

SLIMLINE LS OWNER'S MANUAL

REV 4

*Whisper***KOOL**[®]
The Future of KOOL

Conforms to ANSI/UL Std 427

Certified to CAN/CSA Std C22.2 No. 120

WhisperKOOL

“Engineered, Designed and Assembled in the USA”

WhisperKOOL products are composed of parts and materials that were imported to the United States and then assembled into the final products in Stockton, California.

The WhisperKOOL split system condensers are sourced internationally.

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INTRODUCTION

The Slimline LS was designed to mount in a living area, fitting into the often unused space between the cellar door and ceiling, giving the collector maximum storage capacity. The system is equipped with WhisperKOOL's Platinum Series controller, which utilizes Advanced System Protection Technology. A series of strategically placed monitoring probes ensures efficient performance and long cooling unit life.

Customer Service

Thank you for purchasing a WhisperKOOL Slimline LS cooling unit. We strive to provide the highest-quality products and the best possible customer service. If you have any questions about your WhisperKOOL unit, please call us at 1-800-343-9463.

Using the Manual

This owner's manual is intended to assist in the proper installation and maintenance of the WhisperKOOL Slimline LS cooling system. In order to ensure the longevity of your cooling unit, the equipment should be installed properly. Also, a proper care and maintenance schedule should be followed. Please read and review this manual carefully and keep it for future reference.

What is the WhisperKOOL Slimline LS Cooling System?

The WhisperKOOL Slimline LS system is a specialized refrigeration unit designed for one purpose: to maintain the optimal temperature and humidity levels conducive to the proper storage and aging of fine wines. It is a self-contained cooling unit designed to be used as a forced-air, through-the-wall unit.

How Does the WhisperKOOL Slimline LS Work?

The WhisperKOOL Slimline LS cooling system is especially designed to maintain optimal conditions for wine storage and aging. The system is specially designed for slow cooling, as this greatly reduces the amount of humidity removed from the cellar.

BEFORE YOU START

1. **Inspect the unit before installation.** If damage is found, please contact your distributor or WhisperKOOL Customer Service at 1-800-343-9463.
2. The unit should **remain in an upright position for 24 hours** prior to operation.
3. The unit **requires a dedicated 115V, 15-amp circuit.** Use a surge protector with the WhisperKOOL unit. **Do not use a GFI** (ground fault interrupter) line.
4. The unit is designed to gently cool down the temperature of the cellar over time by cycling cooler and cooler air throughout. **Test the unit prior to installation.**
5. You are **REQUIRED** to **install a drain line** to remove condensation from the unit.
6. The unit is intended **for use in properly designed and constructed wine cellars.** Hire a professional wine storage consultant with a valid contractor's license to build your wine cellar.

Never try to open the WhisperKOOL unit, repair it yourself, or use a service company without WhisperKOOL's authorization. This will void your warranty.

If you encounter a problem with your WhisperKOOL unit, please refer to the Troubleshooting Guide. If you have any further questions, concerns, or need assistance, please contact WhisperKOOL Customer Service at 1-800-343-9463. Please be sure all testing has been completed prior to contacting Customer Service. Please have your results ready for your representative.

RECEIVING & INSPECTING THE UNIT

- Use caution when lifting and check the package for damage.
- Lift only at the designated hand-hold locations on the shipping container, or fully support the unit from underneath.
- Before opening the container, inspect the packaging for any obvious signs of damage or mishandling.
- Contact WhisperKOOL immediately for shipping damage.
- Place the box containing the WhisperKOOL unit on a tabletop to prepare it for testing prior to installing.
- Sit unit upright for 24 hours.

Note: WhisperKOOL units are assembled in the USA and tested prior to shipment.

- Review the packing slip to verify contents.
- Check the model number to ensure it is correct.
- Check that all factory options ordered are listed.

**If any items listed on the packing slip do not match your order information,
contact WhisperKOOL Customer Service immediately.**

Check the shipped box for the following contents:

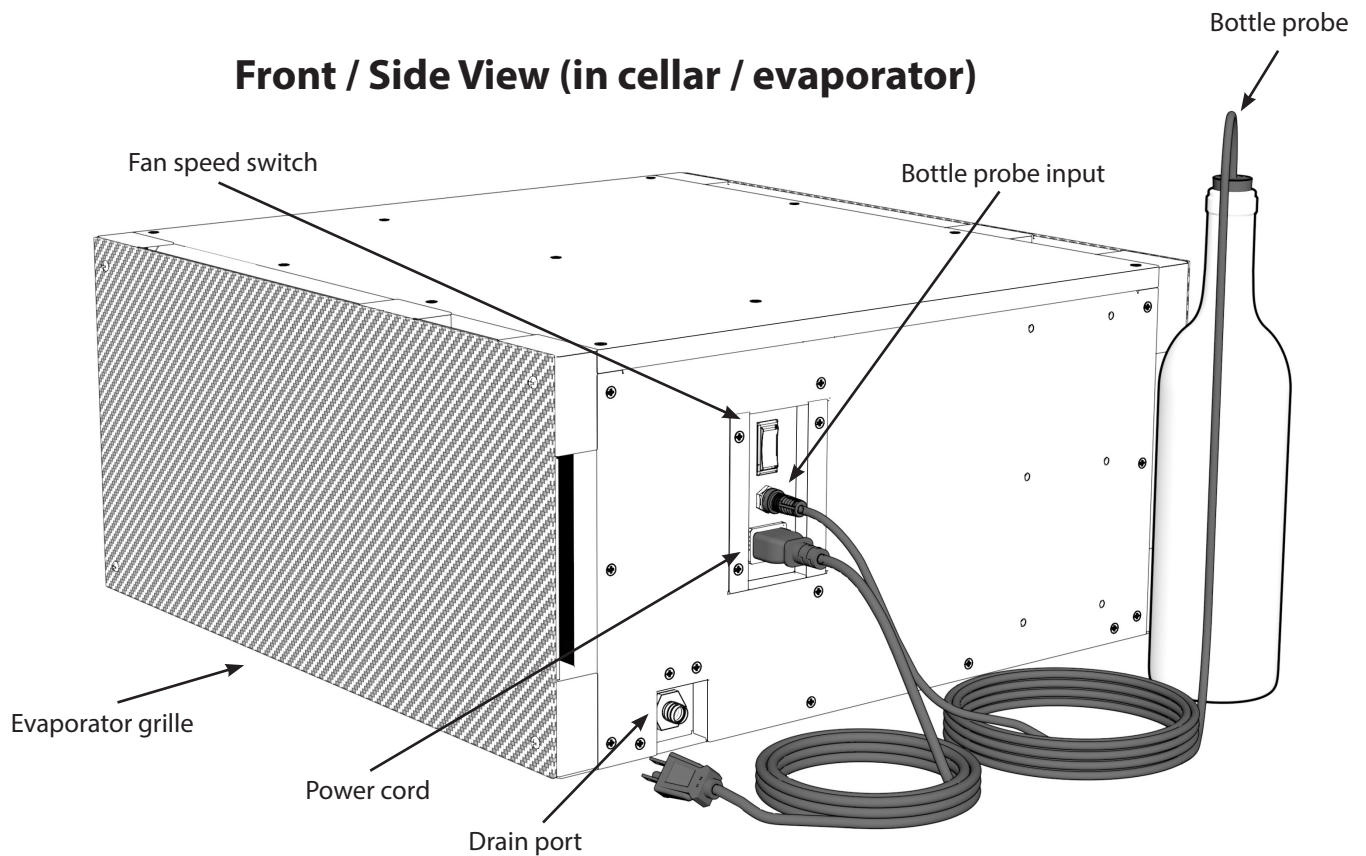
Slimline LS
• (1) Slimline LS cooling unit • (2) Mounting brackets
Accessory Kit #1: • (1) Slimline owner's manual • (1) Bottle probe
Accessory Kit #2: • (6) Phillips wood screw, 2 1/2" • (6) 8-32 Phillips machine screw, 1/2" • (1) Drain line tube (1/2" ID clear plastic tubing, 10ft.) • (4) Insulation foam strips (10") • (1) Power cord (8 ft.) • (1) Plastic fitting, 1/2" barb x 3/4" FNPT elbow

Please leave the unit in its original box until you are ready for installation. This will allow you to move the product safely without damaging it.

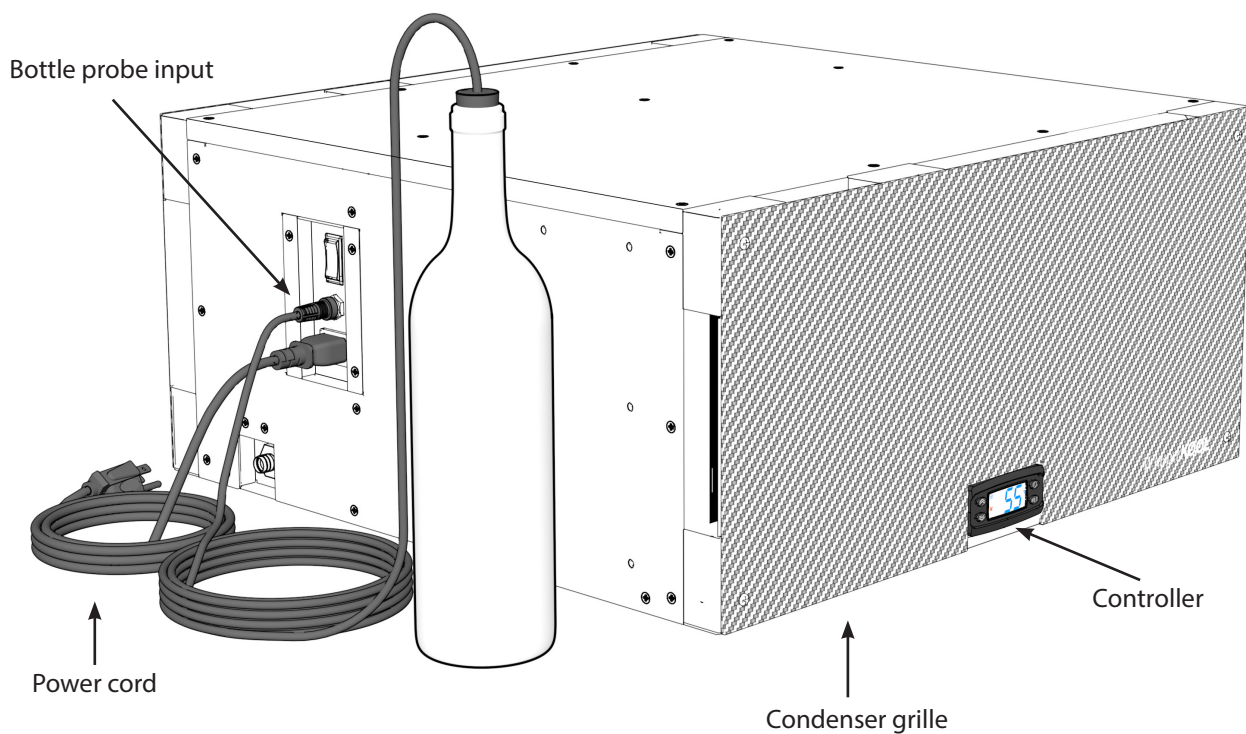
TIP: Save your box and all packaging materials. In the event of a product return, the manufacturer packaging provide the only safe means of transporting/shipping the unit.

QUICK REFERENCE GUIDE

Front / Side View (in cellar / evaporator)

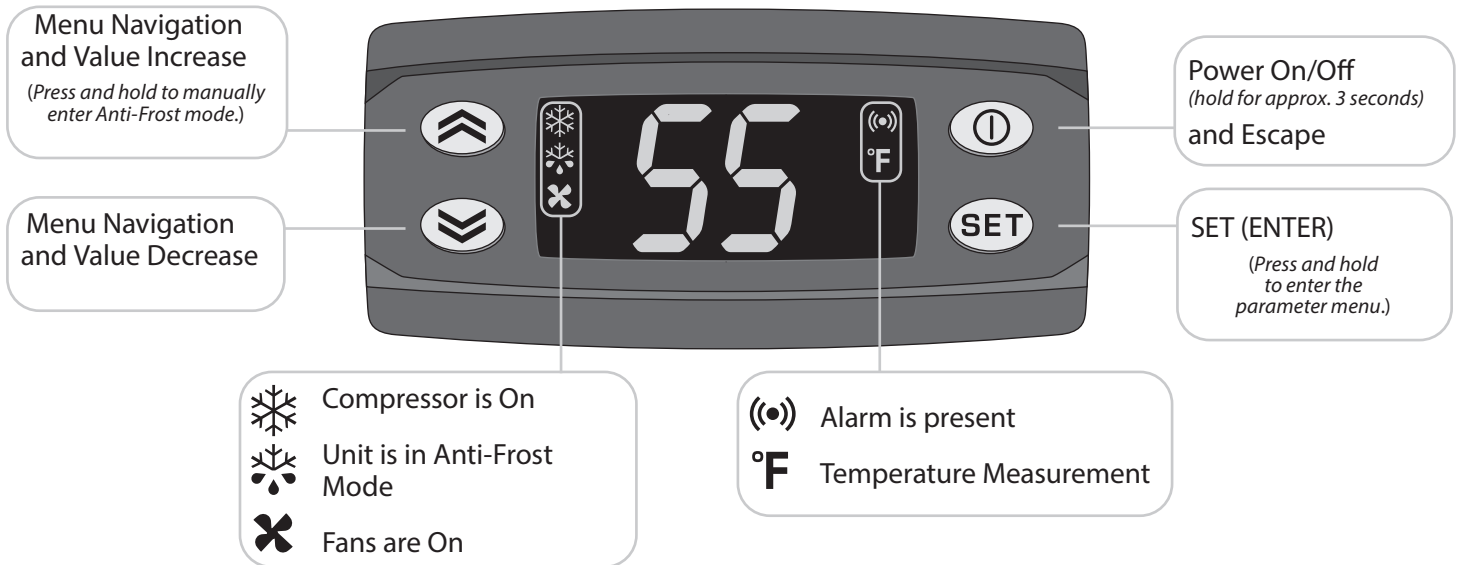


Rear / Side View (out of cellar / condenser)



CONTROLLER LAYOUT

Refer to page 18 for complete listing of buttons and symbols.



UNIT SPECIFICATIONS

	Slimline LS - Low Speed	Slimline LS - Medium Speed
Cellar Size (cu. ft.)*	300	650
BTU/h w/60°F condenser air intake temperature	2601/1961 (total/sensible)	3032/2413 (total/sensible)
BTU/h w/75°F condenser air intake temperature	2635/1951 (total/sensible)	2904/2309 (total/sensible)
BTU/h w/85°F condenser air intake temperature	2396/1870 (total/sensible)	2612/2158 (total/sensible)
BTU/h w/95°F condenser air intake temperature	2205/1704 (total/sensible)	2392/2008 (total/sensible)
Dimensions	21.5"L x 22.16"W x 10.33"H	
Refrigerant	R-134a	
HP	1/5	
Voltage Rating	115V (15-amp dedicated circuit required)	
Weight	81 lbs	
Amps (running)	4.2	4.3
Drain Line	1/2" ID clear plastic tubing	
Installation	Through the wall (above a doorway)	
Thermostat	Advanced digital controller, liquid-temperature-measuring bottle probe	
Temp. Delta	Can maintain a 55°F cellar temperature with up to 85°F condenser air intake temperature	
Outside Venting	Not recommended	
Warranty	Two-year limited warranty (parts and labor)	

* See note on next page

PREPARING THE WINE CELLAR

The performance and life of your system is contingent upon the steps you take in preparing the wine cellar. Improperly preparing your enclosure or incorrectly installing your unit may cause unit failure, leaking of condensation, and other negative side effects.

It is highly recommended that you obtain the assistance of a wine storage professional.

Wine storage professionals work with licensed contractors, refrigeration technicians, and racking companies to build well-insulated, beautiful, and protective wine cellars. WhisperKOOL has put together some useful tips to assist in the installation process. Our recommendations are meant to act as a guide in the process of building a proper enclosure. Your intended location may have specific needs which we do not address.

Wall & Ceiling Framing

Build wine cellar walls using standard 2x4 or 2x6 boards and ceiling joists without violating local or state codes in your area. As a general rule, the thicker the walls and the higher the insulation value, the more consistent your cellar temperature will be.

Insulation

Insulation is **REQUIRED** in order to properly use WhisperKOOL products. It is vital that all walls and ceilings be insulated to keep the cellar temperature as consistent as possible during the summer and winter months. Standard fiberglass or rigid foam insulation is normally used in cellar construction; in some cases, "blown-in" insulation is used. The R-value, or quality of insulation, is determined by the rate at which heat passes through the insulation. The higher the R-value, the more resistant the insulation is to conducting heat, and the more consistent your wine cellar's temperature will be. Using higher R-values in insulation will lower your operating costs and WhisperKOOL unit run time. (R-13 is the recommended minimum; R-19 is preferred for interior cellar walls, and R-30 for ceilings and exterior walls.)

Vapor Barrier

Water vapor creates its own pressure, separate from the ambient air pressure, and will intrude into colder/drier areas. A vapor barrier is **REQUIRED** in order to prevent the intrusion of water vapor and maintain the correct cellar temperature and humidity. It is recommended that 6-millimeter plastic sheeting be applied to the warm side of the cellar walls. The vapor barrier must also be applied to the outside walls and ceiling. If it is impossible to reach the outside, then the plastic must be applied from within the cellar. The most common method is to wrap the entire interior, leaving the plastic loose in the stud cavity so the insulation can be placed between each stud. All of the walls and ceiling must be wrapped in plastic for a complete vapor barrier.

In areas of high humidity, such as Southern and Gulf States, the vapor barrier will prevent infiltration of warm moist air. The moist air can cause mold to form, and standing water in drain pans promote microbial and fungal growth that cause unpleasant odors and indoor air quality problems. If mold is found, remove it immediately and sanitize that portion of the unit.

Note: High humidity significantly increases the heat load on the cooling system.

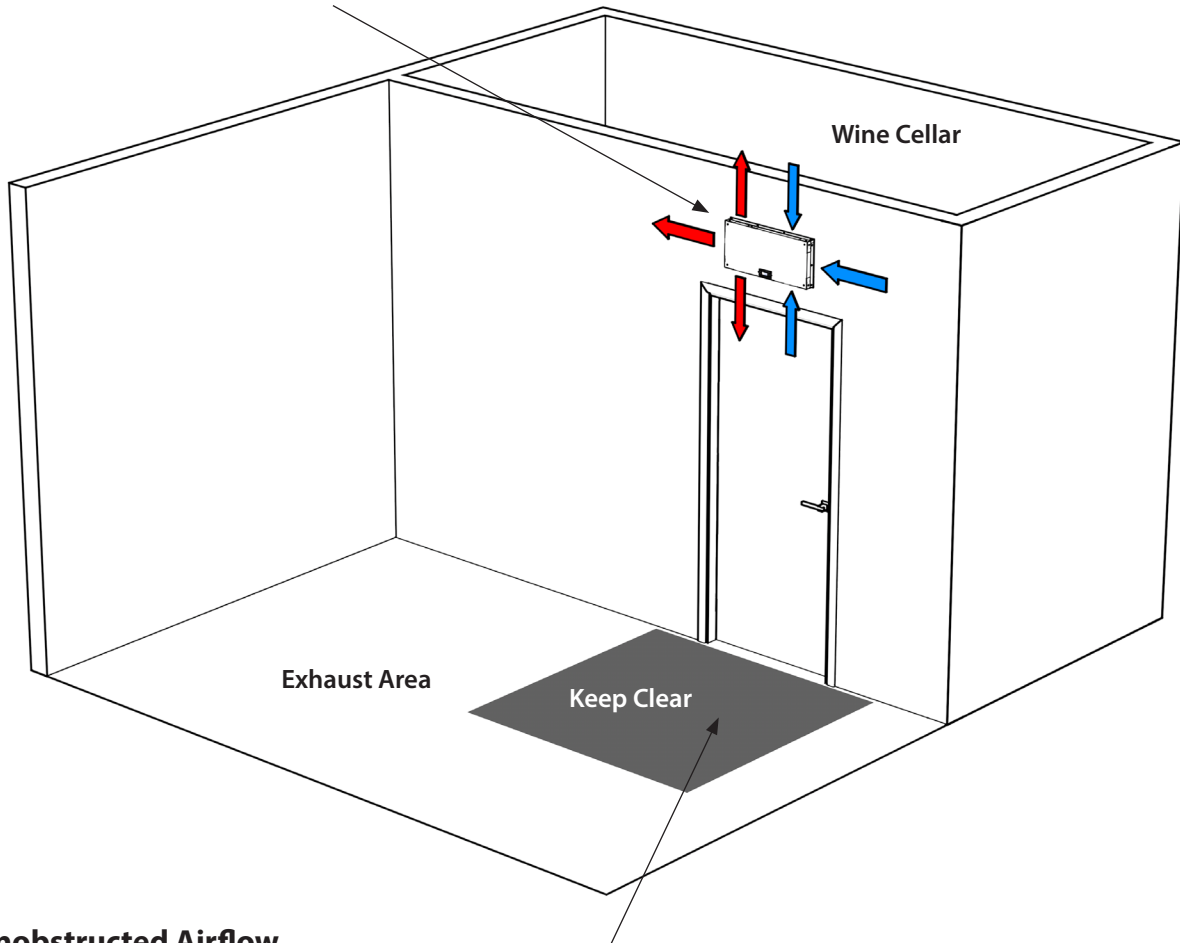
Any break in the vapor barriers (cut, nail hole, over-lapping, etc.) will cause a moisture leak and must be sealed. The electric conduit is a "duct" for vapor to travel in. The conduit should be caulked and sealed on the warm air end.

* Sizing the Unit to the Room

The specification chart will provide information on the unit's cooling capacity. There are circumstances in which a cellar design may require a larger unit due to preexisting design restrictions. Certain building materials such as glass, stone, or concrete may seem adequate but do not offer the insulation capacity required to maintain the optimum temperature for storing wine. We recommend purchasing a unit with a larger capacity to compensate for these design limitations. Undersized cooling units can lead to premature failure and/or prevent the system from reaching the desired set temperature. As a result, they are not covered under warranty.

Mounting the Unit

The unit must be mounted within 18 inches of the ceiling in order to achieve sufficient cooling. As the room cools down, the warm air will rise to the ceiling. Mounting the unit high in the room will create a consistently cool environment by capturing the warm air and replacing it with cool air. Mounting the unit low in the room will result in a temperature variation in the room due to (a) the unit's inability to draw warm air down from the ceiling and (b) cold air settling to the floor.



Unobstructed Airflow

Unobstructed airflow to and from the unit is critical to the unit's overall performance and lifespan. Make sure there is a minimum of three (3) feet of horizontal clearance in every direction around the unit (five feet is ideal). The air blown by the fans needs to circulate and either dissipate or absorb heat from the space. The system will operate more efficiently with a greater amount of air to exchange.

NOTE: Do not attempt to mount the unit in a wall recess or attempt to camouflage or cover the unit with any sort of aftermarket grille, accessory, etc. This can restrict airflow, prevent the unit from working properly, and void the warranty. Please feel free to call WhisperKOOL Customer Service with any questions or concerns regarding installation requirements.

Door and Door Seal

An exterior-grade (1¾") door must be installed as a cellar door. It is very important that weather stripping be attached to all four sides of the doorjamb. A bottom "sweep" or threshold is also required. The door must have a very good seal to keep the cool cellar air from escaping out of the cellar. If the door does not seal properly, the unit will run continuously.

Ventilation

The necessity of dissipating heat away from the unit is critical to the unit's performance and cannot be overstated. As the unit operates and cools, a greater amount of heat is generated on the exhaust side of the unit. Adequate ventilation is required in order to dissipate heat away from the unit. If ventilation is inadequate, the exhaust will heat up the area or room and adversely affect the unit's ability to cool.

Note: If you are unsure whether you have adequate ventilation in your installation location, please contact us to assess your specific installation at support@whisperkool.com or 1-800-343-9463.

Ambient Temperature Factor

This unit has the ability to efficiently cool a wine cellar as long as the air temperature directly behind it at the coil does not reach 85 degrees. NOTE: The ambient temperature in the venting room is not always the same as the temperature directly behind the unit because of the heat from the exhaust fans. If you are uncertain about how the unit will function in your location, please contact us right away at 1-800-343-9463 or support@whisperkool.com



Avoid venting to closets, bathrooms, attics, or small rooms. This can affect the unit's ability to effectively cool the room and void warranty.



Drain Line

All units come with a drain line for additional removal of excessive condensate. This is a backup system for the evaporator. You are **REQUIRED** to install the drain line attachment. During operation, the cooling unit will strip excess water from the air in order to maintain the proper level of humidity within the cellar. The condensate evaporator will heat and dissipate the excess moisture through the rear of the unit. However, in extreme humidity, additional condensate will be created. High-humidity air has less capacity to absorb additional moisture through the exhaust of the unit. The drain line will prevent overflow and leaking by allowing for the discharge of the additional condensate. WhisperKOOL carries a condensate pump kit, which allows the excess condensate to be pumped up to 20 feet away from the unit.

PRE-INSTALLATION

Skill level: Moderate

Follow local building codes and/or consult a licensed contractor

Electrical Needs

The Slimline system **requires a dedicated 115V, 15-amp circuit**. The unit draws a large amount of amps during its initial startup. By designating a dedicated circuit breaker, you will guarantee that the unit has enough power to run effectively. Contact an electrician for assistance with the installation of this dedicated electrical circuit:

- Match the electrical outlet to the plug provided on the WhisperKOOL unit.
- Provide a dedicated circuit and wiring for the unit.

Electrical Outlet

The accessory kit includes an 8-foot power cord which is connected to the power inlet on the side of the unit. Plug your WhisperKOOL unit into a surge protector or power conditioner. Power surges and spikes can damage sensitive electrical equipment. WhisperKOOL recommends plugging the unit into a surge protector or power conditioner in order to protect your system. As outlined in our terms and conditions, power surges and spikes are not covered under warranty.

WE RECOMMEND THAT YOU DO NOT USE A GROUND FAULT INTERRUPTER (GFI) WITH THIS PRODUCT.

NOTE: *GFI's will often nuisance trip with certain types of loads. For example, compressor motors will trip on GFI even though there is no leakage to ground.*

Test Preparation Procedure

1. Remove unit from box
2. Place unit on tabletop
3. Plug unit into an electrical outlet
4. Plug in bottle sensor
5. Turn on to test (temperature differential should be 10°F across coils)
6. Turn off after test
7. Remove bottle probe

Testing the Unit

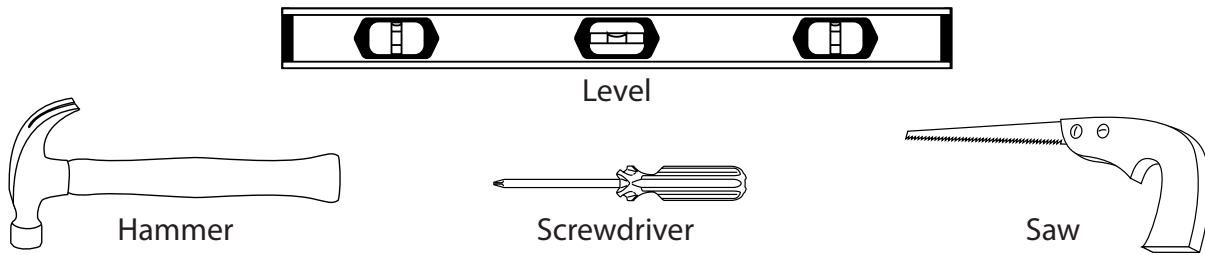
Place the WhisperKOOL system on a tabletop to prepare it for installation and testing. Plug the unit into a live electrical outlet and turn it on. The unit may take up to 10 to 15 minutes before running cool. Once the operation has been tested, turn the unit off and unplug it from the electrical outlet.

Units weigh 81 pounds and are cumbersome for one person to carry. We recommend that you get someone else to help you during the installation process. **NEVER LAY UNIT ON ITS SIDE.**

If the system does not seem to be running cool after 15 minutes, please refer to the Troubleshooting Guide on page 22.

PREPARING THE INSTALLATION LOCATION

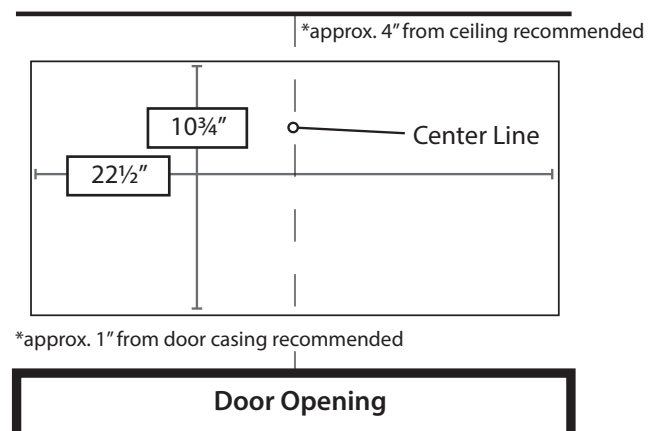
Minimum Tools Needed



Note: The following installation examples are for reference only. Door header construction and framing may vary. When not installing above a door, you must have adequate framing inside of the wall. WhisperKOOL recommends consulting a licensed contractor for framing and construction needs.

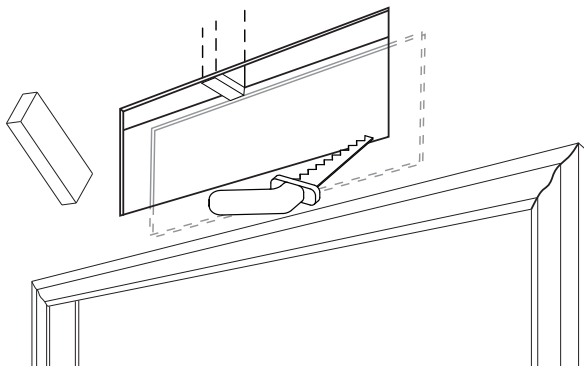
STEP 1

Locate the desired installation location. Using a level and a pencil, mark the center line. Outline a rectangle $10\frac{3}{4}"$ by $22\frac{1}{2}"$ where the unit will be placed into the wall.



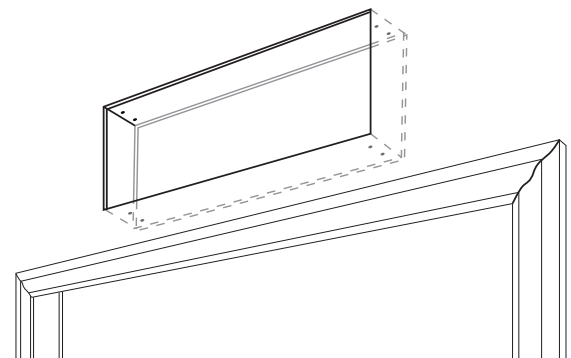
STEP 2

Using a saw, cut the hole in the drywall and wall stud(s). Be careful not to cut into any electrical lines or plumbing.



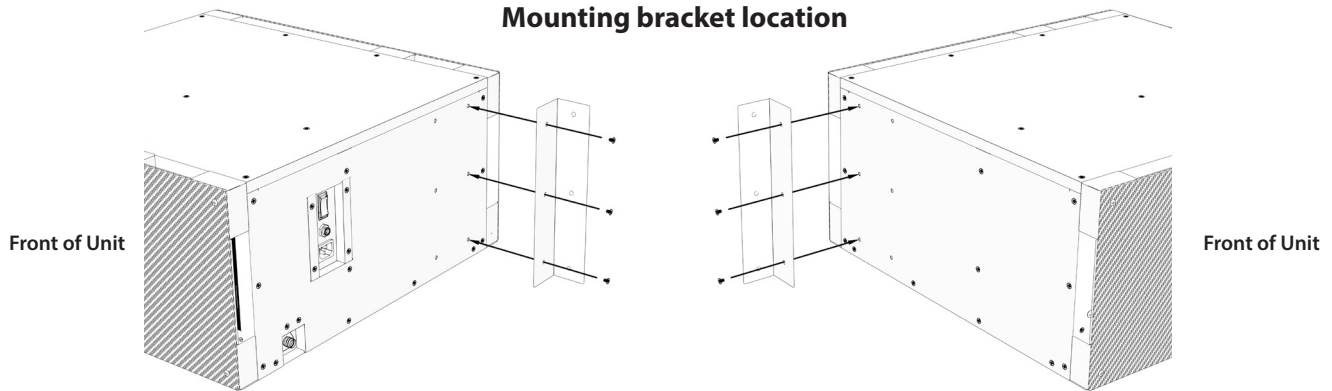
STEP 3

In most cases, framing will need to be added to provide adequate support for the unit and mounting bracket.



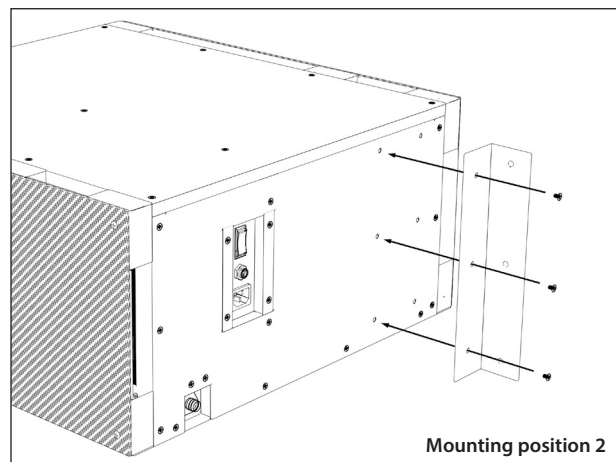
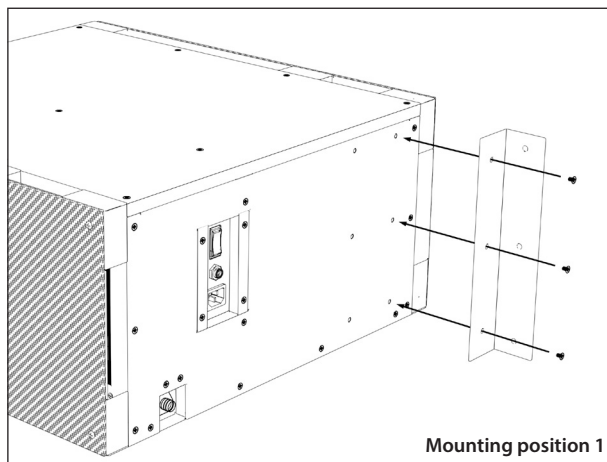
INSTALLATION

Mounting bracket location



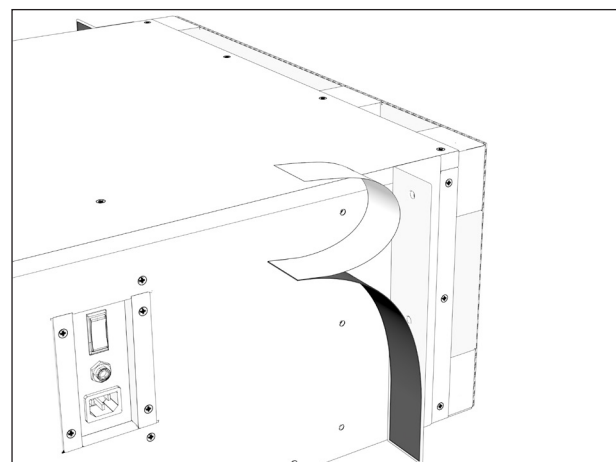
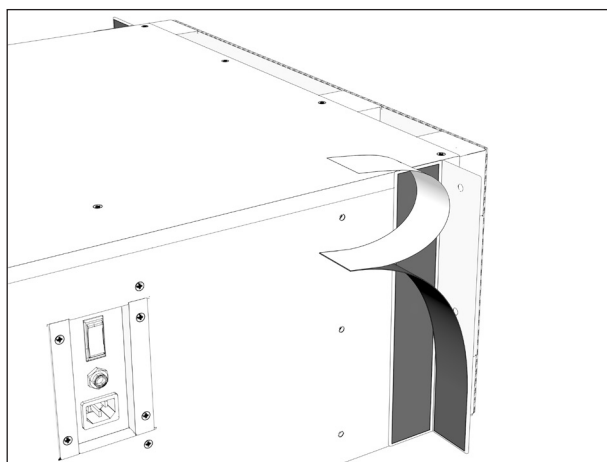
STEP 4

Secure the two brackets to the corresponding side of the cooling unit on exterior side of the cellar. There are two mounting positions available.



STEP 5

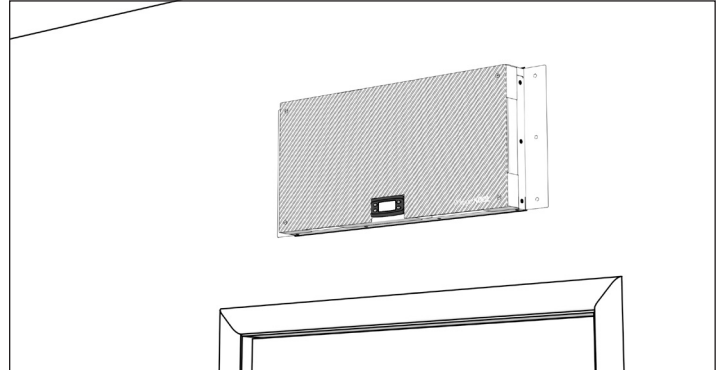
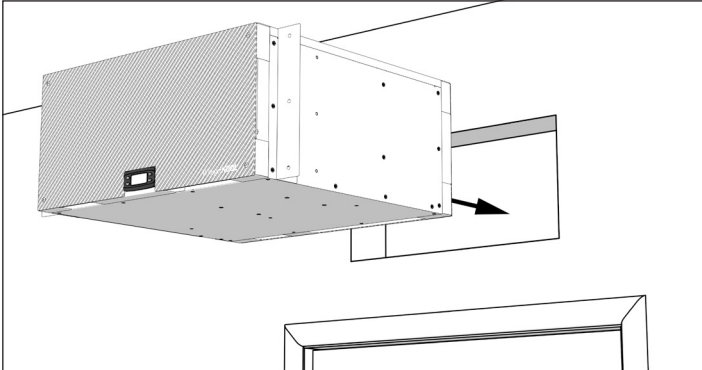
Foam tape needs to be placed on bracket surfaces which will be in direct contact with the wall.



INSTALLATION (continued)

STEP 6

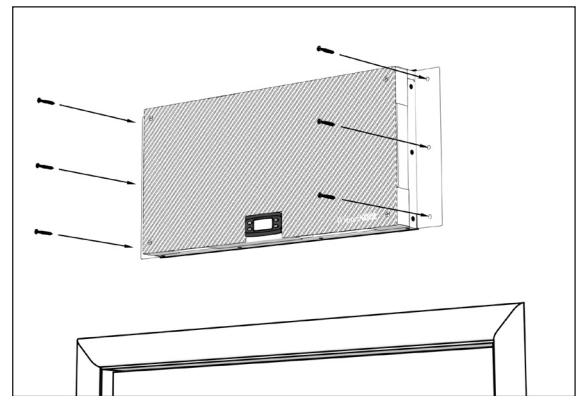
Slide the cooling unit into the hole from the outside of the cellar.



STEP 7

With the unit in place, secure it to the wall through the pre-drilled holes on the brackets. The screws should penetrate the studs and/or frame. Seal all cracks and gaps around the unit with an airtight sealant or caulking to prevent air leakage.

Note: If you use decorative moulding, it should be attached to the walls, **never** to the cooling unit itself.

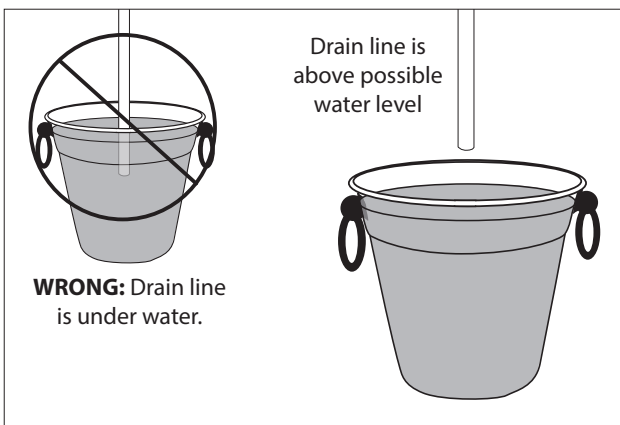


STEP 8

Attach the condensate drain line

The condensation drain line tube is used to remove excess condensation from the unit to a proper discharge location. It is important that the drain line tube be properly connected to prevent leakage and other problems associated with excess condensation.

Note: To prevent mold from growing, allow the drain line to hang above the water line.



Failure to install the drain line will void the warranty.



To prevent mold from growing, allow the drain line to hang above the water line.

STEP 8

If removed, reinstall the grilles on both sides of the unit and plug in the power cord. The use of an extension cord is not recommended.

LIQUID-MEASURING THERMOSTAT SYSTEM (BOTTLE PROBE)

WhisperKOOL cooling units come with a liquid-temperature-measuring thermostat. The self-calibrating bottle probe contains a sensor which communicates back and forth with the thermostat. This results in a consistent temperature setting and accuracy. Wine should be kept at a very precise, controlled temperature and humidity.

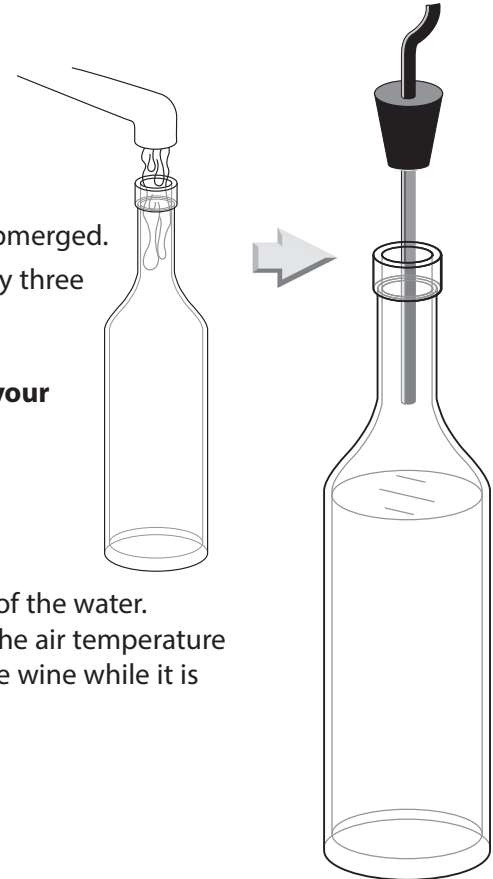
Setting up the Bottle Probe:

1. Locate an empty wine bottle.
2. Fill it 75% full with room-temperature tap water.
3. Place bottle probe securely into bottle as seen in Figure 1.
4. Place the wine bottle in your wine cellar. Ensure sensor tip is fully submerged.
5. To ensure a consistent temperature, place bottle probe approximately three (3) feet away from the air output and not in the flow of the air.

It is recommended that the bottle be placed in a central location of your wine cellar. Avoid pulling too much on the probe cord. It may become disconnected, resulting in limited functionality of the unit.

Note: The controller can be set between 50-70°F.

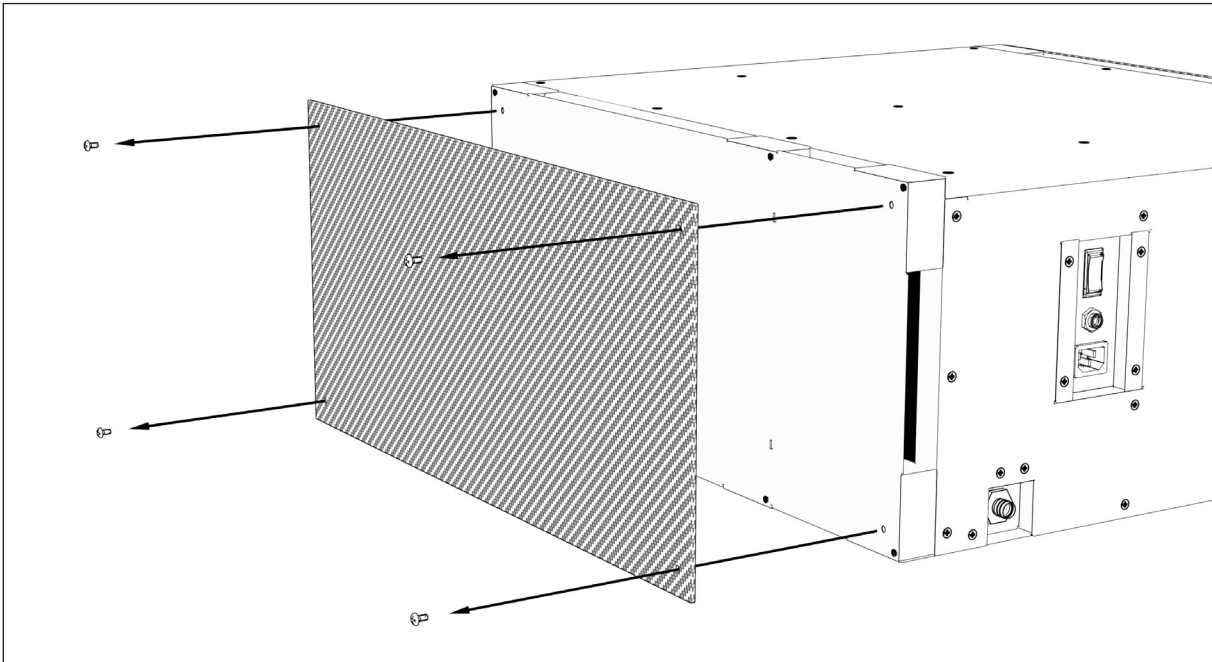
Remember: The WhisperKOOL unit operates based on the temperature of the water. Do not be misled by thermostats reading air temperature. The air temperature in the cellar will be cooler than the liquid temperature of the wine while it is reaching the optimum balanced temperature.



REMOVING THE DECORATIVE PANEL AND GRILLE

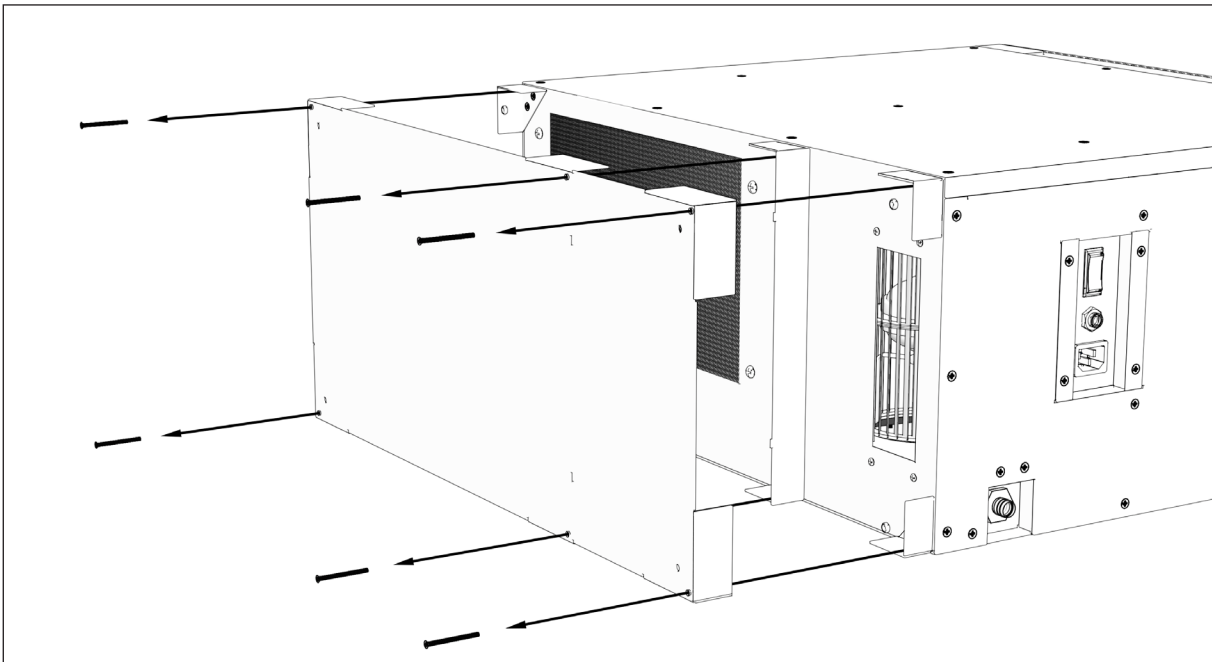
STEP 1

Remove the 4 screws that secure the decorative panel to the grille, then remove the panel.



STEP 2

Remove the 6 screws securing the grille to the unit. The grille can now be removed from the unit.



SYSTEM OPERATION

Initial Startup

When power is applied to the unit, the control will briefly display all symbols, and the snowflake symbol will be displayed (if unit is calling for cooling). There may be a brief delay (up to 60 sec.) before the evaporator fan turns on. When the evaporator fan is activated, the fan symbol will display.

Setpoint

The setpoint is preset at the factory (WhisperKOOL) to 55°F. It can be adjusted by the customer between 50°F and 70°F (in 1°F increments).

Cooling Operation

Cooling is activated once the bottle probe senses a temperature that is 1°F greater than the setpoint. The controller then energizes the compressor relay which activates the compressor. The evaporator and condenser fans operate with the compressor. The unit provides cooling until the bottle probe senses that the setpoint has been reached. At this point the compressor relay is de-energized, which stops the compressor. The evaporator and condenser fans will continue to run for one minute to reintroduce any moisture from the evaporator coil and reduce the head pressure.

Humidity Features

The Fdc parameter can be increased to allow the evaporator and condenser fans to run for a longer period of time after the compressor turns off, allowing more moisture to be reintroduced into the wine cellar.

Anti-Short Cycle

The Anti-Short Cycle ensures that the compressor will remain off for a period of three minutes after the unit has reached the setpoint to allow the pressure in the refrigeration unit to equalize prior to starting the compressor.

Anti-Frost Cycle (defrost)

When the evaporator probe senses a temperature of 26°F for five minutes, the unit will enter an Anti-Frost Cycle. This will shut down the compressor and allow the evaporator and condenser fans to run to evaporate any frost accumulation on the coil. The compressor will remain off until the evaporator coil reaches 40°F, or for a maximum of ten minutes. The unit will then return to normal operation.

If the evaporator is not above 26°F after the Anti-Frost Cycle has ended, the red error light will display in the upper right corner. The alarm "Ad3" will be recorded in the alarm folder, indicating that the Anti-Frost Cycle timed out. The unit will run for five minutes and then enter another Anti-Frost Cycle. This sequence will continue until the evaporator temperature rises above 26°F.

"Def" will be displayed during the Anti-Frost Cycle. If the cycle is less than five minutes, the controller will prevent the compressor from starting until five additional minutes have elapsed. This is to prevent short cycling of the compressor.

Holding down the UP ARROW button for approximately five seconds manually starts the Anti-Frost Cycle, but only if the evaporator is below 40°F (defrost end temperature). If the evaporator is above 40°F, the display will blink three times and continue normal operation.

Bottle Probe Failure Protection

In the event that a bottle probe should fail, the APST (Advance Product Safety Technology) will automatically transition the refrigeration compressor cycles to a pre-determined time series (40 minutes on and 10 minutes off), which will ensure that the product is kept within a safe temperature range. P1 will be displayed on the screen until the probe issue is rectified.

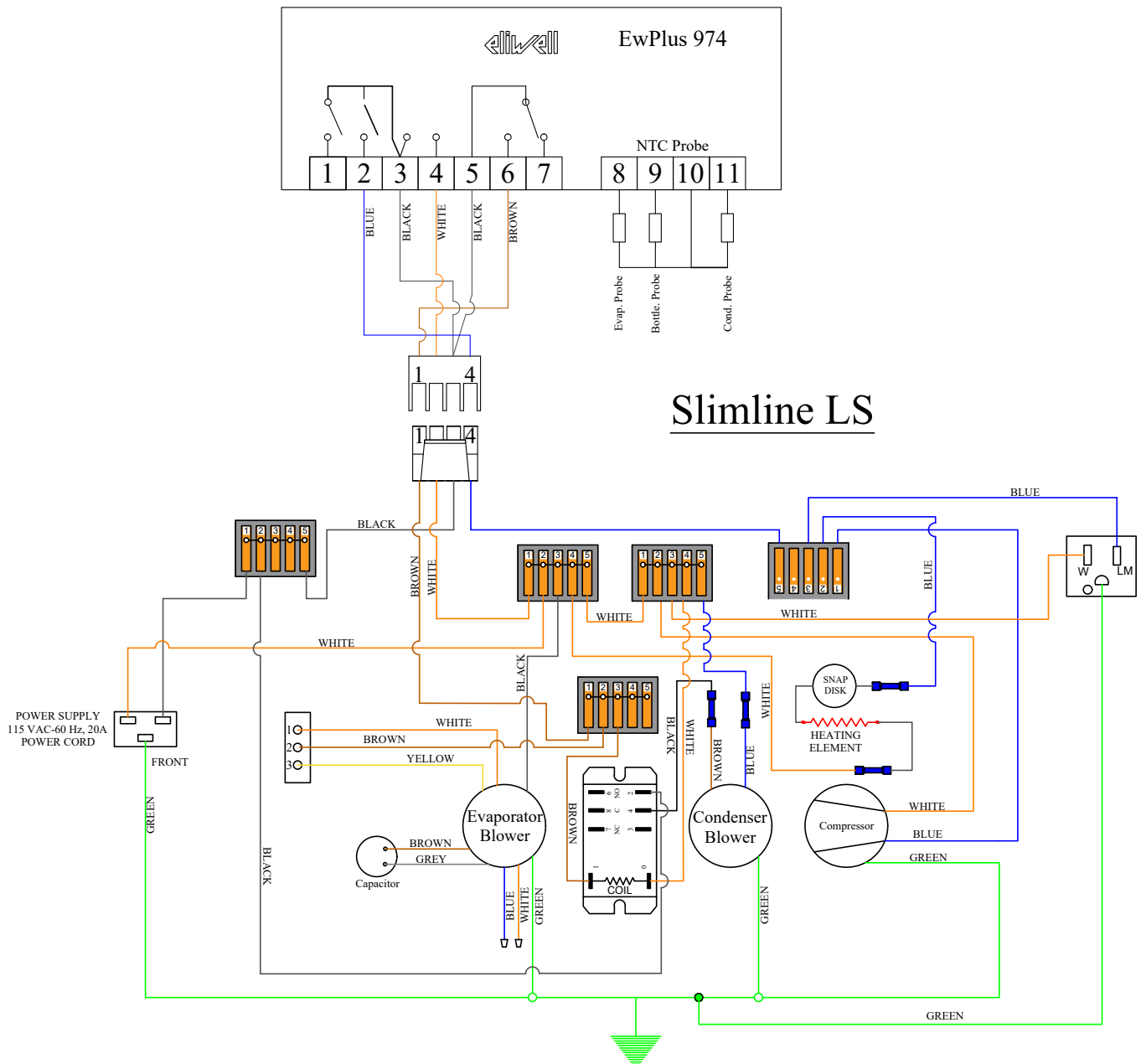
Alarms

See "Alarm Codes" in the Controller Functions chart.

ECM Condenser Blower Operation

The condenser blower comes equipped with a temperature sensor which monitors exhaust air temperatures and adjusts the speed of the blower to provide the ideal airflow needed to dissipate excess heat. Condenser fan speed will vary during operation based on the exhaust environment temperatures. The noise of the condenser fan will amplify when the exhaust environment becomes excessively hot.

SLIMLINE LS WIRING DIAGRAM



CONTROLLER FUNCTIONS



Button/Symbol	Normal Functions
ON/OFF 	- Press and hold the ON/OFF button for approximately 3 seconds to turn the unit on or off. Note: This does not disconnect power from the unit. In order for the power to be shut off from the unit, the power cord must be unplugged from the power outlet. - This button also serves as an escape button.
UP/ DOWN  	- Use these buttons to scroll up or down a menu. - Press and hold the UP ARROW button for approximately five seconds to manually start the Anti-Frost Cycle. The Anti-Frost Cycle will begin, but only if the evaporator is below 40°F. If the evaporator is above 40°F, the display will blink three times, signalling that an Anti-Frost Cycle is not needed, and the unit will continue normal operation.
SET 	Changing the Set Point - Press and Release the set button. - While "SEt" is displayed, press and release the set button again. - While the current temperature setting is displayed, press the up or down arrows to change set point. - When the display shows the desired temperature setting, press and release the set button again. Accessing Alarm Codes - Press and Release the set button. - While "AL" is displayed, press and release the set button.
SNOWFLAKE 	Steadily Illuminated: The unit is in cooling mode and the compressor is running. Blinking: The unit is calling for cooling, but must wait five minutes before restarting the compressor. This five-minute delay serves as an anti-short cycle for the compressors protection.
DRIPPING SNOWFLAKE 	The unit is running an Anti-Frost Cycle. The evaporator and condenser fans are running to evaporate any frost which may have formed on the evaporator coil.
FAN 	The evaporator and condenser fans are on.
ALARM 	The alarm symbol is shown and an audible buzzer will sound when the unit encounters an issue that needs attention. The displayed alarm codes are explained on the next page. To silence the buzzer, press any button. The alarm code will remain displayed until corrected.

ALARM CODES

Message	Cause	Solution
"E1"	Bottle probe is unplugged	Attach bottle probe to unit
	Faulty bottle probe connection	1. Check bottle probe attachment at circular connector 2. Check bottle probe connection at the back of controller
	Defective bottle probe	Replace the bottle probe
"E2"	Faulty evaporator probe connection	Check evaporator probe connection at the back of controller
	Defective evaporator probe	Replace the evaporator probe
"E3"	Faulty condenser probe connection	Check the condenser probe connection at the back of the controller
	Defective condenser probe	Replace the condenser probe
"AH1"	The bottle probe is sensing a temperature that is 4° above the setpoint	1. Allow time for the wine to reach the desired temperature 2. Make sure all windows and doors are closed and have a proper seal 3. Follow the procedures in the pre-installation instructions to test the unit for proper cooling
"AL1"	The bottle probe is sensing a temperature that is 4° below the setpoint	1. Make sure unit is not in cooling mode (the snowflake symbol will not be lit) 2. Add heat to the room until the wine reaches the desired temperature
"COH"	The condenser coil temperature is above 125°F	1. Check the condenser coil and clean if necessary 2. Make sure the intake air does not exceed 85°F 3. Make sure both condenser fans are working properly
"Ad3"	Anti-Frost Cycle ended on time-out	1. Check the evaporator coil for ice buildup; unplug the unit and allow the coil to thaw before restarting 2. Make sure the room the intake air is not less than 60°F 3. If the unit continues to go into continuous Anti-Frost Cycles (every 5 minutes), call Customer Service for more troubleshooting information

CPSM (Customer Preference Selection Mode)

Press and hold the SET button for approximately 5 seconds to enter the CPSM menu. "Fdc" will be displayed on the screen. Use the down arrow to access the following parameters.

Fdc <i>Humidity Management/Enhancement</i>	This parameter is preset to one (1) minute at the factory. This amount of time should provide adequate relative humidity for the cellar. An increase in this parameter will keep the fan running longer after the compressor has turned off, reintroducing some of the moisture which was extracted from the wine cellar during the cooling cycle back into the cellar. (The WhisperKOOL unit, however, cannot increase the humidity of the cellar.) This parameter should not be adjusted below 1. Adjustments should be made in increments of 5, with a maximum of 15 and a minimum of 1. After making any adjustment to Humidity Enhancement, you should wait a minimum of three days before making any additional adjustments. This will allow the cellar sufficient time to acclimate to the new setting.
PA2	There are no adjustable settings in this parameter.
tab	There are no adjustable settings in this parameter.
Rel	There are no adjustable settings in this parameter.
loc	Change this parameter from "n" to "y" to lock the keyboard from changes to the setpoint.
ddd	Select one of these numbers to display your preference: 0 = Setpoint 1 = Bottle Probe Temperature 2 = Evaporator Probe Temperature 3 = Condenser Probe Temperature
"CA1"	Use this parameter to calibrate the bottle probe to a known temperature. This parameter can be adjusted between -12°F and 12°F. Example: Bottle temperature reading = 58°F Known temperature reading = 55°F CA1 parameter setting to match known temperature = -3

MAINTENANCE SCHEDULE

Monthly	1. Check for unusual noise or vibration 2. Check the drain line to see if it is above the waterline (if draining into a vessel) 3. Check the external drain line to make sure there are no clogs or obstructions. If drain line is clogged, blow out with compressed air. Or, clear out with garden hose and pressure spray nozzle.
Quarterly	1. Remove front and rear panels to clean coils. You can run a vacuum brush attachment over the coils while the unit is off or blow out the coils with compressed air while the unit is running. If you do not have an air compressor, you may use compressed air from a can. 2. Disconnect drain line from spout and clear out spout or (orifice) with pipe cleaner or like object.
Annually	1. Use a vacuum with brush attachment to clean the front and rear intake grilles 2. Check wiring connections and integrity of cords 3. Recommended inspect of Condensate Heater Tray for corrosion or obstructions.

NOTES

TROUBLESHOOTING GUIDE

Ice is forming on the evaporator coil

Possible Cause	Solution
Evaporator coil is dirty	Clean coil with a vacuum brush attachment or blow out with compressed air
There is something blocking the supply and/or return air	Remove blockage
Evaporator fan is not turning on	Call a service tech to troubleshoot
If unit continues to ice	Observe ice formation pattern. If only part way up the coil face, unit could be low on refrigerant. If so, call Customer Service at 1-800-343-9463.

Unit does not run/power up

Possible Cause	Solution
Unit is not plugged in	Make sure the unit is plugged into an outlet
Line voltage rating is incorrect for the system	Check line voltage to make sure it is 110V-120V
Room temperature equals the setpoint on the controller	Lower setpoint
Thermostat not calling for cooling	Lower setpoint
Faulty thermostat or wiring	Call Customer Service at 1-800-343-9463

Cellar temperature is too warm

Possible Cause	Solution
The temperature of the room to which the unit is exhausting exceeds 85°F. Make sure the exhaust area behind the unit is well ventilated. If you are unsure about ventilation, call customer service at 1-800-343-9463	Intake temperature must drop below 85°F
The unit is undersized for the room	Order correctly sized unit
There is something blocking the supply and/or return air on evaporator or condenser side of the unit	Remove airflow obstruction
Unit is mounted too low in the room	Relocate unit so the distance from the ceiling and top of the unit is no more than 18 inches
One or more of the fans is not turning on	Call Customer Service at 1-800-343-9463
Compressor is not turning on	Call Customer Service at 1-800-343-9463
Compressor keeps cycling on overload	Make sure all fans are working and there is no airflow obstruction
Poor seal around door	Make sure there are no air gaps around the door. If door seal is damaged, replace it.
Setpoint too high	Lower the setpoint
Evaporator coil is frosted or iced up	Observe ice formation pattern. If only part way up the coil face, the unit could be low on refrigerant. If so, contact your installing technician to assist with troubleshooting.

System runs constantly

Possible Cause	Solution
Leaky door seal or poorly insulated cellar	Fix leaky door seal and insulate cellar in accordance with this manual (page 8)

TROUBLESHOOTING GUIDE

Unit leaks water

Possible Cause	Solution
Unit is not level	Unit should be level in wall to prevent leaking
Drain line clogged or kinked	Check drain line to make sure water can flow freely
Drain is clogged, preventing water from escaping	Disconnect drain and clear it out
Drain line does not have a downward slope	Fix drain line so there is a downward slope from the unit to the drain
Coil is iced, causing drain pan to freeze and water to overflow	Melt ice with blow drier. Soak up with a towel.

Unit runs but does not cool

Possible Cause	Solution
Lack of airflow	Make sure both fans are running and coils are not dirty or blocked by foreign objects.
Compressor not running	Contact Customer Service at 1-800-343-9463
System undersized	Contact Customer Service at 1-800-343-9463
Compressor is overheating	Shut system off for 1 hour to allow compressor to cool. Turn back on and check for cooler airflow out. If compressor runs, check for and clean condenser coil as possible cause of compressor overheating. If problem repeats, contact Customer Service at 1-800-343-9463.

Evaporator fan runs but compressor does not

Possible Cause	Solution
Compressor and/or starting components faulty	Contact Customer Service at 1-800-343-9463
Compressor is overheating	Shut system off for 1 hour to allow compressor to cool. Turn back on and check for cooler airflow out. If compressor runs, check for and clean condenser coil as possible cause of compressor overheating. If problem repeats, contact Customer Service at 1-800-343-9463.

Compressor runs but evaporator fan does not

Possible Cause	Solution
Faulty fan motor	Contact Customer Service at 1-800-343-9463
Faulty fan relay	Contact Customer Service at 1-800-343-9463

Compressor short-cycles

Possible Cause	Solution
Evaporator fans blow on bottle probe	Move bottle probe to a more central location
Unit low on refrigerant charge	Call Customer Service at 1-800-343-9463
Condensing fan motor/capacitor faulty	Call Customer Service at 1-800-343-9463
Compressor and/or starting components faulty	Call Customer Service at 1-800-343-9463

Humidity in cellar too high

Possible Cause	Solution
Cellar vapor not sufficient	Install proper vapor barrier

TECHNICAL ASSISTANCE

WhisperKOOL Customer Service is available Monday through Friday from 6:00 a.m. to 4:00 p.m. Pacific Standard Time.

Your customer service representative will be able to assist you with your questions and warranty information more effectively if you provide them with the following:

- The model and serial number of your WhisperKOOL system(s).
- Location of unit and installation details, such as ventilation, ducting, construction of your wine cellar, and room size.
- Photos of the cellar and installation location may be needed.

Contact WhisperKOOL Customer Service

1738 E. Alpine Ave
Stockton, CA, 95205
www.whisperkool.com

Email: support@whisperkool.com

Phone: 209-466-9463

US Toll Free: 1-800-343-9463

Fax: 209-466-4606

**WhisperKOOL Product Terms and Conditions
Including Product Limited Warranty And Product Installation Requirements
For WhisperKOOL Fully-Ducted Self Contained & Self Contained Units**

ATTENTION: PLEASE READ THESE TERMS OF USE CAREFULLY BEFORE INSTALLING YOUR WHISPERKOOL COOLING SYSTEM. INSTALLING YOUR WHISPERKOOL COOLING SYSTEM INDICATES THAT YOU ACCEPT AND AGREE TO EACH OF THE TERMS AND CONDITIONS SET FORTH HEREIN ("TERMS OF USE"). IF YOU DO NOT ACCEPT THESE TERMS OF USE, YOU RISK VOIDING YOUR WARRANTY AND ASSUMING ADDITIONAL REPAIR AND REPLACEMENT COSTS.

1. Purchase of a WhisperKOOL Cooling System assumes that the Purchaser ("End User") fully accepts and agrees to the Terms and Conditions set forth in this document. The Terms and Conditions of Sale and Owner's Manual are shipped with each unit and, if another copy is needed, replacement copies can be downloaded from the company website (whisperkool.com) or by contacting WhisperKOOL directly for a new copy. WhisperKOOL reserves the right, in its sole discretion, to change its Terms and Conditions at any time, for any reason, without notice.

2. WhisperKOOL Product Limited Warranty:

- A. Two (2) Year Limited Warranty. For the period of TWO (2) YEARS (the "Limited Warranty Period") from the date of original sale of a Product by WhisperKOOL and up to an additional (6) month grace period, if a WhisperKOOL Self-Contained Product is found to be defective in material or work-manship after undergoing WhisperKOOL's customer service troubleshooting, then, subject to the WhisperKOOL Product Limited Warranty Limitations and Exclusions as well as the other Terms and Conditions stated herein, WhisperKOOL will replace the Product with an authorized factory replacement under the terms of our Replacement Agreement. The Replacement Agreement outlines the terms, procedures, and additional considerations should the End User request a replacement for a cooling unit that is found to fall under warranty. For more information on our Replacement Agreement, visit www.whisperkool.com/warranty-information.
- B. Five (5) Year Compressor Limited Warranty. WhisperKOOL Products' compressor only will be covered for five (5) years from date of purchase. Labor and freight of the compressor is the End Users responsibility.
- C. Product Warranty Limitations and Exclusions.
 - 1. This limited warranty does not cover cosmetic damage caused during installation, damage due to acts of God, commercial use, accident, misuse, abuse, negligence, or modification to any part of the Product. Delivery and installation of the Product, any additional parts required, as well as removal of the Product if warranty work is required, are all at the sole cost, risk and obligation of the End User.
 - 2. This limited warranty does not cover damage due to improper installation or operation or lack of proper maintenance of the Product, connection of the Product to improper voltage supply, or attempted repair of the Product by anyone other than a technician approved by WhisperKOOL to service the Product.
 - 3. This limited warranty does not cover any Product sold "AS IS" or "WITH ALL FAULTS."
 - 4. Product that has been replaced during warranty period does not extend the warranty period past the original date of purchase.
 - 5. (5) This limited warranty is valid only in the continental United States. Sales elsewhere are excluded from this warranty.
 - 6. Proof of purchase of the Product in the form of a bill of sale, receipted invoice or serial number, which is evidence that the Product is within the Limited Warranty Period, must be presented by the End User to WhisperKOOL in order to obtain limited warranty service.

7. This limited warranty is void if the factory applied serial number has been altered or removed from the Product.
8. This limited warranty is voided if installed in an enclosure of insufficient design that does not follow the Product installation requirements stated herein and in the owner's manual.
9. Removing the rivets from the Product's unit housing without prior authorization from WhisperKOOL voids this limited warranty.
10. The End User must first contact WhisperKOOL Customer Service by telephone (at 1-800-343-9463) prior to attempting service on any Product still under the limited warranty; else the limited warranty is voided.
11. This limited warranty does not cover Product being concealed by, but not limited to, vegetation, fabric, shelving, mud, snow, or dirt. Product must not be painted or limited warranty will be void.
12. This limited warranty does not cover exposure to corroding environments such as, but not limited to, petroleum and gasoline products, cleaning solvents, caustic pool chemicals, and marine air.
13. This limited warranty does not cover any cause not relating to Product defect.
14. THE REPAIR OR REPLACEMENT OF THE PRODUCT AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF YOU, THE END USER, AS WELL AS ANYONE ELSE IN THE CHAIN OF TITLE OF THE PRODUCT, DOES NOT START A NEW LIMITED WARRANTY TIME PERIOD, AND IS IN LIEU OF ALL OTHER WARRANTIES (EXPRESS OR IMPLIED) WITH REGARD TO THE PRODUCT. IN NO EVENT SHALL WHISPERKOOL BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL OR CONTINGENT DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY EXPRESSLY DISCLAIMED. Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This limited warranty gives you specific legal rights, and you may have other rights, which vary from state to state.
15. Failure of the End User to comply with all of the Product Installation Requirements, Maintenance Requirements and End User Requirements may, at WhisperKOOL's sole discretion, void this limited warranty.
16. No one has any authority to add to or vary the limited warranty on this Product.

3. Product Installation Requirements:

- A. Prior to installing a WhisperKOOL Product, the End User must read the WhisperKOOL Owner's Manual and thereafter the End User must follow the required installation, use and maintenance procedures set forth by WhisperKOOL in WhisperKOOL's Owner's Manual. The Owner's Manual is shipped with each Product and if another copy is needed, replacement copies can be downloaded from WhisperKOOL's website (www.whisperkool.com) or by contacting WhisperKOOL directly for a new copy of the Owner's Manual.
- B. It is highly recommended that the End User obtain the assistance of a wine storage professional.
- C. Failing to address all of the variables associated with proper installation will cause the Product to operate incorrectly and limit both the Product's ability to cool and the longevity of the Product itself.
- D. The End User is responsible for all risks and costs of installation of the Product, including but not limited to all labor costs as well as cost of any additional parts required for the proper and complete installation of the Product. The End User is responsible for all risks and costs of removing the Product if limited warranty work is required.
- E. The Product cannot operate at its optimum capacity if airflow is constricted by ducting or venting the exhaust side of the Product into a location with inadequate ventilation.

4. Maintenance Requirements

It is the End User's responsibility to clean off any accumulated dust, lint, or other debris from the front and rear intake grills; failure to do this on a regular basis will restrict the airflow and may affect the Product's ability to function properly. Periodically cleaning the Product's vents will help assure maximum cooling efficiency. The drain tube must also be checked and kept clean and free of debris and mold to maintain proper performance.

Mold is a natural living organism in the environment. It exists in the air in the form of microscopic spores that move in and out of buildings through doors, windows, vents, HVAC systems and anywhere else that air enters. Once it is discovered, mold must be addressed quickly and appropriately. Delayed or improper treatment of mold issues can

result in costly and reoccurring repairs. If the End User suspects a mold problem, it is always best to hire a qualified and experienced mold remediation specialist.

5. Additional End User Costs And Responsibilities

The following items are not covered under any warranty and are the sole responsibility of the End User:

- A. End Users should satisfy themselves that the Product they are purchasing is suitable for their particular needs and requirements, and thus no responsibility will be placed with WhisperKOOL for the End User's decisions in this regard.
- B. It is the End User's responsibility to secure safe haven/storage for ANY AND ALL items that are being kept and stored in the End User's wine cellar, including any Product. WhisperKOOL takes no responsibility for the safety and preservation of the aforementioned items in the event that the environment becomes unsuitable to maintain a proper storage environment.
- C. End User is responsible for initial installation costs, including, but not limited to, labor costs and the cost of any additional parts necessary to complete the installation.
- D. End User is responsible for all costs incurred for the installation and/or removal of the Product, or any part thereof, unless such cost has been agreed by WhisperKOOL to be a warranty repair prior to the work being performed.

6. Sales and Use Tax

WhisperKOOL only collects California sales tax for orders shipped within the State of California; WhisperKOOL does not collect sales tax for orders shipped to other states. However, the Purchaser and the End User may be liable to the taxing authority in their state for sales tax and/or use tax on the Product. The Purchaser and the End User should each check with their state's taxing authority for sales and use tax regulations.

7. Customer Service and Troubleshooting

WhisperKOOL's customer service department is available to answer any questions or inquiries for End Users regarding a WhisperKOOL Product, as well as to assist in performing basic troubleshooting, Monday through Friday, from 6:30 a.m. to 4:00 p.m. PST, at telephone number 1-800-343-9463. WhisperKOOL Corporation is located at 1738 East Alpine Avenue, Stockton, California 95205.

8. Miscellaneous Terms and Conditions

- A. Return Policy. All return inquiries must be made within thirty (30) calendar days of the original purchase of a Product and are subject to a twenty five percent (25%) restocking fee. Shipping costs are not refundable and the Purchaser is responsible for all return shipping costs (including customs fees and duties, if applicable).
- B. Security Interest. WhisperKOOL retains a security interest in each Product until payment in full.
- C. Construction and Severability. Every provision of these Terms and Conditions shall be construed, to the extent possible, so as to be valid and enforceable. If any provision of these Terms and Conditions is held by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable, such provision will, to the extent so held, be deemed severed from the contract of sale between Purchaser and WhisperKOOL, and all of the other non-severed provisions will remain in full force and effect.
- D. Governing Law/Choice of Forum. The laws of the State of California (without regard for conflicts of law) shall govern the construction and enforcement of these Terms and Conditions of Sale (Sections 1 through 9 inclusive, including Product Limited Warranty And Product Installation Requirements), and further these Terms and Conditions of Sale shall be interpreted as though drafted jointly by WhisperKOOL and Purchaser. Any dispute will be resolved by the courts in and for the County of San Joaquin, State of California, and all parties, WhisperKOOL, Purchaser and End User, hereby irrevocably submit to the personal jurisdiction of such courts for that purpose. No waiver by WhisperKOOL of any breach or default of the contract of sale (including these Terms and Conditions of Sale) concerning a Product will be deemed to be a waiver of any preceding or subsequent breach or default.
- E. Correction of Errors and Inaccuracies. These Terms and Conditions may contain typographical errors or other errors or inaccuracies. WhisperKOOL reserves the right to correct any errors, inaccuracies or omissions, and to change or update these Terms and Conditions, at any time without prior notice.

9. Questions, Additional Information And Technical Assistance

A. Questions. If you have any questions regarding these Terms and Conditions or wish to obtain additional information, contact us via phone at 1-800-343-9463 or please send a letter via U.S. Mail to:

Customer Service
WhisperKOOL Corporation
1738 E Alpine Ave
Stockton, CA 95205

Email: support@whisperkool.com

Web: www.whisperkool.com

B. Technical Assistance. WhisperKOOL Customer Service is available Monday through Friday from 6:30 a.m. to 4:00 p.m. PST. The Customer Service representative will be able to assist you with your questions and warranty information more effectively if you provide them with the following:

1. The model and serial number of your WhisperKOOL UNIT.
2. The location of the system and installation details, such as ventilation, construction of your wine cellar, and room size.



Replacement Agreement

WhisperKOOL will replace the item(s) with the same or compatible item(s) for products that fail within warranty. Before initiating a warranty claim, the customer must complete all troubleshooting steps and the warranty claim process with a customer service representative.

Terms and Conditions

1. The customer will be charged a deposit to replace and ship the item via standard ground shipping under warranty. The total deposit amount will depend on the item being replaced. The customer is responsible for all shipping costs to and from the facility and any cost associated with the removal or reinstall of the product.
2. For Unit Replacements:
 - a. The cellar must be constructed per the guidelines in the Owner's Manual; an adequately built wine cellar must be fully insulated and include a completely sealed vapor barrier that will prevent excessive moisture from entering the wine cellar.
 - b. The cooling unit must be installed with no obstruction to the airflow. Adequate ventilation is required to dissipate heat away from the unit.
 - c. The condenser intake air temperature must not exceed the maximum recommended by WhisperKOOL.
 - d. The customer must install the external drain line to dispel the condensate.
 - e. **Warranty will be void if the unit is not installed, operated, maintained and serviced in accordance with instructions issued by WhisperKOOL, and a replacement will not be covered.**

Required Procedures

- An RMA (Return Merchandise Authorization) number will be issued at the time of the order.
 - Once the replacement item has been received and installed, use the new packaging to re-pack the original item and ship it back to the factory.
 - The customer is responsible for the return shipping of the item.
 - We recommend that you insure your shipment to cover any potential losses or damages that may occur during the shipping process.
 - Please fill out the credit card information below to complete the Replacement Agreement. **Providing a major credit card is a requirement of completing this agreement.**
 - Your credit card will be pre-authorized for the total deposit and charged when the replacement order is shipped and invoiced.
- **If you fail to return the original WhisperKOOL unit or part to the factory within 30 days, or no problem is found with the product, you will not be eligible for a refund.**
- All orders covered by warranty will receive a partial or full refund after evaluation has been completed and the claim has been verified, excluding items not covered under warranty, additional fees associated with the claim, and any expedited shipping charges associated with the order.

Additional Considerations

- This program is only for existing WhisperKOOL units under warranty.
- Replacement units are subject to availability. Your size replacement may not be available at all times.
- Refurbished cooling units may also have minor cosmetic imperfections.
- Factory-Authorized Replacements have been tested and are in proper operating condition at the time of shipment.
- The customer's responsibility is to secure haven/storage for ANY AND ALL items kept and stored in their wine cellar. WhisperKOOL takes no responsibility for the safety and preservation of the items mentioned above if the environment becomes unsuitable to maintain a proper storage environment.
- If you have any questions or require further assistance, please contact our Customer Service Department at 1-(800) 343.9463 or email at support@whisperkool.com.

*Whisper***KOOL™**

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Stockton, CA 95205
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www.whisperkool.com