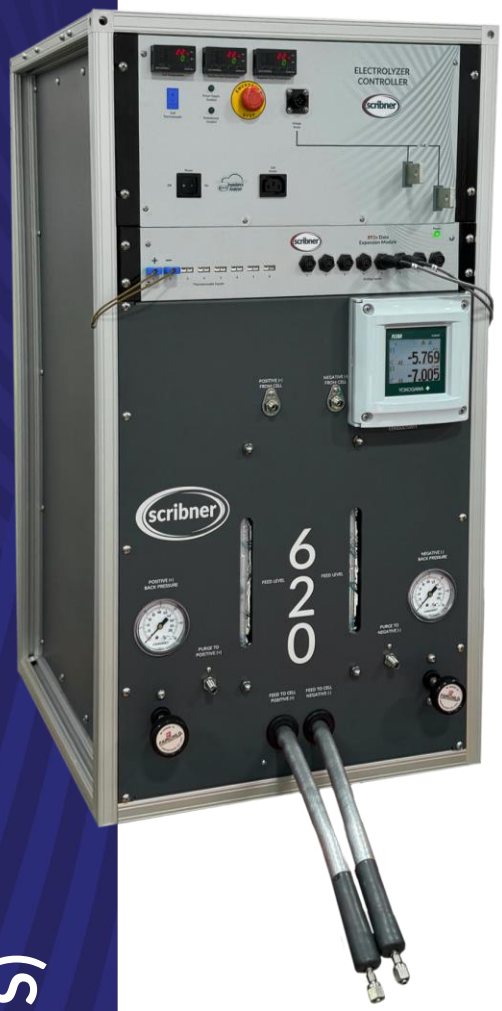
Electrolyzer Test Systems (ETS)



NEW 620 2nd GEN

Fully-Integrated, Bench Top, Instrument For Proton Exchange Membrane (PEM) & Anion Exchange Membrane (AEM) Water Electrolysis.

FEATURES

Advanced Diagnostics:

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

Programable Power Supply For Operation Up to 100 A, 5 V, 500 W

Automated Switching Between Potentiostat & Power Supply Modes

Half Cell Measurements in Potentionstat & Power Supply Modes

Unattended Operation:

Conductivity Monitoring, Smart Feedstock Management With Automatic Filling, Mixing & Balancing, Self Draining Condensation Tanks, & Electronically Controlled Purge Gas

Intuitive Controls:

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

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

Integrated Safety Features Controlled By Software & Firmware

Extra Data Acquisition Connections

SPECIFICATIONS

Electrical

Power Supply Max Current:
100 A

Voltage Range:
0 – 5.000 V DC

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

Impedance Measurement Types:
Sweep EIS and Single-Freq HFR Real-Time Measurement, Whole Cell and Aux

Cell & Electrolyte Handling

Flow Path:
All 316SS

Liquid Feed Tanks:
2x 1L, Auto-Fill, Auto-Mix

Liquid Feed Concentration:
In situ KOH Conductivity

Liquid Feed Flow:
50 – 700 mL/min

Liquid Feed Temp:
Ambient – 95 °C

Liquid Filtration:
In-line De-Ionized Recycling Loop

Back Pressure:
Dual, 0 – 2 bar_g (0 – 30 psig), Manual

Purge Gas:
2x 0.5 SLPM N_2 MFC

Water / Gas Separation:
2x Auto-Draining Condensers

Product Mass Flow Measurement:
1 SLPM H_2 & 0.5 SLPM O_2

Additional Data Acquisition:
6 Temp & 6 Analog (0 – 5 V, 4 – 20 mA)

Cell Temperature:
Ambient – 125 °C

Cell Connection:
4-Terminal (I+, I-, V+, V-) & Differential Aux (REF)

Physical

Operating Temperature:
5 – 35 °C

Power Source:
100 – 120 or 220 – 240 VAC 50/60 Hz

Size (Excluding Connections):
53 x 53 x 100 cm (21 x 21 x 39.5 in)

Weight (Empty):
~65 kg (140 lbs)

Options

Tubing & Fitting Cleanliness:
Swagelok® SC-11 for Ultra Clean Testing

Tubing & Fitting Materials:
Inconel 625 for Corrosion Resistance

Liquid Feed Tanks:
Teflon™ Coating for Corrosion Resistance

In-Line Gas Sensors (Optional):
Monitor H_2 in O_2 & O_2 in H_2

Safety

Robust:
Embedded Firmware Level Decisions

Fail Safe Design:
N_2 Purge On Alarm Condition

Continuous Monitoring:
E-Stop, Voltage, Current, Temperate, Gas Contamination & External Signals

EXTRAS

Electrolysis Cell Fixtures

Low- & High-Pressure Fixtures with Multiple Material Options

Product Sensor Kits

Monitor Product Cross Over and Enhance Safety: H_2 in O_2 & O_2 in H_2

Scribner Software

FlowCell®

ZView®

Power by Scribner's Proprietary Software