



Plusfrésc (Spain) supermarket opts for Opteon™ XL20 (R-454C)

Upgrade from legacy HFC system to low
GWP sustainable solution.



Following the successful implementation and good results of the first insulation success of the first installation with **Opteon™ XL20 (R-454C)** in 2021 in the Corbins store, the management of **Supsa Supermercats Pujol S.L.** has decided to once again opt for this very low GWP refrigerant in its new store in Baró Maials, also under the **Plusfrésc** Brand.



According to technical management:

“During the operation of the Corbins store, the important advantages that Opteon™ XL20 (R-454C) brings to its configuration have been confirmed: having a refrigerant with a GWP of less than 150, which is more interesting since the entry into force of the new F-Gas Regulation 2024/573; Energy savings have been confirmed thanks to the better energy efficiency of these systems; The cooling performance has been as expected, without suffering losses of cooling power at any time; After the ease of installation, maintenance has been simple and not much different from what it is like with previous HFC-type refrigerants, offering us great security and confidence. For all these reasons we have chosen to build a new store with this refrigerant.”

On this occasion, the installer AIRFRIO LLEIDA (Lleida) has again been commissioned to carry out the installation, as it has build an extensive experience in installations with the Opteon™ XL20 (R-454C) refrigerant.

This new installation is for the refrigerated products area, with needs of 49kW, and consists of the following elements:

- Compact equipment with built-in condenser model CCAS B3N360M (PECOMARK) located in the MACHINE ROOM
- Number of compressors: 3
- Compressors brand: **BITZER**
- Compressors model: 3 x 4TES-12Y (1st compressor with VFD)
- Type of compressor: Semi-hermetic
- Condenser: Included with 4 radial fans III 1,43 kW unit EC
- Condenser air flow: 4 x 7.670 = 30.680 m³/h
- Available pressure: 150 Pa
- Electrical panel: Included in compact equipment with main disconnect
- Electronic: Danfoss
- Dimensions: 3.400 x 1.200 x 2.400 (h) mm
- Weight: 1.480 kg
- Refrigerated Cabinets from **Exkal**

System working characteristics:

- Evaporation temperature: -10°C
- Condensation temperature: $+45^{\circ}\text{C}$
- Unitary volumetric displacement: $41,33 \text{ m}^3/\text{h}$
- Cooling Capacity: $16,18 \text{ kW} \times 3 = 48,54 \text{ kW}$
- Absorbed power: $6,99 \text{ kW} \times 3 = 20,97 \text{ kW}$
- COP: 2,44
- Total condensation demand: $72,12 \text{ kW}$
- Maximum absorbed power: $14,0 \text{ kW} \times 3 = 42,0 \text{ kW}$
- Maximum intensity: $25,10 \text{ Amp} \times 3 = 75,3 \text{ Amp}$
- Refrigerant: **Opteon™ XL20 (R-454C)**
- Oil: BSE-32
- Refrigerant charge 50 kgs, supplied by **Kimikal, S.L.**



To improve the efficiency, safety and performance of the system, solutions such as variable speed drives, crankcase heaters, pressure switches, check valves, oil separators, and safety valves in liquid containers for external conduction have been added.



According to installer Airfrio: "This installation, like the ones we have already carried out with Opteon™ XL20, has been very simple. We already have more experience and more components on the market for installations with A2L refrigerants, and it gives us great confidence as a future solution. It is a great continuity solution, simple and effective, and the most economical for our clients."

To meet the necessary requirements to reinforce safety when working with A2L refrigerants, the installation also includes leak detectors for A2L refrigerants in the shop and in the engine room, as well as ATEX extractors in the machine room.



Supsa Supermercats Pujol, S.L., with headquarters in Lleida, has more than 82 supermarkets spread across different Catalan provinces under the Plusfrésc brand. Always committed to best state of art technologies that are more respectful of the environment and safer for customers and workers, in collaboration with its installer Airfrio Lleida and its refrigerant supplier Kimikal.



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