Freon™ Hot Shot-2

Refrigerant (R-417C)

Product Information

Freon™ Hot Shot-2 (R-417C) is a non-ozone depleting A1 refrigerant that can be used as a direct replacement into existing systems that are still operating with R-12, R-134a, or R-500. Freon™ Hot Shot-2 is compatible with traditional and new lubricants; in most cases, no change of lubricant is required.

Applications

- R-12 and R-134a low, medium, and high temperature refrigeration
- R-12 and R-500 air conditioning

Benefits

- EPA SNAP listed for stationary equipment only
- Designed for systems utilizing direct expansion devices
- No TEV or cap tube replacement
- Compatible with AB, MO, and POE lubricants

ASHRAE Number	R-417C
Composition	R-125/R-134a/R-600
Weight %	19.5/78.8/1.7
Molecular Weight	103.73 g/mole (103.73 lb/lb mole)
Boiling Point at 1 atm (101.3 kPa)	-32.59 °C (-26.65 °F)
Critical Pressure	4073.767 kPa [abs] (590.85 psia)
Critical Temperature	95.4 °C (203.7 °F)
Liquid Density at 21.1 °C (70 °F)	1194.98 kg/m^3 (74.6 lb/ft^3)
Ozone Depletion Potential (CFC-11 = 1.0)	0
AR5 Global Warming Potential	1643
ASHRAE Safety Classification	A1
Temperature Glide	-3 K (-5.4 °R)

Conversion Recommendations and Guidelines

System must be designed for use with R-12, R-134a, and R-500 systems—in sound operating condition and free of leaks. Freon™ Hot Shot-2 is designed for use in systems utilizing direct expansion metering (e.g., TXV, orifice, cap tube). Change from CFC or HCFC to HFC refrigerants may cause a retraction in O-rings and elastomers. Replace these items after recovery of the original refrigerant.

1. **Record Pre-Conversion System Data**
   Prior to conversion, operating conditions should be monitored and recorded for future reference.
2. **Recover Original Refrigerant**
   In accordance with EPA guidelines, 100% of the refrigerant must be recovered from the system.
3. **Perform Oil Analysis**
   Test system oil for acidity, water, and solids. If detected, perform a complete system oil change using OEM specified oil and charge size.
4. **Install New Filter Drier and Oil Filter**
   Oil analysis will inform which filter drier type should be used. Systems with coalescent oil separators and/or compressor oil filters need to be changed as well.
5. **Leak Check System**
   Pressure test system with dry nitrogen. DO NOT exceed system's design pressure.
6. **Evacuate System**
   Pull a minimum 500-micron vacuum to remove non-condensables and moisture.

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7. **Charge System**
   Turn over cylinder, and charge system with LIQUID ONLY. Refrigerant can be added directly into the receiver tank or high-pressure side of the system with compressor off. Charge ratios will vary based on system design and application. Initial charge should be 80% of original refrigerant's weight.

8. **Run System**
   Check pressure, subcooling, and superheat temperatures. If additional refrigerant is needed, add in 5% increments. DO NOT exceed 115% of the original charge.

9. **Properly Label System**
   Avoid mixing refrigerants by properly labelling the system.

10. **Post-Conversion Leak Check**
    Perform a thorough leak check as system operation begins post-conversion.

11. **Record Post-Conversion System Data**
    Monitor and evaluate system performance. Record data. This information should be compared to the pre-conversion data.

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For more information on Freon™ refrigerants, visit freon.com

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