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Thermo King Unveils Intelligent Solutions for the Future of Refrigerated Transport at the IAA Commercial Vehicles Show 2016

New SLXi trailer refrigeration platform, hybrid technology concept, operational intelligence solutions and multi-temperature truck units presented at the show.

Hannover, Germany, Sept. 21, 2016 – Thermo King, a manufacturer of transport temperature control solutions for a variety of mobile applications and a brand of Ingersoll Rand, will showcase the future of transport refrigeration with new innovations at the IAA Commercial Vehicles Show on Sept. 22-29 in Hannover, Germany.

“Innovation goes beyond simply creating new products,” said Karin De Bondt, vice president and general manager for Truck, Trailer and Bus at Thermo King in Europe, Middle East and Africa (EMEA). “It is about addressing unique customer needs through connectivity, data-driven intelligence, real-user insights, and the ability to merge new and emerging technologies later based upon customer needs.”

“Today at the IAA, Thermo King is introducing a series of truck and trailer solutions including the new SLXi single- and multi-temperature trailer refrigeration platform designed to answer today’s demands for fuel efficiency, intelligence, connectivity and sustainability.”

SLXi Platform of Trailer Refrigeration Units: up to 20 percent^[1] fuel savings and telematics as standard

The SLXi platform of single- and multi-temperature trailer refrigeration units were developed with an expanded focus on the unit’s intelligence, communication capabilities, fuel consumption and temperature management.

“We collaborated with hundreds of customers and dealers to understand the actual ambient conditions, temperatures and operating models for different types of cargo in daily use,” said David O’Gorman, product manager at Thermo King. “We listened and then spent thousands of hours on research and development to design new features and enhancements for the next level of refrigerant trailer unit platform, the SLXi.”

Key differentiators of the SLXi include:

- | **Greater fuel efficiency in real-world operating conditions:** The SXLi range includes tailorable operational parameters to meet customer needs, application and ambient conditions. The customized profile conditions create optimized performance and fuel savings of 10 to 20 percent, compared with its predecessor.
- | **24/7 connectivity with telematics as standard:** Leveraging the October 2015 acquisition of Celtrak, the SLXi is the industry’s first fully telematics-enabled refrigerated trailer unit, delivering full visibility of the unit and load condition with Thermo King’s new TK BlueBox communication device and Bluetooth[®] as standard.
- | **Remote unit management and data access:** The TK BlueBox collects and stores unit data, which can be accessed through a free app on smart phone or Bluetooth-enabled device. This provides two-way communication that enables real-time unit management and access to critical data. Users can manage defrost, pre-trip, set point and additional operating mode settings remotely without a contract or subscription.
- | **Enhanced Temperature Control:** thanks to the enhanced SR-3 Controller, both set point control and temperature displays provide accuracy in increments of 0.1 degrees Celsius.
 - | Greater temperature control and optimized fuel efficiency due to more flexible and broader temperature bands in Cycle Sentry mode.
 - | In multi-temperature models, Precision Temperature Control (PTC) effectively reduces temperature deviation by 80 percent over previous technology and, dependent on operating conditions, will maintain compartment temperature within about 0.15 degrees Celsius. PTC provides an automatic pre-set of the capacity modulation and the temperature control to secure an optimum environment in the center and rear trailer compartments, where 95 percent of customers transport fresh products.
- | **Lower environmental impact:** The new SLXi range is loaded with features that allow transport companies to substantially reduce the environmental footprint:
 - | Lower engine speeds and lower fuel consumption due to the 27 percent larger condenser coil.
 - | Annual CO₂ emissions of the SLXi have been cut by 2.4 tons and NOx exhaust emissions reduced by 15 percent compared to its predecessor.

- | R-452A refrigerant lowers the global warming potential (GWP) approximately by half compared to the incumbent R-404A.

To further enhance customer and industry choices, the SLXi design offers flexibility and opportunities to merge additional technologies later.

Thermo King hybrid concept

Presented for the first time at IAA 2016, the new Hybrid Drive Trailer concept combines the proven expertise and technologies from both Thermo King and FRIGOBLOCK and will become part of the SLXi refrigerated trailer platform. The Hybrid Drive Trailer concept offers additional fuel and operational savings, as well as low emission and noise levels enabling transport companies access to inner city areas and restricted zones.

The Thermo King Hybrid Drive allows a refrigerated semi-trailer attached to a tractor with a FRIGOBLOCK Enviro Drive inverter filter to run electrically. This enables the trailer refrigeration unit to be powered as a hybrid drive, by either the electric alternator or through its own independent diesel engine.

This innovative solution combines the alternator and the diesel engine to offer a potential reduction of 5,000 liters of fuel per year in companies with demanding distribution operations, which equals annual savings of approximately EUR 5,000 based on average diesel price of EUR 1.00 per liter.[\[2\]](#)

Standard TK BlueBox telematics system stores the data and provides ability for two-way communication to ensure that the load is protected at all times and the geo-location feature will automatically switch the power between diesel and truck Enviro Drive as required or necessary.

“FRIGOBLOCK and Celtrak technologies have broadened Thermo King’s industry-leading research and development capabilities by adding complimentary technology in areas such as hybrid, non-diesel, and operational intelligence solutions,” De Bondt said. “These capabilities, combined with Thermo King’s proven track record of dependable, industry-leading technology, have accelerated new innovations that meet and adapt to unique customer needs and provide sustainable solutions for the refrigerated transport sector.”

UT Spectrum: the UT-Series multi-temperature truck unit

Designed to meet the needs of urban distributors who require multiple temperature zones, the new UT Spectrum unit extends the range of the UT-Series platform of products. The UT-Series offers under-mount refrigeration units for truck and drawbar trailer applications.

The UT Spectrum unit provides total protection for both fresh and frozen goods in a range of two and three compartment configurations while meeting low noise requirements faced by distribution operations. These zone configurations ensure great flexibility to meet operational needs, minimizing cost and optimizing the distribution logistics of temperature sensitive goods.

Developed to minimize environmental impact while delivering significant efficiency gains and a lower total cost of ownership, the UT Spectrum offers proven reliability, reduced operating and maintenance costs, and low emissions.

All Thermo King products come with R-452A refrigerant as standard and is part of the Ingersoll Rand EcoWise™ portfolio of products designed to lower environmental impact with next-generation, low-GWP refrigerants and high efficiency operation.

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Ingersoll Rand Climate Commitment

Ingersoll Rand made a commitment to significantly reduce greenhouse gas (GHG) emissions from its products and operations by 2030. The company’s Climate Commitment pledges to:

- | Cut the refrigerant GHG footprint of its products by 50 percent by 2020 and incorporate lower global warming potential (GWP) alternatives across its portfolio by 2030;
- | Invest \$500 million in product-related research and development over the next five years to fund the long-term reduction of GHG emissions; and
- | Reduce company operations-related GHG emissions by 35 percent by 2020.

To date, the commitment has supported the avoidance of approximately 2 million metric tons of CO2e globally, which is the equivalent of avoiding annual CO2 emissions from energy used in more than 270,000 homes or more than 2.1 billion pounds of coal burned. In support of the commitment, Ingersoll Rand launched EcoWise™, a portfolio of products designed to lower environmental impact with next-generation, low-global warming potential refrigerants and high efficiency operation.

By 2030, the company expects to reduce its carbon footprint by 50 million metric tons.

About Ingersoll Rand and Thermo King

Ingersoll Rand (NYSE:IR) advances the quality of life by creating comfortable, sustainable and efficient environments. Our people and our family of brands — including [Club Car®](#), [Ingersoll Rand®](#), [Thermo King®](#) and [Trane®](#) — work together to enhance the quality and comfort of air in homes and buildings; transport and protect food and perishables; and increase industrial productivity and efficiency. We are a \$13 billion global business committed to a world of sustainable progress and enduring results. Thermo King Corp. was founded in 1938 and manufactures transport temperature control systems for a variety of mobile applications, including trailers, truck bodies, buses, shipboard containers and railway cars. For more information, visit www.ingersollrand.com or www.thermoking.com.

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[1] Compared with its predecessor and depending on the user operating profile selected for different types of cargo.

[2] Based on a comparison with standard use of a diesel, multi-temperature unit running a multiple drop schedule with frequent door openings, thus requiring 3.5 litres of diesel per hour multiplied by 2700 hours per year.