

# Product profile



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## **8-cylinder reciprocating compressors for transcritical CO<sub>2</sub> applications – full capacity, fewer compressors**

Full cooling capacity for large systems and heat pump applications – with fewer compressors than before: the new ECOLINE 8-cylinder reciprocating compressors for transcritical CO<sub>2</sub> applications enhance the series for even larger capacity ranges with carbon dioxide as a refrigerant in refrigeration and heat pump applications. BITZER developed the compressors for systems with high refrigerating capacities which were once developed for use with HFC refrigerants and ammonia.

The benefit of CO<sub>2</sub> in large systems is that it is a natural, non-toxic refrigerant with a low global warming potential, and its large displacement allows for compact system dimensions. The 8-cylinder reciprocating compressors for transcritical CO<sub>2</sub> applications are also around 10 per cent more energy efficient than the smaller 6-cylinder compressors currently available on the market.

Designed for frequency inverter operation, the BITZER 8-cylinder CO<sub>2</sub> reciprocating compressors are available in two motor variants with displacements between 69.4 and 99.2 m<sup>3</sup>/h. Equipped with VARISTEP mechanical capacity control, the refrigerating capacity of the compressor can be adapted to the system's capacity for efficient operation even under part load. Additionally, integrated start unloading means a lower starting current, which can lower investment costs among other things.

The 8-cylinder CO<sub>2</sub> reciprocating compressors from BITZER also boast low pressure pulsations and vibrations. The improved gas guidance minimises internal pressure drops for a highly efficient compressor, whilst the oil carry over rate achieves the low values typical of BITZER. Thanks to the IQ module and OLM oil management, the compressors are easy to integrate, install, operate and service.

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BITZER, which specialises in refrigeration, air conditioning and heat pump technology, has sold more than 275,000 CO<sub>2</sub> compressors since 2003, primarily for commercial refrigeration systems, and that number is only growing. Demand is also on the rise for transport, heat pump and industrial applications. The new, variable BITZER ejectors for CO<sub>2</sub> applications are suitable for the 8-cylinder CO<sub>2</sub> reciprocating compressors and fulfil the most stringent requirements.



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, heat pumps, 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 almost all countries around the world. In 2021, more than 3,900 employees generated sales of €928 million, with €47 million invested in research and development.

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Image: The new BITZER 8-cylinder reciprocating compressors for transcritical CO<sub>2</sub> applications for even larger capacity ranges, with CO<sub>2</sub> as a refrigerant in refrigeration and heat pump applications.