



Press release

First ATMOsphere Network Shanghai is a success - natural refrigerants in China are here to stay

Tokyo, 17 April 2015: On the eve of China Refrigeration 2015, one of the largest trade shows in the HVAC&R industry shecco organised the first ever ATMOsphere Network Shanghai. Supported by Danfoss and Mitsubishi Heavy Industries (MHI), the event gathered over 60 experts from industry, research institutions and government, who gathered to discuss the latest natural refrigerant trends in the world's largest HVAC&R market. The event also feature a preview of the upcoming bilingual English-Chinese "GUIDE to Natural Refrigerants in China – State of Industry 2015".

The first edition of ATMOsphere Network Shanghai was rated a success, with lively discussions on the latest natural refrigerant developments in different applications and concerns regarding the latest Chinese government policy, standards and regulations. The timely event took place just when natural refrigerants are seeing wider uptake in China. The message from the event was clear: the time for natural refrigerants in China is now.

Danfoss: key refrigerants trends in industrial refrigeration

Carsten Dahlgaard from Danfoss presented key shifts in the industrial refrigeration market, including the fact that:

- CO₂ transcritical systems are expanding into to large systems
- The use of ammonia as a refrigerant is expanding into medium systems
- The use of HCFCs and HFCs is decreasing in large systems
- Hydrocarbons are being applied in large applications such as the chemical and petrochemical industries

According to Dahlgaard in China the estimated ammonia charge kg/kW is as high as nearly 30kg, which is much higher than the European average of 3 to 5 kg. Ammonia DX, ammonia/ CO₂ cascade and super low charged ammonia systems can help to reduce the ammonia charge to less than 2kg. He also said that less than 30% of new systems use automatic control systems in China. The introduction of such systems would bring about positive change, improving safety by reducing human error.

Dahlgaard concluded that with increased safety concerns regarding industrial refrigeration in China, what is important is long term investment in training in cooperation with government, designers, employers and individuals to ensure safety is maintained thanks to the adherence to clear guidelines. The introduction of "state of art" refrigerant plants will also help.

MHI's "Q-Ton": ultra efficient heat pump technology

Shogo Yamaguchi from Mitsubishi Heavy Industries (MHI) introduced the “Q-Ton” CO₂ heat pump, a 30kW heat pump water heater. The key feature of the Q-Ton is the world’s first CO₂ two-stage compressor combining scroll and rotary compressors. With a COP up to 4.3, the unit can operate in ambient temperatures down to -25 °C and produce hot water up to 90°C. Yamaguchi referred to a case study in the Iwate prefecture in Japan, where a Q-Ton provided hot water at 90°C in a location famous for its heavy snowfall. The installation resulted in a reduction in running costs of 61% and a reduction in CO₂ emissions of 29%.

The unit is designed to operate at ambient temperatures as low as -7°C and has been applied in various facilities in Japan, such as hot spring hotels, a school lunch centre, warm-bathing facilities and a food factory. The Q-Ton has also been installed across Europe and Korea from medical centres, to hotels, student dorms and office blocks.

Chinese Association of Refrigeration (CAR): update on natural refrigerant policy and standards in China

In his presentation Jin Jiawei, Secretary General of Chinese Association of Refrigeration (CAR), which has partnered with shecco on the soon-to-be-published GUIDE China acknowledged the important role natural refrigerants have played in the history of refrigeration and pointed to the positive market progress in China today. In order to improve safety, he also emphasised the importance of a correct understanding of the properties of different natural refrigerants.

Jin’s presentation raised many questions from the audience who were keen to get the latest updates on government policy, regulation and standards in China. According to CAR the Chinese government supports the development of the natural refrigerant industry and specific regulations and standards applicable to natural refrigerants are currently being drafted. However, incentives and subsidies targeted specifically to natural refrigerant technologies may take a few more years to appear in China.

shecco presents GUIDE China preview

Marc Chasserot, Managing Director of shecco presented a preview of the company’s latest industry report on natural refrigerants , the “GUIDE to Natural Refrigerants in China – State of Industry 2015”. As part of the project, and in cooperation with the CAR, shecco conducted an industry survey, receiving 1,098 responses to questions on current and future developments for different natural refrigerants in various applications.

As well as survey results the GUIDE features exclusive market data and visually attractive “ecosystems” that show how natural refrigerants technology are used throughout China. The GUIDE also includes interviews with key end users such as Metro and the Coca-Cola Company.

The final English version of GUIDE will be published in the beginning of May and Chinese version will follow in June.

More information on shecco's GUIDE series can be found on <http://publication.shecco.com>

The presentations from ATMOSphere Network Shanghai can be found on www.atmo.org

About shecco

For more than a decade market development expert shecco has been active in helping bring climate friendly technologies faster to market. shecco supports over 100+ partners worldwide in the HVAC&R sector, where the focus is on sustainable refrigeration, heating & cooling technologies using natural refrigerants. shecco offers a variety of services in three areas: 1) media & publications, including online industry platforms and a catalogue of dedicated research reports; 2) business development, including market research, consultancy and public affairs services, as well as special international projects; and 3) events, including international conferences and national workshops.

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