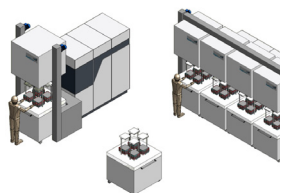




SINTERING & REDUCTION STATION

SOFC STACK MANUFACTURING



- Power range up to 25kW and more
- Highly accurate and reproducible gas flows, temperatures, load and force parameters
- Multiple electrochemical analysis tools are available to support a fast and robust process
- Confidentiality of users know-how is ensured by an easy and intuitive adjustment of process parameters
- Simultaneous sintering of up to 4 and more stacks



EMISSIONS



ELECTRIFICATION



CAV



DATA

HORIBA
Automotive

SINTERING & REDUCTION STATION

The sintering process is a critical manufacturing step to form the SOFC stack. HORIBA FuelCon's sintering and reduction station is tailored to the specific needs of complex SOFC stack manufacturing processes ensuring highest reproducibility at a maximized production output.

For a highly convenient test item handling, the test station is equipped with an ergonomic test item shuttle system. Up to 4 stacks and more can be prepared on a single trolley before being loaded into the main test station. All stacks got an individual gas supply and electrical power control while the heated furnace ensures a homogenous temperature distribution during the sintering process. HORIBA FuelCon offers a clever design at a small footprint thus optimizing production operations.

All sintering stations meet highest performance and precision standards. The gas flows, temperatures, electronic load parameters, mechanical load distribution and other relevant measurement values are controlled precisely ensuring a best-in-class reproducibility. Multiple electrochemical analysis tools can be offered to evaluate and further optimize quality and performance characteristics.

GENERAL FACTS	
STANDARD FUEL FLOW RANGE [NL/MIN]	Up to 500
STANDARD AIR FLOW RANGE [NL/MIN]	Up to 1,500
FOOT PRINT L x W x H, [METER] (INCHES)	2.5 - 4.0 x 1.2 - 1.6 x 2.0 - 3.0 (98" - 160" x 47" - 63" x 79" - 118")
MAXIMUM GAS TEMPERATURE	Up to 1,000 °C (1,832 °F)
SINTERING FURNACE	Customized top hat or shuttle furnace
ELECTRONIC LOAD	Up to 300 V/1,000 A/25 kW
ACTIVE TEST ITEM TEMPERATURE SETTING	Up to 1,050 °C (1,922 °F) by top hat furnace
SAFETY GAS PURGE	Programmable, separate and independent nitrogen / safety gas purge function for anode and cathode
SAFETY FEATURES	4-level alarming system, emergency stop, hydrogen LEL detector, optional CO detector, enclosure ventilation
DATA LOGGING	SQL data base

OPTIONS	
Cell voltage monitoring (CVM) Impedance analysis Electronic load for reduction Automated leakage test Controlled sintering furnace cooling Compression load control 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

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