beauty health effect, and even to eliminate chronic diseases. Furthermore, there are also clinical experiments showing that patients who need to inhale a high concentration of oxygen for an extended period of time would experience lung damage. However, it could be ameliorated by inhaling hydrogen.

General electrolysis device generates high temperature in the electrolyzing process, which will decrease the efficiency of electrolyzing and cause energy consumption problems; furthermore, the hydrogen-oxygen mixed gas becomes unsuitable for the user to inhale. Although the problems mentioned above can be solved through replenishing supplementary water or the electrolyte continououly, it also makes the operation of the electrolysis device inconvenient.

SUMMARY OF THE INVENTION

Therefore, the present inventor with many years engaged in the manufacture and development of related products and design experience went through the detailed design and careful assessment to finally confirm that the present invention is practically usable. The invention is defined in the independent claims. Some optional features of the invention are defined in the dependent claims.

As described herein, there is a gas generator for electrolyzing water and generating the hydrogen-oxygen mixed gas, meanwhile the electrolyte in the hydrogen-oxygen mixed gas is condensed and filtered. The gas is humidified to reduce the amount of the electrolyte in the hydrogen-oxygen mixed gas so that it may be inhaled by the user. Moreover, by replenishing the supplementary water and flushing the electrolyte back into the electrolysis device to restore the filtering function of the circulating passageway. It can not only avoid the block and corrosion in the circulating passageway but also reduce the consumption of the electrolyte.

A gas generator comprising the water tank, the electrolysis device, the condensate filter, the humidification device and the pump device is disclosed. The water tank accommodates electrolyzed water, wherein the electrolyzed water

comprises electrolyte. The electrolysis device is coupled to the water tank for electrolyzing the electrolyzed water to generate a hydrogen-oxygen mixed gas. The condensate filter is connected to the electrolysis device for condensing the hydrogen-oxygen mixed gas generated at the electrolysis device and filtering the electrolyte in the hydrogen-oxygen mixed gas for generating the filtered hydrogen-oxygen mixed gas. The humidification device connected to the condensate filter accommodates the supplementary water for humidifying the filtered hydrogen-oxygen mixed gas. The pump device is connected to the water tank for generating negative pressure in the water tank in order to pump back the supplementary water from the humidification device through the condensate filter into the water tank, and the electrolyte adsorbed in the condensate filter is back flushed to the water tank. When the flow rate of generating the hydrogen-oxygen mixed gas by the gas generator is 600L/hr after operating 40 to 60 hours, the loss of the electrolyte is equal to or less than 5g.

Furthermore, also disclosed is a gas generator which selectively comprises an atomized gas mixing tank. The atomized gas mixing tank comprises a gas outlet. The water tank and the atomized gas mixing tank are connected to the by the pump device. When the pump device is in operation, the gas in the water tank is pumped out through the gas outlet of the atomized gas mixing tank to generate a negative pressure in the water tank.

The atomized gas mixing tank is selectively connected to the humidification device for receiving a humidified hydrogen-oxygen mixed gas. The atomized gas mixing tank generates an atomized gas mixed with the humidified hydrogen-oxygen mixed gas to generate a healthy gas for a user to inhale. The atomized gas comprises at least one of water vapor, atomized liquid, volatile purified oils or combinations thereof.

The humidification device selectively comprises at least an output tube. The output tube comprises a plurality of holes. The hydrogen-oxygen mixed gas is pumped out from the plurality of holes of the output tube to humidify the filtered hydrogen-oxygen mixed gas。

The condensate filter selectively comprises a plurality of the condensate plates. Every condensate plate comprises a passageway. The passageway of the condensate plate is connected to the passageway of the adjacent condensate plate to form a circulating passageway for circulating the hydrogen-oxygen mixed gas.

Furthermore, there is also disclosed a gas generator which comprises a water tank, an electrolysis device, a condensate filter, a humidification filter, a humidification device and a pump device. The water tank accommodates electrolyzed water. The electrolyzed water comprises an electrolyte. The electrolysis device is coupled to the water tank for electrolyzing electrolyzed water to generate a hydrogen-oxygen mixed gas. The humidification filter connected to the condensate filter accommodates water and filter the filtered hydrogen-oxygen mixed gas which is filtered by the condensate filter. The humidification device is connected to the humidification filter accommodates a supplementary water for humidifying the hydrogen-oxygen mixed gas filtered by the humidification filter. The pump device is connected to the water tank for generating a negative pressure in the water tank to pump back the supplementary water from the humidification device through the humidification filter and the condensate filter into the water tank and back flush the electrolyte adsorbed in the condensate filter. When the flow rate of generating the hydrogen-oxygen mixed gas by the gas generator is 600L/hr after operating 40 to 60 hours, the loss of the electrolyte is equal to or less than 5g.

In conclusion, a gas generator may be provided. The hydrogen-oxygen mixed gas is generated by the electrolysis device of the disclosed gas generator. The hydrogen-oxygen mixed gas is condensed and filtered out the electrolyte through the condensate filter. The gas is humidified to reduce the amount of the electrolyte in the hydrogen-oxygen mixed gas to be inhaled by the user. In another example, the gas generator can further comprise the humidification filter which is configured between the condensate filter and the humidification device for filtering out the impurities in the hydrogen-oxygen mixed gas to provide a better hydrogen-oxygen mixed gas for the user to inhale. Moreover, by replenishing the supplementary water and back

flushing the electrolyte into the electrolysis device to restore the filtering function of the circulating passageway, it can not only avoid the block and corrosion in the passageway but also reduce the consumption of the electrolyte.

The advantages and spirits of the invention may be understood by the following recitations together with the appended drawings.

BRIEF DESCRIPTION OF THE APPENDED DRAWINGS

Some of the embodiments will be described in detail, with reference to the following figures, wherein like designations denote like members, wherein:

FIG. 1A and FIG. 1B are the diagrams which show an exemplary gas generator in different views.

FIG. 2A, FIG. 2B and FIG. 2C are the diagrams which show an exemplary gas generator in an embodiment in different views.

FIG. 3A, FIG. 3B and FIG. 3C are the diagrams which show the exemplary gas generator of FIG. 2A without the external shell of the water tank, the top cover of the water tank, the structure of the humidification device and the external tube of the humidification device in different angels.

FIG. 4A and FIG. 4B are the diagrams which show the arrangement of FIG. 3A without the water tank in different views.

FIG. 5A and FIG. 5B are the plan view and the sectional view through the A-A line which show the arrangement of FIG. 2A only with the condensate filter and the cover of the water tank.

FIG. 6A and FIG. 6B are the diagrams which show the gas generator in another arrangement only with the combination of the condensate filter and the cover of the water tank in different angels.

FIG. 7 is a diagram shows the combination of the condensate filter and the cover of the water tank shown in FIG. 6 without the cover of the water tank.

FIG. 8 is a diagram shows the combination of the condensate filter and the cover of the water tank shown in FIG. 6 without the cover of the water tank in FIG. 7 without the filter net.

FIG. 9 is a diagram shows the combination of the condensate filter and the cover of the water tank shown in FIG. 6 without the cover of the water tank in FIG. 7 without the filter net in FIG. 8 without the filter net cover.

FIG. 10A and FIG. 10B are the plan view and the sectional view through the B-B line which show the condensate filter of the gas generator of FIG. 6A.

FIG. 11 is the diagram which shows the humidification device of the gas generator in another arrangement.

FIG. 12 is the diagram which shows the gas generator in another arrangement.

The advantages, sprits, and features of the present invention will be explained and discussed with embodiments and figures as following.

DETAILED DESCRIPTION OF THE INVENTION

A detailed description of the hereinafter described embodiments of the disclosed apparatus and method are presented herein by way of exemplification and not limitation with reference to the Figures. Although certain embodiments are shown and described in detail, it should be understood that various changes and modifications may be made without departing from the scope of the appended claims. The scope of the present invention will in no way be limited to the number of constituting components, the materials thereof, the shapes thereof, the relative arrangement thereof, etc., and are disclosed simply as an example of embodiments of the present invention.

Please refer to FIG.1A to FIG. 3C. FIG. 1A and FIG. 1B are the diagrams which show a gas generator from different perspectives. FIG. 2A, FIG. 2B and FIG. 2C are the diagrams which show the gas generator in an embodiment from different

perspectives. FIG. 3A, FIG. 3B and FIG. 3C are the diagrams which show the embodiment of FIG. 2A without the external shell of the water tank, the top cover of the water tank, the structure of the humidification device and the external tube of the humidification device in different angels. The gas generator **1** comprises the water tank **2**, the electrolysis device **3** which is not shown in FIG. 1A and FIG. 1B but in the FIG. 4A and FIG. 4B, the atomized gas mixing tank 4, the pump device **5** which is not shown in FIG. 1A and FIG. 1B but in FIG. 2B and FIG. 4B, the condensate filter **6**, the cooling device 7 and the humidification device **9**.

The water tank **2** accommodates electrolyzed water, wherein the electrolyzed water comprises an electrolyte. The electrolysis device **3** is coupled to the water tank **2** for electrolyzing the electrolyzed water to generate a hydrogen-oxygen mixed gas. The condensate filter **6** is connected to the electrolysis device **3** for receiving and condensing the hydrogen-oxygen mixed gas generated by the electrolysis device **3**. Then, the condensate filter filters the electrolyte in the hydrogen-oxygen mixed gas to generate the filtered hydrogen-oxygen mixed gas. The humidification device **9** receives and humidifies the filtered hydrogen-oxygen mixed gas. The humidification device **9** accommodates the supplementary water and is connected to the first hollow portion **20** of the water tank **2**. The pump device **5** is connected to the first hollow portion **20** of the water tank **2**. When the pump device is in operation, the gas in the first hollow portion **20** of the water tank **2** is pumped out by the pump device **5** for generating a negative pressure in the water tank **2**. The humidification device **9** back flush the supplementary water into the condensate filter **6** and fills the supplementary water into the water tank **2** by the negative pressure to reduces the loss of the electrolyte. Wherein the flow rate of the hydrogen-oxygen mixed gas is 120L/hr and the loss of the electrolyte is less than 50g for 2000 to 3000 hours in operation. That is to say, it is expected that the flow rate of hydrogen-oxygen mixed gas generated by the gas generator is 600L/hr and the loss of the electrolyte is equal to or less than 5g for 40 to 60 hours in operation. The cooling device **7** is set on the cover of the water tank **2** and connected to the water tank for cooling the electrolyzed water which generates the hydrogen-oxygen mixed gas.

Please refer to FIG. 5A and FIG. 5B; FIG. 5A and FIG. 5B are the plan view and the sectional view through the A-A line which show the embodiment of FIG. 2A only with the condensate filter and the cover of the water tank. FIG. 6A and FIG. 6B are the diagrams which show the gas generator in another embodiment only with the combination of the condensate filter and the cover of the water tank in different angels. The water tank **2** comprises a first hollow portion **20**. The first hollow portion **20** of the water tank **2** accommodates electrolyzed water. The electrolyzed water comprises an electrolyte. The electrolyte in this embodiment is NaOH, but in practice the electrolyte is not limited to it. In practice, the electrolyte can be CaCO3, NaCl or edible NaOH. The water tank **2** further comprises a tube **22**, a water tank **24** and a cover of the water tank **26**. The inner space of the water tank **24** is the first hollow portion **20**. The tube **22** can be set on the cover of the water tank **26** for being connected to the condensate filter **6** and the water tank **2** for outputting the hydrogen-oxygen mixed gas generated by the electrolysis device **3** and pumping the electrolyzed water into water tank **2**. The cover of the water tank **26** comprises a plurality of the cover holes which are connected to the first hollow portion **20** of the water tank **2** for the electrode columns **33** of the electrolysis device **3** (shown in FIG. 4A) to be configured in by penetrating through the cover holes. Besides, the plurality of the cover holes are also available for detecting devices, such as flow rate detector, water level gauge and security valve to be configured in by penetrating through the cover holes.

Please refer to FIG. 4A and FIG. 4B; FIG. 4A and FIG. 4B are the diagrams which show the embodiment of FIG. 3A without the water tank in the different angels. The electrolysis device **3** comprises an electrolyze tank **32**, a plurality of electrodes which are not shown in the figures, the backing board **36**, the upper cover **37** and the lower cover **38**. Wherein the plurality of electrodes is able to be set

hydrogen-oxygen mixed gas pass through a longer condensation-filtering route to get a better efficient of condensing and filtering. Moreover, in one embodiment, an activated carbon fiber is coupled to the passageway **640a** for filtering the electrolyte in the hydrogen-oxygen mixed gas. The filter material comprising the ceramics, the quartz, the diatomaceous earth, the meerschaum or any combinations thereof is coupled to the passageway **640a**. The filter material further filters the electrolyte in the hydrogen-oxygen mixed gas. Besides, in one embodiment, the gas inlet hole **60** comprises a filter net **600** and a filter net cover **602**. The filter net **600** is connected to the filter net cover **602** at the electrolysis device **3** for receiving and filtering the hydrogen-oxygen mixed gas.

In one embodiment, the circulating passageway **640** can achieve the condensing effect by the two sets of passageways **640a**, which simplifies the design of the condensate filter **6** and reduces the cost. However, the gas generator is not limited thereto and the amount of the passageways can be adjusted according to the design requirement.

Please refer to FIG. 2C and FIG. 11. FIG.11 shows the humidification device of the gas generator in another embodiment. The humidification device **9** comprises a hollow main body **90**, a first tube **92**, at least an output tube **94**, a third tube **96**, and a fourth tube **98**. The hollow main body **90** can accommodate supplementary water. The second tube **92** is set on the hollow main body **90** for connecting the electrolysis device **3**. At lease an output tube **94** is coupled to the hollow main body **90** and connected to the second tube **92**. The second tube **92** is connected to two output tubes **94** to form a T-shape. In practice, the gas generator is not limited thereto, and the connection of the second tube to at least one output tube **94** can be adjusted according to the design requirement.

Moreover, the surface of two output tubes **94** comprises a plurality of holes. In one embodiment, the diameter of the holes ranges from 2nm to 3nm for refining the gas to form easily-dissolved fine bubbles. In practice, the gas generator is not limited thereto, and the diameter of the holes is adjustable according to the requirement of

the user. Two rubber plugs are respectively set on the terminal of two output tubes **94** connected to the second tube **92** for outputting the hydrogen-oxygen mixed gas in the second tube **92** by the pluralities of nano-holes on the output tube **94** into the hollow main body **90**. In practice, the gas generator is not limited thereto, and the terminal of two output tubes **94** connected to the second tube **92** can be designed as closed face.

The third tube **96** can be set on the hollow main body **90** for replenishing the supplementary water W2. In practice, the third tube can be connected to a pilot hole. The hydrogen water is output through the pilot hole by the third tube or input into the supplementary water. The fourth tube **98** can be set on the hollow main body **90** for outputting the humidified hydrogen-oxygen mixed gas.

Please refer to FIG. 3B and FIG. 4A. The pump device **5** can be set on the water tank cover **26** and be connected to the first hollow portion **20** of the water tank **2** for taking out the gas in the water tank **2** to generate a negative pressure to input the supplementary water from the humidification device **9** to the water tank and back flush the electrolyte in the condensate filter 6 into the first hollow portion **20** of the water tank **2**.

Please refer to FIG. 3B and FIG. 4. The atomized gas mixing tank **4** can be connected to the humidification device **9** for receiving the humidified hydrogen-oxygen mixed gas. The atomized gas mixing tank can generate the atomized gas, wherein the atomized gas comprises at least one of the water vapor, the atomized liquid, the volatile purified oils and combinations thereof. The atomized gas mixing tank can mix the atomized gas and the humidified hydrogen-oxygen mixed gas to form the healthy gas for user to inhale. Furthermore, the atomized gas mixing tank **4** can comprise a gas outlet **40**. The design of the gas outlet is not limited to the diagram shown in FIG.4A in practice. The gas outlet can be the gas outlet tube, and the gas outlet is according to the requirement of the user. The gas outlet **40** of the atomized gas mixing tank 4 and the pump device **5** is connected to each other. In one embodiment, when the electrolysis device **3** stops electrolyzing electrolyzed water

In practice, the water tank **2** accommodates an electrolyzed water W, the electrolysis device **3** is coupled to the water tank **2** for electrolyzing the electrolyzed water W to generate a hydrogen-oxygen mixed gas. The hydrogen-oxygen mixed gas generated at the passageway of the electrode is input into the first hollow portion **20** by the upper hole on the backing board **36** and the first passageway **370** of the upper cover **37**. The hydrogen-oxygen mixed gas which is input into the first hollow portion **20** is output through the tube **22** of the water tank **2**. The hydrogen-oxygen mixed gas output from the tube **22** of the water tank **2** is input into the condensate filter **6** through the gas inlet hole **60** of the condensate filter **6** to condense and filter. The hydrogen-oxygen mixed gas which is went through the gas inlet hole **60** of the condensate filter **6** is wen t through the filter net **600** and the filter net cover **602** first to initially filter. Then the initially filtered hydrogen-oxygen mixed gas is input into the circulating passageway **640** to do the condensation. At the same time, the hydrogen-oxygen mixed gas is filtered by the activated carbon fiber coupled to the passageway **640a**, and the hydrogen-oxygen mixed gas makes the electrolyte be adsorbed in the circulating passageway **640a**. Then the filtered hydrogen-oxygen mixed gas is output by the gas outlet hole **62** of the condensate filter **6**.

Moreover, the filtered hydrogen-oxygen mixed gas is passed into the humidification device **9** by the second tube **92** which is connected to the gas outlet hole **62**. The filtered hydrogen-oxygen mixed gas received by the second tube **92** is input into the hollow main body **90** by the pluralities of nano-holes of two output tubes **94**. In practice, because there are pluralities of nano-holes on the surface of the output tube **94**, the hydrogen-oxygen mixed gas in the humidification device is able to be small to form the dissolvable small gas bubbles. After the filtered hydrogen-oxygen mixed gas is humidified by the humidification device, the electrolyte in the hydrogen-oxygen mixed gas become lower for users to use safely when the electrolyte is dissolved in the water. The humidified hydrogen-oxygen mixed gas which is output by the humidification device **9** is provided for the user to inhale. In real practice, the gas generator is not limited thereto, and the humidified hydrogen-oxygen mixed gas which is output by the humidification device **9** can be

mixed with the atomized gas generated by the atomized gas mixing tank **4** to form a healthy gas for the user to inhale.

Moreover, when the electrolysis device **3** stops electrolyzing the electrolyzed water for generating the hydrogen-oxygen mixed gas, the pump device can pump out the gas in the water tank **2** to generate a negative pressure. The supplementary water recharged by the third tube **96** can be input from the humidification device **9** into the water tank **2** which has electrolysis device **3** by the negative pressure mentioned above. More particularly, the supplementary water is input from the humidification device **9** into the condensate filter **6** by the connection between the second tube **92** of the humidification device **9** and the gas outlet hole **62** of the condensate filter **6**. Moreover, the electrolyte adsorbed in the circulating passageway **640** of the condensate filter **6** can be flushed back into the water tank **2** of the electrolysis device **3** with the supplementary water through the gas inlet hole **60** and the tube **22** for restoring the filtering function of the circulating passageway. It can not only avoid the block and corrosion in the circulating passageway **640** but also reduce the consumption of the electrolyte. In one embodiment, after the hydrogen-oxygen mixed gas generated by the gas generator generated under 120L/hr for 2000 hours to 3000 hours, the loss of the electrolyte is equal to or less than 50g and the gas generator is not limited thereto. In practice, after the hydrogen-oxygen mixed gas generated by the gas generator has generated under 600L/hr for 40 hours to 60 hours, the loss of the electrolyte is equal to or less than 5g.

In practice, the gas generator may use the supplementary water to back flush the electrolyte into the water tank **2** of the electrolysis device **3** for providing the electrolysis device **3** with the electrolyzed water which is used for electrolyzing. Moreover, the replenished electrolyzed water of the first hollow portion **20** needs to go through the second passageway **380** of the lower cover **38** and the pluralities of lower holes corresponding to the electrode passageway of the electrolyze tank **32** for providing electrolysis device **3** with the electrolyzed water **W** when the electrolysis device **3** is in operation. In one embodiment, the gas generator can detect the water

level in the first hollow portion accommodated in the water tank and/or the electrolysis device by the water level gauge to control the replenishment of the electrolyzed water.

Please refer to FIG.4. The flow rate detector F is coupled to the electrolysis device **3** for detecting the flow rate of the hydrogen-oxygen mixed gas. In one embodiment, the flow rate of the hydrogen-oxygen mixed gas of the gas generator **1** ranges from the 0.01 L/min to the 12 L/min. After the gas generator generates the hydrogen-oxygen mixed gas generated under 120L/hr for 2000 hours to 3000 hours, the loss of the electrolyte is equal to or lower than 50g; and it is predictable that the loss of the electrolyte is equal to or lower than 5g after the gas generator generates the hydrogen-oxygen mixed gas generated under 600L/hr for 40 hours to 60 hours; or it is predictable that the loss of the electrolyte is equal to or lower than 0.25g after the gas generator generates the hydrogen-oxygen mixed gas generated under 30L/hr for 40 hours to 60 hours; it is also predictable that the loss of the electrolyte is equal to or lower than 2g after the gas generator generates the hydrogen-oxygen mixed gas generated under 240L/hr for 40 hours to 60 hours; it is also predictable that the loss of the electrolyte is equal to or lower than 3g after the gas generator generates the hydrogen-oxygen mixed gas generated under 360L/hr for 40 hours to 60 hours; and it is also predictable that the loss of the electrolyte is equal to or lower than 2g after the gas generator generates the hydrogen-oxygen mixed gas generated under 30L/hr for 40 hours to 600 hours. In practice, the gas generator is not limited to it; the user can adjust the flow rate and the operation time according to the usage requirement.

In another embodiment, the gas generator further comprises a sterilizing equipment, such as UV light generator or O_3 generator, coupled to the condensate filter, the humidification filter, or the atomized gas mixing tank. Such UV light or O_3 gas can sterilize the passageway within or coupled between the condensate filter, the humidification filter, or the atomized gas mixing tank, and can also sterilize any conduit disposed therebetween.

Please refer to FIG. 12, FIG. 12 shows the gas generator in another

arrangement. In one embodiment, the gas generator **1** comprises the water tank **2**, the electrolysis device **3**, the condensate filter **6**, the humidification filter **8**, the humidification device **9** and the pump device **5**. The electrolysis device **3** is coupled to the water tank **2**. The condensate filter **6** is connected between the electrolysis device **3** and the humidification filter **8**. The humidification filter **8** accommodates water. The humidification filter **8** is connected to the condensate filter

ranges from 10W to 3600W, the output gas generated by the electrolysis device ranges from 0.01L/min to 12L/min.

In conclusion, the hydrogen-oxygen mixed gas is generated by the electrolysis device of the gas generator. The electrolyte in the hydrogen-oxygen mixed gas is able to be condensed and filtered out by the condensate filter. The amount of the electrolyte in the hydrogen-oxygen mixed gas is reduced after being humidified by the humidification device for the user to inhale. In another embodiment, the gas generator further comprises a humidification filter configured between the condensate filter and the humidification device which is able to filter out the impurities in the hydrogen-oxygen mixed gas for providing a better hydrogen-oxygen mixed gas for the user to inhale. Besides, the supplementary water is pumped back into the water tank through the humidification device by the pump device which is connected to the water tank. Furthermore, the gas generator pumps the supplementary water and back flushes the electrolyte into the electrolysis device to restore the filtering function of the circulating passageway. Therefore, the present techniques not only avoid the blocking, etching, and corrosion in the circulating passageway but can also reduce the consumption of the electrolyte.

With the examples and explanations mentioned above, the features and spirits of the invention are well described. More importantly, the present invention is not limited to the embodiment described herein. Those skilled in the art will readily observe that numerous modifications and alterations of the device may be made while retaining the teachings of the invention. Accordingly, the above disclosure should be construed as limited only by the metes and bounds of the appended claims.

What is claimed is:

1. A gas generator comprising:

a water tank accommodating electrolyzed water, wherein the electrolyzed water comprises an electrolyte;

an electrolysis device having a case disposed within the water tank, the electrolysis device configured to electrolyze the electrolyzed water to generate a hydrogen-oxygen mixed gas; and

a condensate filter connected to the electrolysis device for condensing the hydrogen-oxygen mixed gas and filtering the electrolyte in the hydrogen-oxygen mixed gas to generate a filtered hydrogen-oxygen mixed gas and a filtered electrolyte, wherein the condensate filter is configured to receive a supplementary water to flush the filtered electrolyte back to the electrolysis device;

wherein the flow rate of the hydrogen-oxygen mixed gas generated by the gas generator is between 120 to 600 liter per hour, and the loss of the electrolyte is less than 5g after the gas generator is operated between 40 to 60 hours.

2. The gas generator of claim 1, further comprising:

a humidification device accommodating the supplementary water and connected to the condensate filter for humidifying the filtered hydrogen-oxygen mixed gas to generate a humidified hydrogen-oxygen mixed gas; and

a pump device configured for generating a negative pressure in the water tank such that the supplementary water is pumped from the humidification device through the condensate filter to the water tank, such that the filtered electrolyte is flushed back to the electrolysis device.

3. The gas generator of claim 2, further comprising a gas outlet fluidly coupled to the water tank, wherein a gas in the water tank is pumped out through the gas

outlet to generate the negative pressure in the water tank when the pump device is in operation.

4. The gas generator of claim 3, further comprising an atomized gas mixing tank with the gas outlet, the atomized gas mixing tank coupled to the humidification device to receive the humidified hydrogen-oxygen mixed gas, the atomized gas mixing tank generating an atomized gas and mixes the atomized gas with the humidified hydrogen-oxygen mixed gas to form a healthy gas, wherein the atomized gas comprises water vapor, atomized liquid, volatile purified oil, or combinations thereof.

5. The gas generator of claim 2, wherein the humidification device further comprises at least an output tube having a plurality of holes, and the filtered hydrogen-oxygen mixed gas is received by the humidification device and outputted through the plurality of holes of the output tube to generate the humidified hydrogen-oxygen mixed gas.

6. The gas generator of claim 1, wherein the condensate filter comprises a plurality of condensate plates, and each condensate plate has a passageway, each passageway of the condensate plate is connected to the passageway of the adjacent condensate plate to form a circulating passageway for circulating the hydrogen-oxygen mixed gas.

7. The gas generator of claim 6, wherein each passageway of the condensate plate is disposed with an activated carbon fiber for filtering out the electrolyte in the hydrogen-oxygen mixed gas, each activated carbon fiber is separated from the other.

8. The gas generator of claim 6, wherein each passageway of the condensate plate is disposed with a filter material, each filter material is separated from the other, and the filter material comprises ceramics, quartz, diatomaceous earth, meerschaum or combinations thereof.

9. A gas generator, comprising:

a water tank accommodating electrolyzed water, wherein the electrolyzed water comprises an electrolyte;

an electrolysis device coupled to the water tank and configured for electrolyzing the electrolyzed water to generate a hydrogen-oxygen mixed gas;

a condensate filter configured for filtering the electrolyte in the hydrogen-oxygen mixed gas to generate a filtered hydrogen-oxygen mixed gas and a filtered electrolyte;

a humidification device accommodating a supplementary water and humidifying the filtered hydrogen-oxygen mixed gas;

an atomized gas mixing tank generating an atomized gas and mixes the atomized gas with the humidified hydrogen-oxygen mixed gas to form a healthy gas;

a sterilizing equipment coupled to the condensate filter, the humidification filter, or the atomized gas mixing tank, wherein the sterilizing equipment is configured to sterilize the passageway within the condensate filter, the humidification filter, or the atomized gas mixing tank; and

a pump device configured for generating a negative pressure in the water tank in order to pump the supplementary water from the humidification device through the condensate filter to the water tank, such that the filtered electrolyte in the condensate filter is flushed back to the electrolysis device;

wherein the flow rate of the hydrogen-oxygen mixed gas generated by the gas generator is between 120 to 600 liter per hour, and the loss of the electrolyte is less than 5g after the gas generator is operated between 40 to 60 hours.

10. The gas generator of claim 2, further comprising an atomized gas mixing tank coupled to the humidification device to receive the humidified hydrogen-oxygen

mixed gas, the atomized gas mixing tank generating an atomized gas and mixes the atomized gas with the humidified hydrogen-oxygen mixed gas to form a healthy gas, wherein the atomized gas comprises water vapor, atomized liquid, volatile purified oil, or combinations thereof.