

## Tecogen's Unequaled Ultra-Low Emissions CHP Unit

## **Key Features & Benefits**

- 33% Electrical Efficiency (94% overall) Best in Class!
- Produce your own electricity 24/7 at half the cost of utility power
- InVerde e+ patented variable speed operation allows for 10 kW to 125 kW output
- Fully scalable from 10kW to multi-MW
- Rapid black-start for Type 10 Emergency Power Supply System (EPSS), with grid-independent operation (125 kVA). Also meets CSA 282-15 for 10 and 15 second black-start
- Superior part load efficiency with turndown to 10% load
- Ultra-low emissions levels, SCAQMD compliant and NJDEP exempt
- Inverter-based streamlined utility interconnection, UL1741 certified for safe utility connection
- Microgrid compatible with licensed CERTS power balancing control software
- 4" WC gas pressure requirement, no costly gas booster needed
- Cloud-based, real-time performance monitoring available via Tecogen's CHP Insight
- Demand response input for automated dispatching
- Streamlined multi-unit controls for lowest in class installation cost
- Available with indoor or outdoor acoustic enclosure
- DC input feature for seamless battery and solar PV integration
- Provides additional LEED points (Optimize Energy Performance)
- UL1741 certified for standardized and safe utility interconnection
- Smallest footprint and lowest cost per kW

## Renewable Energy Compatible, a Clean Energy Solution for **Today & Tomorrow**









**NYSIR** Certified

**CSA C22.2** #100 Certified CSA C22.2 #14

**UL 2200** Certified **UL 1741** Certified

Tecogen products are covered under one or more of the following U.S. patents: 8,578,704 · 7,239,034 · 7,243,017 and other patents pending

## Specifications: 1, 2

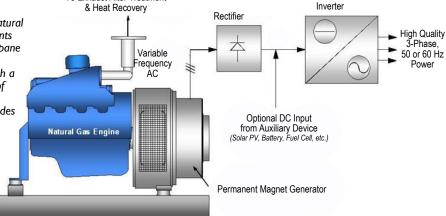
Engine	Proven Low-Emission Industrial Natural Gas V-8 Engine, 700-2400 rpm		
Generator	Water-Cooled Permanent Magnet Generator		
Inverter	Customized Power Electronics with Patented Topology for Variable Speed and Standby Operation		
Controls	TecoNet <sup>™</sup> Microprocessor-Based System, Fully Automatic, Fault Monitoring, Lead/Lag Multiple Unit C Modbus / BACnet Networking & Remote Ethernet Communications		

Standalone Electric Capacity <sup>3</sup> Emergency Power Rating <sup>4,5</sup>		100 kW / 125 kVA		
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	TYPE 10 EPSS Approved			
Thermal Output Engine (Jacket/Exhaust/Oil) Generator/Power Electronics Total	466,000 Btu/hr 20,000 Btu/hr 486,000 Btu/hr	613,000 Btu/hr 27,000 Btu/hr 640,000 Btu/hr	780,000 Btu/hr 31,000 Btu/hr 811,000 Btu/hr	
Gas Input	876 scfh	I I 52 scfh	1455 scfh	
Electrical Efficiency @LHV of 905 Btu/scf @HHV of 1020 Btu/scf Overall Efficiency @LHV of 905 Btu/scf @HHV of 1020 Btu/scf	32.3% 28.6% 93.6% 83.0%	32.7% 29.0% 94.1% 83.5%	32.4% 28.7% 94.0% 83.4%	
Required Gas Pressure (when operating at full load)	4 - 12" WC			
Hot Water Flow Maximum Leaving Water Temperature Maximum Entering Water Temperature	30 gpm 230 °F 180 °F			
Air Emissions (SCAQMD & NJ DEP Compliant) <sup>6</sup> • NOx  • CO  • VOC	< 0.07 lb/MWh < 0.2 lb/MWh < 0.1 lb/MWh			
Electrical Service	480 V, 3 PH, 3-wire			
Operating & Storage Temperature Range	-4° to 104° F (-20° to 40° C)			
Acoustic Level	66 dBa @ 20'	67 dBa @ 20'	69dBa @ 20'	
Weight (indoor / outdoor)	4,300 lb / 4,800 lb			
Dimensions (indoor / outdoor)	7'6"L x 4 0"W x 5'9"H / 7'10"L x 4'11"W x 6'4"H			

ETL Listed - Labeled for compliance with UL 1741- Utility Interactive; Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources, UL 2200 - Stationary Engine Generator Assemblies, CSA C22.2 #100 - Motors and Generators and CSA C22.2 #14 - Industrial Control Equipment NYSIR Certified - NY Department of Public Service, New York Standardized Interconnection Requirements

To Exhaust After Treatment

- 1. All specifications are +/- 5% and are subject to change without notice.
- 2. Above performance data is valid up to 104° F ambient temperature.
- 3. Standalone capacity is the lesser of 100 kW or 125 kVA.
- 4. The InVerde e+, can act as an emergency generator wherever natural gas is an approved emergency fuel source. Fuel storage requirements can be satisfied by utilizing propane; automatic changeover to propane from natural gas available upon request.
- 5. A single InVerde should not be used for critical life safety loads such a fire pump. In this instance, Tecogen recommends the application of redundant InVerde units or a separate, dedicated power source.
- Emission limits are based on the Ultera Emissions option and includes 60% system efficiency (HHV) credit for Distributed Generation as per SCAQMD Rule 1110.2.



Advanced Modular CHP Systems

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