

Press information



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InnoTrans 2022: BITZER launches SPEEDLITE ELV52 and provides new opportunities for air conditioning systems

Sindelfingen/Berlin, 20.09.2022. BITZER, the refrigeration and air conditioning specialist, will be showcasing sustainable solutions developed specifically for challenges in the bus and rail sector at the InnoTrans trade fair in Berlin in Hall 3.1, Stand 680, from 20 to 23 September. The company will be presenting its SPEEDLITE ELV52 scroll compressor, which was specially developed for electric buses and rail vehicles. BITZER will also be demonstrating how capacity control can reduce operating costs – with its ECOLINE reciprocating compressors optimised for the natural refrigerants R290 (propane) and R744 (CO₂).

Robust, yet quiet and light: air conditioning components for rail vehicles must fulfil a unique set of demands. Factors such as space requirements, weight, efficiency, and lifetime have a direct impact on investment and operating costs as well as future compatibility. Following analysis of customer requirements, BITZER developed the ultra-compact SPEEDLITE ELV52 compressor specifically on the basis of these factors, and will be introducing it at InnoTrans 2022 in Berlin. Specially designed for electric buses and rail vehicles, the scroll compressor is around 50 per cent lighter than other compressors.

Compact, lightweight, efficient and reliable: SPEEDLITE ELV52

The SPEEDLITE ELV52 boasts a wide control range, making it ideal for applications prone to drastically changing operating conditions – for exceptional cooling and heating performance. The speed control adapts the compressor's cooling capacity to meet current cooling and heating

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requirements and ensures stable and convenient temperature control inside the vehicle, resulting in higher efficiency not only for the SPEEDLITE ELV52, but also for the entire system.

Heat pumps are already used in a whole host of areas and will also be at home in modern rail vehicles in the future. Some scroll compressors are not up to the task, but the SPEEDLITE ELV52 is. Thanks to its integrated Economiser technology, this compressor offers an extended range of applications and is therefore ideal for use even in low ambient temperatures. Compared to electric heating systems, heat pumps achieve much higher efficiency, further reduce operating costs and help reach climate targets.

The SPEEDLITE ELV52 scroll compressor will be suitable for use with a variety of refrigerants, including low-GWP refrigerants and the natural refrigerant R290 (propane). Due to the F-Gas Regulation, many applications already require alternative refrigerants such as the natural R290 (propane) and R744 (CO₂) refrigerants.

High efficiency and reduced operating costs with ECOLINE

Designed to fulfil the unique requirements of mobile applications, ECOLINE reciprocating compressors function reliably even in difficult operating conditions on the go. These universal compressors are suitable for use with different refrigerants, including HFC and HFO refrigerants as well as natural refrigerants such as R290 (propane) and R744 (CO₂). They also offer high cooling capacity with minimal energy requirements and boast outstanding full and part load efficiency.

The optional VARISTEP mechanical capacity control enables fine capacity adjustment to effortlessly accommodate changing operating conditions. ECOLINE reciprocating compressors thus boast a wide control range of 25 to 100 per cent. By adapting the refrigerant mass flow according to capacity, the VARISTEP capacity regulator makes the operating conditions more affordable and thus helps to improve the efficiency of the entire air conditioning system. As a result, the annual operating costs associated with railway heat pumps and air conditioning systems are much lower than with conventional systems featuring hot gas bypass control.

Another benefit of the ECOLINE reciprocating compressors is their high serviceability: unlike other compressor technologies, they can be overhauled after longer periods of operation. The extensive BITZER Green Point service network, which is responsible for both corrective and preventive maintenance, is also in charge of repairs and overhauls.



BITZER is active all over the world as an independent specialist in refrigeration and air conditioning technology: with products and services for refrigeration, air conditioning, process cooling and transport, BITZER ensures optimum temperature conditions in goods trading, industrial processes and air conditioning – always in the context of maximum energy efficiency and quality. The BITZER Group is represented across the globe with distribution companies and production facilities at 72 locations in 38 countries. The BITZER production, development and sales association, including trading and service partners, operates in nearly every country around the world. In 2021, more than 3,900 employees generated sales of €928 million, with €47 million invested in research and development.

Overview of images

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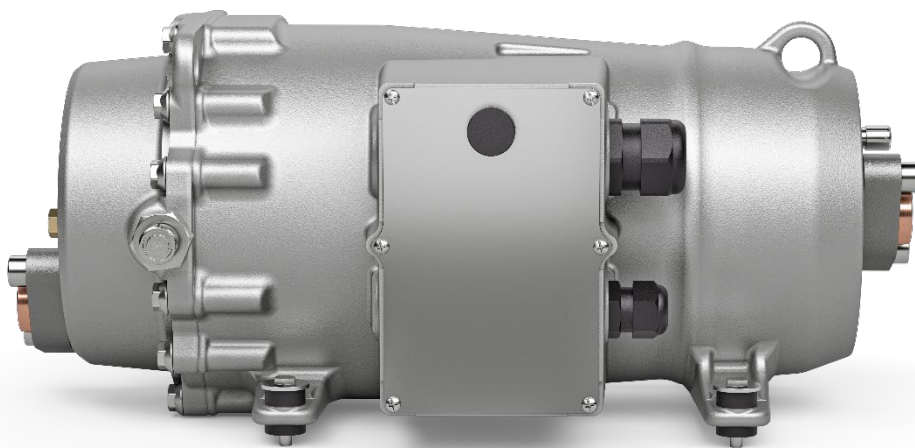


Image 1: Compact, lightweight, efficient and reliable: the SPEEDLITE ELV52 scroll compressor, specially developed for electric buses and rail vehicles

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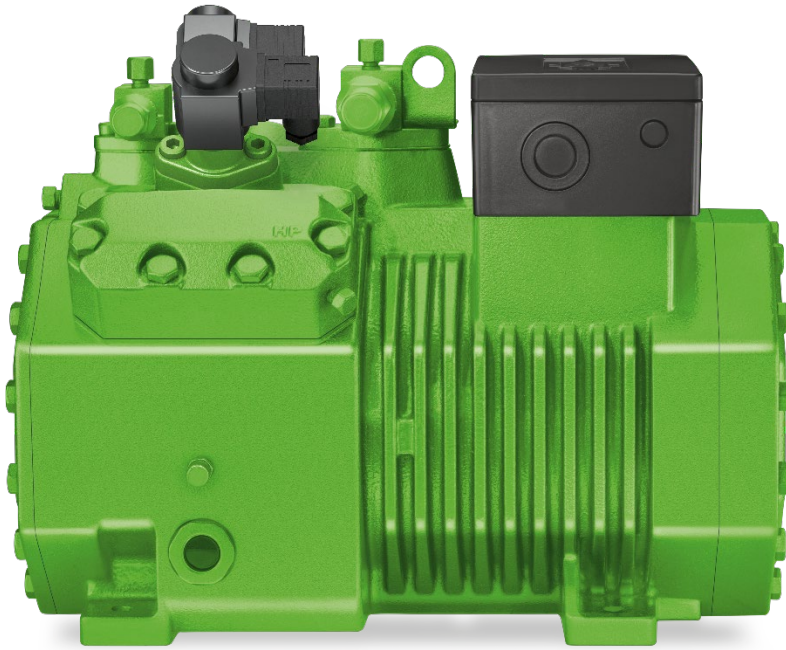


Image 2: The ECOLINE reciprocating compressor with the optional VARISTEP mechanical capacity control for fine capacity adjustment to accommodate changing operating conditions