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Infinity Turbine
LLC

Organic Rankine Cycle Waste Heat Energy
Grid Power and Battery



Structured Data

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PDF Version of the webpage (first pages)

<https://infinityturbine.com/index.html>

Radial Outflow Turbine 3MW AC Generator ORC Power Pack in Shipping Containers

Infinity Turbine now has a megawatt ORC radial outflow concept turbine. Infinity is working on a concept design for a 3 MW ORC turbine generator system power pack.

IT3MW Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT3MW (24 hours x 365 days per year x 3000 kWh = 26,280,000 kWh per year):

at \$.20 per kWh = \$5,256,000 USD per year

at \$.40 per kWh = \$10,512,000 USD per year

at \$.80 per kWh = \$21,024,000 USD per year

IT3MW System Starting at: \$6 Million USD

System Pricing: Starting at \$2,000,000 per MW

Note: This ORC system works on solar thermal heat, or waste heat from industrial operations, or heat from engine generator sets.

Engineering Study: The first step in a large MW-class ORC system is a engineering study. The study fee can be deducted from the system price.

Coming Soon: Hydraulic Power Pack.

ORC Organic Rankine Cycle Turbine

ORC Turbine Generator: Waste heat to energy turbines available for licensing and building. Use temperatures as low as 31 C (89F) to make power including hydraulic power. Organic Rankine Cycle systems are capable of:

- Generating rotational power for generators or hydraulics
- Store thermal energy
- Desalinate seawater
- Demand side arbitrage for grid savings and income

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IT10 ROT12 Radial Outflow Turbine DC Generator

10 kW System with the ROT12 Radial Outflow Turbine with DC Generator, specially crafted for the IT10 system.

- Buy a completed: IT10 kW system for \$50,000 USD | IT10 ROT Turbine for \$10,000 USD | IT10 System Plans and Turbine Generator Plans with unlimited production license: \$10,000 USD.

Revenue potential from IT10 (24 hours x 365 days per year x 10 kWh = 87,600 kWh per year):

- At a rate of \$0.80 per kWh, earn \$70,080 USD annually.

Understanding Organic Rankine Cycle (ORC) Turbine Expander Technologies

Comparing various Organic Rankine Cycle (ORC) turbine expander technologies, we'll cover the basics of ORC systems, delve into the types of turbine expanders used, and compare their performances, efficiencies, applications, and suitability for different energy sources. We will also incorporate charts to visualize key differences and performance metrics.

The Organic Rankine Cycle (ORC) is a thermodynamic process that converts thermal energy into mechanical power, which can then be transformed into electricity. Unlike traditional Rankine cycles that use water as the working fluid, ORC systems use organic fluids, allowing them to operate efficiently at lower temperatures and with smaller temperature differences. This capability makes ORC technology particularly suitable for renewable energy sources such as biomass, geothermal, and waste heat recovery.

Please click on the link to read the articles...

Comparing Organic Rankine Cycle Working Fluids to Liquid CO₂ in the 40-150 C Range

The Organic Rankine Cycle (ORC) is a highly versatile technology for converting low-grade heat into electricity. A critical factor in the efficiency and effectiveness of ORC systems is the choice of working fluid. Traditional ORC systems utilize a variety of organic fluids, each with its unique properties and performance characteristics. However, recent advancements have introduced liquid carbon dioxide (CO₂) as a potential working fluid, particularly in the moderate temperature range of 40-150°C. This article explores the comparison of various organic working fluids against liquid CO₂ within this temperature range, highlighting efficiency, environmental impact, and operational advantages and disadvantages.

Read more about ORC working fluids with link below...

Comparing Thrust in Aviation: Traditional Turbines vs. Viktor Schauberger's Repulsine

The evolution of aviation has seen numerous innovations, from the Wright brothers' first flight to the advent of jet engines that revolutionized air travel. Among these innovations, Viktor Schauberger's Repulsine stands out for its unique approach to generating lift and thrust. This article compares traditional thrust aviation turbines with Schauberger's Repulsine, exploring their principles, efficiency, and potential applications.

[Click on the link below to read more ...](#)

BTU Generated Using Two Sides Balanced Magnetic Force

Using Eddy current to boost the efficiency of a ORC turbine from 5-30 percent.

Symmetry and Field Enhancement: The symmetric placement of magnets could enhance the magnetic field's uniformity across the steel disc, potentially increasing the Eddy current generation. This might lead to a higher heat generation rate, but the exact increase would depend on the specifics of the magnetic field interactions, which are complex and not necessarily linear.

Efficiency of Heat Generation: The efficiency of converting kinetic energy from spinning into heat through Eddy currents might not scale linearly with the number of magnets. While more magnets increase the magnetic field, the relationship between the field strength, speed of rotation, and heat generation is complex.

Introducing the IT Mini Experimenters Kit featuring Tesla Turbine and Tesla Pump Discs to Unleash your inner experimenter and explore the fascinating world of energy with this compact and engaging kit

** March Special \$500 ** Shipping included in USPS One Rate Box to Any USA Location

Infinity has always emphasized the value of starting with small prototypes and gradually scaling up to address any potential issues. In line with this philosophy, we proudly present the Modular Block Experimenters Kit, a stepping stone for entrepreneurs to validate their developments and seamlessly progress from concept to commercialized products.

This comprehensive kit equips you with a range of Tesla pump and turbine discs, carefully crafted from steel through precision stamping. These discs can be conveniently stacked on a common shaft, allowing for a multitude of experimental possibilities.

Thermal Sand and Salt Battery

A Revolutionary Approach to Desalination and Energy Storage by Harnessing the Power of Sand and Salt

This novel approach ingeniously combines sand, salt, and renewable energy sources to create a thermal battery system capable of both desalinating water and storing energy.

Making Graphene Oxide Using Inexpensive Manufacturing Methods of Sugar and Sand in Kiln

Here's a graph displaying the 7-day compressive strength of different cement mixes. Each bar represents a unique cement type, including the Graphene Oxide Coated Sand Concrete (FWG CWM A), showing its compressive strength in Megapascals (MPa). As you can see, the Graphene Oxide Coated Sand Concrete exhibits a significantly higher compressive strength compared to the other cement types.

Revolutionizing Agriculture: The Salgenx Food Production Scale Battery System

The vegetable production module process is designed to optimize the cultivation of various vegetables using advanced vertical fogponics systems within the controlled environment of hi-cube shipping containers. This innovative approach leverages the precision and efficiency of fogponics, a method that uses nutrient-rich fog to hydrate and feed plants, ensuring optimal growth conditions without the use of soil. The integration of solar photovoltaic (PV) power for lighting and fog generation makes the process sustainable and energy-efficient.

Each module, encapsulated in a hi-cube shipping container, is meticulously configured to maximize space utilization and light distribution, ensuring that crops such as tomatoes, leafy greens, peppers, and microgreens thrive. The system's design facilitates year-round production, irrespective of external climate conditions, by maintaining ideal temperature, humidity, and light levels.

The process begins with the selection of crops based on their profitability, energy requirements, and compatibility with the fogponics system. Containers are then outfitted with LED lighting, fogponic irrigation systems, and solar PV panels to create a self-sustaining environment. Crop production is closely monitored and managed, focusing on optimizing yield and ensuring high-quality produce.

Finally, the Salgenx saltwater battery provides PV energy storage to power the LED lighting and pumps, while simultaneously desalinating seawater during charging.

The vegetable production module process represents a fusion of agricultural innovation and environmental stewardship, offering a scalable solution for urban farming and the production of fresh, locally sourced vegetables.

Unlock the Power of Waste Heat with the Infinity Turbine IT50 System DC or AC Power Generation at Your Fingertips

<p>Plans for IT50 March Special: \$10,000 USD. Unlimited license.</p>

The IT50 is designed to produce 50 kW of AC power (typically configured for a Grid-Tie connection). We have produced several IT50 systems in the past few years. They take about 6 months to complete, and can be shipped in a standard 20 ft. shipping container. Built yourself with your machine shop or assemble components via subcontractors.

Design Heat Exchangers ASME Rated Pressure - Evaporator R-245fa: 450 psi at 300 F shell side, and 150 psi 300 F on tube side. Welding procedures included. Condenser R-245fa: 450 psi at 250 F shell side, and 150 psi 250F on tube side.

Turbine may be used most efficiently at 50 kW, but may also be used for a range of turbines from 30 kW to over 100 kW.

New nano additives can increase heat exchanger efficiency.

Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT50 (24 hours x 365 days per year x 50 kWh = 438,000 kWh per year):

- \$.20 per kWh = \$87,600 USD per year
- \$.50 per kWh = \$219,000 USD per year
- \$1.00 per kWh = \$438,000 USD per year

Add the Salgenx salt water battery storage for added savings and USA based tax credits.

IT250 ROT ORC Empowering Sustainable Energy Generation with a 250-300 kW Waste Heat to Energy System

<p>Plans for IT250 March Special: \$10,000 USD. Unlimited license.</p>

Introducing the IT250, a high-performance system engineered to generate 250 kW of net AC power, commonly configured for a Grid-Tie connection. We have successfully developed a single IT250 system, which typically takes approximately 6-12 months to complete. For convenient transportation, the system can be shipped in an open top 20 ft. shipping container.

To ensure top-notch quality, we collaborate with a trusted sub-contractor based in Toronto, Canada, specializing in constructing ASME certified pressure tested heat exchangers. This partnership enables us to deliver the IT250 system to any location worldwide, ensuring reliability and customer satisfaction.

Revenue based on gross sales or savings, not including cost of acquiring waste heat flow or pumps.

Revenue from IT250 (24 hours x 365 days per year x 250 kWh = 2,190,000 kWh per year):

- \$.20 per kWh = \$438,000 USD per year
- \$.40 per kWh = \$876,000 USD per year
- \$.80 per kWh = \$1,752,000 USD per year

Add the Salgenx salt water battery storage for added savings and USA based tax credits.

