



# Capstone MicroTurbine™

## CAPSTONE C30 Biogas

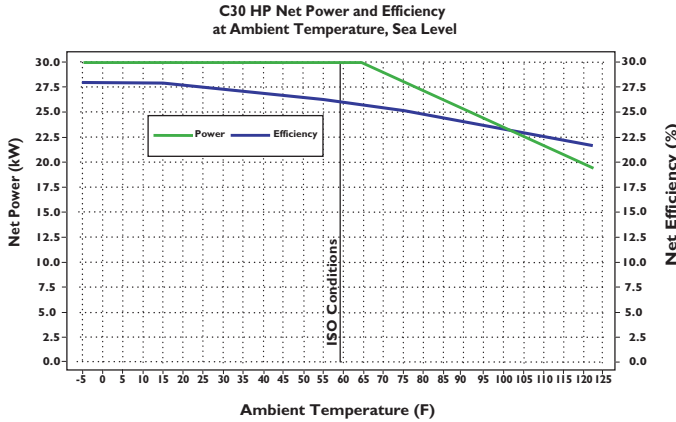
### The Product

#### Features

- Load-following 15-30 kW
- Fuel input as low as 350 Btu/scf
- 360-528 VAC, 50/60 Hz  
3-phase, 3- or 4-wire wye  
46ARMS/phase max continuous
- Maintenance-free air bearings
- No liquid lubricants
- No liquid coolants
- Sour gas tolerant (up to 70,000 ppm)
- Digital power controller
- Built-in display and user interface
- Built-in protective relays
- Built-in MultiPacking of 2-20-units  
(unlimited via grid connect)

#### Benefits

- Renewable energy from waste
- Greenhouse gas reduction
- Ultra-low emissions
- Minimal maintenance
- Direct2Grid™ interconnection
- No fluid storage, changes, disposal
- Uncontaminated exhaust heat for CHP
- Phase-to-phase balance (0-100%)  
on stand-alone units
- Small footprint
- Vibration-free, quiet operation
- Easy indoor/outdoor/rooftop siting
- Zero hardware arraying (up to 600 kW)
- Optional remote monitoring



#### Compliances

- IEEE 519
  - CEC Rule 21
  - NYSPSC DG
  - EPA Exempt
  - CA AQMD Exempt
  - WY DEQ Exempt
  - NEMA 3R / IP 14
  - Others\*
- CE

Other packaging options also available.

### Full Load Specifications @ ISO Conditions (15°C / 59°F @ sea level)

#### Performance

Landfill or digester gas

#### Power

30 kW net (+0/-1)  
38.2 kVA max @ 480 VAC

#### Efficiency (LHV)

26% (± 2)

#### Heat Rate (LHV)

13,800 kJ (13,100 Btu) / kWh

#### Emissions:

NO<sub>x</sub> <9 ppmV @ 15% O<sub>2</sub> (<0.49 lb/MWh)

#### Intake/Exhaust

Fuel flow (methane-HHV) 457,000 kJ/hr (433,000 Btu/hr)  
Exhaust gas temperature 275°C (530°F)  
Mass flow 0.31 kg/s (0.68 lb/s)  
Total exhaust energy 327,000 kJ/hr (310,000 Btu/hr)

Pressure Requirements	
Btu/scf (HHV)	psig
>1000	55
>600	65
>350	75

#### Dimensions

H: 1900mm (74.8")  
W: 714mm (28.1")  
D: 1344mm (52.9")

#### Weight

478 kg (1052 lb)

#### Sound

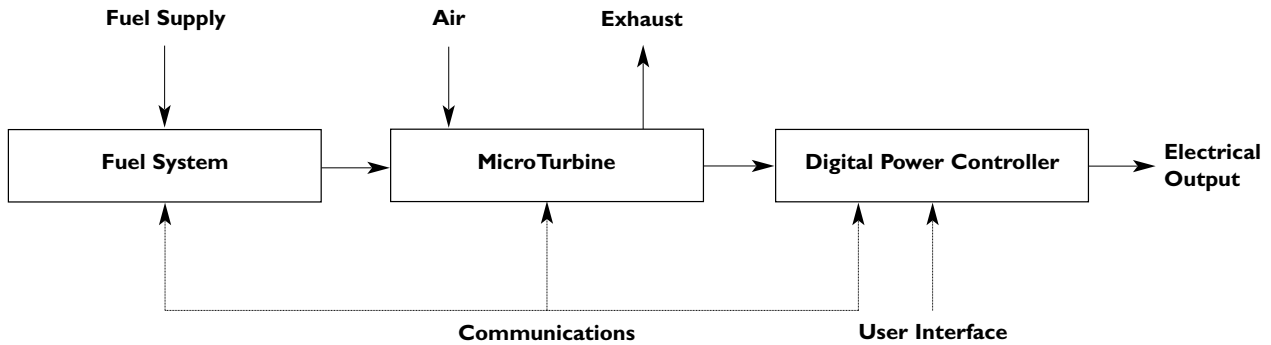
65dBA @ 10 m (33 ft)  
58dBA @ 10 m (33 ft) with optional silencer  
CE L<sub>WA</sub> 98 compliant

\* See [www.microturbine.com/compliance](http://www.microturbine.com/compliance) for detail

Fuel heat content: 12.8 to 42.1 MJ/m<sup>3</sup> (350 to 1130 Btu/scf) HHV methane.

The manufacturer reserves the right to change or modify, without notice, the design or equipment specifications without incurring any obligation either with respect to equipment previously sold or in the process of construction. The manufacturer does not warrant the data on this document. Warranted specifications are documented separately.

## Capstone C30 MicroTurbine System



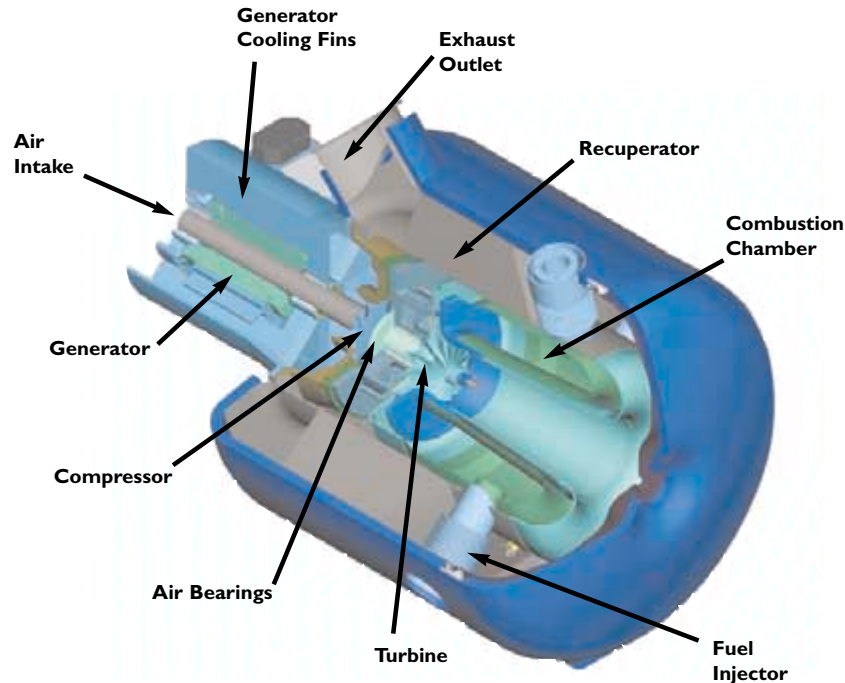
The Capstone C30 MicroTurbine system is a compact, ultra-low-emission generator providing up to 30 kW of power and 85 kW of heat for combined heat and power applications. Solid-state patented power electronics permit 0-30 kW load following, safe zero-hardware Direct2Grid™ interconnection, advanced communications and 2-to-20-unit stand-alone MultiPacking with no external hardware except computer cables. Automatic grid/stand-alone switching, 100-unit PowerServer™ networking, remote monitoring/dispatch and other functionalities are available Capstone options.

The system incorporates a compressor, recuperator, combustor, turbine and permanent magnet generator. The rotating components are mounted on a single shaft, supported by air bearings, that spins at up to 96,000 rpm. This is the only moving part of the microturbine. The generator is cooled by inlet air flow. The system uses no oil, no lubricants, no coolants and has no pumps, gearbox or other mechanical subsystems. The system achieves ultra-low NO<sub>x</sub> performance with no post-combustion catalysts or other exhaust cleanup devices. System output is variable frequency (50/60 Hz) 3-phase AC power.



A natural gas fueled 60-kW model and other 30-kW models are also available.

## The Capstone C30 MicroTurbine Generator



CAPSTONE TURBINE CORPORATION  
REGISTERED TO ISO 9001  
FILE NUMBER A9549



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