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Thermo King Premieres Three Breakthrough Advancer Trailer Refrigeration Systems

- **Advancer Spectrum**, a unit introducing the market-leading performance, precise temperature control and fleet connectivity of the award-winning Advancer range to multi-temperature applications
- **Advancer AxlePower**, smart energy generating system that harvests energy from the trailer while driving or braking, enabling fully electric, low or zero-emission and autonomous trailer refrigeration
- **Advancer-e**, all-electric, engineless and power agnostic refrigeration unit that can operate with several different power sources for zero-emission trailer refrigeration

Brussels, Sept. 14, 2022 – [Thermo King®](#), a leader in transport temperature control solutions and a brand of [Trane Technologies](#) (NYSE: TT), unveiled today and will feature at the IAA Transportation 2022 show in Hannover, Germany, three new breakthrough models of the Advancer trailer refrigeration solutions: the multi-temperature Advancer Spectrum, the Advancer AxlePower energy recovery system and the electric, engineless Advancer-e.

“From the outset, Thermo King’s ambition behind Advancer has been to move beyond incremental enhancements and to create trailer refrigeration systems that feature innovation never before seen on the market,” said Colm O’Grady, trailer product leader at Thermo King. “Our goal has been to develop even more sustainable refrigeration technologies, enable our products to fit alternative power sources, reduce energy consumption to the lowest possible levels, and to use this innovation to reduce the total cost of ownership of our products for our customers. The technology behind the expanded Advancer portfolio makes these goals a reality.”

The three new trailer refrigeration systems expand the market-leading Thermo King Advancer A-Series portfolio, renowned for its performance, temperature control, unrivalled system efficiency and fleet connectivity:

Advancer Spectrum: new level of performance in multi-zone temperature configurations, with precise temperature management and reduced fuel and operational costs

The new Advancer Spectrum features a 48V DC mild-hybrid technology now available for temperature configurations of two distinct zones during the same journey, with precise temperature management and set point control.



Advancer Spectrum introduces a new level of performance to the multi-temperature trailer Advancer A-Series, fastest temperature recovery and pulldown, and highest refrigeration capacity on the market. Advancer Spectrum delivers up to 30% savings on fuel costs compared to the market average. The units' architecture also lowers service interval rate of up to 30% and reduces unscheduled maintenance by up to 60%.

The new, custom-designed remote evaporators bring additional capacity to the remote zone, maximising the flexibility and efficiency of customers' operations. Combined with the all-new Advancer multi-temp controller, customers are able to precisely manage the temperature while gaining real-time insight into how the unit is running, how the temperature zones are performing and how much fuel the unit is using.

Advancer Spectrum is the first multi-temperature trailer unit on the market offering complete transparency of fuel levels and consumption. Customers can access the fuel consumption and other data both on the unit and remotely via telematics, enabling them to optimise their fleet more innovatively. Fleet intelligence is standard, as Advancer Spectrum comes included with 2 years of full, two-way telematics connectivity service.

The Advancer Spectrum's unrivalled system efficiency significantly lowers customers' CO₂ footprint with engine emissions substantially lower than the maximum allowed by latest NRMM Stage V emission standards. The Whisper Pro version offers sound levels meeting the PIEK enforced standards, thus complying with the most stringent noise-regulations for quiet, inner-city deliveries at any time of day and night. Advancer Spectrum units are also compatible with alternative power source solutions like the AxlePower or Envirodrive.

Advancer AxlePower: capturing lost energy from the axle into a low or zero-emission, autonomous power source for the refrigeration unit

Advancer AxlePower's smart energy generating system delivers the power needed to run the trailer refrigeration unit by converting energy recovered by the trailer's axle during the vehicle's routine operation. Developed in partnership with [BPW](#), a leader in running gears and mobility services for transport, the Advancer AxlePower is a fully integrated, tractor independent system that combines BPW's ePower axle with Thermo King refrigeration unit and battery storage technology.

The system stores the energy generated while the vehicle is rolling or braking in a high voltage battery and reuses it to power the refrigeration unit – enabling fully electric, low or zero-emission and autonomous trailer refrigeration. The battery pack, depending on the configuration, provides an average of five hours of refrigeration unit autonomy to cover stationary operations. Featuring smart power management that controls the engagement and disengagement of the generators, Advancer AxlePower also minimises the resistance on the tractor and provides the driver and fleet manager with real-time performance visibility to avoid 'charge anxiety'.



The possibility to capture and reuse energy makes the Advancer AxlePower system an ideal solution to future-proof and increase the sustainability of all types of trailer journeys. With silent running and no CO₂ emissions from the refrigeration unit when operating from the battery-pack, this technology allows customers to sustainably run long-haul and inner-city deliveries, including in Ultra-low Emission Zones (ULEZs) and low noise urban areas.

Advancer-e: the all-electric, engineless, emission-free trailer refrigeration unit

Designed to accelerate the realization of carbon neutral trailer fleets, the Thermo King Advancer-e incorporates an engineless and electric architecture with all the features that make the Advancer A-Series the most efficient trailer refrigeration systems in the market. Advancer-e is power-agnostic and compatible with all major engine-alternative power sources including the Advancer AxlePower, Frigoblock's Envirodrive alternator and inverter technology, Thermo King's battery EnergyPack, and shore-power when stationed at the depot.

With its fully electric architecture, one Advancer-e unit can reduce a trailer fleet's carbon footprint by up to 10 tonnes of CO₂ per year. Advancer-e is compatible with any tractor for inner-city deliveries or for long-haul assignments when combined with the right power technology solution available from Thermo King. The flexibility of the Advancer-e enables transport companies to be more than a step ahead of changing low-emission legislation. Combined with the same A-Series controller and intuitive telematics, the Advancer-e delivers sustainability advantages and temperature control efficiency - top strategic priorities for many transport companies making the move toward full electrification.

All Thermo King Advancer units are manufactured in the Thermo King's state-of-the art and carbon neutral (ISO 14064-1) production line in Galway, Ireland.

For more information about the Advancer portfolio, please visit www.tkadvancer.com.

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About Thermo King

Thermo King – by Trane Technologies (NYSE: TT), a global climate innovator – is a worldwide leader in sustainable transport temperature control solutions. Thermo King has been providing transport temperature control solutions for a variety of applications, including trailers, truck bodies, buses, air, shipboard containers and railway cars since 1938. For more information, visit www.europe.thermoking.com or www.tranetechnologies.com.
