

## C65 ICHP MicroTurbine Natural Gas - CARB Certified



CARB certified to achieve ultra-low emissions and reliable electrical/thermal generation from natural gas.

- Less than 4 ppm volume NO<sub>x</sub> emissions at 15% O<sub>2</sub> – among industry's lowest
- Reliable electrical/thermal generation from natural gas
- One moving part – minimal maintenance and downtime
- Patented air bearing – no lubricating oil or coolant
- 5 and 9 year Factory Protection Plans available
- Remote monitoring and diagnostic capabilities
- Integrated utility synchronization and protection<sup>(1)</sup>
- Small, modular design allows for easy, low-cost installation
- Reliable – tens of millions of run hours and counting



C65 CARB ICHP MicroTurbine

### Electrical Performance<sup>(2)</sup>

Electrical Power Output	65kW
Voltage	400–480 VAC
Electrical Service	3-Phase, 4 wire
Frequency	50/60 Hz, grid connect operation 10–60 Hz, stand alone operation
Maximum Output Current	100A, grid connect operation 100A, stand alone operation <sup>(3)</sup>
Electrical Efficiency LHV	28%

### Fuel/Engine Characteristics<sup>(2)</sup>

Natural Gas HHV	30.7–47.5 MJ/m <sup>3</sup> (825–1,275 BTU/scf)
Inlet Pressure <sup>(4)</sup>	517–552 kPa gauge (75–80 psig)
Fuel Flow HHV	919 MJ/hr (871,000 BTU/hr)
Net Heat Rate LHV	12.9 MJ/kWh (12,200 BTU/kWh)

### Exhaust Characteristics<sup>(2)</sup>

NO <sub>x</sub> Emissions @ 15% O <sub>2</sub> <sup>(5)</sup>	< 4 ppmvd (8 mg/m <sup>3</sup> )
NO <sub>x</sub> / Electrical & Thermal Output <sup>(5)(6)</sup>	0.06 g/bhp-hr (0.17 lb/MWhe)
Exhaust Gas Flow	0.51 kg/s (1.13 lbm/s)
Exhaust Gas Temperature	311°C (592°F) (Heat Recovery Bypassed)

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

## C65 ICHP Heat Recovery<sup>(7)</sup>

Integrated Heat Recovery Module Type	Copper Core
Hot Water Heat Recovery	120 kW (408,000 BTU/hr)
Total System Efficiency LHV	80%

## Dimensions & Weight<sup>(8)</sup>

Width x Depth <sup>(9)</sup> x Height <sup>(10)</sup>	0.76 x 2.2 x 2.6 m (30 x 87 x 103 in)
Weight – Grid Connect Model	1090 kg (2,400 lb)
Weight – Dual Mode Model	1450 kg (3,200 lb)

## Minimum Clearance Requirements<sup>(11)</sup>

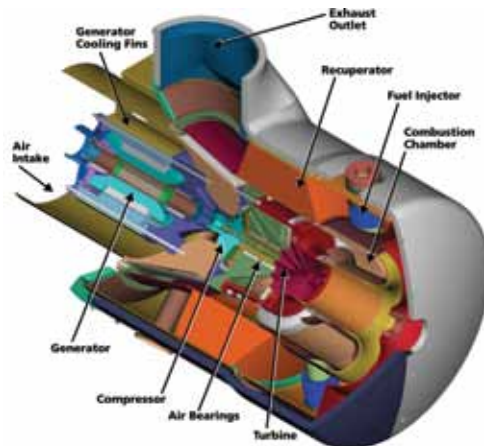
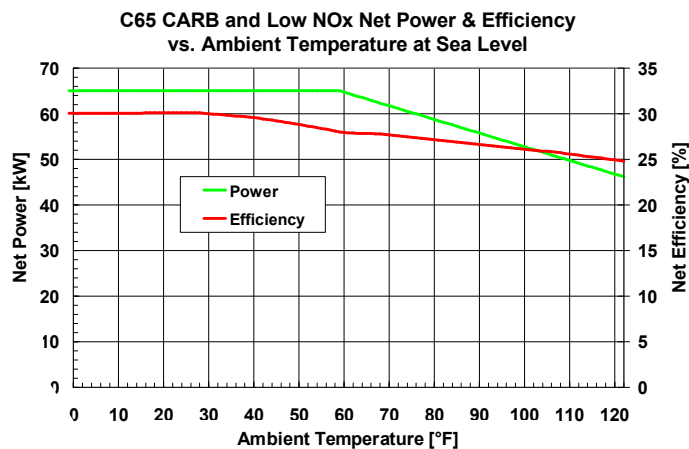
Vertical Clearance	0.61 m (24 in)
Horizontal Clearance	
Left & Right	0.76 m (30 in)
Front <sup>(12)</sup>	1.7 m (65 in)
Rear	0.76 m (30 in)

## Sound Levels

Acoustic Emissions at Full Load Power <sup>(13)</sup>	
Nominal at 10 m (33 ft)	65 dBA

## Certifications

- Certified to UL 2200 and UL 1741 for natural gas operation (UL files AU2687, E209370)
- Complies with IEEE 1547 and meets statewide utility interconnection requirements for California Rule 21 and the New York State Public Service Commission
- Certification to California Air Resources Board (CARB) 2007 for operation on Natural Gas
- CE certified models available with CARB level emissions



- (1) Some utilities may require additional equipment for grid interconnectivity.
  - (2) Nominal full power performance at ISO conditions: 59°F, 14.696 psia, 60% RH
  - (3) With linear load
  - (4) Inlet pressure for standard natural gas at 39.4 MJ/Nm<sup>3</sup> (1,000 BTU/scf) (HHV)
  - (5) Exhaust emissions for standard natural gas at 39.4 MJ/Nm<sup>3</sup> (1,000 BTU/scf) (HHV)
  - (6) At full heat recovery for all allowable C65 CARB ICHP water temperatures and flow rates
  - (7) Heat recovery for water inlet temperature of 57°C (135°F) and flow rate of 2.5 l/s (40 GPM)
  - (8) Approximate dimensions and weights
  - (9) Depth includes 10 inch extension for the heat recovery module rain hood on ICHP versions
  - (10) Height dimensions are to the roof line. Exhaust outlet extends at least 7 inches above the roof line
  - (11) Clearance requirements may increase due to local code considerations
  - (12) Dual Mode MicroTurbine configuration for Battery Removal clearance
  - (13) The optional acoustic inlet hood kit can reduce acoustic emissions at the front of the MicroTurbine by up to 5 dBA.
- Specifications are not warranted and are subject to change without notice.

