



Product sheet
Battolyser® 250



Mission #truegreen

We are on a mission to realize a transition towards a net zero world in which energy is secure and affordable.

Green hydrogen will play an important role in achieving this mission as it can be used to decarbonize hard-to-abate sectors.

But hydrogen is only truly green if it is produced using renewable energy. Battolyser 250 is an electrolyser with an operating range of 200% (-100% to 100%), which produces hydrogen from renewable sources with high efficiency, easily handles any fluctuations in supply, and even allows you to sell power back to the grid.

This ensures the lowest Levelised Cost of Hydrogen and deliver the most valuable truly green hydrogen.

Imagine... Always Clean Energy

Why Battolyser?

As we move towards a net zero energy system, we encounter many challenges. Power supplies become more non-steerable, leading to congested grids and volatile prices. We also need access to green molecules to decarbonize the hard-to-abate sectors.

Battolyser allows anyone to produce true green hydrogen at the lowest Levelised Cost of Hydrogen and helps to balance the grid.

The combination of flexibility, high efficiency and industrial robustness makes the Battolyser a next-generation electrolyser. Battolyser is the only electrolyser that complies with current and future EU regulations (the RED II Delegated Act, Net Zero Industry Act and Critical Raw Materials Act).



Efficient

- Up to 90% stack efficiency in 2025.
- Battolyser has an uptime of nearly 100%, functioning primarily as an electrolyser and periodically as an electricity store pushing your green power to the grid. This dual functionality maximizes your return on investment.



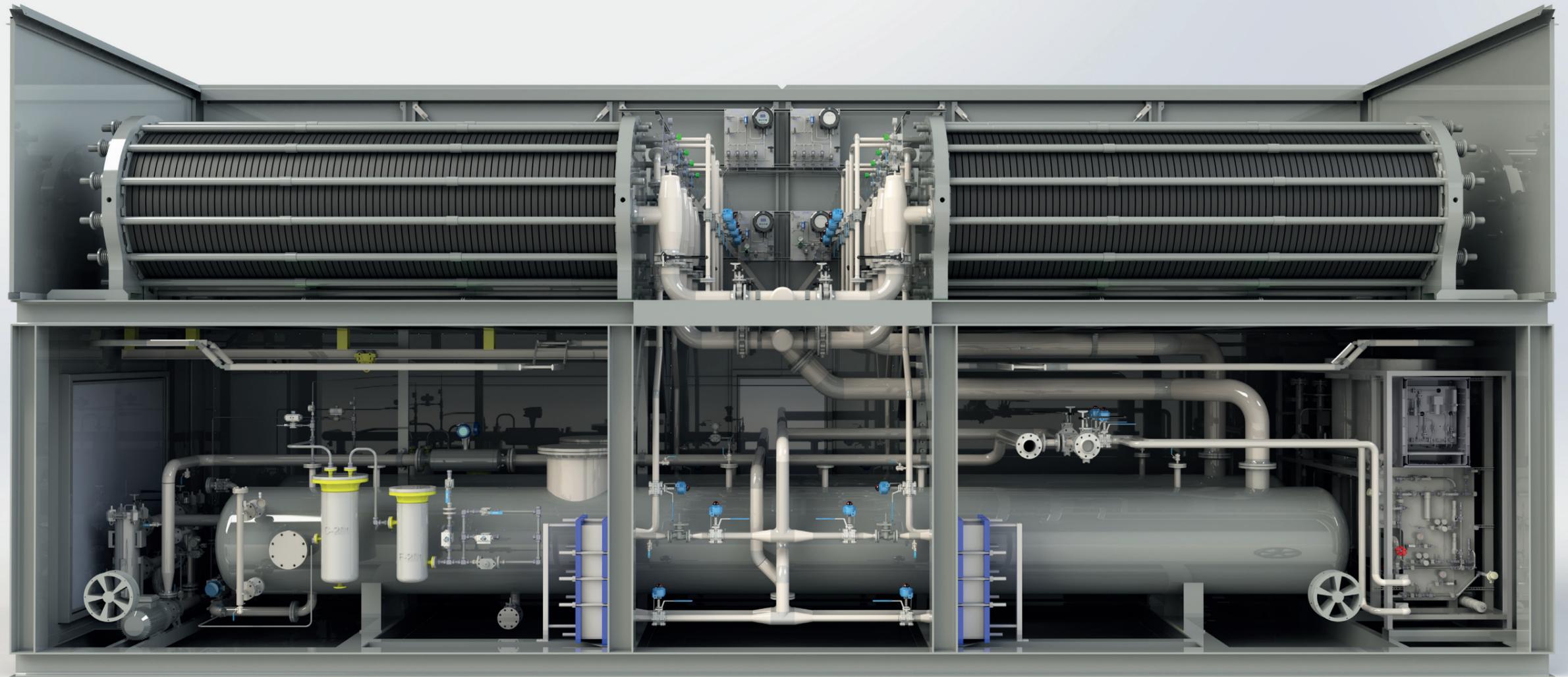
Flexible

- Lower average cost of power, only producing hydrogen when electricity prices are low, and the option to discharge stored power into the grid when power prices are high.
- Ability to arbitrage between hydrogen and power markets.
- Only uses electricity from renewable sources. The system is sufficiently flexible to follow any renewables load curve.
- Complies with strictest rules for temporal correlation and local electricity production.
- Battery storage capacity for maximum flexibility.



Scalable

- Longer lifetime, no electrochemical degradation. The low operational temperature of our systems ensures conditions are more benign, resulting in increased longevity.
- Use of abundant iron and nickel, no rare earth metals. All raw materials sourced sustainably from conflict-free zones.
- Designed for easy recycling at end-of-life.



Battolyser 250 offering

Battolyser Systems will develop and produce several commercial demonstration units of 1 to 5 MW/MWh. These units are skid-mounted with fully equipped balance of system.

A commercial demonstration unit offers a unique opportunity to validate the technology and business model for a Battolyser application at scale.

The scope of supply for a Battolyser 250 includes: stacks, control system, power supply unit and product purification equipment. Power grid connection, permissions, civils works and any utility supplies are not in scope.

Battolyser 250 Specifications

Electrolysis capacity	1-5 MW
Battery storage capacity	1-5 MWh
Operating range	-100% - 100%
H2 pressure	30 barg
H2 purity	Up to 99.97% and -40°C dewpoint (after drying)
H2 production	Up to 19 kg / hr
Stack efficiency	49 kWh / kg H2
Overall system efficiency	53 kWh / kg H2
Battery roundtrip efficiency	75%
Operating temperature	45°C
Footprint	Skid 13.2m x 4m x 6.7m Power & Control unit: 30 ft container

Battolyser 1000 Roadmap

The full commercial product, Battolyser 1000, will be ready for installation early 2025. Battolyser 250 customers will be prioritized for Battolyser 1000 production capacity.



Battolyser generation	Battolyser 250	Battolyser 1000
Ready for delivery	2024	2025
TRL	7/8	9
Electrolysis capacity	1-5 MW	+10 MW and scalable
Battery storage capacity	1-5 MWh	>2.5 MWh / MW
Operating range	-100% to 100%	-25% to 100%
Project delivery	Skid mounted	Stick build
Delivery scope	Stacks + BoS	Stacks + Power Supply Unit + Control System
H2 production	Up to 19 kg / hr	Up to 20.5 kg / hr / MW
Stack efficiency	49 kWh / kg H2	46 kWh / kg H2
Overall system efficiency	53 kWh / kg H2	49 kWh / kg H2



Battolyser® is a registered trademark of Battolyser Systems.



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