

## 产品质量证明书

### Product Quality Certificate

产品： 氢燃料电池堆（20W/12V） Product: Hydrogen Fuel Cell Stack (20W/12V)		产品序列号 Serial No.	SZFC-20
主要技术指标 Key Specifications			
检验标准 Quality Inspection Standard		实测结果 Test Results	
输出性能 Output Performance	功率 Power	20W	
	操作电压 Operating Voltage	10-18V	
	操作电流 Operating Current	0A-2.7A	
	效率 Efficiency	>40%	
燃料 Fuel	氢气纯度 Hydrogen Purity	≥99.99% (CO<1PPM)	
	氢气压力 Hydrogen Pressure	0.035Mpa~0.05Mpa	
	氢气耗量 Hydrogen Consumption	(2.7A) 0.42L/min	
工作环境 Working Environment	环境温度 Ambient Temperature	0-35°C	
	环境湿度 Ambient Humidity	10%-90%	
	储存环境 Storage Environment	0-60°C	
物理参数 Physical Parameter	片数 Number of Cells	20	
	电堆尺寸 Stack Dimensions	51.5*47*87mm	
	重量 Weight	260g	

## 20W 氢燃料电池堆使用说明书

### 20W Hydrogen Fuel Cell Stack User's Manual

1. 管路连接:将氢气连接→减压阀→连接燃料电池电堆进气阀。逐步调节氢气减压阀。调到0.05MPa。

Pipeline Connection: Connect hydrogen gas to → the pressure reducing valve → connect with the fuel cell stack intake valve. Gradually adjust the hydrogen pressure reducing valve to 0.05MPa.

2. 启动:

- (1) 控制器正常运行。
- (2) 氢气进入燃料电池堆，燃料电池系统就开始运转，风扇开始转动。

Start-up:

- (1) The controller is operating normally.
- (2) The fuel cell system starts to operate after hydrogen enters the fuel cell stack, and the fan starts to spin.

3. 燃料电池启动后可以根据需要在额定功率范围内逐步增加负载，但不能立即加到额定功率。

Upon the starting of the fuel cell, the load maybe gradually increased within the rated power range as required, but cannot be immediately added to the rated power.

4. 燃料电池在不同的运行电压下，输出功率不同，可参考尾页放电曲线图。

Fuel cells have different output power under different operating voltages, please refer to the discharge curve diagram on the last page.

5. 关闭氢燃料电池:

当准备关闭燃料电池时，请确认负载已经关闭，然后关闭氢气阀门，在关闭氢气阀门后风扇继续运转几分钟，直至电池中的氢气耗完。

Shut down the hydrogen fuel cell:

When preparing to shut down the fuel cell, please ensure that the load has been turned off, and then proceed to close the hydrogen valve. After closing the hydrogen valve, the fan will continue to operate for several minutes to exhaust any remaining hydrogen from the cell.

6. 控制保护:

氢燃料电池运行电压不要低于 10V，电压低于 10V 会影响电池使用寿命。

Control and protection:

The operating voltage of the hydrogen fuel cell should not be lower than 10V, as voltages below 10V can impact the battery's lifespan.

## 注意事项 Precautions

1. 当燃料电池运转时，一定要确保燃料电池中氢气的压力在 0.05Mpa，同时一定要确保足够的氢气流量.如果供氢系统中，氢气压力太高、太低或者流量不足 都会对燃料电池造成损害

When the fuel cell is in operation, it is essential to ensure that the pressure of hydrogen in the fuel cell is 0.05MPa, as well as sufficient hydrogen flow. Damages to the fuel cell can occur due to a much higher, lower hydrogen pressure or insufficient supply in the hydrogen supply system.

2. 氢燃料电池电堆氢气进口确保在上，电堆排气口向下，保持排水流畅。（否则会损坏电堆）排气管请远离电堆，余气吸入电堆会对电堆造成损伤！！！！

Please keep the hydrogen intake of the hydrogen fuel cell stack upward and the exhaust port of the stack downward to ensure smooth drainage (otherwise, the cell will be damaged).

3. 电池所在运行环境温度不能过高，过高会影响电堆输出性能，或者高温控制盒会保护。

In the operating environment, the temperature surrounding the stack should not be excessively high, as excessive heat can adversely affect the performance of the cell stack. Alternatively, the high-temperature control box will activate to provide protection.

4. 一定要先启动燃料电池，然后加负载。

Be sure to start the fuel cell first and then add the load.

5. 使用完毕后最好使用自封袋进行保存。

It is recommended to use a self-sealing bag for storage after use.

## 申明与警示 Declaration and Warning

1. 在操作燃料电池电堆前请通读此说明书，并在操作过程中将本说明书放于手边。  
Please read this manual carefully before operating the fuel cell stack, and keep this manual within reach during the operation.
2. 按照本说明书所列说明进行操作。  
Operate according to the instructions listed in this manual.
3. 禁止对 200W 燃料电池电堆进行拆解或改装。对该电堆的任何修改都会构成重大的安全隐患。智达盛世（广州）氢能与环境科技有限公司不对任何由于未经允许的改装所造成的损伤负责。  
It is forbidden to disassemble or modify the 200W fuel cell stack. Any modification to the stack will constitute a major safety hazard. SENZA Hydrogen Energy And Environmental Technology Co., Ltd. is not responsible for any damage caused by unauthorized modification.
4. 200W 燃料电池电堆在运行过程中需消耗氧气。为防止缺氧，仅可在良好的通风环境中运行。  
The 200W fuel cell stack consumes oxygen during operation. A well-ventilated environment is required to prevent hypoxia during operation.
5. 由于氢气属无色、无臭的可燃气体，因此严禁在 200W 燃料电池电堆附近吸烟，并确保燃料电池电堆远离火源和热源。  
Given that hydrogen is a colorless and odorless flammable gas, smoking is strictly prohibited near the 200W fuel cell stack, and the fuel cell stack should be kept away from fire sources and heat sources.
6. 确保 20W 燃料电池电堆远离儿童。  
Ensure that the 20W fuel cell stack is kept away from children.

## 20W 氢燃料电池电堆图

## 20W Hydrogen Fuel Cell Stack Diagram

