DuPont™ ISCEON® REFRIGERANTS

CASE STUDY- ISCEON® MO29 (R422D)

Daikin Water Chiller

Conversion of a Daikin Dx water chiller from R22 to ISCEON® MO29.

The Daikin water chiller monitored was one of three circuits each having Twin 6 cylinder reciprocal compressors. An oil change to a Polyol Ester oil (Mobil EAL 32) was made due to the way the unit operated on start up. Flushing the system free of mineral oil was not required. No other modifications were made to the unit, although the superheat settings were adjusted and optimised for ISCEON® MO29.

	R22	**ISCEON®MO29**
Evaporating Pressure	49 Psig	60 Psig
Evaporating Temperature	-4ºC	-1.8ºC bubble 1.7ºC dew
Discharge pressure	238 Psig	238 Psig
Discharge temperature	76.3ºC	63ºC
Condensing Temperature	45ºC	43ºC bubble, 45ºC dew
Superheat	13 K	7K
Subcooling	2K	2 K
DT(water in/out) (Max. Observed)	1.85ºC	1.70ºC
Power consumption	35.8 kW	32.6 kW
Power Factor	0.76	0.74
Amps per Phase	61.8 / 63.9 / 61.4	59.0 / 61.8 / 59.1
Ambient	24ºC	26.5ºC

Generally ISCEON® MO29 ran with a higher suction pressure than R22, although discharge pressures were similar. The most notable operating difference was a reduction in discharge temperature.

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A reduction in power consumption of 8.9% was recorded on conversion to ISCEON® MO29.

Note; This case study was originally produced in 2003 and the conversion to ISCEON® MO29 was carried out prior to this refrigerant becoming part of the DuPont™ ISCEON® 9 Series refrigerant family

Please consult our website www.idsrefrigeration.co.uk for further product information and conversion guidelines.

IDS REFRIGERATION LIMITED

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The information contained in this document is given in good faith based on our current knowledge.
We guarantee that our products comply with our sales specifications.
This information must on no account be used as a substitute for necessary prior tests, which alone can ensure that a product is suitable for a given use.

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