HOT-BOX AND FUEL CELL SYSTEM TESTING

- Up to 100 kW power range
- For simulation of all requirements for stationary and mobile SOFC/SOEC applications
- Extended safety features including LEL hydrogen detector and cabin ventilation
- Fully automated for safe, reliable and unattended operation
- Sophisticated HT inline gas heaters
- Excellent reliability by included hardware PLC
- Maximum safety according to latest directives
- CAN Bus interface for simulation and hardware-in-the-loop option

HORIBA FuelCon

Evaluator S25-HT

GENERAL FACTS

Standard fuel flow range [Nl/min]	10 to 1,000
Standard air flow range [Nl/min]	50 to 5,000
Footprint L x W x H, [meter] (inches)	2.4 - 4.0 x 1.2 x 2.2 - 2.4 (95” - 160” x 47” x 87” - 95“)
Maximum gas temperature	950 °C (1,742 °F)
Gas humidity range	Saturator: Dry (by-pass) to TDP = 95°C corresponding to 0...85 % steam in humidified gas stream; Steam generator: 0.01 to 1,000 g/min steam for 0...100 % steam
Electronic load	Up to 1,000 V / 1,000 A / 25 kW
Active test item temperature setting	Up to 950 °C (1,742 °F) by sophisticated gas inline heaters
Safety gas purge	Programmable, separate and independent nitrogen / protection gas purge function for anode and cathode
Safety features	4-level alarming system, emergency stop, hydrogen LEL detector, optimal CO detector, cabin ventilation
Data logging	SQL data base

OPTIONS

Reformer and desulfurizer for NG, CH_4 and biogas operation
Reformate and biogas simulation
Cell voltage monitoring (CVM)
TrueData-EIS (impedance analysis)
Reversible load operation (electrolysis and fuel cell mode) / grid feedback
Automated leakage test
UPS

SAFETY

CE conformity marking according to
- EMC directive 2014/30/EC
- Low voltage directive 2014/35/EC
- ATEX directive 2014/34/EC
- General product safety directive 2001/95/EC
- Machinery directive 2006/42/EC
- Pressure equipment directive 2014/68/EC

Risk assessment
- DIN EN ISO 13849
- DIN EN ISO 12100

The Evaluator S25-HT is tailored to the needs of complex high temperature stack and system testing and evaluation. Combined with HORIBA FuelCon‘s sophisticated TestWork software, this system provides full adaptability. Using either hydrogen, methane or reformate fuels, the S25-HT is ideally designed for stack module and system developers performing initial application studies, duty cycle tests for stationary and APU applications as well as for performance evaluation.

Equipped with various types of HT inline heats, this test station is ideal for benchmarking stack module designs, optimizing production processes and running endurance tests on SOFC and SOEC.

A specific design is available for tests on reversible SOFC/SOEC modules with a thermally isolated cabinet (hot-box and systems).

The stack activation, operational procedures and thermal cycle test protocols including dynamic hot gas generation that reflect real world module operation are all automatically managed by the test station.

The integration of several devices from our TrueData line of diagnostic products such as our impedance analyzer allows operators to perform detailed studies of material behavior under real application conditions up to operating temperatures of 1,100 °C.

Please feel free to download the latest information available at www.horiba-fuelcon.com. If you have any questions, please do not hesitate to contact us. We will be happy to support you and discuss your testing requirements!

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