respectively connected with two power source interfaces with opposite polarities on the hard housing;

preferably, when the fuel cell stack assemblies are set in parallel in the inner cavity of the housing, the outside plate gas distribution device for working gas flow further comprises a gas flow distribution pipe; the gas flow distribution pipe comprises a gas flow inlet and more than two gas flow distribution ports; the gas flow inlet is interconnected with the working fan; the number of the gas flow distribution ports is matched with the number of fuel cell stacks in parallel assemblies.

19. A method for dynamic variable humidity control of a hydrogen fuel cell system, characterized in that a membrane electrode of the hydrogen fuel cell system is composed of a proton membrane, two catalyst layers and two diffusion layers, wherein the two catalyst layers are set on two sides of the proton membrane, and the two diffusion layers are set on two outsides of each catalyst layer; the flow rate of the working gas flow is changed repeatedly according to a certain time interval and increment, so that the proton membrane works in a relatively high humidity R1 and the catalyst layers work under a medium humidity R2 during a dynamic adjustment process while the working humidity R3 of the diffusion layers is always circulated and repeated in a relatively low humidity, wherein R1>R2>R3.

20. The method for dynamic variable humidity control of the hydrogen fuel cell system according to claim 19, characterized in that the increment is 5% to 30% of the starting flow rate and the time interval is 1 to 30 minutes.