

Electrolyzer Cell Test System - Low Pressure

E500 Series

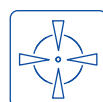


E500 Series aims to provide an accurate and reliable platform for PEM/ALK/AEM electrolyzer single cell and material-level testing. The system mainly consists of the circulation system, N₂ purging unit, pressure regulation unit, gas-water separation unit, gas analysis pre-processing unit, PLC acquisition and control unit, HMI, and safety monitoring unit. With our self-developed test software, it supports polarization curve test, electrochemical test, online monitoring of H₂ in O₂ concentration, stressor test, durability test, as well as test for H₂ producing efficiency, H₂ quality, and product service life.



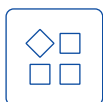
Test Standards

In line with the requirements of relevant regulations formulated by EU JRC for electrolyzer testing



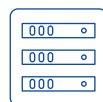
Accurate and Reliable

Coolant flow (1%F.S.), temperature ($\pm 1^{\circ}\text{C}$), conductivity ($\leq 0.5\mu\text{S}/\text{cm}$), gas circuit flow $\pm(0.8\%\text{Rdg}+0.2\%\text{F.S.})$



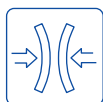
Benchtop Design

650×480×700mm (W*D*H)



Dedicated Fixtures of Multiple Specs. (optional)

5cm², 16cm², 25cm²



Automatic Back Pressure

Max. back pressure: 2barg, accuracy: $\pm 2\text{kPa}$



Electrochemical Testing (optional)

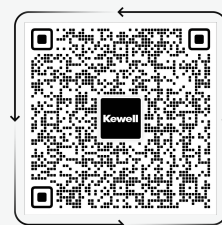
Support EIS/CV test

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(QR code) >>



Test Items

- Polarization curve test
- Accelerated test (lifetime, stress)
- Stressor test (temperature, pressure, flow, etc.)
- Electrochemical test (EIS/CV, etc.) (optional)
- Durability test (steady state, dynamic load)

System Parameters

Model		E500-PWE-N-G	E500-ALK-N-G	E500-AEM-N-G
Applicable range		(PEM 500W)	(ALK 500W)	(AEM 500W)
H ₂ / O ₂ system	H ₂ flow range	1.5L/min, ±(0.8%Rdg+0.2%F.S.)		
	O ₂ flow range	0.75L/min (O ₂ flow meter not required)		
	Back pressure range	0.2-2barg, ±2kPa		
Power supply	Voltage range	0-20V		
	Voltage accuracy	0.05%RD+0.05%F.S.		
	Current range	0-275A		
	Current accuracy	0.1%RD+0.1%F.S.		
	Operating mode	Constant voltage, constant current		
Detection	H ₂ leak sensor	0-40000PPM		
	H ₂ in O ₂ sensor	0-5%VOL (optional range: 0-2%, 0-4%), 1%F.S.		
Cell voltage monitoring	Detection channels	5		
	Measurement range	(-5~5) VDC		
	Measurement accuracy	±1mV		
Hydrothermal management	Water flow measurement range	50-500 mL/min		
	Media	DI water	30%KOH	10%KOH
	Temperature control range	(RT+5℃)~90℃, control accuracy: ±1℃		
	Water purification	Deionization	KOH concentration detection	KOH concentration detection
	Pre-heating	Yes		
	Automatic water make-up	Automatic water make-up	Automatic water and lye make-up	
	Electrolyte supply	Anode (O ₂) only	Anode (O ₂), 1 in + 2 out	Anode + cathode
Complete system	Controller	PLC		
	Communication interface	LAN		
	Power distribution	AC220V/50Hz		

Note: You cannot test different types of products on the same unit of equipment.

Optional Configurations:

- O₂ flow measurement
- Electrochemical testing
- Electrolyzer cell fixture