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

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.

<table>
<thead>
<tr>
<th>ASHRAE Number</th>
<th>R-417C</th>
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<tbody>
<tr>
<td>Composition</td>
<td>R-125/R-134a/R-600</td>
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<tr>
<td>Weight %</td>
<td>19.5/78.8/1.7</td>
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<tr>
<td>Molecular Weight</td>
<td>103.73 g/mole (103.73 lb/lb mole)</td>
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<tr>
<td>Boiling Point</td>
<td>-32.59 °C (-26.65 °F)</td>
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<tr>
<td>Critical Pressure</td>
<td>4073.767 kPa (abs) (590.85 psia)</td>
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<tr>
<td>Critical Temperature</td>
<td>95.4 °C (203.7 °F)</td>
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<tr>
<td>Liquid Density</td>
<td>1184.98 kg/m³ (74.6 lb/ft³)</td>
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<tr>
<td>Ozone Depletion</td>
<td>0</td>
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<tr>
<td>AR5 Global Warming</td>
<td>1643</td>
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<tr>
<td>ASHRAE Safety</td>
<td>A1</td>
</tr>
<tr>
<td>Temperature Glide</td>
<td>-3 K (-5.4 °R)</td>
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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.