

Vinothèque Wine Cellars

TEMPERATURE DIFFERENTIAL TESTING

The purpose of this test is to evaluate whether or not your cooling unit is operating correctly by measuring the temperatures of both the inside of the cellar and the exhaust side of the unit in the adjoining room. The majority of problems found with cooling units result from inadequate ventilation on the exhaust (back) side of the unit; therefore, taking these measurements is critical in ensuring the optimal performance of the product while minimizing costs of operation.

The WhisperKOOL unit is designed to maintain relative humidity between 50-70%, which is accomplished by cooling the cellar slowly. You should anticipate an approximate 12 degree temperature differential between the inlet air temperature and the outlet air temperature on the evaporator (front) side of the unit.

When testing the air temperature, please hold the thermometer in the appropriate location for a full minute before recording temperature so that the thermometer has stabilized. **Do not use PDT Probe! ***

Please refer to the images at the end of the document as a guide to where to measure the temperature of the inlet/outlet air:

***Note:** to check air temperature, use a digital thermostat which can be purchased at any hardware store under kitchen supplies.

First Temperature Test:

1. Stabilize the unit by turning it on and letting it run for five minutes before performing the first temperature test.
2. Measure temperature of the inlet air going into the cooling unit on the evaporator (front) side.
3. Measure temperature of the outlet air discharging out of the cooling unit on the evaporator (front) side by holding the thermometer at the outer edge of the circular fan.
4. Record information and calculate temperature differential in table below for the evaporator (front) side section under the first test.
5. On the back side of the unit, measure temperature of the inlet air going into the cooling unit on the condenser (back) side.
6. On the back side of the unit, measure temperature of the outlet air discharging out of the cooling unit on the condenser (back) side by holding the thermometer at the outer edge of the circular fan.
7. Record information and calculate temperature differential in table below for the condenser/back side section under the first test.

Second Temperature Test:

8. After the unit has run for 8 hour, perform the second temperature test.
9. Record information and calculate temperature differential in table below for the condenser/back side section under the second test.

Third Temperature Test:

- 10. After the unit has run for 24hours, perform the third and last temperature test.
- 11. Record information and calculate temperature differential in table below for the condenser (back) side section under the first test.

Temperature Data from Testing

	Temperature \ Test (time)	First (after 5 mins)	Second (after 8 hrs)	Third (after 24 hours)
Evaporator (Front) Side	Inlet Air			
	Outlet Air			
	Differential (Inlet – Outlet = _; ideally 10°F-15°F)			
Condenser (Back) Side	Inlet Air (ideally <90°F)			
	Outlet Air (ideally <120°F)			
	Differential (Inlet – Outlet = _; ideally around 30°F)			

Temperature Testing Locations



Inlet Air – Evaporator (Front) Side



Outlet Air – Evaporator (Front) Side*



Inlet Air – Condenser (Back) Side



Outlet Air – Condenser (Back) side*

*When measuring outlet air temperature on both sides of the unit (from the circular fans), hold the thermostat at the outer edges of one of the circular fans.

Conclusions

After completing the temperature differential test, determine if the unit is not cooling at all or if it is not cooling enough.

If the unit is not cooling at all, contact Vinothèque Customer Service at 800.343.9463. Be sure to have the measurements and results from your Temperature Differential test available.

If the unit is cooling but not cooling fully (with a evaporator differential of 10°F-15°F and a condenser differential of approximately 30°F), it indicates that there is too much heat on the back side of the unit. In this case, you should:

- Check to make sure that there is at least 3' of unobstructed space in front of the fans/vents to allow adequate ventilation. Improper ventilation causes the majority of problems with cooling units.
- On the condenser side, if the inlet air temperature is >90°F and/or the outlet air temperature is >120°F, there is too much heat on the back side of the unit which is preventing it from cooling fully. To remedy this, heat needs to be dissipated away from the unit through an exhaust fan or other means of ventilation on the exhaust side. You can contact Vinothèque Customer Service to request a ducting flange adapter at no charge to assist in directing heat away from the unit.
- You might consider installing a Vinothèque approved ventilation ducting system for your unit which can be obtained through Vinothèque Customer Service.
- Contact Vinothèque Customer Service at 800.343.9463. Be sure to have the measurements and results from your Temperature Differential test available.