

Cooling chain on rails



Line of Business:	Industrial Refrigeration
Application:	Food Cooling
Country / City:	Australia / Perth, Melbourne
Fluid:	NH3
Product:	Wall/ceiling unit cooler AGHN, Wall/ceiling unit cooler GHN, Drycooler GFH, Condenser GVH

Australia in the year 2002: After two years of planning and construction work, the first railway cooling chain starts successfully. It is funded by the private Australian railway company Specialised Container Services SCT, whose wagons and storage units ensure seamless refrigeration during transport and intermediate storage. Güntner Group units are in service at the SCT refrigeration facilities in Perth and Melbourne.

With its emphasis on the transportation of foodstuffs, the Specialised Container Services SCT company places special requirements on seamless refrigeration. The ambitious goal defined by the Australian consultants ISECO is that the logistics should cover all the temperature ranges needed for foodstuff transportation, and should allow infinitely adjustable air-conditioning from +16 to +22 °C, refrigeration from 0 to +4 °C, and deep-freezing down to -30 °C. The seamless cooling chain must be capable of combination with the SCT refrigerated

road transport on the east coast of Australia. In addition, it should be possible to integrate the cooling equipment in a central and distributed control system.



Solutions

In co-operation with ISECO, refrigeration specialists CBD Refrigeration Services and Garry Lakey Refrigeration Services, the equipping of the stores was precisely harmonised with requirements. Using the Güntner GPC design software, the planners selected the following solutions for the SCT warehouses in Perth and Melbourne:

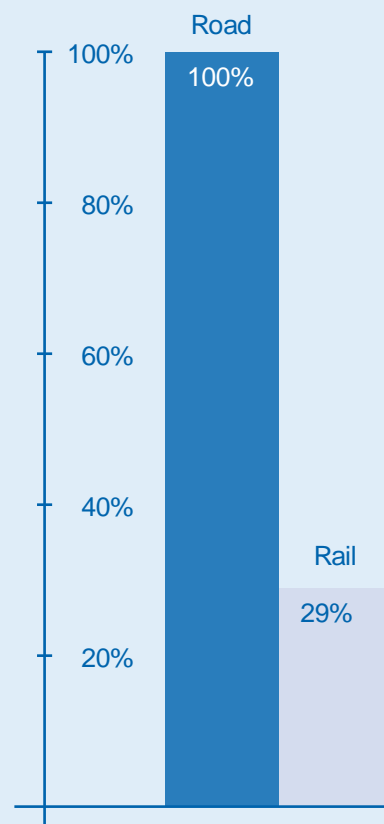
- In the **deep freeze and refrigerated stores**, evaporators of type AGHN with stainless steel tubes and aluminium fins are used.
- Cooling in the **transfer areas and external stores** is taken care of by air-coolers from the GHN series in proven floating coil design.
- For **outdoor storage** low-noise drycoolers from the GFH series and condensers from the GVH series are used.

Manfred Jarchow from Güntner Australia says: “Particularly decisive was the proven floating coil design included in the Güntner solution, which ensures high reliability of operation and a long service life in the applications in question here. But new technologies, like those in defrosting equipment, and the possibility of having parallel circuits in the air-cooled condensers were also important selection criteria.” An essential factor, beside the suitable solution quotation, was also Güntner competence

in consulting. “Güntner were still new to the Australian market at that time. That makes it all the more gratifying to be able to contribute to such a sophisticated solution,” said Jarchow.

Efficient and environmentally compatible

As the Australian magazine THE OFFICIAL JOURNAL OF AIRAH reports, calculations by SCT have shown that freight transportation by rail is significantly more environmentally compatible. About two million litres of diesel fuel could be saved per week. Permanent rail rather than road transportation would allow a reduction of greenhouse gas emission by up to 71 percent. A further advantage of rail over road transport is, according to the SCT, the superior insulation of railway vans, which enables temperatures to be kept significantly more stable.



Comparison of pollutant emission Rail/Road; Pollutant emission in percent: Rail transport is significantly more environmentally compatible.