



## FCSH-V3

CERAMIC SEAL FUEL CELLS SAMPLE HOLDER



MaterialsMates Italia



**A one-inch sample holder mounted on the stand, with a detailed view of the optional laser machined contact grids on the gas diffusers. Different options are available for sizes, grid materials and sealing methods**

What you can expect from a company that is fully dedicated to innovation is a continuous effort in improving their products beyond the previous performance level.

At **Materials Mates Italia** we follow strictly this statement and we keep our systems in an improvement process that lasts since the foundation of the company.

The FCSH-V3 cell, designed and manufactured by **Cell Company**, opens new perspectives in testing coin cells, allowing the low temperature-range devices to perform at their best.

Besides the excellent performance level common to our product range, the V3 makes the ceramic/glass seal technique available for reusable sample holders: another world's first in our long list of achievements.

With a maximum operating temperature of 1000 °C, and an intrinsically-safe H<sub>2</sub> handling thanks to a properly confined anode gas path, the cell is able to cover a wide range of applications, including those requiring a chemical potential across the sample.

New options are available, like the laser-cut contact plates for ultimate life-time of the grids

An engineered surface treatment on all the parts exposed to the gas path keeps the purity of the reactants stable up to the output connection.

All parts of the cell are fully reusable, since they do not stick together when working.

Contact us to find out more on the device features, as well as on the ancillary equipment available.



**PHYSICAL FEATURES**

<b>Temperature range</b>	0-1000 °C
<b>Sample size</b>	12-26 mm dia, 3 mm thickness max (to be specified when ordered)
<b>Contact plates</b>	Platinum gauze or laser cut plates, spring loaded
<b>Construction materials</b>	Alumina 99.5 % platinum 99.5 % fused silica tube, viton o-rings and membranes
<b>Sealing gasket</b>	Pure (99.5%) gold annealed or ceramic cement/glass seal for lower temp. usage
<b>Gas flow</b>	Anode and cathode in/out connections with gas path blowing towards the sample face
<b>Sealing pressure</b>	About 20 N
<b>Gas compatibility</b>	Any reducing or oxidizing gas compatible with fused silica and alumina
<b>Gas connections</b>	6 mm Swagelock-type double-ferrule connectors
<b>Gas tightness</b>	Viton O-rings
<b>Orientation</b>	Vertical /horizontal

**ELECTRICAL FEATURES**

<b>Connections</b>	Banana 2 mm
<b>Measuring configuration</b>	2-wire connections +2 wire compensation
<b>Residual resistance</b>	<5 mOhm
<b>Effective wire resistance</b>	<2 Ohm @ 25 °C
<b>Maximum current capability</b>	5 A
<b>Sample temperature</b>	Type K inconel shielded thermocouple

**DIMENSIONS & OTHERS**

<b>Mechanical</b>	260 X 45 mm (L x Dia) cover tube
	80 X 70 mm (Dia x h) connection body
	4 mm copper tubing (0.1 Lt /min recommended)
	1,2 Kg

**Water cooling**

**Weight**

**ORDER CODES AND OPTIONS**

See lower chart

