

HETS-PWE-S Series

PEM Electrolyzer Test System



Product Introduction

The HETS-PWE-S series product is aimed at providing the PEM electrolyzer with an accurate and reliable test platform. The system consists of primary & secondary gas-water separation unit, gas concentration monitoring unit, gas cooling and dry unit, deionized water circulation system, pressure regulating unit, sampling and control unit and safety monitoring unit. The system test software independently developed by the company is used and it can meet PEM electrolyzer performance, durability, reliability and safety test. The system is applicable to the R&D, performance testing and EOL testing of PEM electrolyzer.



Polarization curve test



Durability test



Sensitivity test



Online monitoring of hydrogen/oxygen concentration



Activation test



Consistency of cell voltage



Online monitoring of DI-water conductivity in anode

Product Features

- Hydrogen & oxygen automatic back pressure control.
- Quick temperature adjust function.
- 10%~150% wide power range control capability.
- Multiple operating modes (CV/CC/CP), with voltage, current and power monitoring and over-limit protection function.
- Cell voltage monitoring.
- Efficient gas-water separator design, including cooling, drying, filtering.
- High accuracy of gas flow control, nitrogen purging, online monitoring of gas concentration, automatic DI-water replenishment, coolant flow regulation, etc.
- A variety of safety protection measures.
- Data recording and analysis capacities.
- Supports long periods unattended work.



Technical Parameters

Model		HETS-PWE-S-10K	HETS-PWE-S-50K	HETS-PWE-S-150K	HETS-PWE-S-300K	HETS-PWE-S-500K	HETS-PWE-S-1M	HETS-PWE-S-2.5M
Peak power		15kW	75kW	225kW	450kW	750kW	1.5MW	3.75MW
Hydrogen & oxygen unit	Flow ratio	100:1						
	Hydrogen flow range	50 NLPM	15Nm ³ /h	45Nm ³ /h	90Nm ³ /h	150Nm ³ /h	300Nm ³ /h	750Nm ³ /h
	Hydrogen pressure range	0.1~5.0MPa						
	Oxygen flow range	25 NLPM	7.5Nm ³ /h	22.5Nm ³ /h	45Nm ³ /h	75Nm ³ /h	150Nm ³ /h	375Nm ³ /h
	Oxygen pressure range	0.1~5.0 MPa						
Detection Unit	Oxygen concentration sensor (in hydrogen pipeline)	Measuring range: 0~5%vol, Accuracy: 2%F.S.						
	Hydrogen Concentration Sensor (in oxygen pipeline)	Measuring range: 0~5%vol, Accuracy: 2%F.S.						
Cell voltage inspection	Measuring range	(-5~5) VDC						
	Measurement accuracy	±1mV						
Water supplement control system	Water flow range	1.5~30NLPM	0.2~2.5Nm ³ /h	0.7~14Nm ³ /h	1~20Nm ³ /h	1.5~30Nm ³ /h	2~40Nm ³ /h	5~100Nm ³ /h
	Flow rate control accuracy	≤±1%FS						
	Medium	Deionized water						
	Temperature control range	RT+5 C ~ 95 C , control accuracy≤±1 C (stable state)						
	Automatic water replenishing	Yes						
General specifications	Control system	PLC						
	Communication interface	Modbus, Ethernet, etc.						
	Remote operation interface	LAN						
	Power supply	AC, 380V, three-phase five-cable						
	Ambient temperature	5~45 C						

Optional Functions

- Water recovery function on the hydrogen side.
- On-line monitoring of hydrogen/oxygen concentration in nitrogen gas.
- On-line monitoring of oxygen flow rate.
- Automatic water exchange function in circulating water.
- Voltage & current measurement at PEM electrolyzer input.
- Container.
- Other equipment, such as USP.

