C1000 Megawatt Power Package High-pressure Natural Gas



1 MW of reliable electrical power in one small, ultra-low emission and highly efficient package.

- High electrical efficiency over a very wide operating range
- Low maintenance air bearings require no lube oil or coolant
- Ultra-low emissions
- High availability part load redundancy
- Proven technology with tens of millions of operating hours
- Integrated utility synchronization and protection with a modular design
- 5 and 9 year factory protection plans available
- Remote monitoring and diagnostic capabilities
- Internal fuel gas compressor available for low fuel pressure Natural Gas applications



C1000 MicroTurbine

Electrical Performance(1)

Maximum Output Current

Electrical Power Output

Voltage

400 to 480 VAC

Electrical Service

Frequency

50/60 Hz, grid connect operation
10-60 Hz, stand alone operation

1,450A RMS @ 400V, grid connect operation

1,200A RMS @ 480V, grid connect operation

CARB Version

1,550A RMS, stand alone operation⁽²⁾

Electrical Efficiency LHV 33%

Fuel/Engine Characteristics(1)

Natural Gas HHV 30.7 to 47.5 MJ/m³ (825 to 1,275 BTU/scf)
Inlet Pressure⁽³⁾ 517-552 kPa gauge (75-80 psig)

 Fuel Flow HHV
 12,000 MJ/hr (11,400,000 BTU/hr)

 Net Heat Rate LHV
 10.9 MJ/kWh (10,300 BTU/kWh)

Exhaust Characteristics⁽¹⁾ NOx Emissions @ 15% O₃⁽⁴⁾ 9 ppmvd (18 mg/m³)

 NOx Emissions @ 15% O₂ (4)
 9 ppmvd (18 mg/m³)
 4 ppmvd (8 mg/m³)

 NOx/Electrical Output (4)
 0.14 g/bhp-hr (0.4 lb/MWhe)
 0.05 g/bhp-hr (0.14 lb/MWhe)

 Exhaust Gas Flow
 6.7 kg/s (14.7 lbm/s)
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 Exhaust Gas Temperature
 280°C (535°F)
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Exhaust Energy 7,100 MJ/hr (6,750,000 BTU/hr) 7,100 MJ/hr (6,750,000 BTU/hr)

Dimensions & Weight⁽⁵⁾

Width x Depth x Height 2.4 x 9.1 x 2.9 m

(96 x 360 x 114 in)

Weight - Grid Connect Model 14106 kg (31,000 lbs) Weight - Dual Mode Model 17191 kg (37,900 lbs)

Minimum Clearance Requirements⁽⁶⁾

Vertical Clearance 0.6 m (24 in)

Horizontal Clearance

Left & Right 1.5 m (60 in) Front 1.5 m (60 in) Rear 1.8 m (72 in)

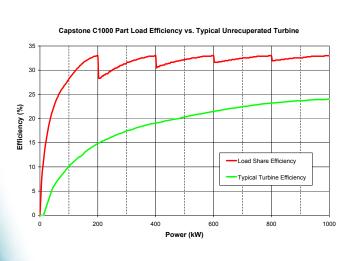
Sound Levels

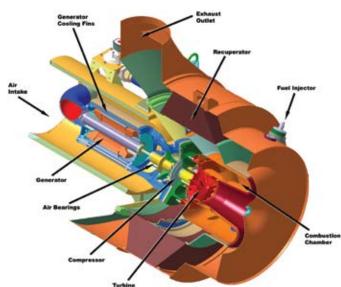
Acoustic Emissions at Full Load Power

Nominal at 10 m (33 ft) 65 dBA

Planned Certifications

- UL 2200 and UL 1741 for natural gas operation under exsisting UL files⁽⁷⁾
- Will comply with IEEE 1547 and will meet statewide utility interconnection requirements for California Rule 21 and the New York State Public Service Commission
- Models will be available with optional equipment for CE marking





C200 Engine

- Nominal full power performance at ISO conditions: 59°F, 14.696 psia, 60% RH
- With linear load
- Inlet pressure for standard natural gas at 39.4 MJ/Nm³ (1,000 BTU/scf) (HHV) Emissions for standard natural gas at 39.4 MJ/Nm³ (1,000 BTU/scf) (HHV)
- Approximate dimensions and weights
- Clearance requirements may increase due to local code considerations
 All models are planned to be UL Listed or available with optional equipment for CE marking
- Specifications are not warranted and are subject to change without notice.

