

Product profile



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BITZER CO₂LITE reciprocating compressors: a lightweight for compact CO₂ air conditioning and heat pump systems

When particularly compact dimensions are required in air conditioning and heat pump systems, BITZER offers new possibilities with the CO₂LITE reciprocating compressor using R744 (CO₂) as a refrigerant. With a reduced height of 257 mm and a weight of under 80 kg, the CO₂LITE meets the highest efficiency standards even at low ambient temperatures – whether it's for transportation or stationary applications.

In light of current environmental regulations, R744 (CO₂) is considered to be a future-proof refrigerant with long-term availability due to its low global warming potential. BITZER has extensive practical experience with the natural refrigerant CO₂, which was a key driving force behind the development of the CO₂LITE. The reciprocating compressor demonstrates its strengths particularly in comprehensive thermal management and enables the use of eco-friendly CO₂ systems even in the smallest of spaces. This is especially important for sustainable mobility solutions such as electric buses and rail vehicles, where space and weight restrictions, efficiency and lifetime have a direct impact on investment and operating costs. With displacement of 6.64 m³/h at 50 Hz and a wide capacity control range, the CO₂LITE achieves cooling capacities of up to 32 kW* and heating capacities of up to 25 kW** (*operating conditions: t₀ = +5°C, t_{g,out} = +35°C at 70 Hz) (**operating conditions: t₀ = -20°C, t_c = +25°C at 70 Hz). The compressor can be installed either horizontally or rotated 90° along the longitudinal axis for maximum flexibility.

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As an independent specialist for refrigeration, air conditioning and heat pump technology, BITZER is present all over the world: with products and services for refrigeration, air conditioning and process cooling as well as transport, BITZER ensures optimum temperature conditions for trade in goods, industry processes and indoor climate control – always striving for the highest possible energy efficiency and quality. BITZER is represented all over the world with 75 sites in 40 countries, including its sales companies and production facilities. Trade and service partners included, the BITZER network of manufacturing, development and sales extends to almost all countries in the world. In 2023, more than 4,300 employees generated a turnover of €1.01 billion; expenditure for research and development totalled €61 million.

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Image: BITZER CO₂LITE – the efficient lightweight for compact system designs, especially in transport applications