

Press information



BITZER SE

Peter-Schaufler-Platz 1
71065 Sindelfingen // Germany
Tel +49 7031 932-0
Fax +49 7031 932-147
bitzer@bitzer.de // www.bitzer.de

Unser Zeichen // Our Ref.

Abs. // Sender
Abt. // Dept.
Tel Dw. // Ext.
Fax Dw. // Ext.
E-Mail

Patrick Koops
Public Relations
+49 7031 932-4327
+49 7031 932-54327
patrick.koops@bitzer.de

BITZER ORBIT: the key to flexibility and efficiency

Sindelfingen, 13.10.2020. BITZER is all about flexibility: the ORBIT range of scroll compressors boasts greater efficiency and flexibility than ever before – and all of the models are interchangeable and equipped with advanced technologies that adapt to the most diverse circumstances.

The BITZER ORBIT range of scroll compressors comprises the ORBIT, ORBIT+ and ORBIT FIT series. The ORBIT is universally applicable for air conditioning and heat pump applications, while the ORBIT+ with line start permanent magnet motor is the most efficient scroll compressor in its class. The ORBIT FIT with economiser technology offers increased efficiency and capacity in all HVAC applications, but is especially suitable in high pressure ratio applications like heat pumps. The economised operation also widens the application limits, allowing operation at lower ambient temperatures in heat pumps.

ORBIT FIT with economiser technology

To match the increased market requirements, such as heat pumps and high efficiency scroll chillers, BITZER has developed its ORBIT FIT (Flexible Injection Technology) series with economiser technology. This feature increases system efficiency and capacity in industrial-sized air conditioning and heat pump applications. The economised vapour injection feature increases efficiency and capacity in all HVAC applications. Furthermore, it widens the area of application, allowing operation at lower temperatures and further delaying the need for supplemental heat in heat pump operation. The ORBIT FIT 8 economised scroll compressor series covers a displacement range from 48 m³/h to 77 m³/h at 50 Hz.

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Specific application optimisation versions of the ORBIT FIT series are designed to work with low-GWP A2L refrigerants, such as R454B, R452B and R32, as well as the conventional A1 refrigerant R410A. Further technical features highlight the flexibility of the ORBIT FIT series: it is able to operate with external frequency inverters in a broad frequency range (35 .. 75 Hz) and can be run in single or compound installations with even and uneven compressor combinations.

Conversion of existing chiller platforms to low-GWP refrigerants

All BITZER ORBIT series follow the principle of interchangeability – which is also the case for equal capacity models – meaning that the mounting and connecting locations between them remain the same. This minimises development work, allowing system designers and manufacturers to use existing frameworks, footprints, piping layouts and manufacturing processes. This results in reduced complexity as well as a quicker time to market for new systems.

BITZER has been in serial production of its ORBIT and ORBIT+ scroll compressors for use with low-GWP refrigerants such as R454B, R452B and R32 since early 2019. The ORBIT FIT 8 series' upcoming release for production complements the BITZER portfolio, giving customers even more HVAC application options.



As an independent specialist for refrigeration and air conditioning 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 considering highest possible energy efficiency and quality. BITZER is represented all over the world with 72 sites in 37 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 2019, 3,800 employees generated a turnover of €808 million; expenditure for research and development totalled €46 million.

Overview of images

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Image 1: Powerful and versatile: ORBIT FIT 8 scroll compressors with economiser technology offer a high capacity



Image 2: The BITZER ORBIT range of scroll compressors is a true refrigerant all-rounder (here: uneven tandem)