With the greatest number of installations around the world, Thermapower™ has proven to be the most compact, efficient and reliable ORC system available.

Access Energy develops, manufactures, sells and services heat recovery and pressure recovery systems for a wide range of small-scale applications. With the highest number of installations around the world and over 20MW of capacity sold worldwide, the Thermapower™ product line has proven to be highly reliable.

How Thermapower™ Products Work

The Organic Rankine Cycle (ORC) is a heat recovery process that converts thermal energy into mechanical power:
» Organic working fluid is pumped through an evaporator, exposing it to the heat source.
» Heat converts the fluid into a superheated vapor due to its low boiling point.
» Hot vapor is expanded across the Carefree™ IPM to produce electric power.
» Warm vapor exits the IPM, enters the condenser and is cooled back to a liquid.
» Cold liquid goes through the evaporator to repeat the closed loop cycle.

What Makes Thermapower™ Products Superior

» **Turbine Expander** – More efficient than positive displacement (screw or scroll expander)
» **High-speed Permanent Magnet Generator** – High efficiency
» **Magnetic Bearings** – No friction and no lubrication for increased reliability
» **Program Logic Controller (PLC)** – Real time optimization for all conditions
» **Flexibility per Application** – Compatible with a variety of heat sources, gas or liquid
» **Power Electronics** – Real time grid connectivity with clean power
The Thermapower™ Organic Rankine Cycle (ORC) 125XLT is the latest module in Access Energy’s Thermapower™ product line. The system can recover waste heat with temperatures around 95°C and produce up to 125kW of clean power from extra low temperature heat generated by small-scale commercial and industrial applications.

The Heat-to-Power Solution for Small-Scale Applications
Access Energy’s Thermapower™ ORC 125XLT (Extra Low Temperature) module generates 125kW of clean, utility grade power from heat sources around 95°C (200°F). The Thermapower™ ORC 125MT (Medium Temperature) module produces the same amount of power from heat sources around 135°C (275°F). Authorized distributors can assist with optimizing the right module for your application.

The heart of both systems is Access Energy’s patented Carefree™ Integrated Power Module (IPM), which consists of a high-speed turbine expander and high-efficiency generator in a single, hermetically sealed housing.
Small-Scale Commercial and Industrial Applications

Incineration · Marine · Geothermal · Solar Thermal · Coproduction · Air & Hydrocarbon Processing · Compression · Gas Flaring · Boilers · Regenerative Thermal Oxidizers · Amine Treatment · Turbo Compounding · Glass Production · Iron & Steel Production · Water Treatment · Food Processing · Cement Manufacturing · Pulp & Paper Manufacturing · Biomass Processing · Aluminum Manufacturing · Fuel Cells · Petroleum Refining · Natural Gas Distribution · Desalination · Structural Clay Production