

Press release

Carel HEOS Sistema Wins the Prestigious 2016 AHR Expo Innovation Award in the Refrigeration Category

Brugine (PD), Italy, December 2, 2105 - Carel, a world leader in control solutions for air-conditioning, refrigeration and heating, and systems for humidification and evaporative cooling, has been selected as the winner of the coveted AHR Expo Innovation Award in the Refrigeration category for its HEOS Sistema solution.

The 2016 AHR Expo Innovation Awards recognize the most creative, effective, and ingenious HVACR products and technologies on the market. Winners are chosen by a panel of third-party ASHRAE member judges in each of 10 product categories based on innovation, value, and impact on the marketplace. Award winners will be honored at a special ceremony during the 2016 AHR Expo in Orlando.

HEOS Sistema High Efficiency Showcase Controller

“The CAREL HEOS Sistema- High Efficiency Showcase Controller is the most technologically advanced, high-efficiency solution for the management of refrigerated cases and cold rooms for the food retail industry,” said Luigi Nalini, Group CEO. “The classic architecture of a compressor rack supplying the refrigerated cases with long distribution lines can be replaced by HEOS Sistema featuring remote showcases fitted with variable-speed BLDC compressors cooled by a water loop.”

Luigi Nalini added that each unit, fitted with its own BLDC compressor, can adapt its operating pressure to the load conditions in real time, allowing the compressor to operate in the most energy-advantageous conditions at all times.

The heat of condensation from the refrigerated cases is carried outside of the store via a simple water loop, which in turn is cooled by an outdoor free cooling device.

The water loop can be integrated into the HVAC management system, allowing advanced heat recovery functions and consequently savings in both cooling and heating operating modes.

The Heos Sistema solution brings energy savings of up to 25% when compared against a traditional low-tech solution or a similar solution with stand-alone units fitted with ON/OFF compressors.

CAREL’s innovative technology includes both the system itself and the control logic, supplying inverters and electronic expansion valves with continuous modulation for optimum management of BLDC variable speed compressors. These devices, together with CAREL inverters, are instrumental in optimizing the management of units with BLDC technology.

HEOS Sistema also offers significant benefits in terms of logistics and management, for both installers and end users. Using a water loop to take the heat of condensation away from the refrigerated cases allows standardization and simplification of store construction, significantly reducing installation times and costs. There is thus more free space inside the store and the systems are less expensive, while maintenance and changes to store layout are much simpler.

In addition, integrating this technology into the air-conditioning ensures better overall system efficiency.

There are numerous benefits from an environmental viewpoint as well. The use of remote units means elimination of long copper piping for the refrigerant circuit. The result is a reduction of system refrigerant charge of up to 80% and a reduction in refrigerant leaks of up to 96%. A traditional system requires that the joints are welded in the field where conditions are less-than-ideal, and statistically exceed 15% of refrigerant charge per year. For these reasons, the Total Equivalent Warming Impact (TEWI) of the HEOS Sistema solution is significantly lower than traditional solutions and comparable to solutions that use natural refrigerants.

In summary, the economic and environmental benefits of Heos include:

- higher energy efficiency (25%), due a result of the use of BLDC compressors that maximize the COP* of each refrigerated case
- improved temperature control inside the refrigerated case by modulating the operating speed of the BLDC compressors
- fast installation, flexible design of spaces and maximum use of the sales area, being able to simple relocate the plug-in showcases
- environmentally-friendly, due to the drastic reduction in total refrigerant charge (-80%) and refrigerant leaks (-96%) with the Heos Sistema compared to traditional architecture with compressor racks.

<http://www.carel.com/heos-sistema>

<https://www.youtube.com/watch?v=FvCn3B0IJE0>

*Coefficient of Performance

press information

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About CAREL INDUSTRIES S.p.A.

CAREL is one of the world leaders in control solutions for air-conditioning, refrigeration and heating, and systems for humidification and evaporative cooling. Our products are designed to bring energy savings and reduce the environmental impact of equipment and systems. Our solutions are used in commercial, industrial and residential applications. CAREL has 18 fully-owned subsidiaries and 7 production sites, as well as partners and distributors in a further 75 countries.

For further information, go to www.carel.com