

Bloom Electrolyzer™

37.5 kWh/kg (System Efficiency)

The world's most efficient hydrogen electrolyzer.

The Bloom Electrolyzer utilizes solid oxide technology's high efficiency to produce green hydrogen, leveraging decades of solid oxide experience.

- **Robust and established supply chain base with over 2GW of annual production capacity**
- **Modular design that allows for continuous operations and concurrent maintenance**
- **No oxygen in the hydrogen stream (eliminates the need for deoxygenation units)**



Efficient. Robust. Economical.



High temperature electrolysis can split steam molecules with less energy than low-temperature electrolysis.



Bloom has over 1GW of solid oxide technology already deployed. The Bloom Electrolyzer uses the same base platform and all the learnings from the past decade.



The Bloom Electrolyzer produces cost-effective hydrogen by virtue of its efficiency, modularity and low reliance on rare earth metals.

SPECIFICATIONS⁺

Decarbonizing the world through green hydrogen.

Efficiency

System _____ 37.5 kWh/kg ⁺

Warm Start-up Time

_____ ~ 10 minutes

H₂ Output

Pressure _____ Atmospheric
 Temperature _____ 100-180 °C
 Composition _____ 85% H₂, 15% H₂O mol

Steam Input

Pressure _____ 4.5-5.5 bar(g)
 Temperature _____ 150-200 °C
 Volume _____ 10.5L of H₂O/kg of H₂

Electrical Input

Voltage _____ 800VDC

H₂ Input (For Start-up)

Purity _____ 99.9%

Ambient Temperature -20 to +45 °C

⁺ Includes stack, heater, and all other system loads and losses

Modular Bloom Electrolyzer Key Data

H ₂ output (mt [*] /day)	H ₂ output (kg/hr)	H ₂ output (Nm ³ /hr)	Power consumption
1.2	48	534	1.8MW
4.6	192	2137	7.2MW
6.9	288	3205	10.8MW
16.1	672	7479	25.2MW
32.3	1344	14957	50MW
64.5	2688	29914	100MW
127.9	5327	59294	200MW
336	14014	155980	525MW
640**	26685	297003	1GW

*mt = metric tonnes

**No cap on the size of the system in increments of 1.8MW



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Specifications subject to change

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