

Press release

CAREL among the key players at the PROCLIMATE International Congress on 4 March in Warsaw

SOLUTIONS FOR REDUCING THE ENVIRONMENTAL IMPACT OF REFRIGERANTS AND THE ENERGY CONSUMPTION OF COMMERCIAL REFRIGERATION SYSTEMS

Brugine (Padua), 4 March 2015

The 2015 edition of the PROCLIMATE International Congress organised by the European Partnership for Energy and the Environment (EPEE) and the Polish association Krajowe Forum Chłodnictwa will be held in Warsaw on 4 March.

CAREL will be represented by Raul Simonetti, Application Development Manager - Climate Business Unit, with a speech entitled 'Technologies to reduce TEWI and total emissions'. The presentation refers to the context analysed by the Congress, which deals with the **current state and future developments of HVAC/R technologies**. Among the themes in the programme are the Ecodesign Directive 2009/125/EC, which defines energy efficiency criteria for many commonly used products (household and industrial refrigerators, ventilation systems, etc.), and the F-gas Regulation (REGULATION (EU) No 517/2014), which imposes a reduction in and future prohibition against the use of refrigerant gases with a high environmental impact. These two pillars of the current European energy and environmental policy will be presented by Marcos Gonzalez-Alvarez and Arno Kaschl respectively, both from the European Commission.

The adoption of **alternative solutions and technologies** in preference to convention often results in challenges and opportunities never dealt with before. For example, if new refrigerants with low environmental impact - some of which are still being developed - on one hand drastically reduce or even eliminate warming of the environment, on the other they pose the problem of slight flammability. This makes it essential to study potential safety issues and guarantee adequate training for refrigerator technicians and installers. The regulations will be adapted as a consequence.

Naturally, there are also **solutions capable of decreasing the environmental impact of current refrigerants and reducing the energy consumption of commercial refrigeration systems** (supermarkets) at the same time. In addition to CO₂ systems, the energy efficiency of which is maximum in Nordic climates, CAREL's HEOS system decreases the TEWI (Total Equivalent Warming Impact) and increases energy efficiency. Noteworthy too is the greater simplicity of installing a HEOS system with respect to a conventional centralised system. Evaporative cooling applied to a gas/dry cooler or chiller helps to overcome heat peaks in summer because it allows the refrigerating systems to guarantee the cold required by a supermarket even when it is warmer than estimated during design.

PROCLIMATE 2015 will be the opportunity to **present new developments and discuss the current and future challenges in industrial refrigeration with a focus on environmental conservation and energy efficiency**.

HEOS sistema

HEOS is the CAREL solution for managing showcases and cold rooms that use waterloop systems. Using a water loop to control refrigerator unit condensation permits standardised condensing units, considerably reducing installation times and costs.

This technology also allows for greater integration with the conditioning system. The efficiency of the building's system/installation is improved thanks to:

- Less refrigeration system pressure drops, since the refrigerated showcases are plug-in
- Efficiency of the BLDC compressors and EEVs built into the refrigerated showcases
- 80% reduction in refrigerant load compared to a conventional centralised system
- 96% reduction in refrigerant leaks
- Each individual unit works in its own optimal conditions, independently of the others
- Consequently, any faults on a refrigerated showcase don't affect the entire supermarket, as they do in the case of centralised (conventional) refrigeration circuits.

HEOS sistema's strengths:

- It guarantees high efficiency.
- It reduces store outfitting times and costs.
- It increases flexibility in terms of modified layout.
- It reduces the interior space occupied by the refrigeration systems.
- It drastically reduces the amount of refrigerant used in the system.
- It integrates with the conditioning system.
- It reduces refrigeration system maintenance.

press information

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About CAREL INDUSTRIES S.p.A.

CAREL are among the world leaders in the production of control solutions for air conditioning, refrigeration and heating and in systems for adiabatic cooling and humidification. CAREL products are designed to generate energy savings and reduce the environmental impact of machines and systems. Our solutions apply to the commercial, industrial and residential sectors. CAREL has 18 branches and 6 owned production plants, supplemented by partners and distributors in a further 75 countries.

For further information, visit www.carel.com