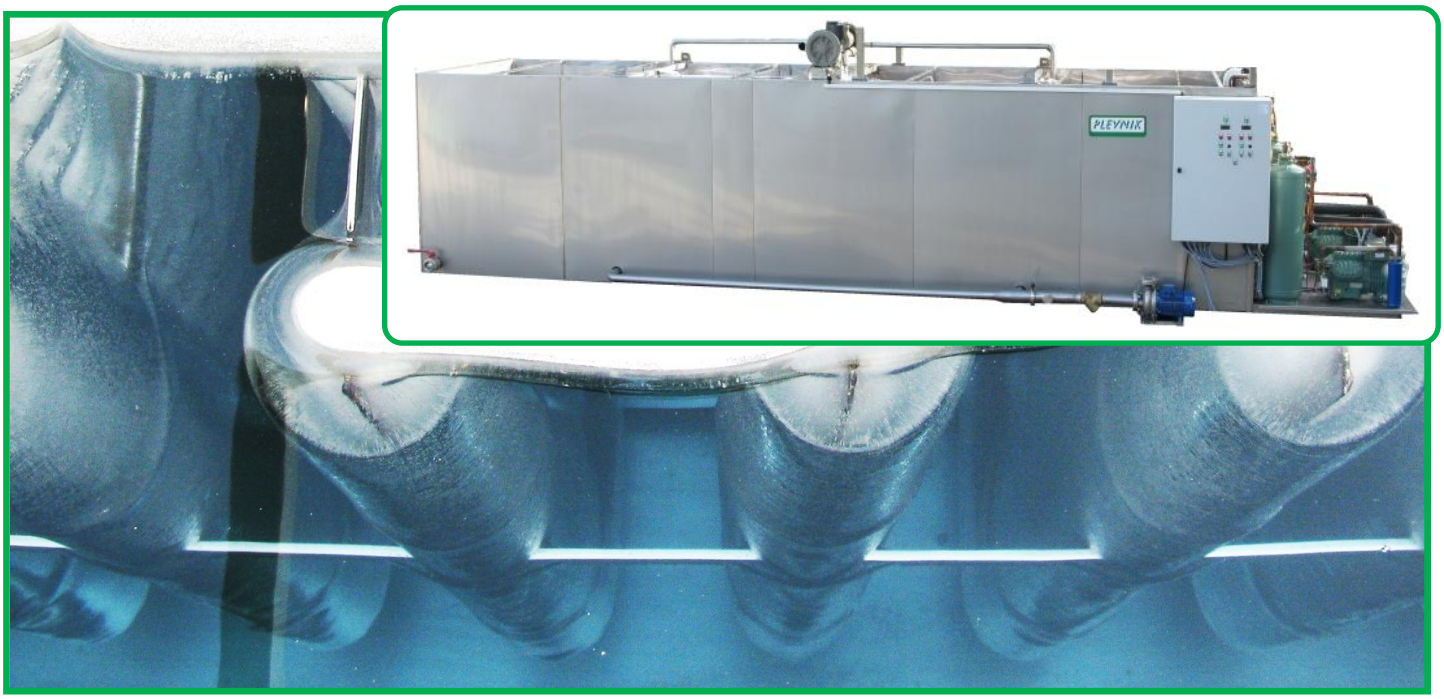
ICE BANK
with cooling unit

SHL 55 - 1000

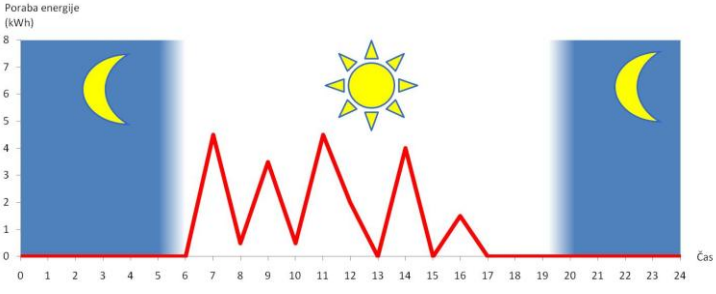


Ice banks with cooling unit SHL 55 - 1000 are used in cooling and air-conditioning systems where we need a quick cooling process (cooling in dairy, food and other industries, air-conditioning of conference rooms, cinemas, theaters...)

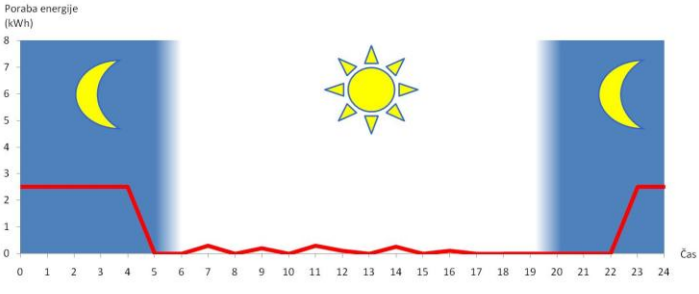
ADVANTAGES of the ice bank with cooling unit:

- It works during the night **when the energy costs are low** and uses the accumulated cooling energy during the day
- I uses a **smaller cooling aggregate** than conventional cooling systems because it operates with constant power over a predefined time range. The **cooling aggregate** has a **much smaller cooling power** than the peaks of cooling energy used during the process
- By cooling by night we achieve a **smaller load of the electric network** in the daytime (cheaper energy)
- Possibility of storing cooling energy from 20% to 100% of the capacity of the tank
- The system works with a smaller amount of cooling mean than in conventional systems
- The water cools down to 0,5°C (optional -10°C)
- Thanks to the uniform ice surface the temperature of the water remains the same until the end of the melting

Energy consumption with conventional cooling systems (simulation)



Energy consumption with the ICE BANK (simulation)



Cooling energy - **with an ear for environment**

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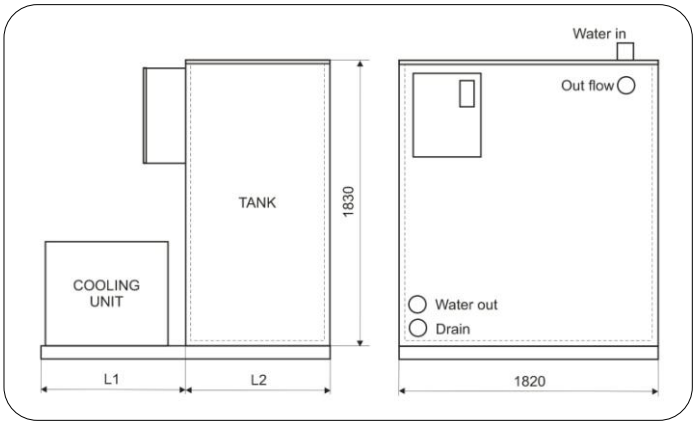
This kind of devices are units for energy storage with maximum capacity. They utilize the energy produced by the change of state of matter from water to ice and the melting heat of water of 335kJ/kg.

Table 1: Technical data of the ice bank

Type SHL	Volume (l)	Capacity (kWh)
55	1400	57
75	1850	77
95	2300	96
115	2750	115
155	3680	154
195	4600	192
265	6450	268
385	9200	384
500	12400	500
615	15180	614
730	17950	730
1000	24000	1000

Assembly of the ice bank (basic):

- Inside of the tank made from stainless steel W.Nr.1.4301
- Outside and cover of the tank made from stainless steel W.Nr.1.4301 (optional - outside of the tank made from zinced steel or lacquered)
- Thickness of insulation 50/75mm
- Framework made from stainless steel W.Nr.1.4301
- Evaporator made from stainless steel W.Nr.1.4301
- Pump for the circulation of cold water 1x
- Cooling aggregate with air condensing unit working with an ecological coolant (R404A)
- Control panel with an electronic thermostat for setting and monitoring the working parameters of the device.
- Power supply 400V 3N 50Hz



<u>The power of the cooling unit and the capacity of the ice bank must be chosen regarding the cooling process!</u>

- If the device is used for cooling shock temperatures once a day and has in the other time period a consumption that represents ~10% (or less) of its capacity we recommend a cooling unit that makes the ice in 8 to 12 hours
- If the device is used for cooling shock temperatures once a day and has in the other time period a consumption that represents 15% to 45% of its capacity we recommend a cooling unit that makes the ice in 4 to 7 hours

Additional equipment - optional:

- Conversion of the waste energy of cooling for heating sanitary water; heat pump - recuperation
- Air blower for a uniform taking of the cooling energy
- Cooling unit separated from the ice bank

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