



ES-5400 Energy Server

*Welcome to clean, quiet electricity that's always on.
Welcome to the ES-5400 Energy Server.*



CLEAN POWER ON DEMAND

Bloom Energy's ES-5400 delivers clean power to meet your base load electricity needs. Seamlessly producing power in parallel with the utility grid, the ES-5400 will reduce your emissions and save you money.

RELIABLE RISK MITIGATION

The ES-5400 operates at unmatched electrical efficiencies. That means that it consumes less fuel and produces less CO₂ than competing technologies. By providing efficient power on-site, the economic and environmental benefits of your ES-5400 will continue to increase.

INNOVATIVE TECHNOLOGY

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the ES-5400 produces clean power. Unlike other fuel cell technologies, Bloom's SOFCs are well-suited to high-volume, low-cost manufacturing which also makes them uniquely affordable. The ES-5400 also employs a modular architecture that enables the total installation size to be tailored to your base load electricity demand.

ALL-ELECTRIC POWER

The ES-5400's superior electrical efficiency eliminates the need for complicated CHP systems, and expands the deployment opportunities available to you. Your ES-5400 can be installed outdoors in hours rather than months or years.

FUEL FLEXIBILITY

The ES-5400 can run on natural gas, as well as renewable fuels like biogas. You choose what works for you. Onsite fuels can provide added insurance for your critical loads, and the ES-5400 can easily accommodate those needs.

Future generations of Bloom's Energy Servers will offer the unique capacity to operate both as an energy generation and storage device, thus creating a bridge to a 100% renewable energy future.

About Bloom Energy

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators; providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. By generating power where it is consumed, Bloom Energy offers increased electrical reliability and improved energy security, providing a clear path to energy independence.

Headquarters:

Sunnyvale, California

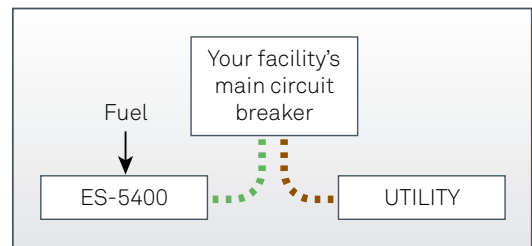
For More Information:

info@bloomenergy.com

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YOUR POWER IS SECURE

The ES-5400 has been designed in compliance to a variety of safety standards, and is backed by a comprehensive warranty. The ES-5400 actively communicates with Bloom Energy's network operations center. Should the system require unscheduled maintenance, we'll be deploying a solution before you even know there's a problem.



Technical Highlights

Inputs

Fuels	Natural Gas, Directed Biogas
Input fuel pressure	15 psig
Fuel required @ rated power	.661 MMBtu/hr of natural gas

Outputs

Nameplate power output (net AC)	105kW
Base load output (net AC)	100kW
Electrical efficiency (LHV net AC)	> 50%
Electrical connection	480V @ 60 Hz, 3 or 4-wire 3 phase

Physical

Weight	11 tons
Size	15' 6" x 8' 6" x 6' 9"

Emissions

NOx	< 0.01 lbs/MW-hr
SOx	negligible
CO	< 0.10 lbs/MW-hr
VOCs	< 0.02 lbs/MW-hr
CO ₂ @ specified efficiency	773 lbs/MW-hr on natural gas; carbon neutral on Directed Biogas

Environment

Standard temperature range	-20° to 45° C (extreme weather kit optional)
Humidity	0% - 100%
Seismic Vibration	IBC site class D
Location	Outdoor
Noise @ rated power	< 70 DB @ 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
Product listed by Underwriters Laboratories Inc. (UL) to ANSI/CSA America FC 1-2004

Additional Notes

Includes a secure website for you to showcase performance & environmental benefits
Remotely managed and monitored by Bloom Energy
Capable of emergency stop based on input from your facility



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