



铭寰能源



# 徐州铭寰固体氧化物电解测试系统

Xuzhou Minghuan Solid Oxide Electrolysis Cells (SOEC) Test System

## 引领高温电解未来的旗舰级测试平台

A flagship class platform engineered for the future of high temperature electrolysis.



徐州铭寰推出的固体氧化物电解测试系统, 专为高温水电解制氢与二氧化碳/水共电解制合成气而生。系统以卓越的工程设计、精密的温控技术与高度集成的气体管理能力, 为科研机构与产业研发团队提供一套真正意义上的高效、成本可控的测试平台。

Xuzhou Minghuan's solid oxide electrolysis test system is specifically designed for high-temperature water electrolysis for hydrogen production and co-electrolysis of CO<sub>2</sub> and water for syngas production. With outstanding engineering design, precise temperature control technology, and highly integrated gas management capabilities, the system provides a truly efficient and cost-controlled testing platform for research institutions and industrial R&D teams.

## 核心价值主张 / Core Value Proposition

- ◆ 以更低成本, 获得旗舰级性能。  
Access flagship level performance at a fraction of the cost.
- ◆ 以更高效率, 加速电堆研发周期。  
Accelerate stack development with unmatched operational efficiency.
- ◆ 以更强兼容性, 适配未来技术演进。  
Future proof compatibility for evolving SOEC/SOFC technologies.

## 产品亮点总览 / Signature Highlights

- ◆ 900°C 高温炉精准控温  
Precision furnace control up to 900°C
- ◆ 10 分钟快速电堆更换结构  
10 minutes rapid stack replacement
- ◆ 450°C+ 高效水汽化模块  
High efficiency steam generation above 450°C
- ◆ 智能化控制系统与全参数监测  
Intelligent control with full spectrum monitoring
- ◆ 全流程气体换热与预热系统  
End to end gas preheating and heat exchange
- ◆ 极具竞争力的系统成本  
Exceptionally competitive system cost
- ◆ 产品紧凑、体积小, 尺寸为1400×1240×2450mm  
The product is compact and small in size, with dimensions of 1400×1240×2450mm

## 应用价值与行业意义

### Application Value & Industry Impact

从材料开发、电堆性能评估, 到CO<sub>2</sub>/水共电解与高温水电解的工程化验证, 徐州铭寰测试系统覆盖固体氧化物技术的全链条需求。

Xuzhou Minghuan Testing System covers the entire chain of requirements for solid oxide technology, ranging from material development and stack performance evaluation to engineering validation of CO<sub>2</sub>/water co-electrolysis and high-temperature water electrolysis.

# 高温电解的精密工程艺术

## The engineering artistry behind high temperature electrolysis

徐州铭寰将高温电解的复杂性转化为可控、可视、可重复的工程流程。每一项技术模块都围绕“稳定性、精度、效率”而设计。

Minghuan transforms the complexity of SOEC/SOFC testing into a controlled, visible, and repeatable process. Every subsystem is crafted around stability, precision, and efficiency.

### 高温炉系统 (最高 900°C)

多区控温结构确保温度均匀性；升温迅速、保温稳定；适配多种电堆尺寸与封装方式。

Multi zone furnace architecture ensures exceptional uniformity, rapid heating, stable holding, and compatibility with diverse stack formats.

### 气体管理与换热系统

全流程气体预热、换热与温度匹配；支持 H<sub>2</sub>O、CO<sub>2</sub>、H<sub>2</sub>、N<sub>2</sub>、空气等多种气体；流量、压力、温度全参数监控。

Comprehensive gas management system with preheating, heat exchange, and temperature matching; supports multiple gases with full monitoring of flow, pressure, and temperature.

### 高效水汽化模块 (450°C+)

快速蒸发、稳定供汽；蒸汽温度可与电堆温度精准匹配；适用于高温水电解效率研究与长期稳定性测试。

High efficiency steam generator delivering rapid vaporization and stable output; steam temperature precisely aligned with stack temperature; ideal for efficiency studies and long term durability tests.

### 电堆快速更换结构

模块化机械设计；适配不同厂家的电堆；10分钟内完成拆装，大幅提升测试节奏与实验吞吐量。

Modular mechanical design compatible with stacks from multiple suppliers; enables full replacement within 10 minutes, dramatically improving testing throughput.

### 智能化控制系统

全参数实时监控；自动报警与保护；远程监控与数据记录；界面直观、操作友好。

Real time monitoring of all parameters; automated alarms and protection; remote access and data logging; intuitive interface for both researchers and engineers.

## 适用场景 / Application Scenarios

- ◆ SOEC 电堆性能测试  
SOEC stack performance testing
- ◆ CO<sub>2</sub>/水共电解制合成气研究  
Co-electrolysis of CO<sub>2</sub> and water for syngas generation
- ◆ 高温水电解制氢实验  
High temperature water electrolysis
- ◆ 材料开发与寿命测试  
Materials development and durability testing
- ◆ 电堆结构优化验证  
Stack structural optimization
- ◆ 科研教学平台建设  
Academic and research platform development

## 为什么选择徐州铭寰? / Why Choose Minghuan?

- ◆ 深耕固体氧化物技术的专业团队  
A specialized team deeply rooted in solid oxide technologies
- ◆ 旗舰级性能, 极具竞争力的成本  
Flagship performance with exceptional cost efficiency
- ◆ 灵活定制, 适配不同研发路线  
Flexible customization for diverse R&D pathways
- ◆ 完善售后与技术支持体系  
Comprehensive support including commissioning, training, and technical service

徐州铭寰 · 让高温电解测试进入 **成本可控** 的时代

Minghuan · Elevating High Temperature Electrolysis to a New Standard, yet affordable.

徐州铭寰能源有限公司  
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