POWER+ GENERATOR

MODEL:PM75

ElectraTherm
BY BITZER GROUP
UK DISTRIBUTOR

ElectraTherm's Power+ Generator uses the Organic Rankine Cycle (ORC) to convert low-grade waste heat into emissions-free electric power. The Power+ Generator employs the BITZER twin-screw semi hermetic expander which allows for superior turn-down and the ability load follow changing amounts of thermal energy. This technology allows end users to generate onsite power, improve site efficiency, offset cooling loads, and integrates into combined heat and power (CHP) systems.



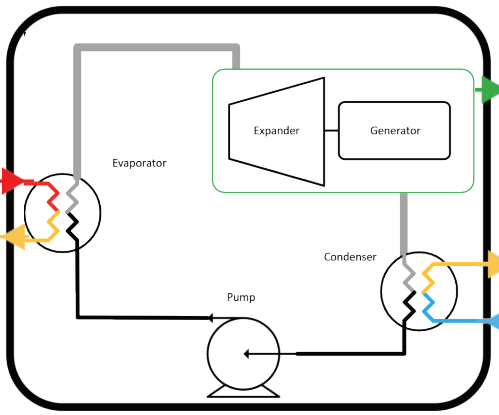
Hot Water Conditions	ORC	Cold Water Conditions
Temperature Range: 150-270°F (65-132°C)	Max Power Output: 75kW @ 60Hz	Temperature Delta from Hot Inlet: 80°F (45°C)**
Flow Rate: 48-364 GPM (3-23 L/s)	Utility Connection: 3 Phase // 380-500v // 50, 60Hz	Flow Rate: 95-412 GPM (6-26 L/s)
Thermal Input: 2.7 - 7.5 MMBTU/hr* (600-1600 kW)	Working Fluid: R1233zd(E); 185 lbs (84 kg)	Thermal Output: 1.7 - 5.1 MMBTU/hr (500-1500 kW)
Higher Temps or non water/glycol fluids possible with interface heat exchanger	Weight: 5,700 lbs, Dimensions: 6' x 7.9' x 7.1' (W*L*H) (1.8m x 2.4m x 2.2m)	Ambient Temperature Range: 32-104°F (0 – 40°C)

*Thermal input requirements increase with elevated ambient temperatures/ heat sink conditions
**Temperature delta between inlet hot and cold water

HEAT SOURCES +

- Biomass Boilers
- Exhaust Gas
  - Pyrolysis (Biochar)
  - Thermal Oxidizer
  - Internal Combustion Engine
- Engine Jacket Water
- Geothermal / Co-produced Water
- Industrial Waste Heat
- Flare Elimination / Utilization

POWER+ GENERATOR



CLEAN ENERGY

- Up to 75**kW** of Emissions-Free Electrical Power

HEAT SINKS

- Biomass Drying
- Building Radiant Heating
- Process Water
- Liquid Loop Radiator++ (Ambient Air)

+ Heat Sources that are not water or glycol mixture will require an interface heat exchanger and hot water loop
+ + Standard Liquid Loop Radiator supplied by ElectraTherm will have a 20°F (11°C) approach to the ambient air



// 1.8 MW thermal biomass boiler

// 140kW average gross output

// Rejected heat used to dry animal bedding

DESIGN **ATTRIBUTES**

// Built to ASME and CE Standards
// Semi-Hermetic Twin Screw Expander
// Grid-tied Induction Generator
// Proprietary PLC and HMI controls
// Sound Pressure (@ 1 Meter) 87 dBa
// Power Factor: output dependent >0.9 lagging
// Outdoor Rated
// Design Life: 20 years
// Low GWP Working Fluid

PRODUCT **HIGHLIGHTS**

// Zero Emissions
// Zero Carbon Power
// Easy to install
// Remote monitoring via VPN
// Low Maintenance
// Minimal Footprint
// Qualifies for Incentives
// Grid Protection Relay Input



The ElectraTherm ORC design incorporates a BITZER semi-hermetic twin screw expander. Both the expander and generator are integrated within the same housing, eliminating the need for a shaft seal and enhancing reliability. Additionally, the expander is designed for dual-phase flow, allowing for a robust range of operating conditions.

KOOL BRICKS RENEWABLES

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