



CRANE Temper[®]

- a good story

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Hydro Cooling with CRANE Temper

Reliable refrigeration

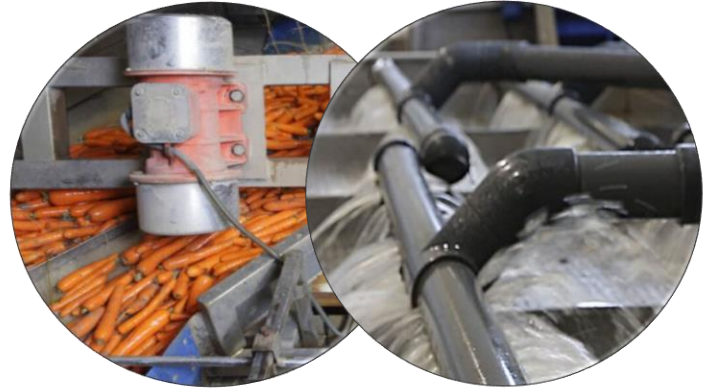
To maintain quality and shelf life of fruits and vegetables after harvest, prompt pre-cooling is important. There are several available methods for rapid removal of field heat, and one is Hydro Cooling.

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Zanemi S.L. are, with their 25 years experience, specialists in the production of vegetables. By controlling everything from seed to harvest, they also realize the importance of latest agronomic technology and innovation throughout the production process.

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With this perspective they installed an efficient and high technology Hydro Cooling solution for their new processing plant in Villena, Alicante, Spain. A plant, when in times of harvest can cool and process 10,000 kg of product per hour.



The system – efficient and safe

From Zanemi's perspective it was important that the system was energy efficient and to ensure a safe working environment for their staff. From this the system was designed with R-1234ze as refrigerant and the non-toxic CRANE Temper as heat transfer fluid (HTF) in the indirect refrigeration system. Thanks to the efficiency of CRANE Temper, the refrigerant could be kept to a minimum and separate from the process area.

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Hydro Cooling

On the same day as harvest the vegetables enters the cooling area. From having a temperature of +22°C, being directly sprayed with ice water at a temperature +1°C (as cold as possible without causing any damage to the vegetables) the vegetables leave the Hydro Cooling area at +1°C, ready to be packed.

Multi use of CRANE Temper

From a buffer tank of 6m³, where it is stored at -6°C, CRANE Temper serves several refrigerated areas through a set of electronically controlled pumps. Beside being the HTF in the secondary refrigeration loop, same CRANE Temper also serves the defrost system (instead of electrical defrost), by obtaining heat through an exchanger in the condensation of the primary coolant. This significantly reduces the energy consumption and CO₂ emissions and by this Zanemi's sustainability perspectives was fulfilled.

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System information

Refrigeration Power	200 kW
Primary Refrigerant	R-1234ze (GWP 0, ODP 0, 54 kgs)
Operating temperature	-6°C
Heat Transfer Fluid (HTF)	CRANE Temper-20
Total HTF volume	6.000L

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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 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

