Technical Bulletin

TIPS FOR RECOVERING A3 AND A2L HYDROCARBON REFRIGERANTS

Always use a refrigerant scale to monitor the safe fill weight before recovery. Float valve cylinders are not recommended.

Check the pressure in the system before commencing recovery in low ambient conditions. The HC-3 unit needs 0.5 barg in the plant to start automatically. If the plant pressure is below 0.5 barg then use the 'LP Override' switch momentarily.

Use standard recommended recovery techniques, i.e. push-pull as indicated in the HC-3 unit operating manual.

Check the recovery cylinder is a suitable dual port, yellow top, with enough free capacity. For HC refrigerants the safe fill weight is 45% of the HFC weight, generally stamped on the cylinder shroud.

When recovering from large plant the recovery rate can be increased by using evacuated cylinders.

If recovery is slower than expected check the pressure and temperature of the recovery cylinder and use a P-T comparator to check for non-condensables.
Non-condensables like air, nitrogen and moisture will increase recovery time and can be avoided by proper system evacuation and purging of hoses.

Use the shortest ball valve hoses with the largest diameter to minimize pressure drop. Remove schraeder valve depressors and cores. Check hose gaskets for deformation.

Always use the 'Unit Discharge' function between jobs and drain oil separated in the unit heat exchanger.

As the pressure in the plant decreases so does the density of the refrigerant vapour being recovered, hence the mass flow decreases proportionally. NOTE: The density of HC's is approximately 45% that of HFC's, therefore recovery rates are slower.

Schraeder valve cores restrict flow by 90% and valve core depressors by 40%. To increase the refrigerant recovery rate, it is recommended to remove restrictive valve cores and depressors.

If plant pressure has equalised in low ambient conditions the refrigerant pressure and density will be low, resulting in a slower mass recovery rate.

Ensure full flow on the output side by fully opening the valves on the recovery tank and connecting to the vapour port.

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