



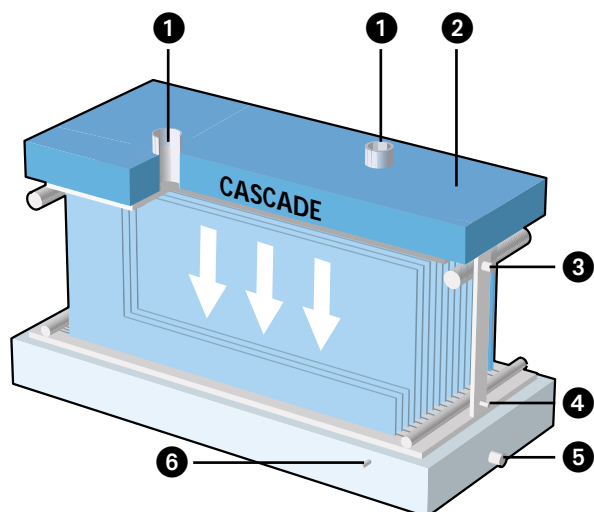
# AXIMA REFRIGERATION FRANCE

Cascade® : falling-film refrigeration system

Banquise® : ice accumulation refrigeration system

WATER AT 0.5°C  
LOW REFRIGERANT LOAD





- 1 - Water inlet
- 2 - Water distribution tank
- 3 - Refrigerant outlet
- 4 - Refrigerant inlet
- 5 - Chilled water outlet
- 6 - Overflow

## Cascade®

### Operating principle

The water to be cooled flows from the user system into the water distribution tank. It then runs down the plates containing refrigerant fluid at a controlled speed.

The Cascade® is fed with refrigerant by means of a thermosiphon, pump or by a direct release system.

The refrigerant generally used is NH<sub>3</sub>, R404A etc.

The system can also be adapted for use with secondary refrigerant (e.g. glycol water, alkali etc.) instead of with refrigerant.



Cascade® fed with refrigerant by thermosiphon

### Benefits of Cascade®

The water can be cooled down to 0.5°C

Lower refrigerant load

Optimised thermal exchange

Energy saving

Stainless steel equipment

Easy to clean

Adaptable to existing installations

Water intake temperature up to 35°C

The water from the plant can be pre-cooled before the existing ice tank

Cascade®

### Rehabilitation of existing iced water tanks



Removal of coils



Setting up of two Banquise® systems and one Cascade® system on the chilled water tanks



With Banquise® and Cascade®, make changes without losing your peace of mind...

application:  
pharmaceuticals, chemicals etc.

## Banquise®

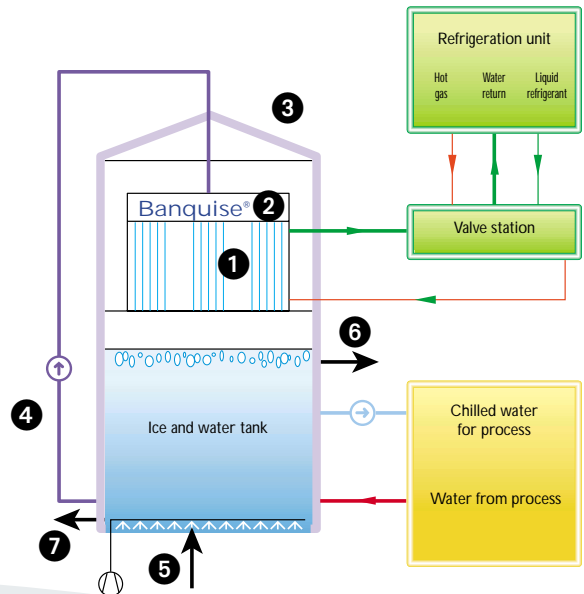
### Operating principle

The water is pumped ④ from the ice storage tank to the water distribution tank of the system ②. Water runs along the plates and freezes ①.

When the thickness of the ice on the plates is 6 to 8 mm, "hot gas" (from the refrigeration unit) is injected inside the plates. The ice comes off the plates and drops into the storage tank, where it floats on the water.

The various refrigerant supply systems are similar to those of the Cascade®.

Banquise® may also be used for direct cooling with no production of ice, using the principle of the Cascade®.



- ① Formation of ice on the plates
- ② Water distribution tank
- ③ Insulated chilled water storage tank
- ④ Circulation pump for ice production
- ⑤ Air agitator
- ⑥ Overflow
- ⑦ Drain

### Benefits of Banquise®

The water can be cooled down to 0.5°C  
 Lower refrigerant load  
 Optimised thermal exchange  
 Energy saving  
 Stainless steel equipment  
 Easy to clean  
 Adaptable to existing installations

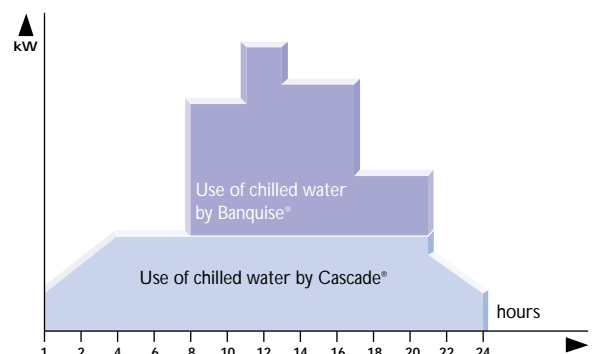
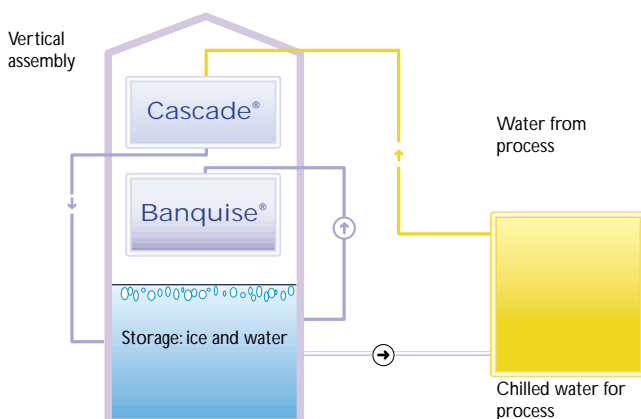
Flexible operation, with ice production or direct cooling  
 Reduced surface occupation, thanks to the ice storage tank.



Banquise® : high storage tank

## + Banquise®

### Cost-effective operation



# References for Cascade® + Banquise®



ALSACE LAIT Hoerdt, BONGRAIN GERARD Le Tholy, CANDIA Gerzat, DAGNIAUX Roubaix, DANONE Bailleul, DANONE/BLEDINA Steenvoorde, DAUCY Comines, ENTREMONT/NOUVELLE FROMAGERIE Saint Urbain, EUROSERUM Benestroff, FLEURY MICHON Moulleron en Pades, GENERALE TRAITEUR Sablé, INGREDIA Saint Pol, LACTALIS/CANELIA Petit Fayt, LACTALIS/ MARCILLAT Corcieux, LACTALIS/SOCIETE FROMAGERIE Bouvron, LACTALIS Vitré, LAITERIE DU VAL D'ANCENIS La Cana, NESTLE Andrezieux Boutheon, NESTLE Cuincy, NESTLE Lisieux, RDC PRODUCTION Khenchela Algérie, YOPLAIT Monetau, YOPLAIT Ressons sur Matz...

## Know-how of Axima Refrigeration France

Axima Refrigeration France is a subsidiary of Suez that has been specialising in the design, assembly and installation of compression type refrigerant units for over 100 years.

Axima Refrigeration France was a pioneer in the installation of coil type chilled water tanks. Today, we offer our customers a solution that is the most cost-effective, the most efficient and the best suited to regulatory constraints, namely Cascade® + Banquise®.

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