

CELLAR COOL

CX SERIES
OWNERS MANUAL

Copyright © 2011. CellarCool. All rights reserved.

This manual, the product design, and the design concepts are copyrighted by CellarCool, with all rights reserved. Your rights with regard to the hardware and manual are subject to the restrictions and limitations imposed by the copyright laws of the United States of America. Under copyright laws, this manual may not be copied, reproduced, translated, transmitted, or reduced to any printed or electronic medium or to any machine-readable form, for any purpose, in whole or in part, without the written consent of CellarCool.

Every effort has been made to ensure that the information in this manual is accurate. CellarCool is not responsible for printing or clerical errors.

CellarCool reserves the right to make corrections or improvements to the information provided and to the related hardware at any time, without notice.

CellarCool are registered trademarks, and ECE is a trademark of CellarCool. All rights reserved.

Mention of third-party products is for informational purposes only and constitutes neither an endorsement nor a recommendation. CellarCool assumes no liability with regard to the performance or use of these products.

06.10.13

TABLE OF CONTENTS

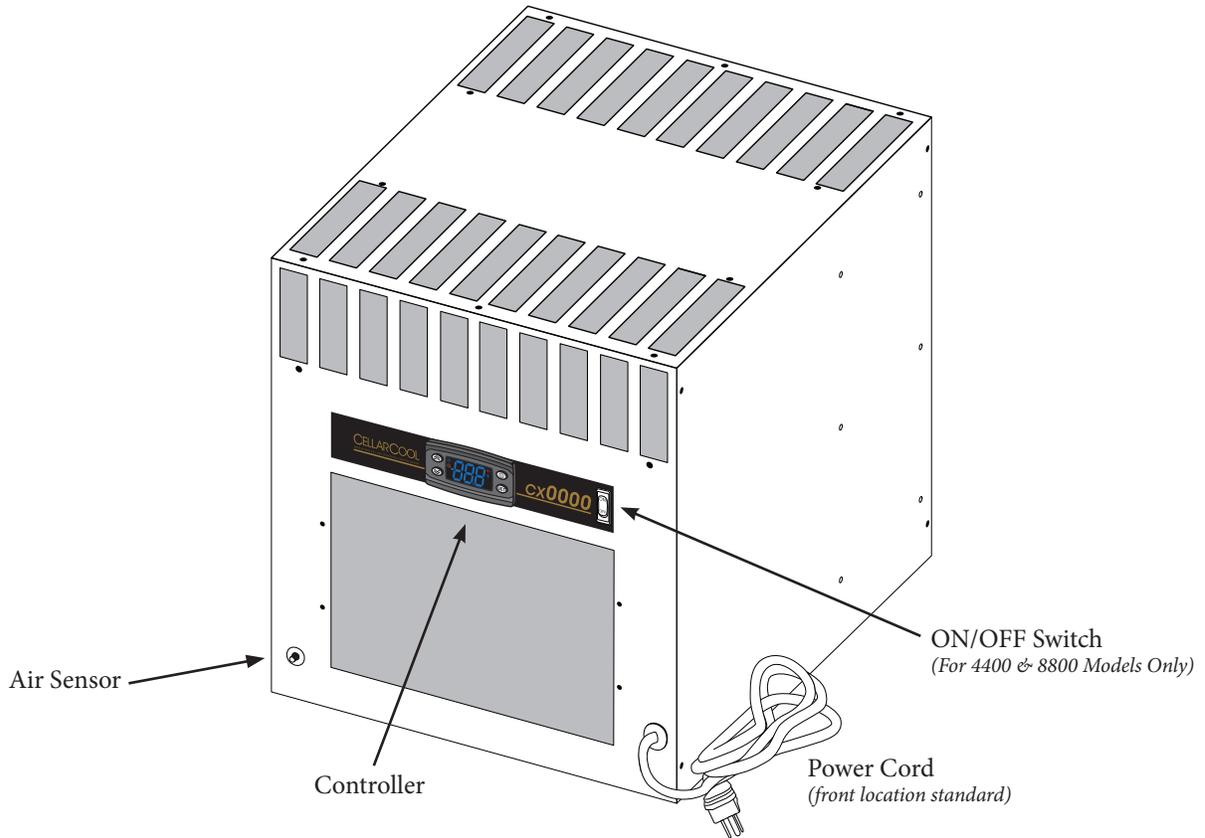
Quick Reference Guide	2
Introduction	3
Receiving & Inspecting The Unit	3
Preparing the Wine Cellar	4
Installation	
Pre-Installation.	7
Airflow Control	8
Preparing the Installation Location.	9
Preparing the Unit for Installation	10
Installing the System	11
Drain Line.	12
System Operation	
System Operation -Version 2 Controller	13
Version 2 Controller Functions	14
Version 2 Controller Wiring Schematics	16
System Operation -Version 1 Controller	19
Version 1 Controller Functions	20
Version 1 Controller Wiring Schematics	21
Troubleshooting Guide	22
Technical Assistance & Maintenance	26
Installation Terms and Conditions	27

We manufacture, test and certify 100% of our wine cooling units in the USA. By sourcing the best components and closely controlling our manufacturing processes, we can assure the highest-quality, lowest defect manufacturing rates in the industry.

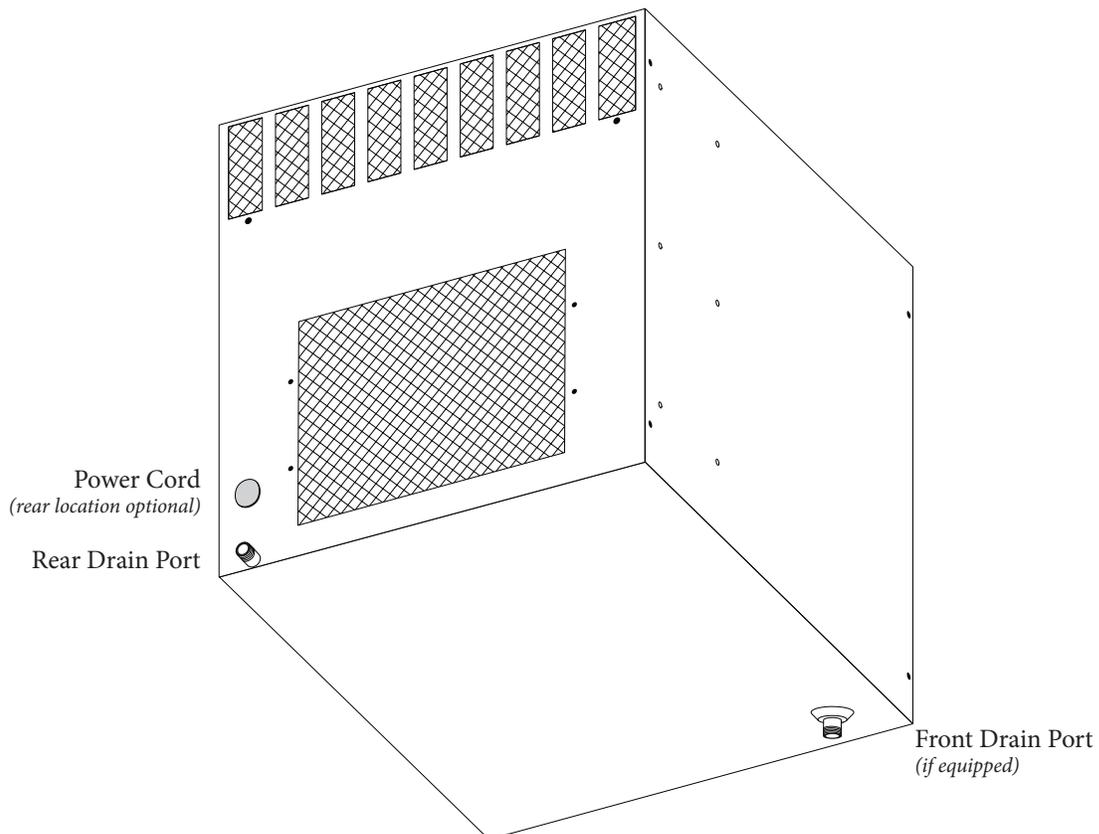
While great effort as been made to provide accurate guidelines, CellarCool cannot warrant its units to properly cool a particular enclosure. Customers are cautioned that enclosure construction, unit location and many other factors can affect the operation and performance of the unit. Therefore the suitability of the unit for a specific enclosure or application must be determined by the customer and cannot be warranted by CellarCool

CellarCool QUICK REFERENCE GUIDE

Front / Side View



Rear / Side View



Introduction

Thank you for purchasing a CellarCool cooling unit. We strive to provide the highest quality products and the best possible customer service. If you have any questions about your CellarCool unit, please call us at 1(855) 253-5271.

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

What Is the CellarCool Cooling System?

The CellarCool system is a specialized refrigeration unit designed for one purpose only: 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. The CellarCool cooling system is especially designed for the use and application to maintain optimal conditions for wine storage and aging. The system is fully self-contained and can be installed as a "Thru-The-Wall" application. The standard "Through-the-Wall" units are temperature controlled via air sensor. The CellarCool unit can be set at any temperature within the acceptable wine-aging range of 50°F to 67°F. It is designed to cool 30°F cooler than the ambient temperature of the space to which it is exhausting.

RECEIVING & INSPECTING THE UNIT

Receiving and Inspecting the Unit

Note: CellarCool units are manufactured in the USA and tested prior to shipment.

- Lift only at the designated hand hold locations on the shipping container or fully support the unit from underneath. A shipment may include one or more boxes containing accessories.
- Before opening the container, inspect the packaging for any obvious signs of damage or mishandling.

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 CellarCool Customer Service immediately at 1(855) 253-5271.

Check the Accessory Kits for the following contents:

Kit One:

- CellarCool Owners User's Manual

Kit Two:

- 10' Power Cord
- 6 - Screws, #6 x 1 3/4 Hex Washer Head
- 6 - 3/8" Phillips Pan Head Machined Screws
- 1 - 10 ft. Drain Line tube, Plastic 3/8
- 1 - 4 1/2 ft. Insulation Foam
- 2 - Mounting Flanges
- 2 - Magnetic Deflectors for Air Control

Please leave the CellarCool unit in its original box until you are ready for installation. This will allow you to move the product safely without damaging it. When you are ready to remove the product from the box, refer to page 6-11 for installation instructions.

Note: Save your box and all packaging materials. They provide the only safe means of transporting/shipping the unit.

PREPARING THE WINE CELLAR

The performance and life of your CellarCool unit are contingent upon the steps you take in preparing the wine cellar.

Note: Improperly preparing your enclosure or incorrectly installing your CellarCool 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.

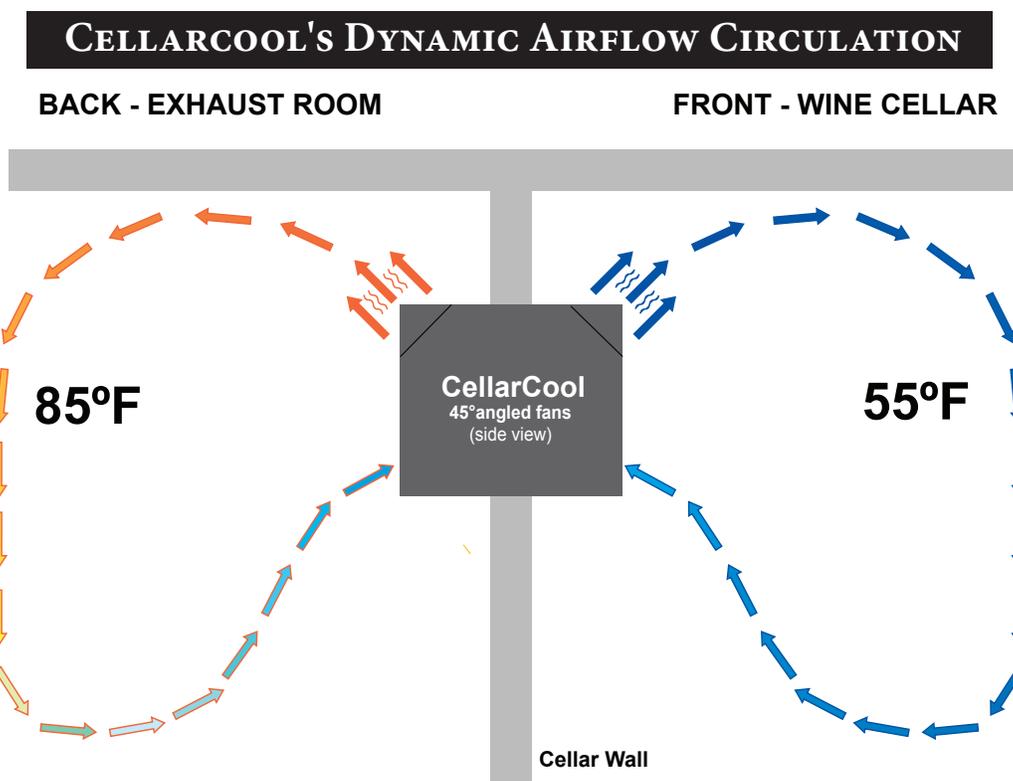
Wine storage professionals work with licensed contractors, refrigeration technicians, and racking companies to build well-insulated, beautiful, and protective wine cellars. CellarCool has put together some useful tips to assist in the installation process. Our recommendations are meant to act as a guide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

Wall & Ceiling Framing

Build wine cellar walls using standard 2x4 or 2x6 construction methods and ceiling joists following the guidelines of local and state codes in your area. As a general rule, the thicker the walls and the higher the insulation factor in your cellar, the better it will be at maintaining a consistent temperature.

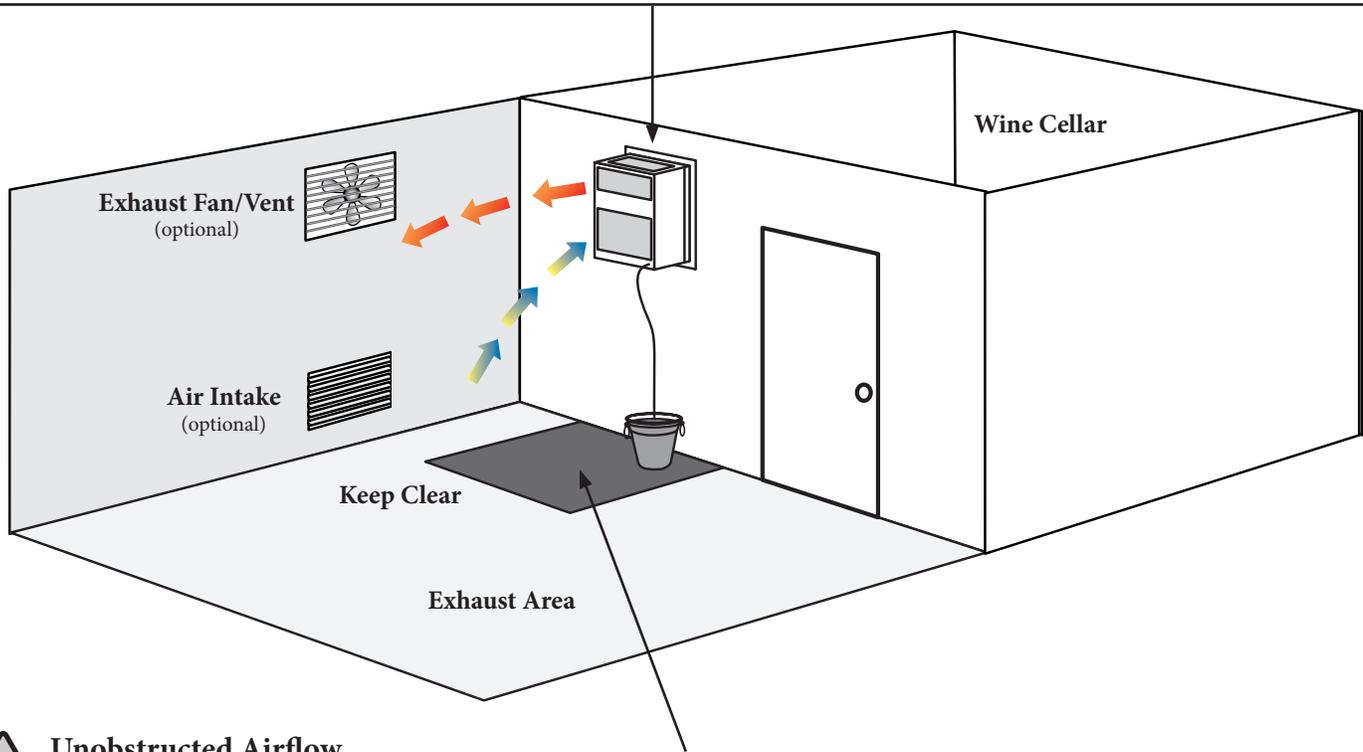
Insulation

Insulation is **REQUIRED** with the use of the CellarCool product. Standard fiberglass or rigid foam insulation is normally used in cellar construction or, in some cases, “blown-in” insulation is used. It is very important that all walls and ceilings are insulated to keep the cellar temperature as consistent as possible during the summer and winter months. The R-factor, or quality of insulation, is determined by the rate at which heat passes through the insulation. The higher the R-factor, the more resistant the insulation is to conducting heat. Using higher R-values in insulation will lower your operating costs and unit run time. (R-13 minimum, R19 recommended, R30 for ceiling and exterior walls)



Mounting the Unit

The unit must be mounted within 18" of the top of the room 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 the unit's inability to draw warm air from the ceiling of the cellar to the unit itself, and cold air settling to the floor.

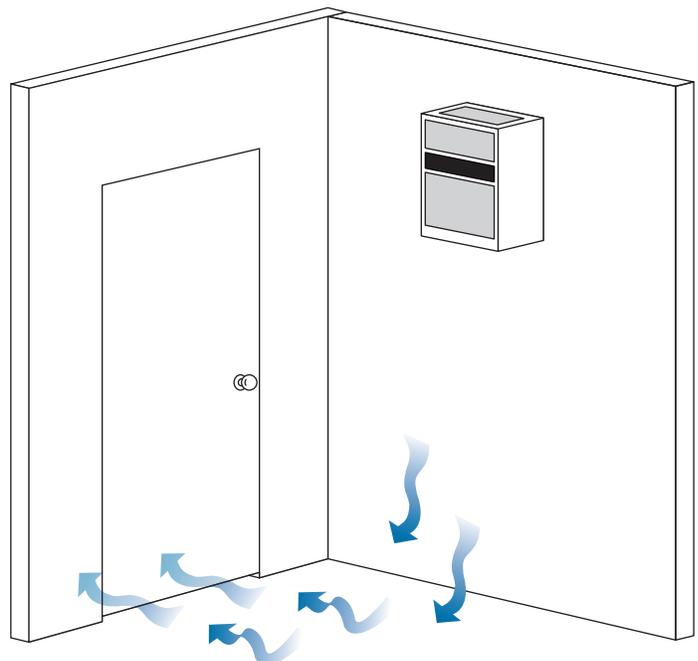


! Unobstructed Airflow Unobstructed airflow to and from the unit is critical for the unit's overall performance and life-span. A minimum three-foot clearance (five foot is ideal) area is crucial. The air the fans blow needs to circulate and either dissipate or absorb heat from the space, the more air to exchange the more efficient the unit will operate.

Note: Avoid attempting to camouflage the unit. This will restrict airflow and thus the unit's ability to work efficiently.

Door and Door Seal

An exterior grade (1 3/4") door must be installed as a cellar door. It is very important that weather stripping is attached to all 4 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. One of the most common problems with cooling units running continually is due to the door not sealing properly. **In cases where glass doors are used and the room size is close to the recommended unit size, the next larger size CellarCool should be used.** This will compensate for the insulation loss due to the lower insulating rating of glass.



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 and adversely affect the unit's ability to cool.

Vapor Barrier

Vapor Barrier is **REQUIRED** to prevent the intrusion of water vapor so that the cellar can be kept at the correct temperature and humidity. 6 mm plastic sheeting (recommended) should 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.

Ambient Temperature Factor

The cooling system has the ability to cool a maximum of 30°F below the ambient temperature of the room it is exhausting to. Therefore, you want to exhaust the unit in a room which will not exceed 85°F and preferably a consistent 75°F. Otherwise the unit will not have the capacity to keep the wine at a desirable 55°F.

Sizing the Unit to the Room

The specification chart will provide information on the units room size cooling capacity. There are circumstances in which a cellar design may require a larger unit due to some existing design restrictions. In such a case, we recommend that the customer consider purchasing a unit with a larger capacity to compensate for the design limitations. Issues such as glass doors, concrete, or brick walls and floors may seem adequate but do not offer the insulation capacity required to maintain the optimum environment.

Model	Room Size (cubic feet)	Weight (lbs)	AMP's (running)	Product Dimensions (W x H x D)
CX2200	300	55	3	14.25" x 13.25" x 16.38"
CX3300	650	76	5	14.25" x 19.75" x 21.63"
CX4400	1000	81	7	14.25" x 19.75" x 21.63"
CX8800	2000	101	10	16.25" x 22" x 22.25"
Temperature Delta - 30°F (when exhaust environment does not exceed above 85°F and below 50°F)				
Warranty - 2 yr parts & labor / 5 yr compressor only				

PRE-INSTALLATION

Electrical Needs

The CellarCool System requires a dedicated 110-volt 20-amp circuit. The unit draws a large amount of amps at initial start up. By designating a dedicated circuit breaker, you will guarantee the unit has enough power to run effectively. Contact an electrician for assistance with the installation of this dedicated electrical circuit:

1. Match the electrical outlet to the plug provided on the CellarCool unit.
2. Provide a dedicated circuit and wiring for the unit.

Electrical Outlet

The unit is equipped with a twelve foot power cord located on the evaporator/cellar side of the unit, which comes standard on all units. An optional rear/outside cellar power cord can be requested at an additional charge. Plug your CellarCool unit into a surge protector or power conditioner. As with any sensitive electrical equipment, the CellarCool electrical equipment may be damaged by power surges and spikes. Power surges and spikes are not covered in the CellarCool warranty.

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

Testing Unit - Carefully remove your CellarCool unit from the box. Do not destroy your packaging material, as it provides the only safe means of transporting the unit. Place the CellarCool system on a tabletop to prepare it for installation and testing. Plug system into a live electrical outlet and turn unit on. The system may take up to 10 to 15 minutes before operating correctly, meaning all four fans are running. Cold air coming out on cellar side, hot air coming out on exhaust side. Once the operation has been tested, turn the unit off, and unplug the unit from the electrical outlet.*

* Note: If the system does not seem to be fully functional after 15 minutes, please refer to the Troubleshooting Guide on page 13.

Units weigh 50-101 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.**

AIRFLOW CONTROL

Airflow Options

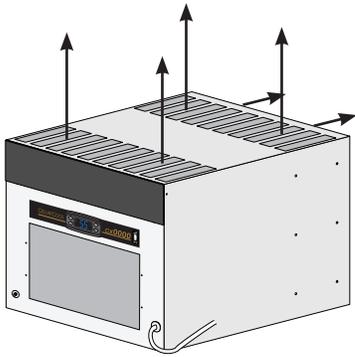
The Magnetic Deflectors can be used in a variety of situations including:

- Mounting the system lower in the cellar.
- Flush mounting the condenser side of system.
- Directing airflow to avoid recirculation.

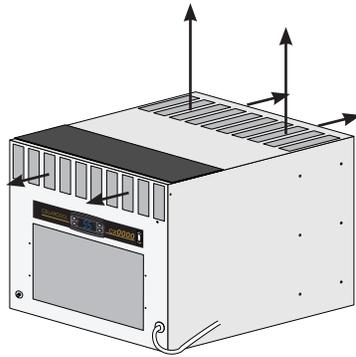
Simply apply the Magnetic Deflectors in one of the positions displayed below. Choose the option that will best suit your installation.

NOTE: Do not cover both of the openings on the same side of the unit for any reason.
This will cause cooling issues and premature failure.

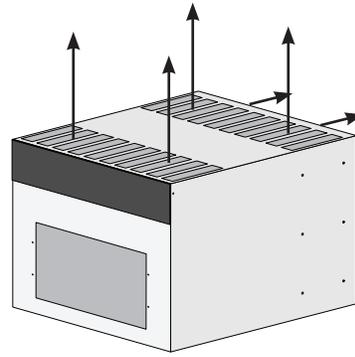
ONE SIDE SELECTIVE AIRFLOW OPTIONS



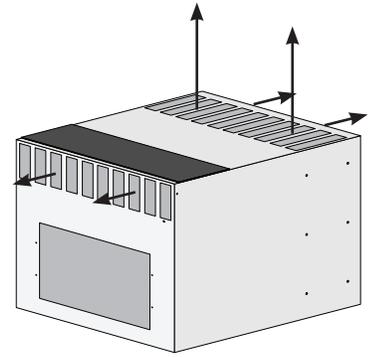
OPTION 1



OPTION 2

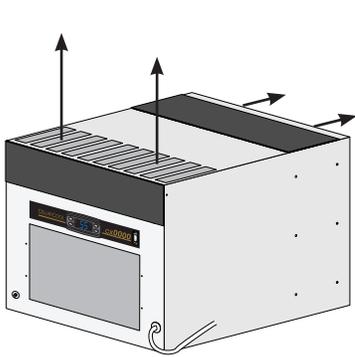


OPTION 3

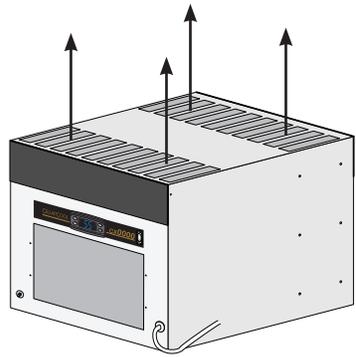


OPTION 4

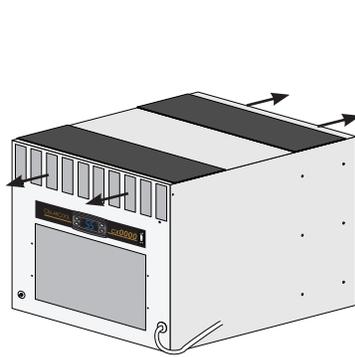
TWO SIDE SELECTIVE AIRFLOW OPTIONS



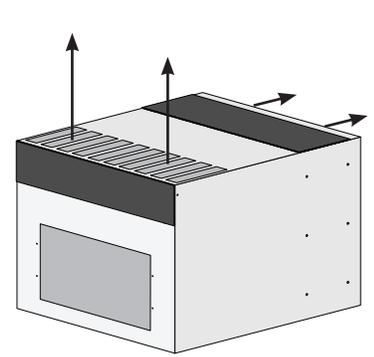
OPTION 5



OPTION 6

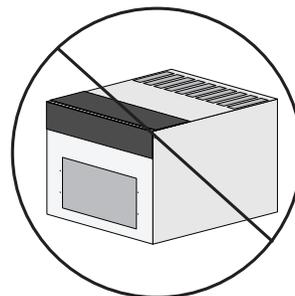


OPTION 7



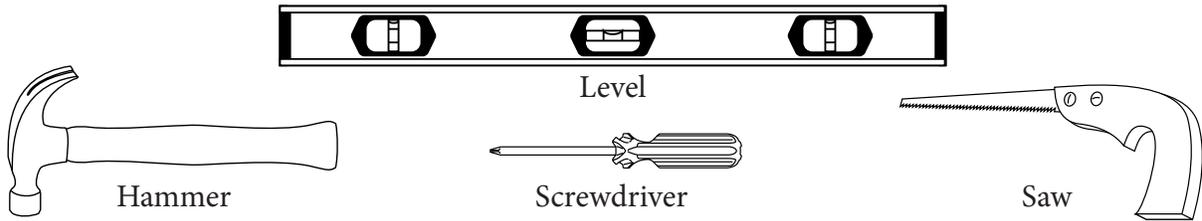
OPTION 8

NOTE: Do not cover both of the opening on the same side of the unit for any reason.
This will cause cooling issues and premature failure.



PREPARING THE INSTALLATION LOCATION

Minimum Tools Needed



Locate the desired installation location (no lower than 18" inches from the ceiling). Using a stud finder, locate the studs on either side of the center point, and mark them with vertical lines*. Using a level and a pencil, mark a horizontal line on the wall between the two studs, no less than 1 1/2" and no more than 18" from the ceiling.

* For the cx8800 special consideration needs to be used when selecting the installation location. The system is wider than the typical 16" wall spacing and requires the removal of at least one.

Using a ruler or measuring tape, measure vertically down 13.5" for cx2200, 20" down for cx3300/cx4400, and 22.5 for cx8800. Mark another horizontal line parallel to the first one.

Using a saw, cut along the uppermost horizontal line until your saw reaches the stud. Turn the saw around, inserting it into the cut you have just made, and cut toward the opposite stud so that you have a clean horizontal cut between the two studs. Be careful not to cut into the studs themselves*.

* For the cx8800 cut your drywall out first and cut through your studs when you have clear understanding what is in the wall.

Now make the second horizontal cut from stud to stud on the line below the first cut.

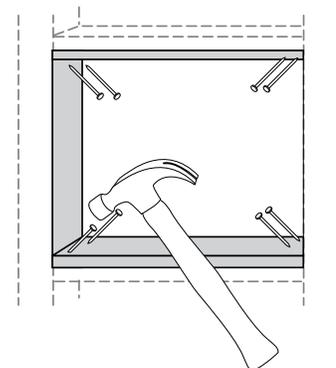
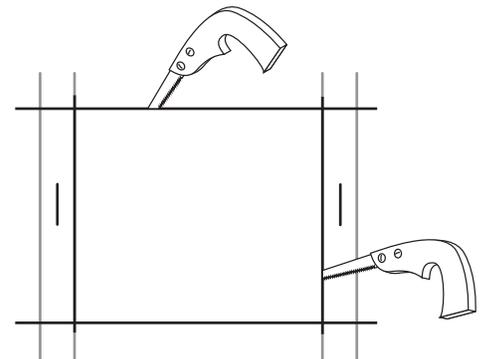
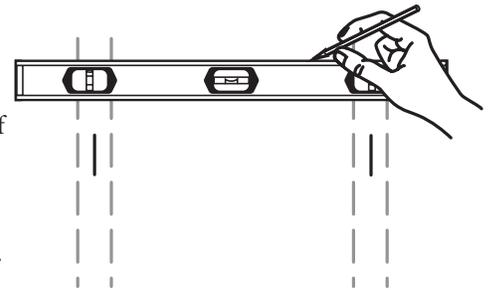
Once the horizontal lines have been cut, make vertical cuts using the inside edge of the studs as a guide. Once you have made both vertical cuts, you should have a rectangular hole in the sheetrock. Now you have to make the same hole on the other side of the wall. Since you already have one hole, this is an easy process. Using a nail, mark all four corners of the first hole by making nail holes through the sheetrock. Then on the other side of the wall, connect the holes with a pencil mark and cut.

Once the horizontal lines have been cut, make vertical cuts using the inside edge of the studs as a guide. Once you have made both vertical cuts, you should have a rectangular hole in the sheetrock. Now you have to make the same hole on the other side of the wall. Since you already have one hole, this is an easy process. Using a nail, mark all four corners of the first hole by making nail holes through the sheetrock. Then on the other side of the wall, connect the holes with a pencil mark and cut.

Sheetrock alone cannot support the weight of a cooling system. Therefore, it is necessary to frame the hole that you have just cut with upper and lower supports. These supports also provide solid material for the mounting bracket screws.

Using two 2x4s at 14.5" in length and eight 6d nails, secure the upper and lower supports to the right and left studs, just inside the sheetrock. Make sure that the internal height remains the same so that the system will fit snugly through the framed cut-out*.

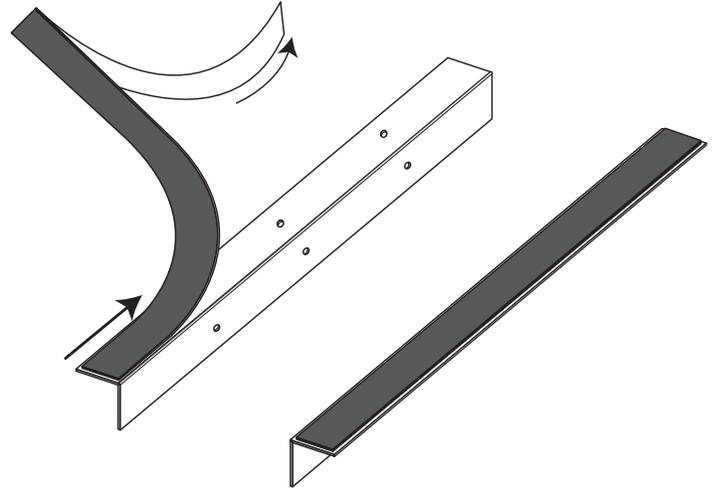
* For the cx8800 it is recommended that the entire opening is framed. This system is heavy and more attention to sturdy framing the better.



PREPARING THE UNIT FOR INSTALLATION

Two Piece Mounting Flanges

The unit utilizes two mounting flanges that attach to each side of the unit on the exterior side of the installation location.



Applying Insulation Tape

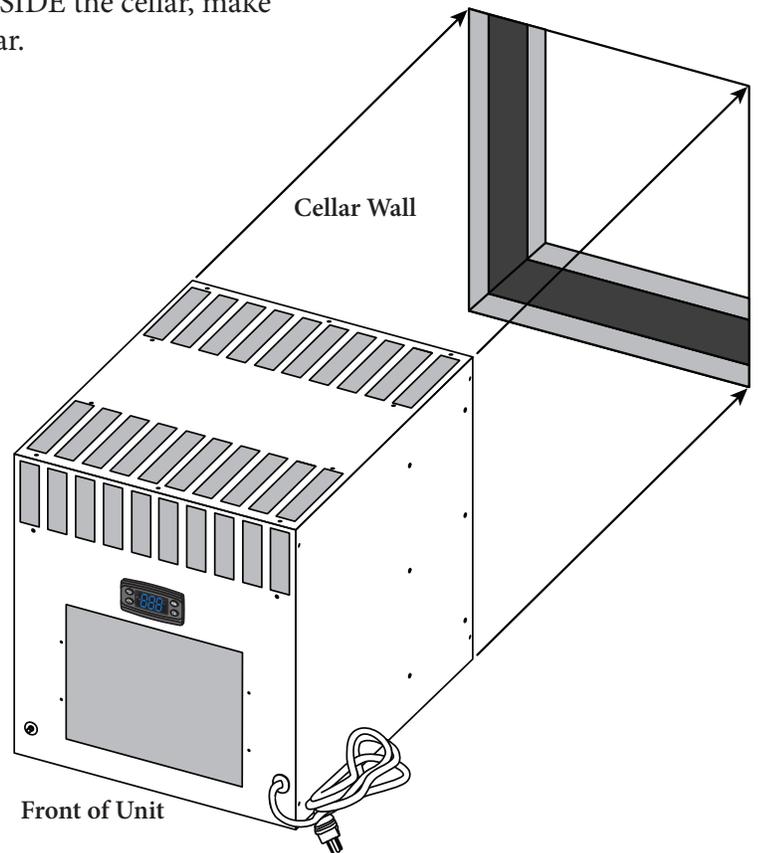
Locate the (2) pre-cut pieces of black foam tape included with the unit. To apply, simply peel back the white-paper adhesive covering and place on one side of the mounting flange. This foam creates a tight seal between the bracket and the wall.

INSTALLING THE UNIT

Installing the Unit

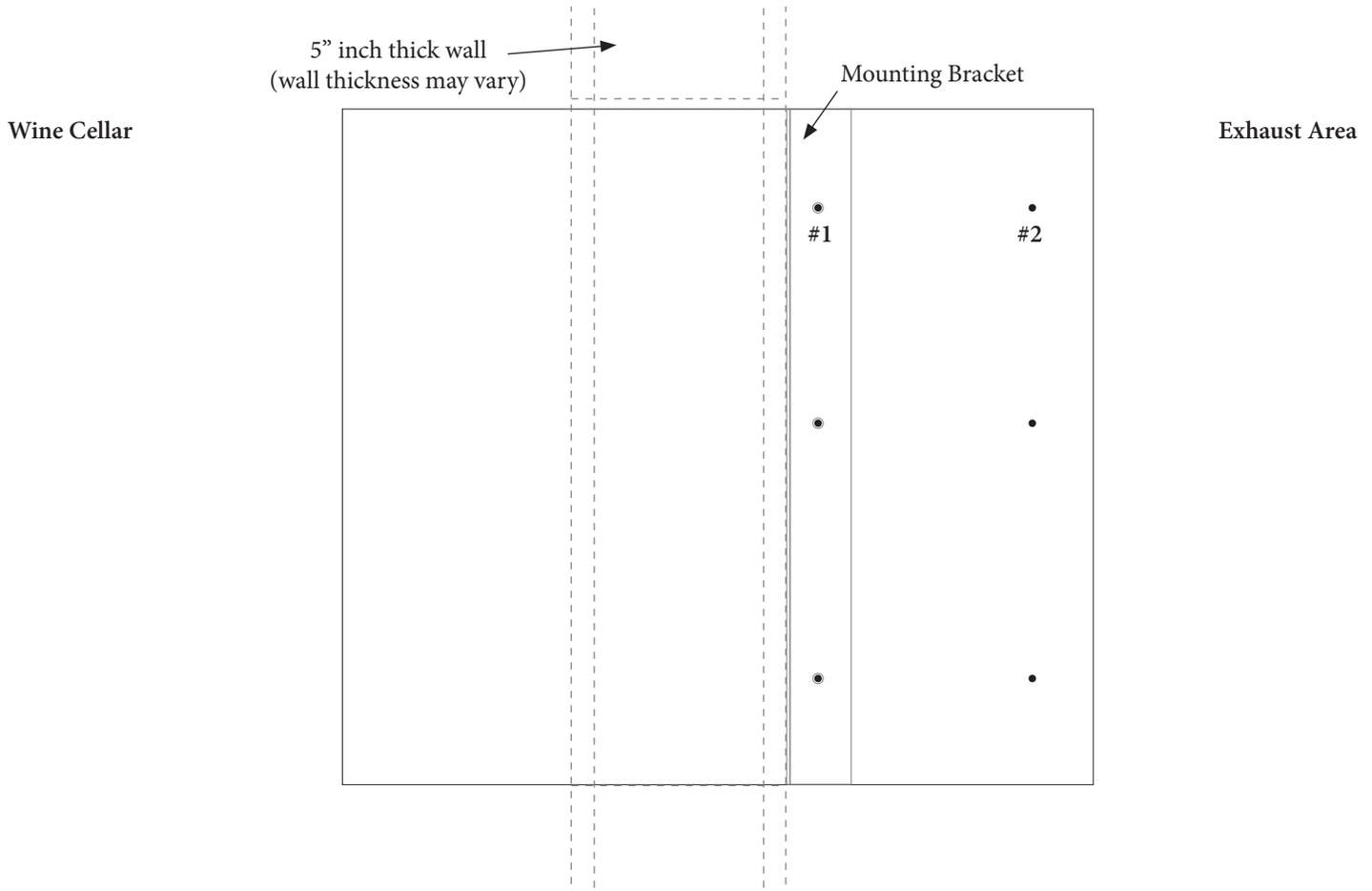
1. Slide the unit into the installation location from **INSIDE** the cellar, make sure the controller side of the unit is inside of the cellar.

Note: If you use decorative moulding, it should be attached to the walls and never to the cooling unit itself. The moulding itself should be removable in case the unit needs servicing.



Mounting Bracket Installation

Select your desired bracket mounting location (see diagram below), this location determines the depth of the installation. For example, position #1 keeps most of the unit out of the cellar while position #2 makes the back of the unit near flush on the exterior wall. Place the flanges onto unit, pay special attention to the direction the foam side is facing as it needs to be towards the wall. For the cx2200, cx3300, and cx8800 Models: Use the (6) 3/8" Phillips Head Screws to fasten the bracket to the unit. It is imperative not to use self tapping screws longer than 1/2" in length. For the cx4400 Model: Use the (6) 3/8" Phillips Head Screws to fasten the bracket to the unit. It is imperative not to use screws longer than 3/8" in length.

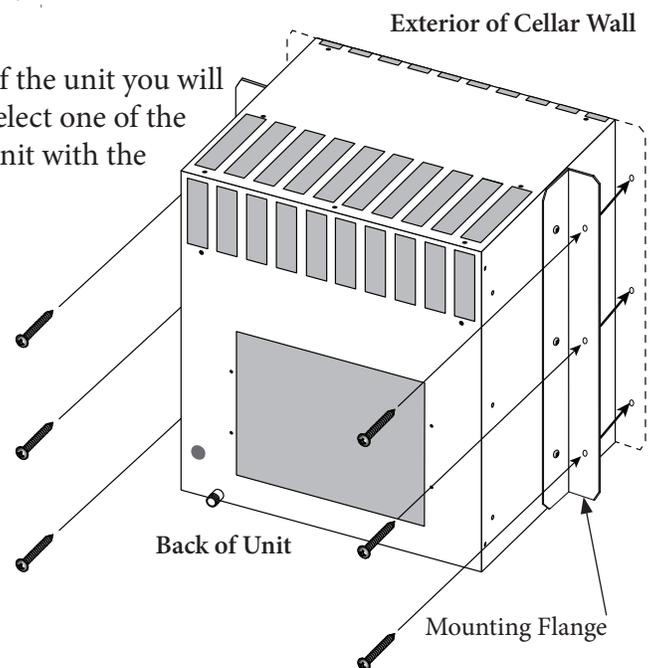


Installing the Mounting Flange

2. From OUTSIDE the cellar: (Note: on each side of the side of the unit you will notice 6 indents, these mark 2 different installation depths.) Select one of the 2 mounting depths and attach each mounting bracket to the unit with the supplied self tapping screws.

3. Finally, secure the mounting brackets to the wall through the pre-drilled holes with the (10) supplied #6 1 3/4" hex head screws. The screws should penetrate the studs to provide adequate support for the unit (see illustration).

4. Seal all cracks and gaps around the unit from inside the cellar with an air-tight sealant or caulking to prevent air leakage.

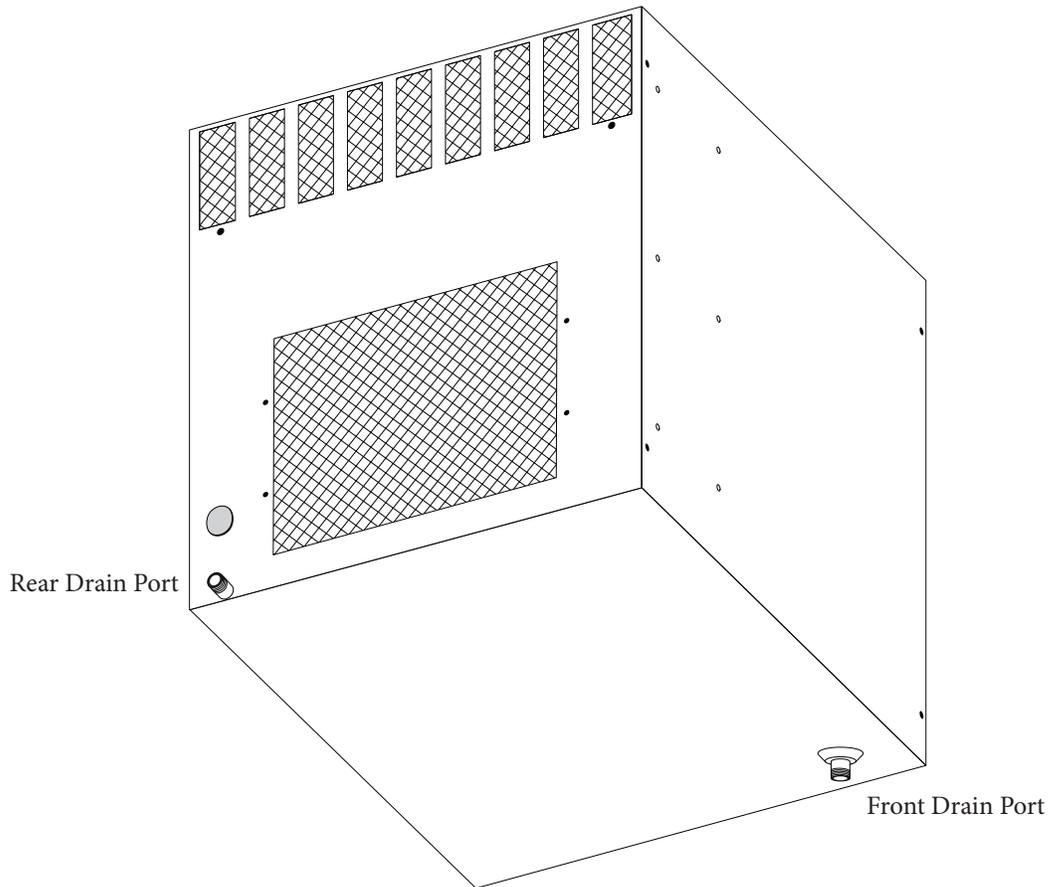


DRAIN LINE

Condensation Drain Line Tube

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 is properly connected and used to prevent leakage and other problems associated with excess condensation.

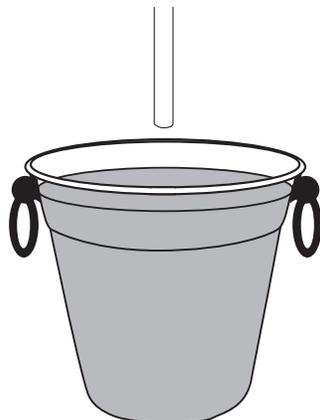
Failure to use the condensation drain line tube will void the warranty on the unit.



Drain Line Choices

Your unit is equipped with both a front and rear Drain Line Port. This allows you to choose if you would like to have excess condensate drain back into the cellar for additional humidity. Simply remove the cap from the Drain Port you would like to utilize and thread the supplied drain line and fitting on. It is important that the drain line tube is properly connected and used to prevent leakage and other problems associated with excess condensation. Please take note of the below illustrations that cover how the drain line needs to be positioned.

* DRAIN LINE SHOULD HANG ABOVE THE WATER LINE.



* DO NOT ALLOW DRAINLINE TO BE SUBMERGED IN WATER



SYSTEM OPERATION - VERSION 2 CONTROLLER



Confirm if you have a Version 2 Controller using the above illustration as a guide. If Your controller does not match this illustration than you have a Version 1 Controller featured on page 18.

Initial Start-Up:

When power is applied to the unit, the control will briefly display all symbols, and the Compressor symbol will be displayed (if unit is calling for cooling). There may be a brief delay prior to the evaporator and condenser fans turning on.

Set Point:

The set point is set from the factory at 55°. It can be adjusted by the customer between 50° and 70° in one degree increments.

Cooling Operation:

Cooling is activated once the air sensor probe senses a temperature that is four degrees greater than the set point. The controller then energizes the compressor relay which activates the compressor, evaporator fans and condenser fans. The unit provides cooling until the air sensor probe senses the set point. At this point the compressor relay is de-energized which stops the compressor, evaporator fans, and condenser fans.

Defrost:

After two hours of compressor operation the controller will activate defrost. The compressor relay will de-energize, stopping the compressor, evaporator fans, and condenser fans. The compressor relay will remain de-energized for five minutes, and then the unit will return to normal operation. The set point and the dripping snowflake will be displayed during defrost and until the unit reaches set point after a defrost cycle.

Display:

The Set point is displayed by default. The air sensing probe temperature can be accessed by pushing the set button and scrolling through PB1 and set point parameters.

Safety Features:

Once the compressor relay is de-energized the controller must wait 5 minutes before re-energizing the relay. This prevents the compressor from repeatedly turning off and on. If the unit is calling for cooling during this time, the compressor symbol will blink indicating that cooling is needed but the control is waiting for the anti-short cycle delay.

In the event of a faulty air sensing probe, the compressor will cycle off for 10 minutes and on for 40 minutes. E1 will be displayed on the screen.

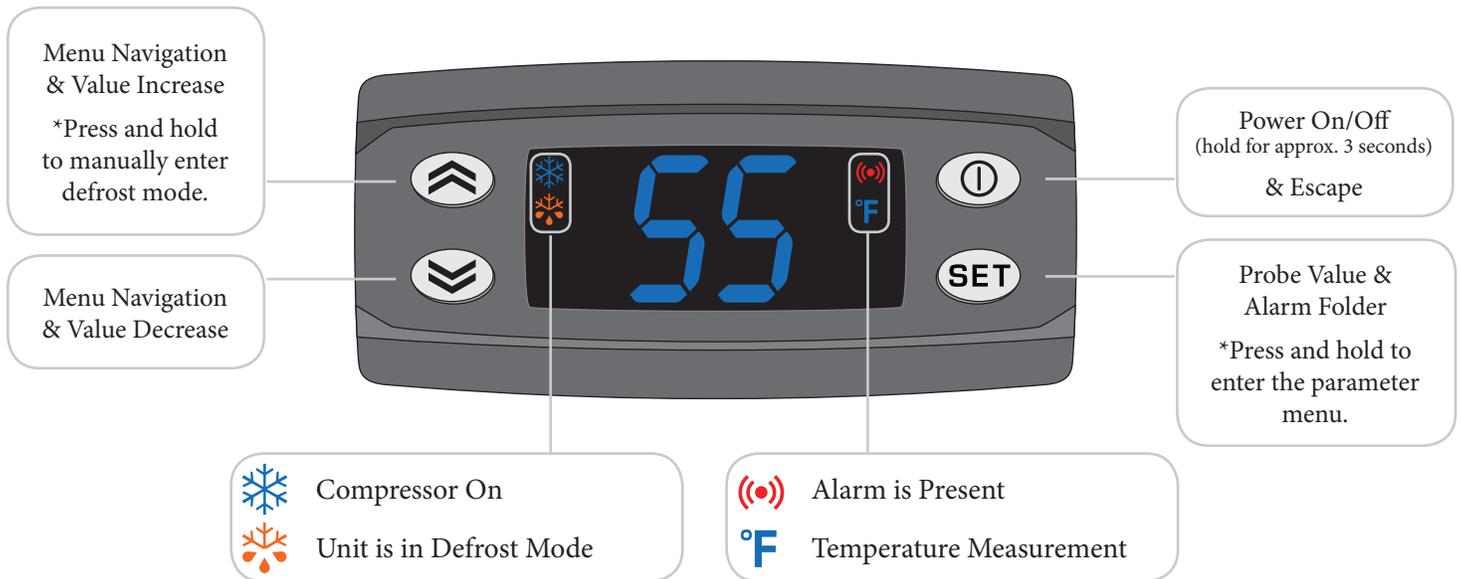
Alarms:

The high temperature alarm (AH1) will be displayed if the room temperature reaches 10 degrees above the set point. The alarm will reset once the temperature drops by 2 degrees. This alarm will only be active 10 hours after the unit is turned on and will be disabled for an hour after an anti-frost cycle.

The low temperature alarm (AL1) will be displayed if the room temperature reaches 10 degrees below the set point. The alarm will reset once the temperature increases by 2 degrees. This alarm will only be active 10 hours after the unit is turned on. And will be disabled for an hour after a defrost cycle.

E1 will be displayed in the event of a thermostat probe failure.

VERSION 2 CONTROLLER FUNCTIONS



Button/Symbol	Normal Functions
<p>ON/OFF</p> 	<ul style="list-style-type: none"> Press and hold the on/off button for approximately 3 seconds to turn the unit on or off. <i>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 wall receptacle.</i> This button also serves as an escape button.
<p>Up and Down</p>  	<ul style="list-style-type: none"> Use these buttons to scroll up or down a menu. Press and hold the up button for approximately five seconds to manually start the defrost sequence.
<p>SET</p> 	<ul style="list-style-type: none"> Press the set button once to view the set point, temperature of the air sensing probe. Once the set button is pressed "SET" will be displayed. Press the up or down arrows to scroll through Pb1 and the set point parameter. Press the set button again to view any of these values. To change the set point, press the SET button. When "Set" is displayed on the screen, press the SET button once more. Use the up and down arrow buttons in order to change the value until the desired set point is reached. Hold the set button for approximately 5 seconds to enter the CPSM (Customer Preference Selection Mode) menu. (CPSM detail on next page)
<p>Snowflake</p> 	<p>Constant - Unit is in cooling mode and the compressor and fans are running.</p> <p>Blinking - The unit is calling for cooling, but must wait 5 minutes before restarting the compressor. This 5 minute delay serves as an anti-short cycle for the compressors protection.</p>
<p>Dripping Snowflake</p> 	<p>Unit is in defrost mode. The compressor and fans will be turned off during this cycle.</p>

	<p>Alarm</p> <p>The Alarm symbol is shown when the unit encounters an issue that needs attention, the displayed alarm codes are explained below. The alarm code will remain displayed until corrected.</p>
---	---

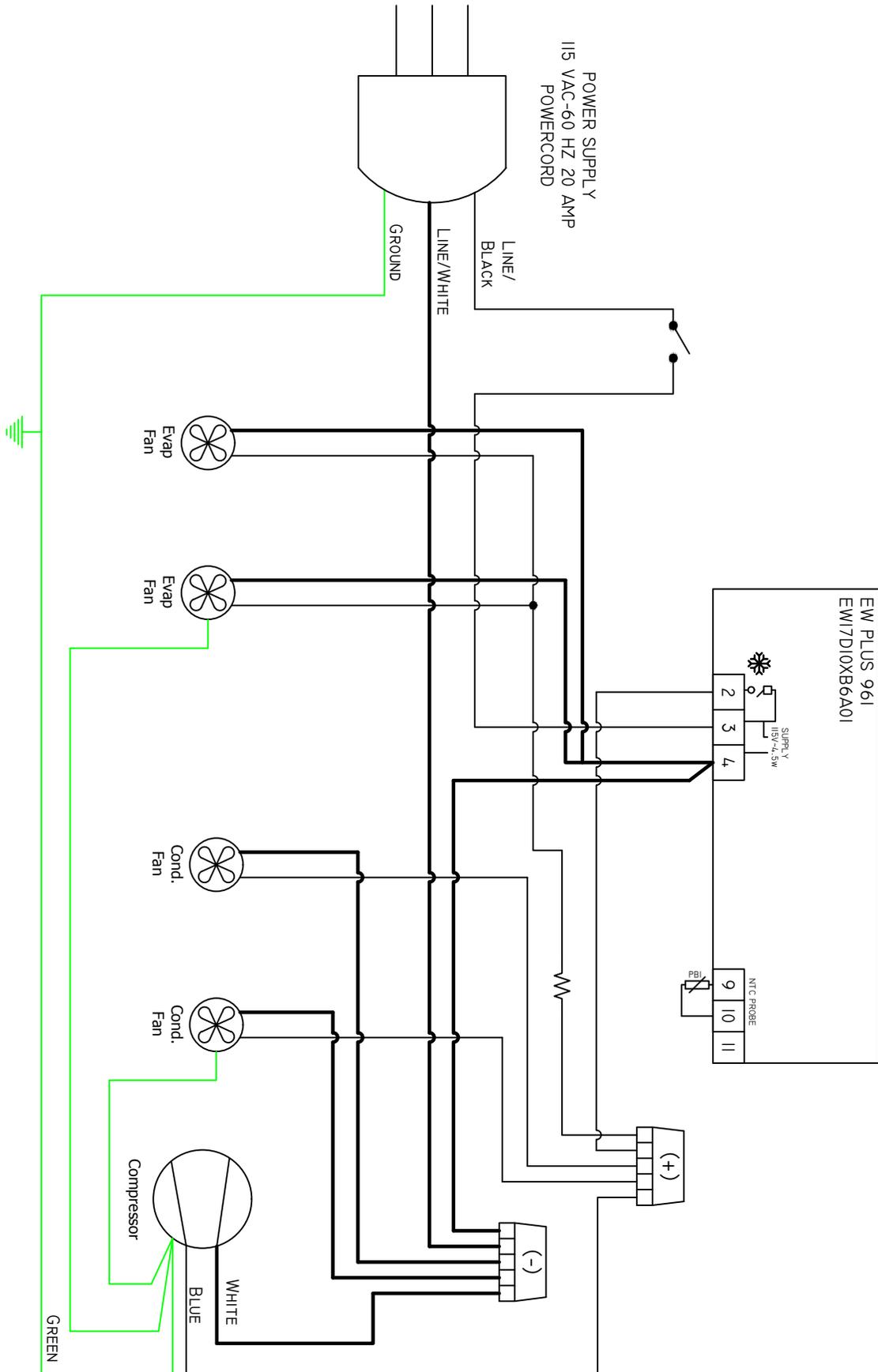
Alarm Codes

Message	Cause	Solution
“E1”	Faulty Air Sensing Probe	Contact Customer Service
“AH1”	The air probe is sensing a temperature that is 10° above the set point	<ol style="list-style-type: none"> 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 air probe is sensing a temperature that is 10° below the set point	<ol style="list-style-type: none"> 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.

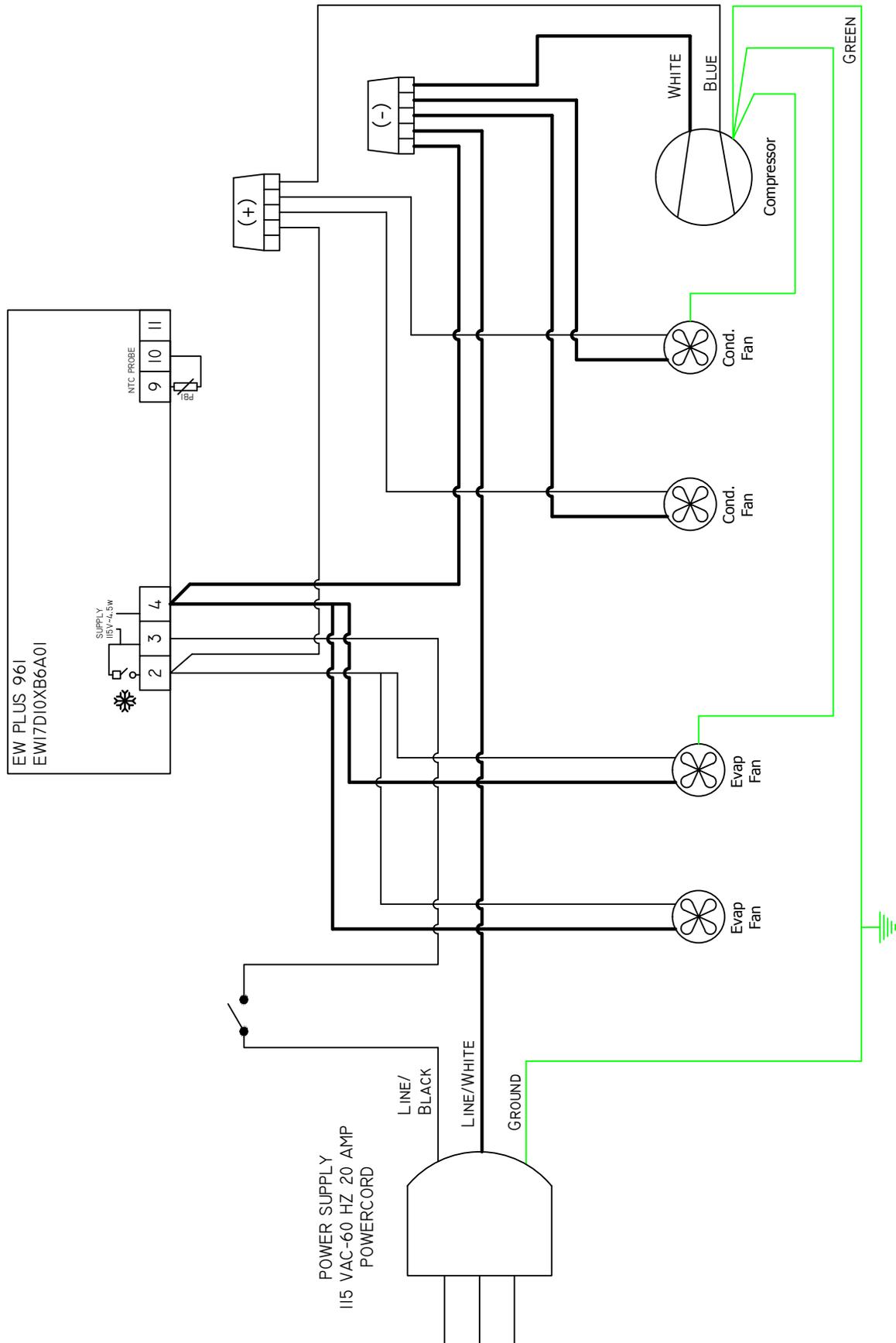
CPSM (Customer Preference Selection Mode)

<p>Press and hold the set button for approximately 5 seconds to enter the CPSM menu. Use the down arrow to access the following parameters.</p>	
PA2	No adjustable settings in this parameter.
tab	No adjustable settings in this parameter.
Rel	No adjustable settings in this parameter.
LOC	Change this parameter from “n” to “y” to lock the keyboard from changes to the set point.
CA1	Change the value to increase or decrease the temperature reading of the air sensor. (This process re-calibrates to the sensor.) Increasing the value by 1 means an increase in the temperature reading by 1 degree. This parameter can be adjusted +- 12 degrees. If needed: Adjust this setting to match your temperature sensor located inside of the cellar.

cx4400 VERSION 2 CONTROLLER WIRING SCHEMATIC



cx8800 VERSION 2 CONTROLLER WIRING SCHEMATIC



SYSTEM OPERATION - VERSION 1 CONTROLLER



Confirm if you have a Version 1 Controller using the above illustration as a guide. If Your controller does not match this illustration than you have a Version 2 Controller featured on page 12.

Initial Start-Up

When power is applied to the unit, the control will briefly display all symbols.

Normal System Cycle

After the unit or cellar has reached the set point, unit will turn off until temperature rises above set temperature (all units are shipped with the set point of 55°F and a differential of 4°F).

Anti Short Cycle

The Anti Short Cycle ensures that the unit will remain off for a period of 5 minutes after the unit has reached the set point to allow the pressure in the refrigeration system to equalize prior to starting the compressor.

Defrost Cycle

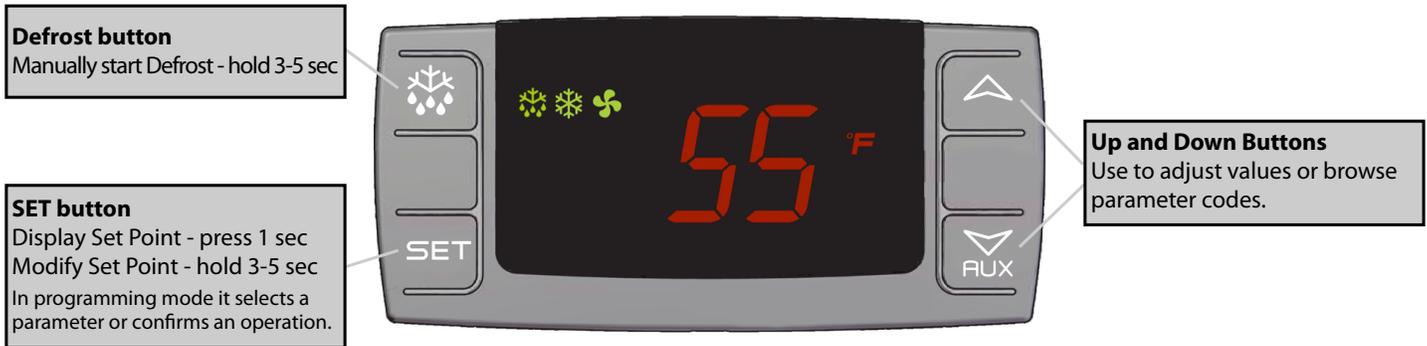
The Defrost Cycle is a precautionary measure, as icing or frosting of the coil does not occur during normal operation. The system will go through a defrost cycle every 2 hours. During the defrost cycle, unit shuts down.

Air Sensor

Each cooling unit comes equipped with an air sensing probe. The air sensing probe senses the temperature of the cellar air and cycles the unit on and off based on the desired cellar temperature.

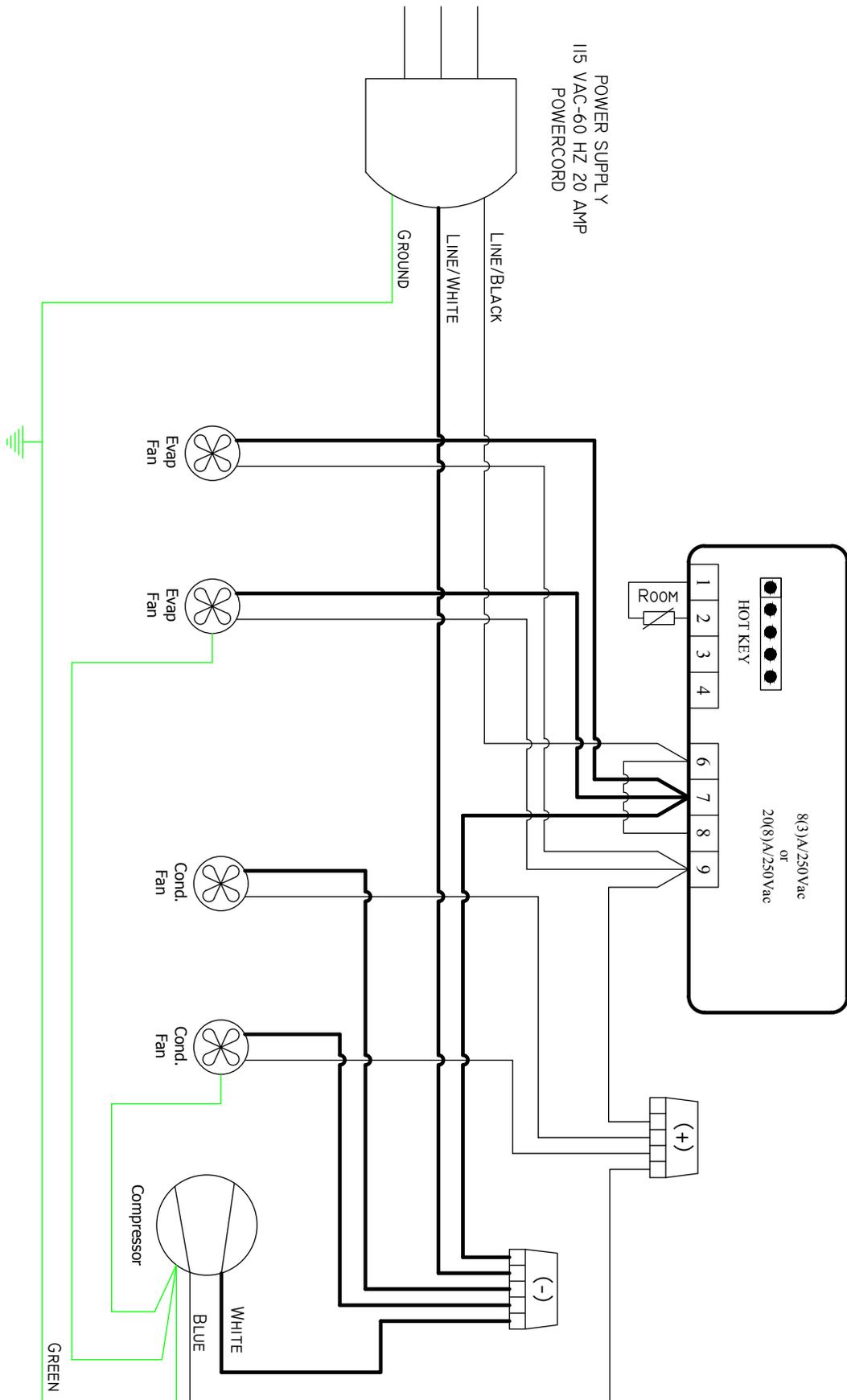
Note: The desired cellar temperature is the temperature set by you.

VERSION 1 CONTROL FUNCTIONS

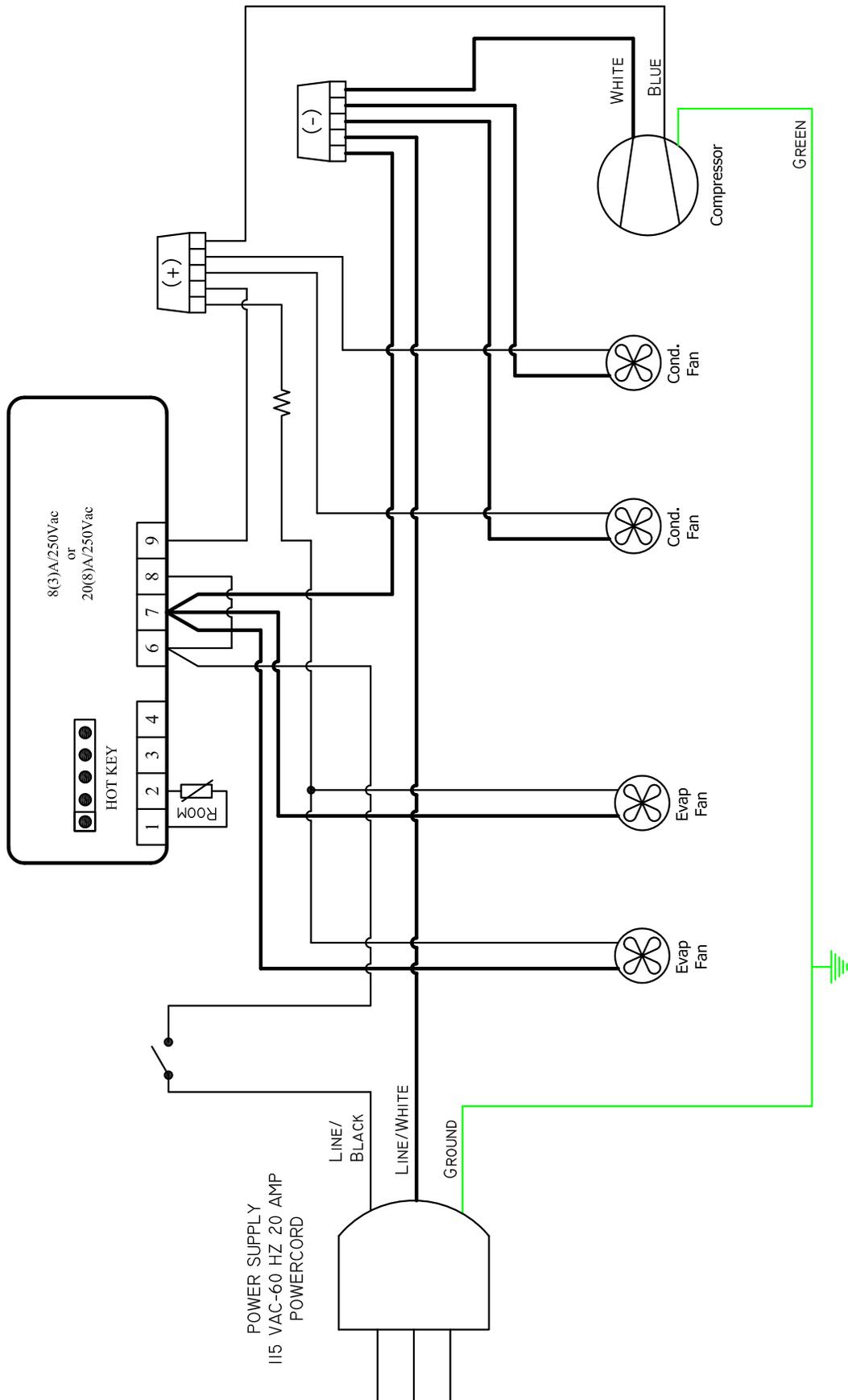


<p>Set Point</p> <p>SET</p>	<p>The set point is set from the factory at 55°. It can be adjusted (hold SET button for 3-5 seconds) by the customer between 50° and 67° in one degree increments.</p> <p>The air probe is offset by three degrees so that the controller will think it is three degrees warmer than the actual temperature. This allows the customer to set the thermostat at the temperature that they desire their wine to be.</p>
<p>Defrost</p> 	<p>After two hours of operation the controller will activate defrost. The compressor relay will de-energize, stopping the compressor, evaporator fans, and condenser fans. The compressor relay will remain de-energized for five minutes, then the unit will return to normal operation. “Df” will be displayed during defrost.</p> <p>The Defrost cycle can be manually initiated by holding the Defrost button for 3-5 seconds.</p>
<p>Cooling Operation</p> 	<p>Cooling is activated once the air sensor probe senses a temperature that is four degrees greater than the set point. The controller then energizes the compressor relay which activates the compressor, evaporator fans and condenser fans. The unit provides cooling until the air sensor probe senses the set point. At this point the compressor relay is de-energized which stops the compressor, evaporator fans, and condenser fans.</p>
<p>Display</p>	<p>The air sensor probe temperature is displayed in °F to a resolution of 1°. The display will update immediately on temperature decrease and 1° every 15 minutes on temperature increase. During the defrost cycle the display will show “Df”.</p>
<p>Safety Features</p>	<p>Once the compressor relay is de-energized the controller must wait five minutes before re-energizing the relay. This prevents the compressor from repeatedly turning off and on.</p> <p>In the event of a faulty air sensor probe, the compressor will cycle on for 40 minutes and off for 10 minutes.</p>
<p>Alarms</p>	<p>The high temperature alarm (HA) will be displayed if the room temperature reaches 80 degrees.</p> <p>The low temperature alarm (LA) will be displayed if the room temperature reaches 45 degrees.</p> <p>The alarm will show 15 minutes after the detection of a temperature alarm condition.</p> <p>P1 will be displayed in the event of a thermostat probe failure.</p> <p>The alarms will not display for 99 minutes after the unit has turned on.</p> <p>The alarms can be switched off by pushing any key on the controller.</p>

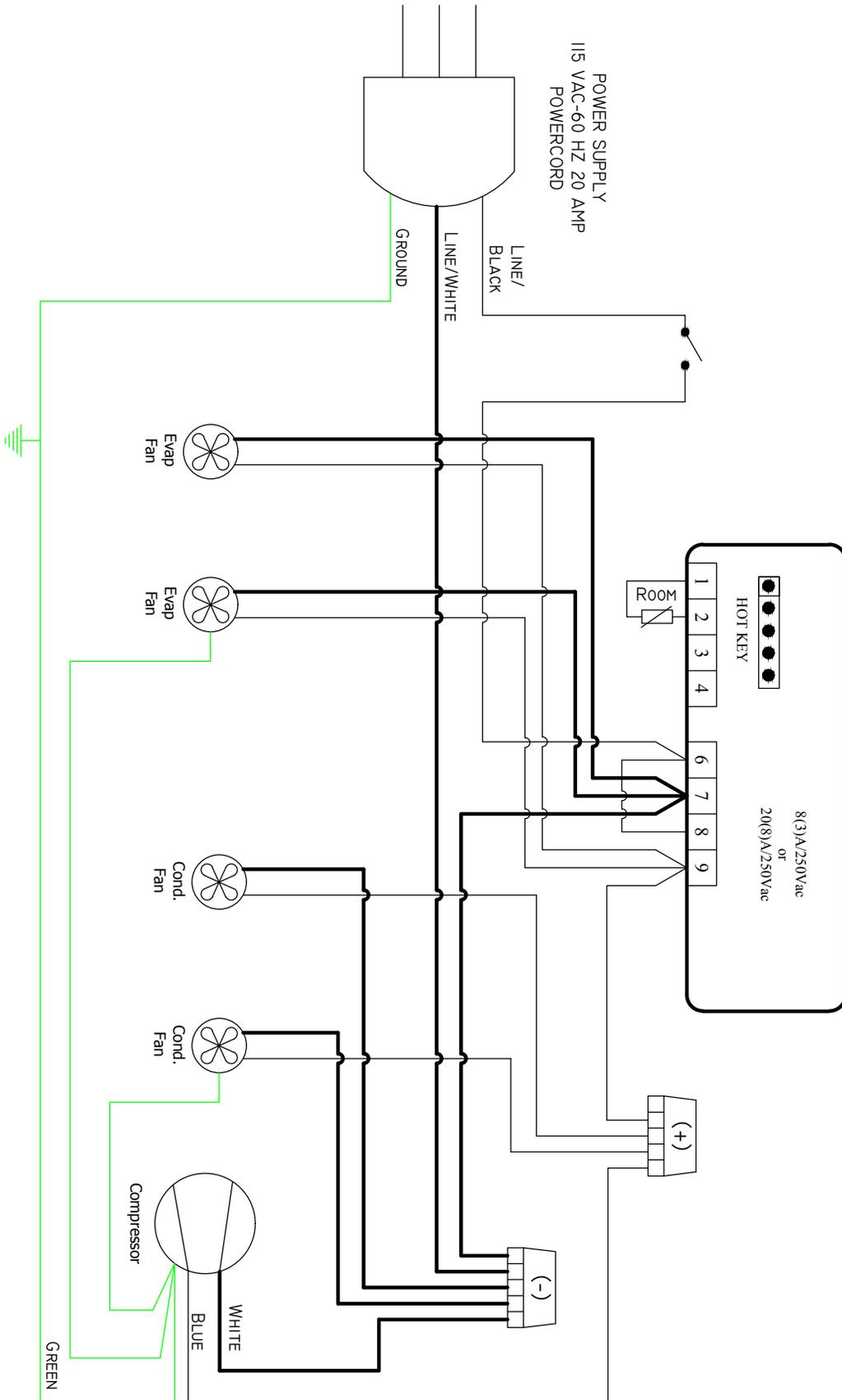
cx2200 & cx3300 VERSION 1 CONTROLLER WIRING SCHEMATIC



cx4400 VERSION 1 CONTROLLER WIRING SCHEMATIC



cx8800 VERSION 1 CONTROLLER WIRING SCHEMATIC



TROUBLESHOOTING GUIDE

Unit has ice forming on the evaporator	
Possible Cause	Solution
Evaporator filter and/or coil are dirty.	Clean filter and coil with a vacuum. If coil is very dirty, use a small hand spray with a small amount of liquid dish washer detergent. Spray coil, let set for 5 min, then flush with fresh water.
There is something blocking the supply and or return air	Remove blockage
One or both evaporator fans are not turning on.	Call a service tech to troubleshoot
The temperature of the room, the unit is exhausting to, has dropped below 50°	Raise the temperature of the exhaust room
The unit has not gone through its anti-frost sequence, yet.	Check for ice in the depth of the coil. Melt with blow drier until coil is warm to the touch. Soak up water with a towel.
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 Technical Support at (855) 235-5271
Unit does not run/power up	
Possible Cause	Solution
Unit is not plugged in	Make sure the unit is plugged into an outlet
No power to outlet	Contact an Electrician
Line voltage is incorrect rating for unit	Check line voltage to make sure there is 115v/15amp
Room at set point	Lower set point
Thermostat not calling for cooling	Lower set point
Faulty thermostat or wiring	Call Technical Support at (855) 235-5271
Cellar Temperature is to Warm	
Possible Cause	Solution
The temperature or the room unit is exhausting to has exceeded 85°	Lower the temperature of the exhaust room.
The unit is undersized for the room.	Order correct size unit
There is something blocking the supply and/or return air, on evaporator or condenser side of the unit	Remove air flow obstruction
Unit is mounted too low in the cellar	Re-Locate unit so the distance from the ceiling and top of the unit is no more than 18"
One or more of the fans is not turning on.	Call Technical Support at (855) 235-5271
Compressor is not turning on.	Call Technical Support at (855) 235-5271
Compressor keeps cycling on overload	Make sure all fans are working and there are no airflow obstruction.
Poor seal around door.	Make sure there are no air gaps around the door. If door seal is damaged, replace it.
Controller set too high	Lower the set point.
Evaporator coil is frosted or iced up	Observe ice formation pattern. If only part way up the coil face, unit could be low on refrigerant. If so, call Technical Support at (855) 235-5271

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 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 excess condensation.	Melt ice with blow drier. Soak up with a towel.
Unit runs but does not cool	
Possible Cause	Solution
Lack of air flow/heat exhaust (outer room)	Make sure fans are unobstructed; clean evaporator if necessary
Fans run but compressor does not.	Compressor may have overheated. Shut unit off for 1 hour to allow compressor to cool. Turn back on and check for cooler air flow out. If compressor runs, check for and clean condenser coil as possible cause of compressor overheating. If problem repeats, call Technical Support (855) 235-5271
Unit undersized	Call Technical Support at (855) 235-5271
Evaporator fan runs but compressor does not	
Possible Cause	Solution
Compressor and/or starting components faulty	Call Technical Support at (855) 235-5271
Fans run but compressor does not.	Compressor may have overheated. Shut unit off for 1 hour to allow compressor to cool. Turn back on and check for cooler air flow out. If compressor runs, check for and clean condenser coil as possible cause of compressor overheating. If problem repeats, call Technical Support.
Compressor runs; evaporator fan does not	
Possible Cause	Solution
Faulty fan motor	Call Technical Support at (855) 235-5271
Faulty fan relay	Call Technical Support at (855) 235-5271
Compressor short cycles	
Possible Cause	Solution
Compressor and /or starting components faulty	Call Technical Support at (855) 235-5271
Humidity in cellar too high	
Possible Cause	Solution
Cellar vapor barrier not sufficient	Install proper vapor barrier

MAINTENANCE SCHEDULE

Monthly	<ol style="list-style-type: none">1. Check for unusual noise or vibration2. Check drain line for proper drainage to assure no mold is in the drain line.
Quarterly	Clean filters: <ol style="list-style-type: none">1. Vacuum coils
Annually	<ol style="list-style-type: none">1. Inspect for corrosion.2. Check wiring connections and integrity of cords.

TECHNICAL ASSISTANCE

CellarCool Customer Service is available Monday through Friday from 8:00 a.m. to 4:00 p.m. Pacific Time.

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:

The model and serial number of your CellarCool Series Unit.

Location of unit and installation details, such as ventilation, ducting, construction of your wine cellar, and room size.

Contact CellarCool Customer Service

1738 E. Alpine Ave.,

Stockton, CA 95205

1(855) 235-5271

www.cellarcool.com

CELLARCOOL

CellarCool Product Terms and Conditions Including Product Limited Warranty And Product Installation Requirements

ATTENTION: PLEASE READ THESE TERMS OF USE CAREFULLY BEFORE INSTALLING YOUR CELLARCOOL COOLING SYSTEM. INSTALLING YOUR CELLARCOOL 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 CellarCool 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 (CellarCool.com) or by contacting CellarCool directly for a new copy. CellarCool reserves the right, in its sole discretion, to change its Terms and Conditions at any time, for any reason, without notice.

2. CellarCool 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 CellarCool, if a CellarCool Product is found to be defective in material or workmanship after undergoing CellarCool's customer service troubleshooting, then, subject to the CellarCool Product Limited Warranty Limitations and Exclusions as well as the other Terms and Conditions stated herein, CellarCool will do the following, as appropriate, for the end user ("End User") who has installed and is actually using the Product, with regard to LABOR, PARTS and FREIGHT:

1. LABOR - repair or replace (at CellarCool's sole option) the Product to the End User; and

2. PARTS – supply to the End User, new or rebuilt replacement parts for the Product in exchange for the return of defective parts; and

3. FREIGHT – cover normal ground freight charges for parts, and, in the event the Product is not repairable in the field, cover normal ground freight charges (within the continental United States) for the repair or replacement of the Product.

B. Five (5) Year Compressor Limited Warranty. CellarCool 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 CellarCool 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 CellarCool 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

1. Product.
2. 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.
3. Removing the rivets from the Product's unit housing without prior authorization from CellarCool voids this limited warranty.
4. The End User must first contact CellarCool 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.
5. 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.
6. 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.
7. This limited warranty does not cover any cause not relating to Product defect.
8. 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 CELLARCOOL 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.
9. Failure of the End User to comply with all of the Product Installation Requirements, Maintenance Requirements and End User Requirements may, at CellarCool's sole discretion, void this limited warranty.
10. 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 CellarCool Product, the End User must read the CellarCool Owner's Manual and thereafter the End User must follow the required installation, use and maintenance procedures set forth by CellarCool in CellarCool'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 CellarCool's website (www.cellarcool.com) or by contacting CellarCool 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 CellarCool 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. CellarCool 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 CellarCool to be a warranty repair prior to the work being performed.

6. Sales and Use Tax

CellarCool only collects California sales tax for orders shipped within the State of California; CellarCool 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

CellarCool's customer service department is available to answer any questions or inquiries for End Users regarding a CellarCool 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. CellarCool 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. CellarCool 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 CellarCool, 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 the 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 CellarCool and Purchaser. Any dispute will be resolved by the courts in and for the County of San Joaquin, State of California, and all parties, CellarCool, Purchaser and End User, hereby irrevocably submit to the personal jurisdiction of such courts for that purpose. No waiver by CellarCool 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. CellarCool 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
CellarCool Corporation
1738 E Alpine Ave
Stockton, CA 95205

Email: support@cellarcool.com
Web: www.cellarcool.com

B. Technical Assistance. CellarCool 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 CellarCool UNIT.
2. The location of the system and installation details, such as ventilation, construction of your wine cellar, and room size.

Model CX Serial Number C _____

Installed by _____ Date _____

CELLARCOOL

CellarCool
1738 E. Alpine Ave.
Stockton, CA 95205
1(855) 235-5271
1 (855) Cellar1
www.cellarcool.com