Manual for RO Water Purifier

Manufacturer: Ningbo Haishu Esco Medical Technology Co., Ltd
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Please read this manual carefully before using the product!

Revision History

Revised chapter	Revised content	Revised date	Revisor	remark	
All	New setup	2016.1.8	zhengkejie	REV01//00	

Contents

Symbol Description

 **Caution，Read the instruction for use**

 **Symbol for "ENVIRONMENT PROTECTION – Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local Authority or retailer for recycling advice"**.

 **Symbol for "MANUFACTURER"**

 **Symbol for "DATE OF MANUFACTURE"**

Symbol for "SERIAL NUMBER"

 **Symbol for "THIS WAY UP"**

 **Symbol for "KEEP AWAY FROM RAIN"**

Symbol for "STACKING LIMITED 5"

 **Symbol for "FRAGILE"**

 **Symbol for "Do not trample"**

1. Product Description

The RO Water Purifier applies reverse osmosis technology to purify tape water for users. The equipment adopts single-chip microcomputer automatic control, with functions as fault automatic diagnosis and purified water quality testing.

The equipment uses three-stage filtration to ensure the quality of purified water:

Stage I: PP Cotton Filter, with pore size of 5um; able to filter out large particles of solid impurities such as rust, sediment, gelatinous materials and a part of microbes, etc. from tape water effectively.

Stage II: Activated Carbon Filter, with high absorbability; able to filter out chemical substances such as residual chlorine, chloroform, and disinfecation byproducts, etc, and abnormal taste and color from water effectively.

Stage III: RO Reverse Osmosis Membrane, with pore size of 0.0001um; able to filter out matters such as bacteria, virus and mineral ions, etc. from water effectively.

2. Intended Application

The equipment is designed for supplying water to equipments with higher requirements for water, e.g. pressure steam sterilizer and dental chairs, etc.

The equipment is not designed for human drinking! Because beneficial ions are filtered out by the equipment, long-term drinking is not allowed!

3. Introduction to Technical Parameters & Piping & Circuit

3.1 Technical Parameters

Power Input: 100~240VAC, 50,60Hz, 45VA

Service Environment: 5℃~40℃, RH≤80%

Requirements for raw water:

Source: Tap Water

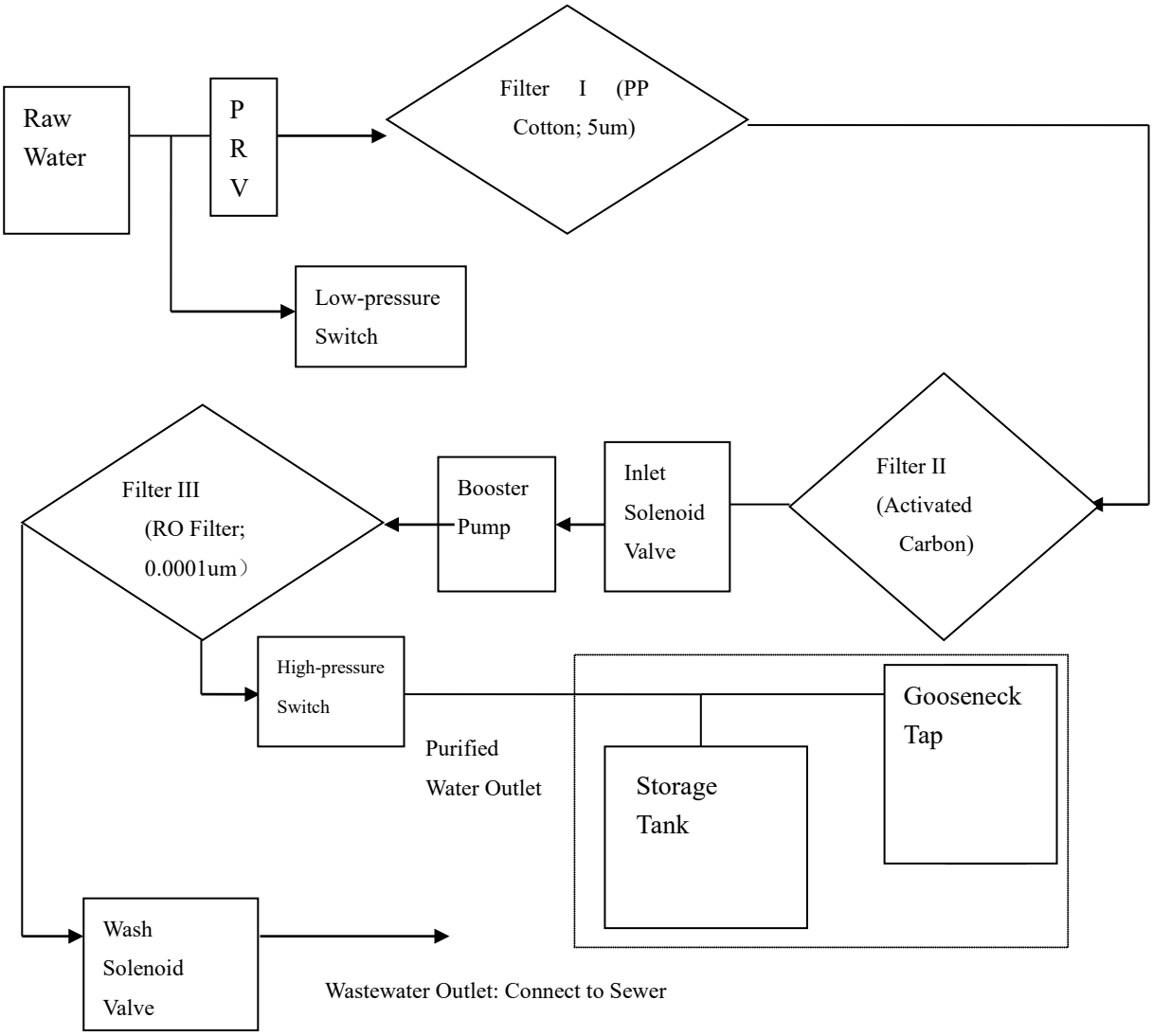
Pressure: >0.1Mpa

Temperature:

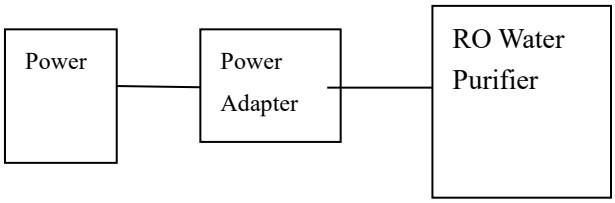
Production Rate: 7~8L/H

3.2 Piping:

Items in Dashed Line Box are optional components.



3.3. Circuit Connection



4. Installation & Commissioning

4.1 Preparation

4.1.1 Check materials by the packing list.

4.1.2 Determine the raw water supply port, and existing tap is recommended.

4.1.3 Determine installation mode and location of the equipments

The equipments can be placed on table directly or hanging on the wall.

4.2 Installation Steps

4.2.1 Install Inlet Tee

1）Cut off the water Supply

2）Dismount the original tap

3）Wrap the external thread of the Inlet Tee with sufficient PTFE TAPE, and install the Inlet Tee to the water supply pipe of the original tap.

4）Install the dismounted tap to the Inlet Tee

5）Close the ball valve of the Inlet Tee (turn the handle and make it vertical to the outlet) and turn off the original tap.

6）Test the installation to see if any leakage occurred after turning on the water supply.

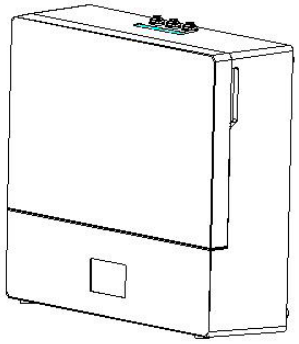
4.2.2 Install the RO Water Purifier (Main Body)

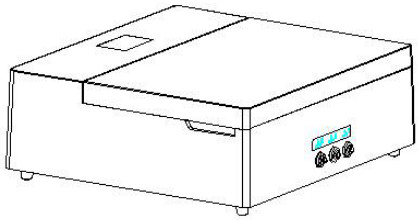
1. Take the original connecting pipe or tap out
2. Connect the Tee
3. Connect the original pipe ortap
4. Fit PE Pipe; Connect the purifier

Notice: All joints shall be wrapped by PTFE TAPE

4.2.2.1 Place it on the table directly.

Place main body of RO Water purifier to the location, both vertical direction and horizontal direction are fine. When place it in horizontal direction, fix four foot pads by four screws to four threaded holes in the backboard, and fasten the screws.





The table where the purifier placed must be flat, so as to prevent the equipment from inclination; the Table shall also able to bear the weight of 20KG.

4.2.2.2 Hanging on the Wall

1) Determine the position to hanging and mark the position to punch holes for mounting brackets.

Make sure the position for punching holes is without cables, so as to avoid property loss or personal injury caused by damage to cables during holes punching.

2）Holes Punching

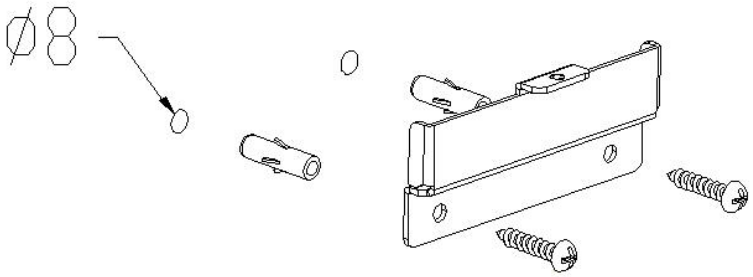
Punch two holes (diameter: 8; depth: 40) in the wall by percussion drill.

3）Knock-in Plastic Tube Bolts

Knock plastic tube bolts into the punched holes

4）Install Wall-Fixing Plate

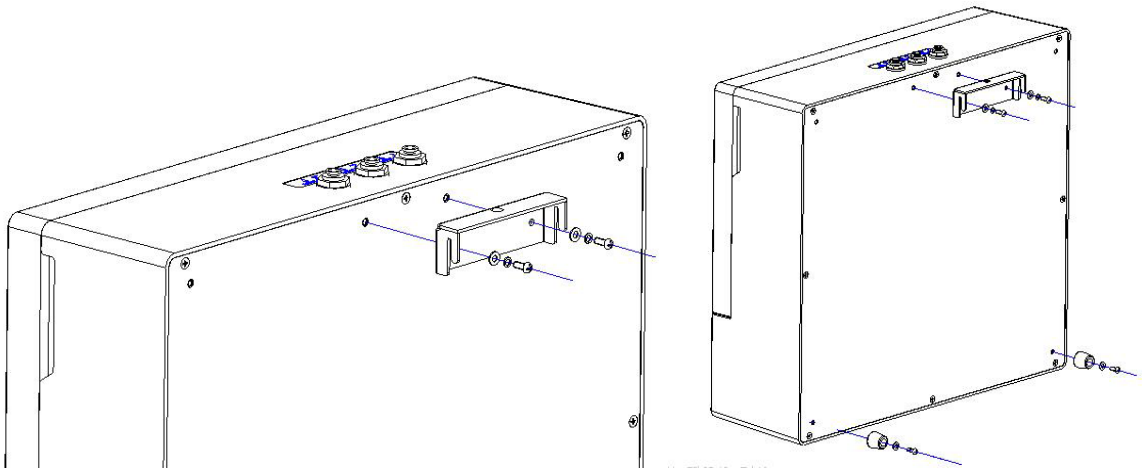
Install the fixing plate with two screws (M*35), and make sure screws have been tightened.



5）Install Purifier-Fixing Plate

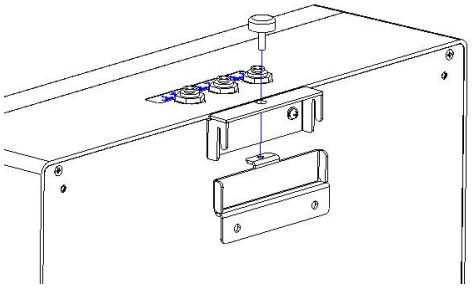
Install the fixing plate with two screws (M4*100), spring washer and flat washer, and make sure screws have been tightened.

Install two cushions with two screws (M4*10) and flat washer to keep stable.



6）Install RO Water Purifier on the Wall

Hang the RO Water Purifier to the wall-fixing plate with the fixing plate; do not let it go until the Purifier has been hung firmly, so as to avoid its falling; and screw in plastic screws.



4.2.3 Piping Connection

4.2.3.1 Introduction to Water Pipe Joints of RO Water Purifier

There are three water pipe joints at the top of RO Water Purifier, as shown below:

Grey mark 1: raw water inlet

Blue Mark 2: purified water outlet

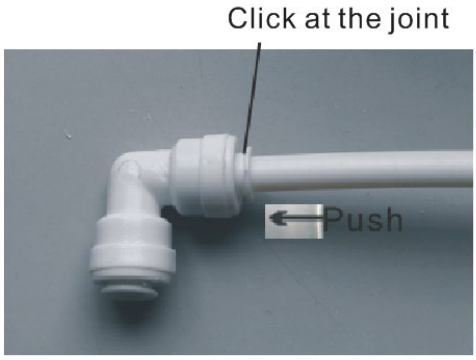
Red Mark 3: wastewater outlet

4.2.3.2 Introduction to Pipe Installation

1）Connection at Inlet Tee

2）Install Pipe to the Plastic Joint

Insert the pipe into the bottom of the joint directly. When dismounting the pipe, press the click of the joint inward and pull the pipe out.



Piping Connection

1）Connect the raw water inlet pipe:

Take pipe of proper length, and connect one end of it to the Inlet Tee and the other end to the raw water inlet (with Mark 1) of RO Water Purifier

2）Connect the wastewater outlet pipe

Take pipe of proper length and insert the one end of pipe into the water outlet (with mark 2), and the other end to the sewer

3）Connect the purified water outlet pipe

If the equipment is not equipped with the pressure barrel, connect the purified water outlet to the water storage tank by the pipe directly.

If the equipment is equipped with the pressure barrel, connect one Tee at the port close to the pressure barrel. Connect one end of the Tee to the gooseneck tap, and connect another end of Tee to the purified water outlet of the RO Water Purifier.

4.3 Commissioning

1) Power on, and the green light on refers to normal power supply of the equipment.

2) Press the Power Key  , and the equipment will display the current conductivity of the water purification. If "00" appeared, the water may not arrive at the sensor yet.

3) Turn on the water supply. If E01 Alarm occurred, it means there is no water supplied or excessive low water source pressure.

4) Press the Wash Key  to have piping or filter washing, with washing time of 18S. Check to see if any water flowing out from the wastewater outlet. If yes, it means the piping and water source have been connected correctly.

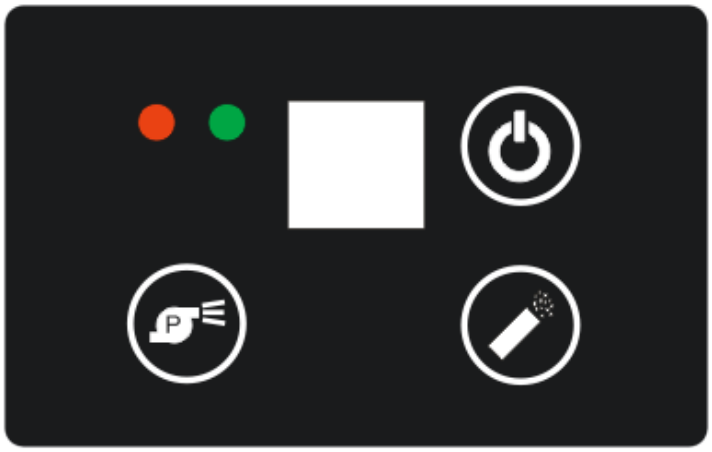
5) After washing finished, press  to produce water. It is normal when there is no water flow out from the purified outlet at the beginning, because the filter has not been filled by the water, please wait for 2 minutes. If there is still no water flow out, there may be equipment problems or installation problems.

6) If pressure barrel has been installed, please abandon the first two barrels of water, because there may be impurity or pollutants in the pressure barrel.

 On first use, please abandon the first two barrels of purified water if the pressure barrel has been installed.

5. Usage

5.1 Introduction to Human-Machine Interface



 Green Light: Power indicator; light on when the equipment is power-on

 Red Light: fault indicator; light on when equipment gives out alarms, with middle display frame to indicate fault code

 Display Frame: indicate conductivity value of water purification, with unit of uS/cm; indicate status and fault code

 Power Key: to turn on/turn off the equipment

 Wash Key: key to wash, every one press lead to 18S washing.

 Water-production Key: Start/Stop water production

5.2 Usage

5.2.1Water Production

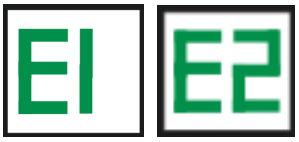
After installation and commissioning, turn on the water supply and the power. Press water-production key to produce water, with display frame to indicate the current conductivity value of water purification. If pressure barrel has been installed, the equipment will stop working automatically when the pressure barrel is filled with water, and "FL" will appear in the display frame. Discharge the water from the pressure barrel and the equipment will continue to produce water.

5.2.2 Washing

The washing procedure is designed to wash RO filter membrane, to extend its service life.

If E2 Alarm occurs, produce water after running the washing procedures for several times; if alarms cannot be eliminated, please replace RO filter membrane.

5.2.3 Meanings of Displayed Code

No.	Display Status	Meaning
1		Conductivity of water purification: 8uS/cm
2		Washing
3		Alarm Code
4		Pressure barrel is filled with water

6. Maintenance & Troubleshooting

6.1 When false alarms occur during the running, please handle as follows:

Item	Alarm Code/Phenomenal Description	Reason	Resolution
1	E1	Raw water supply did not turned on; excessive-low raw water pressure;	Check to see if water supply has been turned on; Check to see if the water source supply>=0.1Mpa;
2	E2	Purification conductivity exceeded alarm set value	Check to see if the alarm set value is too low; replace RO filter membrane
3	Bumps working during water production and washing, but no wastewater or purified water flow out	No water through inlet solenoid valve PP filter blocked	1, Replace Inlet solenoid valve 2，change the pp filter
4	Water leakage at joints	Incorrectly installed joints/pipes	1, reinstall the joints
5	Green light isn't working when power on	Power adapter was damaged	1, replace the power adapter

6.2Filter Replacement

6.2.1Replacement Cycle Recommended:

Due to different quality of raw water in difference places and different operating frequency, the replace cycle recommended as follows is only for reference.

For reliable operation of the equipment, please use filters provided by our company.

No.	Filter	Replacement Cycle Recommended
1	Filter I（PP Cotton）	3-6 months
2	Filter II（Activated Carbon）	3-6 Months
3	Filter III（RO Filter）	18~30 months or E2 occurred

Service life of RO filter may be reduced due to overtime use of PP cotton and activated carbon filter.

6.2.2 How to replace filters

Position and water flow direction of three filters are shown in the figure below:

As shown in the figure below: from top to bottom--PP Cotton Filter, Activated Carbon Filter, and RO Filter

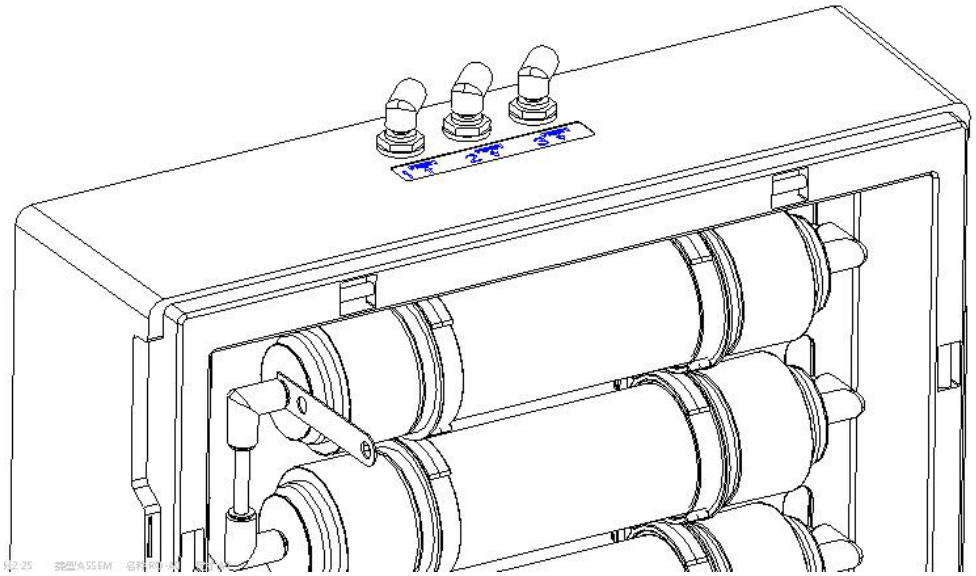
PP Cotton Filter: Water flows from right to left

Activated Carbon Filter: Water flows from left to right

RO Filter: Water flows from right to left

PP Cotton Filter/Activated Carbon Filter Replacement

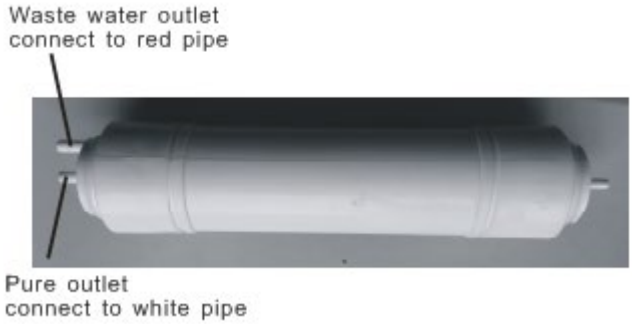
Insert the attached tool into joint and the filter, and pull the joint out; when joints at two ends have been dismounted, take the filter out from clamp. Replace with new filter and pay attention to the direction of the filter. Reinstall the joints.

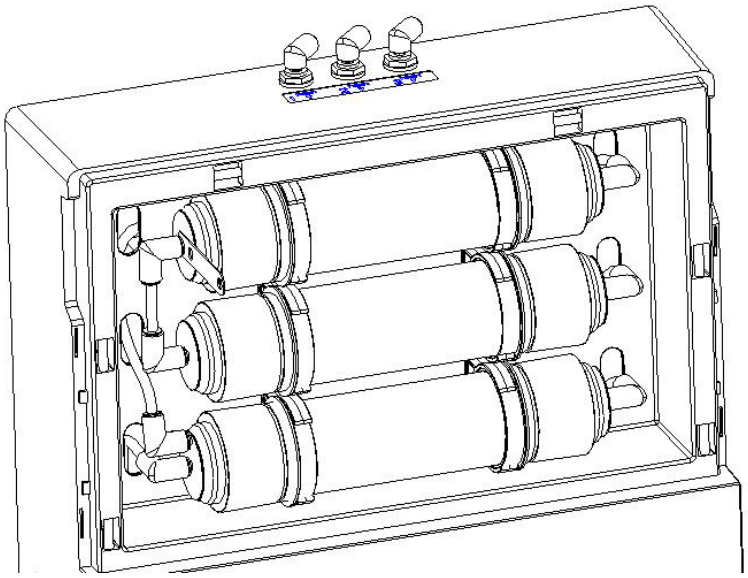


RO Filter Replace

The joint of RO Filter is shown in the figure below:

Different with PP cotton filter and Activated Carbon Filter, there are two joints at the outlet. The purified water outlet is in the middle, and the wastewater outlet is on the side, with connection methods as shown in the figure:





Pay attention to water flow direction and connection at RO Filter outlet during the filter replacement!

7. Warranty

1. **The whole equipment (consumable items excluded: three filters) enjoy one-year warranty on invoice. Within one year dated from the purchase date, any failure or damage occurred with property installation and usage in accordance with the manual can enjoy free maintenance services from our company.**
2. **Following cases are not in the scope of free warranty, even if within warranty period:**

(1) Failure or damage due to user's improper use or deliberate damage or modification;
(2) Failure or damage due to occasional falling or bumping caused by users' moving after installation;
(3) Using consumable items provided by other companies;
(4) Damaged due to accidental and unforeseen accidents such as fire, flood and earthquake;
(5) Damage due to other problems except product quality problems

3. **As to products not in the scope of free warranty or beyond the warranty period, we will still provide maintenance services to you with all sincerity, but we will collect proper fees after repaired the equipment.**

8. Safety Caution

1. The equipment is not designed for human drinking! Because beneficial ions are filtered out by the equipment, long-term drinking is not allowed!
2. When the equipment is placed on the table, the table must be flat, so as to prevent the equipment from inclination; the Table shall also able to bear the weight of 20KG!
3. Make sure the position for punching holes is without cables, so as to avoid property loss or personal injury caused by damage to cables during holes punching!
4. Service life of RO filter may be reduced due to overtime use of activated carbon filter!
5. To avoid water leakage or damage to the equipment, please do not dismount equipment components arbitrarily!
6. Please make sure no water leakage occurred at the filter joint after filter replacement!
7. After Long-term unused or at the first time to use, please abandon the first two barrels of purified water when the pressure barrel has been installed!
8. Pay attention to water flow direction and connection at RO Filter outlet during the filter replacement!
9. There is gas port below the pressure barrel, please do not unscrew it to let the gas out!