



CRANE Temper[®]

- a good story

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Ice Cream manufacturer goes CRANE Temper

Converted from MPG to CRANE Temper

Unilever ice cream manufacturer Langnese-Iglo is the biggest ice cream producer in Europe. All ice cream is produced with cooling by Temper using ammonia as refrigerant. The plants total cooling capacity is 1,36 MW. The conversion was reconstructed in two phases.



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Phase 1

The MPG was replaced by CRANE Temper to reduce the energy consumption of the plant. The cooling effect to the ice cream machines is 100 kW. To cool the ice cream the plant uses a dual piped heat exchanger with CRANE Temper-40 outside and ice cream inside.

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Phase 2

The second phase was to convert from ammonia direct expansion to indirect cooling with ammonia as refrigerant and CRANE Temper-40 as heat transfer fluid was done. CRANE Temper-40 was chosen due to its efficiency and for being a food safe heat transfer fluid. The Ammonia charge was reduced from 1910 liters to 154 liters (92%). Total cooling capacity for this phase was 1140 kW. For cooling the fruit slurry a dual piped heat exchanger is used with cooling capacity of 120 kW.

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System information

Refrigeration power	1,36 kW
Primary Refrigerant	Ammonia
Refrigerant volume	154 L
Heat Transfer Fluid	CRANE Temper-40
HTF temperature In/Out	-18/-24 °C
Pipes Materials	Stainless Steel

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Possible to downsize and save energy

When upgrading to CRANE Temper-40 they had a payback time less than 6 month. The excellent performance of CRANE Temper-40 compared with previous high viscous MPG allowed to size down both pumps and heat exchanger area. Theoretically you could reduce electrical power to the pumps with 43 % and heat exchanger area with 32 % due to viscosity compared with MPG.

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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 colourless 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.

-60°C

