

THERMAL BOX

Technical Specifications

Engineered for superior energy storage, precise temperature control, and maximum efficiency in large heating and cooling systems.

The Thermal Box is a compact thermal energy storage unit designed for heating and cooling systems in buildings.

It can be used as a stand-alone module or connected with several other Thermal Box modules to match the required energy storage capacity. When multiple modules are used, the piping between modules must be done on site.

The Thermal Box module is delivered with required thermal insulation panels.

The Thermal Box is constructed from stainless steel.



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Modular Design

Scalable to different sizes and needs



Temperature Range

Operates from -20 °C to 120 °C



Phase Change Materials

Allows storage both for heat and cold energy



Long Lifespan

More than 25 years of service life



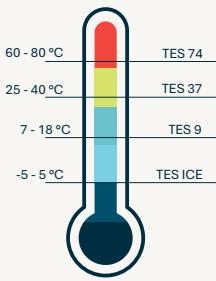
COOLING APPLICATIONS



HEATING APPLICATIONS

CAPACITY & TEMPERATURE

The Thermal Box is designed to operate within a specific temperature range, tailored to the application.



FLOW

HTF - Heat Transfer Fluid

Cooling/heating system temperature	-5 to 5 °C	7 to 18 °C	25 to 40 °C	60 to 80 °C
PCM temperature ¹	0 °C	9 °C	37 °C	74 °C
Thermal storage capacity	125 kWh	75 kWh	75 kWh	75 kWh
PCM type	Water/ice	Bio-based wax	Bio-based wax	Bio-based wax
Flashpoint	n/a		>200 °C	
Operational thermal storage capacity			0 - 100%	
Typical full charge or discharge duration			4-10 hours	
Typical heat input/output (with $\Delta T = 5$ K)	10-35 kW	5-20 kW	5-20 kW	5-20 kW
Standby stored energy loss rate			1% per 24h	

¹ Other PCM temperature available on request.

DIMENSIONS

Thermal Box is modular and adaptable, making it scalable for various applications.



Weight (operations)	2,000 kg
Dimensions excluding insulation (transport)	LWH = 1.2 x 0.8 x 1.8 meter
Dimensions including insulation (indoor)	LWH = 1.4 x 1.0 x 2.0 meter
Dimensions including insulation (outdoor)	LWH = 1.5 x 1.1 x 2.1 meter
Inlet/outlet connecting tubes	DN 40
Compatible heat transfer fluid (HTF)	Water, thermal oil, glycol
Heat exchanger material in Thermal Box	Stainless steel

