

Lubricants for Natural Refrigerants

The latest research results show that ammonia refrigeration oils can mix homogeneously with the refrigerant resulting in a significant viscosity drop. This is particularly important for high temperature applications such as heat pumps. Synthetic ammonia refrigeration oils with their high natural viscosity index (VI) are therefore the first choice. They show excellent flowability and highest thermal stability combined with low evaporation losses.

Hydrocarbon refrigerants are known for their negative impact on lubricant film strength. However, refrigeration oils based on specifically chosen polyalkylene glycol structures display only a restricted dilution. Due to their high VI (180 to 200) and their polar structure, these lubricants serve as reliable solutions for hydrocarbon refrigerants like propane or propylene.

Suitable oils for CO₂ applications are polyolester-based refrigeration oils that fulfill the following requirements: miscibility over a high temperature and concentration range, high thermal stability and reliable lubricating properties also under high pressure CO₂ atmosphere.

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