



Tech Tip

Replacement Refrigerants Residential HVAC

Do's and Don'ts

Do:

- Consider all options, R22 Domestic, R22 Foreign, R22 Reclaimed, R422D retrofit refrigerant, R22 Dry Shipped Mineral oil Condenser, R407C POE oil Compressor, R407C Dry Shipped POE oil Condenser, R410A replacement unit.
- Check on Manufacturers Warranty on any equipment.
- Calculate the efficiency and capacity loss prior to retrofit.
- Prior to charging, understand Glide... Subcool - Bubble point and Superheat - Dew point pressure/ temperature.
- Charge HFC refrigerants only as a liquid
- Change elastomers (gaskets) schrader vales, pump down valves etc.
- Anticipate needing metering device adjustment, or replacement, to a larger orifice
- Check charge by using both Superheat AND Subcooling
- Remember, when using on a heat pump, discharge temperatures are significantly lower which will reduce heating capability
- Remember HFCs are not miscible with mineral oil, use caution with traps, long runs, receivers, etc.
- Label all equipment with retrofitted refrigerant type, and quantity.

Do Not:

- Mix refrigerants Re: EPA's Significant New Alternatives Policy (SNAP)
- Top off blended refrigerants, they may fractionate, and should be replaced

Did you know:

- R422D was manufactured to be used with Mineral oil, but it is also a retrofit refrigerant that can be used with POE, for better oil return.
- R407C can be used with Dry shipped units with POE oil compressors.
- Copeland's only approved replacement of R22, is R407C with POE
- R407C with POE oil has virtually the same:
 - Mass Flow rate, Capacity, Efficiency, Pressures, Discharge temperature, and Oil return capabilities of R22.