

Pure Hydrogen/Oxygen Gas Generator

----- SPE/PEM technology



-----Model:HB-H10

Attention:

1. Please read the manual carefully before using this machine.
2. Only distilled water and reverse osmosis water are suitable for this machine.

*Water electric resistivity > 2 megohm.cm or

*Electric conductivity < 0.5 us/cm

*Do not use alkali liquid (KOH nor NaOH)

*Never use tap water!

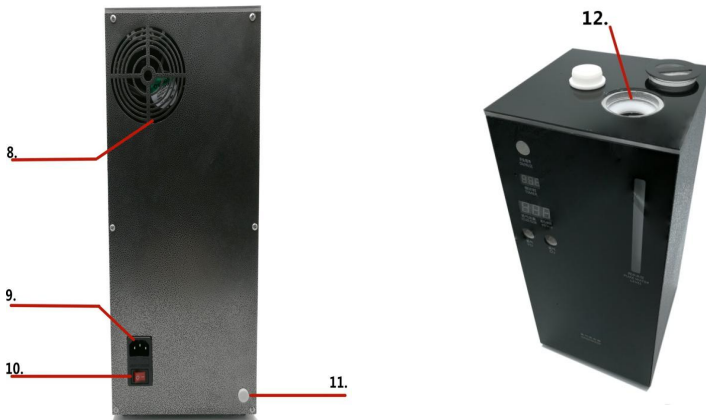
3. Please keep some approved water in the machine reservoir before it is stored and put away for long periods of time. If machine hasn't been used for a long time, pour some approved water into the reservoir and wait for 24 hours before turning the power on. Never let the machine to be dried up for more than one year.

Product parts diagram:



1. On/Pause: Switch on the machine to produce H₂ and O₂ gas
2. Timer: Working time count down
3. Time adjustment: Mechanical adjustment with adjuster tool
4. Hydrogen gas flow indicator: 260~270ml/min
5. Hydrogen gas outlet
6. Oxygen gas outlet
7. Water level indicator: Keep water level indicator around 2/3 full(0.8~1.2 Liters)

Back



8. Radiator fan: Turns on automatically when the machine gets hot

9. Power line socket

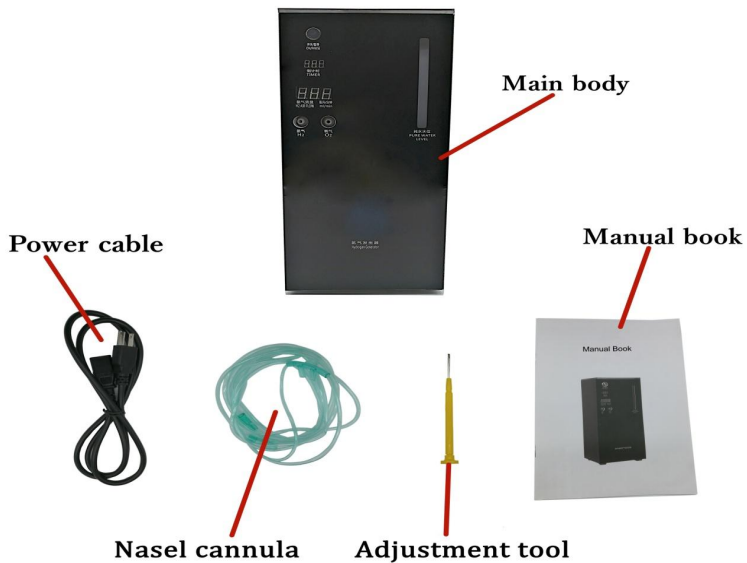
10. Power on/off

11. Water drain port

12. Pure water fill

Instructions for use:

1) First, take machine out of packaging, check out equipment for any damage during transport. Package contains the following:



2) Open the water reservoir cover and remove the silicone rubber stopper at the top of the machine with the adjusting tool and fill with approved water. Fill until the water level indicator is 2/3 full(0.8 to 1.2 liters). When refilling keep water level indicator at the 2/3 position (0.8 to 1.2 liters).



3) Connect power cord and plug in (power outlet should be properly grounded). Turn the Power on/off button on the back of machine to the "on" position. Timer and hydrogen gas flow indicator light will come on. Machine is now in standby mode.

Default working time is 30 Minutes. You can adjust the working time mode. (It can be mechanically adjusted with adjuster tool, see following picture)



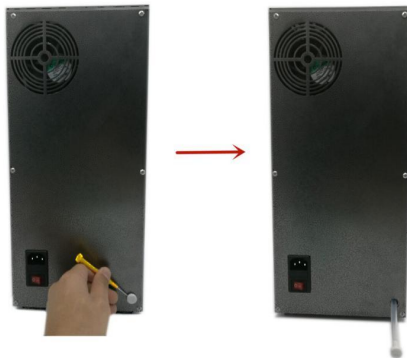
4) Click ON/PAUSE button, machine will start to generate hydrogen and oxygen gas, The hydrogen gas flow indicator will rise until the maximum flow (260~270ml/min) is reached; Click ON/PAUSE again to PAUSE machine; When timer is finished counting down, machine will return to standby mode.

5) Connect nasal cannula to the hydrogen outlet or the oxygen outlet to breathe; The silicone plug at the top of the machine will need to be in place and sealed for the oxygen to flow through the oxygen output port. You can drink hydrogen rich water by putting the nasal cannula outlet into drinking water for 10 minutes (1.2ppm), see the picture below,



Maintenance:

6)After some time the water in the machine will become stale. It is advised to drain and change the water after 3 months of operation. Drain off water through the water drain port on the back of the machine. Pull the silicone tube out and remove the plug. Water will drain out automatically. Add new water, drain again. Repeat 3--4 times and add new water to use. Replace plug and push silicone tube back inside machine.

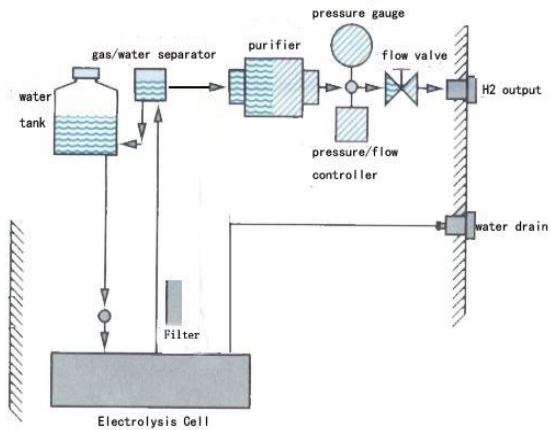


7) If the machine will not in use for a period of time, please keep some water in the tank. When you use it again, drain the old water first, pour in enough fresh water, and then drain. Repeat 3-4 times.

Working Principles:

The proton exchange membrane we use on this machine is imported from the DuPont in the USA. 100% titanium electrodes guarantee great quality and high efficiency to generate continuous pure hydrogen and oxygen gas with low energy consumption. It is a portable device that also makes hydrogen water. This machine is equipped with solid polymer electrolyte (SPE) and titanium electrodes. Oxygen content is below 0.1ppm. Hydrogen is produced from cathode and Oxygen is from anode. When starting up the machine, electrolysis decompose water into hydrogen and oxygen. Pure hydrogen enters the gas / water separator where most of the water vapor is removed from hydrogen, and oxygen is collected in the water tank. Hydrogen will go through the dryer tube in order to get higher purity hydrogen gas. SPE hydrogen/oxygen generator adopts an automatic tracking control system with high sensitivity. Flow and pressure are both quite stable. Pressure stability is below 0.001Mpa making sure to produce high purity gases under stable pressure and safe conditions.

Flow Chat:



Technical Parameter:

- 1) Hydrogen purity : 99.999% Oxygen purity: 99%
- 2) Hydrogen flow : 260~270ml/min
- 3) H2 Output pressure: 0.2MPa
- 4) Input Pure Water : Deionized water (>2M) or distilled water
- 5) Pressure stability: <0.001Mpa
- 6) Power : 100/220V±10% 50Hz--60Hz
- 7) Power consumption:<120W
- 8) Dimension : 180mm×170mm×395mm
- 9) Weight : 7kg

Notice:

- 1、 Do not operate the machine near a open flame.
- 2、 Use the machine only in well ventilated areas.
- 3、 Do not use bad quality water like tap water, plain water .

Dissolved substances in water will damage the electrolysis cell. Only pure water is suitable.

- 4、 Do not disassemble electrolysis cell.
- 5、 Drain water out before transporting the machine.

Requirements for operational environments and conditions:

1. Temperature : 2°C– 40°C
2. Humidity : < 85%
3. Power supply : 100/220V±10% 50Hz--60Hz
4. The generators should be positioned horizontally.
5. Do not shake or strike the machine.
6. Do not expose machine to the sun or a open flame.
7. Do not use it in a dusty environments, avoid conducting particles ,acid ,alkali ,and other corrosive gases
8. Good ventilation condition are necessary.
9. Ground connection of power supply is necessary for safety .

Troubleshooting:

Problem	Reason	Solution
Not working, power light is off	1. Power not connected 2. Fuse damaged	Connect power Replace fuse
H ₂ /O ₂ outlet no gas flow	Gas leakage in generator, or H ₂ connection pipe has leak	1. Use soapy water, Check the connect position to see if there are bubbles. 2. Tighten leaking part.
Big difference in displays normal range	1. Electrolysis cell degradation 2. Abnormal power output	1. Replace or clean electrolysis cell 2. Adjust or change power supply
Consumes water quickly	1. Water leakage in circle system 2. Cell high temperature	Repair water leakage Replace or clean the degraded cell

After Sales Service:

Warranty is guaranteed for the first year

Warranty will be invalid in the following circumstances:

1. Users do not operate the generator according to the operating manual.
2. Users disassemble parts by themselves , which is forbidden.

