



PRESS RELEASE - 16 APRIL 2024

Strong start in the UK: First UK company starts using lower impact ECOOLTEC refrigerated system

- **In UK first, Tesco takes delivery of two refrigerated multi-temp bodyworks with ECOOLTEC TM182 technology within its distribution network**
- **Natural refrigerants have a negligible greenhouse gas potential, reducing its impact by almost 100%**
- **Gray & Adams and ECOOLTEC have jointly designed a bespoke refrigerated body specification**

Specialist manufacturers Gray & Adams and ECOOLTEC have jointly developed a refrigerated rigid body vehicle with the ECOOLTEC TM182 transport refrigeration unit, with Tesco being the first company in the UK to put the technology into use. The refrigerated body has the innovative and particularly sustainable ECOOLTEC technology, which is unique in heavy duty road transport up to now. The German company's purely electrically driven system generates refrigeration using sustainable natural refrigerants exclusively. Therefore, the system neither emits any CO₂ locally, nor any other gases with high greenhouse warming potential. The retailer is now using two rigid trucks with multi-temp bodyworks from specialist manufacturer, Gray & Adams.

Two 18-tonne rigid body vehicles built by British industry leaders, Gray & Adams and the purely electrically driven ECOOLTEC TM182 transport refrigeration machines now move products between a warehouse in Peterborough and the

surrounding Tesco stores. Representatives from Gray & Adams and ECOOLTEC recently handed over the two vehicles to Tesco.

A multi-temp box body from vehicle manufacturer Gray & Adams with a movable transverse bulkhead system is used to split the box into two compartments, allowing the set-up of two compartments for simultaneous frozen and chilled operation. Inside the body, the ECOOLTEC single discharge evaporator 1221 in the front compartment and the double discharge evaporator 1312 in the second compartment distribute the cold air. The electric energy for powering the TM182 is generated by ECOOLTEC's G30 alternator, which is mounted to the truck engine. At the depot, the transport refrigeration system can also be supplied via a mains plug point.

Reducing environmental impact through natural refrigerants

The use of the natural refrigerants CO₂ (R744) and propene (R1270) to generate refrigeration is unique in the heavy-duty commercial vehicle segment. Those have a negligible low global warming potential (GWP), instead of the fluorinated refrigerants R452A and R410A predominantly used in transport refrigeration with GWP values of approx. 2,000 (GWP calculated per 100 years on average). When conventional refrigerants leak, they have a significant environmental impact, and as many current transport refrigeration systems do not have a fully hermetic refrigerant circuit, refrigerant can leak steadily over time. According to studies, the leakage rate for such systems is up to 30 percent per year. The total refrigerant charge in typical systems for heavy-duty commercial vehicles is up to 14 kilogrammes, depending on the exact specification. In this case, an average of around 4.2 kilogrammes of F-gases per vehicle is released into the atmosphere every year. Depending on the refrigerant, this corresponds to a CO₂ equivalent of around 9 tonnes per year and per unit. On the other hand, if one kilogramme of the natural refrigerant propene escapes, according to the latest F-gas revision

(EU) 2024/573, less than one kilogramme of CO₂ equivalent is released into the environment. Furthermore, HFC-based refrigerants belong to so-called perpetual chemicals. When they are released into the atmosphere, they are also responsible for the formation of environmentally harmful substances such as perfluoroalkoxy polymers (PFAS).

Thanks to the purely electric, locally almost emission-free and CO₂-free drive, the system produces neither local pollutant nor CO₂ emissions when in battery operation, and up to 98 percent fewer emissions compared to diesel-powered refrigeration systems via the alternator drive.

Tesco is committed to reducing its environmental impact, so exploring natural refrigerants was a clear choice for the business

Cliff Smith, Fleet Engineering Manager at Tesco, said: "As we look to decarbonise our transport, using lower impact refrigeration will play an important role in our efforts to become net zero by 2035. With these two new innovative Gray & Adams and ECOOLTEC trucks, in addition to our electric HGVs, electric home delivery vans and solar powered refrigeration units, we are leading the way in electric haulage innovation, helping to tackle road transport emissions."

The UK's leading manufacturer of specialist temperature-controlled vehicles, Gray & Adams, was selected to work in collaboration with ECOOLTEC

"As an important customer and one of our key accounts, Gray & Adams is delighted to be able to once again support Tesco in their mission to reduce the carbon footprint across their distribution fleet. Gray & Adams is known throughout the industry for pioneering innovation across our full product range, and we actively choose partners and suppliers to consistently challenge the status quo and make improvements to the environment, our customers, and the logistics industry. Having built a relationship with ECOOLTEC, we are pleased to act as their partner

in the UK given our shared values of engineering innovation and dedication to sustainability", says Ryan Mazgaj, Sales Manager, Gray & Adams.

"The fact that a major international retail group like Tesco has decided in favour of the ECOOLTEC technology is a great vote of confidence for us. In Gray & Adams, we have found a perfect body builder in the UK that has the necessary expertise and is open to innovation", explains ECOOLTEC CEO Henning Altebäumer.

Enormous cooling capacity, high efficiency and silent operation

Other advantages of the ECOOLTEC refrigeration unit include its enormous cooling capacity, which also fulfils the high requirements for temperature safety in the demanding food distribution with perishable goods. Despite its high performance, the energy consumption of the transport refrigeration machine is low. The system requires 60 to 80 per cent less energy than a conventional diesel-powered system for the same cooling capacity. The noise level is significantly lower than that of comparable units with diesel engines. This is of particular benefit to people in towns and cities during night deliveries, as well as to drivers. At the same time, the ECOOLTEC design pays very close attention to maximum operational safety.

caption:



Successful market launch in the UK: ECOOLTEC has handed over the first vehicles with the TM182 transport refrigeration unit to Tesco.



Partnership for sustainability: Cliff Smith (r.), Fleet Engineering Manager at Tesco, accepted the first truck with the ECOOLTEC TM182 transport refrigeration unit from ECOOLTEC CEO Henning Altebäumer.

Company's profile

ECOOLTEC Grosskopf GmbH is a European manufacturer of future-oriented, environmentally friendly transport refrigeration systems. The mission of the company is to offer the refrigerated transport industry transport refrigeration units which are particularly sustainable, efficient and powerful. Key features of ECOOLTEC technology are the use of natural refrigerants with lowest greenhouse warming potentials and the all-electric alternator or battery drive. The company's headquarter and production site of ECOOLTEC Grosskopf GmbH is in Mülheim a. d. Ruhr (North Rhine-Westphalia). The management board consists of Henning Altebäumer, CEO, and Dr Jürgen Süß, CTO. ECOOLTEC also owns ECOOLTEC UK Ltd. which is located in Buckingham (Buckinghamshire), Managing Director is John Winter.

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