



PHASESTOR
THERMAL ENERGY STORAGE

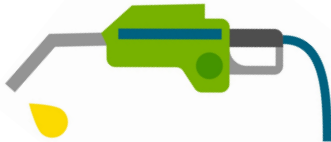
Reefer Trucks, Cold Storage & Warehouses

Smart Thermal Mass Refrigeration

Cold Cube passively keeps entire truckloads and warehouses at required temperatures – increasing resiliency & range of travel, maintaining code compliance, and keeping products safe.



Customer Gains	Features
<ul style="list-style-type: none"> • Maintains product quality & efficacy • Reduce reliance on HVAC equipment • Preserve equipment integrity • Reduce operational costs • Reduce carbon footprint 	<ul style="list-style-type: none"> • Thermal buffer regulates temperature • Consistent thermal delivery • Modular – can be scaled • Highly customizable – can target any operating temperature



The Problem

In many reefer trucks and cold storage warehouses, maintaining required temperatures is a challenge to overcome due to heavy usage, undersized cooling equipment, inefficient air distribution, and regulatory idling laws. Temperature instability in the distribution, staging areas, loading docks & reefers also leads to concerns such as code compliance, moisture buildup, product quality and product perishability.

Customers need an effective and continuous temperature maintenance system that provides temperature stability and resilience to ensure code compliance and product quality.

The Solution

The Cold Cube product is a thermal energy storage system that utilizes PCM Smart Panels and provides approximately 4-15 ton-hours of thermal energy storage. The Cold Cube consists of 280 Q15 ENRG Panels layered with aluminum mesh with a ventilated base. This Cube is wrapped in a plastic enclosure fitted with a fan on top to pull the exiting air upwards. For onboard truck applications, additional controls can be included (battery and thermostat). Cold Cube is placed in a -21°C freezer at night to charge our -15°C phase change material. The charged Cold Cube can be moved where excess cooling is required – staging areas or onboard reefer trucks.