

BRA Fact finders

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NEW LUBRICANTS FOR NEW REFRIGERANTS

New lubricants may be needed when using new refrigerants. Synthetic lubricants have been developed which behave in a similar way to the conventional lubricants, making the application of the new refrigerants straightforward. These synthetic lubricants are called **POLYOLESTERS** or just **ESTERS**. They are new to the refrigeration industry, but they have been used for some years in specialised applications such as jet aircraft engine lubrication.

You should attend to the following when working with these lubricants.

CORRECT LUBRICANT: The products offered by the oil companies can have different properties, and additives are sometimes present in the oil. It is important that the correct choice of lubricant is made. The golden rule is to use the compressor manufacturer's recommended brand and grade of lubricant. They will have approved certain grades for use with new refrigerants and their recommendation should always be followed.

SAFETY: The Esters are not harmful if handled in the proper manner. The lubricant supplier will be able to supply relevant safety data sheets.

MOISTURE: All oils absorb moisture to some extent, and moisture can cause corrosion in the refrigeration system. This is why dryers are installed. With Ester lubricants, the moisture is absorbed much more rapidly than with conventional oils and so

- ALWAYS keep containers sealed.
- ALWAYS minimise the time the system is open to atmosphere.
- ALWAYS use small containers for top-up and disposal of remnants.
- ALWAYS install correct dryers suitable for new refrigerants, and change them frequently if there is a possibility of moisture in the system

It is best if the moisture in the system is below 50 ppm. Sight glass indicators are available to monitor this.

RETROFIT: Procedures for changing refrigerants are available from various sources. Normally the oil must be changed and the quantity of old oil remaining has to be very small. The Ester oil will tend to attract dirt from the system. It has a "scouring" effect. New filters must be installed just as if the system is being run for the first time.

DARK OIL: Sometimes, particularly after retrofit, the Ester oil will darken in colour. This need not cause alarm. It may be caused by an additive changing in colour as it functions. If dirt particles are present the oil should be changed and the filters checked.

For further information and a copy of the BRA product directory, showing the products and services that companies provide, contact:

BRITISH REFRIGERATION ASSOCIATION -Henley Road, Medmenham, Marlow,
Bucks SL7 2ER Tel (01491) 578674. Fax (01491) 575024.

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