

# RETROFITTING WITH CRANE TEMPER

Replacing calcium chloride and glycol

**Scan Sweden is the leading meat and charcuterie company with slaughterhouses all around Sweden. As a result of a major refit and expansion, Scan Sverige needed to optimize their building in Skara in terms of investment, operation and environment.**

## THE CHALLENGE

Scan Sweden had several internal sustainability targets, including reducing its use of oil and electricity in terms of defrosting and underfloor heating.

A key step in achieving this target was the replacement of calcium chloride with a more energy-efficient heat transfer fluid (HTF), along with recovering heat from the compressors for use in defrosting and heating.

## THE SOLUTION

Instead of installing a completely new system, re-designing the current system was done. Following a thorough review of thermal properties, CRANE Temper-20 was chosen as HTF for the cooling system at -8°C, CRANE Temper-30 for systems at -17°C, while a direct system with ammonia was selected for the freezing systems.

Refitting is always an option instead of installing completely new systems. But in order to do it correct the material compatibility with CRANE Temper needed to be reviewed.

When choosing refitting instead of rebuilding, KRAHN Specialty Fluids always supports the investigation process to make sure full compatibility with our products.

The selection of CRANE Temper as the HTF made it possible to install one to two sizes smaller air fan coolers. It also allowed reduced pipe dimensions in the system.

## THE RESULT

The redesigned system, using CRANE Temper as the HTF, reduced pumping power by 7–10%. This led to significant savings in both investment costs and energy consumption, particularly at megawatt scale.

*“By this solution, we have not just achieved lower investment costs. CRANE Temper also has better thermal properties and is less harmful to people and the environment. Not only this, thanks to the heat recovery system, the oil consumption was reduced by 60%. In addition to cost savings and less impact on the environment, we had fewer operational disturbances with CRANE Temper than we had with calcium chloride and glycol”. - Operations and maintenance provider of Scan Sweden’s systems.*

## INSTALLATION FACTS

**Refrigeration system:** Indirect

**Primary refrigerant:** Ammonia, 42 tones

**Heat transfer fluid:** CRANE Temper-20 and CRANE Temper -30

**Cooling capacity:** 14,5 MW, where 2 MW NH<sub>3</sub> DX

**Total HTF volume:** 110,000L

## CRANE TEMPER - THE IDEAL CHOICE OF A HTF








CRANE Temper is an environmentally friendly heat transfer fluid designed for demanding refrigeration applications.

The ready-mixed, non-toxic organic salt solution is formulated with an effective corrosion inhibitor package and is readily biodegradable\*. With strong thermal performance, CRANE Temper is well suited for both industrial and food refrigeration.

CRANE Temper can be used in medium- and low-temperature refrigeration systems and operates efficiently in pressurized systems from  $-60^{\circ}\text{C}$  up to  $180^{\circ}\text{C}$ . The product is available in seven versions, covering temperature ranges from  $-10^{\circ}\text{C}$  to  $-60^{\circ}\text{C}$ .

*\* Readily biodegradable – OECD 301A, 100% in 28 days*

## ADVANTAGES WITH CRANE TEMPER

-  Low viscosity
-  High thermal conductivity
-  Reduced energy cost
-  Readily biodegradable
-  Adapted for the food industry
-  Advanced inhibitor technology
-  Personalized technical support

## GENERAL PROPERTIES

**Appearance:** Colourless to pale yellowish

**Boiling point:** Approximately  $109^{\circ}\text{C}$

**pH:** 8.5-9.5



**WORLD CLASS PRODUCTS  
MADE IN SWEDEN**

## ABOUT KRAHN SPECIALTY FLUIDS

KRAHN Specialty Fluids develops and delivers specialty chemical fluids for fire protection and refrigeration applications, supporting industrial and commercial operations where efficiency, reliability and long-term performance are essential. Our solutions are designed to optimize energy efficiency, reduce operational risk and deliver stable performance over time, while also lowering environmental impact.

KRAHN Specialty Fluids is headquartered in Gothenburg, Sweden, and is part of the KRAHN Chemie Group. We supports customers globally through in-house production and technical expertise.

Our refrigeration product CRANE Temper is readily biodegradable.