

Fact Sheet

Use anti-fouling additive on compressors

Introduction

Refrigeration often uses the largest amount of energy on farms. Ensuring the refrigeration system and all its associated components, such as compressors, are functioning as efficiently as possible is an effective way of reducing energy costs.

Situation

Oil is used as a lubricant in refrigeration compressors for cool rooms and vacuum coolers. During the operation of a compressor, oil can build up inside the refrigerant piping and reduce the efficiency of the temperature transfer in the system, in a process called oil fouling.

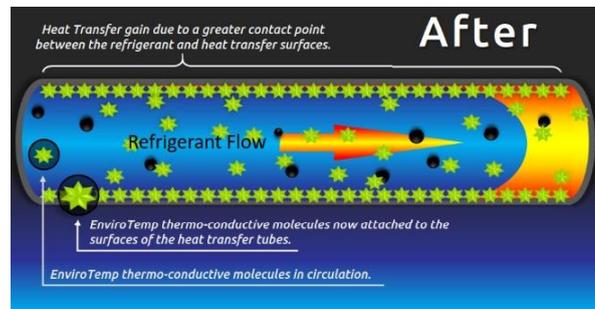
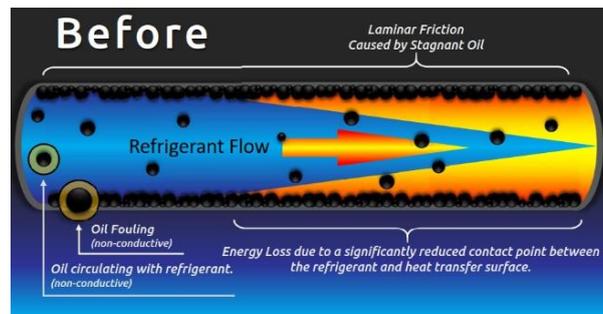


Figure 1: Oil fouling visible on the outside of a compressor

The American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) estimates that oil fouling as a result of normal operation reduces the efficiency of the refrigeration system by 7% after the first year and another 5% the second year.

Oil build up in piping can be removed through the addition of an anti-fouling additive to the refrigerant line. Many additive options are available on the market, but it is crucial that only products that have been extensively and independently tested are used. EnviroTemp is a suitable for a refrigeration system and is one of the only additives specifically tested and proven to be effective on large scale.

The following diagrams show how the EnviroTemp additive effectively removes contaminant build-up of oil fouling



Potential savings

Use of the anti-fouling additive at a farm can result in savings associated with increased energy efficiency and reduced maintenance requirements for the compressor.

Electricity savings (kWh p.a.)	14,300
Cost savings (\$ p.a.)	\$2,419
Maintenance savings (\$/p.a.)	\$603
Estimated Capex (\$ ex GST)	\$12,3650

Further information

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