Bloomenergy

DATA SHEET | ELECTROLYZER

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+ solid oxide technology already deployed. The Bloom Electrolyzer uses the same base platform and all the learnings from the past few decades.

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

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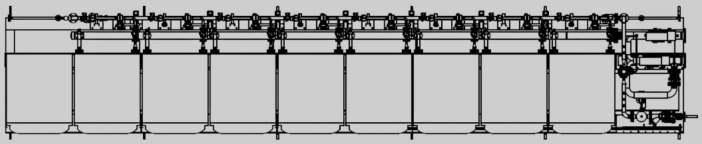
1.2MW BLOOM ELECTROLYZER
770kg/day



SPECIFICATIONS+

Efficiency
System — 37.5 kWh/kg+

Warm Start-up Time
~ 10 minutes

Electrical Input
Voltage — 800VDC
Current — 1500A

H_2 Input (For Start-up)
Purity — 99.9%

H_2 Output
Pressure — 25 mbar(g)
Temperature — 100-180°C
Composition — 85% H_2, 15% H_2O mol

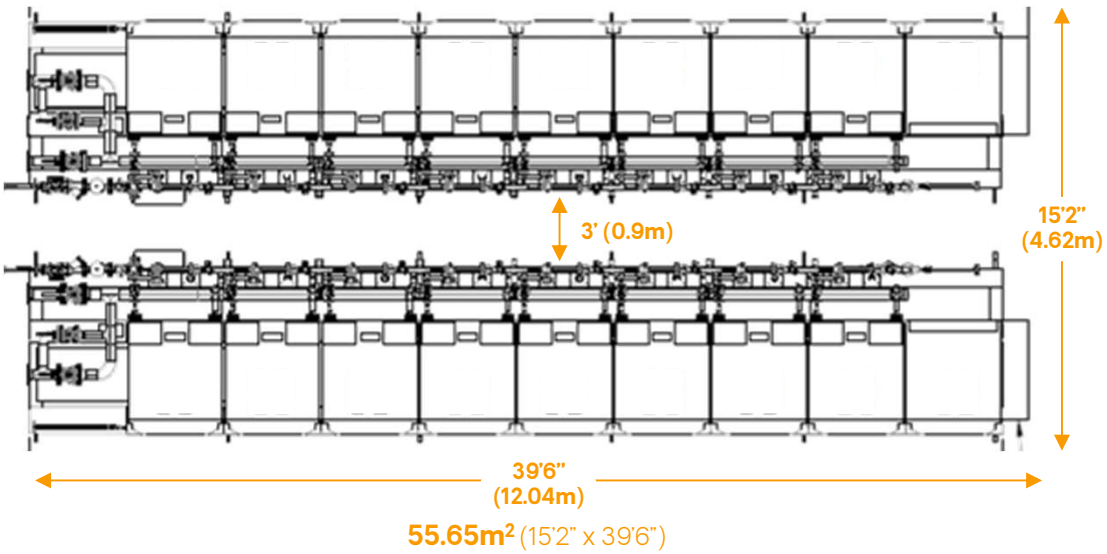
Steam Input
Pressure — 4.5-5.5 bar(g)
Temperature — 150-200°C
Flow rate — 10.5L of H_2O/kg of H_2

Ambient Temperature
-20 to +45 °C

MODULAR BLOOM ELECTROLYZER KEY DATA

Power (MW)	Hydrogen Output			
	kg/hr	mt/day	mt/year	Nm^3/hr
1.2#	32	0.77	280	356
2.4	64	1.5	560	712
50	1,344	32	11,772	14,957
1000**	26,685	640	233,759	297,002

2.4MW ELECTROLYZER BLOCK



55.65m² (15'2" x 39'6")

Base block starting from 1.2MW available for demos

+ Only includes Bloom Electrolyzer system loads and losses

** No cap on the size of the electrolyzer in increments of 1.2MW

mt – metric tons

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DECARBONIZING THE WORLD THROUGH GREEN HYDROGEN