IT1000 by Infinity Turbine for Data Center Power and Grid Scale Battery Charging

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https://www.infinityturbine.com/it1000-by-infinity-turbine.html

The Infinity Turbine IT1000 is a 1 MW supercritical CO_2 power system delivering high-efficiency energy production for data centers, industrial sites, and grid applications. Featuring a closed-loop Brayton Cycle, 500 to 700 degree Celsius heat inputs, rapid deployment, and modular power blocks, the IT1000 provides reliable, high-density power with low maintenance and flexible fuel options.

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Infinity Turbine IT1000 – 1 MW Supercritical CO_2 Power System

The Infinity Turbine IT1000 is a modular 1 MW power block utilizing a supercritical CO_2 closed-loop Brayton Cycle.
Designed for data centers, industrial facilities, microgrids, and mobile deployment, the IT1000 provides exceptionally high energy density, fast installation, and high thermal efficiency using natural gas or high-grade waste heat.

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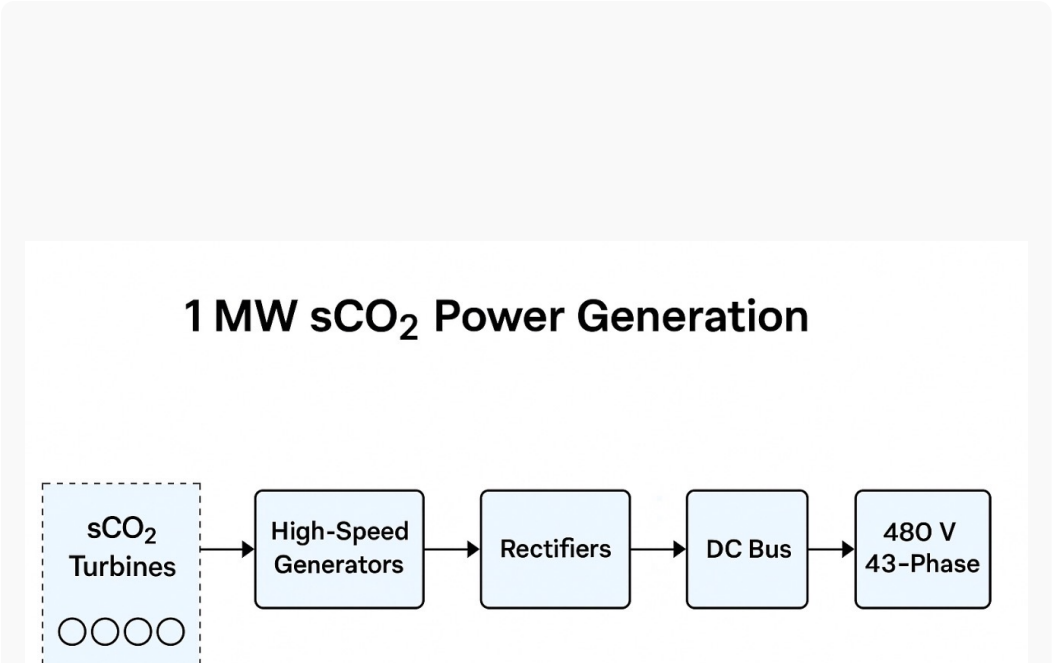
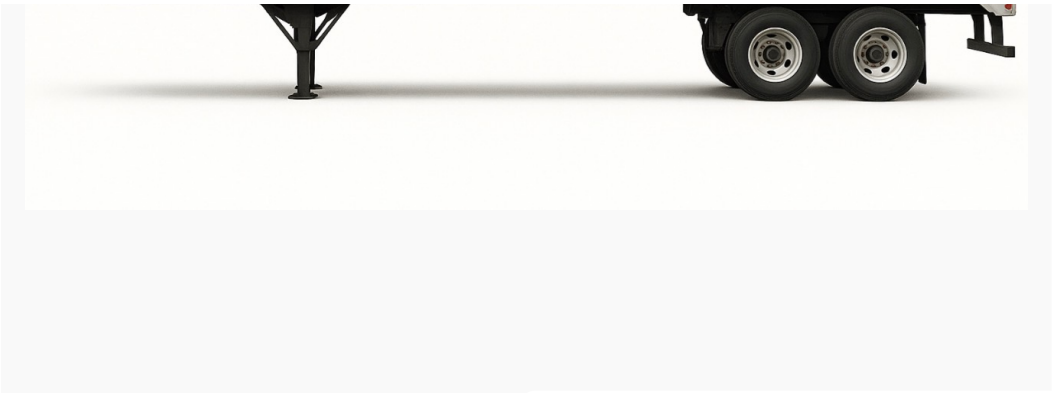
IT1000 Power Generation Architecture

The power electronics convert high-speed generator output through rectifiers into a stable DC bus, then invert to 480 V 3-phase output suitable for data center and industrial integration.



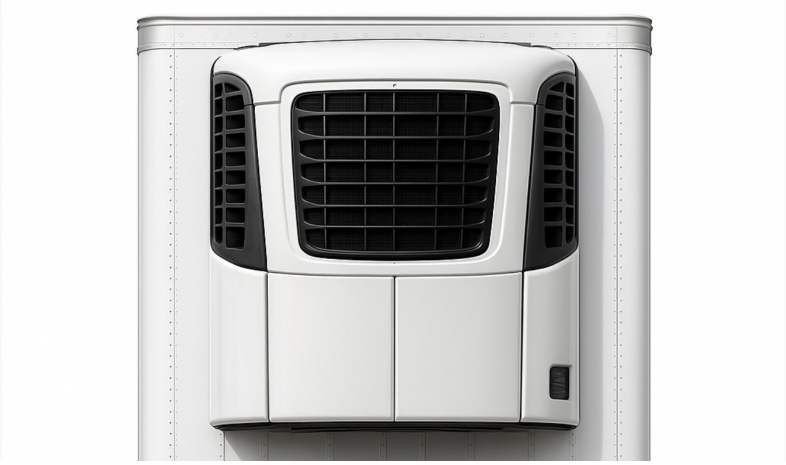
System Overview

The IT1000 integrates a direct-fired heat exchanger, recuperator, sCO_2 turbine core, high-speed generators, rectifiers, and 480 V power electronics into a single containerized power block. Multiple IT1000 units can be deployed in parallel for multi-megawatt on-demand power capacity.



Mobile Deployment Options – Trailer-Based IT1000

The IT1000 can be installed inside insulated 40–53 ft mobile trailers for rapid deployment, military bases, disaster response, or temporary peak power service.



Data Center Integration

Multiple IT1000 units can be positioned adjacent to hyperscale or modular data centers. Systems can be paralleled for 5 MW, 10 MW, or larger on-site power plants with both natural-gas and waste-heat co-firing options.

Infinity Turbine IT1000 | 1 MW Supercritical CO2 Power System

The Infinity Turbine IT1000 is a modular 1 MW power block using a closed-loop supercritical CO2 Brayton Cycle. It converts natural gas (or optional solar thermal or industrial waste heat) into power.

Key Features
• 1 MW net electrical output at 480 V 3-phase.
• Closed-loop supercritical CO2 Brayton Cycle core.
• High-temperature heat input: 500 – 700 °C depending on configuration.
• Target heat rate at or better than 10,000 BTU/kW.
• Containerized hi-cube package for rapid installation and transport.
• Compatible with natural gas, microturbine exhaust, and high-grade process heat.
• Ideal for AI data centers, industrial sites, and microgrid applications.

Technical Specifications
Net Output: 1,000 kW (1 MW) nominal
Output Voltage: 480 V AC, 3-phase, 60 Hz (other options on request)
Cycle Type: Closed-loop supercritical CO2 Brayton Cycle
Turbine Inlet Temperature: 500 – 700 °C
Working Fluid: Non-flammable CO2 in sealed loop
Package Type: 20 / 40 ft hi-cube containerized skid
Primary Applications: Data centers, industrial power, microgrids, storage charging

Applications
• On-site power for AI and HPC data centers.
• Industrial cogeneration and process heat utilization.
• Microgrids, remote sites, and islanded operation.
• Prime power or hybrid grid support with long-duration storage.

Containerized IT1000 Power Block

The IT1000 is housed in a hi-cube 20 or 40 ft container, enabling global transport, quick installation, and standardized service procedures. Systems can be branded or white-label manufactured for OEM partners.