

# TECHNICAL INFORMATION COMMUNICATION



**United  
Technologies**  
Building & Industrial Systems

Quality and Continuous Improvement

**Number:** TIC2014-0006

**Date:** 3/24/2014

**Title:** R-22 Compressors with POE oil

**Product Category:** Cooling Products

## Products Affected

All service R-22 replacement compressors.

All production dry R-22 condensing units scheduled for release June 2014.

## Situation

Copeland has released R-22 compressors with POE oil instead of Mineral Oil (MO).

- Replacement Components (RC) began distributing the POE compressors as early as February 2014.
- Factory production of dry R-22 units will incorporate the POE compressors (using a minor series change in model number) in June 2014.

These new R-22 compressors with POE can be identified as follows:

- By an "E" in the compressor part number 7<sup>th</sup> position.
  - Example: ZR34K5-PFV (MO) vs ZR34K5E-PFV (POE)
- The compressor data plate will list oil type.

## Technical Information

Copeland Bulletin SB2013CC-1 R1 was released to confirm that POE oil is an approved lubricant in all R-22 Copeland Scroll Air Conditioning (AC) and Heat Pump (HP) residential applications.

The position of Building & Industrial Systems (BIS) regarding production and service practices for R-22 units is as follows:

1. POE oil is miscible with R-22 and backward compatible with MO. There is no concern with residual MO in the system or percentage of mixture of the two oils. Mixture of both oils at any percentage will lubricate and return with the R-22 refrigerant.
2. No additional system cleaning is required unless system cleanliness is of concern, such as in the case of a compressor replacement due to overheat (burn-out), etc.
3. The ONLY refrigerants approved at this time by BIS are the unit manufactured nameplate refrigerants, R-22 or R-410a. No alternatives are approved at this time for residential air conditioners and heat pump products.
4. Use of approved filter driers is required with all POE oil applications. Refer to table below and note:

Only trained and qualified personnel should design, install, repair and service HVAC systems and equipment. All national standards and safety codes must be followed when designing, installing, repairing and servicing HVAC systems and equipment. It is the responsibility of the Dealer to ensure local codes, standards, and ordinances are met.

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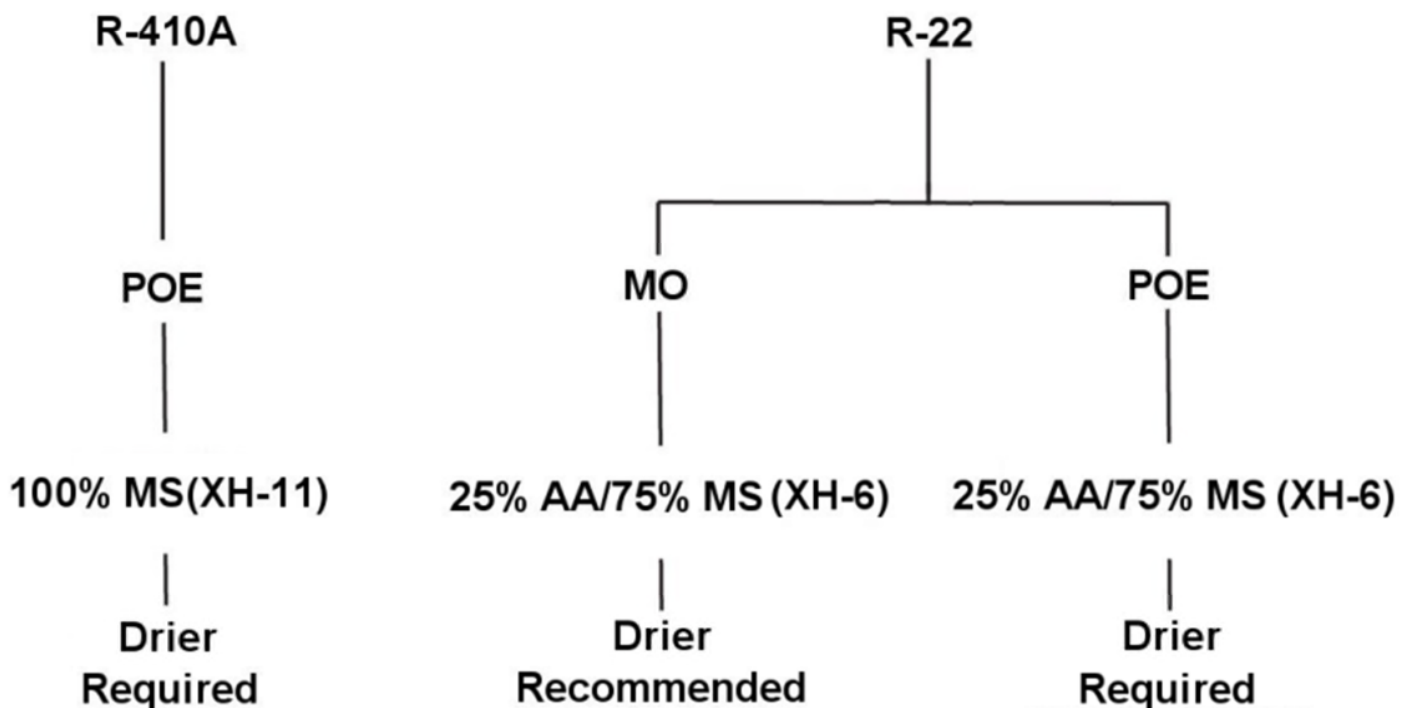


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- a. RC filter driers include the correctly sized driers and moisture capability for applicable serviced applications. Utilizing the RC selected driers removes the risk from the contractor to size driers for the application.
- b. The oil type (POE or MO) determine if the drier is required or recommended. POE oil will require a drier because it has a higher potential to absorb moisture.

Table of approved Refrigerants, Oils and Driers.



MS= Molecular Sieve desiccant substance  
 AA=Activated Alumina desiccant substance  
 MO= Mineral Oil  
 POE= Polyol Ester Oil

Required= approved liquid line filter drier is required to be installed.

Recommended= approved liquid line filter drier is strongly recommended to be installed.

## References

Copeland Bulletin SB2013CC-1 R1, Feb. 2014

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