Arkema Retrofit Data Sheet

System Description / Location _____

System OEM _____ Model # _____ Serial # _____

Compressor OEM _____ Model # _____ Serial # _____

Original Refrigerant _____ Charge Size _____

Original Lubricant _____ Charge Size _____

New Refrigerant _____ Charge Size _____

New Lubricant _____ Charge Size _____

Original Filter-Drier Manufacturer _____ Model # _____

Replacement Filter-Drier Manufacturer _____ Model # _____

Expansion Device Type _____ OEM _____ Model # _____

Other System Changes (i.e. elastomers) _____

_____

Date						
Ambient Temp (°F / °C)						
Relative Humidity (%)						
Refrigerant						
Compressors						
Suction Temp (°F / °C)						
Suction Pressure (psig)						
Discharge Temp (°F / °C)						
Discharge Pressure (psig)						
Motor Amps						
Box / Case Temp (°F / °C)						
Evaporators						
Refrigerant In Temp (°F / °C)						
Refrigerant Out Temp (°F / °C)						
Coil Air/H_2O In Temp (°F / °C)						
Coil Air/H_2O Out Temp (°F / °C)						
Condensers						
Refrigerant In Temp (°F / °C)						
Refrigerant Out Temp (°F / °C)						
Coil Air/H_2O In Temp (°F / °C)						
Coil Air/H_2O Out Temp (°F / °C)						
Expansion Devices						
Inlet Temp (°F / °C)						
TXV Adjustment (turns)						
Run / Cycle Time						
Superheat (°F / °C)						
Subcooling (°F / °C)						
Pressure Cut In / Out (psig)						

Retrofit Procedure for R-22 → R-407C, R-407A, or R-427A

1. Establish baseline performance. Note the oil type in use and any system operating data (if system is operating properly). Check for existing leaks and identify any needed repairs.

2. Recover the existing refrigerant charge (DO NOT vent to atmosphere). Weigh the amount of refrigerant removed.

3. Perform any repairs identified in step 1 and fix any leaks.

4. Replace the filter-drier and, if necessary, elastomeric seals (O-rings, Schrader valves, etc...). Verify the condition of the system oil; replace if necessary.

5. Determine oil change requirements.
   a. POE is recommended lubricant for R-407C, R-407A, and R-427A.
   b. For R-427A - if an oil separator is in use and reliable oil return with R-22 is established, replacement of the original mineral oil/alkylbenzene may not be needed (skip to step 7). Otherwise, proceed to step c below.
   c. Drain the existing mineral oil or alkylbenzene from the compressor sump, suction line accumulators, etc... Record the amount of oil removed.

6. Add an equivalent amount of OEM recommended POE oil. In some cases, additional oil flushes may be required to meet OEM recommendations. With R-427A, multiple oil flushes are typically not required.

7. Evacuate the system (less than 500 microns) and ensure it maintains a vacuum. If vacuum is lost, it may indicate that leaks are present in the system.

8. Charge the system with the new refrigerant, as liquid only from cylinder. The charge weight for R-407C should be approximately 90 – 95% of the weight of R-22, or 95 – 100% for R-407A or R-427A.

9. Adjust TXV set-point and/or refrigerant charge to achieve the desired superheat. Low side pressure control settings may also need to be adjusted.

10. If possible, monitor the oil level in the compressor. Adjust oil amount as necessary to attain normal operating level (mid-sight glass). Perform additional flushes only as required.

11. Label system clearly, indicating the type and amounts of system refrigerant and oil.