

# Opt

for better

Cooperativa Obrera, sustainability pioneers, opted for the refrigerant with the highest energy efficiency and lowest environmental impact: **Opteon™ XP40.**



**Opteon™**

## When choosing Opteon™ refrigerants, you are choosing to make the difference.

Founded in Bahía Blanca, Argentina, on October 31, 1920, today it has 98 years of experience and over 1'900,000 associates. Present in the provinces of Buenos Aires, La Pampa, Rio Negro and Neuquén, Cooperativa Obrera is a network of 130 supermarkets, most of which operate with refrigerant R-404A.

Delivering their mission to "Satisfy the economic, social, and cultural needs of the population, by providing adequate balance between service quality and price economy", the Cooperativa Obrera is ruled by guidelines arising from its Seven Cooperative Principles. The seventh principle refers to the Interest in the Community, putting the entity into action through four pragmatic axes: **environment**, food and health, community involvement, and education and culture.

On the other hand, the Cooperativa decided to estimate, together with the National Technology University - Regional Bahía Blanca School (Universidad Tecnológica Nacional - Facultad Regional Bahía Blanca) (UTN-FRBB), its Carbon Footprint. This indicator measures the impact on global warming caused by emissions of greenhouse gases (GHG). Today, they are working on the introduction of new technologies enabling energy savings and, therefore, a smaller environmental impact. Some examples are the replacement of their current illumination network with a LED-based system, and installation of glass doors in the supermarket display cases.

As proof of their quest in reducing their environmental impact, the chain management has decided to switch to Chemours' refrigerants, after knowing the latest advances and options in refrigerants with low global warming potential (GWP), and zero ozone depletion potential (ODP).





After the refrigerants team met with the Cooperativa Obrera technical staff, an initial test was prepared in to be run in branch store 18, to challenge the new low-GWP refrigerant, and state-of-the-art Chemours' refrigeration technology: Opteon™ XP40 (R-449A).

Opteon™ XP40 is a zero ODP refrigerant, with low global warming impact. Based on hydrofluoroolefins (HFOs), this refrigerant is designed to replace the R-22 and R-404A in medium and low temperature direct expansion systems.

## Opt for a better world

**With the planet as inspiration, Cooperativa Obrera is the first supermarket in Argentina taking a leap to sustainability in commercial refrigeration.**

For Cooperativa Obrera the environmental commitment is an important matter, and one of the most relevant to start this huge change, which is an inspiring example for the whole region. The Technical Area of Cooperativa Obrera explained the reason to use Opteon™ XP40: "Besides advantages of having a lower environmental impact, we were interested because this is an efficient gas, as related to energy consumption, enabling savings up to 12%. We sent technical information of some of our stores and, together with Chemours, we chose the best option to perform our first retrofit. The Chemours team also offered consultation and training for our technicians. As Opteon™ was the solution selected, the project consisted of retrofitting the low-temperature condensing unit, and the medium temperature central unit.

The central refrigeration system is composed by three 10-hp Dorin compressors, with common suction set at average evaporation temperature of -14°C. The supermarket medium temperature circuits – such as dairy, fruits, vegetables, meat and poultry – are connected to the suction section.

For this test, refrigerant R-404A, filters and oil, which were recently changed, were recovered, and there was no need to replace them, as they were fully compatible with the new refrigerant. The system was purged to vacuum and charged with Opteon™ XP40; then, all adjustments required were made to run the test.

**The refrigeration system had a reduction of 12% in energy consumption**, representing an average of 12,900 kwh/year during the monitoring period. Opteon™ has zero ODP, which means no damage to the ozone layer, and low GWP index, meaning that it is a long-term option. Its ASHRAE safety designation is A1: non-flammable and non-toxic.

Opteon™ needs no mechanical components replacements; however, it is recommended to work with POE. Finally, the retrofit cost is less than 5% of the total investment in new equipment.

## Opt for efficiency

Opteon™ XP40 proved being an excellent option to replace refrigerant R-404A, as besides reducing the ecological footprint in 65%, energy savings for 12% were achieved while providing the refrigeration capacity required.

## Opt for benefits

Compared with refrigerant R-404A, it was found that, thanks to its thermodynamical characteristics, Opteon™ XP40 had a **higher capacity to absorb** the thermal load in evaporators, reaching temperatures desired **more quickly**. This translates into compressors running for **less hours** in the same period, and having energy savings thanks to the reduced consumption. Based on the above, with the equipment running for less hours, their useful life is extended and **maintenance costs are reduced**.



To get more information about the Opteon™ family, low GWP products, visit [opteon.com.ar](http://opteon.com.ar)



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