

5 & 10 MT Solar Cold Storage with Thermal Energy Storage

This system works on a hybrid thermal energy storage technology to provide fast cooling, stores cooling during non-solar hours in thermal energy storage and does not require electric batteries to power compressor.

In hybrid technology, compressor and thermal energy storage work together to boost the cooling performance.

The cold storage retains the quality of fruits, vegetables, flowers, egg, fish, meat and other perishable commodities for a longer duration. The system also support other applications such as fruit ripening, vaccine/medicine storage, etc.

The entire system is automatic and doesn't require user intervention. The solar integration is jointly developed in partnership with National Institute of Solar Energy, Government of India.



Features

SITE & USAGE DEPENDENT SIZING

Sizing of compressor, solar panels & thermal energy storage is optimized for site & usage conditions

- 15 to 15 °C TEMPERATURE RANGE

World's first & only solar cold storage based on thermal energy storage for frozen applications

FLEXIBLE CONFIGURATION

Retrofit to existing system
Container / indoor design
Solar cooling kit available
5 to 100 MT capacity

MUTI CHAMBER

Same system can have 2 chambers with different temperature set points

Specifications

Description	5 MT	10 MT
Internal storage volume	750 cubic feet	1200 cubic feet
Temperature range	4 to 15 °C 0 to 10 °C (Optional) - 5 to 5 °C (Optional) - 15 to - 5 °C (Optional)	4 to 15 °C 0 to 10 °C (Optional) - 5 to 5 °C (Optional) - 15 to - 5 °C (Optional)
Cooling backup capacity	175 to 200 MJ	200 to 250 MJ
Compressor	2 to 2.6 TR	3 to 3.5 TR
Solar photovoltaic panels	5 to 6 kWp	8 to 10 kWp
Multiple chamber options	1 & 2	
System configuration	Indoor; shipped in semi knock down Outdoor; shipped in containerized or semi knock down	

Notes:

1. All performance data is based on 5 kWh/m²-day of global solar horizontal irradiance and standard operating conditions
2. Cold storage capacity is indicative and commodity dependent
3. Alternate power supply such as grid backup is strongly recommended for system operations during cloudy conditions