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Data Sheet

The Bloom Energy Server 5.5

Using solid oxide fuel cell technology, Bloom Energy Servers convert natural gas, biogas, or hydrogen into electricity at high efficiency and without combustion, significantly reducing environmental impacts.

Bloom Energy's solid oxide fuel cell (SOFC) platform provides an electrochemical pathway to convert fuel directly to electricity without combustion. Our systems can run on natural gas, biogas, and hydrogen, and our modular platform approach provides a pathway to upgrade existing systems to align with the sustainability goals of our customers over time.

Bloom is working with two leading non-profit organizations, MiQ and Equitable Origin, to help set a responsible standard for sourcing natural gas. Responsibly sourced gas is natural gas whose production has been evaluated across a range of stringent social, environmental, and governance criteria, including climate, community, and labor issues, to ensure that the highest standards and best practices were used to minimize greenhouse gases across its entire value chain.

Clean

Our systems produce near zero criteria pollutants (NOx, SOx, and particulate matter) and far fewer carbon emissions than legacy technologies.

Reliable

Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.

Resilient

Our system operates at very high availability due to their fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.

Simple Installation and Maintenance

Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

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Specifications

Outputs

Nameplate power output (net AC)[1]	330 kW
Load output (net AC)[1]	330 kW
Electrical connection	480V, 3-phase, 50/60 Hz

Inputs

Fuels	Natural gas, directed biogas, blended hydrogen
Input fuel pressure	12–18 psig (15 psig nominal)
Water	None during normal operation

Efficiency

Cumulative electrical efficiency (LHV net AC)[2]	65–53%
Heat rate (HHV)	5,811–7,127 Btu/kWh

Emissions[3]

NOx	0.0017 lbs/MWh
SOx	Negligible
CO	0.012 lbs/MWh
VOCs	0.01 lbs/MWh
CO_2 @ stated efficiency	679–833 lbs/MWh on natural gas; carbon neutral on directed biogas

[1] Nameplate power output and load output in the US is limited to 325 kW based on the most common utility requirement of operating at a power factor, PF ≥ 0.92. If PF requirement is <0.92, Energy Server kW rating is [PF*355 kVA]

[2] 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test

[3] NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3

Physical Attributes and Environment

Weight	15.8 tons
Dimensions (variable layouts)	18'11" x 8'8" x 6'9" or 32'10" x 4'4" x 6'9"
Temperature range	-20° to 45° C
Humidity	0%–100%
Seismic vibration	IBC site class D
Location	Outdoor
Noise	<67 dBA @ 10 ft

Codes and Standards

Complies with Rule 21 interconnection, UL1741 SB and IEEE1547 standards.

Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards.

An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.

Additional Notes

Access to a secure website to monitor system performance & environmental benefits. Remotely managed and monitored by Bloom Energy. Capable of emergency stop based on input from the site.

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Flexible. Future Proof.

Accelerate your path to a zero-carbon future.