

HYDROGEN WATER GENERATOR

TECHNICAL FIELD

The present invention relates to a device for producing hydrogen gas which is dissolved in sterile water for drinking as well as hydrogen water mist for inhalation.

PRIOR ART

Hydrogen water refers to water in which hydrogen gas is firstly generated by a hydrogen water generating apparatus and dissolved in large amounts of water.

A paper released In May 2007 by a research team lead by Professor Ota Shigeo which was published in "Nature Medicine", the journal of medicine research, suggested that molecular hydrogen (H₂) makes clean water by attaching to harmful active oxygen generating various diseases (various types of cancer, diabetes, obesity, eczema, dermatitis, arthritis, etc). Details of this publication are as follows:-

"Hydrogen acts as a therapeutic antioxidant by selectively reducing cytotoxic oxygen radicals".

Ohsawa I, Ishikawa M, Takahashi K, Watanabe M, Nishimaki K, Yamagata K, Katsura K, Katayama Y, Asoh S, Ohta S.

Nat Med. 2007 Jun;13(6):688-94. Epub 2007 May 7.

The Abstract states that acute oxidative stress induced by ischemia-reperfusion or inflammation causes serious damage to tissues, and persistent oxidative stress is accepted as one of the causes of many common diseases including cancer. The research

showed molecular hydrogen (H₂) has potential as an antioxidant in preventive and therapeutic applications. Acute oxidative stress were induced in cultured cells by three independent methods. H₂ selectively reduced the hydroxyl radical, the most cytotoxic of reactive oxygen species (ROS), and effectively protected cells; however, H₂ did not react with other ROS, which possess physiological roles. An acute rat model in which oxidative stress damage was induced in the brain by focal ischemia and reperfusion was used. The inhalation of H₂ gas markedly suppressed brain injury by buffering the effects of oxidative stress. Thus H₂ can be used as an effective antioxidant therapy; owing to its ability to rapidly diffuse across membranes, it can reach and react with cytotoxic ROS and thus protect against oxidative damage.

Prof. Shigeo Ohta subsequently published other articles on the same subject, including -

(1) Consumption of molecular hydrogen prevents the stress-induced impairments in hippocampus-dependent learning tasks during chronic physical restraint in mice.

Nagata K, Nakashima-Kamimura N, Mikami T, Ohsawa I, Ohta S.

Neuropsychopharmacology. 2009 Jan;34(2):501-8. doi: 10.1038/npp.2008.95.
Epub 2008 Jun 18.

(2) Molecular hydrogen improves obesity and diabetes by inducing hepatic FGF21 and stimulating energy metabolism in db/db mice.

Kamimura N, Nishimaki K, Ohsawa I, Ohta S.

Obesity (Silver Spring). 2011 Jul;19(7):1396-403. doi: 10.1038/oby.2011.6. Epub 2011 Feb 3.

(3) Molecular hydrogen as a preventive and therapeutic medical gas: initiation, development and potential of hydrogen medicine.

Ohta S.

Pharmacol Ther. 2014 Oct;144(1):1-11. doi: 10.1016/j.pharmthera.2014.04.006. Epub 2014 Apr 24.

The work of Professor Shigeo Ohta has been acknowledged in many publications besides the above mentioned publications. The work of Professor Shigeo Ohta has also been acknowledged in PCT/JP2009/005406.

Molecular hydrogen (H₂) is a neutral molecule which, when dissolved in water, has no influence on the water's pH. Methods of producing hydrogen water such as bubbling or infusing, which simply add pure hydrogen gas to water, do so without changing the original pH of the water.

Molecular hydrogen is extremely unique, as it has the ability to make positive changes in the cellular level of the human body. The pH of hydrogen water is nearly neutral. Therefore, drinking hydrogen rich water (hereinafter "hydrogen water") is useful and highly recommended for health benefits. Research have shown that molecular hydrogen is an excellent antioxidant, helping to strengthen the immune system. Due to its

small size, molecular hydrogen can easily and quickly reach all the cells of the human body, including the cells inside of the brain and deep organ tissues, even when blood vessels are blocked, acting as an antioxidant. This is because only hydrogen can pass through cell membranes to eliminate free radicals created within cells. Molecular hydrogen does reconstructive work in parts of the human body where other antioxidants cannot reach due to their larger molecular size. As such, hydrogen water is said to have anti-aging effects.

In addition to a claim for antioxidant properties, molecular hydrogen also has anti-inflammatory, anti-apoptotic and cytoprotective properties. Drinking hydrogen water is excellent for detoxification, due to the high hydrogen permeability and solubility. It helps dissolve and flush out acid solid waste and toxins accumulated in the body.

In summary, it is believed drinking Hydrogen water offer these benefits :

- o improve cellular health and protection from diseases caused by free radicals
- o enhance better nutrient absorption in the human body
- o better hydration for the human body
- o improves muscle-tissue functions and joints mobility
- o improves quality of life of cancer patients undergoing treatment
- o increase blood circulation
- o helps to lower saturated fat levels
- o reduce ageing to give healthy looking skin
- o reduce constipation problems
- o detoxifies the human body
- o improves skin condition

- o Helps heal ulcers & sores
- o Improves the handling of allergies & asthma

There are a few devices which produces or generate hydrogen water. There are a number of ways such hydrogen water generating devices are designed, but the objective of all hydrogen water generating devices is to produce a high concentration of hydrogen gas H_2 without altering the pH.

Some hydrogen water generating devices employ the use of a special membrane in the electrolysis chambers optimized for hydrogen gas production known as a Proton Exchange Membrane (PEM). Features of PEM technology employed in hydrogen-rich water making devices are:

- These machines have been optimized and designed to produce neutral pH with high hydrogen gas levels.
- These machines are often more consistent in their hydrogen concentration and do not vary as much based on source water and flow rate.
- Because they do not change the pH, and the process of hydrogen dissolution is different, scaling and subsequent cessation of a high hydrogen concentration is less of a concern.

US 8,974,646 B2 (Ilbong Kim) describes a portable hydrogen-rich water generator that includes a separable drinking cup, an electrolytic cell which includes an anode, a cathode, a solid polymer electrolyte membrane. Disposed at the bottom of the drinking cup is a reservoir base upon which the drinking cup is mounted and in which an anode reaction of the electrolytic cell is generated. A float valve allows water to be continuously supplied

at a certain water level from a water tank, and a power supply to apply direct current power to the electrolytic cell. In the portable hydrogen-rich water generator, when power is applied after putting purified water into the drinking cup and mounting the drinking cup on the reservoir base, the electrolytic cell electrolyzes the water in the reservoir base so that oxygen is generated at the anode of the reservoir base side and hydrogen is generated at the cathode of the drinking cup side, thereby allowing hydrogen gases to be dissolved in the purified water in the drinking cup within a short time. The hydrogen dissolved in the purified water is rich in hydrogen hence hydrogen-rich water is produced.

SG 2011020658 describes an apparatus for producing hydrogen-dissolved drinking water and a process for producing the dissolved drinking water. The apparatus is characterized in that the electrolysis tank comprises a vertical anode chamber provided with a water-permeable plate-like anode electrode and a vertical cathode chamber provided with a plate-like cathode electrode. The anode chamber and the cathode chamber are separated from each other with a fluorocarbon cation exchange membrane which also acts as a barrier. The water-permeable plate-like anode electrode is in close contact with the fluorocarbon cation exchange membrane acting as a barrier. The space between the fluorocarbon cation exchange membrane and the cathode electrode is filled with an ion exchange resin.

SG 11201500982Y (PCT JP 2014 003025) relates to a method of producing hydrogen molecule-dissolved water by electrolysis of water in a cathode chamber. In the method, an electrolytic cell for electrolysis of water is an electrolytic cell in which the cathode chamber having a cathode electrode and an anode chamber having an anode electrode are separated through a diaphragm, the cathode electrode is porous, and the porous cathode electrode is disposed at a distance of 1.0 mm or less from the diaphragm.

The hydrogen molecule-dissolved water is cathodic water obtained by supplying raw material water to an electric reaction surface from the pores or discharging water produced by an electrolytic reaction from the pores to a back portion of the electrode. The concentration of dissolved hydrogen molecules is 0.8 ppm or more. However, The method is characterized by using a stabilizer for dissolved hydrogen molecules to interact with electrolytically reduced water that contains hydrogen molecules, wherein the stabilizer comprises a sugar and/or a polyphenol.

US Publication No. 2017/0166460 discloses a hydrogen water generator capable of efficiently generating hydrogen with a structure in which anode electrode(s) and cathode electrode(s) are arranged in a container in an approximately vertical direction. The electrode portion which includes two or more of anode electrodes or cathode electrodes is supported by a generator body cover portion. The generator body cover portion is held and the electrode portion is immersed in drinking water in a beverage container such as a cup. Then, electrolysis is caused owing to that a controller applies voltage obtained by boosting supply voltage from a battery to the electrode portion for a predetermined time. At this time, since a plurality of energizing paths between the anode electrode(s) and the cathode electrode(s) are fanned, hydrogen can be effectively generated in the drinking water.

While Hydrogen water may be drunk, there is health benefit if the hydrogen water is breathed into the body. To promote this approach, a way must be found to generate hydrogen water in the form of mist and then to allow the mist to be breathed into the body through the nose or mouth into the lungs. However when hydrogen water which is stored in the water it is dissolved in, is in an unstable state. When the hydrogen upon comes into contact with the atmosphere, the dissolved hydrogen molecules vaporizes

into the atmosphere forming a mixture of hydrogen and hydrogen water mist, thereby decreasing the concentration of dissolved hydrogen molecules. A new way must be found to capitalise on the hydrogen water mist which forms from the hydrogen water,

Since Hydrogen water is generated using tap water, there is a concern that bacteria and viruses in the tap water would be breathed into the body system. Hence a new way must be found to sterilize the water before it is generated into hydrogen water or hydrogen eater mist.

MEANS FOR SOLVING THE PROBLEMS

A first objective of the invention is an apparatus for producing hydrogen water, comprising: an upper module (10) to store water; said upper module (10) having a closeable aperture (14) at its top cover (12), a lower module (20) consisting of a hydrogen generating apparatus unit, further comprising:-

a LED UV Light source (46); and

an inhalation adaptor (30), said inhalation adaptor being fitted into the closable aperture (14) when the said closeable aperture is set at an opened position;

wherein hydrogen water and hydrogen gas is generated by electrolyzing the water and further sterilized by the UV LED light source (46), forming sterile hydrogen water and hydrogen gas in the upper module.

Preferably, the apparatus for producing hydrogen water when the closeable aperture (14) in the top cover (12) of the upper module (10) is set to an opened position, said hydrogen water and hydrogen gas generated passes out from hydrogen water in the

upper module (10) through the said aperture (14) in the form of a mixture of sterile hydrogen water vapor and hydrogen gas.

Preferably, the inhalation adaptor consists of a customized medical cannula (50) and a customized nozzle, said customized nozzle being fitted securely into the closeable aperture (14) which is set at an opened position.

Preferably, the customized nozzle has a tapered front spout (31), a hollow tubular body (32) and a circular base (33).

Preferably, the customized nozzle has a circular base which is wider than the hollow tubular body and wider than the closeable aperture in the upper module.

Preferably the customized nozzle has a hollow tubular body to allow passage of a mixture of hydrogen water vapor/water vapor from the upper module, through the closeable aperture (in an opened position) and out through the tapered front spout of the customized nozzle.

Preferably the customized medical cannula consists of a medical cannula having a flared end to receive a tapered front spout of the customized nozzle.

A second objective of the invention is a method of inhalation of a mixture of hydrogen water vapor/hydrogen gas using the inhalation adaptor.

Preferably the method of inhalation of a mixture of hydrogen water vapor/hydrogen gas using the inhalation adaptor consists of these steps :-

setting the closeable aperture in the top cover of the upper module to an opened position;

inserting a tapered front spout of the customized nozzle through the closeable aperture in an opened position; followed by the hollow tubular body until the circular base of the customized nozzle abuts the closeable aperture in the opened position;

inserting a silicon pad to meet a lower surface of the circular base, adjusting the protrusions in the silicon pad until the protrusions fit into the small holes in the lower surface of the circular base;

inserting a nut through the tapered front spout of the customized nozzle;

introducing the flared receiver of the customized medical cannula into the tapered front spout of the customized nozzle;

wherein said inhalation adaptor is secured fitted to allow passage of a mixture of hydrogen water vapor/hydrogen gas to pass through the closeable aperture in an opened position, through the hollow tubular body and into the tapered front spout of the customized nozzle, and into the flared receiver of the medical cannula for use by a user.

Alternatively the method of inhalation of a mixture of hydrogen water vapor/hydrogen gas uses the customized nozzle only of the inhalation adaptor.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic front view showing a first embodiment of the hydrogen water generator of the present invention.

Fig. 2 is a schematic back view of the same embodiment of the water generator of

the present invention.

Fig. 3 is a schematic front view showing the first embodiment of the hydrogen water generator of the present invention, separated into an upper module and a lower module.

Fig. 4 is a schematic cross section view of the lower module of the water generator of the present invention.

Fig. 5 is a schematic front view showing the lower module of a first embodiment of the hydrogen water generator of the present invention.

Fig. 6 is a schematic cross section view showing the top of the upper module of a first embodiment of the hydrogen water generator of the present invention and a cannula, one end of which is an adaptor, to connect the cannula to a nozzle fitted into an aperture in the top cover of the upper module.

Fig. 7 is an enlarged schematic cross section view showing the top of the upper module of a first embodiment of the hydrogen water generator of the present invention and in particular the adaptor of the cannula about to be inserted into the nozzle which is fitted into an aperture in the top cover of the upper module.

EMBODIMENTS OF THE INVENTION

Following is a description of a first embodiment of the present invention with reference to the drawings.

The different technologies of hydrogen water generation are already known as described the prior art documents listed herein. As such, the process of hydrogen water generation and the various types of hydrogen water generating technology such as dissolving hydrogen gas in water under high pressure or producing hydrogen molecules directly in water using cathode electrolysis or use of a special membrane in the electrolysis chambers optimized for hydrogen gas production known as a Proton Exchange Membrane (PEM) would not be described in detail herein.

Fig. 1 is a schematic front view showing a first embodiment of the hydrogen water generator of the present invention. The hydrogen water generator consists of a lower module (20) and an upper module (10). The lower module (20) contains a hydrogen generating apparatus. The lower module (20) has a connection to a power supply which is used to power the hydrogen water generating apparatus. A power supply port (40) allows electrical power to power the hydrogen water generating apparatus. The power supply port (40) allows an electrical plug to be connected to the port, for this purpose and has a switch (42) to allow the electrical power to be switched on, when in use.

The upper module (10) consists of a container with a top (12) having a closable aperture (14), which may be opened or closed. The upper module (10) may be filled with water for the purpose of generating hydrogen water.

Fig. 2 is a schematic back view of the same embodiment of the hydrogen water generator of the present invention.

Fig. 3 is a schematic front view showing the first embodiment of the hydrogen

water generator of the present invention, separated into an upper module (10) and a lower module (20). The upper module (10) is a container for water which is to be used to dissolve the hydrogen gas generated by the hydrogen generating apparatus through electrolysis of the water contained in the upper module. The upper module (10) has a closable aperture (14) at its top, which may be opened or closed. In operation, the upper module (10) is filled with water and placed on the lower module (20), for the purpose of hydrogen water generation. The Hydrogen Water generator may be connected to a power source by connecting the hydrogen water generator at the power inlet or power supply port (40). It may be switched on by pressing the switch (42) in the lower module. A customized medical cannula is provided for the purpose of directing hydrogen water gas/water vapor mixture from the hydrogen water generator into the nostrils of an user.

Fig. 4 is a schematic cross section view of the lower module of the water generator of the present invention. Fig. 5 is a schematic front view showing the lower module of a first embodiment of the hydrogen water generator of the present invention. Referring to Fig. 4 and Fig 5, the lower module (20) consists of a hydrogen generating apparatus (44) and an UV LED (46).

The hydrogen generating apparatus (44) is known and therefore would not be described in great detail herein. The hydrogen generating apparatus (44) has one or more microprocessors to control an electrolysis unit to generate hydrogen gas.

The UV LED (46) sterilizes the water in the upper module (10) in order to ensure the hydrogen water and hydrogen water mist generated is sterile. The lower module (20) has a power supply port (40) for connection to a power supply which is used to power the hydrogen water generating apparatus. A power supply port (40) allows

electrical power to power the hydrogen water generating apparatus (44). The power supply port (40) allows an electrical plug to be connected to the port, for this purpose and has a switch (42) to allow the electrical power to be switched on, when in use.

As water in the upper module (10) is electrolyzed by the hydrogen generating apparatus (44), water is converted into hydrogen gas, which then is formed as tiny bubbles of hydrogen gas and injected into the upper module (10). For the purpose of consumption of hydrogen water, the closable aperture is set at a closed position.

The user may switch off the hydrogen water generator and pour the contents of the water with hydrogen gas dissolved therein for consumption. Since the hydrogen gas bubbles continue to remain in the water for some time, an user is thereby simply and conveniently able to consume the hydrogen gas contained in the water, which is usually described as “hydrogen water”.

The lower module (20) houses the hydrogen generator apparatus (44) is fitted with a power supply port (40) which allows electrical power to enable proper functioning of the hydrogen water generator apparatus. It is also possible for a rechargeable battery source to be fitted into the lower module. The lower module (20) may have a LCD panel to allow the user to observe the readings of hydrogen gas generated. The lower module (20) also has a switch (42) to allow the user to start the hydrogen water generation process.

If an user wishes to start the hydrogen water generation process, the upper module (10) is filled with water. The water may be boiled water or tap water. The upper module (10) filled with water is then placed on top of the lower module (20). The electrical power is

then switched on and the hydrogen water generator operates for a length of time, usually from 2 to 5 minutes. The closable aperture (14) at the top cover (12) of the upper module (10) is set at a closed position. After starting the hydrogen water generator apparatus, bubbles of hydrogen may be observed forming in the upper module (10). As the water is being processed in the upper module (10), the UV LED (46) is also operating to sterilize the water. At the end of the hydrogen water generation process, the hydrogen water generator is switched off. An user may then consume the hydrogen water.

The user may choose to breath in the hydrogen water vapor which consists of a mixture of hydrogen gas and hydrogen water vapor. This may be done by the user opening the closable aperture (14) at the cover (12) of the top module (10) and simply breathing in the said mixture. If the hydrogen water generator is started and the closable aperture (14) set at an opened position, the user may simply breath in the hydrogen water vapor/hydrogen water mist through the opened aperture.

Fig. 6 is a schematic cross section view showing the top of the upper module (10) of a first embodiment of the hydrogen water generator of the present invention for the purpose of inhalation of hydrogen water using an inhalation adaptor. The inhalation adaptor (30) consists of a customized medical cannula (50) and a customized nozzle. One end of the medical cannula is an flared receiver (52), to connect the customized medical cannula to a nozzle. The nozzle is taper at a front end and has a tubular body (32) and a circular base (33). The tapered front spout (31) of the nozzle allows it to be inserted through the closeable aperture, when the closable aperture is in an opened position, said closable aperture (14) located at the top cover (12) of the upper module (10).

Fig. 7 is an enlarged schematic cross section view of the top cover of the upper module of a first embodiment of the hydrogen water generator of the present invention. Fig 7 shows in detail how the inhalation adaptor consisting of a customized medical cannula (50) and a customized nozzle may be set up to allow an user to breathe the hydrogen water vapor/hydrogen mixture, formed from the bubbling of the hydrogen water generated by the hydrogen water apparatus.

Referring to Fig 6 and 7, the top cover of the upper module has a closable aperture (14) to allow the fitting of an inhalation adaptor(30) for passage of hydrogen/hydrogen water vapor and water mist mixture to be inhaled, in addition to consumption of hydrogen water.

The inhalation adaptor (30) consists of a customized medical cannula (50) and a customized nozzle. One end of the medical cannula is an flared receiver (52), to connect the customized medical cannula to the customized nozzle. The customized nozzle is tapered at a front spout (31) and has a tubular body (32) and a circular base (33). The tapered front spout (31) of the nozzle allows it to be inserted through the closeable aperture, when the closable aperture is in an opened position, said closable aperture (14) located at the top cover (12) of the upper module (10).

If an user chooses to breath the hydrogen water vapor/hydrogen gas mixture directly through the nostrils, for more efficient intake of hydrogen water vapor/hydrogen gas mixture, an inhalation adaptor is used. The inhalation adaptor (30) consists of a customized nozzle which has three parts – a tapered front spout (31), a hollow tubular body (32) and a circular base (33), and a customized medical cannula (50).

The closable aperture (14) at the top cover (12) of the upper module (10) is firstly opened.

The customized nozzle consists of a circular base (33), a hollow tubular body (32) for passage of hydrogen gas/hydrogen water vapor mixture and a tapered front spout (31). The tapered front spout receives a flared receiver end of a customized medical cannula.

If the inhalation adaptor (30) is to be used, the closeable aperture (14) at the top cover (12) of the upper module (10) is set at an opened position, A silicon pad (34) is fitted beneath the bottom of the aperture (14). The silicon pad (34) has small protrusions (35) at its lower surface. The customized nozzle (nylon fitting) has a circular base (33) with small holes at its upper surface (not shown). The locations of the small holes in the upper surface of the circular base (33) matches the locations of the small protrusions (35) on the lower surface of the silicon pad (34). The tapered front spout (31) of the nozzle is pushed through the silicon pad and then through the opening of the closable aperture (14). The small protrusions (35) at the lower surface of the silicon pad (34) would be adjusted until the small protrusions (35) are fitted into the small holes in the upper surface of the circular base (33) of the customized nozzle. A nut (36) is then pushed through the tapered front spout (31) of the nozzle and into the upper portion of the hollow tubular body (32) as the customized nozzle sits in the aperture (14), now set at an opened position. The nut (36) would then ensure the customized nozzle is securely fitted onto the closeable aperture (14) (at an opened position) to allow insertion of a flared receiver (52) of the medical cannula (50) without dislodging the customized nozzle. Likewise this arrangement allows for removal of the flared receiver (52) without dislodging the customized nozzle. Through this arrangement, when the customized nozzle is fitted into

the closable aperture at the top cover (12) of the upper module (10), a tight and secured fit of the hollow tubular body of the nozzle into the closeable aperture (14) now in opened position is obtained.

The inhalation device is formed when the flared receiver (52) of the customized medical cannula (50) is inserted into the tapered front spout (31) of the nozzle, which is by now securely fitted into the closeable aperture 14 (opened position) at the top cover (12) of the upper module (10).

As hydrogen gas is generated and dissolved in water within the upper module, there would be some hydrogen gas and water vapor which would escape from the bubbling water in the upper module (10). Since the customized nozzle is hollow in structure, the passage of hydrogen water vapor/hydrogen would pass through the customized nozzle. The arrangement of the customized nozzle fitted into the closeable aperture (14) at the top cover of the upper module would allow the mixture of hydrogen gas and water vapor to escape from the opened aperture (14) in the top cover (12) of the upper module (10), through the hollow tubular body of the customized nozzle and into the flared receiver (52) of the medical cannula (50). The use of the customized medical cannula (50) with a flared receiver (52) fitted into the tapered front spout (31) of the customized nozzle allows efficient and continued inhalation by an user of the mixture of hydrogen gas and water vapor escaping from the aperture in the top cover of the upper module.

The use of a customized nozzle and a customized medical would thus ensure more efficient direction of the hydrogen gas and water vapor mixture into the medical cannula and into the nostrils of an user. Instead of a nut, the adaptor may use O rings and similar mechanism to minimize escape of the hydrogen gas and water vapor into the atmosphere.

The embodiment described herein may be powered by any type of electrical source. It is also envisaged that the upper module may be of any shape which allows water to be contained therein.

While one embodiment of the invention have been described, it should be apparent, however, that various modifications, rearrangements, substitutions alterations and adaptations to those embodiments may occur to persons skilled in the art with the attainment of some or all of the advantages of the present invention. Accordingly, it should be clearly understood that the present invention is not intended to be limited by the particular features and structures hereinbefore described and depicted in the accompanying drawings. It is therefore intended to cover all such modifications, alterations and adaptations without departing from the scope and spirit of the present invention as defined by the appended claims.

ADVANTAGEOUS EFFECTS OF THE INVENTION

As described above, according to the present invention, hydrogen water generated is sterilized by the UV LED. The hydrogen water may be consumed by an user or inhaled by the user through the closable aperture, when set at an opened position.

For efficient inhalation of the hydrogen water mixture or hydrogen gas and water vapor mixture, an inhalation device is proposed. The inhalation device consisting of a customized medical cannula and a customized nozzle allows an user to inhale hydrogen water and water mist mixture directly into the nostrils.

CLAIMS

1. An apparatus for producing hydrogen water, comprising: an upper module (10) to store water; said upper module (10) having a closeable aperture (14) at its top cover (12), a lower module (20) consisting of a hydrogen generating apparatus unit, further comprising:-

a LED UV Light source (46); and

an inhalation adaptor (30), said inhalation adaptor being fitted into the closable aperture (14) when the said closeable aperture is set at an opened position;

wherein hydrogen water and hydrogen gas is generated by electrolyzing the water and further sterilized by the UV LED light source (46), forming sterile hydrogen water and hydrogen gas in the upper module.

2. An apparatus for producing hydrogen water as claimed in Claim 1 wherein the closeable aperture (14) in the top cover (12) of the upper module (10) is set to an opened position, the sterile hydrogen water and hydrogen gas generated passes out from hydrogen water in the upper module (10) through the said aperture (14) in the form of a mixture of sterile hydrogen water vapor and hydrogen gas.

3. An inhalation adaptor as claimed in the preceding Claims, consisting of a customized medical cannula (50) and a customized nozzle, said customized nozzle being fitted securely into the closeable aperture (14) which is set at an opened position.

4. A customized nozzle as claimed in Claim 3 consisting of a tapered front spout (31), a hollow tubular body (32) and a circular base (33).

5. A customized nozzle as claimed in Claim 4 wherein the circular base is wider than the hollow tubular body and wider than the closeable aperture in the upper module.

6. A customized nozzle as claimed in Claim 4 wherein the hollow tubular body allows passage of a mixture of hydrogen water vapor/water vapor from the upper module, through the closeable aperture (in an opened position) and out through the tapered front spout of the customized nozzle.

7. A customized medical cannula as claimed in Claim 3 consisting of a medical cannula having a flared end to receive a tapered front spout of the customized nozzle.

8. A method of inhalation of a mixture of hydrogen water vapor/hydrogen gas using the inhalation adaptor of Claim 1.

9. A method of inhalation of a mixture of hydrogen water vapor/hydrogen gas using the inhalation adaptor of Claim 1, consisting the steps of"-

setting the closeable aperture in the top cover of the upper module to an opened position;

inserting a tapered front spout of the customized nozzle through the closeable aperture in an opened position; followed by the hollow tubular body until the circular base of the customized nozzle abuts the closeable aperture in the opened position;

inserting a silicon pad to meet a lower surface of the circular base, adjusting the protrusions in the silicon pad until the protrusions fit into the small holes in the

lower surface of the circular base;
inserting a nut through the tapered front spout of the customized nozzle;
introducing the flared receiver of the customized medical cannula into the tapered front spout of the customized nozzle;
wherein said inhalation adaptor is secured fitted to allow passage of a mixture of hydrogen water vapor/hydrogen gas to pass through the closeable aperture in an opened position, through the hollow tubular body and into the tapered front spout of the customized nozzle, and into the flared receiver of the medical cannula for use by a user.

10. A method of inhalation of a mixture of hydrogen water vapor/hydrogen gas using the customized nozzle only of the inhalation adaptor of Claim 1.