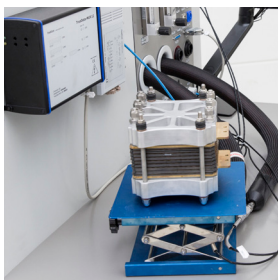


EVALUATOR EC

Electrolyzer Cell Testing



- Single cells and small stacks
- Up to 1,000 W power range
- Water or alkaline electrolyte (option) supply with recirculation and temperature adjustment
- Level controlled water knock out with automated gas / liquid separation
- Several pressure control modes up to 50 bar
- Fully automated for safe, reliable, unattended operation



EMISSIONS



ELECTRIFICATION



CAV



DATA

HORIBA
Automotive

EVALUATOR EC

The HORIBA FuelCon electrolyzer test station of the Evaluator EC line allows automated testing of electrolyzer single cells and short stacks in the range up to 1,000 W. The test system has several fully automated pressurization modes (by nitrogen or other inert gases or by product gases).

The operator can simulate with the flexible TestWork software fully automatic several working conditions like stationary operating points, polarization curves or the reproduction of typical intermittent power sources like solar panels or wind energy. Anode and cathode are supplied with pressurized DI water supply with high precision pumps including liquid flow meter, conductivity and temperature control. The supply can be realized in a recirculation or a direct mode.

The design ensures reliable water flow to the cell keeping pressure and temperature constant during operation. The pressure of the liquid circuits can be adjusted automatically according to the gas pressures to avoid mechanical stress on the electrolyzer stack. The proprietary water knock out system includes automatic level control to avoid pressure drops and reliable separation of gas and liquid phases. As an option the anode feed can be switched between DI water or alkaline electrolyte supply.

Further options are electrochemical characterization like impedance spectroscopy or cyclic voltammetry. Various safety features always ensure safety of the operator and of the test facility.

GENERAL FACTS	
STANDARD	95 °C (203 °F)
FOOTPRINT L x W x H, [meter] (inches)	1.1 x 0.8 x 1.9 (43" x 32" x 75")
BACK PRESSURE CONTROL RANGE	Up to 50 bar / 725 psi
THERMAL MANAGEMENT	Independent loops and control for anode and cathode recirculation and test item
EXHAUST TREATMENT	Powerful gas (liquid separation)
GAS ANALYSIS (OPTION)	Hydrogen, oxygen
DATA LOGGING	SQL data base

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

ELECTRICAL SPECIFICATION	
POWER RANGE	Up to 1,000 W
POWER SUPPLY	Up to 400 A/10 V
ELECTROCHEMICAL CHARACTERIZATION (OPTION)	Impedance analysis TrueData-CYV (cyclic voltammetry)

OPTIONS	
Water balance measuring system	
H ₂ input line on cathode for TrueData-CYV operation	
Pre-pressurization of cell / stack by high-pressure	
Nitrogen gas input line	

HORIBA FuelCon GmbH
Otto-von-Guericke-Allee 20
39179 Magdeburg-Barleben
Germany

T +49 39203 964 400
F +49 39203 964 409
sales@horiba-fuelcon.com

horiba-fuelcon.com



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