If trouble persists, please contact Vortec at 1-800-441-7475.

1. Undersized compressed air line size.
2. Insufficient cooling may be caused by the following:
   -过高表面温度
   -Elevated Surface Temperatures

   -Because the HazLoc Vortex A/C operates using the vortex principle, hot exhaust air is generated and released at low pressure from the opening in the stainless steel shroud on the back of the unit. This exhaust air can reach temperatures up to 225°F (107°C) under normal conditions. Normal conditions are compressed air inlet pressure of 90 to 100 psig (6-7 bar) and air temperature of 100°F (38°C). Enclosure temperatures within the range specified. In some applications, the HazLoc Vortex A/C may run continuously at lower air usage with the benefit of always keeping the enclosure under slight internal pressure. In other applications, the HazLoc Vortex A/C may cycle on and off to maintain enclosure temperatures. When the HazLoc Vortex A/C is not cooling, the Check Valve closes shutting off the air from the enclosure interior to the exterior and allowing the purge/pressurization system to maintain slight pressure in the enclosure. Do not apply excessive heat or a flame to the exterior and allowing the purge/pressurization system to maintain slight pressure in the enclosure.

   -Maximum Airflow (SCFM) through Pipe at 5 PSIG Pressure Drop (100 PSIG and 70°F)

   -Maximum Airflow (SLPM) through Pipe at 0.3 Bar Pressure Drop (6.9 Bar and 21°C)

   -Limited Warranty

   -HazLoc Vortex A/C compressed air enclosure cooling products manufactured by ITW Air Management will be replaced or repaired if found to be defective due to manufacture within ten years from the date of invoice. Refer to our website www.vortec.com for full warranty details and limitations. ITW Air Management makes no specific warranty of merchantability or warrant of fitness for a particular purpose.

   -To determine complete product compressed air consumption (SCFM, SLPM), determine length of compressed air line required for connection to main supply.

   -Locate pipe length in left column and read to the right to find the compressed air requirements.

   -Locate pipe size at top of column.
EXPLOSION HAZARD: Substitution of components may impair safety for Class I Division 2.

1. Do not operate at a HazLoc Vortex A/C at compressed air pressures above 100 psig (7 bar).
2. Do not operate at compressed air temperatures above 120°F (49°C).
3. Avoid direct contact with compressed air.
4. Avoid direct compression against the lines.
5. When using compressed air, wear safety glasses with side shields.

EXPLOSION HAZARD: Substitution of components may impair safety for Class I Division 2.

INTRODUCTION

The Hazardous Location Vortex A/C ("HazLoc Vortex A/C") is designed to cool industrial control cabinets located in hazardous areas. The HazLoc Vortex A/C provides a filtered, dried air flow to the cooling system. The cooling air produced by the HazLoc Vortex A/C in the enclosure will be filtered, dried, and cooled. The cooling system will be vented to the atmosphere to remove water and dirt. The 5 micron filter is supplied for this purpose (Vortec model 701S-24A or 701S-36A) on some models. The compressed air supply to the unit must be shut off before changing the filter element. The compressed air filter should be located in a non-hazardous area so that normal filter element maintenance can be carried out without risk of hazardous substances entering the enclosure. If the compressed air filter must be located in the hazardous area, electric power to the enclosure must be shut off while performing filter maintenance and then routine purge system startup procedures should be followed when filter maintenance is completed. The compressed air supply must be filtered (5 micron maximum) but this filter is not warranted for the HazLoc Vortex A/C.

The compressed air supply to the HazLoc Vortex A/C must be of pressurized air provided to the HazLoc Vortex A/C must be of the proper pressure and temperature for the specific compressor model. The compressed air supply must be filtered (5 micron maximum) but this filter is not warranted for the HazLoc Vortex A/C.

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COMPRESSED AIR SUPPLY

The compressed air system's intake must originate in a non-hazardous area. Compressed air piping must be fabricated from noncombustible materials suitable for the conditions present. The pressurized air supply provided to the HazLoc Vortex A/C must be of the same quality as that used to purge and pressurize the enclosure if it is installed on.

The pressurized air supply must be filtered (5 micron maximum) to remove water and dirt. The 5 micron filter is supplied for this purpose (Vortec model 701S-24A or 701S-36A) on some models. If oil is present in the compressed air supply, remove the oil using an optional 0.01 micron coalescing filter (Vortec model 701S-48 or 701S-54). An oil removal filter is necessary, install it downstream of the 5 micron filter. Locate the filters in a non-hazardous location to facilitate easy filter element changes. Change the filter elements as needed (see Maintenance).

It is recommended to dry the compressed air (to remove water vapor) using a refrigerated air dryer. Failure to dry the air adequately may result in ice in the cooling system (resulting in reduced cooling air flow and cooling capacity.

Supply compressed air to the HazLoc Vortex A/C with 3/8" schedule 40 pipe when the pipe length is less than 30 feet (9m). If pipe length exceeds 30 feet (9m), use 1/2" pipe or contact your local authorized distributor or Vortec for assistance.

MAINTENANCE

The only maintenance involved with the HazLoc Vortex A/C is the replacement of the filter element. If the filter element should be changed when there is a decrease in performance or when pressure drop across the filter exceeds 5 psig (0.3 bar). The compressed air supply to the unit must be shut off before changing the filter element. The compressed air filter should be located in a non-hazardous area so that normal filter element maintenance can be carried out without risk of hazardous substances entering the enclosure. If the compressed air filter must be located in the hazardous area, electric power to the enclosure must be shut off while performing filter maintenance and then routine purge system startup procedures should be followed when filter maintenance is completed.

The HazLoc Vortex A/C has only two moving parts (the mechanical thermostat/valve and the check valve) which are not serviceable in the field. Do not disturb the setting of the thermostat.

1. To check, shut off all electric power to the protected enclosure and follow the purge system shutdown procedures. Shut off the compressed air supply to the HazLoc Vortex A/C. Before opening the enclosure door, allow sufficient time for any internal components to cool.

3. Cut a 1-5/16" (49mm) diameter hole (1-1/2" knockout size) in the selected location of the flat horizontal (or vertical) surface of the enclosure. De-burr any sharp edges around this hole.

4. The HazLoc Vortex A/C has two moving parts (the mechanical thermostat/valve and the check valve) which are not serviceable in the field. Do not disturb the setting of the thermostat. Evidence of tampering with the thermostat may void the warranty.

INSTALLATION

1. The HazLoc Vortex A/C must be installed on the top of the enclosure on a flat horizontal surface of the enclosure. Alternately, the HazLoc Vortex A/C can be mounted on the side of the enclosure. When the unit is side mounted (on a flat vertical surface) the proper orientation of the enclosure and the compressed air inlet must be pointed up, or, the stainless steel shroud must face down toward the floor. If side mounted, it is best if the unit is located so that the cool air flow is perpendicular to the entryway to the HazLoc Vortex A/C. Suitability of the Check Valve, provided with the HazLoc Vortex A/C, is supported by the enclosure. (A 4-3/4" wide x 1-1/2" (121mm x 89mm) area.) Position the unit so that the stainless steel shroud on the back of the unit is away from personnel, if possible. Also, position so that no internal enclosure components obstruct air flow around the mechanical thermostat. The HazLoc Vortex A/C must be located adjacent to the purge system's spark arrestor vent. This will allow the mechanical thermostat to sense temperature of the airflow exiting the vent and respond faster to detect changes in temperature.

5. Inspect the six slots in the generator for foreign material and clean if necessary.

3. Cut a 1-5/16" (49mm) diameter hole (1-1/2" knockout size) in the selected location of the flat horizontal (or vertical) surface of the enclosure. De-burr any sharp edges around this hole.

6. Attach the generator, O-Ring and cold air outlet fitting in reverse order. Tighten the cold outlet fitting to at least 100 inch pounds (11 newton meters) torque.

9. Mount the Cold Air Muffler inside the enclosure near the top of the enclosure. (PURGE SYSTEM SHOWN FOR REFERENCE)

12. Mount the Cold Air Muffler inside the enclosure near the top of the enclosure. (PURGE SYSTEM SHOWN FOR REFERENCE)

Hazardous Location Vortex A/C (Shown Top Mounted on Customer's Enclosure) 900, 1500 and 2500 BTUH Models (Purge System Shown for Reference)

 Freeze alert device recommended. The purge system start up procedures before applying electric power to the enclosure.

9. Mount the Cold Air Muffler inside the enclosure near the top of the enclosure. (PURGE SYSTEM SHOWN FOR REFERENCE)

10. Mount the Cold Air Muffler inside the enclosure near the top of the enclosure. (PURGE SYSTEM SHOWN FOR REFERENCE)

5. Inspect the six slots in the generator for foreign material and clean if necessary.

6. Attach the generator, O-Ring and cold air outlet fitting in reverse order. Tighten the cold outlet fitting to at least 100 inch pounds (11 newton meters) torque.

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