Capella® HFC

Synthetic Refrigeration Compressor Oil

Product description

Capella® HFC is a fully synthetic compressor lubricant designed with polyol ester technology for use in refrigeration and air conditioning compressor systems.

Customer benefits and product features

Customer benefits

- **Synthetic polyol ester lubrication technology**
  Promotes thermal and chemical stability when used with chlorine-free hydrofluorocarbon (HFC) refrigerants, especially R134a.
  Promotes oil/refrigerant miscibility over a wide operating temperature range.

Product features

- **Capella® HFC** promotes thermal and chemical stability with HFCs, especially R134a. Miscible with R134a over a wide temperature range.

Applications

- Designed specifically for use with chlorine-free HFC refrigerants, including R134a, R404a and R410a.
- Capella® HFC oils are suited to various applications dependant on viscosity, including refrigeration systems, and semi-hermetical, hermetical, open and screw compressors
- Capella® HFC oils have been used successfully in various refrigeration compressors including units from Bitzer, Bock, Carrier, Century, Daikin, Hi Air Korea, Namirei, Sabroe, Ushio Reinetsu, and York. Viscosity grade selection depends on the individual compressor unit.

Not recommended for use in breathing air compressor

Note: Capella® HFC lubricants readily absorb moisture from the surrounding air, which can cause system performance problems. Capella® HFC packages should be kept sealed until time of use and should not be reused once opened.

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Service considerations

Owing to environmental concerns, chlorofluorocarbon (CFC) refrigerants are being phased out and replaced by HFCs, as agreed under the 1987 Montreal Protocol. Conventional mineral or non-polar synthetic lubricants are not suitable for use with these new refrigerants, as some degree of solubility/miscibility is necessary. This is to ensure satisfactory lubrication of the compressor bearings and to facilitate oil return from the refrigeration system.

Conventional mineral oils or alkylbenzene lubricants are not miscible in highly polar HFC refrigerants. Immiscibility of the lubricant and refrigerant can lead to an accumulation of the lubricant in the condenser and evaporator, reducing heat transfer and impeding the flow of refrigerant through the system. In low temperature applications, the accumulation of lubricant could solidify in the expansion device, causing system malfunctions. Lack of lubricant return from the evaporator can lead to excessive wear of system components and compressor failure due to lubricant starvation.

Capella® HFC grades have good miscibility with conventional mineral oils and alkylbenzenes. Retrofitting refrigeration systems from CFC or HCFC refrigerants to HFC 134a can be simplified, as there is no need to completely flush out the system oil prior to filling with Capella® HFC.

Capella® HFC grades are not recommended for use in ammonia refrigeration systems. Chevron recommends Capella® P or Capella® A for such systems.

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Typical test data

CAPELLA® HFC KEY PROPERTIES	RESULTS		
ISO Grade	**32**	**55**	**100**
Product Code	**560570**	**565020**	**560573**
Acid No., mg KOG/g	0.03	0.03	0.03
Density, kg/L @ 15°C	1.004	1.009	0.970
Pour Point, °C	-57	-48	-30
Viscosity, Kinematic,			
mm²/s @ 40°C	32	55	100
mm²/s @ 100°C	6.1	8.8	11.4
Viscosity Index	140	137	100

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ENVIRONMENT, HEALTH and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the Product Information Center.

This Product Data Sheet (PDS) was produced for the Asia Pacific region based on the best available information at the time of issue. The specific information included may not directly reflect the market or conditions, and may vary. For the most up-to-date, country-specific information, please contact your local customer service center.