

ABSTRACT

WATER GENERATION SYSTEM

Provided is a water generation system that can generate a large amount of water from the atmosphere with small power consumption. The water generation system includes a desiccant rotor including an area composed of a porous desiccant, means for rotating the desiccant rotor, a temperature-raising heat exchanger provided downstream of the desiccant rotor to heat dehumidified air from the desiccant rotor, a condensing heat exchanger provided downstream of the temperature-raising heat exchanger to cause moist air to condense, a heat pump connected to the condensing heat exchanger to perform heat exchange with the moist air in the condensing heat exchanger to cool the moist air, and at least one suction fan that guides outside air into the desiccant rotor. The air heated by the temperature-raising heat exchanger is guided into a wet area of the desiccant rotor, the condensing heat exchanger is connected downstream of the wet area, and the heat pump is connected to the temperature-raising heat exchanger, so that a medium heated by heat exchange in the condensing heat exchanger is supplied to the temperature-raising heat exchanger.

20 Figure 1