



Energy Server 5

Always On, Clean Energy
Using Patented Solid Oxide
Fuel Cell Technology



The Energy Server 5 provides combustion-free electric power with these benefits



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 its 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.

Energy Server 5		Technical Highlights (ES5-EAXAAC)	
Outputs			
Nameplate power output (net AC)	250kW		
Load output (net AC)	250kW		
Electrical connection	480V, 3-phase, 60 Hz		
Inputs			
Fuels	Natural gas, directed biogas		
Input fuel pressure	10-18 psig (15 psig nominal)		
Water	None during normal operation		
Efficiency			
Cumulative electrical efficiency (LHV net AC) ¹	65-53%		
Heat rate (HHV)	5,811-7,127 Btu/kWh		
Emissions²			
NOx	0.0017 lbs/MWh		
SOx	Negligible		
CO	0.034 lbs/MWh		
VOCs	0.0159 lbs/MWh		
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas		
Physical Attributes and Environment			
Weight	13.6 tons		
Dimensions (variable layouts)	14'4" x 8'8" x 6'9" or 28'8" x 4'4" x 7'2"		
Temperature range	-20° to 45° C		
Humidity	0% - 100%		
Seismic vibration	IBC site class D		
Location	Outdoor		
Noise	< 70 dBA @ 6 feet		
Codes and Standards			
Complies with Rule 21 interconnection 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			
¹ 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test			
² NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3			

About Bloom Energy

Bloom Energy's mission is to make reliable, clean energy affordable for everyone in the world. The company's product, the Bloom Energy Server, delivers highly reliable and resilient, Always On electric power that is clean and sustainable. Bloom's customers include twenty-five of the Fortune 100 companies and leaders in cloud services and data centers, healthcare, retail, financial services, utilities and many other industries.

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The Bloom Energy Server 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.



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Specifications

Outputs

Nameplate power output (net AC) — 325 kW
 Load output (net AC) — 325 kW
 Electrical connection — 480V, 3-phase, 60Hz

Inputs

Fuels — Natural gas, directed biogas
 Input fuel pressure — 10–18 psig (15 psig nominal)
 Water — None during normal operation

Efficiency

Cumulative electrical efficiency — 65–53%
 (LHV net AC)¹
 Heat rate (HHV) — 5,811–7,127 Btu/kWh

Emissions²

NOx — 0.0017 lbs/MWh
 SOx — 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 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test
² 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) — 17'11" x 8'8" x 6'9" or
 32'3" x 4'4" x 7'2"
 Temperature range — -20° to 45° C
 Humidity — 0%–100%
 Seismic vibration — IBC site class D
 Location — Outdoor
 Noise — <70 dBA @ 6 feet

Codes and Standards

Complies with Rule 21 interconnection and IEEE1547 standards.

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

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bloomenergy.com

Flexible. Future Proof.

Accelerate your path to a
 zero-carbon future.