

C100

PEM Fuel Cell Test System

for Testing Single cells



Product Introduction

C100 PEM fuel cell test system(for testing single cell) provide a high-accuracy, highly stable test environment for the testing of PEM fuel single cells and related parts. C100 test system can be used for development and verification of proton exchange membranes (PEM), catalysts, binders, slurry formulations, diffusion layer, and formulation screening, coating formulations, bipolar plate structures, as well as for testing of comprehensive fuel cell, lifespan, dynamic operating condition, etc. It can be also used for electrochemical testing (optional), which includes IV testing (sweep current, sweep voltage), CV testing, LSV testing, and EIS testing.



Input parameter testing(temperature, humidity, pressure, flow rate)



Sensitivity testing



Performance testing(polarization curve, power curve)



Durability testing(load testing, On-Off testing)



Anti reversal potential testing

Product Features

- High control accuracy: gas flow rate(0.8%Rdg+0.2%F.S.), temperature(RT+5~95 °C, ± 1 °C), dew point temperature (RT+5~90 °C, ± 1 °C), and backpressure(15kPa~300kPa.g, ± 2 kPa).
- Multiple testing functions: sensitivity, performance curve (polarization curve & power curve), and durability test.
- Anti reversal potential: DC electronic load can support -2.5V@120A test.
- PC software functions: Simultaneous data storage across 8 channels, Multi-axis graphing and icons following, Customizable script programming functionality.
- Optional electrochemical testing: EIS/CV/LSV.



Technical Parameters

Model		Parameters
Disturbance module	Rated power	5W~100 W
	Measurement range of anode flow rate	0.04~2 NLPM
	Measurement range of cathode flow rate	0.1~5 NLPM
	Control accuracy of flow rate	$\pm(0.8\%Rdg+0.2\%F.S.)$
Gas pressure control	Nitrogen purging	Nitrogen purge before/after testing, as well as Nitrogen protection
	Control range of back pressure	(Fuel cell stack resistance +15) kPa~300kPa.g, Automatic adjustment of back pressure
Gas humidity control	Control accuracy of back pressure	$\pm 2kPa$ (steady state)
	Humidity method	Bubble humidification
	Dew point temperature range	RT+5℃~90℃
Dry gas bypass	Control accuracy of dew point temperature	$\pm 1℃$ (steady state)
		Equipped
Internal temperature control of fuel cell stack	Temperature control range	RT+5℃~95℃
	Temperature control accuracy	PID control
	Hardware protection	$\pm 1℃$ (steady state)
Protect functions	Software protection	Emergency stop
		Over-temperature protection, Over -pressure protection, Under-pressure protection, E-load fault protection etc.
E-load	Max. power	600W
	Voltage range	-2.5V~12.5V
	Current range	0~120A
	Working modes	CV,CC,CP (programmable & automatic run)
	Current accuracy	$\pm(0.1\%+0.1\%F.S.)$
	Voltage accuracy	0.05%+0.1%F.S.
General specifications	Anti reversal potential testing	Equipped
	Power supply	220V, 50HZ, 0~45℃, 0~90%RH

Optional Functions

- Electrochemical analysis.
- Gas mixture function.
- Specialized fixtures: 5cm², 25cm², 50cm².