

# 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



CR1000 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>

NO <sub>x</sub> Emissions @ 15% O <sub>2</sub> <sup>(2)</sup>	< 9 ppmvd (18 mg/m <sup>3</sup> )
NO <sub>x</sub> / 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>

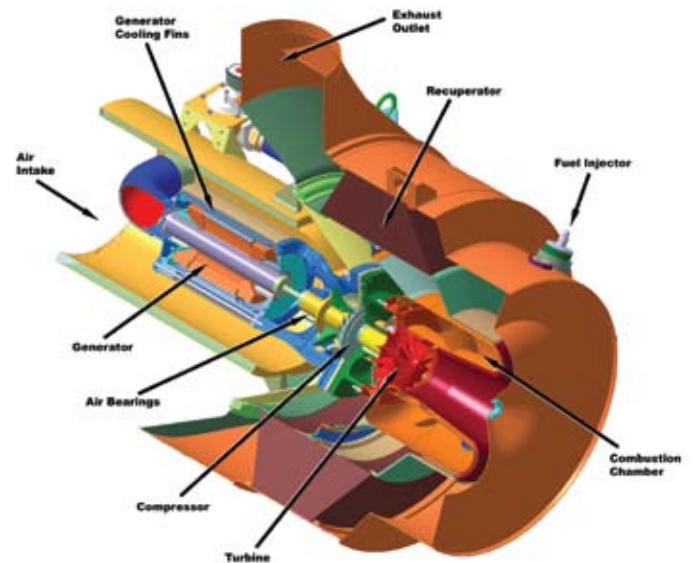
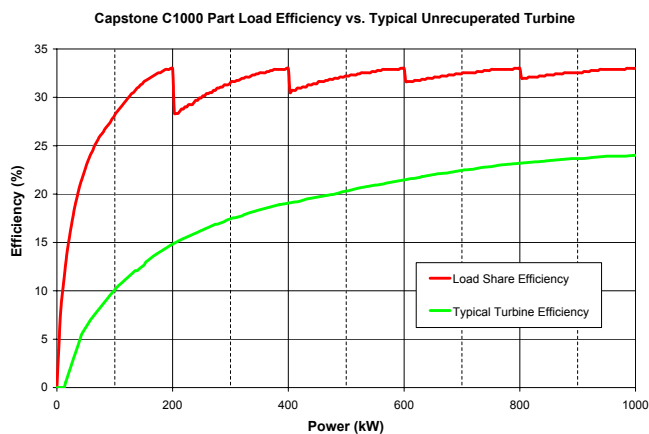
Vertical Clearance	0.6 m (24 in)
Horizontal Clearance	
Left & Right	1.5 m (60 in)
Front	1.5 m (60 in)
Rear	1.8 m (72 in)

## 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.

