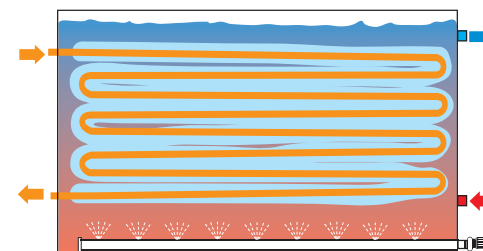
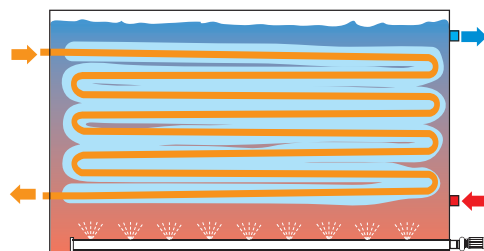


Principle of operation



Capacity

325 - 3692 kWh

as from 300 kWh

System

Internal or external melt

External melt

Ice thermal storage products

Principle of operation

As the name suggests, they use ice to build and store cooling when cooling demand and/or energy rates are low (mostly overnight), which the system then uses for air-conditioning or process purposes when energy rates are high (mostly daytime).

Benefits

- **Refrigeration systems** up to 50% more compact.
- **Operational cost savings:** ice formed overnight with cheaper electricity.
- **Lower energy consumption** basing the cooling system on average conditions rather than peak reduces power requirements and the refrigerant charge.
- **Reduced carbon footprint:** Most of the cooling occurs overnight when condensing temperatures are lower and the cooling system requires less energy.
- **Less compressor maintenance** since the compressor operates continuously at full capacity and not under fluctuating partial load.
- Thermal storage systems provide **back-up cooling**.

Systems

- The **TSU-C/D** is an external melt system. Direct ice/water contact ensures a constant low water temperature. External melt is ideal for applications requiring constant near-freezing water temperatures (1 to 2°C).
- **TSU-M** is an internal melt system. Internal melt is ideal for air-conditioning involving cooling at higher temperatures. Coil is installed in factory-assembled modular tanks, several of which are usually needed for the required cooling load. They can be installed in basements, on roofs, and inside or outside buildings.
- **TSC** features only a coil for ice thermal storage applications. The concrete tanks housing this are typically part of the building infrastructure.

Applications

Ice thermal storage is typically used for

- air conditioning
- district cooling
- emergency cooling
- supermarkets
- dairies
- breweries
- meat processing
- wet air pre-cooling for storage of fruit and vegetables

