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TÜV SÜD

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Testing of heat pumps – TÜV SÜD supports manufacturers in the context of transition to natural refrigerants

Munich. Testing, inspection, and certification (TIC) company TÜV SÜD draws on its extensive experience in heat-pump testing as it supports manufacturers in transitioning their products to natural refrigerants. The TIC company operates Europe's largest third-party testing laboratory for refrigeration and air-conditioning, offering specialized expertise in acoustics. The laboratory is located in Olching near Munich, Germany.

"Heat pumps play a crucial role in the reduction of fossil energy consumption and carbon emissions," says Carsten Hoch, Head of Refrigeration at the Center of Competence for Refrigeration and Air Conditioning of TÜV SÜD Industrie Service GmbH. "Third-party testing of heat pumps ensures that the appliances are in compliance with the required standards and can be operated safely, efficiently, and in an environmentally friendly manner."

At their laboratory, the TÜV SÜD experts conduct tests to investigate the performance and safety of heat-pumps. Their services include performance tests in accordance with DIN EN 14511 and DIN EN 14825 as well as testing of sound power level and more detailed acoustic tests and measurements. The Olching testing laboratory features a range of climate chambers for conducting performance tests on heat pumps with a capacity of up to 200 kW. "Our laboratory consolidates all our test equipment and test stands under one roof," explains Carsten Hoch. "This setup allows us to conduct tests with high efficiency, support prototype testing, and support manufacturers early in the development process to ensure compliance with regulatory and legal requirements."

New safety standards for natural refrigerants

According to the TÜV SÜD expert, one of the biggest challenges faced by manufacturers is the gradual transition from fluorinated greenhouse gases, known as "F gases", to natural refrigerants. This transition will reduce or replace gases harmful to the environment. New safety requirements for natural refrigerants such as propane (R-290) have been issued and are described in the DIN EN 378 series of standards. Carsten Hoch emphasizes, "We test finished products for their compliance with normative requirements, but also carry out practical

tests to verify that risks have actually been reduced to an acceptable level." Manufacturers use the results of these tests to ensure that their products are in compliance with market requirements.

Largest third-party testing laboratory for refrigeration and air-conditioning systems

TÜV SÜD operates Europe's most extensive third-party test laboratory for testing refrigeration and air-conditioning. At the 8,500-square meter facility in Olching near Munich, ten test chambers with different internal volumes cover temperatures of -40°C to +50°C and can be used for performance tests. In its integrated acoustics laboratory, TÜV SÜD additionally supports its customers by providing individual noise measurements, frequency analyses, and customer-specific vibration analyses.

More detailed information about TÜV SÜD's services in this area can be found at tuvsud.com/en/industries/real-estate/buildings/testing-inspection-certification-of-air-conditioning-and-ventilation-systems.

Note for editorial staff: The press release is also available on the Internet at tuvsud.com/newsroom.

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