Press Release

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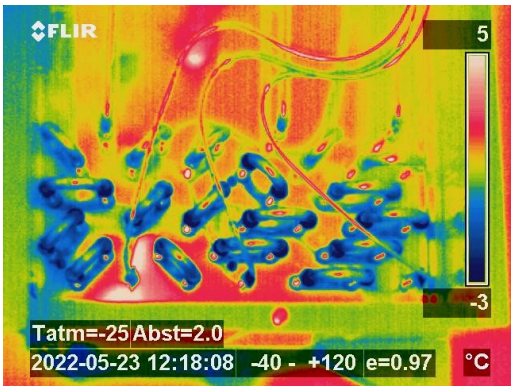
Refrigeration and air-conditioning technology December 19, 2024

TÜV SÜD tests the 1,000th DX air cooler

Munich. TÜV SÜD recently completed its 1,000th testing procedure on a refrigeration system air cooler (evaporator). Testing was performed at the company's refrigeration and air-conditioning testing laboratory, located in Olching near Munich. DX (direct expansion) air coolers are key components of refrigeration systems. They contain a refrigerant which evaporates and cools down the air as secondary fluid. TÜV SÜD has extensive experience in testing refrigeration systems and their components.



Testing and certification of DX air coolers are based on the European standard DIN EN 328. Two processes are used for this: direct capacity measurement of the DX air cooler with regard to refrigerant mass flow, and indirect measurement with regard to the climatic chamber using a calorimetric method. "The standard stipulates a maximum deviation of 4 percent between the two methods," explains Carsten Hoch, Head of Refrigeration at TÜV SÜD Industrie Service GmbH. "Our measurements generally show deviation at under 2 percent." However, according to the experience of the TÜV SÜD experts non-certified equipment often shows deviations of 10 percent and more.

Changing refrigerant may also initially result in greater deviations between measured values. The TÜV SÜD experts have found such deviations also during measurements with CO_2 as refrigerant. The CO_2 test rig for refrigeration systems and components is just one example of how TÜV SÜD is continually advancing the sophistication of its test procedures and testing facilities. Carsten Hoch points out, "This progress is essential if we are to fulfill the current requirements imposed by the market and our customers."

Largest independent testing laboratory in Europe

TÜV SÜD operates its testing laboratory for refrigeration and air-conditioning technology in

Olching near Munich. With an area of 8,500 square meters, the laboratory is Europe's largest independent testing facility in this field. Technical and performance tests are conducted in 10 climatic chambers from 75 m^3 to 270 m^3 in size, spanning a temperature range of -40°C to +50°C. In addition, TÜV SÜD operates an adjoining sound testing laboratory, enabling it to support manufacturers of refrigeration and air-conditioning systems in achieving compliance with statutory requirements and threshold values. TÜV SÜD's technical acoustics services include measurement of the sound power levels, measurement of emission sound pressure level at workplaces, and acoustic measurements in accordance with customer requirements.

For more information on the services provided by the TÜV SÜD refrigeration and air-conditioning testing laboratory, visit tuvsud.com/hvacr.

Image caption: Scanning of the temperature variation in a DX air cooler's refrigerant distributor
Image credit: TÜV SÜD

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