace it 2. Replace it 3. Check the pipeline or replace it
No display on Conductance meter	1. The power is not connected 2. Instrument failure	1. Check if the power supply is plugged in; check if there is 220V between the rear cover wiring (1) and (2)
Conductivity shows instability	1. The electrode wiring is incorrect. 2. There are bubbles in the pipeline 3. Unstable water quality 4. Power supply has strong interference	1. Check if the electrode wire is connected incorrectly. 2.Alternative measurement point 3.Check the water making device 4. Take measures against the power supply or isolate the power supply

The effluent water quality is not qualified	1. The cleaning is still unqualified for a long time, and the filter element is invalid. 2. Filter cartridge usage time is too short	Filter element failed, replace it

XII. Warranty and maintenance record

Warranty:

Dear Customer: Hello! Thank you for purchasing the QCLEAN products,. This should be kept by the users themselves. Please keep them in a safe place.

1. Under normal use, the warranty is free for one year from the date of purchase (according to the date of shipment of the warranty card or the date of shipment of the equipment label). Consumables are not covered by the warranty.

2. During the warranty period, spare parts that are damaged due to product quality problems can be replaced free of charge.

3. No free warranty under any of the following conditions, :

3.1 exceeds the warranty period;

3.2 Failure to use, maintain or keep in accordance with the requirements of the product manual;

3.3 Equipment failure caused by the use of non-company consumables;

3.4 Failures that occur after the maintenance of the non-designated personnel of the company;

3.5 Damage caused by force majeure.

The company reserves the right to change product designs and

specifications. It will not be notified at the time. If there are any details or errors in this manual, please contact us.

Remarks:

Unit conversion: 0.1MPa = 1.02Kg/cm2 = 14.5Psi

1 gallon = 3.785 liters

GPD: gallons per day GPM: gallons per minute

LPM: liters / minute LPH: liter / hour

Warranty Card

Customer name		Contact No.	
Type		ID No.	
Date of manufacture		Invoice number	
User address			

Maintenance Records

Date	Item	Replacement parts	Amount	Maintainer	Customer

Remarks: The maintenance record is filled in by the maintenance personnel. It should be signed and saved by the customer after confirmation.

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