

Carreras electric refrigeration system passes Spanish test

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Thermo King, a leader in transport temperature control solutions and a brand of Trane Technologies, announced that Spanish logistics group Carreras has completed trials of a new refrigerated semi-trailer with Thermo King's self-charging electric refrigeration system for trailers. Since January, and covering a distance of approximately 55,000 km, the refrigeration system has operated 100 per cent in electric mode while on the road. Carreras operates on biofuel to reduce the tractor's and trailer's emissions footprint even more, which lowers the total emissions by 90 per cent according to the company. The trailer currently continues to operate in Carreras's fleet across Europe.

The system leverages the Thermo King Advancer hybrid refrigeration unit and AxlePower dynamic energy recovery system, including the ENERG-e battery pack. Thermo King's AxlePower technology dynamically recovers energy while rolling and braking and stores it in the battery pack, which in turn powers the trailer refrigeration unit.

Together with Thermo King's proprietary smart power management, the system dynamically monitors road conditions and driving operations to maximise kinetic and thermal energy recovered by the trailer's e-axle. The smart power management automatically switches between recuperation mode (energy recovery), passive mode (sufficient battery charge) and active mode (additional charging current when required) to ensure optimum charging efficiency and without driver intervention. Fleet managers can see real-time battery charge and performance to avoid range or charge anxiety.

Unlike other axle generators, the sophisticated control system will also disengage the e-axle when the trailer is on an uphill, avoiding energy penalties and reducing fuel consumption. All in all, the Thermo King system minimises the need for charging, therefore increasing uptime while reducing operating costs and direct carbon emissions.