

DuPont™ ISCEON® REFRIGERANTS

CASE STUDY- FOOD FACTORY

IDS make Energy Savings as easy as pie



Engineer recovering R404A prior to charging with ISCEON® MO79

Caerphilly based Peter's Food Services achieved a nine per cent energy saving when it converted a Uniblock Zanotti package unit from R404A to the new low temperature, zero ODP, direct replacement ISCEON® MO79 refrigerant, supplied by IDS Refrigeration.

The chilled and frozen food manufacturer, most famous for Peter's Pies, is a manufacturer of pies, pasties and savoury products, distributing to all major UK supermarkets and food retail outlets. Manufacturing takes place on the main Caerphilly site and product is then transferred to a cold store, where the ISCEON® MO79 conversion took place.

Peter's Foods premises have a range of refrigeration equipment using a number of different refrigerants, especially R22 and R22 containing blends and more recently HFCs such as R404A, the favoured long-term alternative to CFC R502.

Owen Jex, Services Engineering Manager at Peter's Foods, commented; "It is clear that converting equipment to energy saving HFC refrigerants, such as those in the ISCEON range, can play a large part in reducing our overheads."

They also improve the environmental properties of the refrigerants we use without major equipment changes before the end of their working life. For these reasons we were keen to use ISCEON® MO79, identified as a replacement for plant running on R404A and low temperature R22 containing blends. It is the most environmentally acceptable, non-flammable direct replacement available, helping us meet our environmental policy."

Star Refrigeration carried out the conversion in conjunction with IDS, the UK supplier of ISCEON® refrigerants. To determine the operating performance and criteria for optimisation, IDS undertook tests before and after conversion to ISCEON® MO79.

The study concluded that, when compared to R404A over an equivalent time scale and under comparable operation conditions, ISCEON® MO79 performed with similar cooling levels and lowered energy consumption by an average of 9%.

Test results also indicated that ISCEON® MO79 reduced the discharge temperature by 4 to 6 degrees and lowered the discharge pressure. It is expected that these decreases may have a beneficial effect on compressor component wear.

The equipment was monitored without any modification and used the same oil.

ISCEON® MO79 is a low temperature, zero ODP, direct replacement for refrigerants such as R404A and the R22 containing blends that originally replaced R502, such as R402A/B, R403A/B, R408A and R411B. It offers a solution for applications where a refrigerant with similar capacity and COP but 20% lower global warming potential (GWP) than R404A/ R507 is required. Working with the existing lubricant, it can be placed directly into new and existing systems without the need of equipment redesign or costly modifications.

Mr Jex added: "ISCEON® MO79's ability to reduce our energy consumption, as well as meet our environmental objectives, will now be strongly considered when looking at replacing refrigerant gas in other equipment."

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