

POWER+ GENERATOR

6500B / 6500 B+



BY BITZER GROUP

GENERATE UP TO 150 KWE

PRODUCT OVERVIEW

ElectraTherm's Power+ Generator uses an Organic Rankine Cycle (ORC) along with proprietary technologies to convert sources of low temperature heat and waste heat into electricity with no additional emissions or fuel consumption and is ideal for small- and mid-scale applications. The Power+ Generator effectively utilizes available thermal energy not only for the production of electricity but can also serve as a combined heat and power (CHP) system in addition to a radiator alternative with the ability to eliminate the cooling load.



6500B / 6500B+

GENERATE UP TO 150 KWE

- // The 6500B is rated up to 270°F.
- // The 6500B+ is rated up to 302°F.

- // Weight: 9,420 lb
- // Dimensions: 6.6' x 10.8' x 8.2' (W*L*H)



All ElectraTherm ORC systems are powered by BITZER's semi-hermetic, twin-screw expander. This allows ElectraTherm's ORC process to utilize much more variable heat sources than the leading turbine technologies. This is made possible by the expanders' ability to handle "wet" dual-phase flow leading to greater turndown ratios allowing for continuous power generation when dealing with inconsistent thermal input.



SIMPLE

The simple and flexible nature of our ORC solutions allow them to be adjusted to fit the needs of any application. A robust, modular, and scalable design allows the system to be easily integrated into existing processes while allowing for future adjustments.



PROFITABLE

Our systems convert existing heat to clean electricity while simultaneously reducing cooling loads. This generates a new source of revenue and return on investment is typically achieved within 3 - 5 years.



RELIABLE

Every ElectraTherm product goes through a rigorous testing process at our world-class R&D test facility to ensure absolute reliability. Our technicians and dedicated global partners offer full support for any issues you may encounter throughout the product lifecycle.



SUSTAINABLE

A tremendous amount of energy is wasted every year as heat from industrial process and power generation. Increasing energy efficiency by converting this waste heat into electricity is an easy way to mitigate emissions and achieve sustainability goals.

6500B / 6500B+ PARAMETERS

| | |
|--|---|
| Heat Sources ¹ | Liquid: 158 - 302°F Gaseous: Over 302°F |
| Thermal Input | 6500B: 400 - 1700 kWth 6500B+: 400 - 2200 kWth |
| Hot Water Inlet Temp // Flow Rate: 95 - 365 gpm | 6500B: 158 - 270°F 6500B+: 158 - 302°F |
| Cold Water Inlet Temp // Flow Rate: 140 - 410 gpm | Inlet Range: 39 - 149°F |
| Heat Rejected | 6500B: 400 - 1600 kWth 6500B+: 400 - 2000 kWth |
| Electrical Output ² | Min: 12 kWe // Max ⁴ : 150 kWe |
| Ambient Operation ³ | 0 - 100°F |
| Minimum Temp Differential | 80°F |
| Liquid Loop Radiator (LLR) | Approach to ambient air: 23°F |

1. Higher temperature heat sources require an additional heat exchanger.
2. Output depends on the inlet temperatures and flow rate.
3. Extreme environments may require additional equipment.
4. The 6500B+ is rated for a maximum gross output of 150 kWe @ 480V / 60Hz

DESIGN ATTRIBUTES

| | |
|----------------------------|---|
| Working Fluid | R245fa (Pentafluoropropane)* |
| Working Fluid Quantity | 6500B (440 lb) // 6500B+ (550 lb) |
| Refrigerant Plumbing | Built to ASME and CE standards |
| Power Block | BITZER Semi-Hermetic Twin-Screw Expander |
| Generator | Grid-tied Induction (Brushless Construction, Asynchronous) |
| Heat Exchangers | Compact, brazed plate construction |
| Controls | Custom programmable logic controller |
| Remote Monitoring | Machine accessible with included VPN router |
| Operation | Designed for unattended operation |
| Grid Protective Relay | External additional GPR interface included |
| Cabinet | NEMA 3R outdoor rated // IP 54 compliant |
| Sound Pressure (@ 1 Meter) | 87 dBa |
| Power Factor Correction | Load and site dependent - from 0.9 to 1 |
| Grid Connectivity | 300 - 500 V // 3 Phase // 50, 60 Hz |
| Total Harmonic Distortion | < 3% |
| Emissions Profile | Zero (closed binary cycle) |
| Design Life | 20 years |

* R245fa is a non-flammable, non ozone-depleting working fluid.

** Incentive eligibility varies based on region.

PRODUCT HIGHLIGHTS

- // Automated control System
- // Ease of Installation
- // Remote Monitoring & Operation
- // Low Maintenance
- // Modular & Scalable
- // Minimal Footprint
- // Robust, Twin-Screw Expander
- // Zero Fossil Fuel Requirements
- // Zero Emissions
- // Zero Toxic By-Products
- // Closed-Loop Cycle
- // Payback Period 3 - 5 Years
- // Supported by BITZER Group
- // Qualifies for Incentives

Promoting Clean Energy**

ElectraTherm By BITZER Group

4080 Enterprise Way // Flowery Branch, GA // USA

Tel +1 (678) 267-7700 // sales@electratherm.com

www.electratherm.com

