

Retailer commits to lower-GWP switch

Advanced Refrigeration Service UK and Climalife assist east London store chain with switch to lower-GWP refrigerant as part of a chiller and freezer overhaul for its new flagship store



A desire to switch to lower-GWP refrigerant for a busy grocery store chain in east London required a new approach to cooling that is now expected to be rolled out across a number of properties.

Kacha Bazar operates five stores across the capital that provide residents with a range of Asian goods. This ranges from chilled and frozen meats and fish to fresh fruit and vegetables.

Business owner Aklu Miah decided in February that the expansion of the company necessitated transforming its approach to cooling with an eye on more energy-efficient operations.

Most prominent of the changes was undertaking the renovation of a 20,000 sq/ft building space for the opening in May of what Mr Miah describes as his flagship store. The building, which is based in a large retail park in Beckton, allowed for

an overhaul of the company's preferred method for chilling and freezing goods.

The company chose installation contractor Advanced Refrigeration Service UK and refrigerant group Climalife to assist in upgrading freezer and chiller equipment that could also meet the environmental challenges posed by EU F-Gas regulation. This would require offering an alternative to existing refrigerants used across the company's stores, at a time where costs are increasing for more commonly used higher-GWP products.

Mr Miah agreed on the need to move away from R404A, owing to concerns about price and availability – as well as its ultimate ban on the horizon – in order for the company to be more progressive in its approach to future-proofing stores.

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Advanced Service and Climalife put forward a solution that could meet these needs. Opteon XP40 (R449A) was chosen based on perceived pricing, energy efficiency and environmental benefits.

Another benefit was to ensure the company could make use of a single refrigerant for the entirety of its operations for both new and existing equipment.

What is Opteon XP40?

Opteon XP40 is a lower GWP

HFO-based refrigerant that is non-flammable and can reduce energy requirements between 8 per cent and 12 per cent when compared to the commonly used R404A.

Having chosen the new refrigerant, new condensing units were supplied to Kacha Bazar and charged with the Opteon XP40 over a four-month period.

For equipment kept by the company, the contractor said that conversion has been possible via a simple process of introducing a small expansion valve adjustment in order to handle the product.

New equipment from Italia Refrigeration and supplied by AFR Refrigeration was acquired for the project with some other existing equipment also being maintained and transported to the flagship store from other properties.

The contractor notes that a store reliant on so many refrigerated freezer cases can face energy costs totalling tens of thousands of pounds. It was decided therefore to try and ensure maximum efficiency by introducing Copeland scroll Enhanced Vapour Injection (EVI) compressors from Emerson to provide sub-cooled liquid to these cases. The technology creates a similar effect to a turbo-charger in a car so that compressors can be smaller and have a reduced level of energy consumption compared with non-EVI models.

Variable capacity digital scrolls were included as part of the new design in order to produce only the precise duty required, particularly in the case of several cases in the store supported by a single unit. The contractor added that this avoided hundreds of stops/starts that could damage compressors over time.

Mr Miah said he was happy with the performance of freezer and chiller equipment in the new store, to such an extent that he has now committed to fully switch from R404A to R449A in other stores.

He said: "We like to think of ourselves as a responsible retailer and having made the decision to be more progressive with the business, we have now started as we mean to go on." 