What is claimed is:

1. An ion-exchange membrane electrolysis device, comprising:

an ion-exchange membrane electrolysis cell configured to electrolyze water to produce a gas comprising hydrogen and a gas comprising oxygen; and

an integrated flow channel device including:

a water tank structure configured for accommodating water;

a first setting structure configured for detachably fastening the ion-exchange membrane electrolysis cell to the integrated flow channel device;

a water flow channel system coupled to the water tank structure and the first setting structure to input the water from the water tank structure to the ion-exchange membrane electrolysis cell; and

a gas flow channel system coupled to the first setting structure to receive the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell;

wherein the first setting structure has a hydrogen input port, an oxygen input port and a water output port, the water tank structure is coupled to the water output port through the water flow channel system, so that water in the water tank structure can be input to the ion-exchange membrane electrolysis cell, the gas flow channel system receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell through the hydrogen input port, and the oxygen input port is coupled to the water flow channel system and the water tank structure; wherein the integrated flow channel device further comprises an oxygen release tube coupled to the water tank structure, and the gas

comprising oxygen is released to the atmosphere through the oxygen release tube through the water tank structure.

2. The ion-exchange membrane electrolysis device of the claim 1, wherein the integrated flow channel device further comprises a second accommodating structure for accommodating a gas-water separator, the gas-water separator is coupled to the first setting structure through the gas flow channel system, the gas-water separator receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell and retains liquid water of the gas comprising hydrogen, and then outputs the gas comprising hydrogen through the gas flow channel system.

3. The ion-exchange membrane electrolysis device of the claim 1, wherein the integrated flow channel device further comprises a second accommodating structure for accommodating a bobber and a spring valve; wherein the second accommodating structure receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell and retains liquid water of the gas comprising hydrogen, when the liquid water accommodated in the second accommodating structure reaches to a water level, the bobber blocks the gas comprising hydrogen from passing to the gas flow channel system, when the gas pressure of the gas comprising hydrogen in the second accommodating structure is equal to a pressure threshold, the spring valve is opened to connect the second accommodating structure and the gas flow channel system, and then the gas comprising hydrogen is outputted through the gas flow channel system.

4. The ion-exchange membrane electrolysis device of the claim 1, wherein the ion-exchange membrane electrolysis cell has a first side and includes a hydrogen output tube coupled to the hydrogen input port, an oxygen output tube coupled to the oxygen input port, and a water

input tube coupled to the water output port; the oxygen output tube and the hydrogen input tube respectively output the gas comprising oxygen and the gas comprising hydrogen to the oxygen input port and hydrogen input port from the first side of the ion-exchange membrane electrolysis cell, and the water input tube receives the water from the water tank structure at the first side through the water output port.

5. The ion-exchange membrane electrolysis device of the claim 1, wherein the integrated flow channel device further comprises a preheating sink structure coupled to the water tank structure and the first setting structure; the water in the water tank structure can be input to the ion-exchange membrane electrolysis cell through the preheating sink structure and the water output port of the first setting structure, and the preheating sink structure is further coupled to the oxygen input port to receive the gas comprising oxygen.

6. The ion-exchange membrane electrolysis device of the claim 1, wherein the oxygen release tube is disposed above the oxygen input port in the water flow channel system.

7. An ion-exchange membrane electrolysis device, comprising:

an ion-exchange membrane electrolysis cell configured to electrolyze water to produce a gas comprising hydrogen and a gas comprising oxygen; and

an integrated flow channel device including:

a water tank structure configured for accommodating water;

a first setting structure configured for detachably fastening the ion-exchange membrane electrolysis cell to the integrated flow channel device;

a water flow channel system coupled to the water tank structure and the first setting structure to input the water from the water tank structure to the ion-exchange membrane electrolysis cell; and

a gas flow channel system coupled to the first setting structure to receive the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell;

wherein the first setting structure has a hydrogen input port, an oxygen input port and a water output port, the water tank structure is coupled to the water output port through the water flow channel system, so that water in the water tank structure can be input to the ion-exchange membrane electrolysis cell, the gas flow channel system receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell through the hydrogen input port, and the oxygen input port is coupled to the water flow channel system and the water tank structure;

wherein the integrated flow channel device further comprises a third accommodating structure, the ion-exchange membrane electrolysis device further comprises a filter detachably fastened in the third accommodating structure, the filter receives the gas comprising hydrogen through the gas flow channel system and filters the gas comprising hydrogen, a lower end of the filter has a filter input port to receive the gas comprising hydrogen and an upper end of the filter has a filter output port to output the filtered gas comprising hydrogen, the filter includes a filter core, and the filter input port is coupled to the filter output port via the filter core.

8. The ion-exchange membrane electrolysis device of the claim 7, wherein the filter and the third accommodating structure block the filter input port be coupled to the filter output port via the third

accommodating structure.

9. The ion-exchange membrane electrolysis device of the claim 1, further comprising an upper cover and a nebulizer, the upper cover disposed on the water tank structure of the integrated flow channel device, the upper cover further including a fourth setting structure, the nebulizer detachably fastened to the fourth setting structure and extended into the water tank structure, the nebulizer configured to selectively generate an atomizing gas and after receiving the gas comprising hydrogen, the nebulizer mixes the gas comprising hydrogen with the atomizing gas and then output the mixed gas.

10. The ion-exchange membrane electrolysis device of the claim 9, wherein the nebulizer accommodates a liquid to be atomized, and the nebulizer including a cotton column and a microporous vibrating plate, one end of the cotton column is immersed in the liquid to be atomized to absorb the liquid to be atomized, and the microporous vibrating plate surrounds the other end of the cotton column to atomize the liquid to be atomized absorbed by the cotton column to generate the atomizing gas.

11. The ion-exchange membrane electrolysis device of the claim 1, wherein the integrated flow channel device further comprises a fifth accommodating structure located in the integrated flow channel device, the fifth accommodating structure is coupled to the gas flow channel system; the ion-exchange membrane electrolysis device further includes a gas supplement fan detachably fastened to the fifth accommodating structure; the gas supplement fan is configured to introduce an external air to be mixed with the gas comprising hydrogen.

12. The ion-exchange membrane electrolysis device of the claim 1, wherein the relative position of the water tank structure is higher than that of the ion-exchange membrane electrolysis cell.

13. An ion-exchange membrane electrolysis device, comprising:

an ion-exchange membrane electrolysis cell configured to electrolyze water to produce a gas comprising hydrogen and a gas comprising oxygen; and

an integrated flow channel device including:

a water tank structure configured for accommodating water;

a first setting structure configured for detachably fastening the ion-exchange membrane electrolysis cell to the integrated flow channel device and including a hydrogen input port, an oxygen input port and a water output port;

a water flow channel system coupled to the water tank structure and first setting structure to input the water from the water tank structure to the ion-exchange membrane electrolysis cell;

a gas flow channel system coupled to the first setting structure to receive the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell;

a fifth accommodating structure;

a preheating sink structure coupled to the water tank structure and the first setting structure, the water in the water tank structure being inputted to the ion-exchange membrane electrolysis cell through the preheating sink structure and the water output port of the first setting structure; and

a longitudinal water tank flow channel coupled between the water tank structure and the preheating sink structure, wherein the water of the water tank structure flows through the water tank flow channel to the preheating sink structure;

wherein the water tank structure is coupled to the water output port through the water flow channel system and the preheating sink structure, the gas flow channel system receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell through the hydrogen input port;

wherein the ion-exchange membrane electrolysis device further includes a gas supplement fan detachably fastened to the fifth accommodating structure, the gas supplement fan is configured to introduce an external air to be mixed with the gas comprising hydrogen to generate a first mixed gas;

wherein the ion-exchange membrane electrolysis device further includes a nebulizer extending into the water tank structure, the nebulizer is configured to selectively generate an atomizing gas, and mix the first mixed gas with the atomizing gas to output the atomizing gas comprising hydrogen after receiving the first mixed gas.

14. The ion-exchange membrane electrolysis device of the claim 13, wherein the ion-exchange membrane electrolysis cell has a first side and includes a hydrogen output tube coupled to the hydrogen input port, an oxygen output tube coupled to the oxygen input port, and a water input tube coupled to the water output port; wherein the hydrogen output tube, the oxygen output tube, and the water input tube are disposed on the first side.

15. The ion-exchange membrane electrolysis device of the claim 13, further comprising an operation panel, wherein the operation panel is configured to adjust the flow rate of the atomizing gas comprising hydrogen to be outputted by the ion-exchange membrane electrolysis device to a range between 2 L/min and 6 L/min.

16. The ion-exchange membrane electrolysis device of the claim 13,

wherein the concentration of the atomizing gas comprising hydrogen is less than 4%, the volume of the ion-exchange membrane electrolysis device is less than 15 liters, and the maximum using power of the ion-exchange membrane electrolysis device is less than 240W.

17. An ion-exchange membrane electrolysis device, comprising:

an ion-exchange membrane electrolysis cell configured to electrolyze water to produce a gas comprising hydrogen and a gas comprising oxygen; and

an integrated flow channel device including:

a water tank structure configured for accommodating water;

a first setting structure configured for detachably fastening the ion-exchange membrane electrolysis cell to the integrated flow channel device;

a water flow channel system coupled to the water tank structure and first setting structure to input the water from the water tank structure to the ion-exchange membrane electrolysis cell;

a gas flow channel system coupled to the first setting structure to receive the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell; and

a third accommodating structure coupled to a sunken side of the integrated flow channel device and separated from the first setting structure, and the third accommodating structure configured to detachably fasten a filter;

wherein the first setting structure has a hydrogen input port, an oxygen input port and a water output port, the water tank structure is coupled to the water output port through the water flow channel system, the gas

flow channel system receives the gas comprising hydrogen generated by the ion-exchange membrane electrolysis cell through the hydrogen input port;

wherein the ion-exchange membrane electrolysis device further comprising an upper cover and a nebulizer, the upper cover is disposed on the water tank structure and further comprises a fourth setting structure, the nebulizer detachably fastened to the fourth setting structure and extended into the water tank structure, the nebulizer is configured to selectively generate an atomizing gas, mix the gas comprising hydrogen mixed with the atomizing gas after receive the gas comprising hydrogen, and then output an atomizing gas comprising hydrogen.

18. The ion-exchange membrane electrolysis device of the claim 17, further comprising an operation panel, wherein the operation panel is configured to adjust the flow rate of the atomizing gas comprising hydrogen to be outputted by the ion-exchange membrane electrolysis device to a range between 400 mL/min and 600 mL/min.

19. The ion-exchange membrane electrolysis device of the claim 17, wherein the concentration of the outputted atomizing gas comprising hydrogen is more than 99%, the volume of ion-exchange membrane electrolysis device is less than 13 liters, and the maximum using power of the ion-exchange membrane electrolysis device is less than 400W.

20. The ion-exchange membrane electrolysis device of the claim 17, wherein the oxygen input port is coupled to the water flow channel system and coupled with the water tank structure, the integrated flow channel device further comprises an oxygen release tube disposed above the oxygen input port in the water flow channel system and coupled to the water tank structure, the gas comprising oxygen is

released to the atmosphere through the oxygen release tube through the water tank structure.