

HETS-ALK-S Series

Electrolyzer Test System



ALK electrolyzer short stack test system



ALK electrolyzer high power test system

Product Introduction

HETS-ALK-S series test system provide a accuracy, reliable, and convenient test environment for alkaline (ALK) electrolyzer cells and electrolyzers. The HETS-ALK-S series consists of a gas-liquid separation unit, gas concentration detection unit, gas cleaning, cooling and drying unit, water-thermal management unit, pressure interlock control unit, measurement and control unit, and safety protection unit. Through online data monitoring and processing by HETS-ALK-S series test system, the performance, lifespan, reliability, and safety of the tested electrolyzer can be analyzed. HETS-ALK-S series test system is suitable for the research, calibration, and offline testing of ALK electrolyzers.



Polarization curve



Stressors testing.



Durability testing.



Energy consumption test



Quality test of hydrogen generation.



Online detection of hydrogen
/oxygen concentration.



Product Features

- Hydrogen/oxygen back pressure, automatic control achieve the control requirements for the cathode and anode in the range from normal pressure to high pressure.
- Rapid and accuracy adjustment of circulating water temperature and flow rate.
- Meet 10%~150% wide power operating conditions.
- Features efficient gas-water separation, accuracy measurement of hydrogen flow rate.
- Data recording and analysis, multi-level safety protection in both software and hardware
- PC software platform: parameter tags, custom scripts, custom functions, and custom interfaces.
- Support 24/7 unattended operation.

Technical Parameters

Model		HETS-ALK-S-15K	HETS-ALK-S-50K	HETS-ALK-S-150K	HETS-ALK-S-5000K	HETS-ALK-S-8000K	HETS-ALK-S-10M
Peak power(150%)		22.5 kW	75 kW	225 kW	7.5 MW	12 MW	15MW
Hydrogen & oxygen unit	Hydrogen flow range	75 NLPM	250 NLPM	750 NLPM	1500 Nm³/h	2400 Nm³/h	3000 Nm³/h
	Hydrogen pressure range	0.1~3 MPag					
	Oxygen flow range	37.5 NLPM	12.5 NLPM	375 NLPM	750 Nm³/h	1200 Nm³/h	1500 Nm³/h
	Oxygen pressure range	0.1~3 MPag					
Water circulation uni	Water flow range	20~500mL/min	0.5~8.5 L/min	2~30L/min	5~85 L/min	16~270m³/h	20~340 m³/h
	Medium	30%KOH solution					
	Temperature control range	RT+5°C~95°C, control accuracy≤±1°C (steady state) /±2°C (dynamic)					
	Automatic water replenishing	Equipped					
Detection Unit	Oxygen concentration sensor (in hydrogen pipeline)	0~5%vol, ≤±1%F.S.					
	Hydrogen Concentration Sensor (in oxygen pipeline)	0~5%vol, ≤±1%F.S.					
Cell voltage inspection	Inspection channel	Max. channel count:1024, -5~5V@1mV					
General specifications	Control system	PLC					
	Communication interface	Modbus, ethernet					
	Remote operation interface	LAN					
	Power supply	AC380V, three-phase five-cable					
	Ambient temperature	5~45°C					

Optional Functions

- Online monitoring of alkaline solution concentration.
- Detection unit of oxygen concentration/flow rate.
- Voltage and current detection unit at the input of the electrolyzer.
- Container.
- EIS testing.