

## 产品质量证明书

### Product Quality Certificate

产品：氢燃料电池堆（10W） Product: Hydrogen Fuel Cell Stack (10W)		产品序列号 Serial No.	SZFC-10	
		执行标准 Product Standard	企业标准 Company Standard	
主要技术指标 Key Specifications				
检验标准 Inspection Standard				实测结果 Test Results
参数/型号Parameter / Model				
输出性能 Output performance	额定功率 Nominal power	10W		13W
	操作电压 Operating voltage	5-9.4V		6V
	操作电流 Operating current	0-2.2A		2.16A
	效率 Efficiency	≥50%		≥50%
燃料 Fuel	氢气纯度 Hydrogen purity	≥99.99% (CO<1PPM)		99.99%
	氢气压力 Hydrogen pressure	0.04~0.06Mpa		0.05Mpa
	氢气耗量 Hydrogen consumption	-		175ml/min
环境特性 Environmental characteristics	工作环境温度 Ambient temperature	-5~35℃		19℃
	工作环境湿度 Ambient humidity	10%~95%(No mist)		40%
	储存环境温度 Storage ambient temperature	-10~70℃		-
	噪声 Noise	≤60dB		≤60dB
物理参数 Physical parameter	堆含风机（毫米） Stack with fan (mm)	70*51*49	重量（克） Weight (g)	170
	控制盒（毫米） Control box (mm)	63*50*40		110

## 10W 氢燃料电池堆使用说明书

### 10W 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 may be gradually increased within the rated power range as required, but cannot be immediately added to the rated power.

4. 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.

5. 控制保护:

氢燃料电池运行电压不要低于 5V, 长时间 5V 运行会对燃料电池损伤, 最好以额定电压或高于额定电压运行。

Control and Protection:

The operational voltage of the hydrogen fuel cell should not fall below 5V. Prolonged operation at 5V may potentially damage the fuel cell. It is advisable to operate the fuel cell at the rated voltage or at a level higher than the rated voltage.

## 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（否则侧会损坏电池）。请在排气阀出口端使用 PU 管将排出的部分氢气远离电堆，防止余气吸入电堆会对电堆造成损伤!!!

Ensure that the hydrogen fuel cell stack's hydrogen inlet is positioned upwards, and the stack exhaust outlet is facing downwards to maintain smooth drainage (tilting may damage the cell). Please use a PU tube at the exhaust valve outlet to direct released hydrogen away from the cell, preventing residual gas from entering the cell and causing damage!!!

3. 请将电堆在合适环境温度内进行使用。

Operate the fuel cell stack within the appropriate ambient temperature.

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. 电池系统不使用时请妥善保存。放置于阴凉处，最佳储存环境条件：20- 25℃/30-60RH%

When the battery system is not in use, please store it properly. Keep it in a cool place, and the optimal storage conditions are 20-25℃/ 30-60RH%.

## 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10W 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 10W 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. 10W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 10W 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、无嗅的可燃气体，因此严禁在 10W 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 10W fuel cell stack, and the fuel cell stack should be kept away from fire sources and heat sources.
6. 确保 10W 燃料电池电堆远离儿童。  
Ensure that the 10W fuel cell stack is kept away from children

## 10W 氢燃料电池电堆

### 10W Hydrogen Fuel Cell Stack

