

Version 7 SOEC Technology

Solid Oxide Electrolysis Stack

Clean energy starts with Ceres

A leading developer of clean energy technology; electrolysis for the creation of green hydrogen and fuel cells for power generation. Ceres' solid oxide platform technology supports greater electrification of our energy systems and produces green hydrogen at high-efficiencies as a route to decarbonise emissions-intensive industries.

Technology licensing

Our tried and tested partnering model provides companies with a quicker route to market and allows manufacturing partners to licence the cell and stack technology for mass manufacture, and system partners to licence the system technology for integration into clean energy technology products.

Applications for green hydrogen

Low-cost green hydrogen is particularly well-suited to hard-to-decarbonise sectors such as green steel and ammonia production, which uses a lot of heat. Ceres' SOEC technology is well suited to integration with industrial processes where waste heat can be utilised to increase efficiency.

Key features

- Industry-leading efficiency
- Best-in-class robustness
- Low temperature SOEC stack operation of 450-630°C
- Ideal for green steel, e-fuels, refineries, and ammonia
- Pressurised hydrogen output
- Inherently low-cost design utilising common steels
- Easily recyclable – 88% steel by mass, zero PGM content



Ceres' solid oxide technology



Scalable



High Efficiency



Modular



Robust



Low Cost



Long-Life

Specification

Hydrogen Production Rate, kg/h	0.87
Hydrogen Production Efficiency, kWh/kg	34.5
DC Input Power, kW	30
Hydrogen Delivery Pressure, bar(g)	2
Ramp Up Rate, %/min	7
Nominal Current, A	58.5
Nominal Voltage, V	512
Stack Weight, kg	108
Nominal Stack Dimensions	674mm (H) x 353mm (D) x 199mm (W)

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