



**P R E S S   R E L E A S E**

**Eberspaecher at Busworld 2019: Emission-free climate comfort for hybrid and electric buses**

- **AC 136 HP CO<sub>2</sub>: New bus climate solution increases range of E-buses**
- **Electric heating and cooling in one system**
- **Environmentally friendly refrigerant R744 for moderate climate zones**

*Esslingen / Brussels, 17 October, 2019* – **An emission-free bus air-conditioning solution for tomorrow's electric city bus transport – Eberspaecher will be presenting the new AC 136 HP CO<sub>2</sub> roof-mounted air-conditioning system at Busworld Europe from 18 to 23 of October in Brussels (Hall 5, Stand 535). The electric thermal management system is specially designed for the environmentally friendly and safe refrigerant R744 (carbon dioxide) and ensures an optimum climate comfort in the passenger compartment in temperate climates at all times of the year.**

In recent years, Eberspaecher has conducted extensive research into the efficient use of the natural refrigerant R744 in bus air-conditioning systems. The climate specialists are now using this know-how to further develop the proven AC 136 AE HP into a CO<sub>2</sub> heat pump: "With the AC 136 HP CO<sub>2</sub>, we will be offering emission-free and environmentally friendly thermal management for clean electric city bus transport in Europe from 2021," emphasizes Oliver Wels, General Manager of Eberspaecher Climate Control Systems Bus & Coach.

**Powerful heating and cooling thanks to heat pump technology**

Based on the concept of the proven predecessor version, the AC 136 HP CO<sub>2</sub> is

specifically tailored to the requirements of hybrid and electric buses: Thanks to its reversible refrigeration circuit, the heat pump technology enables various cooling and heating outputs of up to 22 kilowatts in one system, which ensures the passenger compartment is at the right temperature at all times of the year.

### **Extended range of electric buses in temperate climates**

Electric heat pumps draw their heat with a high COP value (Coefficient of Performance) from the ambient air. In this way, they not only heat the out blown air much more efficient than additional electrical air or water heaters, but also reduce the load on the bus battery. In addition, CO<sub>2</sub> allows the heat pumps to operate in lower temperature ranges than chemically produced refrigerants. This way, the AC 136 HP CO<sub>2</sub> requires no additional electric heating load from the bus when used at temperatures as low as minus 15 degrees Celsius: The complete thermal management system thus extends the range of electric buses in temperate climates and offers great advantages for fleet operators of electric city buses.

### **Environmentally friendly thermal management with R744 refrigerant**

As opposed to the chemical agents R134a and R1234yf, the natural refrigerant R744 is much more environmentally friendly and safe: With a GWP (Global Warming Potential) value of 1, CO<sub>2</sub> has the lowest global warming potential used in bus thermal management. In addition, CO<sub>2</sub> is not flammable or toxic compared to other natural refrigerants such as ammonia or hydrocarbons. By using carbon dioxide, Eberspaecher is making a significant contribution to environmentally friendly local public transport in European cities.

### **Caption:**

*Thanks to the refrigerant carbon dioxide, the Eberspaecher AC 136 HP CO<sub>2</sub> electric thermal management system ensures environmentally friendly, electric city bus transport of tomorrow.*

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**About Eberspaecher:**

*With approximately 10,000 employees at 80 locations worldwide, the Eberspaecher Group is one of the automotive industry's leading system developers and suppliers. The family business, headquartered in Esslingen am Neckar, stands for innovative solutions in exhaust technology, automotive electronics and thermal management for a broad range of vehicle types. Eberspaecher components and systems provide more comfort, greater safety and a cleaner environment on or off the road. In 2018, the Group generated revenue of around 4.6 billion euros.*