

Turn your Waste Heat into Energy using the Organic Rankine Cycle and Radial Outflow Turbine Technology

Turn your Waste Heat into Energy using the Organic Rankine Cycle and Radial Outflow Turbine Technology for Low-Temperature Applications

MADISON, WISCONSIN, USA, March 29, 2023 /EINPresswire.com/ -- Waste heat recovery technologies are becoming increasingly popular in various industries as a means to reduce energy costs and minimize carbon emissions. Among these technologies is the [Organic Rankine Cycle](#) (ORC) system, which has been proven to be effective in harnessing low-temperature heat sources of around 100 C. When combined with Radial Outflow Turbine (ROT) technology, this system offers a unique solution for generating electricity with higher efficiency and reliability.



Infinity Turbine IT50 ORC System

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Greg Giese

The ORC system is a thermodynamic cycle that converts waste heat into electricity. The system works by using a working fluid, typically a refrigerant (including liquid CO₂), which is heated in a heat exchanger using waste heat from an industrial process. The heated fluid then expands in a turbine, driving an electric generator to produce electricity. With the ability to operate at low temperatures, the ORC system is well-suited for harnessing heat sources around 100 C, which were previously considered too low for efficient energy conversion.

The ROT technology is a type of turbine that converts the

kinetic energy of a fluid into rotational energy. It uses a radial outflow design, which allows the fluid to enter the turbine radially and exit axially, providing a more efficient energy conversion process. This technology has been widely used in various industrial applications, such as power generation, oil and gas, and aerospace.

By combining ORC and ROT technologies, waste heat can be converted into electricity. This offers a sustainable and cost-effective solution for industries with low-temperature heat sources, such as geothermal plants, district heating systems, and industrial processes, to recover and utilize the waste heat. Waste heat can be thermally stored in the new technology flow batteries like the grid-scale [Salgenx](#) Salt Water Battery and then used at any time by a ORC turbine generator.

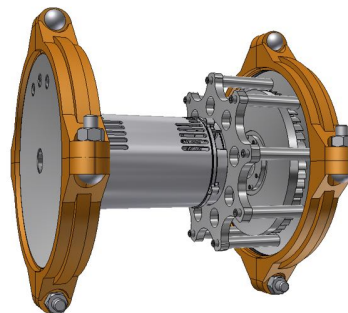
Several companies have already adopted this technology, including Turboden, a Mitsubishi Heavy Industries Group company, which has developed a range of ORC systems with ROT turbines for waste heat recovery applications in various industries. These systems have been used in power plants, steel mills, and waste-to-energy facilities, generating up to 20 MW of electricity.

"The ORC system with ROT technology is a proven and reliable solution for waste heat recovery, which can be used for low-temperature heat sources around 100 C, making it suitable for a wide range of industries," says Greg Giese from Infinity.

As industries continue to look for sustainable and efficient ways to reduce energy costs and minimize carbon emissions, ORC and ROT technologies offer a promising solution. With the ability to harness low-temperature heat sources, this technology can provide significant benefits to industries looking to improve their energy efficiency and sustainability.



Turbine Generator System



Drawing of ORC Turbine Generator Inside Assembly

[Infinity Turbine](#) LLC offers cutting-edge solutions to businesses and organizations around the world for clean and renewable fuels by providing complimentary technologies which leverage greater efficiency.

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