



bGen™ - Thermal Energy Storage

Electric Steam Generator



Decarbonizing Heat with Thermal Energy Storage

bGen™ high-temperature thermal energy storage (TES) is a patented and award-winning technology, enabling to store heat in crushed volcanic rocks as storage media.

The bGen is charged electrically from renewables or grid electricity using embedded electrical heaters that heats the storage media to 750°C.

On the discharging cycle water is circulated and boiled inside the TES, enabling full control of discharging conditions in regards to flow and temperature.

The bGen thermal storage allows decoupling of charging and discharging process, allowing simultaneous or separated processes.



Carbon free

replacing fossil fuel boilers with renewable source



Efficient

97% cycle efficiency



Flexible

10% minimum rated power



Durable

30 year lifetime with no degradation



Modular

5-100MWh, 4-80 ton/h steam



Integration

The bGen is constructed from multiple prefabricated building blocks called bCubes, which are assembled in to a structure on top of a steal base, and insulated all around to minimize thermal losses.

This modular design allows installation of number of bCubes according to the required capacity and power. The bCubes are arranged in different width and high to form the storage system in minimal footprint.



Medium size system of 24 modules to provide 10 ton/hr System could increase/decrease in size by intervals of 4 modules

Capacity	15,840	kWh
Max power	7,200	kW
Max Steam flow	10.2	Ton/hr
Max Steam temperature	210°	c
Max Steam pressure	19	bara
Max Media temperature	750°	c
Max electrical charging load	3,072	kW
Thermal losses	0.12%	%/hr
Electrical heater efficiency	99.2%	%
Cycle efficiency (daily cycles)	97%	%
Ramp up time: 0%-10%	3.5	Min
Ramp up time: 10%-50%	1.5	Min
Ramp up time: 50%-100%	0.5	Min
Dimensions (W X L X H)	5 X 14 X 4	M
Weight	216	ton

- The bGen™ unit is fully automatic and operated through a software communication protocol.
- No operator required for operating the system.
- Storage modules do not require any preventive or periodic maintenance. Auxiliary systems (pumps, valves, etc) require minimal ongoing maintenance.

Safety and Standards:

Standard	Description
ISO 9001	Quality management systems
ISO 14001	Environmental management systems
OHSAS 180014	Health and safety management systems
CE / UL	Directives for CE / UL listed
ASME 31.1	Power piping
Eurocode8, US ASCE 7-98	Building and foundations
TA-LUFT, BEMS	Gas emissions



Company Profile:

Brenmiller Energy provides sustainable thermal energy storage solutions. The company was founded by Avi Brenmiller, former CEO of Siemens CSP and Solel, and a team of experts in the field of renewable energy. Since 2012 the company has developed a patented thermal energy storage technology based on storing heat using crushed volcanic rocks. The company is traded on Tel-Aviv Stock Exchange and has raised over \$90m.

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