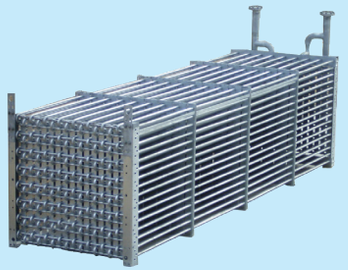
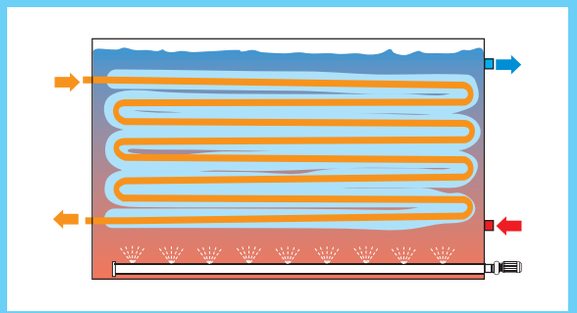
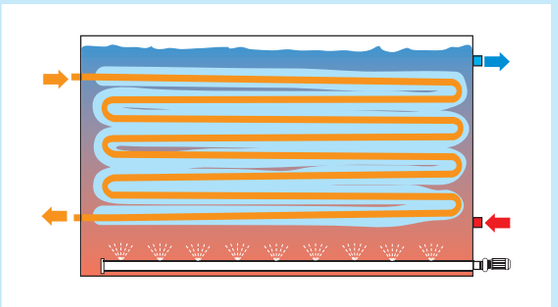
	TSU-C/F	TSC
		
Principle of operation		
Capacity	325 - 3692 kWh	as from 300 kWh
System	Internal or external melt	External melt

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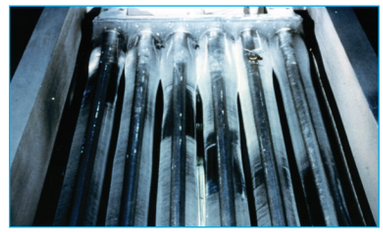
Ice thermal storage products

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).

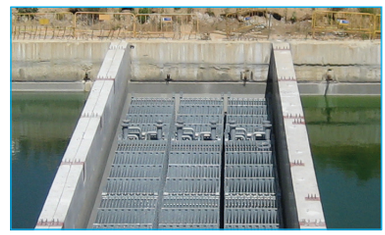


Benefits

- **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/F** 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).
- The **TSU-C** can also be used as 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 coil 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