

BlueGEN BG-15 FUEL CELL

Micro Combined Heat & Power (mCHP)



The BG-15 provides 1.5 kW of dependable, resilient power, plus by-product heat

Commercial Status

- Successful BlueGen European operating history:
 - 1500+ installations
 - 30+ million operating hours
 - 7 yr stack life
 - 10 yr service contract
 - Growing installed US operating fleet

Advantages

- High Efficiency - 57% electric, up to 90% total CHP efficiency
- Reduce carbon emissions *today* (~50%)
- “Hydrogen Ready” to step to zero emissions *tomorrow*
- RESILIENT – if grid goes down, fuel cell stays up
- Hi availability ~99% capacity factor
- Highly distributed, dispatchable behind the meter solution helps utility grid
- Can turn down production and load follow

Integration/Installation

- Integrates into MicroGrids with other DER’s and energy technologies
- Base fuel cell product with optional “Resiliency Package” or “CHP Package”
- Indoor or outdoor installation
- Uses low-pressure gas 0.13-0.30 psi



Applications

- Single Family Residential
- Multi-Family Residential
- Small/Med Commercial
- Municipal/Institutional
- Data Centers/Critical Power

Europe’s broad deployment program (“PACE”) installing 1000’s of units in residential and small commercial sites, enabling volume based cost reduction



TECHNICAL DATA

Application	Electrical power generator with heat recovery for commercial businesses, public buildings and private homes
Use	Large residential and commercial buildings
Operation Mode	Year-round (approx. 8,700 hours)
Fuel Type	Natural gas (biogas methane)
Fuel cell technology	Solid oxide fuel cell (SOFC)
Fuel consumption ¹⁾	Approx. 2.7 kW (9.2 MBH)
Power output	Max. 1.5kW, min. 0.5 kW
Electrical efficiency ²⁾	Up to 57%
Thermal output ²⁾	Up to 0.85 kW
Heat recovery	Exhaust gas heat exchanger
Overall efficiency ²⁾	Up to 90%
Electrical energy generated/year	Up to 13,000 kWh
Thermal energy generated/year	Up to 7,395 kWh
Operation	Fully automated start/stop
Carbon emissions	0.5 pounds/kw-hr, 0.75 pounds per hour per unit
Control	24Hr remote monitoring by manufacturer, Internet/smartphone app control
Weight	551 lb
Height x width x length	47.25" x 21.75" x 31.5"
Decibels	< 47 db (A)
Service interval ³⁾	12 months
Full maintenance service	Yes (120 months)

- 1) Based on the lower calorific value for natural gas at the start of operation
- 2) The thermal output/energy varies depending on the electrical efficiency and the return flow temperature
- 3) Filters are replaced depending on the actual water, air, and gas quality

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