

ATMO America: Kysor Warren Epta Announces New CO₂ Condensing Unit for U.S. in Late 2022



OEM Kysor Warren Epta US has announced that it expects to bring its new CO₂ (R744)-based condensing unit to the U.S. market by the end of 2022, according to a recent presentation by the company's Sustainability and New Technologies Manager, Ignacio Chaparro.

The announcement was made by Chaparro during a presentation with Giacomo Favari, Refrigeration Marketing Manager – North America for Carel, in a refrigeration case study session at the ATMOsphere (ATMO) America Summit 2022 on natural refrigerants. The conference took place June 7–8 in Alexandria, Virginia, and was organized by ATMOsphere, publisher of R744.com.

The U.S.-based manufacturer, which was created in 2019 when American OEM Kysor Warren was acquired by Italian OEM Epta, typically produces CO₂ compressor rack systems but decided to develop its first R744 condensing unit after seeing a “need in the market,” explained Chaparro. He highlighted a particular demand for natural-refrigerant-based systems in places like California, where regulation requires new equipment with more than 50lbs (22.7kg) of refrigerant to use refrigerants with a GWP of less than 150.

According to Chaparro, Kysor Warren Epta U.S. is currently working through the certification process with American safety standards body UL and expects to have its condensing units ready for field testing in the U.S. by the end of this year.

Spanish OEM AREA Cooling Solutions also announced at ATMO America that its CO₂ condensing units are likely to be available on the North American market by the end of 2022, providing smaller supermarkets and convenience stores with several new natural refrigerant options.

This move follows Epta's introduction of its Full Transcritical Efficiency (FTE) technology for transcritical CO₂ systems to the U.S. market in 2020.

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Testata: R744.com
Data: 12 Luglio 2022

The ECO₂ remote condensing unit

Kysor Warren Epta's ECO₂ remote condensing unit (RCU) is a "future proof refrigeration technology" that, according to Chaparro, offers a safe, reliable, efficient and simple system for commercial and light industrial refrigeration applications.

The plug-and-play unit is available for medium and low temperature and offers capacities from 40,000BTU (11.7kW/3.3TR) to 100,000BTU (29.3kW/8.3TR). This adaptability means it's suitable for a variety of applications, including store remodels and expansions, says the manufacturer.

The CO₂ condensing unit can be used for both indoor and outdoor applications, with the former option offering greater capacity. However, indoor usage would require additional air-conditioning capacity to offset the heat load being released by the unit inside the store, explained Chaparro.

The system uses a PRack controller from Italian component manufacturer Carel to manage the condensing unit, compressor, valves and variable frequency drive. Carel's PRack controller, which covers a wide range of CO₂ applications, has a small footprint and can support high-efficiency systems by managing parallel compressors, heat reclaimed systems, adiabatic systems and gas ejectors.

During his presentation, Chaparro shared some operational data on the CO₂ condensing unit, which has been running for 4,000 hours at a test installation in Columbus, Georgia. Results show that the system is very reliable, with stable temperature, defrost and flash tank pressure data.

While Kysor Warren Epta's installation used a Danfoss controller for the display cases, the condensing unit can be used with case controls from any manufacturer.

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