

AIR TECH NOTE

#2004-008

Date: 12-01-04

By: Tom Quello, Service Manager

Subject: Automatic Purger Installation

As outlined in the November Tech Note "Noncondensable Gas in a Refrigeration System", noncondensable gasses will have a negative impact in a refrigeration systems operating efficiency.

Due to current regulations the purging of noncondensables needs to be completed in a safe and efficient manner. Today's automatic purgers have been designed with this in mind.

Advantages of an automatic purger:

- Employees are not exposed to the dangers of manual purging (positioning, exposure).
- Noncondensable gasses mixed with small amounts of refrigerant gas are disposed of in a safe and legal manner.
- The refrigeration system is continually disposing of noncondensables, as necessary, to keep it at its highest operational efficiency.
- Low-pressure ("Hg Vacuum") leaks may be detected due to increased purger activity.

An automatic purger is essentially a flooded heat exchanger (evaporator chamber) that will condense the noncondensable and refrigerant mix (foul gas). Liquid, which has condensed, will be returned to the refrigerant system and the noncondensable gas will remain in the purger until it is disposed.

Installation of an auto purger will require:

- A high pressure refrigerant liquid connection
- A low pressure suction (wet) connection
- Foul gas connections
- Fresh water connection
- Sanitary drain connection
- 230/115 volt electrical connection as specified

Foul gas connections need to be piped to the purger, pitched down towards the purger and there must be NO traps in this piping.

Typical foul gas connections are located:

- At the top of the outlet pipe of each circuit of a condenser. The manufacturer may supply this connection.
- At the top of a high-pressure receiver, pilot receiver, controlled pressure receiver or hot gas heat exchanger. This connection is generally designed and installed by the vessel manufacturer to be in an area with the lowest gas velocity and temperature.

A solenoid valve is to be installed at each purge location and will be wired to the purger control panel.

Foul gas connections of lower operational pressure will require a check valve following the purge solenoid valve.

Questions or concerns regarding Installation of Automatic Purging Systems please contact our office at: 1-800-279-9031.