



# CRANE Temper<sup>®</sup>

## - a good story

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## Innovating design using CRANE Temper

### Large logistic center – the ultimate challenge

At Voets & Donkers, as a specialist in cooling installations, they see a lot of different projects, both from the farmer who needs a single cold store and the multinational with a large distribution center. But some projects rightfully fall into the category of 'the ultimate challenge'. This includes Albert Heijn's new 'Shared Fresh Center' in Nieuwegein. It's new, it's innovative, but above all it's big, with a floor area of almost 42,000 m<sup>2</sup>. It is one of the largest fresh distribution centers in the Netherlands.

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### Challenges to overcome

The task for the designers was to keep the air in the Shared Fresh Center constantly between 0 and +2°C. With the large number of working people and the gigantic logistic passage that takes place every day in the distribution center, that is not so easy. In addition to that, the space in the ceiling turned out to be very limited. The standard coolers using mono propylene glycol (MPG) could therefore not be installed.

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### Innovative design

That is why the engineers decided to give a completely different twist to the realization of this project. They came up with a design, including a heat transfer fluid with excellent heat transfer properties, CRANE Temper-20, which made it possible to place smaller coolers with a low installation height.

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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.

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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.

-60°C



### System information

Cooling capacity	2,8 MW
Surface Area	42.000m <sup>2</sup>
Warehouse temp.	0-2 °C
Refrigerant, charge	Ammonia, 2 x 495kg
Heat Transfer Fluid (HFT)	CRANE Temper-20
HTF volume	100.000L

### Energy savings and low ammonia charge

If the innovative design was not enough, the cooling installation also had to be energy efficient. This was achieved by using speed-controllable EC fans. Fans that run at lower speeds in the spring, autumn and winter than during summer temperatures. This saved considerable amount of energy. Furthermore, to meet the high sustainable ambitions, the installation was designed to use natural refrigerants. In this case ammonia in combination with CRANE Temper, as an energy efficient heat transfer fluid.

