

## **NATURAL REFRIGERANTS? CO2 IN RETAIL**

*All of CAREL's solutions for CO2 refrigerant circuits: optimum management, environmentally-friendly and high efficiency*

Brugine (Padova), 18 January 2015

The increasing interest in natural refrigerants, together with wide availability - including as a waste product from other processes - make CO2 particularly appealing for commercial refrigeration. Along with the economic benefits, other advantages are its limited global warming potential (GWP =1, no impact on the ozone layer), no dangers in terms of toxicity or flammability, and no need to recycle the gas at the end of system operating life. However, CO2 not only has economic, political and environmental advantages: its thermodynamic properties mean that in numerous applications it can compete head-to-head with traditional refrigerants. The main difference between carbon dioxide and synthetic fluids is that its critical point temperature is 31.1 °C, a temperature that is reached quite often in many parts of the planet.

### **CAREL solutions**

CAREL offers complete solutions to optimise refrigerant applications that use CO2 refrigerant. In these technologically-advanced solutions, system complexity is a result of several factors, above all system pressure, climatic conditions and required cooling capacity.

The CAREL range includes:

pRack pR300T + EVD driver: compact solution for complete control and management of transcritical CO2 compressor racks, a solution that includes a driver for two-pole stepper motors that independently controls two high pressure valves;

Ultracap technology: this system guarantees complete closing of the valves (both high pressure and showcase valves) even in the event of sudden mains power outages;

ExV-C: innovative series of drivers for high pressure CO2 valves, the result of Carel's consolidated experience in high-efficiency expansion valves, in particular for use with natural refrigerants: reduced environmental impact plus extra focus on energy savings.

### **Experience and know-how**

Experience, know-how and innovation are the key values underlying all of CAREL's solutions. CAREL's ongoing investments in research and development have led to the creation of reliable and optimised solutions for every need. The results can be measured in terms of the constantly growing number of systems installed worldwide, from Europe to the Americas, South Africa to China. CAREL control technology is aimed at ensuring reliability and efficiency in these types of systems, with special attention to warmer climates where energy savings are affected by the low critical point temperature (31°C). Carel's solutions feature highly effective algorithms for optimisation of and synchronisation between the different components in the system, thus making CO2 a sustainable choice even in milder climates. CAREL solutions also help less-expert users interact with these types of systems, and are the most effective at reducing CO2 emissions in the commercial refrigeration sector.

*press information*

CAREL Media Relations Manager, Paola De Troia

T. +39 049 9731 899

media.relations@carel.com

**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 19 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](http://www.carel.com)