

9/5/2021



it50

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**Infinity Turbine  
LLC**

## IT50 Waste Heat to Power System by Infinity Turbine

### Structured Data

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  {"@context":"http://schema.org",
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   "description":"Company Name: Infinity Turbine LLC
                 Product: IT50 System
                 Working Fluid: Refrigerants such as R245fa
                 Machine: ORC and ROT Radial Outflow Turbine System
                 Industry: Energy
                 Applications: Waste heat to power, utilities, server farms, bitcoin mining, hot geothermal"
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PDF Version of the webpage

This webpage QR code

<https://infinityturbine.com/it50.html>

## 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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## Grid Tie Device

Our induction AC generators require a grid tie device, which can be found on the link below from Sieb Meyer in Germany.

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## IT50 System Purchase Details

IT50 Organic Rankine Cycle System with ROT turbine and 50 kW output generator.

Standard complete system, which will accept 80-110 deg C input thermal fluid.

Heat exchangers are ASME designed and build by Henry Technologies in Canada.

Unit ships without refrigerant. 50-60 hz 380-480 (approx) V AC Generator.

Designed for R245fa. You may use R134a, proper cooling will be required. Unit includes a AC induction (asynchronous) generator, which will require the use of a grid-tie device to operate.

Unit has basic PLC for monitoring operating temperatures and pressures, but unit is really controlled by the grid-tie device, which senses output power and will adjust the VFD feedpump, which ultimately controls the turbine rotor speed. See: <http://www.sieb-meyer.de>

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## IT50 Scope of Supply

Please see our Scope of Supply for the IT50. This will be updated with new purchase to reflect any new technology or components.

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