

Epta's Life-C4R Programme Confirms the Benefits of a Natural Approach

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Epta has already achieved important milestones in the technological development of HFC free solutions. Among the projects promoted, one that stands out is the Life-C4R, co-financed by the European Union.

Francesco Mastrapasqua, Epta's Institutional Affairs Manager states: "The three-year Life-C4R - Carbon 4 Retail Refrigeration project was created to sensitise the scientific community, the component suppliers and the retail world's key players in the use of increasingly efficient solutions. One of the goals is demonstrating how HCFC and HFC refrigerants can be completely replaced with transcritical CO₂, anywhere in the world."

The patented FTE 2.0 Full Transcritical Efficiency and ETE Extreme Temperature Efficiency Systems are recognised by the EU as simple and efficient systems and are at the very core of the Life-C4R.

"The Life-C4R Plan is essential in validating the FTE and ETE performance in all climatic conditions, in promoting their international diffusion and in certifying both as global and reliable solutions for the future of commercial CO₂ refrigeration", states Francesco Mastrapasqua, Epta's Institutional Affairs Manager "The data analysis of the three Italian pilot projects and four replica prototypes in Romania and Spain, installed in collaboration with Epta Iberia and DAAS, will be presented during the Life-C4R Project digital conference, scheduled for 1 July."

The event will be an opportunity to gain in-depth knowledge on the Plan's innovations, lessons learned and the advantages of the FTE 2.0 and ETE technologies, using the results collected in store by the Retailers' themselves.

You can participate by registering at the following link: <https://blog.eptarefrigeration.com/en/life-c4r>

Epta presents FTE Full Transcritical Efficiency system

FTE 2.0 represents the evolution of Epta's patented FTE Full Transcritical Efficiency system. It is recommended at any temperature and is therefore a must for obtaining maximum efficiency above 37°C. Simple, efficient, reliable and industrialised, FTE uses flooded evaporators. They allow for the difference between the evaporation temperature and the cabinet's internal temperature to be significantly reduced and therefore, for an energy consumption 10% lower than a traditional CO₂ system. This is a simple solution: Epta has mechanically added only a multilevel liquid receiver to the standard configuration. On the one hand, FTE reduces the compressors' discharge temperature, allowing for smooth functioning at high temperatures. On the other hand, it guarantees their perfect lubrication, favouring a longer life cycle of the component itself. FTE also guarantees up to 20% lower installation and maintenance costs. Finally, the FTE 2.0 version which is integrated into the rack, takes up less space and reduces installation and start-up times.

ETE Extreme Temperature Efficiency allows for 100% cooling capacity to be reached even in the hottest climates, both in industrial and commercial refrigeration applications. Recommended at temperatures between 30°C and 40°C, it guarantees maximum savings over 40°C, also in combination with FTE. In this case, the transcritical CO2 system is guaranteed to work perfectly at any latitude, even on non-booster systems and in industrial refrigeration. ETE's "secret" is contained in the refrigerant temperatures' reduction before its distribution to end users. As it leaves the air exchanger at a value close to the ambient temperature, the gas is further cooled. The system allows for an almost total disappearance of "flash-gas", creating significant energy savings over time and smooth functioning even well above 40°C.

DAAS, part of Epta Group, carries out the first Life C4R project in Romania at the Mega Image chain store in Sibiu, Transylvania. Mega Image is owned by Ahold Delhaize, a Dutch grocery retail company operating in the US, Europe and Indonesia.

The installation of an Eco2Small rack and the patented FTE 2.0 Full Transcritical Efficiency system is at the heart of the project for the Sibiu store. It responds to Clients' demands in reducing the supermarket's carbon footprint thanks to the monitoring and heat recovery system and the Costan refrigerated cabinets' high efficiency. This installation is designed to reduce consumption by 10% compared to an equivalent one with HFC refrigerant, therefore saving 38,573 kWh/year.