

Does the job from -40 from +50 °C:

ATP test station at TÜV SÜD



TÜV SÜD Industrial Service Center of Excellence for Refrigeration and Air Conditioning Technology in Munich

Line of Business:	Air conditioning
Application:	Air conditioning
Country / City:	Germany / Munich
Fluid:	
Product:	Fin and Tube heat exchanger (finoox) GCO

Each refrigerated transport vehicle that carries food that is highly perishable and travels abroad requires an ATP certificate. This is official confirmation that the vehicle complies with the conditions of the international ATP agreement. The laboratory of the ATP testing station at TÜV SÜD in Munich has extremely good prerequisites for performing the tests: One of the climate control chambers is equipped for low temperatures of up to -40 °C, and is fitted with three powerful Guntner aircooler coils.



Climate control chambers in the TÜV SÜD ATP testing station

A look at the details that are regulated by the ATP agreement reveals the considerable demands that are made of the ATP laboratory: The transportation equipment is assigned to classes depending on their configuration and suitability for transporting food that is highly perishable. The main factors in making this assignment are heat insulation and the output of the cooling and heating equipment, which is tested by TÜV SÜD using special measuring methods and thermal imagery.



Wide performance range

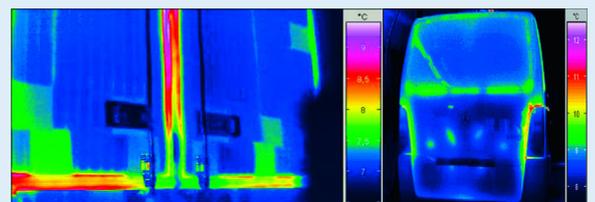
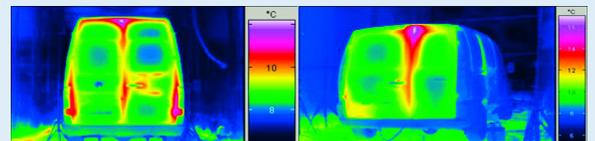
The TÜV Süd ATP laboratory carries out investigations in accordance with the ATP agreement and the relevant DIN standards, such as checking the U value and the air leakage rate of insulated transportation equipment in accordance with the ATP and the DIN 8958, DIN 8959, DIN 1815 and DIN 8915 standards. Or repeated testing and visual inspections of insulated transportation equipment in accordance with the ATP, DIN 8959 and DIN 1815. Other ser-

vices are determining the output of transport refrigeration machines in accordance with ATP, DIN 8958, DIN 8959 and special transport refrigeration assessments



Test truck leaving the ATP testing station.

If a transportation equipment item has passed the ATP test, the TÜV SÜD issues an official ATP certificate using its ATP-CERT facility. As well as checking insulated transport containers and air conditioning systems for use in busses and cars, the testing authority also provides consultancy for cooling chains and food transport. The ATP test station also tests and certifies temperature registering equipment in collaboration with the DKD temperature calibration authority.



Thermal images of a refrigeration vehicle, produced by TÜV SÜD.



ATP

= agreement concerning international transportation of highly perishable food and the special means of transportation that are to be used.

Güntner air cooling

Two air conditioning chambers are available in the ATP testing station for test procedures such as determining the U values of built-on equipment for transporting highly perishable food, and also for transport refrigeration equipment performance measurements. In order to run one of the two chambers at extremely cold temperatures, the TÜV SÜD replaced the previous cooling system with two extremely compact, powerful Güntner GCO air coolers. The installation situation presented a special challenge when the chamber was being equipped: because an air cooling system with extremely compact dimensions was required in order to use different operating methods in the 171.5 m³ capacity inside the chamber.

Temperatures of -40 to +50 °C

After a comprehensive series of calculations had been performed at Güntner in close collaboration with the ATP testing station, the decision was made to use three GCO aircooler coils. "Each of the units is divided into three sections from top to bottom" explains Heinrich Gnida from Güntner sales south about the design, which can be ideally adapted to the necessary operating conditions. The first refrigeration block reaches temperatures of up to -40 °C at the air discharge, and the second refrigeration block is optimised for an air discharge temperature of 5 °C. In spite of a compact design with a maximum installation length of 3,300 mm, a frame height of 3,700 mm and a frame depth of 700 mm per unit (without fans), the air coolers provide a total cooling surface of 2,720 square metres with a total output of 340 kW. Each aircooler coil can be provided with double piping in order to provide a separate defrosting facility.