



COLDWAY

TECHNOLOGIES

**STORAGE & COLD
PRODUCTION BY SOLID GAS
SORPTION SYSTEM**



SOLID GAS SORPTION SYSTEM

COLDWAY TECHNOLOGIES has developed and perfected an innovative technology that makes it possible to produce and store cold and heat autonomously, thus meeting the many challenges of tomorrow's world.

FUNCTIONALITIES



HEAT/COLD STORAGE

- **Compact heat or cold storage** to meet the rapid heating or cooling needs of components, equipment or technical rooms such as Shelter.
- **Hot or cold recovery** over a wide temperature range (from -40°C to $+200^{\circ}\text{C}$) and power adjustable upon demand from a few Watts to several tens of kW.
- **Thermal energy storage** without loss and without time limitation.



HEAT/COLD PRODUCTION

Autonomous production of heat and/or cold, without connection to an electrical source and in complete safety.

Recharging or regeneration of the system is possible by recovering fatal heat or solar energy.

STRENGTHS



MODULARITY OF THE SYSTEM

Modular sizing according to the required thermal power and the targeted autonomy in hours/days.



NO ENVIRONMENTAL IMPACT

Natural refrigerant with no impact on ozone (ODP=0) and no greenhouse effect (GWP=0), no CO₂ emissions. Non-polluting materials used.



ROBUSTNESS

No moving parts, no component wear, no vibrations.
Long service life of the system and of the active materials used (3000 cycles performed with no loss of performance)



SILENCE

Perfectly silent system adapted for night applications or hostile environments.

	COLD APPLICATION	HOT APPLICATION
Temperature range	From -40°C to $+20^{\circ}\text{C}$	From $+50^{\circ}\text{C}$ to $+200^{\circ}\text{C}$
Energy	500 Wh - 8,5 kWh	900 Wh -16 kWh
Power	100 W - 4 kW	250 W - 9,7 kW
DENSITY (RELATED TO REACTIVE MATERIAL VOLUME)		
Energy density	85 kWh/m ³	160 kWh/m ³
Power density	40 kW/m ³	97 kW/m ³
MAXIMAL PEAK INSTANT DENSITY (ENV. 2 MIN)		
Maximal peak cooling power	2,5 MW/m ³	4,8 MW/m ³

The solid-gas sorption system developed by **COLDWAY TECHNOLOGIES** is already providing a relevant response to the energy and environmental issues of urban logistics in the health and food delivery sectors.

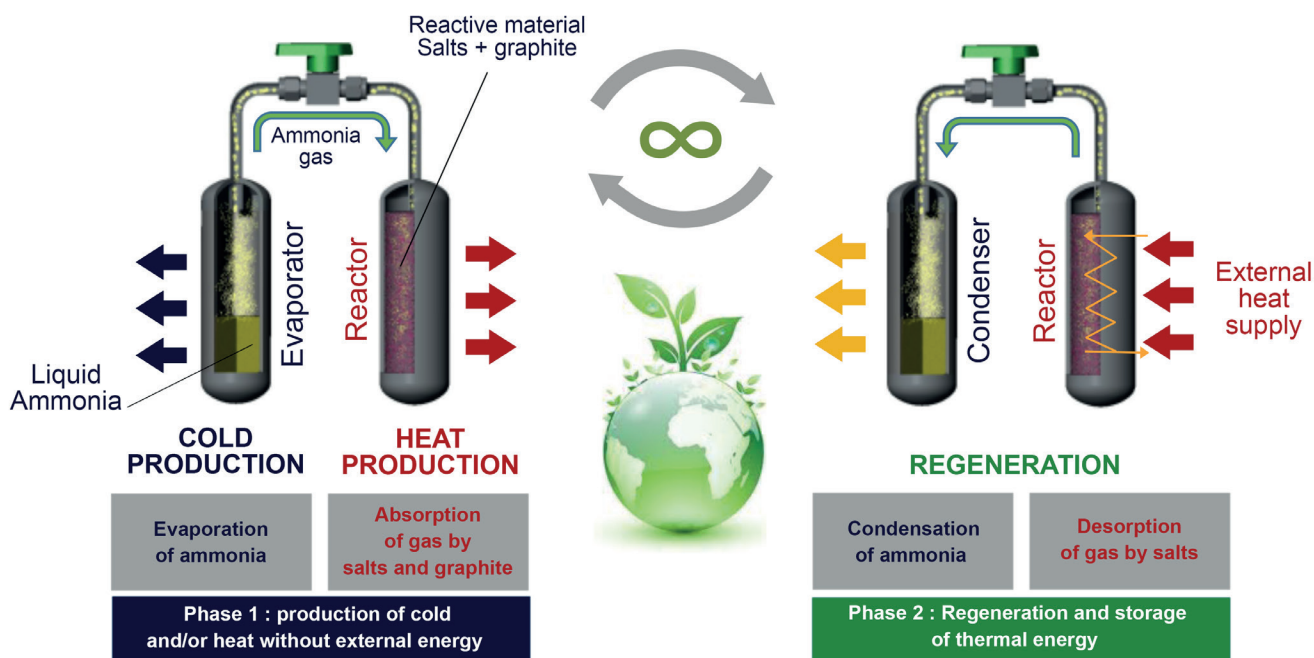
It is also addressed to the world of tomorrow and to the different research sectors of industry, armed forces, transport, space, automotive (reduction of Nox emissions), fatal heat recovery, waste treatment, electronics...

IN A NUTSHELL

- all domains expressing a need for instantaneous power while respecting the environment.
- the process operates from a chemical reaction between a natural refrigerant (NH₃) and a reactive material composed of salts and graphite.

The system is perfectly sealed and operates indefinitely over several thousand cycles with no loss of power or performance.

No CO₂ emissions.



More than 3,000 cycles performed alternating regeneration phase / production phase with no loss in performance

The system developed by **COLDWAY TECHNOLOGIES** is an alternative green technology capable of meeting your expectations.



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*For a specific and confidential study,
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