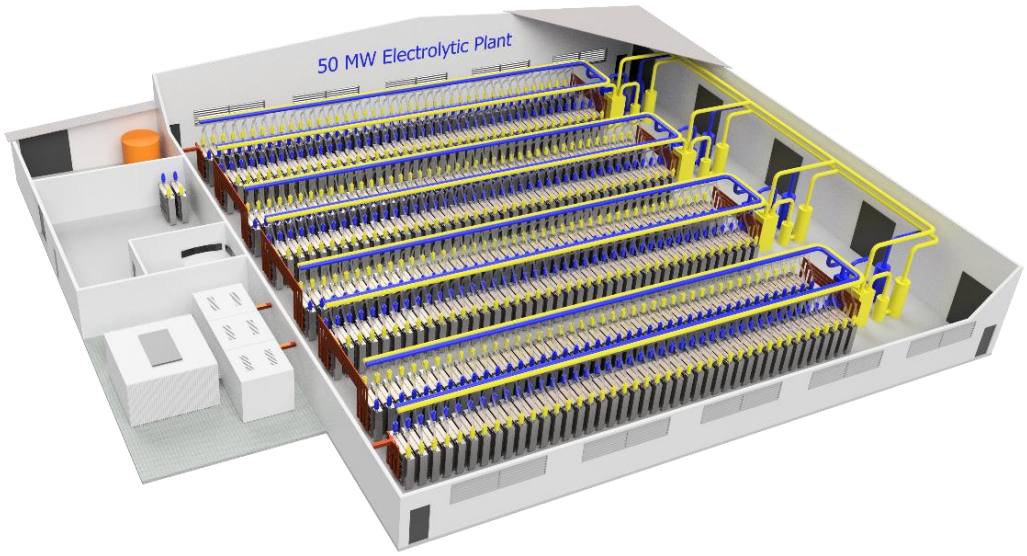
RUGGEDCELL™
High Power Electrolyzer

Hydrogen Optimized™
Green Hydrogen At Scale




## WATER ELECTROLYZER PRODUCT SPECIFICATION

Hydrogen Optimized's patented **RuggedCell™** unipolar alkaline water electrolyzers are designed for the lowest levelized cost of clean hydrogen at large scale. Building on the proven Stuart technology platform, the system's attributes include **dynamic power response**, **20-year lifespan** with minimal efficiency loss, **low-cost on-site maintenance**, and **no Iridium and PFAS "forever chemicals"**.

| Specifications | RuggedCell™ Module |
|---|---|
| Production Rate | 950 kg/hr |
| Output Pressure | 0.2 +/- 0.1 barg |
| Hydrogen Purity | 99.9 +/- 0.05% dry basis |
| Cell Efficiency (DC) | 42 - 51 kWh/kg* |
| Operating Range | 0-100% |
| Rectifier Efficiency at Peak Operating Range | 98.5% |
| Ramp Rate 0 – 100% (Hot) | ≤10 seconds |
| Ramp Rate 0 – 100% (Cold) | ≤ 1 minute |
| Operating Temperature | 70-75°C |
| Cooling Duty | 10 kWh/kg $H_2$ |
| Electrolyzer Power Consumption Degradation | 5 - 7% over 20 years |
| Feedwater Consumption | < 10 L/ kg $H_2$ |
| Feedwater Purity | <2 µS/cm |
| Electrolyte | 30% Potassium Hydroxide |

* System specific consumption considers beginning of life and operation across the entire load range of 0% to 100%

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# KEY FEATURES & BENEFITS

## DESIGNED FOR THE LOWEST LEVELIZED COST OF CLEAN HYDROGEN AT LARGE-SCALE

FLEXIBLE AND SIMPLE SOLUTION:

- Size flexibility to match end-use requirements – choice of 12.5 MW and 50 MW standard single modules, or customize to any size in-between
- Adaptable to wide variations in electrical power inputs from intermittent renewable sources – ensures flexible integration with renewables and high purity over full operating range
- Flexible efficiency– system efficiency can be customized to capital spending requirements

DURABILITY:

- Low efficiency degradation
- Durable and reliable components ensure maximum up-time
- Low-cost onsite maintenance – modular design enables fast replacement of key components

SCALABLE & COST-EFFECTIVE:

- All balance of plant components included in system
- Lowest electrification cost in the industry
- Supply chain reliability through use of commonly available materials (e.g. steel, nickel), a precious metal-free design and in-house manufacturing of key components