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# co2-phase-change-demonstration-system-by-infinity-turbine



**Infinity Turbine  
LLC**

**CO2 Phase Change Demo System by Infinity  
Turbine**

## Structured Data

This webpage QR code

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Company Name: Infinity Turbine LLC  
 Product: CO2 Phase Change Demo Cart  
 Working Fluid: CO2  
 Machine: ORC and ROT Radial Outflow Turbine System  
 Industry: Energy  
 Applications: Waste heat to power, utilities, server farms, bitcoin mining, hot geothermal. Gas to liquids demo platform using CO2, water, electricity and Nafion. High Technology Uses: Converting waste heat to power starting at 30C.  
 Machine Features: One moving part and solid state turbine technology.  
 Machine Runs On: 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.

**PDF Version of the webpage (first pages)**

<https://infinityturbine.com/co2-phase-change-demonstration-system-by-infinity-turbine.html>

## Producing Alcohol from Liquid CO2

Infinity has already built lots of closed-loop supercritical CO2 systems, and experimented with CO2 cavitation to make a one-moving-part liquid CO2 pump.

Infinity currently sells a cart-mounted portable on-demand supercritical CO2 phase change system which can be used for the experiments listed below, along with many others. It is a cart which was designed to fit through any standard door, hallway, or elevator and has heavy duty casters for mobility.

We are currently looking for funding to develop the following:

1. On-Demand CO2 to Alcohol: Using our closed-loop liquid CO2 phase change system, adding Nafion in the process to make alcohol. Inputs: Liquid CO2, water, and electricity. About 3-4 kW to make a liter of alcohol (from lab experiments).
2. CO2 to Alcohol with In-Situ Power Generation: Using our closed-loop supercritical CO2 phase change system, produce the power via miniature CO2 turbine generator or static electricity generator (SEG) to power the conversion via Nafion.
3. Spin-To-Liquid (STL): A novel one-step approach to producing alcohol from liquid CO2 using a cavitation device with Nafion. This is a one-moving-part device employing sonochemistry with inputs of water and liquid CO2. Electricity is produced in-situ. Shaft rotation is required to spin the device (this can be done via a electric motor, pressure expanding turbine, or other shaft rotation such as a wind turbine).

Teaser: Why was Nikola Tesla so fascinated with static electricity and spinning discs ? Our guess is that he had already found the worlds best battery - water. The Tesla turbine (while a fascinating pump) was actually a static electricity generator originally designed to charge water. All of his Colorado Springs experiments revolved around static electricity. Power generation and (wireless) transportation was via static electricity.

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## CO2 Phase Change Demonstrator Demo

The liquid gas liquid phase change demonstrator is designed for experiments with liquid CO2.

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