



SOFC STACK MANUFACTURING

- Up to 25 kW power range
- Reproducible control of gas flows, temperature, load and force parameters
- Sophisticated electrochemical analytic tools allow reduced process duration
- Editable process parameters ensure confidentiality of user know-how
- Simultaneous sintering of up to 4 and more stacks
- Controlled cooling of the sinter furnace
- Fully automated for safe, reliable, unattended operation
- Excellent reliability by included hardware PLC

HORIBAFuelCon

Sintering &
Reduction Station

GENERAL FACTS

Standard fuel flow range [Nl/min]	Up to 500
Standard air flow range [Nl/min]	Up to 1,500
Footprint L x W x H, [meter] (inches)	2.4 - 4.0 x 1.2 x 2.5 - 3.0 (95" - 160" x 47" x 98" - 118")
Maximum gas temperature	Up to 1,000 °C (1,832 °F)
Gas humidity range	On request
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 1,100 °C (2,012 °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, cabin ventilation
Data logging	SQL data base

The HORIBA FuelCon sintering station product line is targeted to the needs of complex SOFC stack manufacturing processes. The sintering process is a critical manufacturing procedure to form the SOFC stack.

In order to maximize production throughput without impacting stack performance, the parameters during the sintering and reduction procedure must be defined and controlled precisely, and most importantly, it must be reproducible. HORIBA FuelCon's sintering and reduction stations do not only allow accurate of the anode and cathode gas flow control and management, but do also provide also precise control of gas composition, temperature, electronic load parameters, cell voltages and mechanical load.

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!

HORIBA FuelCon reserves the right to make changes at any time without notice.

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OPTIONS

Cell voltage monitoring (CVM)
TrueData-EIS (impedance analysis)
Electronic load for reduction
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

Further key characteristics of HORIBA FuelCon's sintering and reduction stations are the special electrochemical analytic tools enabling a significant time reduction in the assembly process. These tools allow to evaluate the quality and performance parameters of the stacks during the sintering process and do therefore optimize stack manufacturing throughput.

Editable process scripts keep the sintering process parameters confidential and ensure protection of our customer's know-how. To enhance our customer's production throughput and manufacturing capacity, HORIBA FuelCon offers additional options allowing simultaneous sintering of multiple stacks and controlled sintering furnace cooling.