

**KONVEKTA AG 09.2016**

**Konvekta AG at the IAA 2016:**

**Inventor and developer of CO<sub>2</sub> heating pump for E-buses introduces  
2nd generation**

**Schwalmstadt, August 20, 2016 - What was wishful thinking a few years ago is now tangible. A complete thermal management system for electric buses – fulfilling demands up to hundred percent, with individual adjustment solutions, with maximum efficiency.**

The bus industry is unanimous – electromobility is the future of tomorrow. Low noise level, low maintenance, environmentally friendly and energy efficient: These are the advantages of the electric bus.

In order to establish electric mobility in future in local public transport, solutions to increase the range of vehicles are still required. In addition, electric buses produce no waste heat that can be used for heating the passenger compartment. Electric mobility therefore requires highly efficient auxiliary equipment and an integrated heating and cooling strategy.

**Range: from 100 km to 140 km**

The thermal management system - the air conditioning and heating – of electric buses is challenging and varies from vehicle to vehicle. The 2<sup>nd</sup> generation of Konvekta CO<sub>2</sub> heating pump is a comprehensive and synchronously specified thermal management system.

This is valid for the entire vehicle - depending on the specifications, simultaneous heating or cooling is possible. For example, front box and convectors in the interior can be heated, while the batteries can be cooled.

Especially for the sensitive memory, an optimal temperature range is required. Only in this pre-defined range, the most efficient power output is achieved. Through the synchronous interaction of the new components and the use of CO<sub>2</sub> as refrigerant (R-744), the range of the vehicle increases to 40%. In addition, the service life of the highly expensive energy storage is prolonged.

### **The refrigerant**

Konvekta is the discoverer of the refrigerant R-744 (CO<sub>2</sub>) and developer of the first air conditioning unit operating with R-744. A through R-744 driven system, has a higher efficiency than a R-134a system. The future 2<sup>nd</sup> generation of Konvekta CO<sub>2</sub> heat pump, will have a thermal efficiency (COP = Coefficient of Performance) of more than 4, making it highly efficient and energetical.

For the same cooling capacity, approx. 25% less fuel is needed. This means that not only exhaust emission costs, but also operating costs are reduced considerably. A heat pump with R-134a would not have a reliable performance at temperatures below 7°C, depended on the low pressure situation.

However, the refrigerant R-744 has further advantages:

Since R-744 is not a chemical refrigerant, it is not subject to chemical protective regulations. The costs of the refrigerant per kg are much lower, approx. 90%, resulting in a saving potential of approximately 70% service costs.

### **About Konvekta**

Konvekta AG is an internationally operating manufacturer of innovative and future-oriented air conditioning systems for buses, construction and agricultural machinery, as well as refrigerated rail and transport vehicles. Established in 1957, the family-run company based in Schwalmstadt in North Hessen has almost 60 years of experience and know-how in the field of refrigeration and air conditioning technology. With its worldwide presence in key markets, Konvekta AG guarantees flexibility and proximity to the customer for service and maintenance work.

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