

ATMO LATAM: Epta Celebrates 100th Transcritical CO₂ Installation in Latin America

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Ignacio Chaparro, Epta, at ATMO LATAM Summit 2023.

Italian OEM [Epta Group](#) has celebrated the installation of its 100th transcritical CO₂ (R744) system in Latin America (LATAM), according to a statement from the company. Globally, Epta has more than 3,000 CO₂ installations.

Following its first CO₂ installation at a supermarket in Buenos Aires in 2014, the manufacturer now has systems in operation across the region. While the majority of projects are based in Argentina and Ecuador, with 42 and 39 installations, respectively, Epta also has systems in Colombia (6), Panama (5), Chile (4), Venezuela (3), Mexico (1) and Peru (1), as well as on the Caribbean Island of Martinique (1).

"We are proud of this achievement, which represents a milestone of the years Epta Latam has dedicated to a more sustainable future in a region in which the transition to natural and energy efficient refrigeration is made possible thanks to the initiative of each single [retail] chain," said Daniele Tolotti, Commercial Director of Epta Latam. "We will continue to work relentlessly to reduce the environmental impact of retailers who are with us in this evolution and so that these innovative technologies become the standard to make the entire sector more sustainable."

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As a key stakeholder in the LATAM Market, Epta recently participated in the [ATMOsphere \(ATMO\) LATAM Summit 2023](#) with Ignacio Chaparro, the company's Sustainability and New Technologies Manager, delivering a presentation on transcritical CO₂ during one of the meeting's [Refrigeration Case Studies](#) sessions. The conference took place November 8–9 in Mexico City and was organized by ATMOsphere, publisher of [R744.com](#).

90% reduced environmental impact

During his presentation, Chaparro detailed one of Epta's transcritical CO₂ installations at a La Anónima supermarket in northern Argentina. The pilot project was conducted in partnership with the UN Industrial Development Organization (UNIDO) to evaluate the performance and energy efficiency of the technology in a real-world case. It also aimed to identify barriers to the adoption of transcritical CO₂ in the region, he explained.

The 1,200m² (12,916.7ft²) store had previously used a R22-based refrigeration system that provided 9.5kW (2.7TR) for medium-temperature and 69kW (19.6TR) for low-temperature applications. It also had self-contained refrigeration units that used R404A.

In 2018, as part of the pilot project, Epta installed a new transcritical CO₂ booster system with parallel compression and a propane (R290) chiller at the gas cooler outlet to enhance the efficiency of the system.

According to Epta's data, the new CO₂ system reduced the supermarket's environmental impact – a combination of direct emissions from refrigerants and indirect emissions from energy consumption – by 90%, compared to its previous equipment. Energy consumption was reduced by 27%, and refrigerant-related carbon emissions were reduced by 99%.

Following this project, La Anónima decided to install CO₂ systems for all new stores and retrofit projects. The company now has 17 CO₂ installations, all completed in partnership with Epta.

Chaparro noted that while the project clearly demonstrates the feasibility of transcritical CO₂ systems in warm climates, there are many barriers that need to be overcome, including component availability, refrigerant availability and technician training.

'Green Transition Enabler'

To support retailers' emissions reductions and sustainability targets, Epta has been consistently developing new technologies that have a focus on energy efficiency.

According to the manufacturer, its Full Transcritical Efficiency (FTE), Extreme Temperature Efficiency (ETE) and Extra Transcritical Efficiency (XTE) systems are the "tangible representation of the Epta mindset [of being a] Green Transition Enabler."

FTE was first introduced in 2017 and can increase energy efficiency by 10%, compared to standard transcritical systems, says Epta. In 2020, ETE was launched with a guarantee to enhance reliability in hot climates, without temperature limits.

In 2023, Epta launched its XTE technology, which includes Energy Recovery's PX G1300 pressure exchanger device to further increase the benefits of ETE in mild and cold climates, as well as extreme conditions.