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## Data Sheet

# 1500 Fuel Cell System

## A 1250 kW fuel cell system for reliable, low-carbon distributed energy generation

FuelCell Energy's 1500 fuel cell system generates 1250 kW of reliable and low-carbon power. The fuel flexible system can operate on natural gas, biogas, and natural gas/H<sub>2</sub> blends of up to 50% H<sub>2</sub>. The system produces heat that can be used to generate hot water, high-pressure steam, or chilled water to increase overall efficiency. The 1500's low emissions profile allows for quicker permitting, providing customers with faster time to power.

### Key Benefits



Fuel  
flexible



Carbon capture  
ready



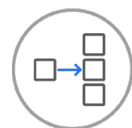
Low  
emissions



Microgrid  
capable



Usable  
heat



Scalable  
design

		Natural Gas Fuel Input	Biogas Fuel Input <sup>1,3</sup>
Output and Performance			
Net Power Output <sup>2</sup>	1250 kW		
Voltage / Frequency	480 VAC / 60 Hz		
Heat Output (Maximum) <sup>2,5</sup>	2.6 MMBTU/h	2.7 MMBTU/h	
Exhaust Conditions	15,300 lbs/hr @ 725°F	16,050 lbs/hr @ 712°F	
Efficiency, Electrical/Overall (LHV) <sup>2</sup>	50% / 80%		
System Inputs			
Fuel Consumption	9,250 SCFH	15,640 SCFH	
Fuel Heating Value, HHV	1,035 BTU/SCF	606 BTU/SCF	
Methane Content	> 80%	55% - 100%	
Fuel Inlet Pressure	15 - 20 psig		
Dual Fuel Option	Natural Gas & Hydrogen	Natural Gas & Biogas	
Fuel Blending Range <sup>4</sup>	0% - 50% Hydrogen	0% - 100% Biogas	
Water Consumption/Discharge	3.9 gpm / 2 gpm		
Emissions			
NO <sub>x</sub> and CO Emissions	0.01 lb/MWh		
VOC, PM10, SO <sub>x</sub> Emissions	Negligible		
CO <sub>2</sub> Emissions (Electric Only)	886 lb/MWh	Dependent on biogas source	
CO <sub>2</sub> Emissions (With Full Heat Recovery)	554 lb/MWh		
Physical and Environmental Attributes			
Ambient Temperature Range	-20°F to 120°F (-30°C to 48°C)		
Dimensions (L x W x H)	58' x 42' x 20' (17.7 m x 12.8 m x 6.1 m)		
Location	Outdoor		
Noise	62 dBA @ 30 ft		
Codes and Standards			
Safety	ANSI/CSA FC-1, NFPA 70 (NEC)		
Grid Interconnection	UL1741, IEEE1547, CA Rule 21		
Emissions	CARB 2007, CARB 2013 (Biogas)		

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

<sup>2</sup>Power and efficiency rated at beginning of operation. Both power and efficiency will decrease by 10%-15% over the life of the fuel cell stack module.

<sup>3</sup>Biogas performance rating based on 60% methane.

<sup>4</sup>Fuel blending can be performed dynamically onboard the FCE system.

<sup>5</sup>Maximum heat recovery based on cooling the exhaust to 120°F.

<sup>6</sup>CO<sub>2</sub> emissions with full heat recovery are based on the total electric and thermal energy available from the system.

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