

# CR1000 Megawatt Power Package Renewable Fuels



World's largest air-bearing turbine system produces 1000kW of clean, green, and reliable power.

- 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



C1000 Power Package

## Electrical Performance<sup>(1)</sup>

Electrical Power Output	1000kW
Voltage	400–480 VAC
Electrical Service	3-Phase, 4 wire
Frequency	50/60 Hz, grid connect operation
Maximum Output Current	1,450A RMS @ 400V, grid connect operation 1,200A RMS @ 480V, grid connect operation
Electrical Efficiency LHV	33%

## Fuel/Engine Characteristics<sup>(1)</sup>

Landfill Gas HHV	13.0–22.3 MJ/m <sup>3</sup> (350–600 BTU/scf)
Digester Gas HHV	20.5–32.6 MJ/m <sup>3</sup> (550–875 BTU/scf)
Inlet Pressure	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)
H <sub>2</sub> S Content	<5,000 ppm

## Exhaust Characteristics<sup>(1)</sup>

NOx Emissions @ 15% O <sub>2</sub> <sup>(2)</sup>	< 9 ppmvd (18 mg/m <sup>3</sup> )
NOx / Electrical Output <sup>(2)</sup>	0.14 g/bhp-hr (0.4 lb/MWhe)
Exhaust Gas Flow	6.7 kg/s (14.7 lbm/s)
Exhaust Gas Temperature	280°C (535°F)
Exhaust Energy	7,100 MJ/hr (6,750,000 BTU/hr)

*Reliable power when and where you need it. Clean and simple.*

## Dimensions & Weight<sup>(3)</sup>

Width x Depth x Height	2.4 x 9.1 x 2.9 m (96 x 360 x 114 in)
Weight - Grid Connect Model	16874 kg (37,200 lbs)

## Minimum Clearance Requirements<sup>(4)</sup>

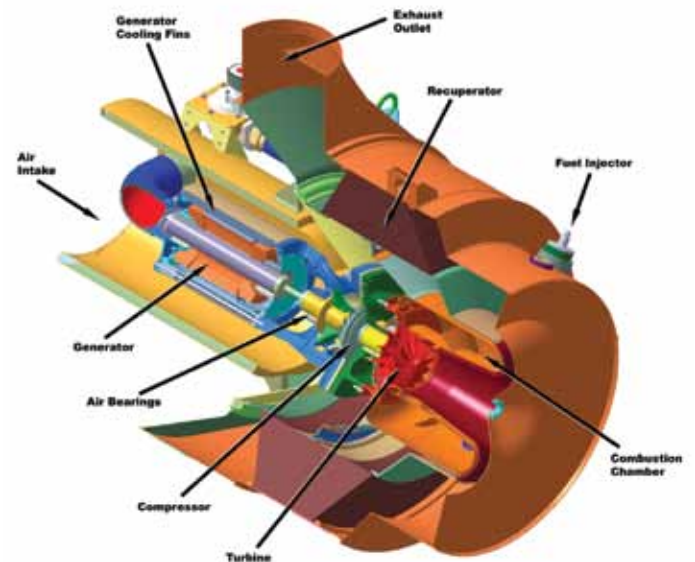
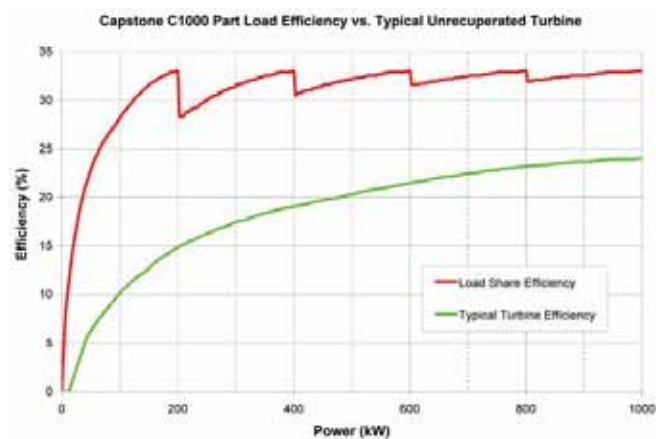
Vertical Clearance	0.6 m (24 in)
Horizontal Clearance	
Left & Right	1.5 m (60 in)
Front	1.5 m (60 in)
Rear	1.8 m (72 in)

## Sound Levels

Acoustic Emissions at Full Load Power	
Nominal at 10 m (33 ft)	65 dBA

## Planned Certifications

- Will comply with UL 2200 and UL 1741 for raw natural gas and biogas operation under existing UL files<sup>(5)</sup>
- 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
- Models will be available with optional 2008 CARB certification for waste gas



C200 Engine

- (1) Nominal full power performance at ISO conditions: 59°F, 14.696 psia, 60% RH
  - (2) For surrogate landfill and digester gases. Please contact Capstone for additional details
  - (3) Approximate dimensions and weights
  - (4) Clearance requirements may increase due to local code considerations
  - (5) 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.*

