

# Fuel Cell Fixture

Our versatile fuel cell is  
perfect for PEM, AEM  
and DMFC research

Interchangeable end plates for  
dual use option—saving money  
and giving you more options

## The Cell Fixture features

- Fuel Cell Test Fixture is suitable for use with 5 and 25 cm<sup>2</sup> area cells
- Configuration for Liquid Fuels available
- All wetted components of the liquid side are non-metallic and highly chemical resistant
- Gold-plated copper current collectors (2)
- Anodized aluminum end plates (2) with reactant input/output ports, stainless steel Swagelok® compression fittings, cartridge heaters and thermocouple well
- 60 cm heavy-gauge copper conductor load cables
- Gaskets – 51, 152 and 254  $\mu\text{m}$  (0.002, 0.006 and 0.01 inch)
- Templates for preparation of gaskets
- Gaskets, gasket templates and additional hardware such as bolts, washers, fittings and o-rings
- Compatible with BekkTech in-plane conductivity cell (BT - 112)
- Operating temperature up to 200 °C
- 115 V or 230 V cell heaters available

### OPTIONS

Membrane  
Electrode Assembly

Fuel Cell Test  
Fixture

Gas Diffusion  
Media

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# Fuel Cell Fixture

## Cell Components

- Ultra-high purity, sealed POCO graphite flow fields with precision machined serpentine or interdigitated flow pattern (custom flow patterns available)
- Gold-plated copper current collectors (2)
- Anodized aluminum end plates (2) with reactant input/output ports, stainless steel
- Heaters and Thermocouple
- 24" heavy-gauge copper conductor load cables
- Gaskets – 51, 152 and 254 micrometer (0.002, 0.006 and 0.01 inch)
- Templates for preparation of gaskets
- Gaskets, gasket templates and additional hardware such as bolts, washers, fittings and o-rings

## OPTIONS

Serpentine Flow Fields

Liquid Fuel Cell Fixture

Differential Flow Fields





# PEM & AEM Electrolysis Cell Fixture

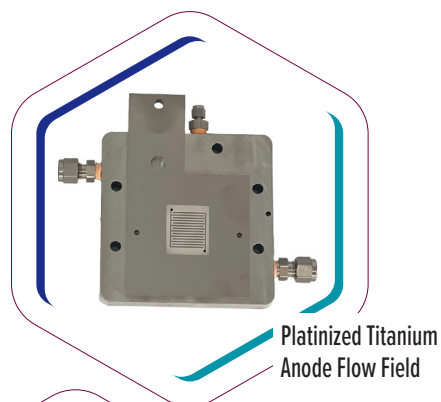
Compatible with the DI & KOH Feedstock

## Cell Fixture Features

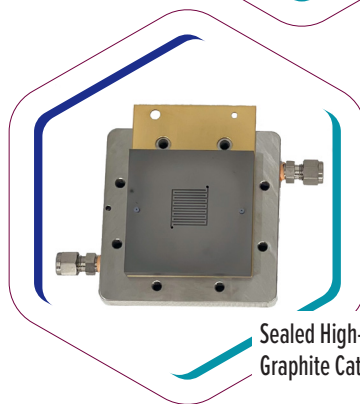
- Available as a Dual Area Electrolyzer fixture-suitable for use with 5 and 25 cm<sup>2</sup> active areas
- Stainless Steel (316L) end-plates, designed for chemical solutions incompatible with aluminum
- Platinized Titanium flow field media for Anode (O<sub>2</sub>) electrode
- Sealed high-purity POCO graphite flow field and Carbon Diffusion Media for Cathode (H<sub>2</sub>) electrode
- Flow Fields available in various channel patterns to support research needs
- End-plate contains precision machined wells for cartridge cell heaters for evenly distributed and precise heating
- Cartridge heaters are shielded and electrically grounded for additional safety
- End-plates are electrically isolated from the cell
- Operating temperature up to 200 °C

## Additional Components

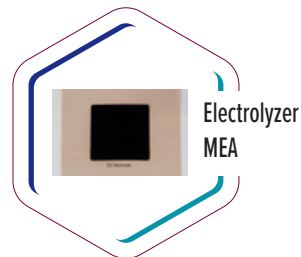
- Cartridge cell heaters with braided stainless steel armored cable for superior durability (115 V or 230 V)
- Gasket, Gasket Templates and Thermocouple included
- Gold-plated copper current collectors
- End plates with reactant input/output ports, stainless steel Swagelok® compression fittings, cartridge heaters and thermocouple well
- Heavy gauge copper conductor load cables 60 cm (24 in.) in length



Platinized Titanium  
Anode Flow Field



Sealed High-Purity POCO  
Graphite Cathode Flow Field



Electrolyzer  
MEA

**NOW 50 BAR CAPABLE!**

# High-Pressure Electrolysis Fixture

**Designed For PEM & AEM Operation**



## FEATURES

### Operating Parameters:

- Rated for 50 bar (735 psi) operating pressure
- Green anodized 6061 aluminum end-plates, for increased visibility in laboratory settings
- 25 mm thick Grade 2 titanium with >99% purity Platinized coating (other materials available upon request)
- Fully platinized electrical connections for reduced resistance
- Flow field contains precision machined wells and Swagelok® fitting for thermocouple installation
- Flow fields available in various channel patterns to support research needs
- End-plate contains precision machined wells for cartridge cell heaters for evenly distributed and precise heating
- Cartridge heaters are shielded and electrically grounded for additional safety
- End-plates are electrically isolated from the cell
- Operating temperature up to 200 °C

### Additional Components:

- 200 W cartridge cell heaters with braided stainless steel armored cable for superior durability (115 V or 230 V)
- Gasket, gasket templates and thermocouple included
- Flow Fields with reactant input/output ports, stainless steel Swagelok® SC-10 compression fittings (SC-11 Fittings available upon request)
- 75 cm heavy gauge copper conductor load cables

Parts derived from National Renewable Energy Laboratory: J. Wrubel, S. Ware, C. Schaffer, M. Allen, E. Klein, R. Rice, C. Engtrakul, and G. Bender. "NREL 25-cm<sup>2</sup> High-Pressure Low-Temperature Electrolysis Cell Hardware (Open Source)." National Renewable Energy Laboratory Data Catalog. DOI: 10.7799/2205626. 2023.

Cell Fixture



# Electrolysis Cell Fixture

Cell fixture is compatible with the Water Electrolysis Test Stations

## The Cell Fixture features

- Available as a Dual Area Electrolyzer fixture-suitable for use with 5 and 25 cm<sup>2</sup> active area
- Anodized Aluminum end plates
- Platinized Titanium flow field and Porous Media for Positive (O<sub>2</sub>) electrode
- Sealed high-purity POCO graphite flow field and Carbon Diffusion Media for Negative (H<sub>2</sub>) electrode
- Cell heaters available for 115 V or 230 V operation
- Operating temperature up to 200 °C

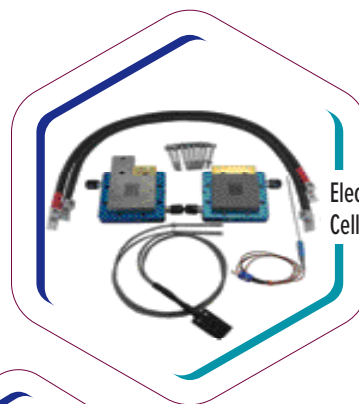
## Components

- Flow fields with precision machined serpentine or interdigitated flow pattern (custom flow patterns available)
- Gold-plated copper current collectors
- End plates with reactant input/output ports, stainless steel Swagelok® compression fittings, cartridge heaters and thermocouple well
- 60 cm (24 in.) heavy-gauge copper conductor load cables
- Gaskets, gasket templates and additional hardware such as bolts, washers, fittings and o-rings

## Options

Choose Red or Blue End-Plates - Both use the Pt-Ti flow field on the Positive Side and Graphite flow field on the Negative Side. The difference is in the End-Plates:

- Blue End-Plates are suitable for DI water
- Red End-Plates can be used with either DI water or KOH solutions



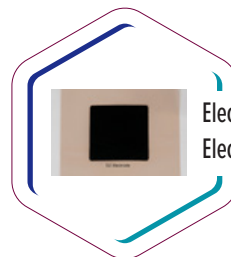
Electrolysis Cell Kit



Titanium Grade  
5 cm<sup>2</sup> Flow Field



Carbon Gas  
Diffusion Media

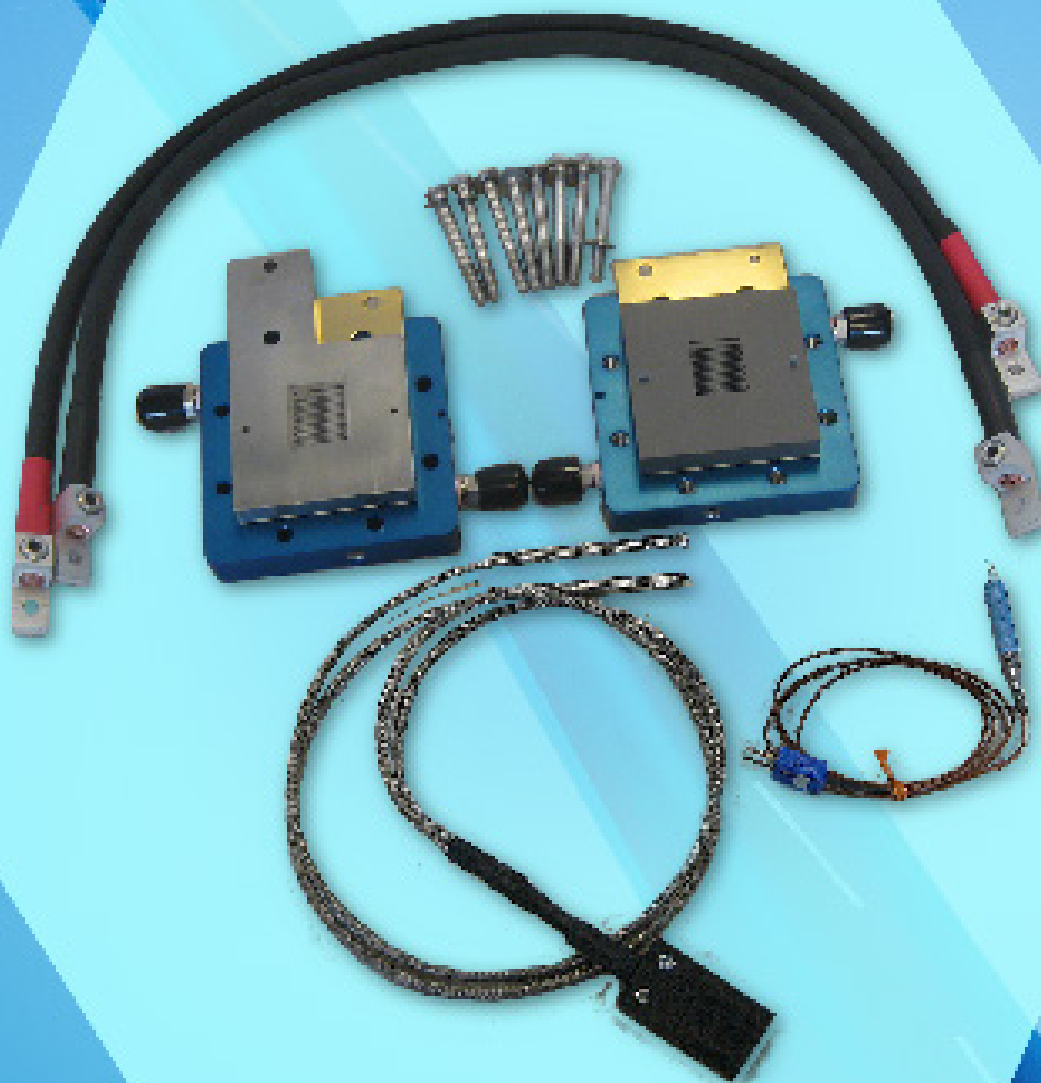


Electrolyzer Membrane  
Electrode Assembly



# Electrolysis Cell Fixture

Cell fixture designed especially for  
the Water Electrolysis Test Stations

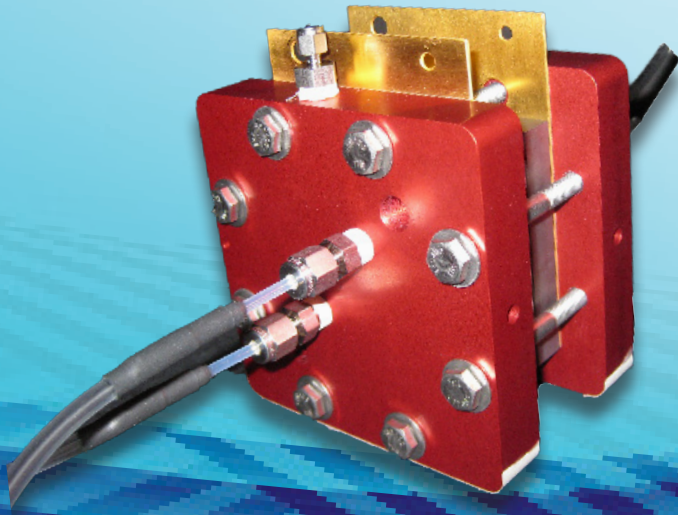


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# Redox Flow Cell Test Fixture

Scribner's Redox Flow Cell Test Fixture is specifically designed for use with our Redox Flow Cell Test System



We offer multiple assembly configurations to allow for various flow configurations, electrode type and thickness.

## The RFB Test Fixture features

- Cell fixture specifically designed for use with the Scribner Redox Flow Cell Test System
- Cell area from 5 to 25 cm<sup>2</sup>
- All non-metallic flow paths made with non-corrosive, chemically resistant plastics only
- 115 V or 230 V cell heaters
- Operating temperature up to 120°C
- SGL Carbon Sigracell® graphite felt
- PTFE (Teflon®) flow frames
- Ultra-high purity, sealed POCO graphite flow fields with precision machined serpentine or interdigitated flow pattern (custom flow patterns available)
- Custom flow patterns available
- Gold-plated copper current collectors
- Anodized aluminum end plates with reactant input/output ports, Swagelok fittings, cartridge heaters & thermocouple well
- Gaskets, gasket templates and additional hardware such as bolts, washers, fittings and o-rings

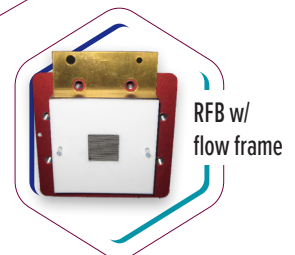
### OPTIONS



SGL Felt



RFB Open Cell



RFB w/  
flow frame

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# Redox Flow Cell Fixture

## SCRIBNER ASSOCIATES REDOX FLOW CELL / LIQUID FUEL CELL FIXTURE

