

9/5/2021



products

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**Infinity Turbine
LLC**

Products including turbines, plans, consulting and systems by Infinity Turbine

Structured Data

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    "@type": "WebPage",
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    "description": "Company Name: Infinity Turbine LLC
      Product: Waste Heat to Energy Systems and Technology
      Working Fluid: Refrigerants, water, CO2, compressed air, R245fa
      Machine: ORC and ROT Radial Outflow Turbine System
      Industry: Energy
      Applications: Waste heat to power, utilities, server farms, bitcoin mining, hot geothermal
      High Technology Uses: Converting waste heat starting 30C to power.
      Machine Features: One moving part and solid state turbine technology.
      Machine Runs On: Single phase 220V power and liquid CO2.
      Other Technology: Tribo effect power, hydrodynamic cavitation hot water power and extraction. Modular block
      technology. Gas leverage turbine for production of fuels from liquid CO2."
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PDF Version of the webpage

This webpage QR code

ROT24 Radial Outflow Turbine AC Induction Generator Plans and Blueprints

Pricing: Please refer to price list or email Infinity.

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1MW Radial Outflow Turbine AC Induction Generator Plans and Blueprints

Infinity Turbine now has available blueprints for a 1 megawatt ORC radial outflow turbine.

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ROT12 Radial Outflow Turbine DC Generator

The ROT12 Radial Outflow Turbine with DC Generator was designed for the IT10 system.

Plans: \$10,000 USD.

Fully built ROT12: \$16,000 USD.

Includes crate and insured surface shipment to North America, and an additional 10 kW PMA generator.

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ROT15 Radial Outflow Turbine AC Induction Generator Plans and Blueprints

Pricing: Please refer to price list or email Infinity.



IT250 250-300 kW Waste Heat to Energy System

The IT250 is designed to produce 250 kW net AC power (typically configured for a Grid-Tie connection). We have produced one IT250 system in the. They take about 6-12 months to complete, and can be shipped in a open top 20 ft. shipping container.

Currently we can complete this build through our sub-contractor who builds ASME certified pressure tested heat exchangers in Toronto, Canada, and ship anywhere in the world.

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IT250 System Plans

Infinity offers both the ROT turbine plans and the IT250 system plans as a separate package.

We recommend the ROT24 for the IT250.

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.

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ROT06 Turbine Generator Plans and Blueprints

Pricing: Please refer to price list or email Infinity.



IT10 kW ORC System

Waste Heat Power: For years we've been hearing requests from customers who would like to use their waste heat to generate power, both on land and marine applications. To meet that demand, we formed Infinity Turbine LLC in 2008 and developed the IT10, the worlds first production 10 kw ORC (Organic Rankine Cycle) waste heat to power generator.

New developments in CO2 Brayton Cycle may allow efficiencies to reach 30-50 percent, but only for high grade heat (way above 300 F). This is a huge increase from the legacy ORC process which has a system efficiency (bottoming cycle) of 5-15 percent). We now offer a CO2 Turbine Development Platform for educators and energy developers.

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IT10 System Plans

IT10 ORC Plans • System Blueprints (combine with turbine generator)

The plans include images of each component in (jpg/png) and .pdf views.

The machine ready files include dwg, dxf, xt and we can provide other files on request from our AutoDesk suite of Cad/Cam software. The files are provided by a FTP download. The license is for the system blueprints only, and does not include any support (optional).

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Axial Turbine

Plans Download:

The plans include images of each component in (jpg/png) and .pdf views.

The machine ready files include dwg, dxf, xt and we can provide other files on request from our AutoDesk suite of Cad/Cam software.

The files are provided by download.

The license is for the turbine blueprints only, and does not include any support (optional).

If you would like system blueprints (bill of materials, heat exchangers, pump/motor, frame, piping, etc.) for our Supercritical CO2 or standard R245fa, or R134a, please contact Infinity.



IT50 System Plans

Infinity offers both the ROT turbine plans and the IT50 system plans as a separate package.

We recommend the ROT24 for the IT50, even if it is derated.

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.



Infinity Turbine IT50 System for AC Power from Waste Heat

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.

Currently we can complete this build through our sub-contractor who builds ASME certified pressure tested heat exchangers in Toronto, Canada, and ship anywhere in the world.

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.

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The GPU Ground Power Unit for Stand Alone Portable Power

Infinity Turbine is developing a home based GPU (ground power unit) that is based on lithium batteries.

This cart mounted system is easy to move around to the jobsite, home, mobile, or marine. Hook up your PV panels, wind generator, backup generator, or grid power to charge.

Price: \$15,000 Kit Price: \$10,000 Plans: \$699.00

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Modular Block

The modular fluid handling device has a central bore with fluid passages that extend between block faces, both horizontally and vertically. The blocks can be stacked horizontally, vertically, or both. Rotating elements can be configured in any of the passages for the purpose of pumping, extraction, or power production.

Purpose: The functionality of the blocks is to perform rapid prototyping by deploying modular construction of systems using bolts.

Standard Blocks: 3 inch size with 10/32 inch fasteners. 1 inch center bore and 1/4 and 1/2 inch horizontal bores.

Larger Blocks: 6 inch size with 3/8 inch fasteners. 3 inch center bore and 1/4, 3/8, and 1/2 inch horizontal bores.

Patents (I and II) cover all sizes and most applications.



Caster Beam Modular Pre Fabricated Structure

Since 2008 Infinity has been building hundreds of turbine and extraction systems all with metal frames. Instead of relying on welded one-use structures, Infinity devised a system to use bolt together beams which had pre drilled 3 inch access ports and 3/8 inch holes for a bolt together system. Beams also have pre drilled 3/8 bolt patterns for standard 5 inch diameter casters which all fast prototyping carts that hold processing equipment, tables, workbenches, and other structures.

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Static Electricity Using CO2 With No Moving Parts

Since 2008 Infinity Turbine has been experimenting with all forms of waste heat to power generation. All modern day expanders have moving parts, which necessitates bearings and complicated seal technology and maintenance. The holy grail of energy production is no moving parts (solid state). To that end, after 10 years of trying to reduce a rotating expander to one part (successfully done), we finally achieved the ultimate waste heat to power device, the solid state turbine generator. This is done using CO2 which goes supercritical (phase change from liquid to high pressure vapor) at 88F or 31C.

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Vacuum Kiln for Fast Drying Fresh Cut Lumber in 3 Days

Infinity Turbine with Global Energy are developing DIY plans and kits for kiln vacuum drying lumber. I invented the Global Container Kiln back in 1990 by converting standard shipping containers into dry kilns for the small sawmills. Infinity Turbine has specialized in developing simple pressure vessels and systems with it's renewable waste heat turbine generators back in 2008, and has extensive experience in pressure vessels. It's a natural fit.

Why a vacuum kiln ? Lumber prices are crazy. Homebuilders cannot find quality lumber (supplies are limited), and have turned to buying a portable sawmill, which produces green lumber. For building, that lumber needs to be dried. This is also true for cabinet makers, and other wood craft business.

Our container kiln was a standard dry kiln and could KD (kiln dry) hardwoods in 30 days. That's too long for most.

A vacuum kiln is the answer. Smaller chambers can dry in 3 days or less.



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