

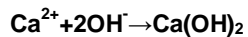
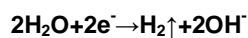
# MS9930 water ionizer

## Manual instructions

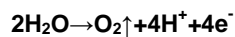
### One :foreword

MS9930 type pH value regulator (hereinafter referred to as regulator) is our self-developed products. The regulator is mainly used to adjust the pH value of source water to meet the industrial, health and other needs. Regulator works shown: Source water by the solenoid valve / Globe Valve / pressure limiting valve into the electrolyzer, in the electrolyzer of yin and yang within the DC field between the electrodes .

Cathode chamber reaction



the anode reaction chamber in the vicinity



In the diaphragm under the action of the water flowing through the cathode chamber

OH-concentration increases the water pH value increased; the anode chamber of the water flowing through the concentration of

H + increased, the water pH value decreases;

### Two : technical instructions :

#### 1. Conditions of Use

- 1.1 Environmental Temperature : 5℃~40℃
- 1.2 Atmospheric pressure : 86kPa~106kPa
- 1.3 Water Pressure Range : 0.1MPa~0.30Mpa
- 1.4 Power supply : 110V±10%; 50Hz±2% , outlet need to have a good grounding power .
- 1.5 Conductivity :  $\cong 120\mu\text{s}/\text{cm}\sim 600\mu\text{s}/\text{cm}$
- 1.6 PH requirements of water source : 6.5-8.5
- 1.7 Electrolysis current can not exceed 35A; (Normal running is about 30A.)

#### 2. specifications :

Model NO	MS9930
PH level	Total capability of water treatment 3000L/H (hour) : $\cong 9.0$ ; Total capability of water treatment 2500L/H: $\cong 9.5$
capability of Water treatment	$\cong 3000\text{L}/\text{H}$
Rated Power	2.5kW
Size(L×H×W):	700mm X 1125mm X 580mm
N.W (Kg)	100

#### 3. function :

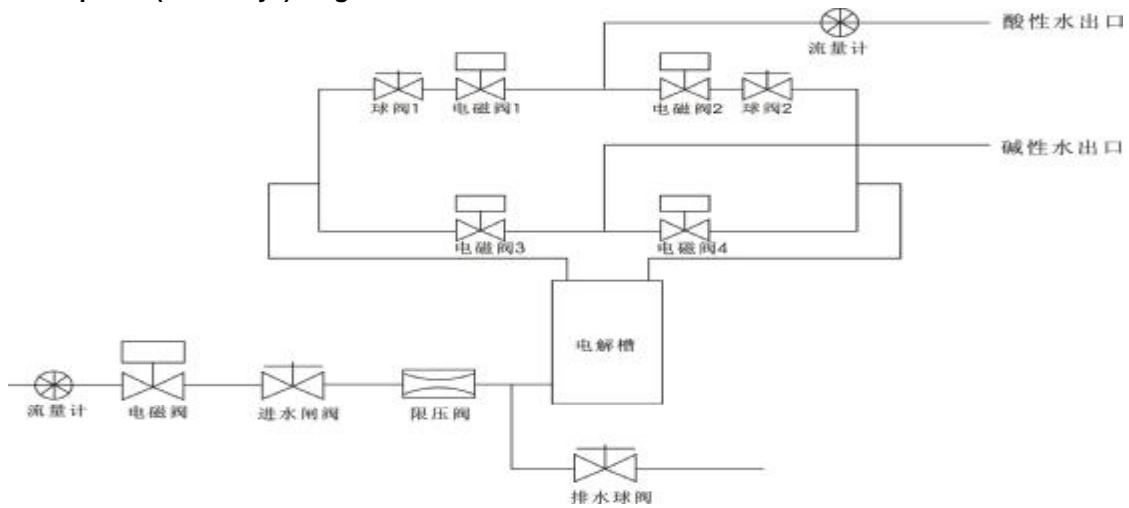
- 3.1 With a regular automatic reversing device, can continuously work 24 hours ;

3.2 With the settings of adjustment for strong and weak electrolyte , alkaline, acidic electrolyzed water flow rate display; less pressure, and over-temperature, over-current protection devices, etc.; (Electrolytic current exceeds 35A auto-off water protection).

## Three :The basic structure of product

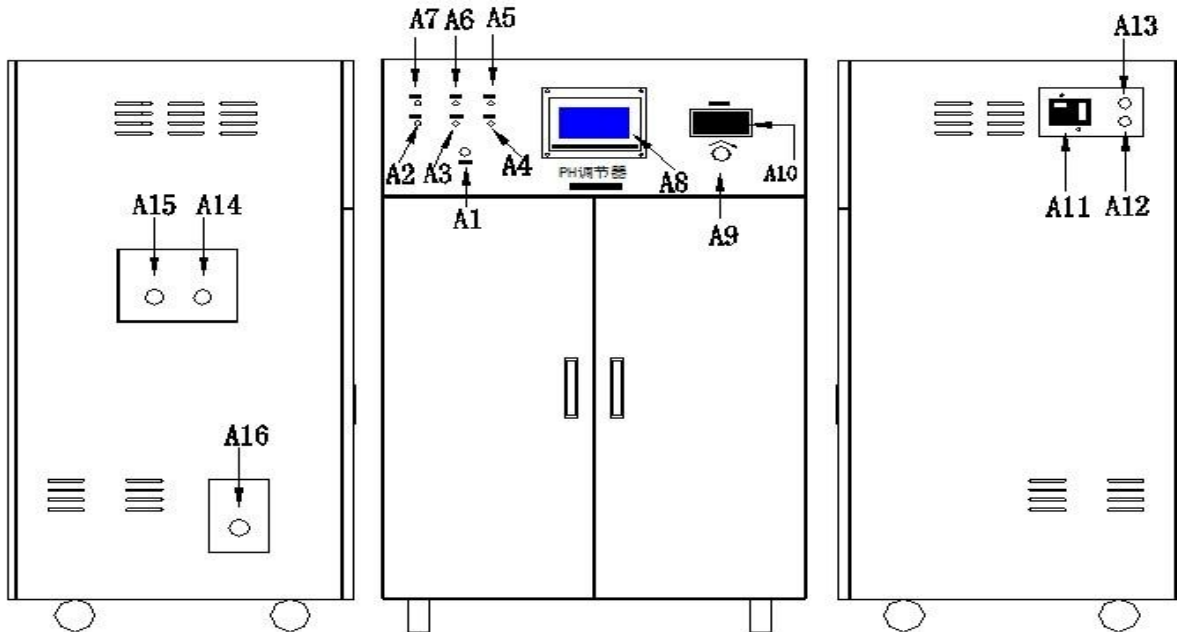
The adjuster ia made up of electrolytic cell components, automatic commutator, controller, power supply and pipeline component.

### 1 :System Pipeline (waterways) diagram



### 2. name of all parts

#### 2.1 Front panel , left and right side panel

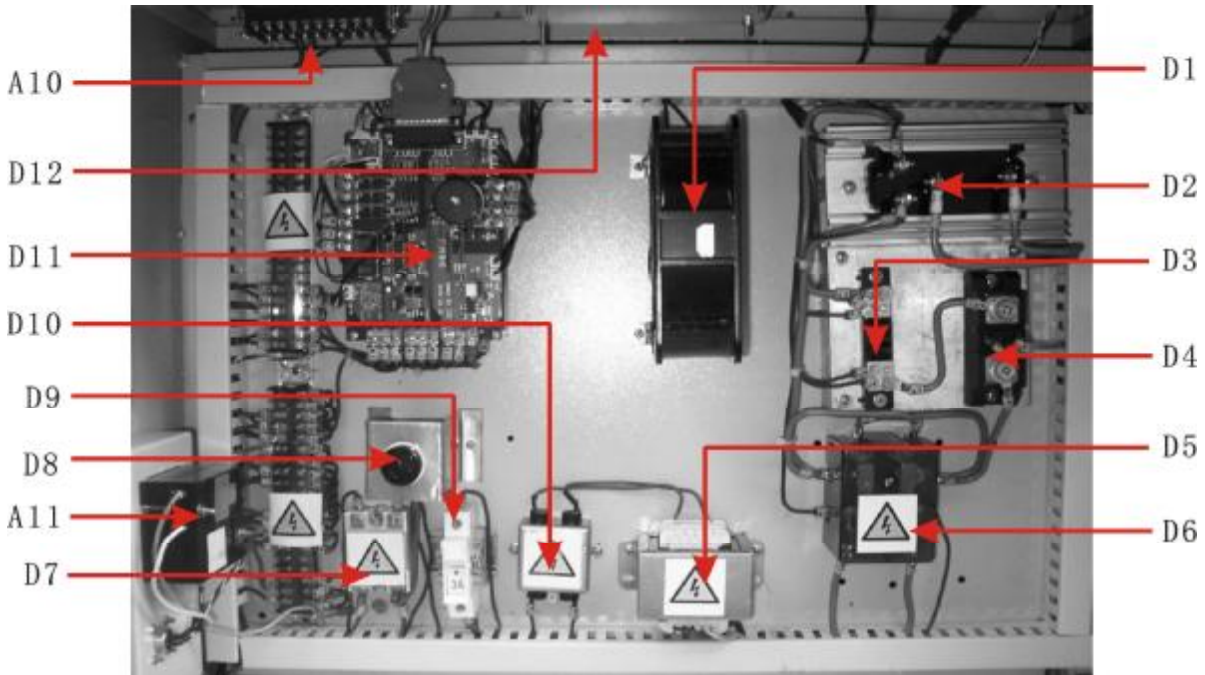


Left side panel

right side panel

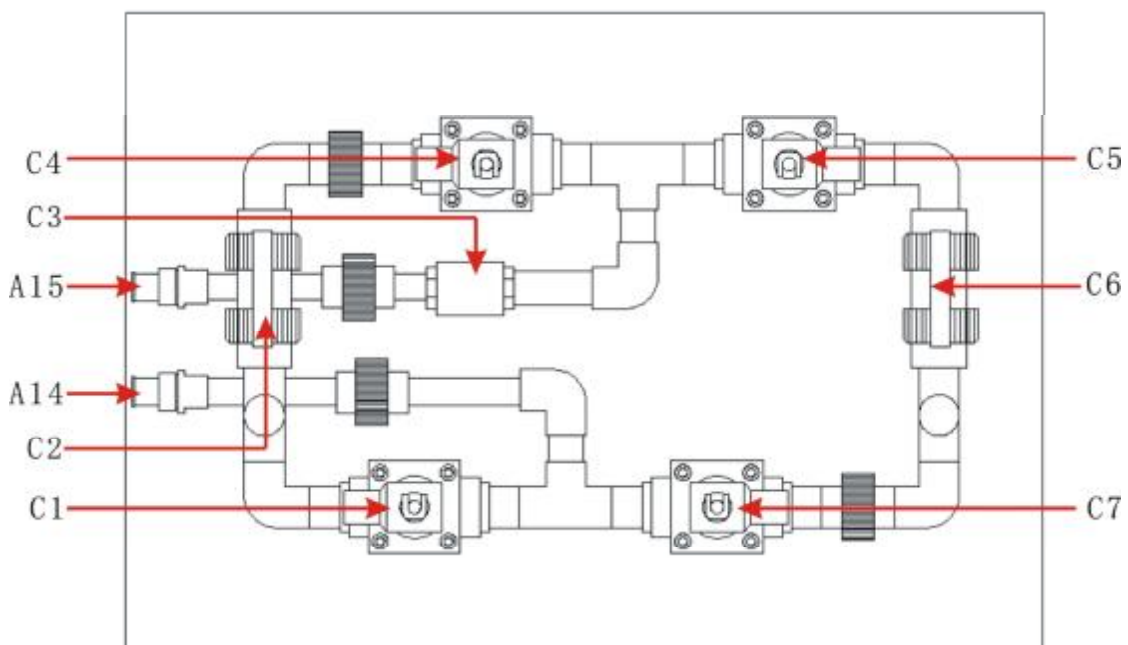
A1: ; Power Switch ; Indicator of water full A3: Indicator of working situation II  
 A4: Indicator of Low water pressure A5 Over-temperature indicator A6 : ; Indicator of working situation I  
 A7: ; Power Indicator A8: Touch screen A9: Electrolytic and current adjustment knob  
 A10: Electrolysis ammeter A11: Leakage protection switch A12: port of power cord  
 A13: Liquid outlet ; Outlet of Alkaline Water A15: Outlet of Acid Water  
 A16: source water inlet

**2.3 Inside top of Machine (control electrical layer)**



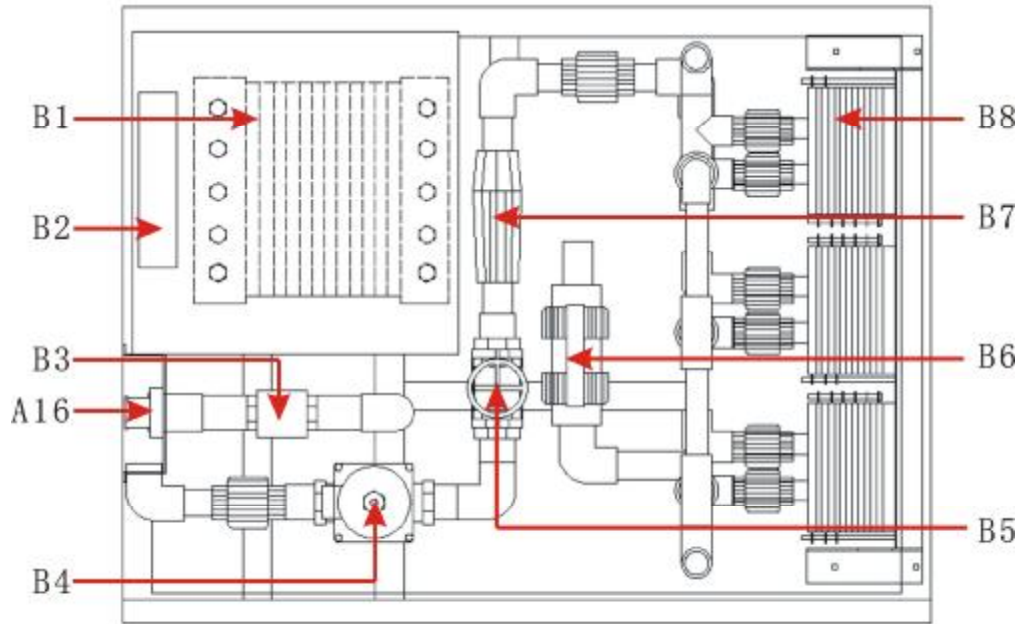
D1: cooling fan D2 :Rectifier D3: Shunt resistor D4: Electrolytic Solid State Relay  
 D5: Control Transformers D6: Reversing Relay D7: Control Solid State Relay D8: Insurance Block (25A)  
 D9: Insurance Block (3A) D10: Filter D11: Ansteuerelektronik D12 LCD Screen Control Box  
 (A10: ; Electrolysis ammeter A11: protection switch of Electric Leakage

**2.4 The middle-level of inside machine (automatic change to the floor**



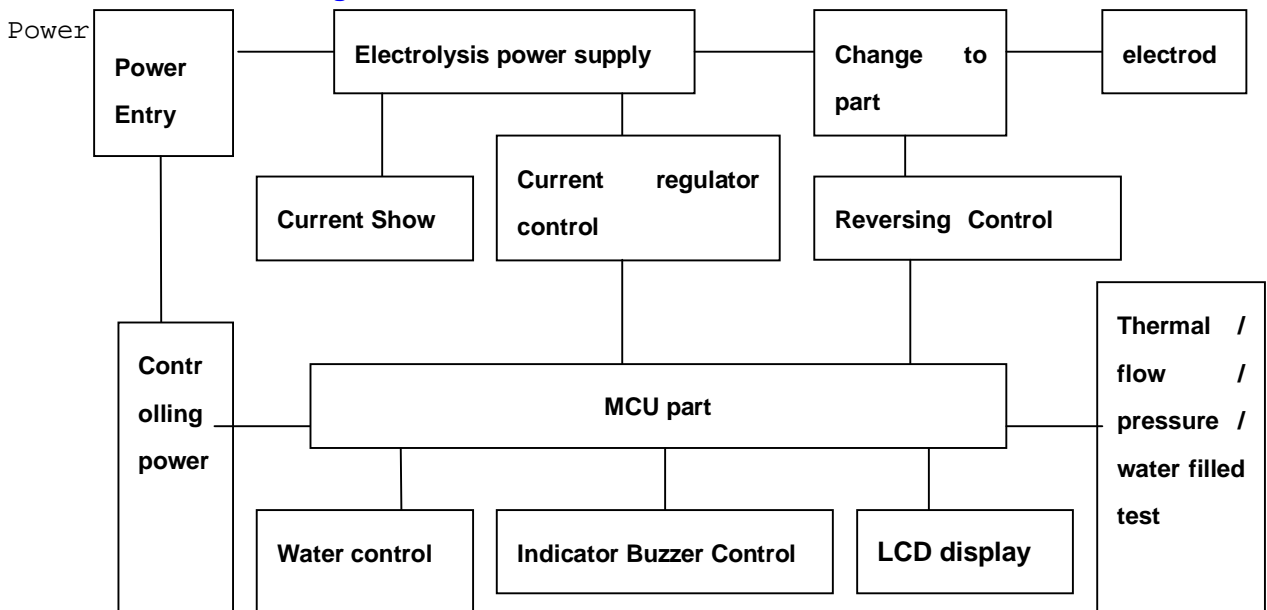
C1/C4/C5/C7: reversing solenoid valve ; C2/C6/: ; control valve of Acidic water flow  
 C3: Acidic water meter A14: Outlet of Alkaline Water A15: Outlet of Acid Water

2.5 The bottom layer of inside machine (Electrolyzer layer )



B1: Electrolysis Power Transformer B2: cooling fan B3: The flow sensor of total water  
 B4: Water inlet solenoid valve B5: Water regulating valve B6: Drain valve;  
 B7: Pressure limiting valve; B8: Electrolyzer Unit A16: The source water inlet

**Fourth :Schematic diagram of electronic control work**



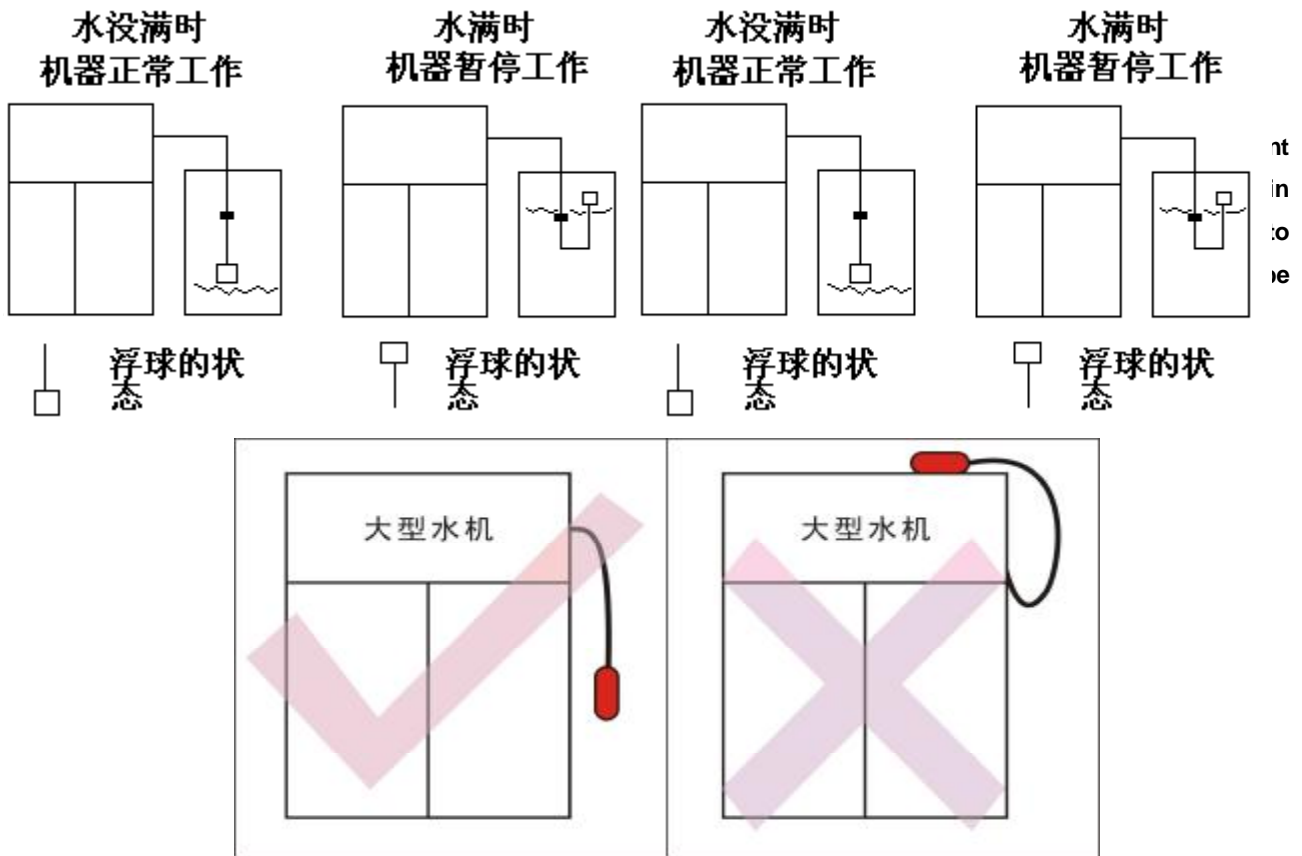
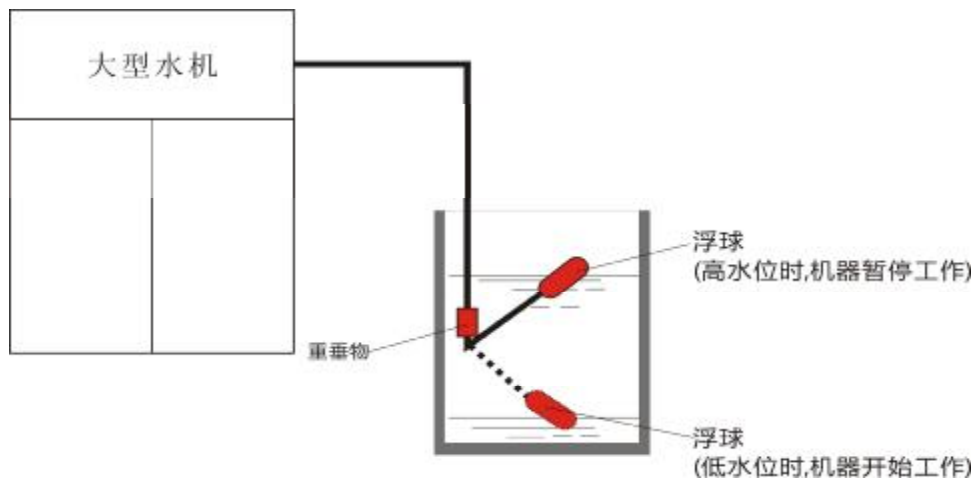


图 2 浮球放置示意图



Picture 3 Ball storage bins placed on diagram

Filled with water, auto-stop feature: When the reservoir bucket of water at high water level of the regulator will automatically suspend the work, and when the reservoir dropped to a bucket of water so that float vertically downward (in a low-level), the machine will automatically work .

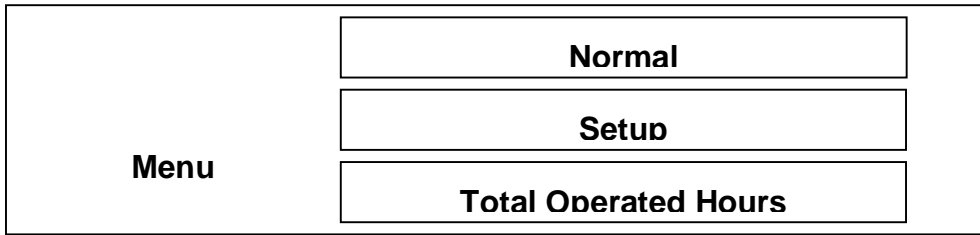
5.1 Carefully read the instruction manual, familiar front panel of the instrument, operating knobs and pipe interfaces and composition;

5.2 In the source water outlet to install a cut-off valve (self-), A good source of water, water pressure regulator . To ensure that the largest source of water, the water pressure does not exceed 0.30Mpa;

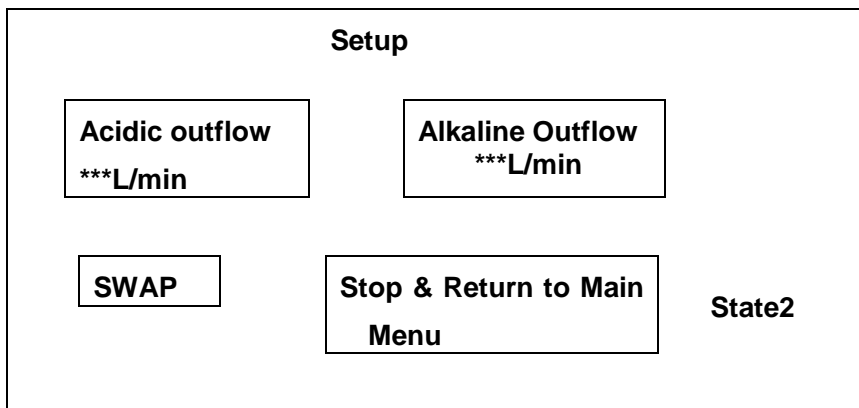
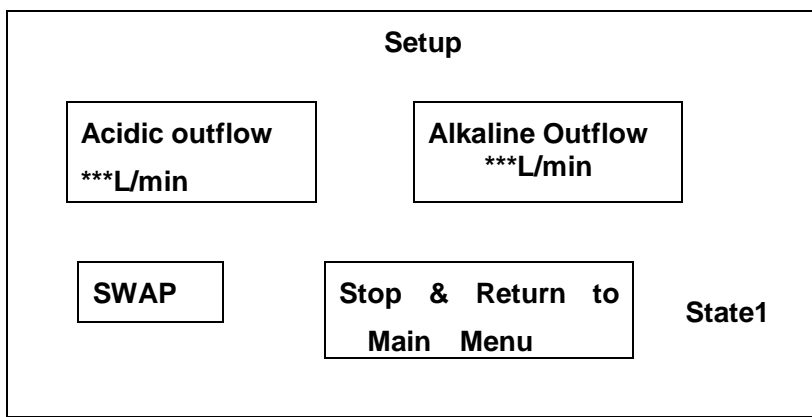
5.3 Place the formation of the regulator to regulate the regulator of the four supporting legs so that stable, then a good power cord to the power distribution boxes and check to ensure that the appropriate capacity distribution boxes;

5.4 Connected and the import and outlet pipe (acidic, alkaline), ensure a solid connection;

5.5 All the distribution boxes, close the power switch (A1), this time regulator to work, LCD screen display the following:



Depress "Setup", enter into the next picture



Press the Swap button, the machine will be State1 and State2 switch between, Setup key primary role is to quickly switch State1 and State2, open the source water outlet valve (Self), slightly open the machine water inlet valve (B5 ), acid, caustic water port (A14, A15) should be water; flow value on LCD screen display; Note: Press the SWAP key to the former should first current is off to 0. Other state in about 20 seconds before switching plus electrolytic current.

5.6 Adjust the inlet valve (B5) to adjust the total inflow to regulate the acidic water flow control valve (C2/C6) to adjust the ratio of alkali-acidic water flow. In the same electrolytic current circumstances, the greater the PH alkaline water flow lower. Under the same alkaline water flow rate, the greater the alkaline water electrolysis current, the higher PH. By adjusting the acid-base percentage, the total flow rate and electrolysis current to create a suitable water. To adjust water flow alkaline and acidic water flow, it will affect each other, need to repeatedly adjust in order to achieve the desired value; two states (state I , II) required adjustment;

And to observe all parts of any leaks in the piping system, water phenomenon and, if requested to be addressed;

5.7 PH measurement of the machine table with the water pH (note that regular calibration with standard solution pH form), adjust the electrolytic current adjustment knob (A8), so that output of the water until the pH value of the expected value and pay attention to note at this time of the electrolytic current meter display value, bringing the finished installation.

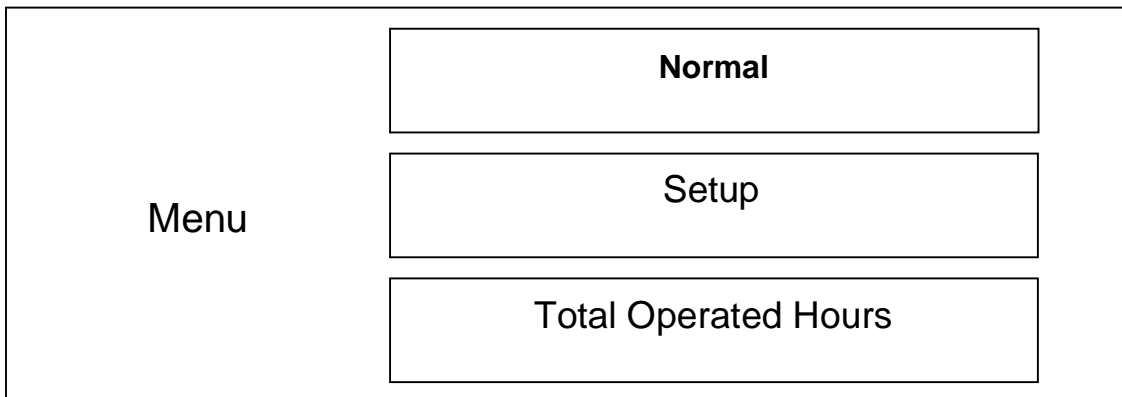
**Six : Operation Use**

6.1 Open source water outlet valve (self), together on the power distribution switch, earth leakage protection switch (A11), the power switch (A1), the machine into the work, the whole LCD screen displays the following contents, the lower right corner 3 seconds kinds countdown .

## WATER IONIZER PWTI-3000

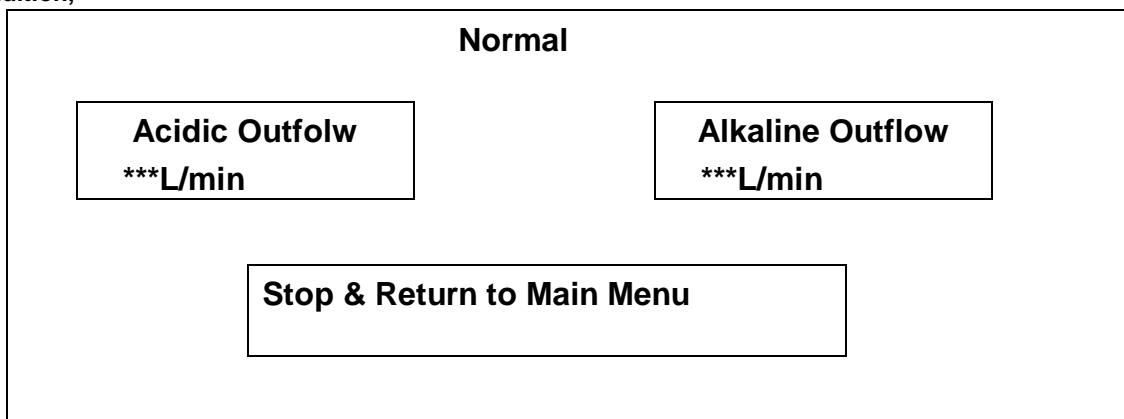
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**6.2: Countdown exhausted into the main menu**



**6.3 Click "Normal" key: the entire screen display:**

Adjust the electrolytic current adjustment knob (A9) to the set value, the generator into the normal working condition;



Observed and measured acid, caustic water production and pH, there are exceptions please adjust;

Generator in the normal operation will automatically monitor the electrolytic current value, flow value, pressure value, rectifier bridge surface temperature, etc., such as abnormal / failure, the generator will automatically stop and display the exception / failure content, the corresponding indicator will light to Tips, LCD display content and format are as follows: (show the same format and content varied are as follows:

**High Amperage**

(When the electrolytic current is greater than 35A when the show will be a small current is transferred, restart the machine return to normal use;)

**Low Water Pressure**

(When the acidic water flow is lower than 4L/min responses shows that the total water flow rate increase or adjust the acidity of water regulating valve, restart the machine return to normal use;)

**Overheat**

(When the machine is displayed when the internal temperature is too high electrical shutdown 30 minutes after the restart the machine, with due emphasis on the small electrolytic current value, return to normal use;)

**water tank overflow**

(When the storage bins filled with water, when you show that this condition without manual restart, when the water level dropped to a low level, the regulator automatic restart)

Note: When the display shows "Water Tank Overflow", the description of water storage drums at a high level, equipment, automatic suspension of production of water, water storage drums of water to be used to low water level, the device will automatically start and continue to produce water. (This status without the need to manually initiate equipment)

<b>ERROR</b> <b>High Amperage</b>	<b>Low Water Pressure</b>	<b>ERROR</b> <b>Overheat</b>	<b>ERROR</b> <b>Water tank overflow</b>
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6.4 When the generator normal operation;

6.4.1: Press "Total Operated Hours" key: the entire screen display:

**Total Operated Hours**

**\*\* Hour \*\* min**

**Return to Main Menu**



Back to main course-button pressed, go back to the previous menu;

6.5 Normal operation, the timing (usually twice a day) to observe and record: acid, alkaline and electrolytic meter ammeter value, and to detect the pH value of produced water, such as the large deviation of the expected value, please refer to 5.6,5.7 Terms listed in the methods and steps to be adjusted to appropriate values;

6.6

After the normal water production capacity, please adjust the electrolytic current adjustment knob (A9) to zero, press the "Stop & Return to Main Menu

"Button to close the power switch and cut-off valve (self).

## Seven : Maintenance

7.1 Every time the normal production of water is completed, please adjust the electrolytic current adjustment knob (A9) to zero;

7.2 After daily use, open the drain valve B4 to pipe the water in the row of the machine to do;

7.3 After daily use, disconnect the leakage protection switch (A11);

7.4 The surface cleaning of the generator, you should disconnect the power cord on the power distribution switch conducted only after the cleaning be careful not to spill water into the generator internal;

7.5 :The surface paint on the LCD screen can only use a soft wash cloth, wring dry scrub after soaking;

7.6 Generator when not in a long time, should the power line and Jin, drains removed, drain the internal water, sealed into the drain for safe storage;

## Eight : Troubleshooting

	Trouble	reason Analysis	solution	Remark
1	the pH of adjustment to the technical conditions not reach the specified value;	1.1 The excessive water; 1.2 alkaline, acidic water, the proportion of loss of line; 1.3 Source Water conductivity is low / high; 1.4 solenoid valve failure, leading to acid-base water-short circuit;	1.1 The water regulating valve (B5) to make into the water reduced; 1.2 by 5.6 to adjust their methods listed in terms of the ratio; 1.3 in the source water and add the electrolysis accelerator / purified water to adjust the conductivity of the source water to a suitable location; 1.4. Replace a failed solenoid valve;	
2	Production volume amounts to less than the required value;	2.1 Source Water pressure is too small; 2.2 The ion-exchange membrane electrolyzer solenoid valves malfunction or blockage;	2.1 Source Water pressure is too small; 2.2 The ion-exchange membrane electrolyzer solenoid valve malfunction or blockage;	
3	Failure shows that inadequate water pressure, lack of pressure indicator (A4)-Liang	3.1 cut-off valve (self-), water cut-off valve is not open; 3.2 inlet solenoid valve (B1) is not open	3.1 cut-off valve (self-), water cut-off valve is not open; 3.2 inlet solenoid valve (B1) is not open	

4	Failure showed overheating, overheating indicator (A5) Liang	4.1 The implementation of the protection of internal components, the temperature is too high;	4.1.1 adjustment of electrolysis current adjustment knob (A9) to reduce the operating current; 4.1.2 Check rectifier bridge / Solid State Relays / Greater availability of power transformer failure, a fault please be replaced.
5	Press the power switch (A1), the power switch light does not shine	5.1 power cord is not received well; 5.2 Leakage protection switch off; 5.3 Fuse-off	5.1 connected and the power line; 5.2 kg on the earth leakage protection switch; 5.3 identify the reasons for burning fuse, replace fuse after troubleshooting.

## Night : Packing Accessories, Parts

9.1 Instructions:one

9.2 Water hose : one (2 m )

9.3 Water / drainage hose 2m ; 9.4 : 3A Fuse:one

9.5 25A Fuse: one