

The Bloom Energy Server® 5.5

Bloom Energy's solid oxide fuel cell (SOFC) platform provides a non-combustion pathway to convert fuels directly to electricity. The Energy Server is fuel-flexible and can generate energy using natural gas, blended hydrogen, biogas, and hydrogen. A modular platform approach provides a pathway to upgrade existing systems to align with our customers' sustainability goals over time. With no water consumption during normal operation and a high operational efficiency, the Bloom Energy Server significantly reduces carbon emissions today, while providing a pathway to operate with cleaner fuels in the future.

The Bloom Energy Server provides reliable and resilient base power to facilities. It is designed in a modular concept ideal for on-site distributed power generation, operating 24x7, supporting the power demand in grid parallel or in a microgrid architecture. In addition, the heat from the flue gas can be captured from the Energy Server and integrated in a Combined Heat and Power (CHP) application.

Bloom Energy has over 1 GW of power generation installations deployed globally across six countries. The Energy Server is suitable to address power needs in any industry and has multi-megawatt installations across industries such as retail, datacenters, hospitals, sporting arenas, manufacturing and warehousing.



Clean

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



Reliable

Bloom Energy Server is designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365.



Resilient

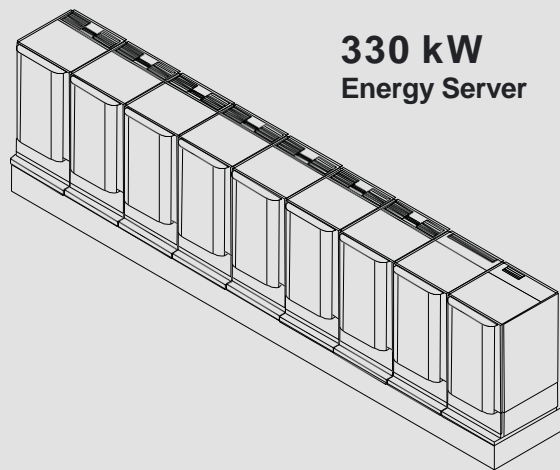
Our system operates at very high availability due to its fault-tolerant design and use of the robust natural gas pipeline system. The Bloom Energy Server has survived extreme weather events and other incidences and have continued providing power to our customers.



Simple Installation and Maintenance

The Energy Server is 'plug and play' and has been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.

330 kW Energy Server



Specifications

Outputs

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

Inputs

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

Efficiency

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

Emissions³

NO_x _____ 0.0017 lbs/MWh
SO_x _____ Negligible
CO _____ 0.012 lbs/MWh
VOCs _____ 0.01 lbs/MWh
CO₂ @ 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. NO_x and CO measured per CARB Method 100. VOCs measured as hexane by SCAQMD Method 253

Physical Attributes and Environment

Weight _____ 15.8 tons (Energy Server)
_____ 17.3 tons (Energy Server w/skid)
Dimensions _____ 18'11" x 8'8" x 6'9" (back to back)
_____ 32'10" x 4'4" x 6'9" (linear)
Dimensions w/Skid _____ 33'6" x 4'4" x 7'3" (linear)
Temperature range _____ -20°C to 45°C
Humidity _____ 0%-100%
Seismic vibration _____ IBC site class D
Location _____ Outdoor
Noise _____ <65 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.