



FuelCell
Energy

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Data Sheet

2.5 MW FuelCell Energy Block System™

A 2.5 MW fuel cell system for reliable, low-carbon distributed energy generation

2.5 MW FuelCell Energy Block Systems can generate reliable and low-carbon power. The fuel flexible system can operate on natural gas, biogas, and natural gas/H₂ blends of up to 50% H₂. The system's heat can be used to generate hot water, high-pressure steam, or chilled water to increase overall efficiency. A low emissions profile allows for quicker permitting, providing customers with faster time to power.

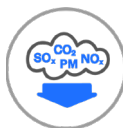
Key Benefits



Fuel
flexible



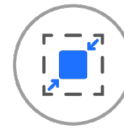
Efficient
power



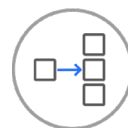
Low
emissions



Microgrid
capable



Compact
footprint



Scalable
design

	Natural Gas Fuel Input	Biogas Fuel Input ^{1,3}
Output and Performance		
Net Power Output ²	2500 kW	
Voltage / Frequency	13.8 kVAC / 60 Hz	
Heat Output (Maximum) ^{2,5}	5.2 MMBTU/h	5.4 MMBTU/h
Exhaust Conditions	30,600 lbs/hr @ 725°F	32,100 lbs/hr @ 712°F
Efficiency, Electrical/Overall (LHV) ²	50% / 80%	
Heat Rate, HHV ²	7,580 BTU/kWh	
System Inputs		
Fuel Consumption	18,315 SCFH	31,280 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 ⁴	0% - 50% Hydrogen	0% - 100% Biogas
Water Consumption/Discharge	7.8 gpm / 3.9 gpm	
Emissions		
NO _x and CO Emissions	0.01 lb/MWh	
PM10, SO _x Emissions	Negligible	
VOC	0.02 lb/MWh	
CO ₂ Emissions (Electric Only)	886 lb/MWh	Dependent on biogas source
CO ₂ 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)	
Installation Footprint (L x W x H)	72' x 60' x 25' 5" (21.9 m x 18.3 m x 7.7 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)	

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

²Power 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.

³Biogas performance rating based on 60% methane.

⁴Fuel blending can be performed dynamically onboard the FCE system.

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

⁶CO₂ emissions with full heat recovery are based on the total electric and thermal energy available from the system.

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