

857 ELECTROCHEMICAL FLOWBENCH 2nd GEN

Fully-Integrated, Turn-key, Bench Top,
Chemistry Agnostic Instrument for
Recirculation of Highly Corrosive Acids & Bases

Applications: Electrolysis, Separations, Critical Mineral Recovery, RFB and Multi-Compartment



FEATURES

ADVANCED DIAGNOSTICS

Electrochemical Impedance Spectroscopy (EIS) & High-Frequency Resistance (HFR) Over Full 100 A Current Range

Automated Switching Between 20A Potentiostat & 100A Power Supply For High Resolution Measurement Over Full Current Range

Expanded Data Collection & External Sensor Integration

Half Cell Measurements & State-of-Charge Monitoring

ENHANCED BALANCE OF PLANT

Intelligent Temperature & Flow Control – Accurate From Low to High Rates

Inert Plumbing, Improved Tubing & Connections, Simplified Feedstock Bottles in Multiple Sizes, Customizable Heat Exchanger, & Ergonomic Enhancements

INTUITIVE CONTROLS



FlowCell®

FlowCell-ETS® Fully Integrated Software For Control, Experimental Sequencing & Graphing



ZView®

ZView® World's Leading Impedance Analysis & Equivalent Circuit Modeling



SPECIFICATIONS

ELECTRICAL

- Power Supply Max Current:**
100 A
- Voltage Range:**
0 – 5.000 V
- Maximum Power:**
500W
- Potentiostat Current Ranges:**
±20 / 7 / 0.7 / 0.07 A
- Current Resolution:**
0.007% of range
- Current Limit of Error:**
±1.0% of range
- Set & Read Voltage:**
>±5.000 V
- Cell Voltage Sense Lead:**
Differential
- Voltage Measurement Resolution:**
152 µV
- Sense Lead Input Resistance:**
1.0 GΩ
- Modes of Operation:**
Constant, Scan, Step-Stair; V and I
- Impedance Frequency Range:**
1 mHz to 10 kHz – Power Supply
1 mHz to 40 kHz – Potentiostat
- Impedance Measurement Types:**
Sweep EIS and Single-Freq HFR Real-Time Measurement, Whole Cell and Aux / Half / Reference

CELL & ELECTROLYTE HANDLING

- Wetted Parts:**
Standard PFA & Ni200
- Chemical Compatibility:**
Weak Acids Like NaCl (pH ~2) to Strong Bases Like NaOH & KOH (~10M)
- Feed Stock Reservoir:**
2x PFA, Removable
- Feed Stock Reservoir Sizes:**
250mL, 500mL, or 1L
- Feed Stock Agitation:**
2x Stir Plates
- Feed Stock Supply Pump:**
1 – 100 mL/min
- Flow Path:**
Independent Anode & Cathode
- Back Pressure Rating:**
1.5 bar_g (22 psig)
- Purge Gas:**
2x N₂ Rotameters, Manual
- Cell Temperature:**
Ambient – 120 °C
- Cell Connection:**
4-Terminal (I+, I-, V+, V-) & Differential Aux (REF)
- Custom Heat Exchanger:**
Ni200, C22, Ti, or 316SS
- Additional Data Acquisition:**
6 Thermocouples & 8 Analog In

PHYSICAL

- Operating Temperature:**
5 – 35 °C
- Power Source:**
100 – 120 or 220 – 240 VAC 50/60 Hz
- Size (Excluding Connections):**
50 x 65 x 65 cm (20 x 25 x 25 in)
- Weight (Empty):**
16 kg (35 lbs)

SAFETY

- Robust:**
Embedded Firmware Level Decisions
- Fail Safe Design:**
De-Energize On Alarm Condition
- Continuous Monitoring:**
E-Stop, Voltage, Current, Temperature, & External Signals
- External Alarm:**
Integrate Full Building E-Stop
- Software Alarm:**
User Configurable Limits
- Certification:**



ACCESSORIES

EXTERNAL SENSORS

All Applications

- Cross Over** monitoring of H₂ in O₂ & O₂ in H₂. Programable detection levels of product as they approach an unsafe ratio.
- Mass Spectroscopy** for real time in-situ product analysis.



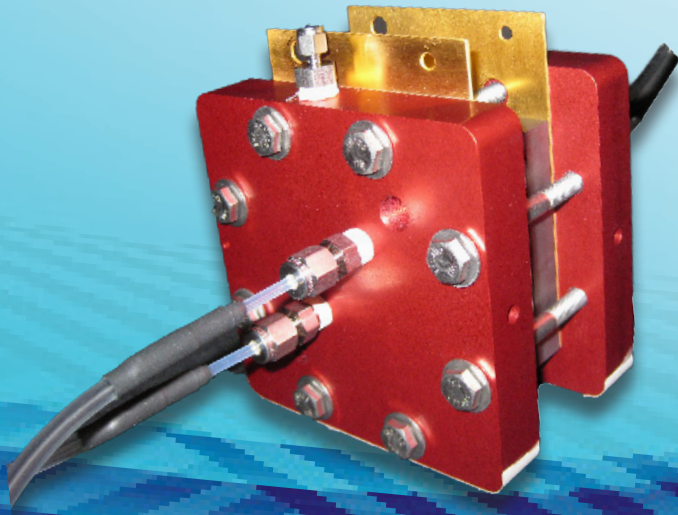
CELL FIXTURES

All Applications

- PEM / AEM / Alkaline / High-Pressure / Multi-Compartment** applications supported for 5 – 50 cm² active areas. Designed for longevity and safety, our cells feature interchangeable parts for flexibility.
- Customizations** of materials, channels, compartment design, and active area are all available.

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 cm²
- 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

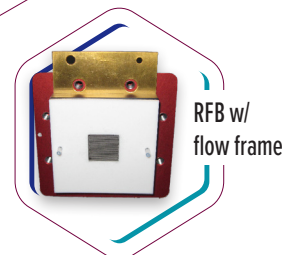
OPTIONS



SGL Felt



RFB Open Cell



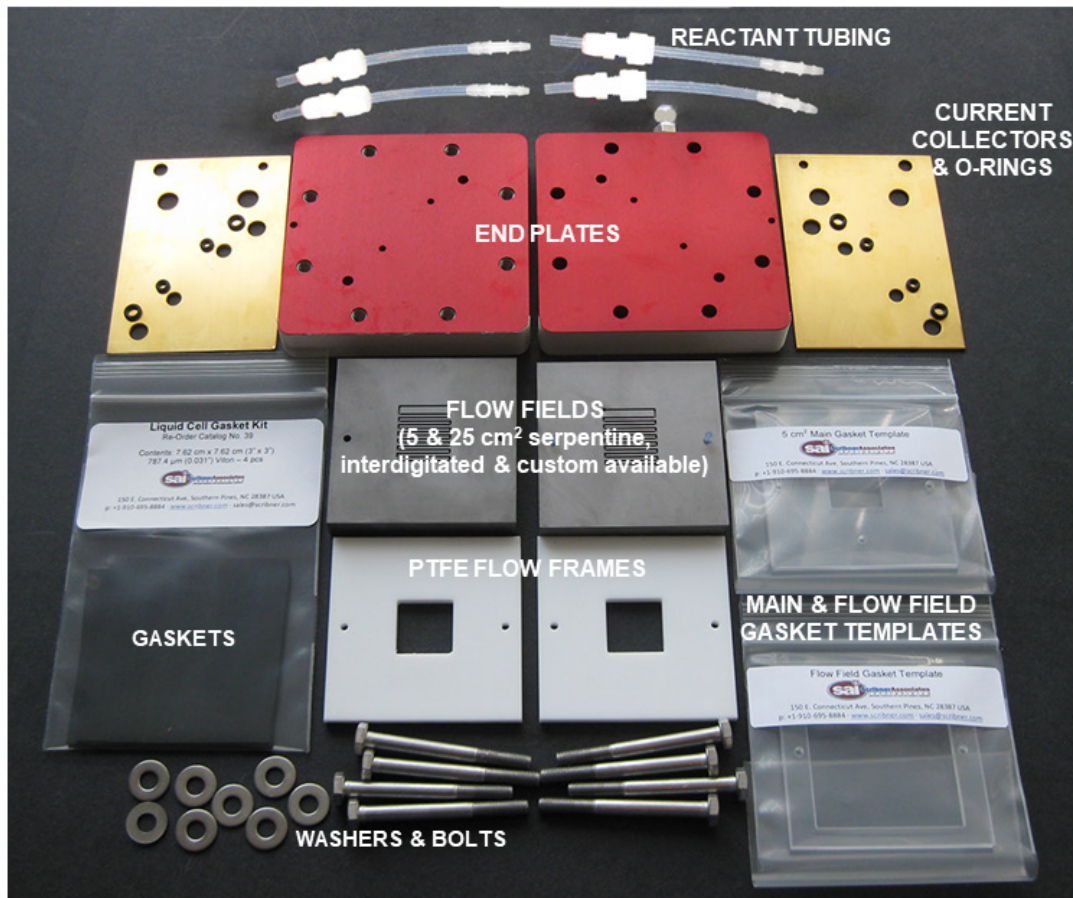
RFB w/
flow frame

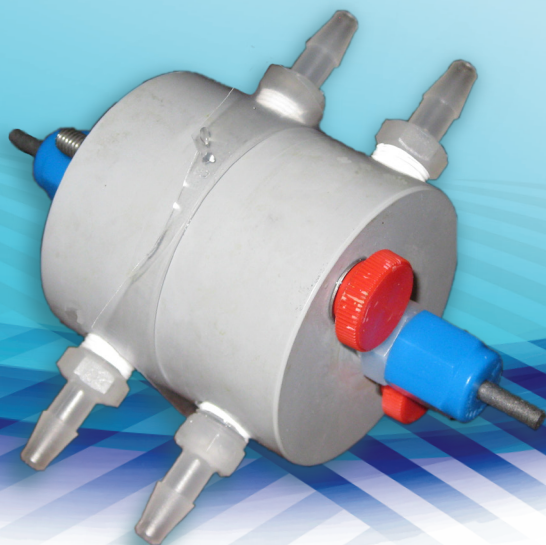
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Redox Flow Cell Fixture

SCRIBNER ASSOCIATES REDOX FLOW CELL / LIQUID FUEL CELL FIXTURE



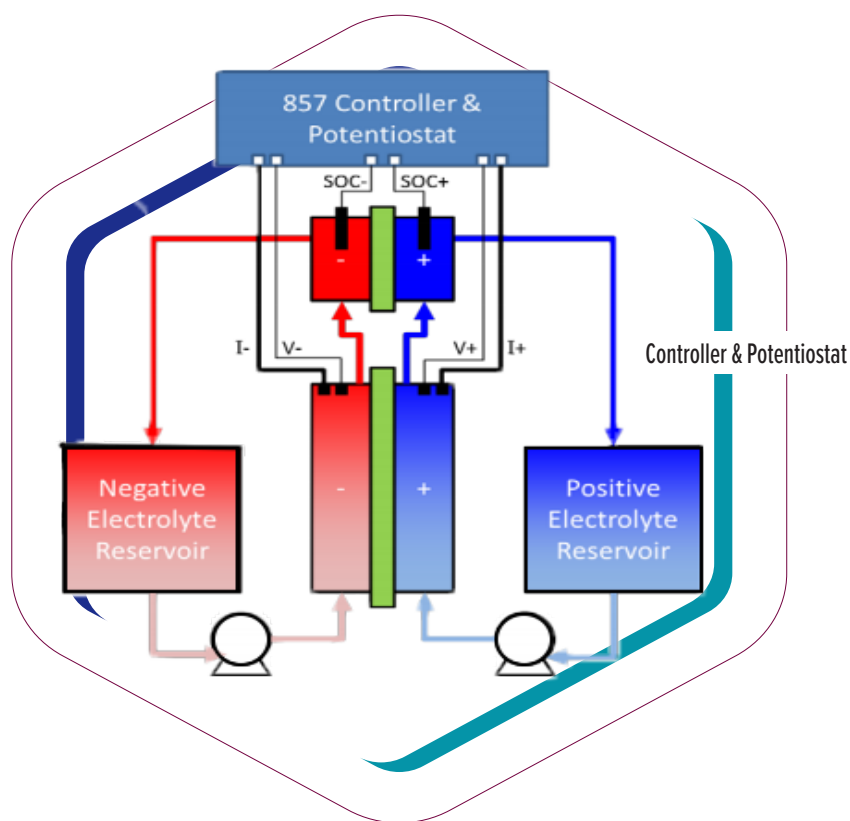


State-of-Charge Cell

State-of-Charge Cell (SOC) is used to measure the redox potential of the RFB electrolytes for real-time monitoring of SOC during charging / discharging of working cell.

The SOC Cell features

- Integrated with FlowCell® software
- Easily assembled / disassembled for cleaning and membrane replacement
- All wetted parts are non-metallic
- Materials of construction can be selected based on the operating environment



PRODUCT CONFIGURATION

LET’S CONFIGURE YOUR TEST SYTEM
If It Isn't On The Page, Let’s Talk Customization

8

5

7

X

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P

T

POWER SUPPLY	
Code	Description
X	500W, 100A, 5V, EIS

THERMOCOUPLE CODE	
Code	Cell Thermocouple Type
T	Type T

BOTTLE CODE	
Code	Bottle Size
0	2x 250ml
1	2x 500ml
2	1x 250ml, 1x 500ml
3	1x 250ml, 1x 1L
4	1x 500ml, 1x 1L
Z	2x 1L
#	Custom Configuration, Please Contact Scribner With Your Requirements

BOTTLE CODE	
Code	Bottle Material
P	PFA
#	Custom Configuration, Please Contact Scribner With Your Requirements

PLUG (VOLTAGE) CODE	
Code	Plug Type
B	Brazil Plug (120V)
C	Chinese Plug (230V)
E	European Plug (230V)
N	North American Plug (120V)
U	UK Plug (230V)



EMPOWERING ELECTROCHEMISTRY



ABOUT US

We're the power behind the pioneers—advancing electrochemical research with precision instruments, deep expertise, and unwavering support.

More than a supplier, we're a trusted partner in innovation, removing technical barriers so scientists can focus on breakthroughs that shape the future.

From lab bench to global impact, Scribner makes complex research possible, precise, and scalable.

OUR EXPERTISE

Electrochemistry isn't just what we do—it's who we are. With decades of experience and industry-defining innovation, we deliver cutting-edge electrochemical instrumentation and expert insight that empower scientists to push boundaries.

Whether you're optimizing performance at the molecular level or scaling up for global impact, we provide the precision tools and partnership to turn possibility into progress.

Our product catalog includes:

- Fuel Cell Test Systems
- Electrolyzer Test Systems
- Membrane Conductivity Test Systems
- Redox Flow Cell Test Systems
- Battery Test Systems

STAY CONNECTED

www.scribner.com
p: 910-695-8884
e: info@scribner.com

1930 N. Poplar Street
Suite 23
Southern Pines, NC, 28387
United States of America