



Polyester-Based Synthetic Refrigeration Oils



Capella® HFC (polyolester) synthetic oil helps ship owners address environmental issues and regulations and minimize the number of different lubricating oils used onboard. Specifically developed for use with HFC (chlorine-free) refrigerants, such as R134a and R404a, Capella HFC exhibits excellent performance in HFC systems.

Application Guidelines

Capella HFC should only be used in systems designed to operate with chlorine-free refrigerants. When a ship's onboard refrigeration system is converted to an environmentally acceptable HFC refrigerant, the new system must use a synthetic polyolester-based compressor lubricant. Polyolesters are the best lubricant for HFC systems because they have low miscibility of the refrigerant, outstanding thermal stability, and excellent deposit control.

Do not use Capella HFC in compressors using conventional HFC and HCFC (chlorinated) refrigerants such as R12 and R22. Using the oil in these compressors can cause difficulties related to differences in the design of compressor systems.

Polyolester-based synthetic refrigeration oil can also be used in older compressors using conventional refrigerants. Using polyolester-based synthetic refrigeration oil in systems still using conventional

refrigerants, however, can increase the level of water in the lubricating oil. In time, this increase can lead to serious copper-plating problems and rapid oil degradation.

Additionally, compatibility with different sealing materials can be a problem because polyolester-type lubricants are hygroscopic and easily absorb moisture. To avoid moisture absorption, special filters/dryers are incorporated in systems designed for HFC refrigerant gases. For this reason, Capella HFC is supplied in small packages to avoid long storage time after the product is opened.

Refrigerating systems that convert HFC gases not only have to change to a polyolester-type lubricant, such as Capella HFC, but must also modify their filters/dryers, control devices and seals. Conversion of refrigerating systems to chlorine-free HFC refrigerants and systems should always be done in close cooperation with the system's manufacturer. ■