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## OPERATION AND SAFETY INSTRUCTIONS

### Vortex A/C –UL Type 12

MODELS 7115, 7125, 7135, 7615, 7625, 7635,  
7115BSP, 7125BSP, 7135BSP, 7615BSP, 7625BSP, 7635BSP

#### IMPORTANT

READ ALL INSTRUCTIONS BEFORE ATTEMPTING TO OPERATE THIS PRODUCT.

#### INTRODUCTION

A Vortex A/C is designed to use filtered compressed air to cool industrial control cabinets without the use of any refrigerants. Hot air in the cabinet is vented to the surroundings through a built in vent in the Vortex A/C. Noise generated by the Vortex A/C is comparable to normal speech levels. The Vortex A/C has a built in mechanical thermostat that requires no electricity. Simply install on your enclosure and connect the compressed air source...nothing else is required.

#### INSTALLATION

To maintain the UL type 12 rating, the Vortex A/C MUST be installed in one of the following configurations: *Top Mounted*, with the unit in an upright and vertical orientation on a flat horizontal surface of the end user's UL type 12 enclosure. Or, *Side Mounted*, on a flat vertical surface of the end user's UL type 12 enclosure. When side mounted, the compressed air inlet must be pointing upward. Also, when side mounted, rotate the thin round aluminum louvered outlet on the back of the unit so that the louvers point downward to the floor.

1. Position the Vortex A/C on your enclosure so that there is sufficient clearance for the internal mechanical thermostat and cold air outlet, and, so that the entire mounting "footprint" of the Vortex A/C is supported by enclosure. (A 4 3/4" wide x 3 3/8" deep area.) Position the unit so that the round louvered opening on the back of the Vortex A/C is away from personnel, if possible. Also, position so that no internal enclosure components obstruct air flow around the mechanical thermostat. Never block the airflow from the louvered outlet on the back of the Vortex A/C.
2. Cut a 1 15/16" diameter hole (1 1/2" knockout size) in the selected location of the flat surface of the enclosure. Debur any sharp edges around this hole.
3. Remove the 1 1/2" electrical locknut from the Vortex A/C. Insert the threaded portion of the Vortex A/C into the 1 15/16" hole in the enclosure. (Be careful not to damage the mechanical thermostat during installation.)
4. From inside the enclosure, screw the 1 1/2" electrical locknut onto the threads of the Vortex A/C. Tighten the locknut securely to compress the 1/8" thick sealing gasket that is positioned between your enclosure and the Vortex A/C.
5. Determine a suitable location for the Cold Air Muffler inside your enclosure that is close to the cold air outlet of the Vortex A/C. (You will need a surface area of approximately 2" x 9" to mount the muffler.) (The Muffler can be mounted in any orientation-horizontal or vertical.) Using the supplied Muffler Mounting Clamp (with double sided tape), attach this Clamp at the desired location. (Clean the mounting surfaces so that the double sided tape bonds securely.) If desired, this Clamp can be permanently mounted to the enclosure using the supplied mounting hardware. Two (2) 5/32" diameter holes positioned on 3/4" centers must be drilled to mount the Muffler Clamp.
6. Snap the Cold Air Muffler into the Mounting Clamp.
7. Cut a sufficient length of the 1/2" inside diameter vinyl tubing from the supplied #701M-43 Cold Air Ducting Kit to connect the cold air outlet of the Vortex A/C to one of the hose barbs on the Cold Air Muffler. Attach this length of vinyl tubing so that it is free of sharp bends and kinks. Direction of cold air flow through the Muffler is not important.
8. Attach all (or a portion of) the remaining supplied vinyl tubing of 701M-43 Cold Air Duct Kit to the opposite hose barb connection on the Cold Air Muffler. Holes can be punched or drilled into this 1/2" tubing to distribute the cold air evenly inside your enclosure, or, the entire cold air output can be directed to a heat sensitive component. If the end of the 1/2" vinyl tubing is plugged, at least (16) 1/8" diameter holes should be punched into the tubing to allow the cold air to escape. Use the nine self adhesive tubing clips provided in the kit to mount the tubing.
9. Connect the compressed air filter (model 701S-24A or 701S-36A) to the compressed air inlet on the side of the Vortex A/C with a short length of 3/8" pipe (and use a 3/8" pipe elbow if the unit is side mounted). The filter must be positioned so that it is vertical, with the condensate drain opening at the bottom, regardless of the position of

the Vortex A/C. Use a 13/16" wrench to hold the air fitting on the side of the Vortex A/C stationary while tightening the pipe connections. Note the air flow direction arrow on top of the filter.

10. Connect the compressed air supply to the inlet of the air filter. See pipe size requirements below.

### COMPRESSED AIR SUPPLY

The compressed air supply must be filtered (5 micron maximum) to remove water and dirt. A 5 micron filter is supplied for this purpose in model 7615, 7625 and 7635 Systems (ITW Vortec model 701S-24A or 701S-36A). If oil is present in the compressed air supply, remove the oil using an optional 0.01 micron coalescing filter (ITW Vortec model 701S-48 or 701S-54). If an oil removal filter is necessary, install it downstream of the 5 micron filter. Change the filter elements as needed (see maintenance).

Supply compressed air to the Vortex A/C with 3/8" schedule 40 pipe, if the pipe length is no longer than 30 feet. If pipe length exceeds 30 feet, use 1/2" pipe or contact your local authorized distributor or ITW Vortec for assistance.

### OPERATION

Operate the Vortex A/C at 90 to 100 psig compressed air pressure. Do not operate at pressures above 150 psig. Operation at pressures less than 90 psig and above 100 psig can affect the "on" and "off" temperatures the unit cycles at. The Vortex A/C will cycle on and off to maintain temperatures between 80° to 90° F. The Vortex A/C will not cycle on until the temperature at the thermostat reaches 90°F.

### MAINTENANCE

The only maintenance involved with the Vortex A/C is normal element changes to the compressed air filter. The filter element should be changed when there is a noticeable decrease in performance or when pressure drop across the filter exceeds 5 psig.

The Vortex A/C has only one moving part (the mechanical thermostat/valve) which is not serviceable in the field. There are no other user serviceable items. Do not disturb the setting of the thermostat. Evidence of tampering with the thermostat may void the warranty.

If it is suspected that the compressed air filter has not been maintained after an extended period of operation, there may be dirt in the Vortex A/C. If the Vortex A/C is not cooling sufficiently there may be dirt in the "generator" of the unit. To check, pull the 1/2" ID vinyl tubing off the cold air outlet of the Vortex A/C and unscrew (with a 1" open end wrench) the cold air outlet. Remove the O-Ring. Then remove the red (model 7115 / 7615), or the blue (model 7125 / 7625) or the brown (model 7135 / 7635) generator. Inspect the six slots in the generator for dirt and clean if necessary. Clean the cavity in the Vortex A/C that the generator was located in if necessary. Be sure to supply clean (filtered to 5 micron) compressed air to the Vortex A/C.

### LIMITED WARRANTY

"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 10 years from the date of invoice. Refer to our website [itwvortec.com](http://itwvortec.com) for full warranty details and limitations. ITW Air Management makes no specific warranty of merchantability or warrant of fitness for a particular purpose.

**WARNING**  
**COMPRESSED AIR COULD CAUSE DEATH, BLINDNESS OR INJURY.**

1. Do not operate a Vortex A/C at compressed air pressures above 150 PSIG (10.3 Bar).
2. Do not operate a Vortex A/C at line temperatures above 110 F (43 C).
3. Avoid direct contact with compressed air.
4. Do not direct compressed air at any person.
5. When using compressed air, wear safety glasses with side shields.

For information contact your local authorized distributor or:

## **Vortec**

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