

Press Release

eurammon symposium on the challenges of the F-gas Regulation and Eco-Design Directive in 2018 and Compelling Solutions with Natural Refrigerants

Natural refrigerants as a future-oriented solution in view of increasing climate regulations

On 28 and 29 June 2018, the eurammon Symposium was once again held in Schaffhausen (Switzerland). In a total of thirteen lectures on the subject of "Challenges of the F-Gas Regulation and Eco Design Directive in 2018 and Compelling Solutions with Natural Refrigerants", the speakers provided information on current trends and developments in refrigeration and air-conditioning technology. As in previous years, the eurammon lecture event was fully booked with almost 70 participants from 15 countries.

Measures such as the F-Gases Regulation, which provides for a gradual reduction in the total quantity of F-Gases sold in the EU, as well as the start of the ratification phase of the Kigali Agreement at the beginning of 2019 and accession to the Paris Climate Treaty, increase the pressure on industry and users to focus on climate-friendly and energy-saving refrigeration systems. "Refrigeration systems that rely on natural refrigerants already meet the increased climate regulations, often have a more efficient energy balance and are therefore usually cheaper to use. In my view, natural refrigerants are therefore the best alternative for meeting future challenges," said Bernd Kaltenbrunner, CEO of eurammon. The main topic of the symposium showed not only the legal and safety framework conditions but also future-oriented application examples.

Natural refrigerants as future-oriented solutions for increasing legal requirements, tailor-made system design and new standards

The first day focused on international climate agreements, refrigerant regulations and climate-friendly technologies. Arno Kaschl from the European Commission, reported on the status quo of the F-Gases Regulation and gave an outlook on the next steps. Carsten Hoch from TÜV Süd gave an insight into the necessary introduction of a Europe-wide uniform and standardised classification and regulation for flammable refrigerants. Hermann Renz from Bitzer Kühlmaschinen GmbH and a long-time member of eurammon, gave the expert audience an overview of the different programs and standards for the energy efficiency of different appliances and systems and their calculation. Lambert Kuijpers, UNEP, pointed out in his lecture on energy efficiency that attention should not only be paid to the use of refrigerants

with a low global warming potential, but that the use of energy-efficient systems also makes an important contribution to achieving climate targets. Professor Dr. Michael Kauffeld from the Karlsruhe University of Applied Sciences presented various technologies that already meet the requirements of the F-Gases Regulation and will help achieve climate targets.

The opening day of the symposium was rounded off by a panel discussion in which Arno Kaschl, Carsten Hoch, Lambert Kuijpers and Hermann Renz answered questions from the symposium participants. The discussion was moderated by Professor Dr. Kauffeld.

One controversial topic was the insufficient availability of nationwide training centers that train the handling of the increasing number of available refrigerants. Also the problem of a confusing market availability as well as too long delivery times of refrigerants was brought up for discussion. In summary, it was stated that international agreements such as Kigali or the Paris Climate Treaty stimulate public debate and increase the pressure on industry to turn away from synthetic refrigerants and move to natural refrigerants such as ammonia or hydrocarbons and thus also to orientate itself towards sustainable, energy-saving large (>200 kW) and small (<200 kW) refrigeration systems.

Successful practical applications with natural refrigerants

The second symposium day informed the participants about successful and convincing practical applications. Frank Rinne of Emerson Climate Technologies GmbH started the day with a lecture that explained the performance results as well as the comparison results of an Emerson test setup on the basis of different cooling cycles such as the conventional, the bypass and the mechanical subcooling cycle. Robert Lamb of Star Refrigeration Ltd. demonstrated the successful use of low charge, high efficiency ammonia chiller packages in food factory and indoor ski slope applications. Alexander Pachai of Johnson Controls, who is working in a working group on standardized reporting of accidents involving refrigerants, gave a brief excursion into safety in the handling of refrigerants in order to enable better reporting and thus better accident prevention in the future. Heikki Oksanen of Vahterus Oy presented on how water quality, pressure drop, oil leakage and too low an ammonia level can result in reduced refrigeration plant efficiency. Tommy Angback from Alfa Laval Lund AB then presented his experiences with plate heat exchanger. Roger Rosander from Temper Technology AB gave an overview of heat transfer fluids in his presentation. The symposium was rounded off by the presentation of the refrigeration system design at Zurich Airport by Burkhard Bein. A mix of different cooling systems, different natural refrigerants and an efficient

energy management system make this solution sustainable, energy-saving and future-oriented.

The refrigerant industry is strongly influenced by national and international regulations and restrictions. Challenges such as global warming also play a leading role in the choice of refrigerants. "From my point of view, eurammon and its members are well equipped to meet these challenges. With the use of natural refrigerants we go hand in hand with the goals of climate protection and the reduction of global warming", says Bernd Kaltenbrunner.

Information on the symposium and a selection of presentations by this year's speakers can be found on the eurammon website at eurammon.com.