CASE STUDY

CONVERSION SUCCESS FOR GREENCOLD – ISCEON® MO29 (R422D) CHOSEN TO REPLACE R22

When Kettering-based refrigeration and air conditioning experts Greencold were tasked with converting a customer's R22 HCFC system to an alternative refrigerant with the minimum of disruption, they consulted Climalife's Peter Dinnage and David Richards for advice on how to achieve the best result for their specific equipment.

With the use of virgin HCFCs banned at the beginning of 2010 and prices of reclaimed R22 much higher than before the ban, Greencold's customer was right to be concerned even ahead of the final phase out date of 31st December 2014. Greencold's customer, a local bakery, were running a system with a water cooled combination of high, medium and low temperature equipment. Cold room temperatures ranged from -30°C to +8°C. Two Mycom and two Gram compressors operated with a common liquid line, discharge and oil balance but with separate suction lines, all with interconnecting pipework. The total refrigerant charge was 1700kg of R22.

ISCEON® MO29 (R422D) was identified as a suitable replacement due to its close match to the characteristics of R22 and the operating conditions required. An oil change was carried out following the conversion, as recommended and the customer was able to continue using their favoured oil, Mobil Zerice S68, which was also supplied by Climalife. Greencold had already carried out previous conversions with ISCEON MO29, so they know what to expect. O-rings in the solenoid valves were replaced and new filter driers fitted, some other remedial work was carried out at the same time. As the refrigerant charge was over 300kg a fixed leak detection system was fitted to comply with the F-Gas regulations.

Log of the Medium Temperature Compressor before and after conversion

	R22	**ISCEON MO29 (R422D)**
Suction Pressure	0.8 Bar g	0.8 Barg
Oil Pressure	3.0 Bar g	3.0 Bar g
Discharge Pressure	11.0 Bar g	11.0 Bar g
Oil Temperature	38 °C	39 °C
Suction Temperature	-3.0 °C	-1.8 °C
Discharge Temperature	88.0 °C	61.0 °C
Motor Current	30 Amps	30 Amps

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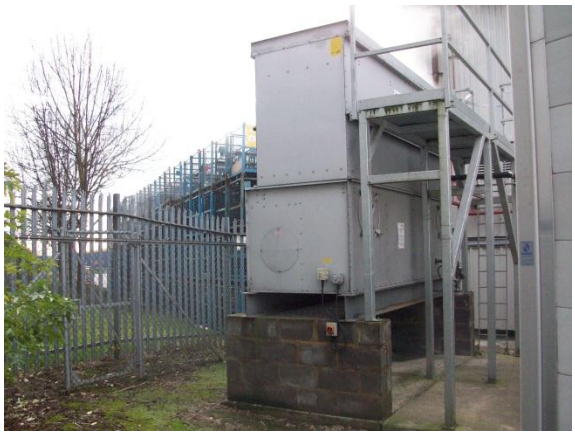

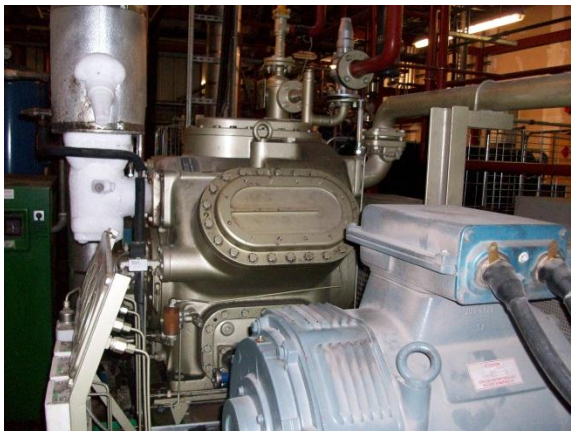

Since the completion of this project in May/June 2010, Greencold have carried out regular maintenance and leak testing, and the customer has been pleased with the operation of the system since the conversion. With running conditions and compressor amps being very much similar to when R22 was in use, any capacity loss has been minimal. The most significant benefit to arise from the introduction of ISCEON® MO29 has been the lower discharge temperatures, which has allowed the bakery to dispense with the water cooling for the MT compressor cooling heads – resulting in a reduction in operation cost.

For further information please contact: Laura Haim, Marketing Co-ordinator for Climalife in the UK.

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