产品使用说明书

User manual

产品名称： PEM 电解槽

Product: PEM electrolyzer

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1.产品规格 / Product specification

特 性 / Features	参 数 / Parameter									备 注 / Remark
型 号 / Model	SZPE-150	SZPE-300	SZPE-600	SZPE-1000	SZPE-1500	SZPE-2000	SZPE-3000	SZPE-5000	SZPE-7000	
产氢量 Hydrogen production (mL/min)	150±5%	300 ±5%	600±5%	1000±5%	1500±5%	2000±5%	3000±5%	5000±5%	7000±5%	Oxygen production 50%H2
额定承载电流 Rated carrying current (A)	20	20	27	27	40	40	40	40	40	
出厂性能 Factory performance	1.8～2.2V @20A	3.8～4.4V @20A	5.4～6V @27A	9～10V @27A	9～10V @40A	12.6～14V @40A	18～20V @40A	≤34V @40A	≤48V @40A	单槽 single stack 1.8V～2.2V
最大工作压力 maximum working pressure (MPa)	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	
外观尺寸 Size (mm)	88*102*(55)	88*102*(60)	94*108*(65)	94*108*(80)	118*130*(80)	118*130*(90)	118*132*(104)	118*132*(140)	118*132*(170)	Different joints with different thickness and size

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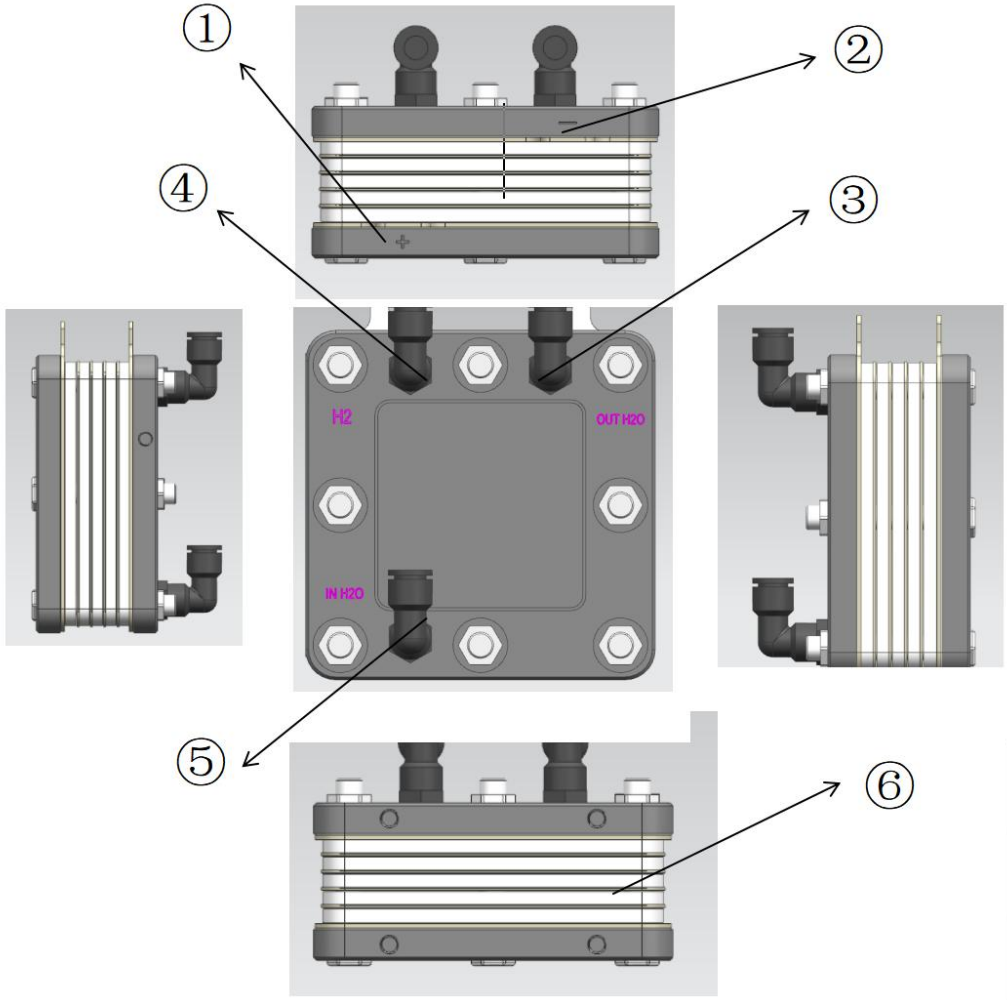
型　号 / Model	SZPE-150	SZPE-300	SZPE-600	SZPE-1000	SZPE-1500	SZPE-2000	SZPE-3000	SZPE-5000	SZPE-7000	
水质要求（电导率） Water quality requirements(electrical conductivity)	≤2μs/cm									
最低工作温度 Minimum working temperature	>3℃ 不可长时间低温工作 Do not work at low temperature for a long time									
最高工作温度 Maximum working temperature	75℃									
使用环境温度 Use ambient temperature	3~40℃									
连接管规格 Connection pipe size (mm)	8									

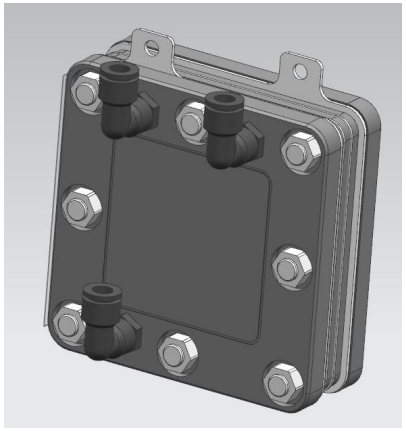
特　性 / Features	参　数 / Parameter									备　注 / Remark
型　号 / Model	SZPE-150	SZPE-300	SZPE-600	SZPE-1000	SZPE-1500	SZPE-2000	SZPE-3000	SZPE-5000	SZPE-7000	
理论耗水量 Theoretical water consumption (mL/min)	0.15	0.3	0.6	1	1.8	2.4	3.9	6.5	9.8	
建议循环水箱容量 Recommended circulating water tank capacity	0.8～1.8L	1.2～1.8L	1.8～3L	2～5L	3~5L	4～6L	5～8L	8～12L	8～12L	
匹配直流恒流电源 Matching DC constant current power supply	3.5～5.5V /20A	7V /20A	10V /27A	15V /27A	15V /40A	24V /40A	36V /40A	48V /40A	70V /40A	
设计使用寿命	15000 h									

备注：出厂后，根据电化学原理， 性能会随使用时间和存放时间变化。气体出口请远离明火。

Remarks: After leaving the factory, according to the electrochemical principle, the performance will change with the use time and storage time. Keep the gas outlet away from open flames.

2. 产品外观（堆栈数量请参考对应型号）/
Product appearance(Refer to the model for stack quantity.)





①	正极 Positive pole	④	出氢口 Out H2
②	负极 Negative pole	⑤	进水口 In H2O
③	出水+氧 Out H20&O2	⑥	固定孔 Fixed hole

3. 使用注意事项 / Precautions

A. 使用前务必先确定水质达到标准（电导率小于 2μs/cm），同时在电解槽入水口前加一道纯化树脂，确保运行中产生的离子被吸附，进而确保水质稳定。

注：使用未达标的水，会加速电解槽性能衰减，造成不可修复的损坏。

Before use, make sure that the water quality is reach the standard (conductivity is less than 2μs/cm), and at the same time, add a purification resin before the water inlet of the electrolyzer to ensure that the ions generated during operation are adsorbed, thereby ensuring the water quality is stable.

Note: The use of substandard water will accelerate the degradation of electrolyzer performance and cause irreparable damage.

B. 电解槽务必在水循环下运行，“干烧”会造成功能丧失，即使再次水循环下运行也会加速老化和性能快速衰减。建议在进水端，纯化树脂前增加循环水泵强制进水，避免可能因水路设计而造成“干烧”。

The electrolyzer must be run under water circulation, "dry burning" will cause loss of function, and even running under water circulation again will accelerate aging and rapid performance degradation. It is recommended to add a circulating water pump at the water inlet end, before purifying the resin, to force water in to avoid "dry burning" that may be caused by the design of the water circuit.

C. 所有的循环水箱，管路等与水接触的均不可有析出成分的物质（如铁，铝等在使用过程中有金属离子析出）。

All circulating water tanks, pipelines, etc. that are in contact with water must not have precipitation components (such as iron, aluminum, etc., metal ions are precipitated during use).

D. 正负极电源接线：Positive and negative power supply wiring:

1）电源线必须确保能承受 额定承载电流以上的电流长期运行（建议 25A 以下电流使用截面积 6mm²的无氧紫铜线， 25A～40A 电流使用截面积 10mm²的无氧紫铜线）。

The power cable must ensure that it can withstand currents above the rated carrying capacity for long-term operation (for currents below 25A, it is recommended to use oxygen-free copper wire with a cross-sectional area of 6mm²; for currents between 25A and 40A, use oxygen-free copper wire with a cross-sectional area of 10mm²).

2) 接线正负极必须对应，接错或导致电解槽急速老化，不可修复的损坏。

The positive and negative poles of the wiring must correspond, and the wrong connection may cause the electrolyzer to age rapidly and irreparably damaged.

3) 接线务必牢固，确保接触良好。建议扭力 6～8N/m，附加弹簧垫片紧固。接触不良导致接触电阻大，发热，有引发燃烧的风险。

The wiring must be firm to ensure good connection. The recommended torque is 6～8N/m, and the additional spring washer should be used for tightening. Poor connection leads to high contact resistance, heat generation, and the risk of burning.

4）接线时确保接线端子不可以与端板接触，避免造成短路。

During wiring, ensure that the terminals do not come into contact with the end plate to avoid causing a short circuit.

E. 存放时间超过 1 个月，需要进行纯水循环 1 小时后（泵循环方可通电进行使用），水温 20℃~40℃左右。

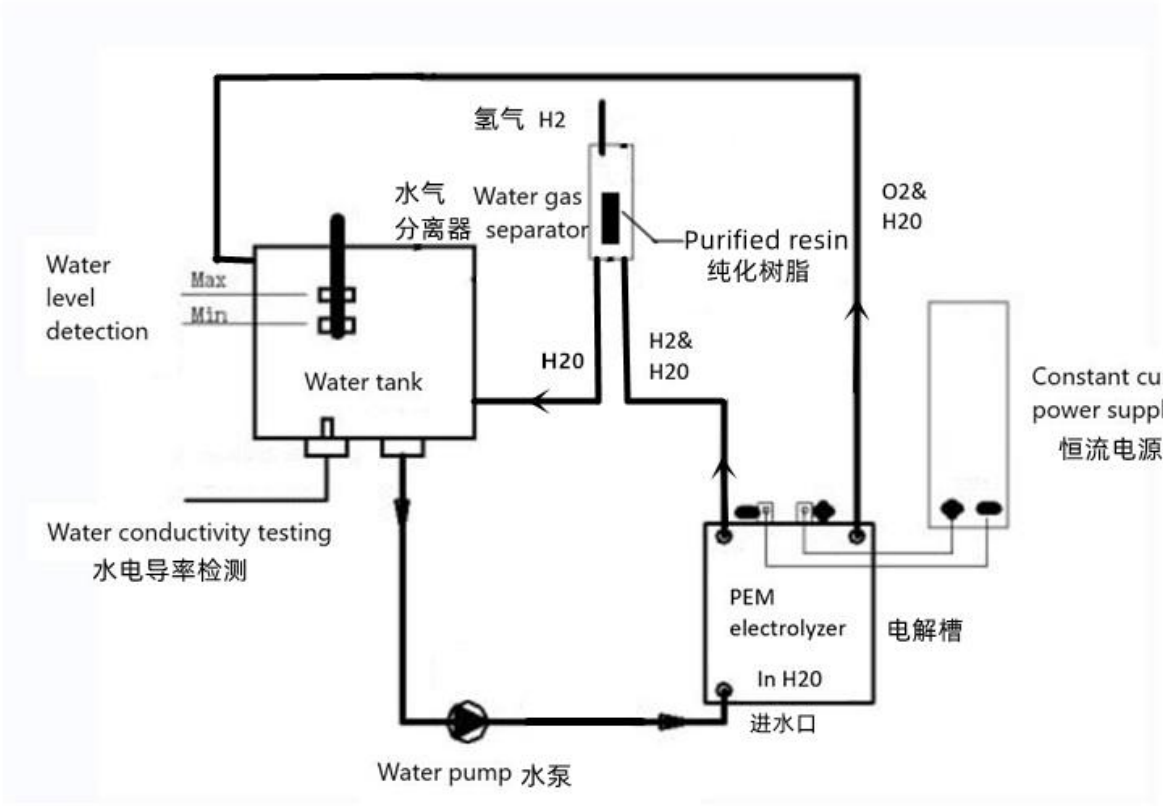
If the storage time is more than 1 month, pure water needs to be circulated for 1 hour (pump circulation can be energized for use), and the water temperature is about 20℃~40℃.

F. 存储温度 1~40℃之间，禁止冰点及冰点以下温度存储。

The storage temperature ranges from 1℃ to 40℃, and storage at or below freezing point is prohibited.

G. 电解槽不可遭受撞击，亦不可私自拆解。The electrolyzer shall not be hit or disassembled privately.

4.系统连接参考 / System connection reference

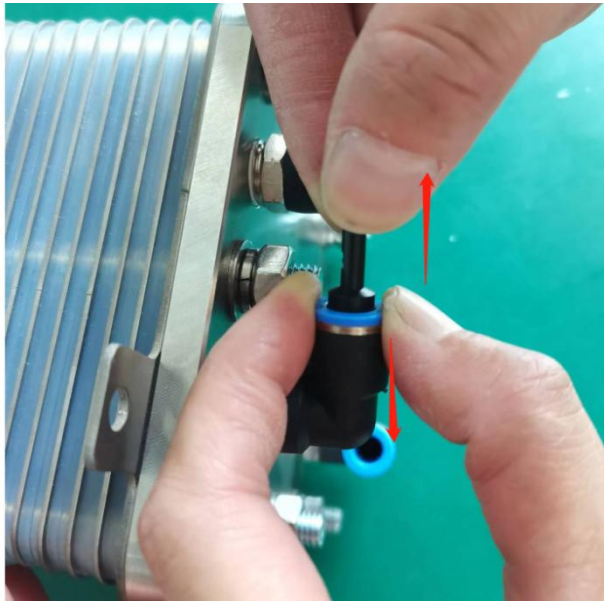


Schematic diagram

5.产品基本连接 / Product basic connection

第一步 取下管塞

Step 1: Remove the plug



压住卡环，沿箭头方向取出管塞

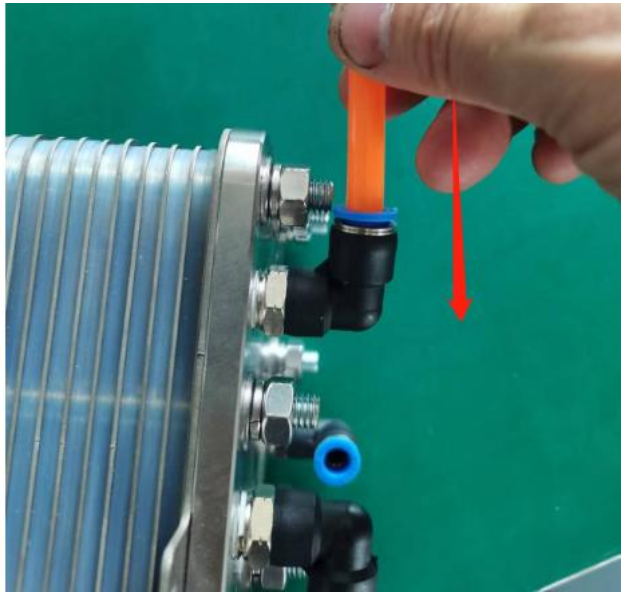
Press the clamp and remove the plug in the direction of the arrow

第二步 连接水路和气路

Step 2: Connect water and air routes

根据具体设计连接，连接管规格外径 8mm

According to the specific design, the outer diameter of the connecting pipe is 8mm



按照箭头方向如图插入连接管，直至接头底部

Insert the connecting pipe in the direction of the arrow until it reaches the bottom of the connector

第三步 确定水源
Step 3: Determine the water source

确定进入电解槽的水电导率小于 2μs/cm。

理论耗水 0.15~10 mL/min；

水循环除电解用水外，另外还有导热功能；

若较长时间使用，按建议循环水箱容量的水供使用。

Make sure that the conductivity of water entering the electrolyzer is less than 2μs/cm.

The theoretical water consumption is 0.15～10mL/min;

Water cycle in addition to water electrolysis, the exception is thermal conductivity;

If used for an extended period, fill the circulating water tank with the recommended amount of water for operation.

第四步 接电源
Step: Connect the power supply

务必正负极对应连接。

所连接线为无氧紫铜线，电源线必须确保能承受额定承载电流。

连接可靠，扭力 6～8N/m，附加弹簧垫片紧固。

Make sure to connect the positive and negative poles in the right way.

The connected wire should be oxygen-free copper wire, and the power cable must ensure that it can withstand the rated carrying current.

Reliable connection, torque 6～8N/m, additional spring gasket fastening.