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BITZER approves CSH screw compressors for use in large heat pumps

Sindelfingen, 16.03.2021. BITZER does its part to decarbonise the heating sector: the specialist for refrigeration and air conditioning technology has expanded the application limits of its semi-hermetic CSH screw compressors, which will also allow them to prove their energy efficiency and high operating reliability in large, industrial heat pumps in the future.

Using electricity from renewable sources, electrically powered heat pumps now offer 100 per cent carbon-neutral operation: thanks to their expanded application limits, BITZER CSH screw compressors can do it all in the extensive capacity range for process and district heating. They allow OEM system manufacturers to design next-level industrial heat pumps with a water-leaving temperature of up to 85 °C. The capacity range of the approved CSH screw compressors extends from approximately 250 kW to around 1,000 kW heating capacity at 35 °C evaporation and 80 °C condensing temperature in economiser operation with the refrigerant R1234ze(E).

With its expanded application limits, the CSH series can now be operated with the refrigerants R134a, R513A and R1234yf at an evaporation temperature of up to 30 °C and a condensing temperature of up to 80 °C. With R1234ze(E) and R515B, it can even reach an evaporation temperature of up to 40 °C and a condensing temperature of up to 93 °C.

BITZER has developed the expanded application limits on the basis of laboratory measurements and series of tests with selected partner companies in recent years. The qualified selection of BITZER CSH screw compressors provides heat pump manufacturers with the compressor technology necessary to develop and produce large-scale, high-performance commercial and industrial heat pumps. The new

application limits are currently being integrated into the BITZER software. If users require assistance with calculation, they can get in touch with their BITZER contact.

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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 striving for the 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: BITZER has approved selected CSH screw compressors for use in large heat pumps

Press information

Legend

- additional cooling required
- oil cooling required
- CR ≤75%
- CR 75%
- CR 50%
- CR 25%
- M2: motor 2
- M1: motor 1
- A

Image 2: The CSH application limits of R1234ze(E) in standard operation

Legend

- oil cooling required
- additional cooling required
- CR ≤75%
- CR 75%
- CR 50%
- CR 25%
- M2: motor 2
- M1: motor 1
- A

Image 3: The CSH application limits of R1234ze(E) in eco mode