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Infinity Turbine
LLC

inifinity-gas- capacitor-turbine- utilizing-swing- adsorption-co2-by- inifinity turbine

Infinity Gas Capacitor Turbine utilizing
swing adsorption CO2



This webpage QR code

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Swing adsorption gas capacitor turbine. Supercapacitor which uses CO2 swing adsorption SSA for electrochemical carbon dioxide capture.

PDF Version of the webpage (first pages)

<https://infinityturbine.com/inifinity-gas-capacitor-turbine-utilizing-swing-adsorption-co2-by-inifinity-turbine.html>

Swing Adsorption Gas Capacitor Turbine

Another innovation from Infinity Turbine is the CO₂ gas capacitor turbine (or gas flow battery).

With a closed loop hybrid of the Brayton Cycle within the Organic Rankine Cycle, Infinity discovered the production of high voltage DC static charges when expanding pressurized CO₂ over a hybrid plastic. The speed of the turbine regulates the flow, which in turn, will regulate the storage or production of power. The working fluid (CO₂) has a low temperature boiling point which allows it to work with a cavitation compression system, or low grade waste heat to go supercritical.

Enter the CO₂ Supercapacitor: This new field was recently published by Nanoscale in 2022: Supercapacitive swing adsorption (SSA) is a recently discovered electrochemically driven CO₂ capture technology that promises significant efficiency improvements over traditional methods. (see link below)

The new research confirms that this technology can be used in many applications, including harvesting CO₂ from the atmosphere, as well as energy storage devices from remote power generators, off-grid applications, and peak-shaving for demand power periods within the grid.

Power generation or storage can be achieved by solid state static whips or by rotating discs from the turbine (direct drive or free-spooling).

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How it works with lab scale Supercapacitors

From Nanoscale:

Supercapacitive swing adsorption (SSA) is a form of electro- chemical swing CO₂ capture based on charging supercapacitors.¹³ One electrode of the supercapacitor is exposed to a CO₂-containing gas and the other is completely soaked in electrolyte. When the supercapacitor is charged, CO₂ is selectively adsorbed from the gas (and released with discharging). The effect has primarily been studied with activated carbon electrodes and aqueous sodium chloride electrolyte, an affordable and environmentally-friendly model system.
