



## INSTALLATION INSTRUCTIONS 3/4" US/A-R VALVE FOR ENCLOSURE COOLING CONTROL USING VORTEX AIR CONDITIONER

REFER TO PRODUCT FACT SHEETS FOR 3/4/US/A-R VALVE AND VC-1000 FOR ADDITIONAL INFORMATION AND SPECIFICATIONS. The US/A-R valve is suitable for controlling air flow to any vortex device within the rated flow capacity of the control valve.

### **OPERATION:**

The sensor/actuator of the US/A-R valve senses enclosure air temperature and controls airflow to the enclosure air conditioner (VC1000) as required to maintain enclosure temperature. The valve will modulate from open to closed within the operating temperature range specified for the valve. As the enclosure temperature increases, the valve opens to allow air to flow to the VC1000 to cool the enclosure. As the enclosure temperature decreases, the valve begins to close, decreasing the airflow to the VC-1000.

### **INSTALLATION**

1. Read all instructions before beginning installation.
2. The US/A-R valve will operate in any position. Typically, this valve should be installed so that the actuator/sensor (which is located at the end of the extension opposite of the valve body) senses an average enclosure temperature.
3. The cold air outlet nozzle of the VC1000 can be mounted to discharge directly onto the heat source or to create good air circulation within the enclosure.
4. Install the US/A-R valve and VC1000 with supplied bulkhead fittings. The US/A-R valve needs a 1-1/4" hole drilled for the bulkhead fitting and the VC1000 needs a 1-1/8" hole for its bulkhead fitting.
5. Use a suitably sized hose or 1/4" pipe to make the connection between the US/A-R valve and the VC1000.

The **hot exhaust adjustment valve** can be field adjusted as needed. The function of this adjustment is to set the cooling capacity to either maximum refrigeration or minimum cold outlet air temperature. The 2000BTU/hr maximum cooling rating is achieved with about 25% to 30% hot exhaust flow (and thus 70% to 75% cold air flow). The lowest cold outlet air temperature is achieved at about 25% cold airflow and 75% hot exhaust flow. Make sure the air supply is fully on and the US/A-R valve fully open when setting the hot exhaust adjustment. Do not open the exhaust valve more than necessary as this reduces cooling efficiency.

### **WARRANTIES AND DISCLAIMERS:**

**Therm-Omega-Tech Inc.** warrants this product to be free from defects in material and workmanship for a period of 36 months. Cost of replacement will be prorated on the basis of the issue date of each unit. Units found to be defective will be replaced on a one to one basis, FOB Warminster, PA USA. Installation and use of this product is outside the control of **Therm-Omega-Tech Inc.**; therefore, **Therm-Omega-Tech Inc.** disclaims any and all liabilities arising from its installation and or use, and furthermore, **Therm-Omega-Tech Inc.** makes no guarantees, either expressed or implied, in connection with its installation or use.