# 857 REDOX FLOW CELL TEST SYSTEM

## Integrated Turn-Key Test System for Redox Flow Cell Research & Development

**New! 20 Amp Option Available**

- ✓ Charge-Discharge Cycling & Performance Characterization
- ✓ Custom ***FlowCell***™ Software for Complete Process Control & Experimentation
- ✓ Multi-Range Potentiostat for High Accuracy Current Measurement
- ✓ Whole and Half-Cell Voltage, EIS and HFR Measurement
- ✓ Real-Time State-of-Charge Monitoring

### FEATURES:


- Integrated system including: cell charge/discharge, electrolyte flow control, temperature control, and data acquisition
- **FlowCell™** software for user-friendly system operation & experimentation.
- **FlowCell™** data files are compatible with CView & FCView for easy data analysis & graphing
- High-current, multi-range potentiostat operates in current- or voltage-controlled operation
- Impedance Analyzer for EIS & HFR at OCV & during charge/discharge
- High-impedance V-sense inputs for whole & ½-cell measurements including EIS & HFR
- State-of-charge (SOC) voltage inputs for DC SOC measurement when used with SOC cell
- All non-metallic electrolyte handling system: 2 pumps, reservoirs, drain & purge valves
- Cell & electrolyte temperature control to 90 °C
- High performance peristaltic pumps with variable flow rate plus forward & reverse direction
- Electrolyte shielding with inert gas purge & blanket

### OPTIONS & ACCESSORIES:

- Electroltye Reservoir Stirring
- Glass or Plastic Electrolyte Reservoirs
- 3 Tubing Sizes for Flow from < 1 to 1000 mL/min
- 8 Temperature + 8 Analog Data Expansion Unit Integrated with **FlowCell™**
- State-of-Charge (SOC) Cell
- Single Cell Hardware & SGL Carbon SIGRACELL® Graphite Felt Electrodes

Scribner Associates incorporated
ADVANCED PRODUCTS FOR ELECTROCHEMICAL RESEARCH

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# SPECIFICATIONS:

**Potentiostat:**

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|---|---|
| Current Ranges (3 or 4): | 0.07 A, 0.7 A, 7 A, 20 A (optional) full scale (FS) |
| Current Resolution: | 4.88 µA (0.07 A FS) to 1.39 mA (20 A FS) |
| Current Accuracy: | ± 1.0% of full scale current of selected range |

**Voltage Measurement and Data Acquisition:**

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|---|---|
| Set and Read Voltage *vs*. WE: | ± 3.000 V |
| Cell Voltage Sense Leads: | Differential with driven shields |
| Voltage Measurement Resolution: | 152 µV |
| Sense Lead Input Resistance: | 1 GΩ |
| Data Acquisition Rate: | 10 points/second |

**Impedance Analyzer:**

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|---|---|
| Internal Impedance Analyzer Type: | Single sine, one generator and two gain/phase measurement channels |
| Internal Analyzer Frequency Range: | 1 mHz to 10 kHz |

**Electrolyte Fluid Handling System:**

Computer-controlled peristaltic pumps (2); <1 to 1,000 mL/min
All non-metallic flow path and reservoirs. Standard materials of construction: Borosilicate glass, PVC, PFA, PP, Viton (Other materials available on request)
Independent drain & purge valves for positive & negative electrolytes
Nitrogen purge and blanket; Electrolyte level monitoring

**Optional Data Acquisition:**

8 Temperature plus 8 Voltage measurement channels

**Temperature Controllers:**

Three: cell, anode electrolyte, cathode electrolyte

| | |
|---|---|
| Set & Report Accuracy: | ±0.25% of span, ±1 least significant digit |
| Sensor Type: | Thermocouple, Type T |

**Environment:**

| | |
|---|---|
| Operating Temperature: | 5 to 35 °C |
| Power Source: | 110-120 V, 50-60 Hz, 10 A (Export model 220-240V, 50-60 Hz, 5 A) |
| Size and Weight: | Electronic Control Unit: 48 W x 13 H x 53 D $cm^3$ (19 x 5.25 x 21 $in^3$); 9 kg (20 lb) |
| | Fluid Control Unit: 50 W x 65 H x 65 D $cm^3$ (20 x 25 x 25 $in^3$); 16 kg (35 lb) |

**Safety Features:**

Automatic shutdown on under- and over-voltage or current, over-temperature, or communications failure
Emergency stop switch for manual operator shutdown

Specifications for 25 ºC unless otherwise noted. Price and/or specifications subject to change without notice.



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