857
Redox Flow Cell Test System

The ideal solution for R and D of single RFB cells

The 857 includes FlowCell® software and features a multi-range potentiostat for high accuracy current measurement, as well as real-time state-of-charge monitoring.

The 857 features

- 0.07 A, 0.7 A, 7 A, 20 A current ranges
- High-current, multi-range potentiostat operates in current- or voltage-controlled operation
- ± 5 V operation for non-aqueous electrolytes
- Charge / discharge cycling & performance characterization
- Four reservoir sizes- 100 mL, 250 mL, 500 mL, and 1 L
- Whole and half-cell voltage, EIS and HFR measurement
- Impedance Analyzer for EIS and HFR measurements during charge, discharge and at OCV
- High-impedance V-sense inputs for whole and half-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: pumps, electrolyte reservoirs, drain and purge valves
- Control of cell temperature up to 200 °C & electrolyte to > 100 °C (pressure & boiling point dependent)
- Peristaltic pumps with variable flow control including forward and reverse
- Electrolyte shielding with inert gas purge blanket
- Electrolyte reservoir stirring

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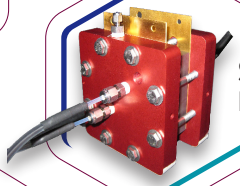
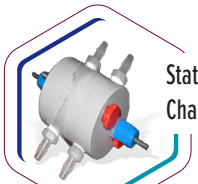
OPTIONS


FlowCell Software


H-Cell


Single Cell RFB Hardware


Four Reservoir sizes


State-of-Charge Cell

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SPECIFICATIONS: 857 Redox Flow Cell Test System

Potentiostat:

Current Ranges	20 A, 7 A, 700 mA, 70 mA full scale (FS)
Current Resolution	1.4 mA (20 A FS) to 4.88 µA (70 mA FS)
Current Accuracy	± 1% of full scale current of selected range

Voltage Measurement and Data Acquisition:

Set and Read Voltage vs WE	± 5.000 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:

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
	Independent drain & purge valves for positive & negative electrolytes
	Nitrogen purge and blanket; Electrolyte level monitoring

Temperature Controllers:

Three	Cell, anode electrolyte, cathode electrolyte
Set and 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 220-240 V, 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

Additional information:

SIGRACELL® is a registered trademark of SGL Carbon SE	*Specification for 25 ° C ambient temperature unless otherwise noted.