



# CRANE Temper<sup>®</sup>

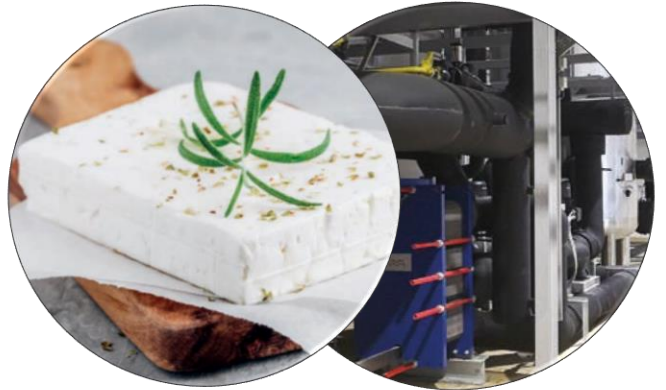
## - a good story

-10

### A cooler dairy with CRANE Temper

#### Naturally and a sustainable approach

L.A. Farm S.A. a small family-run business in Thessaly, Greece, specializing in producing genuine Feta cheese made from milk sourced from their own sheep and goats. Today, it has grown to become a leading dairy industry in the region, with a reputation for consistently producing high-quality dairy and environmental consciousness.



-15

#### Energy efficiency and safety in mind

When L.A. Farm S.A. decided to invest in a new 14,000m<sup>2</sup> refrigerated logistics center, they had two key priorities in mind: energy efficiency and low environmental impact. To achieve this, they turned to EcoRef Engineering Consultants, who specialize in energy-saving studies for refrigeration installations. Along with the local Alfa Laval representative, they designed and installed a low-charge ammonia refrigeration system that met all the requirements.

#### Sustainable secondary cooling system safety

Ammonia is an efficient and natural refrigerant, making it an ideal choice for reducing energy consumption and ensuring long-term sustainability. To further increase safety, the system was designed with a secondary cooling operation, which uses a secondary heat transfer fluid circuit on the cold side to reduce the ammonia charge. In the case of L.A. Farm S.A., Temper -15 was used as the secondary fluid, cooled from a return temperature of -3°C down to a supply of -7°C instead of using ammonia to circulate the cold storage plant.

-20

-30

#### System information

Refrigeration power	4 compressors, total 1560 kW
Primary Refrigerant	Ammonia
Refrigerant volume	680 kg
Heat Exchanger	2 Alfa Laval TK20-BW
Heat Transfer Fluid	CRANE Temper-15
HTF temperature In/Out	-3/-7 °C

#### Energy savings and low ammonia charge

The final plant design resulted in a total ammonia charge of only 680 kg. This means a safer and overall improved efficiency of the cooling system, resulting in significantly reduced energy consumption for the customer and a minimum environmental impact.

-40

#### CRANE TEMPER, THE IDEAL HEAT TRANSFER FLUID

The secret behind CRANE Temper's excellent fluid and environmental properties lies in the optimal mix of organic salts giving it its very low viscosity. This in turn reduces the overall energy consumption and makes it ideal for industrial refrigeration and food industry. The fluid contains an advanced organic adsorption inhibitor package to ensure an optimal corrosion protection.

CRANE Temper is colorless to yellowish and it is free from nitrites, borates, phosphates, molybdates and silicates. To ensure the high quality of the product, CRANE Temper is always supplied ready-to-use and is available in seven different versions with freezing points from -10 °C to -60 °C.

-55

-60°C

