



A2L & Vacuum Pump Suitability

A2L “mildly flammable” refrigerants, such as R32 and R1234yf, are becoming increasingly popular due to better efficiencies and lower ODP/GWP numbers than other refrigerants. However, due to the mildly flammable nature of these refrigerants, it is important to ensure proper technical training and compatible equipment is in place prior to evacuating systems that use these refrigerants.

Unlike A3/hydrocarbons, A2L refrigerants are characterized by a lower burning velocity, as well as only igniting due to a combination of a high leak rate and significant, focused ignition energy. For example, static electricity is unlikely to ignite a small leak of R32 on an outdoor unit. Also, once ignited, A2L refrigerants have a “very slow” burning velocity.

For evacuation equipment, it is important that adequate airflow is present to prevent accumulation of any leaked refrigerant near the vacuum pump. It is also important that this airflow keeps the pump components cool; it is not enough to simply have airflow nearby.

As a matter of “best practices,” it is very important that a system that contained A2L refrigerants has had the refrigerant charge completely removed prior to beginning evacuation procedures with a vacuum pump.

The Appion Tez8 vacuum pump utilizes a high-speed gear-driven fan assembly, generating over 600cfm of cooling airflow through the machine. This prevents any accumulated refrigerant leaks at or near the machine or its electrical components, while keeping the pump cool.

With proper training and technical procedures, the Tez8 vacuum pump can safely be used to recover A2L refrigerants, in accordance with relevant regulatory guidance.

Always use “best practices” when it comes to safe handling of refrigerants and HVAC/R systems containing these substances!