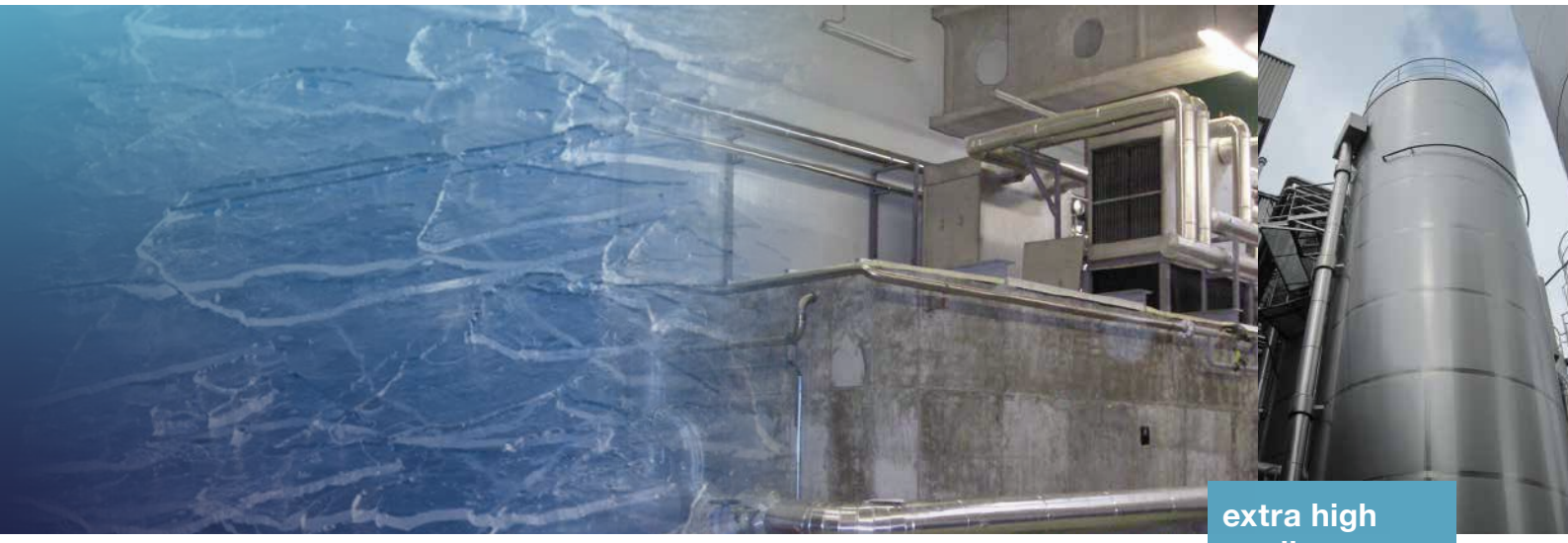
Refrigeration AG

BUCO | 100 YEARS INNOVATION



extra high cooling power

Ice Bank Silo

Ice Storage Unit with Ice Maker

Application fields
Industrial chilling with peak loads

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

Chilling in the production of

- chemicals
- pharmaceuticals

Efficiency of making ice

The efficiency of the dynamic ice making with hot gas melting is based on the prevention of a thick ice shell on the evaporator, which causes a big resistance for heat conductivity at static systems with a thick ice layer.

Efficiency of direct chilling

The evaporator can be free of ice at any time after thawing and therefore can be used as a direct chiller for the warm return water. Direct chilling on the iceless evaporator allows a much higher evaporation temperature, a higher COP of the refrigerant compressor and thus less electricity costs. The direct chilling is recommended to be used as long as possible for the ground load. The mode can be switched automatically as a function of the return water temperature.

Application and benefit

- **Storage of refrigeration capacity with crushed ice**
- **Increasing of top peak cooling power with smaller refrigeration machine**
- **Reduction of peaks in electricity consumption**
- **Additional use as direct chiller to allow lower energy costs.**

Design and Dimensions

typical measurements for the evaporator	L	W	H
Compact – system	2.0	1.0	2.5
System type BEE	2.0	3.0	2.5

(ca. measurements in m)

Silos	D	H	
Compact – system	4.0	12.0	
up to ca.	4.0	20.0	

left: ice silos with 5000 kWh storage capacity each, **right:** ice maker for 6 to/h. At 10 h buildup time 5600 kWh

Specifications

- **Storage capacity from 2.000 kWh to more than 10.000 kWh**
- **Stainless steel completely**
- **Evaporator for all refrigerants, pump- or dx-mode**

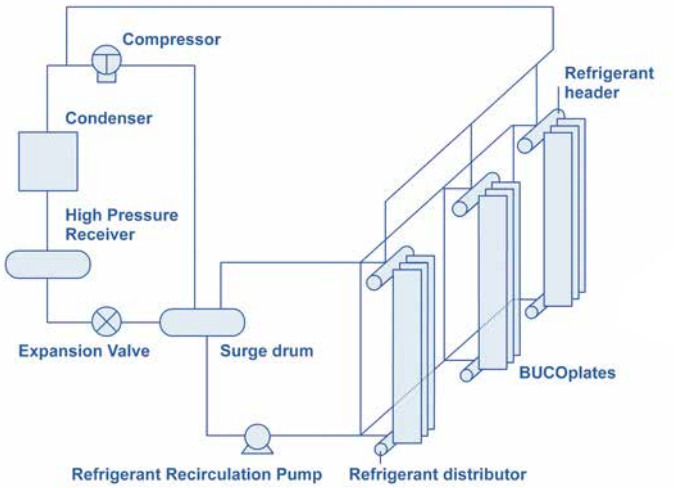
Method of operation Making Ice

Ice is frozen on vertical evaporator panels and forms a 6 – 8 mm thin layer of ice, which keeps the resistance of heat conductivity always at a low level. After some minutes of building up ice, an automatic plc system will give a signal for hot gas injection to the heat exchange panel for some seconds in order to split off the ice. Afterwards the evaporator is free again to form ice in an efficient thin layer.

BUCOdelot ice-store Falling-Film - Ice-maker

Advantages

- stainless steel completely
- durability
- reliability
- low refrigerant content
- extra high cooling power for peaks
- efficiency through option of direct chilling
- very stable ice water temperature below 1°C
- open design
- easy inspection, the system is not under water
- nearly any tank geometry possible
- use of old existing tanks possible
- silos require minimum ground space



“BUCOdelot Falling Film ice making and storage for more than 20 years.”
“More than 200 BUCOdelot ice makers in operation.“

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