

## Job Report

### ARCTOS keeps milk fresh

#### Single stage ethylene glycol/NH<sub>3</sub>-compression refrigeration system for brine cooling

In the food industry it is imperative to cool continuously. Be it during production, processing or storage – protecting food as long as possible against quality loss can only be ensured if temperatures are constantly cool.

As milk is a very sensitive food, particularly in milk production and processing, cool temperatures just above 0°C are of primary importance.

ARCTOS as a competent and reliable partner offers the techniques and equipment required for those applications. A glance at our customer reference list shows a considerable number of milk and meat processors.

From ARCTOS you buy experience.



Storage of milk products at 2°C - 4°C in a cheese plant

Above: pallet stockroom

Right: stockroom with shelves



#### Example ethylene glycol / NH<sub>3</sub> refrigeration plant:

##### Cooling of production and stockrooms in the milk-processing industry

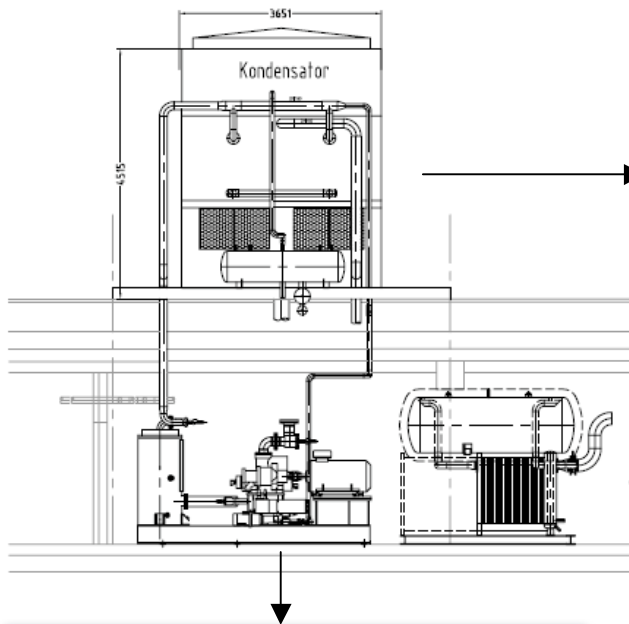
In the cheese making area production has been expanded. To deal with this increase in capacity, ARCTOS installed:

- 1420 kW brine-cooling system with NH<sub>3</sub> tandem screw compressor unit,
- plate heat exchanger as brine cooler (propylene glycol),
- evaporative condenser,
- primary and secondary pumps, hydraulic distributors etc.

In order to shorten the installation time at site, the refrigeration system including the refrigerant-cooled oil coolers was prefabricated in transportable sections.

The system cools the brine, maturing rooms, cheese machines and air-conditions the production rooms.

The stainless steel brine piping was pre-insulated and made of stainless steel and laid across the roof.



## Technical data

Refrigerant	NH <sub>3</sub> (R717)
Refrigerant charge	800 kg
NH <sub>3</sub> evaporating temperature	-7°C
NH <sub>3</sub> condensing temperature	+35°C
Cooling capacity Q <sub>0</sub>	1420 kW
Compressor manufacturer	GEA-Grasso
Compressor type	screw compressors as DUO-pack unit
NH <sub>3</sub> condenser	evaporative condenser
Cooling medium	air / water
Heat transfer medium	30 % Tyfocor L / propylene glycol
Heat transfer medium inlet t <sub>S1</sub>	0°C
Heat transfer medium outlet t <sub>S2</sub>	-4°C