CASE STUDY

REAL ENERGY SAVING BENEFITS MAKES PERFORMAX™ LT REFRIGERANT OF CHOICE

Whilst the use of Performax™ LT (R407F), has been well documented as a R404A replacement in supermarket applications over the last two years, It can work equally well in other R404A applications such as food storage and food processing applications.

When Norfolk-based JD Cooling Limited were tasked with replacing an old R22 refrigeration system within a storage area at one of the UK's largest potato suppliers in 2011, they consulted with Climalife UK as to which refrigerant to use. Instead of R404A, they chose Performax™ LT (R407F) to help reduce the carbon footprint of the system.

The storage room in question contained a floor-standing cooler with a conventional thermostatic expansion valve, fixed speed compressor and fixed speed condenser fans operating with pressure switches set for year-round operation. JD Cooling began the project by creating a new and bespoke design for the equipment within the store, still incorporating a floor-standing cooler but with push-through fans and varying fin spacing, designed with the intention of reducing the dehumidifying effect caused by direct expansion (DX) refrigeration.

In addition to the cooler, the new equipment also included electronic expansion valves to modulate the flow of refrigerant, and variable speed compressor and condenser fans to facilitate a more balanced and energy efficient system. The new system was designed to run using Performax™ LT (R407F) as opposed to R404A which, until then had been the preferred refrigerant for many years for these applications. Although the system was designed to be leak tight The decision to use Performax™ LT was made easy as its GWP was more than half that of R404A, 1,824 versus 3,922. Performax™ LT was also favoured because it could also offer better energy efficiency than R404A.

Registered Office: IDS Refrigeration Ltd
Green Court . Kings Weston Lane . Avonmouth . Bristol . BS11 8AZ
Tel: 01179 802520 . Fax: 01179 802521
climalife.uk@climalife.dehon.com
www.climalife.co.uk www.climalife.dehon.com

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Registered In England & Wales
Registration No. 3400691 . VAT No. GB 709 447 517

JD Cooling have identified the real energy-saving potential of Performax™ LT in combination with their chosen design improvements the new plant is showing a reduction in running costs more than 25% lower than the previous equipment and delivering monthly savings in the region of 4,000Kw. As they actively work with suppliers to develop a range of refrigeration components to aid the smooth and efficient running of systems using this product, they hope to achieve better results in the future.

Whilst the outcome of the F Gas revision proposals are not known at the time of writing, the use of R404A in new equipment with its GWP of 3922 is no longer a sensible choice. JD Cooling Limited have not only delivered a plant that runs more efficiently on Performax™ LT but they have helped their customer ensure their new plant meets the demands of the large retailers who are urging their suppliers to reduce their carbon footprint in an increasingly carbon conscious market.

For further information please contact: Laura Haim, Marketing Co-ordinator for Climalife in the UK.
Date of issue: 21st February 2013

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