

Hydrogen fuel cell and system thereof, and method for dynamic variable humidity control

Abstract

Disclosed are a hydrogen fuel cell and system thereof, and a method for dynamic variable humidity control; the hydrogen fuel cell includes a fuel cell stack assembly and an outside plate gas distribution device; the fuel cell stack assembly is encapsulated with a hard housing; the outside plate gas distribution device is fixed on the hard housing; the outside plate gas distribution device includes an outside plate gas distribution device for working gas flow and a heat dissipation gas distribution device; the outside plate gas distribution device for working gas flow is provided with a fan mount for connecting with a working fan, and the outside plate gas distribution device for working gas flow extends into the inner cavity of the housing from outside of the housing; the heat dissipation gas distribution device includes a heat dissipation channel set outside the housing and interconnected with the inner cavity of the housing, and a heat dissipation port set on the housing; and the heat dissipation channel is provided with a heat dissipation fan mount for connecting with a heat dissipation fan. The hydrogen fuel cell of the present invention improves power generation efficiency, reduces costs and increases lifetime.

FIG. 2B