Managing refrigerant contamination – Home-grown innovation helping the environment

The success of the environmental licence scheme in reducing emissions of harmful refrigerants into the atmosphere is aided by innovation. Two such innovations have been brought to our attention recently: both A-Gas and JVAC have produced initiatives that make refrigerant safety, quality and recovery a prime focus.

A-Gas Refrig Health Check™

Cost pressures on contracting organisations may at times impact systems maintenance. However, reduced systems maintenance may result in additional costs in the long-run due to a greater likelihood of equipment breakdowns, refrigerant leakage and reduced energy efficiency. Therefore, it is clear that insufficient maintenance is bad for business, as well as the planet.

Since the legislative change in the form of an HFC phase-down which came into effect in January 2018, HFC refrigerant pricing has increase due to a reduction in availability. Therefore, it is always good practice to establish better practices with regards to maintenance and leak prevention, which in turn will deliver increasing cost benefits over the years to come.

The A-Gas Refrig Health Check™ (RHC) is designed to support this requirement by making 'best practice' easier to achieve. The RHC is a boxed product which contains all required equipment allowing an engineer to take both oil and refrigerant samples from a running HVAC&R system. Samples are then returned via TNT to the A-Gas Quality Control Laboratory in Victoria. The subsequent analysis of these fluids identifies any contaminants and allows A-Gas to give advice on how to remove them to improve system performance, energy efficiency and extend working life. The RHC assists contractors with troubleshooting high maintenance systems, as a method of targeting maintenance to the specific needs of a system and as an insurance policy against compressor damage and system downtime.

Use of the RHC will allow system owners to identify if:

- Refrigerant is contaminated with another gas
- 400 series zeotropic blends have fractionated
- Refrigerant is moisture contaminated
- Refrigerant has become acidic
- Oil has become moisture contaminated
- Oil viscosity is incorrect
- System parts are suffering wear due to poor oil performance

RHC™ can also log system serial numbers, providing a benchmark on the system health and allowing historical comparisons of results. This enables system owners to check if remedial actions have been successful.

More details are available at: https://www.agas.com/au/products-services/laboratory-and-analytical-services/refrig-health-check/

RECO GT refrigerant recovery and leak detection machine by JVAC

The RECO GT refrigerant recovery and leak detection machine is specially designed by JVAC engineers to be the most appropriate and cost-effective solution to achieve sustainability in recovery and leak detection.

JAVAC the JAVAC RECO GT has been developed to recover both liquid and vapour refrigerant from chiller systems and transfer the refrigerant to suitable tanks, preventing loss into the atmosphere. There is both manual and automatic operation available with the unit, providing both flexibility and cost savings. By choosing the RECO GT system, businesses not only benefit by being environmentally sound but also gain:

- Lower operation costs
- Reduce carbon footprint
- Reduce liability and risk
- Enhance marketability through higher return on investment

The solution is suitable for a range of systems including air conditioning and commercial refrigeration and best suited in a plant room environment. The engineers at JAVAC can consult a project team from layout and chiller specifications to the plant location, together with service backup and technical support. The units can be customised for individual applications from small package systems to large multi chiller plants.

More details are available at: https://www.javac.com.au/online-store/Reco-GT-Recovery-Unit-p143303779