



3 Great Pasture Road, Danbury, CT 06810
Phone: (203) 825-6000 | Email: info@fce.com
Website: fuelcellenergy.com



Data Sheet

Solid Oxide Fuel Cell

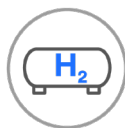
A 250 kW fuel cell system for low-carbon, resilient distributed energy generation

FuelCell Energy's Solid Oxide Fuel Cell (SOFC) system generates 250 kW of reliable, efficient, and low-carbon power. The fuel flexible system is capable of running on natural gas, biogas, or hydrogen. The system's superior fuel efficiency to combustion-based power generation can improve a customer's return on investment. A clean emissions profile, small footprint, and quiet operation make the fuel cell easy to site in urban areas.

Key Benefits



Fuel flexible



Hydrogen ready



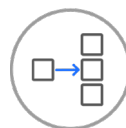
Microgrid capable



High efficiency



Low emissions



Scalable design

Specifications subject to change without notice.

	Natural Gas Fuel	Biogas ¹ Fuel (60% Methane)
Net Power Output ²	250 kW	
Part Power Capability	10 - 100%	
Dynamic Response	10% per minute	
Voltage / Frequency	480 VAC / 60 Hz	
Heat Output, maximum ⁵	382,000 BTU/h	471,000 BTU/h
Efficiency, Electrical / Overall (LHV) ^{2,3}	62% / 90%	58% / 90%
Fuel Consumption	1,491 SCFH @ 1025 BTU/SCF	2,694 SCFH @ 606 BTU/SCF
Dual Fuel Option	Natural Gas & Hydrogen	Natural Gas & Biogas
Fuel Blending Range ⁴ (Performed Onboard)	0 - 100% H ₂	0 - 100% Biogas
Fuel Inlet Pressure	15 - 20 psig	
Water Consumption / Discharge	None during normal operation	
NO _x and CO Emissions	0.01 lb/MWh	
VOC, PM10, SO _x Emissions	Negligible	
CO ₂ (electric only) ⁶	715 lb/MWh	Dependent on biogas source ⁶
CO ₂ (with full heat recovery) ^{6,7}	494 lb/MWh	Dependent on biogas source ⁶
Ambient Temperature Range	-20°F to 104°F	
Noise	< 72 dBA @ 10 ft, option for < 65 dBA	
Codes & Standards	ANSI/CSA FC1-2021: Stationary Fuel Cell Power Systems UL1741SA-2016: Inverters for Use with Distributed Energy Resources	

Dimensions

Length	35' 3"
Width	8' 3"
Height	10' 6"
Weight	80,000 lbs



¹Biogas must be pre-conditioned to meet FCE's fuel composition requirements. FCE can supply the pre-conditioning system, if desired.

²Power and efficiency are rated at beginning of operation and will decrease by approximately 10% over the life of the fuel cell stack module.

³Biogas system efficiency depends upon % methane in fuel. Rating based on 60% methane. Minimum methane % is 55%.

⁴Performance at 50% H₂: 250 kW / 56% electrical efficiency. Performance at 100% H₂: 180 kW / 50% electrical efficiency.

⁵Maximum heat recovery based on cooling the exhaust to 120 F.

⁶Carbon intensity for operation on biogas dependent on biogas source.

⁷CO₂ emissions with full heat recovery is based on the total electric and thermal energy available from the system.

May 2024. All performance figures herein are +/- 5% and subject to change without notice. Specifications in this document are quoted at initial operation and for informational purposes only. Performance results may vary depending on the configuration, environment, settings, fuel source, and other factors. FuelCell Energy assumes no liability resulting from errors or omissions in this document, or from the use of the information contained herein.