



lowest refrigerant  
content

# Industrial Ice Bank

## Cooler System – BUCO Ice Bank



**Application fields**  
Industrial chilling with peak  
loads

- production of food
- dairies
- breweries
- production of soft drinks



**Chilling in the production of**

- chemicals
- pharmaceuticals



# Efficiency

The benefit of an ice storage unit is the increased cooling power for peak loads while using smaller refrigeration machines, which have to be designed for the average demand only. The cost efficiency is based on the utilization of low night tariffs, which sometimes cost half the money, or on limiting the max electricity peaks, which reduces the basic price of electricity.

## Application and benefit

- storage of refrigeration capacity in ice
- increasing of peak cooling power with smaller refrigeration machine
- limiting peaks in electricity consumption
- advantage of using low night tariffs for electricity



## Specifications

- storage capacity from 50 kWh to 2000 kWh
- evaporator for all refrigerants and modes or for brine
- stainless steel completely
- ready to plug or for local refrigeration units

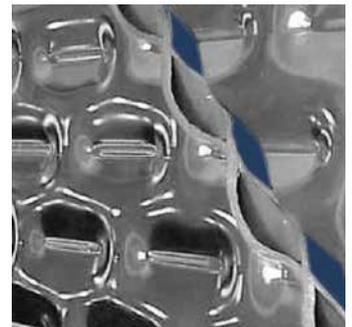


## Design and Dimensions

Examples for typical measurements	L	H	W
Compact – system	0.5	2.3	1.5
System typ M	2.5	2.3	2.2
System typ B	10	2.3	2.2

(ca. measurements in m)

From top to bottom:  
Air agitation to provide turbulence; BUCO Ice Bank compact unit, 600 kWh; Stainless steel evaporator panels – low refrigerant volume (about 40% compared to a coil system with pipes).



**“BUCO Ice Banks for more than 50 years.  
More than 1000 BUCO Ice Banks in operation.”**

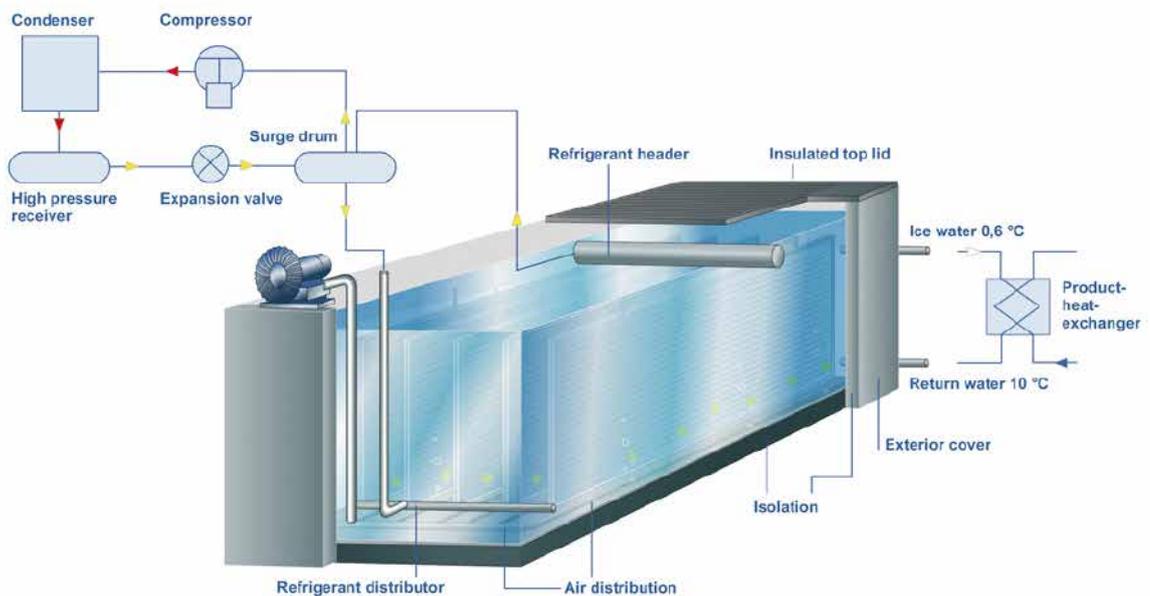
# Method of operation

**Storage or building ice:** Evaporator panels are placed upright in a rectangular water tank. Ice is built at an evaporation temperature between  $-4$  and  $-10$  °C, depending on the storage time. The ice sticks to the evaporator panels (static ice bank). For ammonia systems, a separate suction pipe at the evaporator ensures the oil return.

**Cooling phase or thawing phase:** On the tank floor there is a distribution system for the warmer return water to ensure a homogeneous thawing of the ice. Additionally there is a distribution system for the air agitation, which provides intensive turbulence to ensure a perfect heat transfer and low ice water temperatures. The air agitation starts up automatically when required only. A maximum of cooling power is ensured at lowest ice water temperatures due to a nearly constant ice surface up to the very end of the cooling phase.

## Advantages

- very stable ice water temperature below  $1^{\circ}\text{C}$  up to the end of the process
- very high cooling power for peaks
- stainless steel completely
- low refrigerant content
- open design
- easy inspection, easy cleaning
- compact design as a package for truck transport
- use of existing tanks possible



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