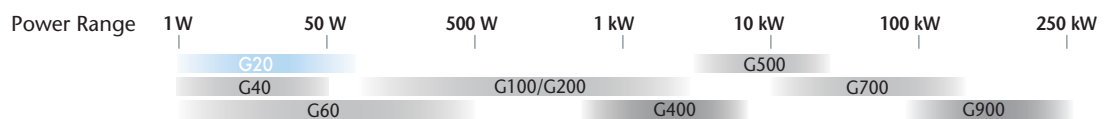


## PEM Fuel Cell Single Cell Test Station



- » G20 power range: 0 - 100 Watts
- » Manual and automated operation
- » HyWARE II™ control software
- » Automated scripting capability
- » Safety systems for unattended operation
- » Computer and monitor included
- » Bench top design
- » Cost effective
- » Optional configuration for high temperature PEM research
- » Optional fuel cell hardware available
- » Available CE certificate of conformity

# G20 features

- » Small footprint, bench top design
- » Safety system with N<sub>2</sub> purge
- » 2 PID controllers for cell endplate heaters
- » Computer and LCD monitor included
- » Manual humidifier by-pass (automated valves optional)
- » H<sub>2</sub> sensor
- » Zero volt load bank
- » Greenlight sparger humidifier technology
- » HyWARE II control software
- » Manual pressure control (automated control optional)
- » Options include: EIS instrument, high current load bank, fuel cell hardware
- » Additional CVM or I/O available
- » DMFC versions available

**Performance Commitment:**

At Greenlight, we pride ourselves on making the world's best fuel cell testing equipment. We are committed to your satisfaction and we will do whatever it takes to meet or exceed your expectations.

**Includes 3 levels of safety:**

1. Hard-wired interlocks
  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
  - » Manual emergency stop

The G20 is an economical complement to our fuel cell test station product line with expanded capability in low power fuel cell characterization. The G20 test station has been designed for small active area, single cell R&D testing. It uses the same sophisticated control software as our larger stations.

HyWARE II™ : Our control and automation software offers exceptional functionality with a user-friendly graphical interface. Enhanced with our proprietary HyAL™ automation language and load following technology, HyWARE II comprehensively manages the full range of test station parameters with a simple user-friendly interface that permits even novices to assemble automation scripts in minutes. HyAL is exponentially more powerful than look-up table automation systems, and computer programming skills are not required to create even complex automation scripts. Greenlight even offers optional pre-written scripts to help you start testing right away.

## Specifications

<b>APPROXIMATE POWER RANGE</b>	0 - 100 W
<b>GAS FLOWS</b>	100:1 turndown MFC's
Standard anode flow range	0.01 - 1 nlpm
Standard cathode flow range	0.025 - 2.5 nlpm
<b>GAS HUMIDIFICATION TECHNOLOGY</b>	gas immersion with sparger
Dew point control	up to 90°C (194°F)
Gas temperature	up to 110°C (230°F)
Dry gas by-pass	manual control standard (optional automated control)
<b>ELECTRICAL END PLATE HEATER CONTROL</b>	individual anode and cathode PID heater controls
<b>CELL PRESSURE CONTROL</b>	manually controlled regulators (optional automated control)
Pressure control range	up to 300 kPa <sup>†</sup> (45psi)
<b>LOAD BANK</b>	
Maximum load, current, voltage	300 Watts, 80 Amps, 50 Volts
<b>CELL VOLTAGE MONITORING</b>	
Standard number of channels	2 (average accuracy +/- 1mV)
<b>DIMENSIONS (L x H x W) (approximate)</b>	635mm X 788mm X 546mm (25" X 31" X 21.5")

<sup>†</sup> Dependent on actual operating conditions - higher temperature, pressure options available  
Greenlight Innovation Corporation, Burnaby, B.C. Canada. All specifications and illustrations contained in this brochure are based on the latest product information available at the time of printing. Greenlight reserves the right to make changes at any time without notice in materials, equipment, specifications and models. Printed in Canada.

