

## Electrolyser

### Stack Test Station



- Power ranges from 50W to 1MW
- PEM and Alkaline versions available
- Featuring Emerald™ control software
- Fully automated for unattended operation
- Easily expandable for additional I/O and diagnostic tools
- Automated hardware and software safety features
- Inert gas purge system
- Remote monitoring and control
- Available CE certificate of conformity

# ETS Features

- Anode and cathode DI water supply
- DI water and gas separation on outlet
- Pressurized control on both anode and cathode
- Automatic nitrogen purge on shutdown

#### Additional options include:

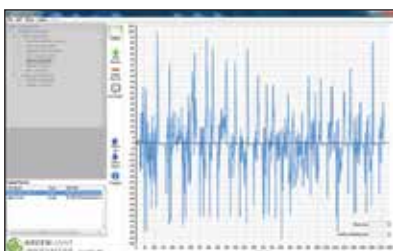
- Cathode water recirculation
- Pre-pressurization
- Gas chromatography
- Impedance spectroscopy
- Anode and cathode product gas analysers
- In-line oxygen and hydrogen gas sampling

#### Includes 3 levels of safety:

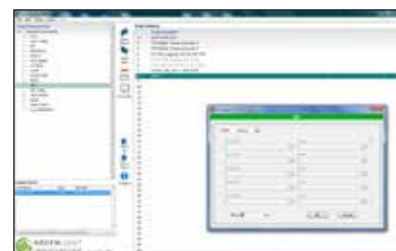
1. Hard-wired interlocks with emergency stop
2. Factory software interlocks
3. User-configurable software interlocks (warning high/low alarms and shut-down high/low alarms)
  - N<sub>2</sub> purge
  - H<sub>2</sub> sensor
  - Optional safety enclosure

Greenlight's ETS series sets the industry standard for both PEM and alkaline electrolyser testing.

**Emerald™** : Our flexible control software features a user-friendly interface, and is enhanced with our proprietary automation capability. The flexible **Emerald™** scripting language allows complex script assembly within minutes for all types of users; from novices to experts.



Load Cycle Importer Graph



Script Writer Graph

## Specifications

<b>POWER RANGE</b>	50W - 1MW
<b>WATER FLOWS</b>	Anode and cathode DI water supply with metering pumps
<b>PRESSURE CONTROL</b>	Up to 50 bar (725 psi), with optional pre-pressurization
<b>STACK COOLING</b>	Anode and Cathode DI water cooling with recirculation
<b>POWER SUPPLY</b>	Constant current, constant voltage, up to 1000A and 1000V or more
<b>DATA ACQUISITION SYSTEM</b>	Cell voltage and temperature
<b>DIMENSIONS (L x W x H) approximate</b>	1400 x 1130 x 1800 mm (54 x 45 x 72 in) (Additional frame sizes available)

## Electrolyser Test Hardware Features

#### Features include:

- Unique O-ring sealing technology for operating pressures up to 50barg
- Designed for active areas of 25 cm<sup>2</sup> or 50cm<sup>2</sup>
- Anodized aluminum end plates with titanium internal plates
- Designed for horizontal or vertical orientation
- Optional liquid thermal management for uniform temperature control
- Optional electrical cartridge heating



PEM Electrolyser Research Hardware

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