

# Alkaline Water Ionizer

Healthy life comes from nice water! Water is Vital to Life!





# **ALWI-665**



# **List of Contents**

··· 03 ··· 10 ··· 12 ··· 13
··· 10 ··· 12
··· 13
··· 17
··· 20 ··· 20 ··· 21
··· 21 ··· 22 ··· 24 ··· 24
28
29
··· 29 ··· 30 ··· 30
32
33
··· 33
37

### **ALWI-665**

#### **Attachments**









pH value detection bottle/1 bottle

pH reagent bottle /1 bottle

pH color chart /1 bottle







metal spout /1 piece

tube/1 piece

user manual /1 copy







plastic expansion pipe/2 pieces

stainless steel screw/2 pieces

location cardboard /1 pieces







quality certificate /1 piece

inner filter /1 piece

1/2"ball valve /1 piece









1/4"Copper tee /1 piece RV 2–2 Valve /1 piece

Female adapter /1piece

☐ Notes

Technical modifications of the product may be compiled in the latest version of User Manual without notification. Any change of outer appearance and colors depends on the actual goods.

Free Cool



# **Safety Instruction and Cautions**

∴ Warning The marking means "May cause

death or serious injuries"

↑ Caution The marking means "May cause

injuries or damages''

○ Forbidding The marking means "This operation

is forbidden"

The marking means such operation must be carried out

## **⚠** Warning

- ➡ Please pay attention to the source water requirement
  - •The water entering water ionizer must conform to the requirement of direct drinking water. As the main function of inner filter inside the water ionizer is to eliminate residual chlorine and improve the taste.
  - The water flow entering the water ionizer must reach 0.8L/min or above, only thus the water ionizer can start normally. If the water flow is too small, the water ionizer may not be able to induce the water flow and therefore cannot start normally, during which case a booster pump needs to be installed. The pressure of source water that goes into the unit must be under 0.3 Mpa, please install a water pressure reducer before the water ionizer in case of high water pressure.



Email: info@freecoolsystems.com

• The conductivity of outlet water quality shall be within the 60~1500us/cm range. A s the RO membrane has ion—filtrating function, the prefilter can not use RO membrane.



- Please do not install the water ionizer at the following places:
  - Any place with fire or high temperature (above 60°C)
  - Any place with direct sunlight
  - Any place with oil stain
  - Outdoors or any place exposed to wind and rain
  - Saunas or other places with unusually high steam or water vapor concentrations
  - Any place where water might drip on unit exterior



Make sure to insert the plug fully into power socket, otherwise, electric shock or fire hazard may be caused. Please do not use damaged or loose power sockets.

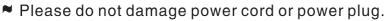


- Please do not disassemble, repair or modify this unit, otherwise, fire hazard and/or electric shock may be caused.
  - In case repair is needed, please contact professional technicians.



Disassembly is Forbidden

# Marning



- No damages are allowed with power cord and power plug
- Bending and/or twisting power cord and power plug is forbidden
- Dragging the power cord is forbidden
- No heavy objects are allowed to be loaded on power cords
- Pinching power cord or clamping it at somewhere others is forbidden
- Electric shock or short circuit phenomenon may be caused when using damaged power cord or plug, and a fire hazard may be caused consequently.
   Please contact professional technicians when power cord or plug needs to be repaired.
- Please clean the dust on power socket frequently, because if dust is accumulated on power socket for a long term, electric shock and even fire hazard may be caused as a result of air humidity. Please do not use alcohol etc. volatile solvents when cleaning this unit, cotton cloth dipping with washing-up liquid may be used when wiping this unit.



► In case this unit falls into water or catches water, please pull the power plug from the socket, otherwise electric shock may be caused.







- ➤ Please do not share the socket with other electric appliances.
  - Please use a stand-alone power socket; only alternating current power supply of 220V can be used, if exceeding the rated power range, fire hazard may be caused due to over-heating.



## Wet Hand is Forbidden

- Keep this unit 1 meter away from any heating objects; otherwise, fire hazard may be caused.
  - Forbidding
- If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- The new hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused.





- ► In case any of the following situations occur, please follow the doctor's advice before drinking the alkaline water
  - Any people who is receiving medical treatment
  - Any people catching an illness or feeling uncomfortable
  - Please stop drinking and follow a doctor's advice if you feel uncomfortable after drinking the alkaline water, or such symptom does not improve when drinking this water continuously
  - Any people who have kidney diseases (with rental failure or having difficulty in discharging potassium) are not suggested to drink alkaline water.



➤ When drinking alkaline water for the first time, drink for two weeks from the "Initial Drinking" level, drink a small amount (1 or two cups) each time, you can drink from the "Daily Drinking" level after becoming used to such water. It's not good for your health if you drink strong alkaline water from the beginning. After becoming used to the alkaline water, you are suggested to drink it from the "Daily Drinking" level. And the daily drinking amount should be one to two liters every day.





Free Cool

Do not use alkaline water with medicine, please use purified water when taking medicine.

Please store the alkaline water in a clean container; it can be stored for one day under normal temperature, and two days when in a refrigerator.



#### Forbidding

For people with allergic constitution, advices from a doctor shall be followed when using the acidic water.

Please stop using it and follow advices from a doctor when abnormal conditions occur to your skin after using the acidic water.



- Please stop drinking in case any of the following conditions occurs, and make sure to follow the cautions.
  - Weak acidic water
  - Residual water inside the unit or water flowing out when cleaning the electrode, as such water is harmful to people's health.



Please do not breed fish with alkaline water, acidic water or purified water. As fish may die when the water environment changes.

○ Forbidding





Before using, please remove any residual water inside the unit. Drain wat er for a period of approx.10 seconds before each use; For the first use of the unit or when the unit has stopped service for a period of more than 2 days, drain water for a period of approx. 3 minutes before using it.



It is improper to store electrolyzed water with metal containers, please store it with glass, ceramic or plastic containers in heat-insulation, shade and sealed conditions.

○ Forbidding

Please do not exceed the allowed continuance time for electrolysis process.

Forbidding

- [CHILDREN DRINKING] [DAILY DRINKING]
   [FACE WASH] level ≤ 60 minutes
- [COOKING] [WASH VEGETABLES &FRUIT] level ≤ 30 minutes
- The alkaline water of pH value above 10 is not for direct drinking

#### **WARNING**

Max. working pressure: 0.3MPa

For Household and Indoor Use Only

Do not immerse in water

Risk of Electric Shock. Disconnect power before servicing



"GROUNDING INSTRUCTIONS-This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. This appliance is equipped with a cord having an appliance-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances. "



"WARNING-Improper conne ction of the appliance-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative if you are in doubt whether the appliance is properly grounded. Do not modify the plug provided with the appliance; if it will not fit the outlet, have a proper outlet installed by a qualified technician "



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

#### Main Technical Parameters

Model	A548
Rated power	160W *
water flow	1-3L/min
Working hydraulic www pressure	0.1-0.3MPa
Temperature of source water	5–40℃
Size of main unit	8.25(W)*13(H)*4.7(D)(inches)



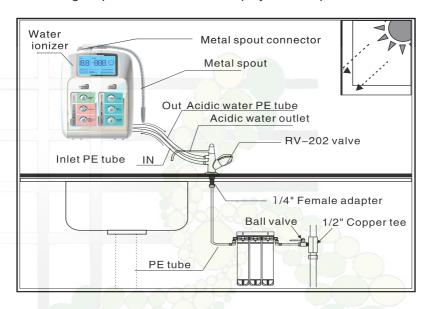
Packing dimensions	12.76*8.74*16.5(inches)
Gross weight	11.0(lb)
Net weight	8.0(lb)
Electrolysis method	Continuous pulse direct current electrolysis (electronic flow gauge is set inside)
Allowed time for continuous electrolysis	[CHILDREN DRINKING] [DAILY DRINKING] [FACE WASH] level ≤ 60 minutes [COOKING] [WASH VEGETABLES &FRUIT] level ≤ 30 minutes
Electrobath cleaning	Automatically completes electrobath cleaning at each time when water supply is turned off.
Electrobath cleaning	Set and prompt to strengthen cleaning according to water quality in different regions. (see page 38)
Protector	Circuit overcurrent protection device is set inside

\*Indicate that this rated power consumption is the maximum power consumption when the "cooking" level output ionized water pH is constant and default under the rated inflow, water temperature and TDS. The rated power consumption varies to maintain the constant pH value according to different inflow rate, temperature and TDS. This is normal.

# Free Cool

#### Installation Instruction

General drawing for product installation and project description.



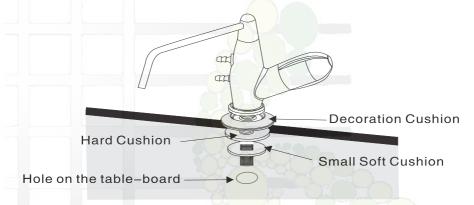
- \*The unit may be fixed on the wall or put on the table.Make sure the altitude-difference between alkaline and acidic water outlet is 30~35cm
- 1. Install RV 2-2 valve.
- 2. Install the inner filter.
- 3. Connect the PE tube at the bottom of water ionizer.
- 4. Install the metal spout.
- 5. Connect the inlet tube of water ionizer and valve.
- 6. Check the waterway connection and sealing conditions.
- 7. Fix the water ionizer.
- 8. Insert the power plug.
- 9. Test of the pH value.



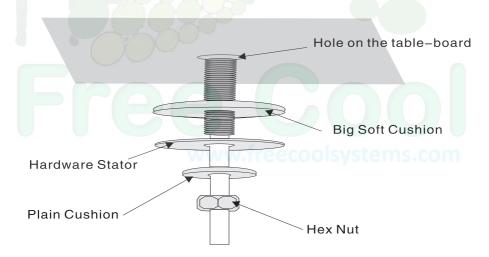
# Free Cool

#### 1.Install RV 2-2 valve.

- a.Locate an appropriate position on the sink, drill a hole with a diameter 0.55±0.08 inch.
- b. Fix the valve to the table board with hardware stator.



Put the decoration cushion, hard cushion and small soft cushion on the RV2–2 Valve, and then put the valve into the hole.

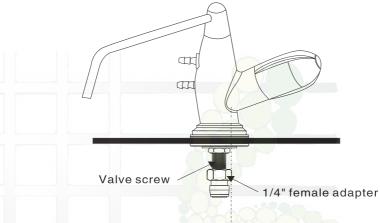


Fasten the valve under the table–board with big soft cushion, hardware stator, plain cushion and the hex nut.



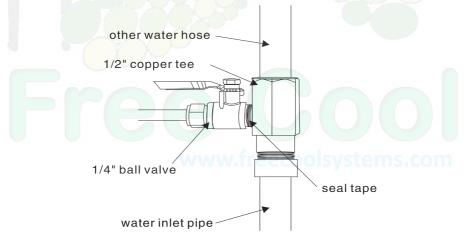
c.Screw down 1/4" female adapter directly into the screw of the valve under the table–board.



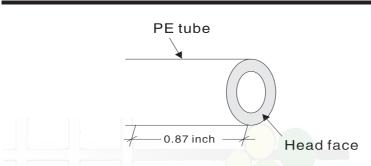


Screw down the female adapter directly into the screw of the valve.

d.Install 1/2" copper tee, 1/4" ball valve and insert PE tube.

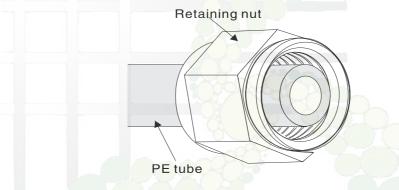


Connect the 1/2"copper tee to the water inlet pipe, and intertwine 8-10 circles of seal tape to the 1/4"ball valve, and then tighten the ball valve to the copper tee.

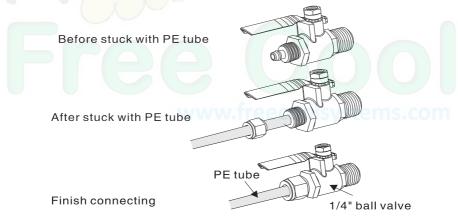




Before connecting the PE tube, cut it flat vertically, and make sure there is no deformation and crease within 0.87 inch from the cut–face.



When connecting the PE tube and ball valve, insert the PE tube into the retaining nut of the ball valve.



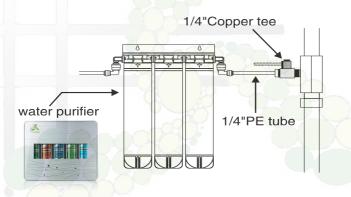
Insert the PE tube to the ball valve, put out sufficient length of PE tube, and forced it into the fixed screw, then screw the retaining nut to the ball valve, tighten it.

### e. Install water purifier.





Connect water purifier and 1/4"Copper tee.



Insert the other end of pe tube which is out of 1/4"Copper tee to water purifier.

## f. Connect 1/4" ball valve and 1/4" female adapter

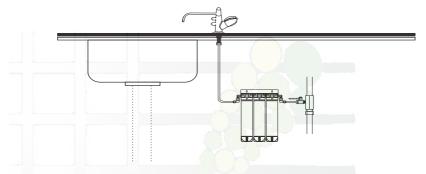




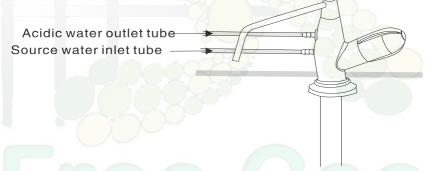
Insert the other end of PE tube which is out of the water purifier 1/4" female adapter to the 1/4" female adapter.



#### Complete Graph



g. Connect inlet& outlet water tube.



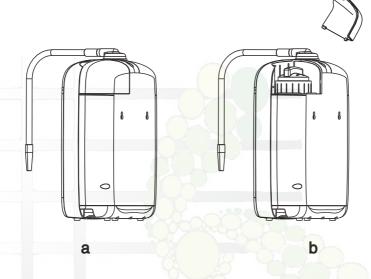
#### 2. Install the inner filter.

- A. As no inner filter is installed with the water ionizer, please install it before the initial use
- B. Installation of inner filter
  - a. Open the outer cover (shown as Drawing a)
    - 1 Put your middle finger on the "=" mark.
    - 2 Press down and pull backward to unload the outer cover.
    - 3 Take off the outer cover.

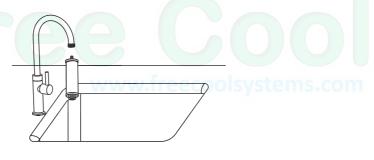




b.Open the inner filter cover by rotating counterclockwise.



- c.Installation of inner filter
  - 1 Unpack the new inner filter and align the end with seal ring with the water tap, wash it for 3 minutes for carbon dust processing;

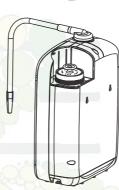




2 Install the new inner filter



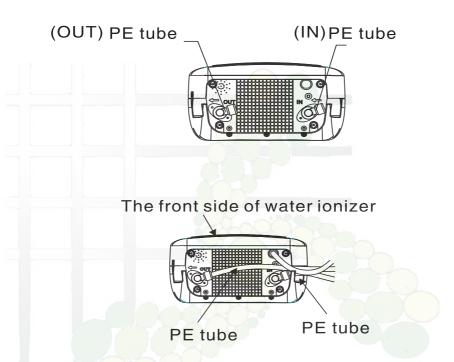




- d. Screw down the cover of new inner filter cartridge
- C. Please refer the above operations for replacement of inner filter
- D. Please replace the inner filter when the "Set" light is on. Press the "Set" button for 5 seconds to turn off the "Set" light.
- E. When the water purification amount of inner filter reaches 4000L, it shall be replaced every 6 months. (Due to water difference in various regions, unusual odors may occur to the filtered water, please make replacement in time).

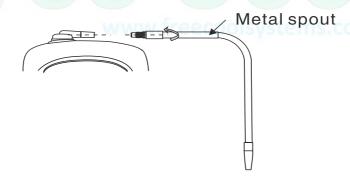


# 3. Connect the PE tube at the bottom of water ionizer.



#### 4. Install the metal spout.

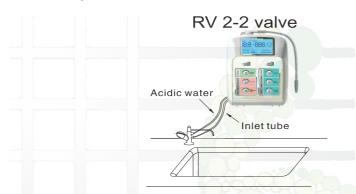
Screw the metal spout into the outlet connection of alkaline water in the clockwise direction according to the instruction as shown in the following Drawing





# 5. Connect the inlet tube of water ionizer and valve.

Connect the inlet tube of water ionizer and valve properly, and then put the outl et tube of acidic water into the sink.



# 6. Check the waterway connection and sealing conditions.

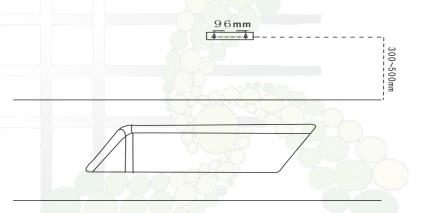
- A.Confirm all tube connections of water ionizer are completed;
- B.Unscrew the air release cap on cover of inner filter in the anticlockwise direction, switch on the valve, connect the water and drain off the air inside the cartridge till water outflows from air release cap, thus the air is drained off completely, then screw down the air release cap in the clockwise direction.
- C.Turn on the water for 3 minutes, check the tube and connection of water ionizer and confirm there is no seepage before using.
- D.Install the outer cover
- E.Please turn on water supply and run the water for 3 minutes before using in the following case:
  - a. First usage
  - b. Without any usage over 2 days.



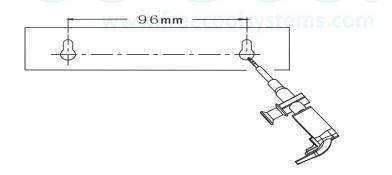


#### 7. Fix the water ionizer.

- A. Place this unit directly in a convenient and proper position on the sink table;
- B. Choose a proper height above the sink (properly at a height of 300–500mm above the sink table), take out the location cardboard attached with the unit and stick it on the wall, then confirm the hole-hanging position of water ionizer;

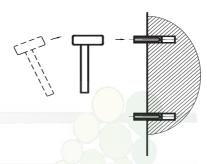


C.Bore two holes (with depth approx.50mm and 6mm in diameter) with a electrical drill at the boring position as shown on the location cardboard, the center distance between the two holes shall be 96mm:

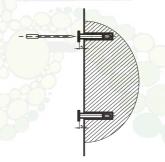




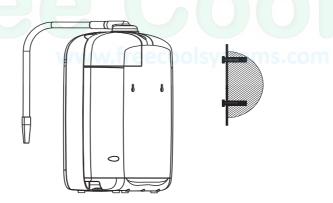
D.insert the plastic expansion pipes into the holes;



E. Screw the stainless steel screws into the plastic expansion pipes, leaving a length of 5mm outside for hanging the unit;

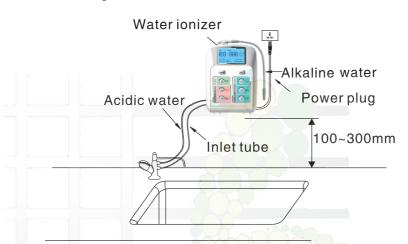


F. Hang the water ionizer on the stainless steel screws, and thus the install ation completed.





Install drawing of RV 2-2 valve.



#### 8. Insert the power plug.

- A. First confirm that the power to be connected is 220V/50Hz, then insert the power plug in;
- B. Indicator of [Daily drinking] will light after inserting the power cord, the LCD does not display;
- C. Do not pull the power plug out under the general working conditions, as the electroplate may be in the automatic washing status.

#### 9. Test of pH value.

pH value must be tested after the initial installation or long term of nonuse (about more than one week), thus to check if the pH value is within the set range before using, it is suggested to test the pH value periodically (once a month).



alkaline water

Children drinking 
$$pH = 7.5 \sim 8.5$$

Wash vegetables 
$$pH=5.5\sim6.5$$

#### Notes:

A. the above pH value reference is set in factory, which is set under the condition of water flow at 2L/min, TDS 100~150 and temperature at 20~25°C, it is for reference.

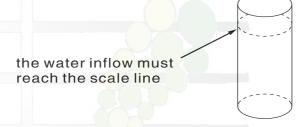
B. the above pH value is subject to deviation due to the influence of water quality, temperature and water flow etc, which should be regarded as a normal phenomenon, and the water can be drunk normally.





a. When water ionizer has worked for a period of 10 seconds, hold alkaline water or acidic water and test the pH value.

Pour the alkaline water or acidic water into pH detection bottle to the scale line as shown below



# **↑** NOTES

- ₱ pH testing reagent must be kept away from fire source
- Fire hazard may be caused if any fire source is nearby
- lt is strictly forbidden to approach the fire place
- It is strictly forbidden to drink water with pH testing reagent or testing reagent, or put them into eyes (special care is needed for children).
- lt may do harm to body health

# **⚠**Forbidding

- Wash it off completely in case drinking too much reagent water or the reagent water splashes into eyes by mistake and a doctor's assistance shall be sought for as well.
- ➡ Please ensure to put the cover on, and keep it properly to avoid children's access.

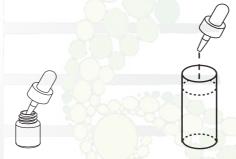




b. Drip two drops of pH reagent into pH value detection bottle, and then test the pH value after shaking it even.

pH value cannot be correctly detected by either too much or too little pH reagent.

- 1 Suck the reagent in the pH reagent bottle
- 2 Drip pH reagent into the pH value detection bottle



c. Please compare the color in pH value detection bottle with the pH color chart, and then detect the pH value.

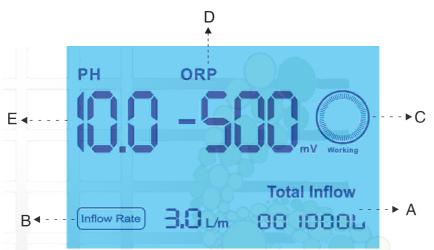
## **ACAUTIONS**

- The litmus paper selling in the market cannot detect the pH value accurately, please ensure to detect with dedicated pH reagent.
- ► pH reagent and pH color chart may discolor under the sunshine, please keep it properly in the shadow.
- ➤ Due to the water quality, water temperature and water flow, please adjust the pH value of "ALKALINE " or "ACIDIC " level in case the pH value does not coincide with set values.





#### **LCD** Instruction



- A. Total inflow and display on bounding rectangle: total accumulative flow through this unit.
- B. Show the inflow rate of source water
- C. "Washing" twinkle, rotary display of two layers of round dotted lines: indicating the unit is inautomatic cleaning status;
- D. Indicate the outlet ionized water."-" is negative, more signals, higher ORP; "+" is positive, more signals, lower ORP
- E. Indicate the outlet ionized water. Over 7 is alkalinity, more signals, stronger alkalinity;



## **Operation Instruction**

Power on the unit and wait for 3 seconds, the "Daily drinking" indicator will light;

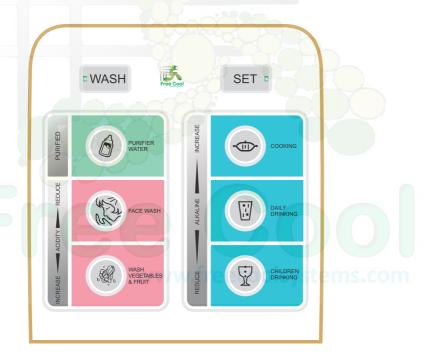
the water ionizer is in the standby condition.

Alkaline water: suitable for drinking and cooking;

Acidic water: suitable for face wash and wash vegetales

Purified water: suitable for taking medicine.

#### A.Instructions for buttons and indicators





#### **B. Button Instructions**

Button	Application
Set	1.Slient mode 2.Press "Set" button continuously for 5 seconds to clean the filtration amount completely, and then eliminate the prompt status for inner filter replacement.
Wash	Keep the valve open,press"Wash"button by hand to enter the working condition of enhanced cleaning of electrobath,the cleaning time will last for 30 seconds.
Alkaline	ALKALINE have "CHILDREN DRINKING" & "DAILY DRINKING" & "COOKING" 3 level choose
Purified	Press"Purified"button to choose the purified water,the water ionizer will not electrolyze.
Acidic	ACIDITY have "FACE WASH" & "WASH VEGETABLES & FRUIT 2 level choose

#### C. Indicators Instructions

Level and indicators	Application	pH value standard
COOKING	[Cooking] Level: suitable for soups, cooking and vegetables & fruits for the purpose of removing the acid pesticide & chemical fertilizer on the surface etc.	9.0~10



Light	Application	pH value standard
DAILY	[Daily drinking] Level: suitable for daily drinking.	8.0~9.0
CHILDREN	[Children drinking] Level: please start from this level when drinking electrolyzed water for the first time, children and people with too less gastric acid secretion are suggested to drink this level, preferably small regular drinking.	7.5~8.5
[Purified water] Lev purified water, suitable taking medicine.		same with source water
FACE WASH	[Face wash] Level: suitable for face washing, ideal weak acid environment for skin care.	6.0~7.0
[Cleaning] Level: suitable for cleaning & disinfection of chopping board, dinnerware and towels and so on.		5.5~6.5 ystems.com
SET :	Please replace the inner filter when the "SET" light is on.	
• WASH	The indicator for "Wash" will light,the unit will prompt to enhance the cleaning;	



In most situations, the pH of ionized water ranges from 5.5-10.5. To generate water with pH under 3 or above 11 by our water ionizer, please operate as the following introduction:

- (1) Assure inflow rate around 0.8~1.0L/min;
- (2) Altitude-difference between alkaline and acid water outlet is 30~35cm

## Solidifying cleaning of electrobath

As the calcium ion, magnesium ion in the water will move toward the cathode of electrobath during the operation of water ionizer, and absorb on the cathode plane on the electrode plate of electrobath. In order to prevent scaling forming on the surface of the electrode plate, and affecting the electrolytic effect thereafter, in addition to the 10 seconds automatic cleaning after each closing of the valve, intensive cleaning works must be carried out periodically to the water ionizer,

- 1. Condition requirement for enhanced cleaning of elctrobath: under the normal working condition, when the accumulative work reach the water flow set for enhanced cleaning, the unit will prompt to enhance the cleaning; at this time, the indicator for "Wash" will light.
- 2. After seeing the indicator for "Wash" light, open the valve, press "Wash" button by hand to enter the working condition of enhanced cleaning of electrobath, the cleaning time will last for 30 seconds. At this time, the water from metal spout is acidic water, please do not drink.
- 3. During the enhanced cleaning of electrobath, the water ionizer will play the music To Alice, the music will last until the cleaning is completed; the music can be cancelled by pressing the "Set" button.
- 4. The music for cleaning will close after the enhanced cleaning of electrobath is finished, and the unit will resume the "pH:9.0" working status.





# Some facts and theories about ionized alkaline water

Water is the most crucial factor in establishing and maintaining proper acid-alkaline balance. Since 70% of your body is water, it is extremely important to constantly replenish your supply of it. The body loses 2.5 liters of water every day just through normal bodily functions. The quality of the water that you drink is just as important as the quantity of water in your body. The water you put in your body must be able to prevent toxins and chemical substances from accumulating and creating destructive influences on cells. Water must also transport minerals and nutrients required for cell metabolism, and remove any substances that can damage the cell.

# Six characteristics of good water

According to the investigation led by World Health Organization (WHO), the good water has the following characteristics:

- Pure, unpolluted.
- Contain befitting mineral ions, easily absorbed by our body.
- pH>7, slightly alkaline state, can neutralize the surplus acid in our body.
- Small molecular cluster water has strong penetrability and solubility.
- Negatively charged, can eliminate the free radicals in our body.
- · Contain benefitting oxygen.

In order to hydrate your body optimally, we should drink water that is alkaline and ionized. Alkaline water helps to neutralize stored acids and toxins. Once these acids are neutralized, they can then be removed by our body. Alkaline water containing ionic minerals also acts as a conductor of electrochemical activity from cell to cell. Reports from studies suggest that ionized, alkaline water can help the body resist disease and slow aging by:

- Increasing Intracellular Hydration.
- Replenishing Essential Minerals.
- Stabilizing and Protecting Cells.
- Helping To Maintain Normal Blood Flow and Acid Alkaline Balance.
- Flushing Out and Preventing Wastes from Accumulating in Cells.
- Preventing Free Radicals from Forming and Damaging Other Cells.



#### 1. What is alkaline water?

Alkaline water is good and healthy water made by a water ionizer. First, tap water is filtrated. Second filtrated water flows through the water ionizer for electrolysis. Alkaline water rich in minerals such as Ca<sup>2+</sup> is produced at cathode and acidic ionized water with acidic ions is formed at the anode. Alkaline water is for drinking and acidic ionized water is for sterilization and disinfection in our daily life.

#### 2. Why do we need alkaline water?

The pH value of the blood of a healthy person should be between 7.35–7.45 and exhibits a slight tendency to alkalescence. We are perfectly healthy with the pH value between 7.35–7.45 and have strong resistance to all diseases. However, most of us are in subhealth because we have become more–acidic due to improper diet like meat, egg, alcohol, smoking, lack of exercises, overexposed to psychological pressure etc. If our body's inable to eliminate all the wastes it produces, they will accumulate somewhere inside.

This accumulation of non-disposable acidic waste will lead to aging and many other diseases (like cancer). Some of solidified acidic wastes are cholesterol, fatty acid, uric acid and kidney stone. One of the best ways to neutralize these wastes in our body is to drink ionized and alkaline water. Not only does it help clear the free radical and supplement minerals from our body, but also the small clustered alkaline water is active, accelerating metabolism. Drinking ionized and alkaline water every day can help us get rid of acid waste and maintain a proper acid/alkaline balance.

#### 3. How does a water ionizer work?

The tap water flows through the pre-filter to remove chlorine and odor. As we know, pure water consists almost entirely of  $H_2O$  molecules loosely bound in a network-like structure generally in which 13 individual molecules are constantly changing partners. Under a direct current electric field of special impulse frequency, the 13 individual molecules group is turned into a water group with 5 to 6 molecules, meanwhile, cations (an ion with more protons than electrons, giving it a positive charge) such as  $Ca^{2^+}$ ,  $Mg^{2^+}$  and  $K^+$  will move to the cathode under the power of electric field; anions (an ion with more electrons than protons, giving it a negative charge) such as  $Cl^-$ ,  $SO_4^{-2^-}$ ,  $NO_3^-$  and  $No_2^-$  will move to the anode. This process can be expressed in the following formula:

 $H_{s}O \iff H^{+} + OH^{-}$ 

at the cathode:  $2 H^+ + 2 e^- \rightarrow H_2$ 





... but since the H<sup>+</sup> ions come from water, the overall reaction is

$$2 H_2O + 2 e^- \rightarrow 2 OH^- + H_2$$

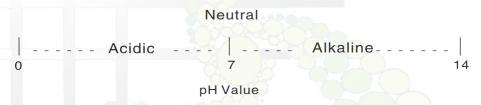
at the anode:

$$4 \text{ OH}^- \rightarrow 4 \text{ e}^- + 2 \text{ H}_2 \text{O} + \text{O}_2 \uparrow$$

..... but since the OH- ions come from water, the overall reaction is

$$2 H_2O + 4e^{-} \rightarrow 4 H^+ + O_2$$

The water at the cathode is rich in minerals such as  $Ca^{2+}$ ,  $Mg^{2+}$  and  $K^+$  with the pH value above 7 and presenting alkaline as the ion of  $OH^-$  is high, is called ionized and alkaline water; the water at the anode contains more acid ions like  $CI^-$ ,  $SO_4^{-2-}$ ,  $NO_3^-$  and  $No_2^-$  with the pH value under 7 and exhibiting acidic is called ionized acidic water.



#### 4. How to make better use of Alkaline Water in your daily life?

- It is strongly suggested that you drink the ionized water freshly made, the Oxidation Reduction Potential will drop drastically 30 minutes after the water is made.
- For soaking milk powder: dissolved quickly, assimilated and replenishing beneficial Calcium more easily.
- For daily drinking: pure, full of ionic condition electrolyte, supplement water quickly and make our body vitality.
- For making tea and coffee: prevents tannin from solution and eliminates astringent taste.
- Drinking after exercise can speed up the release of lactic acid, supplement electrolyte and recover physical condition quickly.
- Neutralizing liquor: add alkaline water according to your favor, it neutralize acid of the alcohol. Drink 600-1000ml high level alkaline water before you go to sleep can avoid hangover.
- Use it to make coffee, tea, fruit juice or mix drinks.
- Soaking food: can wipe off the pesticide and bacteria on the vegetable and fruit; marinating meat and seafood: make them easy to clean, fresh and delicious.
- For making soup: it can improve the taste of the food, and make the soup more delicious.





#### 5. Benefits of acidic water

- Astringency: natural astringent for improving complexions, it makes skin smooth and in a good state.
- Sterilizing: using for bathing or soaking athlete's foot.
- Cleaning: wash dishes, eliminate towel odious smell.

#### 6. How to make better use of acidic water in your daily life?

- Washing face: dab your face with acid water for 1 minute, can help shrinking coarse skin.
- Brushing teeth & gargling: use acid water for brushing teeth in daily time. For toothache, keep the acid water in your mouth for about 5 minutes, spit it out and repeat it once more can help reduce the ache.
- Wiping skin with acid water after bathing can provide quick solution to the problem of dryness.
- Hair washing: rewashing your hair with acidic water, make your hair more beautiful.
- For baby bathing can help prevent miliaria.
- For inflammatory disease caused by athlete's foot.
- Used for washing skin and hair of pets, makes them beautiful and soft.





# **FAQ**

when this happens	The cause and remedy is
LCD does not come on	A. Check if power cord is rightly inserted into the plug B. If this does not resolve it, please contact the local distributor(DO NOT disassemble the machine)
Light does not come on	A. Check if power cord is rightly inserted into the plug  B. If this does not resolve it, please contact the local distributor(DO NOT disassemble the machine)
Lower or no output water	A. Check if the water flow is blocked B. Filter life is reached please replace filter C. Water inflow is not enough, make sure the inflow valve is fully open D. Check if the water pipe line is frozen
The alkaline water is milky	A. Hydrogen is produced during ionization. It will become clear after while, this water is drinkable  B. Input water is of high TDS. Strong ionization would group Ca <sup>2+</sup> and Mg <sup>2+</sup> . The water is drinkable. You may set to lower alkaline level or install an pre-filter system
Milky precipitate remains on the bottom or sides of container of alkaline water	At times calcium as $CaCO_3$ precipitates in the alkaline water when $Ca^{2+}$ or $Mg^{2+}$ combined with $CO_2$ in the air.
Low output of ionized water from the water outlet	A. Water outlet is clogged with compounds of Ca or Mg, can be removed using citric acid (food additive available at pharmacies). please contact the local distributor  B. Water flow has been clogged with mineral deposits on the eletrobath. Please contact the local distributor  C. Ionization is too strong, turn to lower level or contact the local distributor



This is because the air in the new filter is not completely let out. Please turn on water supply to the maximum and let water run 3–4 minutes.
The machine is draining out the water inside.
A. If the filter is new ( used about 1 week), the ionized water would be a little high pH, it becomes normal after 1 week B. Select alkaline level but the water is neutral, please contact the local distributor
The O ions are gathered in the acidic water and produced the sub-acid during the ionization. It is normal.
This is because reset is not performed after filter replacement. Please press "SET" about 5 seconds until the set light goes off
New filter drain out some carbon, it is normal. Water become clear after 2–5 minutes
A. The height between acidic water outlet and the metal spout outlet is over 32 inches and this will affect the proportion of the acid and alkaline water output.  Please make sure that the height is within 20 inches.  B. Source water is of high TDS. And the water outlet is clogged by Ca <sup>2+</sup> Mg <sup>2+</sup> compounds. Please contact the local distributor.
If tap water as well as well water meet the standards for drinking water, there should be no problem generally. However, there are regional differences in the quality of tap water and some well water may be extremely poor in minerals or some others rich in carbonate. It may be difficult for these kinds of water to get a good electrolysis for producing normal alkaline ionized water. In such cases, we would like to suggest you to contact the customer service department for further information.



I am using a water softener. Is it OK to connect it to a water ionizer?	The water softener is the device to reduce the concentration of mineral components (calcium, magnesium) of tap water, etc. If the water passed through a water softener meets the water quality standards for tap water, and if you confirm that the water ionizer produces alkaline ionized water with proper pH from the water, there should be no problem. Please check pH according to the instruction manual or consult the water softener manufacturer.
A magnetic water-treatment device is installed near my water meter. Will there be any problems if I set up a water ionizer?	If the water ionizer is installed in a place where it will not be influenced by the magnetism from the device, there should be no problems using the two ionizers together. However, please ask the manufacturer to check your magnetic water-treatment device just to be sure.
What kind of water is alkaline ionized water?	It is the water with pH over 7 obtained from drinking waters by the electrolytic reaction at the cathode of the water ionizer(Water electrolyzer for home–Use). Compared to tap water, alkaline ionized water has a higher content of hydroxide ion (OH <sup>-</sup> ) and cations such as calcium, magnesium, etc. At the same time, hydrogen gas (H <sub>2</sub> ) is also produced as nano–sized bubbles.
It seems as though alkaline ionized water turns whitish and turbid when poured into a cup	If the whitish turbidity disappears when the cup is left alone for a little while, then the whitish turbidity is due to hydrogen gas generated during electrolysis or to the mixture of air into the water inside the ionizer. Therefore there is no problem.  If the whitish turbidity does not disappear even when left alone for a little while, then it may be due to the adhesion of calcium. If that is the case, it may be necessary to clean the ionizer, etc. Please contact local distributor
What is active hydrogen? Is active hydrogen present in alkaline ionized water? Can active hydrogen eliminate reactive oxygen in my body?	Alkaline ionized water contains hydroxide ion (OH¹), cations (calcium ion, etc.) And hydrogen (H₂) due to electrolysis.  According to some research reports, strongly electrolyzed water contains "activated hydrogen" competent for the elimination of reactive oxygen.  However, this kind of research is still in the study stage, and currently no clear conclusions have been obtained regarding what "activated hydrogen" is and whether it may keep being reactive so as to eliminate reactive oxygen inside living bodies. A variety of researches are also on–going

Email: info@freecoolsystems.com





The pH does not show alkaline pH when I check it	Firstly, your home tap water may be somewhat acidic. Furthermore, if the tap water is rich in carbonate content, it may be difficult for the ionizer to produce normal alkaline ionized water. We suggest to boil the generated water once in order to volatilize the carbonates. After letting it cool measure the pH.  If the pH indicates alkalinity, it means regular electrolysis was performed by the ionizer. Please adjust the electrolysis capability according to the instruction manual for the product, or contact the customer service
What is oxidation reduction potential	In general, "oxidation" refers to the reaction of a substance with oxygen, and "reduction" refers to the reduction of oxygen of an oxidized substance.  Oxidation reduction potential is an index of the ratio of oxidized substances and reduced
Please tell me the effects and benefits of alkaline ionized water and acidic ionized water	brinking alkaline ionized water has been verified in Japan to be effective for improving weak gastrointestinal symptoms (chronic diarrhea, hyperacidity control, indigestion, and abnormal fermentation in stomach and intestines).
Are the effects and benefits	Please note that acidic ionized water may be used for face washing but not drinking  The pH of alkaline ionized water is 9.0 to 10.0.
of alkaline ionized water still kept after brewing tea with it or storing it for a prolonged time?	When it is subject to brewing tea, etc. or if it is long stored, the pH value tends to return toward neutral, so it is recommended that fresh alkaline ionized water should be drunk.
Does cooking rice with alkaline ionized water make it more delicious?	Alkaline pH may hydrolyze rice starch resulting in the production of reduced sugars and pasty starch. These changes may contribute to make the cooked rice more delicious. Various studies are on-going.  However, the use of alkaline ionized water for cooking is a totally different matter from the use for medical purposes, and beneficial effects.



Does alkaline ionized water remove agricultural chemicals when washing vegetables? For vegetables in markets, etc., residual amounts of agricultural chemicals are virtually undetectable, and even if by some chance some were left, rinsing with running water regardless of alkaline ionized water may remove the residual chemicals

Why can we use strongly alkaline (pH ≥10) water for boiling and stewing whereas we cannot drink it?

When alkaline water is used for cooking such as boiling and stewing, its pH tends to return toward neutral. This is the same as when using sodium bicarbonate, and so there will be no problem.

Please note that effects against gastrointestinal symptoms are expected only when alkaline ionized water is drunk intact. So when it is used for cooking, etc. the effects cannot be expected.

What should I be careful when I drink alkaline ionized water?

Please be careful of the following:

- 1. Please avoid to take medicines with alkaline ionized water and persons with achlorhydria should avoid to drink alkaline ionized water
- 2. If you feel abnormal or strange after drinking or if there are no apparent improvement in symptoms despite continued drinking, please consult your doctor
- 3.Persons with chronic symptoms or with weakened physical condition should consult their doctor before drinking alkaline ionized water

Please tell me how to drink alkaline ionized water.

When you drink alkaline ionized water for the first time, set the pH around 8 to 8.5 and start with drinking a cup of the water in order to get your physical conditions used to it. After about 2 weeks, gradually increase the pH and/or the drinking amount depending on your physical condition. Continuous drinking of 500ml to 1 liter per day was scientifically demonstrated to be satisfactory to get the effects of the water. For direct drinking, we suggest drinking of the fresh alkaline ionized water with pH ranging from 9 to 9.5.

Email: info@freecoolsystems.com





Is	it	safe	for	children	and
وار	der	ly ned	nle	?	

For children or elderly people, alkaline ionized water with low pH (around pH 8 to 8.5) should be used at first, and as they become accustomed to it the pH value may be gradually increased. In addition, for neonates (up to around 1 year old), since they drink mother's milk or milk, their intestinal movements are different from those of adults and so alkaline ionized water is not recommended. However, when they start eating the same foods as adults, there would be no problems for them to drink alkaline ionized water.

If a person without gastrointestinal symptoms drink it, wouldn't it neutralize the person's stomach acid? Unlike acid-control medicines, the acid controlling capability of alkaline ionized water is extremely mild so that it is hard for the water to neutralize stomach acids to cause harmful effects.

Alkaline ionized water does not show any immediate effect but a protective slow effect by continuing drinking.

In addition, there have been so far no reports of physical problems occurring when it was drunk by a healthy person

Can I use it to make milk for my baby?

For babies or neonates, we do not recommend alkaline ionized water since their intestinal movements are different from those of normal adults.

Is it safe for pregnant and parturient women?

No reports of specific problems concerning this matter have been made so far. However, if there are any symptoms, please consult your doctor.

I use water from a well. When I boil this water nothing happens, but when I convert this water to alkaline ionized water and boil it, it turns brown. Why?

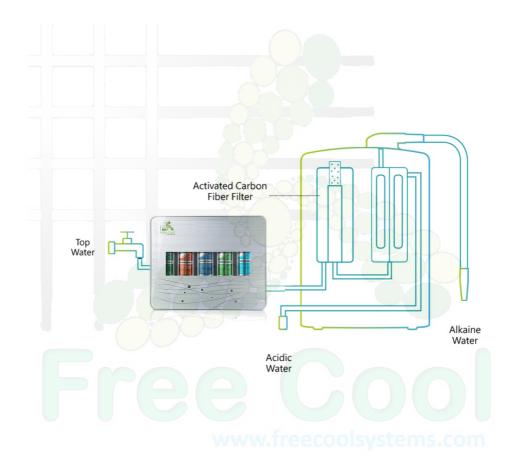
When alkaline ionized water is made from water with high iron content, it is more likely to become discolored and turn brown due to the oxidation reaction of iron. (Boiling the water causes the reaction to occur more quickly.) When pH is high, the degree of discoloration becomes higher, so please reduce the pH slightly.





My aluminum product (pots, kettles, etc.) turned black by a long term use of alkaline ionized water. Why?	Normally, aluminum products have undergone alumite processing (anti-corrosion treatment). If the alumite processed has worn off for some reason, the aluminum substrate becomes exposed and discolorated.  When alkaline ionized water is used with aluminum containers of which aluminum substrate is exposed, precipitation of white aluminum hydroxide may occur. In some cases, the containers may become spotty. When the aluminum hydroxide is heated, an oxidized aluminum membrane may be formed and become black. (This phenomenon also occurs with tap water, but the alkalinity tends to make the process progress more quickly). Since the blackened area is an oxidized aluminum membrane, the aluminum containers can be used as ever without problem. However, since holes may be formed in the exposed aluminum substrate, we recommend to use containers made of a different material (e.g. stainless steel).
What should I be careful of when using acidic ionized water for washing my face?	Persons with delicate or allergic skin should consult their doctor or pharmacist before using acidic ionized water.     If your skin feels abnormal when acidic water is used, stop using immediately and consult your doctor















# **Alkaline Ionized Water**

- Has a pH of 8.5 10.0 to neutralize acidity found in the body
- Has smaller water molecule clusters for faster hydration and cell permeation
- Has a negative ORP (oxidation reduction potential -100 to -500mV) creating anti-oxidant effect which seeks out and neutralizes free radicals



# Multitasking Corporation Ltd

**Multitasking Inductor Electronic LTD** 

647, Yeogsam-Dong, Gangnam-gu, Seoul, Korea, 289 Dagang san Road Beilun District Ningbo Zhejiang ,China. Email: info@freecoolsystems.com ,www.freecoolsystems.com

