HETS-AEM-S Series Electrolyzer Test System (AEM)

The HETS-AEM-S Series aims to serve as an accurate, reliable and convenient platform for testing AEM electrolyzers. It mainly consists of the gas-water separation unit, gas concentration monitoring unit, gas cooling and drying, hydrothermal management unit, linkage pressure control unit, measurement control unit, and safety protection unit. Through online data monitoring and processing by the system platform, the performance, lifetime, reliability and safety of the electrolyzer under test can be analyzed. The series applies to the R&D, verification and EOL testing of AEM electrolyzers.

Fast Dynamic Response

Fast regulation of programmable power supply, temperature/pressure/flow

Wide Range

Boundary test with wide power range: 5%~150% and wide gas pressure range: 100kPag-4MPag

Unattended Operation

Support script editing and step import, one click to start/stop the test

High Accuracy

Temperature control accuracy in water circuit: ±1℃, pressure: ±20kPa, gas flow: 0.8%RD+0.2%FS

Water Purification

In-situ on-line detection of conductivity ≤0.5uS/cm

Rapid Sampling

H_2 in O_2 sampling fetch time ≤2min after reaching stable state

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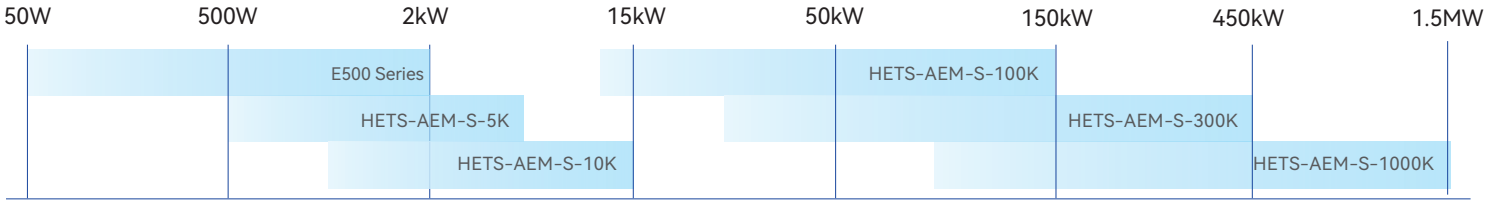
AEM Electrolyzer Test System Product Portfolio



Test Items

- Polarization curve test
- Durability test
- Stressor test
- Hydrogen yield
- Energy consumption
- Online detection of O_2 in H_2 concentration

System Parameters

Model		HETS-AEM -S-5K-G	HETS-AEM -S-10K-G	HETS-AEM -S-100K-G	HETS-AEM -S-300K-G	HETS-AEM -S-1000K-G
Rated power		5kW	10kW	100kW	300kW	1MW
Power operating range		10%~150%				
H_2/O_2	Max. H_2 flow	25NLPM	50NLPM	30Nm³/h	90Nm³/h	300Nm³/h
	H_2 pressure range	0.1~3.2MPag				
	Max. O_2 flow	12.5NLPM	25NLPM	15Nm³/h	45Nm³/h	150Nm³/h
	O_2 pressure range	0.1~3.2MPag				
Circulation	Flow measurement range	0.5~5L/min	2~30L/min	5~85L/min	10~250L/min	2~240m³/h
	Flow control accuracy	≤±1%F.S.				
	Media	30%KOH solution				
	Temperature control range	RT+5℃~95℃, control accuracy ≤±1℃ (steady state)/±2℃ (dynamic)				
	Pre-heating rate	≥3℃/min				
	Automatic water make-up	Yes				
Detection	O_2 in H_2 sensor	0~5%vol, ≤±1%F.S., can be calibrated for smaller ranges				
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Cell voltage monitoring	Channel	Max. number of channels: 1024, -5~5V@1mV				
Complete system	Controller	PLC				
	Communication protocol	Modbus, Ethernet, etc.				
	Remote operation interface	LAN				
	Power distribution	AC380V, three-phase five-wire				
	Ambient temperature	5~45℃				

Note: Products with power ≥50kW adopt fully explosion-proof design.

Optional Configurations

- O_2 flow, O_2 in H_2 detection
- Containerized solutions
- Gas purification device
- Customization of power supply for H_2 production
- AC impedance testing