

# 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 <sup>1</sup>	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 <sup>2</sup>	Min: 12 kWe // Max <sup>4</sup> : 150 kWe
Ambient Operation <sup>3</sup>	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**

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