TABLE 1: FILTER RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Vortec Model</th>
<th>Oil Removal Filter</th>
<th>Replacement Generator Kits (5 pc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7315, 7415</td>
<td>7015-48</td>
<td>208KG-15H</td>
</tr>
<tr>
<td>7325, 7425</td>
<td>7015-48</td>
<td>208KG-25H</td>
</tr>
<tr>
<td>7335, 7435</td>
<td>7015-54</td>
<td>208KG-35H</td>
</tr>
</tbody>
</table>

TABLE 2: DETERMINING COMPRESSED AIR LINE SIZE

1. Calculate total product compressed air consumption (SCFM, SLPM).
2. Determine length of compressed air line required for connection to main supply.
3. Locate pipe length in left column and read to the right to find the compressed air requirements.
4. Locate pipe size at top of column.

ELEVATED SURFACE TEMPERATURES

Because the ATEX 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. When the ATEX Vortex A/C is not cooling, the thermostat will regulate an internal valve to minimize compressed air usage and maintain enclosure temperatures within the range specified. In some applications, the ATEX 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 ATEX Vortex A/C may cycle on and off to maintain enclosure temperatures. When the ATEX Vortex A/C is not cooling, the Check Valve closes shutting off the air passage from the enclosure interior to the exterior and allowing the purgation system to maintain slight pressure in the enclosure.

TROUBLESHOOTING

Insufficient cooling may be caused by the following:

1. Undersized compressed air line size.
2. Compressed air pressure at the product is too low.
3. Partial or complete blockage of internal compressed air path, due to dirt.
4. Water vapor in the compressed air supply.
5. Loose cold air outlet fitting. This may occur if not tightened properly after being disassembled for cleaning.

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

WARNING: COMPRESSED AIR COULD CAUSE DEATH, BLINDNESS OR INJURY. METAL SURFACES GET VERY HOT.

1. Do not operate a ATEX Vortex A/C at compressed air pressures above 100 psig (6.9 bar).
2. Do not operate at compressed air temperatures above 120°F (49°C).
3. Avoid direct contact with compressed air.
4. Do not compress air at any person.
5. When using compressed air, wear safety glasses with side shields.

WARNING! Explosion Hazard: Substitution of components may impair suitability for Zone 2 and Zone 22.

SPECIFIC CONDITIONS OF USE

1. When the equipment is to be used on an enclosure intended to be protected by a concept according to EN 60079-36 and EN 60079-37 the pressurised air supply to the equipment must be of the same quality as that used to purge and pressurise the enclosure during enclosure installation.
2. When the equipment is to be used on an enclosure intended to be protected by a concept according to EN 60079-36 and EN 60079-37 the equipment shall be fitted to, and assessed as part of, an approved installation.
3. The equipment shall be suitably earthed (grounded) prior to operation. Earth continuity shall be maintained between the equipment and the enclosure to which it is installed.
4. The equipment shall be mounted to the top or side face of the enclosure to which it is to be installed.
5. When installed, consideration shall be given to the guidance given in PD IEC/TS 60079-32-1 ‘Explosive atmospheres - Electrostatic hazards, guidance’.

INTRODUCTION

The ATEX Vortex A/C is designed to cool industrial control cabinets located in Zone 2 and Zone 22 hazardous locations, using only filtered air. When the ATEX Vortex A/C is used to purge and pressurise the enclosure it is installed on.

The cooling air produced by the ATEX Vortex A/C in the enclosure is collected and filtered Doubles as a blower, sucking in the purge system’s spark arrester vent. The spark arrester vent must be properly sized to accept the additional cold air flow generated by the ATEX Vortex A/C to purge and pressurize the enclosure.

It is the end user’s responsibility to ensure that the correct spark arrester vent is used and that the purge system functions properly when integrated with the ATEX Vortex A/C.

The ATEX Vortex A/C on a sealed and unvented enclosure as pressure in the enclosure will increase and damage or injury could result. The ATEX Vortex A/C has been built in mechanical thermostat that requires no electricity.

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 pressure must always be fed directly to the ATEX Vortex A/C should be of the same quality as that used to purge and pressurize the enclosure it is installed on.

The compressed air supply must be filtered (5 micron maximum) to remove solids or contamination that can damage any valve or component. 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. The 0.01 micron filter is supplied for this purpose (Vortec model 701S-20 or 701S-24).

If 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 change when replacement is required. Pressure drops across the filter element must be monitored.

It is highly recommended to dry the compressed air (to remove water vapor) using a refrigerated air dryer. Failure to dry the air adequately may cause condensate to collect on the air lines or components during cooling, causing freeze-ups and causing damage to the equipment. If the compressed air filter must be located in the hazardous area, the filter shall be selected and supplied by the end user. (When installing the ATEX Vortex A/C, check that the filter is necessary, install it downstream of the 5 micron filter. Locate the filters in a non-hazardous location to facilitate easy filter element change when replacement is required. Pressure drops across the filter element must be monitored.

If the compressed air filter is necessary, install it downstream of the 5 micron filter. Locate the filters in a non-hazardous location to facilitate easy filter element change when replacement is required. Pressure drops across the filter element must be monitored.

When the 5 micron filter is removed, the pressure drop across the filter exceeds 5 psig (0.3 bar). When the 5 micron filter is removed, the pressure drop across the filter exceeds 5 psig (0.3 bar).

The equipment shall be suitably earthed (grounded) prior to applying electric power to the enclosure.

INSTALLATION

1. The ATEX Vortex A/C must be installed on the top of the enclosure on a flat horizontal surface of the enclosure. Alternatively, the ATEX Vortex A/C can be installed adjacent to the top of the enclosure. When the unit is side mounted (on a flat vertical surface of the enclosure), the air intake must be pointing up, or, the stainless steel shroud must face up toward the floor. If the end of the 5/8" (16mm) vinyl tubing is plugged, allow the tubing to cool down completely.

2. Cut a 1-1/16" (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.

3. Remove the 1/2" electrical locknut from the ATEX Vortex A/C. Insert the threaded portion of the ATEX Vortex A/C into the 1-1/16" (49mm) hole in the enclosure. (Be careful not to damage the mechanical thermostat during installation.)

4. From inside the enclosure, screw the 1/2" electrical locknut onto the threads of the ATEX Vortex A/C. Tighten the locknut securely to compress the 1/8" (3mm) thick sealing gasket that is located under the locknut to ensure a gas-tight seal between the ATEX Vortex A/C and the enclosure.

5. Attach the Check Valve assembly to the cold air outlet of the ATEX Vortex A/C (a 3/8" npt threaded nut) inside the enclosure. The Check Valve can be attached to the ATEX Vortex A/C with the supplied 3/8" straight pipe nipple OR with the supplied 3/8" elbow. The orientation of the Check Valve assembly is important, it will function in any position, however, the airflow direction through the Check Valve is important. Attach the Check Valve so that the arrow on the valve points away from the ATEX Vortex A/C. Check Valve assembly is important, it will function in any position, however, the airflow direction through the Check Valve is important. Attach the Check Valve so that the arrow on the valve points away from the ATEX Vortex A/C.

6. Connect the Check Valve assembly to the cold air outlet of the ATEX Vortex A/C (a 3/8" npt threaded nut) inside the enclosure. The Check Valve can be attached to the ATEX Vortex A/C with the supplied 3/8" straight pipe nipple OR with the supplied 3/8" elbow. The orientation of the Check Valve assembly is important, it will function in any position, however, the airflow direction through the Check Valve is important. Attach the Check Valve so that the arrow on the valve points away from the ATEX Vortex A/C. Check Valve assembly is important, it will function in any position, however, the airflow direction through the Check Valve is important. Attach the Check Valve so that the arrow on the valve points away from the ATEX Vortex A/C.

7. Mount the ATEX Vortex A/C into the enclosure cooler near the ATEX Vortex A/C. (With a 1" (25mm) open end wrench). Insert the threaded portion of the ATEX Vortex A/C into the 1-15/16" (49mm) diameter hole in enclosure to install unit.

8. Clean the cavity in the ATEX Vortex A/C that 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. Cut a sufficient length of the 5/8" (16mm) diameter inside diameter vinyl tubing from the supplied 30" (762mm) Cold Air Ducting Kit to connect the outlet of the Check Valve to the Cold Air Muffler. Attach this length of 5/8" vinyl tubing securely onto the hose barb at the Cold Air Muffler and the Check Valve. Ensure that the vinyl tubing has no sharp bends or kinks. Direction of cold air flow through the Muffler is not important.

10. Attach all (or a portion of) the remaining supplied vinyl tubing of the Cold Air Ducting Kit to the opposite hose barb connection on the Cold Air Muffler. Muffs can be punched or drilled into this 5/8" (16mm) tubing to distribute the air to the inside of your enclosure, or, the entire cold air output can be directed to a heat sensitive component. If the end of the 5/8" (16mm) vinyl tubing is plugged, allow the tubing to cool down completely. Use the self sealing vinyl clamps provided in the kit to locate and hold the vinyl tubing.

11. Connect the compressed air inlet (supplied with 74XX models) to the compressed air inlet of the side of the ATEX Vortex A/C with a length of 3/8" (9mm) hose. The compressed air inlet hose shall be connected as close as possible to the ATEX Vortex A/C, in a location where the temperature of the hose is cooler. Allow the compressed air inlet hose to drop across the filter to the purge enclosure it is installed on.

12. Connect the compressed air supply to the air inlet of the filter. See ‘Compressed Air Supply’.