



Trane: Meeting and exceeding Ecodesign directives by up to 20%

SWEP helps Trane to deliver an exceptional seasonal energy efficiency ratio (SEER) in their chiller and heat pump portfolio.

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SWEP's True Dual DFX650 helps leading HVAC system manufacturer Trane to meet and exceed recent Ecodesign directives around SEER by up to 20% and reduce the energy consumption of their customers.

The recent Ecodesign directive affects all types of industries by setting minimum energy efficiency standards for air-cooled chillers and heat pumps, among others. It is estimated that the policy will save Europeans an average of €490 a year on their energy bills.



The Ecodesign directive posed huge challenges for the HVAC industry as a whole as it shifted from optimizing machines for full load efficiency to optimizing them for seasonal efficiency. This shift required that system manufacturers like Trane rethink the design of their chillers and heat pumps to improve the efficiency at part load conditions. If they didn't conform to the new requirements, Trane would have to stop selling their products into the EU. Additionally, with the European F-gas regulation increasing the prices of HFC refrigerants, HVAC manufacturers are also faced with the challenge of trying to reduce refrigerant charge while exploring new low-GWP alternatives.

Trane, a long-term customer of SWEP, commissioned a solution that could tackle both challenges by improving part load efficiency and reducing refrigerant quantity in the system. Here they could deliver a



The Sinesis™ Advantage, CGAF chiller with capacity ranges from 290 kW to 680 kW.

solution that helps their customers to meet their business objectives; to reduce energy consumption and cost.

To ensure maximum heat transfer efficiency and to reduce refrigerant charge, Trane turned to SWEP's successful True Dual Heat Exchanger range where they chose to integrate the AsyMatrix DFX650 BPHE into its Sinesis™ Advantage CGAF and CXAF chiller and heat pump portfolio. The BPHE assumes the function of the condenser or evaporator, depending on the operation mode of the unit and the innovative asymmetric channel configuration smartly combines maximum heat transfer on the refrigerant side with minimum pressure drop on the secondary side. The refrigerant channel volume is smaller than the water volume in this design, further reducing refrigerant cost.

When used in combination with other high-quality components such as microchannel coils, variable volume ratio compressors and electronically commuted fans, SWEP's BPHE help deliver exceptional seasonal efficiencies which exceed European regulations and help reduce the energy consumption of Trane's customers.

SWEP's DFX650 is part of their D650 True Dual heat exchanger range which also includes the DB650 condenser and all new DV650 evaporator for applications targeting medium to high temperature approach. With products designed to cover a broad application reach, the range can be utilized at various levels of system efficiency and covering capacities from 250 kW to 700 kW.



About Trane

Trane designs, manufactures and services HVAC systems and controls to create and sustain safe, comfortable and efficient work environments for buildings and industrial processes.

Trane takes great pride in the expertise they have built over decades and uses it to deliver the exact solutions their customers need to meet their business objectives by reducing energy consumption and costs.