

USER MANUAL

FOR

MODEL ALKALINE WATER IONIZER

- Please read this manual carefully before using the ionizer.
- Please use the ionizer in a correct way.
- Please keep this manual properly.

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1. Main Features

Alkaline water ionizer is suitable to different water quality and power supply conditions around the world. Model 960 is equipped with dynamic LCD display and glass touch panel, looks elegant. It has very good performance in electrolysis.

- ① A 3.5 inches colorful LCD screen with big font makes the ionizer easy to use.
- ② The ionizer shows real-time data of flow rate, output water temperature, pH and ORP, helping users to monitor its working condition and correctly choose the function they need.
- ③ The ionizer is equipped with an efficient power supply system, making it suitable for different voltage around the world. It has low power dissipation but high efficiency. Its constant output current and output voltage, makes the water be processed more sufficiently and water quality more stable. It will turn into power-saving mode automatically when it is in standby mode, thus it can reduce unnecessary power consumption.
- ④ The ionizer adopts CDC touch technology, beautiful and durable. Easy operation could be started only with one touch, making your life easier and healthier.
- ⑤ Microcomputer module controls the electrolysis process, so it can be suitable for different water quality. Available TDS is 50~1000ppm.
- ⑥ The ionizer is install LCD with a built-in filter, and the LCD screen shows its real-time condition. It improves water quality and make water more safe.
- ⑦ Electrode auto-cleaning function prevents scaling in the core parts.
- ⑧ The Japan-imported outflow hose will never rust. It is flexible enough for users to change the position of outflow.
- ⑨ Japan-imported ion membrane and titanium electrode plates guarantee efficient electrolysis and long operating life.
- ⑩ The built-in temperature protection system prevents hot water going inside, protecting safety of the machine.

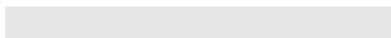
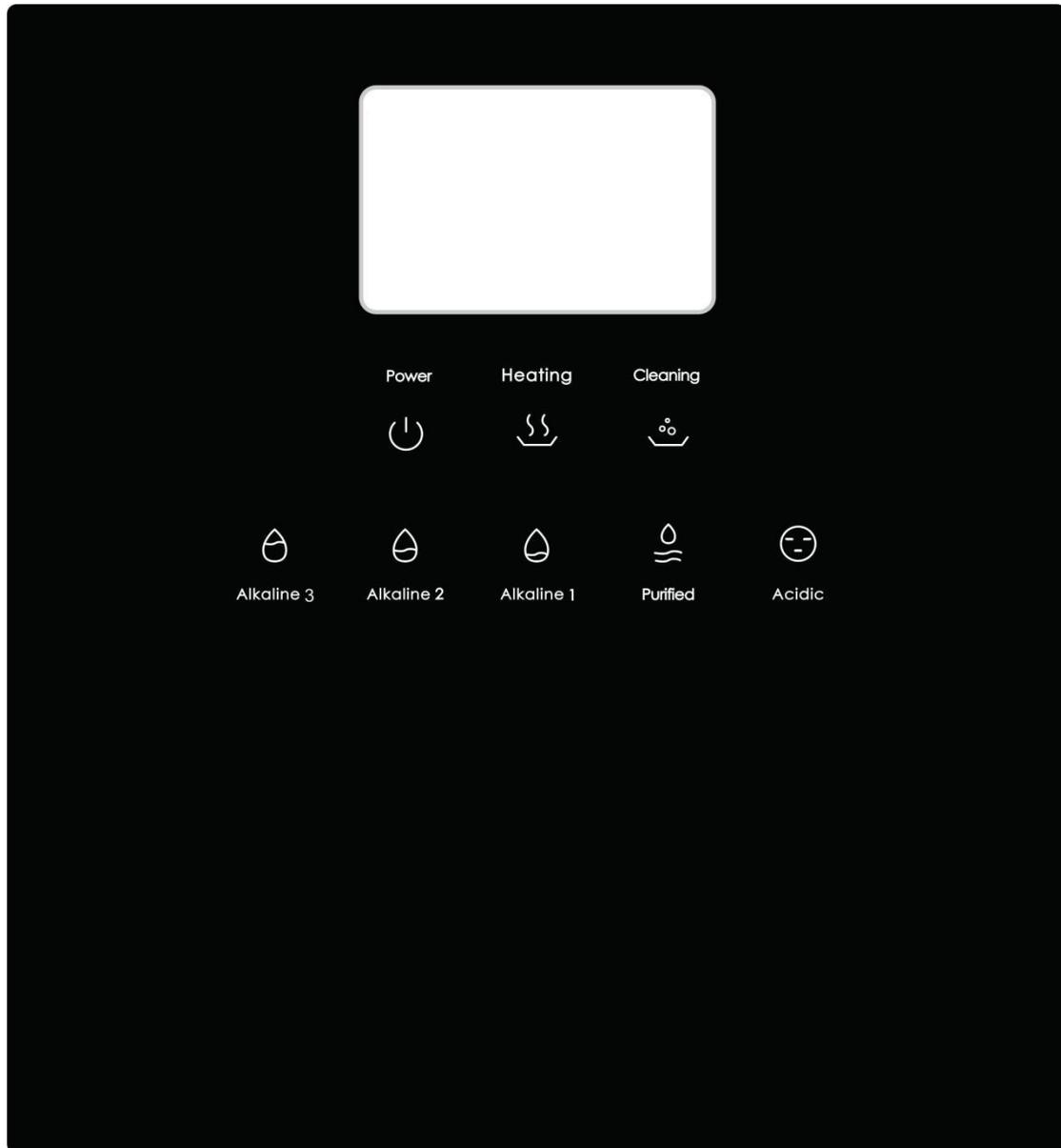
2. Technical Parameters and Specifications

1	Input power	AC 110~240V, 50~60Hz
2	Electrolyzing power range	0~200W
3	Standby power	About 3.5W
4	Heating power	About 2000W
5	Inflow pressure	0.1~0.3MPa
6	Inflow TDS	50~1000mg/L
7	Start-up flow rate	0.8L/min
8	Ideal flow rate	2~3L/min
9	Continual electrolyzing time	About 60 minutes
10	Capacity of built-in filter	About 6000L
11	Function choice	Alkaline water: 3 phases, purified water:1phase, Acidic water: 1 phase
12	Electrolysis material	Titanium coating
13	Size of electrode plate	79mm*43mm
14	Quantity of electrode plates	7 / 11
15	pH range	4. 0~10.5
16	ORP range	700~-600
17	Highest temperature of inflow	65℃
18	Heating temperature	45℃
19	Net weight	About 2.5kg
20	Size	Height330mm*width245mm*thickness130mm

3.Product Appearance



4. Introduction of Operation Panel



Alkaline:

- ✧ Alkaline water has 3 phases. Users can choose water with different alkalinity according to their needs.

Purified:

- ✧ At this phase, users can get purified water without being electrolyzed when they take medicine or prepare milk.

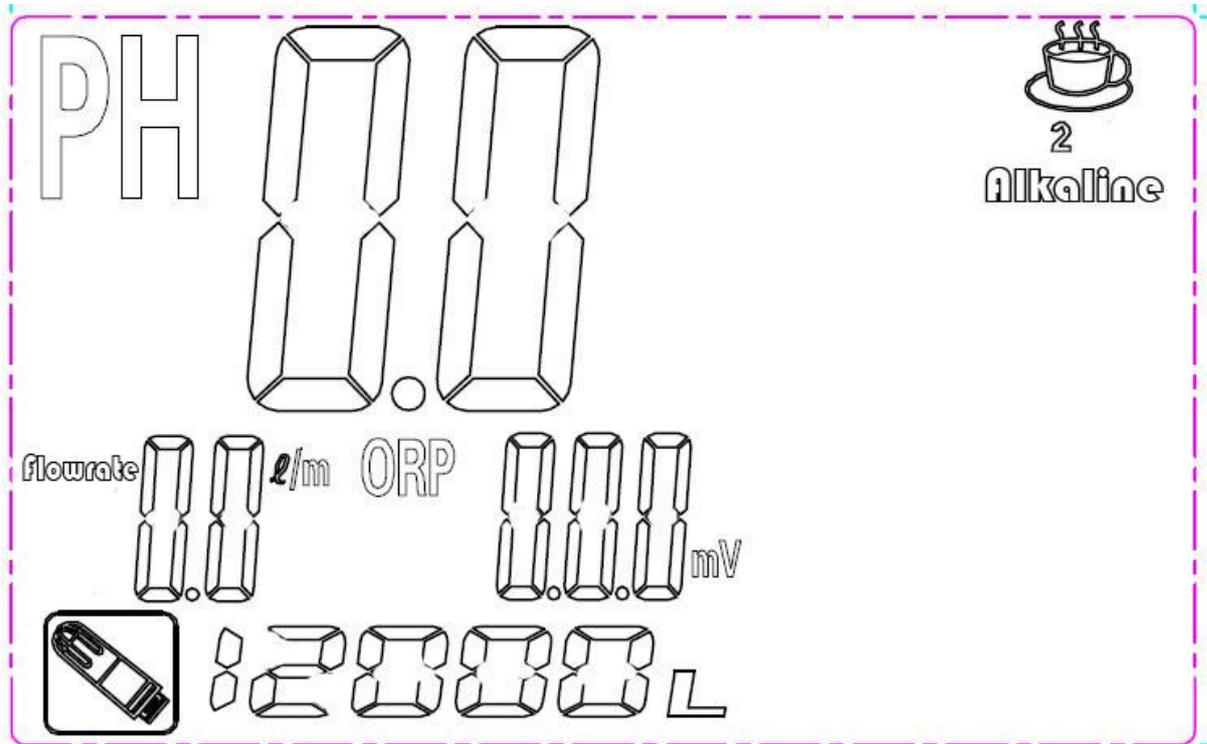
Acidic:

- ✧ Acidic water has 1 phase. This water could be used for washing.

Cleaning:

- ✧ When total outflow reaches the preset volume, the indicator will light up, and users should press the “cleaning” button to clean the electrode plates.
- ✧ When total outflow reaches the preset filter capacity, the indicator will light up to remind users to change filters. In the standby mode, press the “cleaning” button for 4 seconds, you can reset the filter capacity.

5. Introduction of LCD Display



- Alkaline: Alkaline 3(purple), Alkaline 2(blue), Alkaline 1(light blue)
- Purified(green)
- Acidic(red)
- Flow rate: the current flow rate of the water ionizer
- Temperature: the current water temperature
- pH: the pH of outflow from the metal hose
- ORP: the ORP of outflow from the metal hose
- Filter: remaining life of the built-in filter

6. Operating Principle

The water ionizer electrolyzes the common water to change its pH and ORP, then produces ionized water. During the electrolysis process, O₂ and H₂ are generated. Generally speaking, no chemical reaction can increase free energy. So water can not be decomposed into O₂ and H₂ under natural condition. But if cathode and anode are put into water and an electric current is applied, according to Faraday's law, an electrolysis reaction will be brought. Usually the anode is made of platinum or other precious metal of platinum group, which is insoluble. The redox reaction between the cathode and the anode is as follows:



$$E_0 = 0 - 0.0591\text{pH}$$



$$E_0 = 1.228 - 0.0591\text{pH}$$

When H₂ and O₂ are generated on the surface of cathode and anode, the water around the electrode will tend to be acidic and alkaline, with its ORP changed. Between the two poles, put a porous semi-permeable membrane which can limit water to transfer, or an anion-cation semi-permeable membrane which can let anion and cation pass selectively, then we can get acidic water with high hydrogen ion concentration and oxidative properties from the anode, and alkaline water with high hydroxide ion concentration and reducibility from the cathode. This is the operating principle of water ionizer.

Now the name of water produced on the cathode and anode have not been unified. The ionized acidic water is also called LCD ionized acidic water, while the ionized alkaline water is also called LCD ionized reductive water.

7. How to Install

① **Before Installation: The best way to install the water ionizer is wall mounting. If you would like seat mounting, please keep the place where the ionizer is seated dry and prevent water splashing on the machine.**

- 1) Choose a position: Above the sink, at least 1.5 meters from the fire, direct sunlight should be avoided. If the user's special installing requirement goes against the normal use and maintenance of the ionizer, installation personnel should tell him/her the reasons.
- 2) Test water pressure, then shut off the water valve. The following steps should be taken without water.
- 3) Test power supply: Check whether power supply is in good condition.
- 4) Check the water ionizer:
 - (1) Check whether the panel is working normally.
 - (2) Check whether the accessories are complete.

2. Installation:

- 1) Punch:
 - (1) User should choose a punching position where is convenient for replacing filter in the future. Mark the position.
 - (2) The holes should be level with each other.
 - (3) If you punch on tiles, please try preborn firstly to avoid damaging the tiles.
 - (4) External expansion screws should be fixed tightly.
- 2) Connect water pipes:
 - (1) Check whether the pipes are aged or leaky.
 - (2) Make sure the ionizer is connected with cold water pipes.
 - (3) The pipes should be bound with Teflon tape. The connector should be fixed tightly.

- (4) The pipes should be installed in straight lines and in a good shape. Use clamps to fix them.
- 3) After installing the ionizer and filters, please check carefully to make sure it is at a horizontal position, firmly installed and easy for replacing filters.
- 4) Apply power: Installation personnel should confirm whether there is earth wire in the user's socket to keep electrical safety.
- 5) Switch on water and electricity: Make sure the water ionizer works normally (installation personnel should debug the panel with clean hands).

8. How to Use

Turn on the tap and let water go into the ionizer. When the flow rate reaches 0.8L/min or above, the LCD screen will light up and the machine will turn into an electrolyzing state.

Alkaline Press the buttons "Alkaline1", "Alkaline2" and "Alkaline1", you can choose different electrolysis degree. When you choose alkaline phases, alkaline water goes out from the hose on the top of the ionizer, while acidic water flows out from the drain pipe at the bottom.

Purified. When you choose this function, all water from the top hose and that from the drain pipe is filtered water without being electrolyzed.

Acidic Press the "Acidic" button, you can get acidic water from the top hose, and alkaline water will come out from the drain pipe.

Cleaning When the water ionizer is working, press the "Cleaning» button, the ionizer will go into a cleaning mode, last for 1 minute and exit the mode automatically.

Power Press the "Power" button to turn on or turn off the machine.

Notice:

When inflow rate is less than 0.8L/min, the ionizer will get into an internal cleaning mode, and LCD screen will be with red light for 5 seconds. Then the machine turns into standby mode, and LCD screen will be with blue light. If no operation at all after 15 seconds, LCD light will go off and the machine will enter a power-saving mode.

When “cleaning” indicator lights up, please turn on the faucet and press the “Cleaning” button, then the “cleaning” indicator flickers and music starts. The cleaning process lasts for 1 minute, then the machine will turn to alkaline function automatically.

9.Function Settings

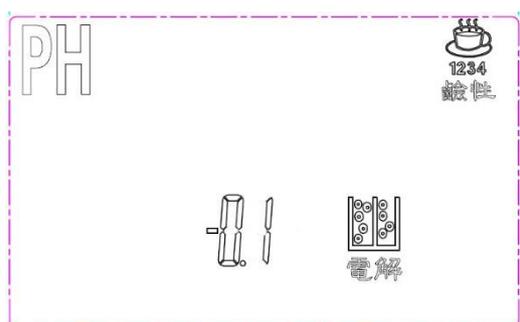
The following operations are only for technicians to set the water ionizer. Please do not turn on water supply while setting.

The pH, ORP calibration:

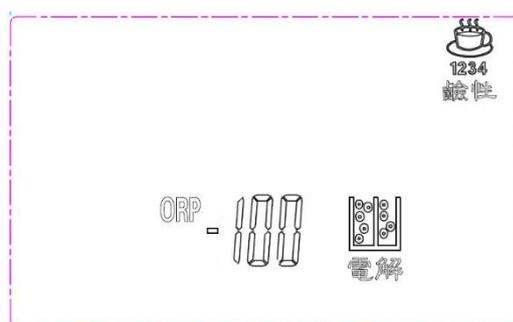
Alkaline 1: Press “Alkaline 1” for 4 seconds to enter Alkaline 1 pH calibration mode.

LCD screen shows “Alkaline 1” (as the picture “Alkaline pH Calibration”), and the button indicator «Alkaline 1” flickers. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-0.3, -0.2, -0.1, 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0”.

Preset display data of “Alkaline 1” is pH 8.5. If it is different from the practical pH, please adjust it to be the same as practical data.



Alkaline pH Calibration



Alkaline ORP Calibration

Press “Alkaline 1” button again to enter Alkaline 1 ORP display calibration mode. LCD screen shows “Alkaline 1” (as the picture “Alkaline ORP Calibration”). Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-100, -80, -60, -40, -20, 0, 20, 40, 60, 80, 100”.

If it is different from the practical ORP, please adjust it to be the same as practical data.

Press “Alkaline 1” button to reserve the settings and exit.

Alkaline 2: Press “Alkaline 2” for 4 seconds to enter Alkaline 2 pH calibration mode.

LCD screen shows “Alkaline 2”, and the button indicator «Alkaline 2” flickers. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-0.5, -0.4, -0.3, -0.2, -0.1,

0、 0.1、 0.2、 0.3、 0.4、 0.5、 0.6、 0.7、 0.8、 0.9、 1.0”.

Preset display data of “Alkaline 2” is pH 9.0. If it is different from the practical pH, please adjust it to be the same as practical data.

Press “Alkaline 2” button again to enter Alkaline 2 ORP display calibration mode. LCD screen shows “Alkaline 2”. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-150、 -120、 -90、 -60、 -30、 0、 30、 60、 90、 120、 150”.

If it is different from the practical ORP, please adjust it to be the same as practical data.

Press “Alkaline 2” button to reserve the settings and exit.

Alkaline 3: Press “Alkaline 3” for 4 seconds to enter Alkaline 3 pH calibration mode.

LCD screen shows “Alkaline 3”, and the button indicator «Alkaline 3” flickers. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-1.0、 -0.9、 -0.8、 -0.7、 -0.6、 -0.5、 -0.4、 -0.3、 -0.2、 -0.1、 0、 0.1、 0.2、 0.3、 0.4、 0.5、 0.6、 0.7、 0.8、 0.9、 1.0”.

If it is different from the practical pH, please adjust it to be the same as practical data.

Press “Alkaline 3” button again to enter Alkaline 3 ORP display calibration mode. LCD screen shows “Alkaline 3”. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-200、 -160、 -120、 -80、 -40、 0、 40、 80、 120、 160、 200”.

If it is different from the practical ORP, please adjust it to be the same as practical data.

Press “Alkaline 3” button to reserve the settings and exit.

Acidic: Press “Acidic 3” for 4 seconds to enter Acidic pH calibration mode.

LCD screen shows “Acidic”. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-1.0、 -0.9、 -0.8、 -0.7、 -0.6、 -0.5、 -0.4、 -0.3、 -0.2、 -0.1、 0、 0.1、 0.2、 0.3、

0.4、0.5、0.6、0.7、0.8、0.9、1.0”.

If it is different from the practical pH, please adjust it to be the same as practical data.

Press “Acidic” button again to enter Acidic ORP display calibration mode. LCD screen shows “Acidic”. Then press “Purified” (+) and “Acidic” (-) to adjust the data among “-300、-250、-200、-150、-100、-50、0、50、100、150、200、250、300”.

If it is different from the practical ORP, please adjust it to be the same as practical data.

Press “Acidic” button, the machine beeps and reserves the settings. After that it will turn into “Alkaline 2” standby mode.

Filter life display, cleaning and voice settings:

Press “Purified” button for 4 seconds to enter filter life setting. Setting items include “1000, 2000, 3000, 4000, 5000, 6000, 7000, 8000, 9000, 10000, 11000, 12000”, 13 items in total. Press “Alkaline 1” (+) and “Acidic” (-) for adjustment.

Filter life setting instruction:

- ① The filter life will count down each time the ionizer starts and will be memorized by the machine.
- ② When entering into filter setting state, if user do not press “Alkaline 1” button (+) or “Acidic” button (-) for adjustment, the original filter life memory will not be affected. If the above buttons have been pressed, the data will be reset for the current filter.
- ③ When the filter life ends, user can press “Cleaning” button for 5 seconds under standby state to reset the filter life data.

Press “Purified” button again to enter cleaning setting. Press “Alkaline 1” (+) and “Acidic” (-) to adjust the data among “30、60、90、EL”.

Cleaning setting instruction:

When the data is set 30, it means that when accumulated water flow reaches 30L, cleaning indicator will light up. Press “Cleaning” button when the ionizer is working with water, accumulated water flow data will return to zero, and music will start with cleaning indicator flickering, and LCD screen will be with red light. The process lasts for 60 seconds, then turn into alkaline state automatically. If the setting is “EL”, when accumulated water flow reaches 60L, cleaning indicator will light up and the machine will do auto-cleaning in the next time it starts.

Press “Purified” button three times to enter language setting. The setting choices include “A1” and “A2”. Press “Alkaline 1” (+) and “Acidic” (-) to choose language (A1 for Chinese, A2 for English).

Press “Purified” button three times to enter voice language setting. The setting choices include “A1” and “A2”. Press “Alkaline 1” (+) and “Acidic” (-) to choose language (A1 for Chinese, A2 for English).

Press “Purified” button four times to enter voice playing setting. The setting choices include “C1”, “C2” and “C3”. Press “Alkaline 1” (+) and “Acidic” (-) to choose voice mode (C1 for voice + music, C2 for voice, C3 for mute).

After the settings are done, press “Purified” button to reserve the settings. The machine will beep and turn to “Alkaline 2” standby state.

10. Caution

Please carefully read the following items before using the water ionizer, and use it in a correct way. Otherwise the machine may be damaged or have negative influence on your health.

- Please do not use turbid water or the heavy-metal polluted water as inflow, for example, well water or underground water.
- Please do not connect the water ionizer with water heater and hot water (above 45°C) should not get in the ionizer. Avoid high temperature and direct sunlight.
- Please do not wash the ionizer body with water directly. Do not use volatile solvent to clean the ionizer body. Please wipe it lightly with soft cloth or a cloth smeared with suds.
- Please do not use aluminum or copper vessels as ionized water containers. Otherwise those containers will rust or change color.
- Please replace the filters in your filter system in time when their lives end up.
- Please disassemble the parts of the ionizer. Please do not plug up, bend or kink the top hose or the drain pipe. Please do not hang up the drain pipe to avoid water cannot go out easily.
- Every morning please let water flow out for more than 10 seconds before using the machine, in order to wash out the old water which stays inside. After using the ionizer, please use purified water to wash for 5 seconds before turning off the water supply in order to prevent scaling.
- Please drink the ionized alkaline water as soon as possible.
- Do not take medicine with alkaline water. Purified water will be appropriate.
- Do not drink ionized acidic water.
- Please pull out the plug when the ionizer has not been used for a long time.

- The length of drain pipe should not over 60cm.
- If the user plans not to use machine in a long time, he/she should unplug the power, and disassemble the water-separating valve and filters.

11. Trouble Shooting Guide

Problem 1: The power light can not light up or no display on the LCD screen.

Solution: Check whether the power supply is normal and the plug has been wired properly (if not, plug it again).

Problem 2: The machine beeps for warning.

Solution: When the machine beeps for warning, please observe the signal shown on the LCD screen. If "H1" is shown on, it means water temperature is too high. Please cut off the power supply and check whether the inflow pipe has been wrongly connected with the hot water pipe.

Problem 3: The buttons on the control panel do not work when you press them, but the machine can work normally.

Solution: Cut off the power supply and wait for one minute, then turn on power supply again. (User had better not share the power supply of the ionizer with other high-power electrical appliances, and keep the ionizer far from the appliances with strong electromagnetic radiation.)

Problem 4: LCD screen does not light up and has no display.

Solution: The water pressure is too low to activate the machine to work. (When flow rate does not reach 250ml within 15 seconds, the water pressure is too low.) Please add a booster pump, or check whether the filters are blocked.

Problem 5: No water goes out from the ionizer.

Solution: Maybe it is time to replace filters. Please observe the data on the LCD screen to check whether filter life ends up.

Check whether the flow rate of tap water is too slow. If yes, please turn it faster.

Check whether the tap water pipes are frozen. If yes, please wait till they are unfrozen, then try again.

Problem 6: Alkaline water looks white and turbid.

Solution: It is a normal phenomenon. Many bubbles are produced during the electrolysis process, so that the newly produced alkaline water looks white and turbid. Please wait a while, the water will become transparent.

Problem 7: There are white suspended solids in alkaline water, or films are formed in alkaline water containers.

Solution: These things are crystals formed by calcium ions and carbonic acid gas in the air. The film is the solid component of calcium. Please use food grade citric acid to clean. (If this phenomenon occurs, please contact the service personnel).

Problem 8: The outflow gradually becomes smaller.

Solution: It may be caused by the calcium crystals formed on the inner wall of water pipes. They make the pipe diameter get smaller so that outflow becomes smaller. Please contact the service personnel to clean the ionizer.

