EXTREME SERIES

240V (METRIC)

OWNER'S MANUAL

Extreme tiR 3500
Extreme tiR 5000
Extreme tiR 8000
Extreme tiR FD 3500
Extreme tiR FD 5000
Extreme tiR FD 8000

WhisperKOOL®
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

Customer Service

Thank you for purchasing a WhisperKOOL cooling system. We strive to provide the highest-quality products and the best possible customer service. MacPhee's Customer Service is available Monday through Friday from 9:00 a.m. to 5:00 p.m. AEST. If you have any questions about your system, please email us at info@macphees.com.au.

Using the Manual

This manual is intended to assist in the proper maintenance of the cooling system. In order to ensure the longevity of your cooling unit, the equipment should be installed as outlined in the technician's manual. It is also vital to establish a proper care and maintenance schedule. Please read and review this manual carefully and keep it for future reference.

What is the WhisperKOOL Cooling System?

The WhisperKOOL cooling system is a specialized refrigeration system designed for one purpose only: to maintain the optimal temperature and humidity levels conducive to the proper storage and aging of fine wines. This system produces minimal in-cellar noise and has the most lenient exhaust requirements.

How Does the WhisperKOOL Extreme Series Work?

The WhisperKOOL unit is especially designed to maintain optimal conditions for wine storage and aging. The unit is fully self-contained and can be installed through most walls. The unit is also capable of a more flexible ducted application, which allows the unit to be placed in an indoor remote site, resulting in a quiet airflow. The standard through-the-wall and ducted units are temperature-controlled via a bottle probe. The ducted unit comes standard with a remote controller that can be located up to 50 feet from the cooling unit.

NOTE: The remote unit comes standard with a 15 m bottle probe and a 15 m cable for the remote controller. Additional lengths are available from WhisperKOOL.

Temperature Setting

The WhisperKOOL cooling unit can be set at any temperature within the acceptable wine-aging range of 10–21°C. It is designed to create a differential of up to 14°C between the cellar and the ambient temperature (as long as the space to which the unit is exhausting does not exceed 43˚C).

BEFORE YOU START

1. **Inspect all components prior to installation.** If damage is found, please notify MacPhee's Customer Service at info@ macphees.com.au within 30 days.
2. The unit should **remain in an upright position for 24 hours** prior to operation.
3. The evaporator unit **requires a dedicated 240V, 15-amp circuit**. A surge protector is recommended to use with the unit.
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 WhisperKOOL 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 system, please refer to the Troubleshooting Guide. If you have any further questions or concerns, or need assistance, please contact MacPhee's Customer Service at info@ macphees.com.au. Please be sure all testing has been completed prior to contacting Customer Service. Please have your results ready for your representative.

RECEIVING AND INSPECTING THE UNIT

Upon receiving your WhisperKOOL unit:

- 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.
- Inspect the packaging for any obvious signs of damage or mishandling before opening the container.
- Note any discrepancies or visual damage on the bill of lading before signing.
- Place the box containing the WhisperKOOL unit on a tabletop to prepare it for testing prior to installation.
- 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 the package's contents.
- Check the model number to ensure it is correct.
- Check that all factory options ordered are listed.
- Check the box for the following:

3500tiR / 5000tiR / 8000tiR
Extreme cooling unit • (1) Extreme Series owner's manual • (18) Anti-microbial pan tabs • (1) Drain line brush • (1) Bottle probe (15 m) • (1) Display cable (15 m) • (1) Wall mount display bracket • (1) Flush mount bracket • (1) Display panel • (4) Drywall anchors • (4) Mounting screws • (1) Rubber grommet (17 mm ID) • (2) 44 mm nylon plugs • (1) Flush mount template
Two-piece mounting bracket* • (2) Optional Filler Brackets
Accessory kit: • (1) 2 m power cord • (1) Piece of mounting bracket insulation foam (2 m)* • (11) 44 mm standard screws • (7) 6.35 mm Phillips pan-head screws • (1) 12.7 mm barbed "tee" fitting • (1) Drain line (12.7 mm ID clear plastic tubing, 3 m)

*Not included with fully ducted Extreme tiR units.

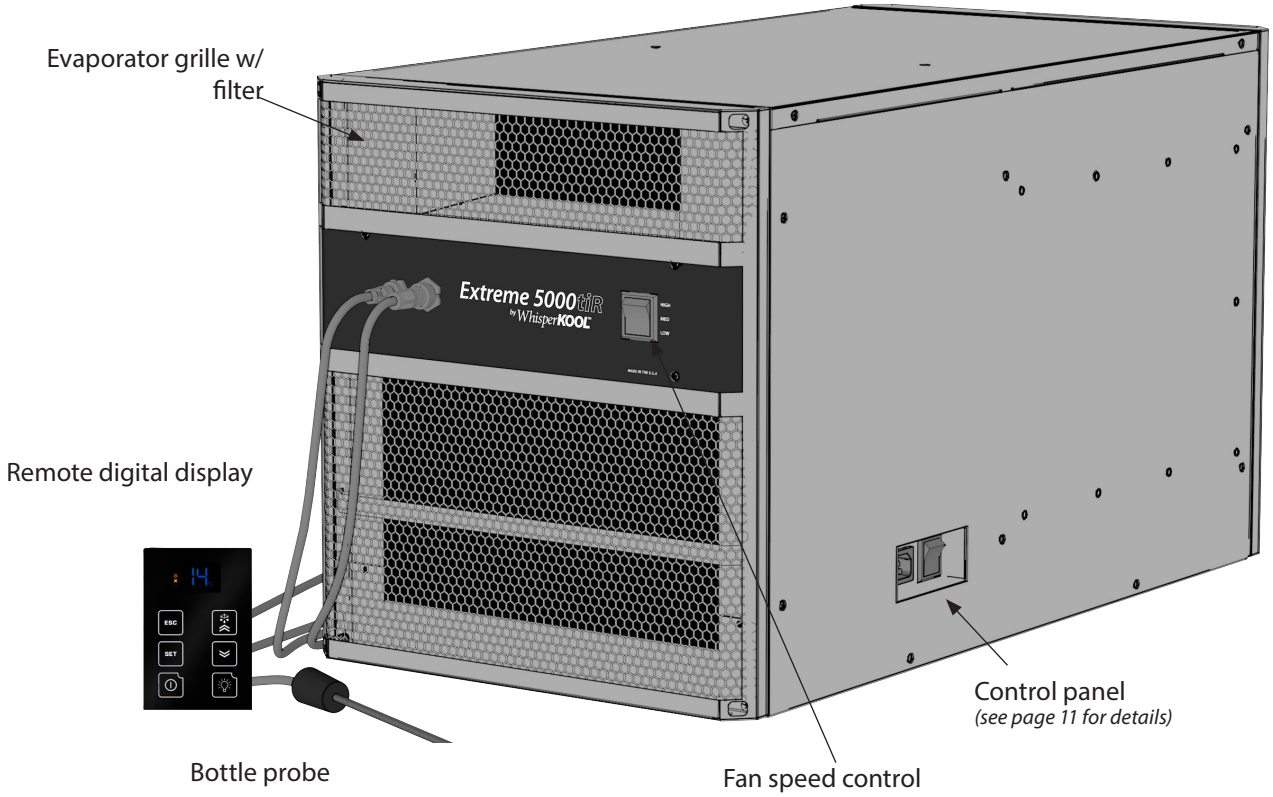
If any items listed on the packing slip do not match your order information, contact MacPhee's Customer Service immediately.

Please leave the WhisperKOOL 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 the installation instructions.

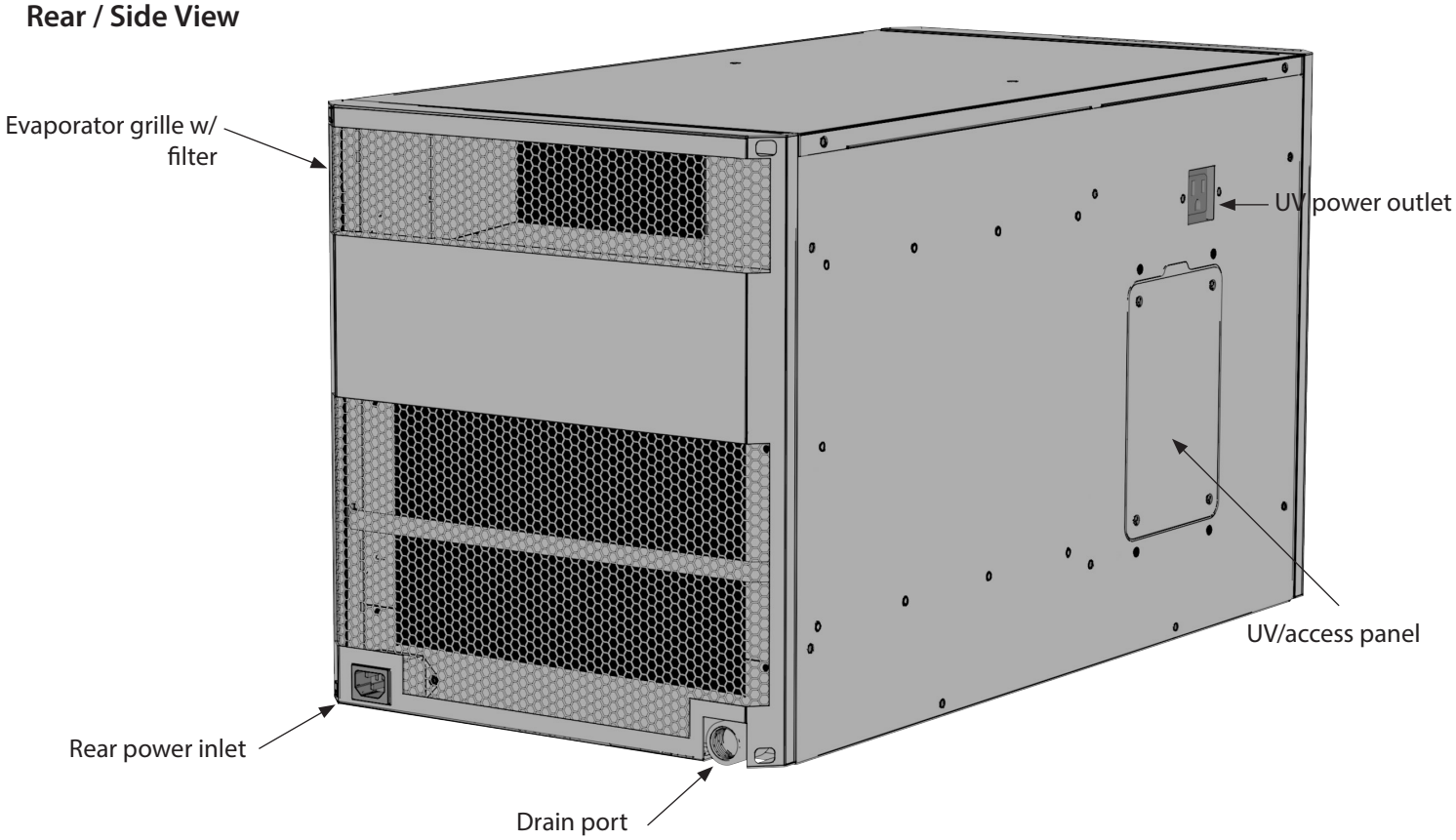
TIP: Save your box and all packaging materials. They provide the only safe means of transporting/shipping the unit.

QUICK REFERENCE GUIDE

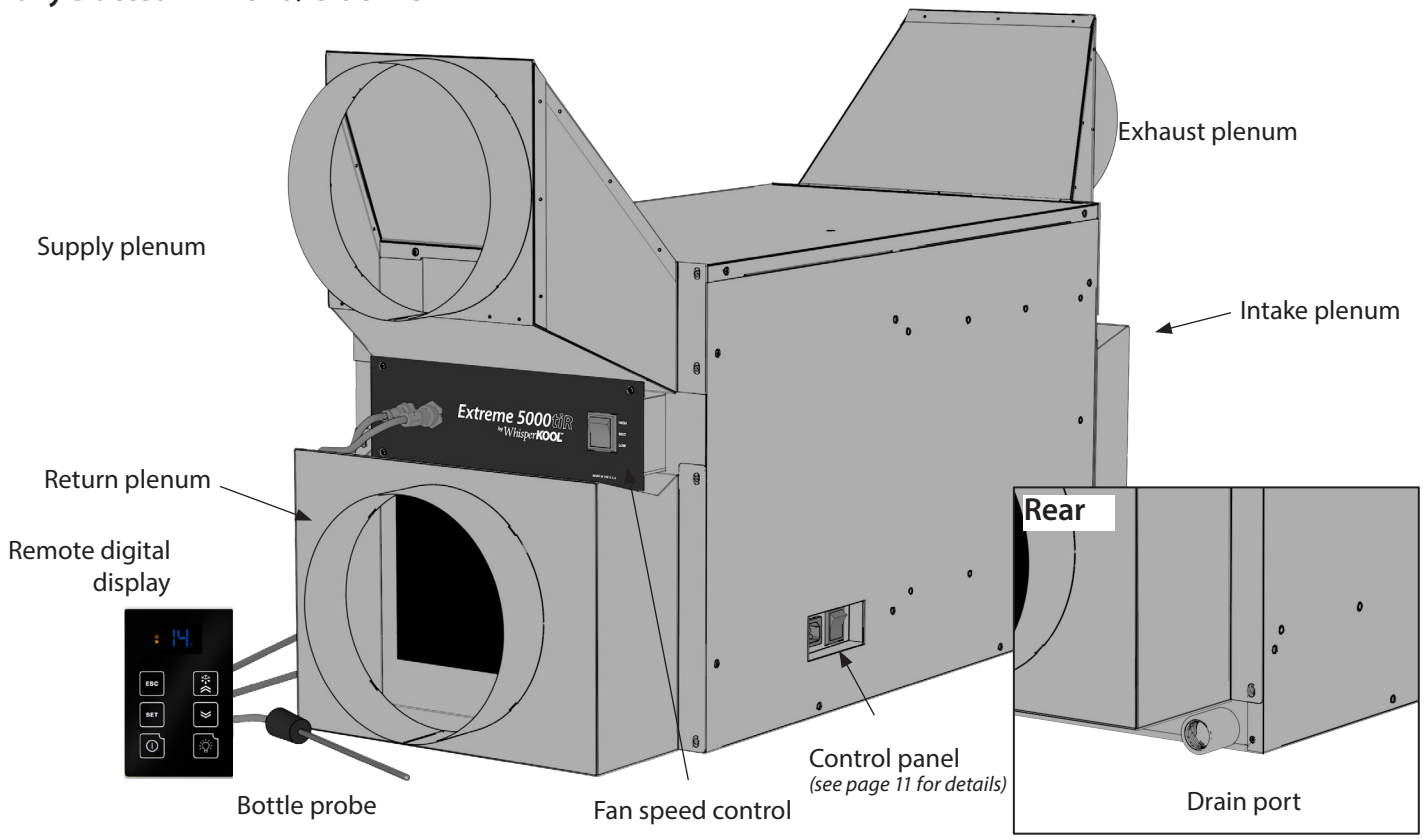
Front / Side View



Rear / Side View



Fully Ducted — Front / Side View



NOTE: Grilles and filters are ***not*** included with the fully ducted Extreme tiR.

FAN SPEED

Fan speed selection is determined by the amount of heat that needs to be removed from the cellar and the type of installation (through-the-wall or fully ducted). Fan speed selection is based on the cellar size, insulation factor, door seal, and desired wine temperature. When initially installing the unit, set the fan speed to the **High** setting to quickly chill the wine cellar. Once the wine cellar reaches the desired temperature, a lower fan speed may be selected. In the event that the outdoor temperature rises above 90°F, (when exhausting to the outdoors) a higher fan speed may be required.

Fully ducted units should be set to the HIGHEST fan speed selection for maximum performance.

THROUGH-WALL EXTREME TIR

	3500tiR	5000tiR	8000tiR
Cellar Size*	22 cu. m when cellar is fully insulated and sealed with a proper vapor barrier	35 cu. m when cellar is fully insulated and sealed with a proper vapor barrier	56 cu. m when cellar is fully insulated and sealed with a proper vapor barrier
Watts (15.5°C condenser air intake temperature) Sensible / Total	Low: 729/858 • Med: 784/923 • High: 843/992	Low: 1104/1181 • Med: 706/830 • High: 759/893	Low: 1311/1542 • Med: 1409/1658 • High: 1516/1783
Watts (23.8°C condenser air intake temperature) Sensible / Total	Low: 656/772 • Med: 706/830 • High: 759/893	Low: 903/1063 • Med: 971/1143 • High: 1024/1229	Low: 1180/1388 • Med: 1269/1492 • High: 1364/1605
Watts (29.4°C condenser air intake temperature) Sensible / Total	Low: 591/695 • Med: 635/747 • High: 693/804	Low: 813/956 • Med: 874/1028 • High: 940/1106	Low: 1062/1249 • Med: 1142/1343 • High: 1228/1444
Dimensions	712mm L x 362mm W x 401mm H		712mm L x 362mm W x 572mm H
Refrigerant	R-134a		
Amps	2.9 (running amps)	4.6 (running amps)	5.5 (running amps)
Voltage Rating	240V (15-amp dedicated circuit required)		
Weight (kg)	52		68
Drain Line	12.7 mm ID clear plastic tubing		
Installation	Through-the-wall		
Thermostat	Advanced digital controller, liquid-temperature-measuring bottle probe (retractable cable)		
Temp. Delta	Can maintain a 13°C cellar temperature with up to 43°C condenser air intake temperature		
Warranty	Two-year limited warranty (parts and labor)		

FULLY-DUCTED EXTREME TIR

	3500 tiR FD	5000 tiR FD	8000 tiR FD
Cellar Size*	22 cu. m when cellar is fully insulated and sealed with a proper vapor barrier	35 cu. m when cellar is fully insulated and sealed with a proper vapor barrier	56 cu. m when cellar is fully insulated and sealed with a proper vapor barrier
Watts (15.5°C condenser air intake temperature) Sensible / Total	Low: 693/815 • Med: 745/876 • High: 801/942	Low: 953/1122 • Med: 1025/1206 • High: 1102/1297	Low: 1245/1465 • Med: 1339/1575 • High: 1440/1694
Watts (23.8°C condenser air intake temperature) Sensible / Total	Low: 624/734 • Med: 670/789 • High: 721/848	Low: 858/1009 • Med: 923/1085 • High: 992/1167	Low: 1121/1319 • Med: 1205/1418 • High: 1296/1524
Watts (29.4°C condenser air intake temperature) Sensible / Total	Low: 561/660 • Med: 603/710 • High: 649/763	Low: 772/908 • Med: 830/997 • High: 893/1050	Low: 1009/1187 • Med: 1085/1276 • High: 1166/1372
Dimensions	1003mm L x 362mm W x 572mm H (with duct plenums)		1003mm L x 362mm W x 660mm H (with duct plenums)
Refrigerant	R-134a		
Amps	2.9 (running amps)	4.6 (running amps)	5.5 (running amps)
Voltage Rating	240V (15-amp dedicated circuit required)		
Weight (kg)	52.2		68
Drain Line	12.7 mm ID clear plastic tubing		
Installation	Can be installed up to 7.5 duct meters from the cellar		
Thermostat	Advanced digital controller, liquid-temperature-measuring bottle probe (retractable cable)		
Temp. Delta	Can maintain a 13°C cellar temperature with up to 43°C condenser air intake temperature		
Warranty	Two-year limited warranty (parts and labor)		

*** 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.

PREPARING THE UNIT FOR INSTALLATION

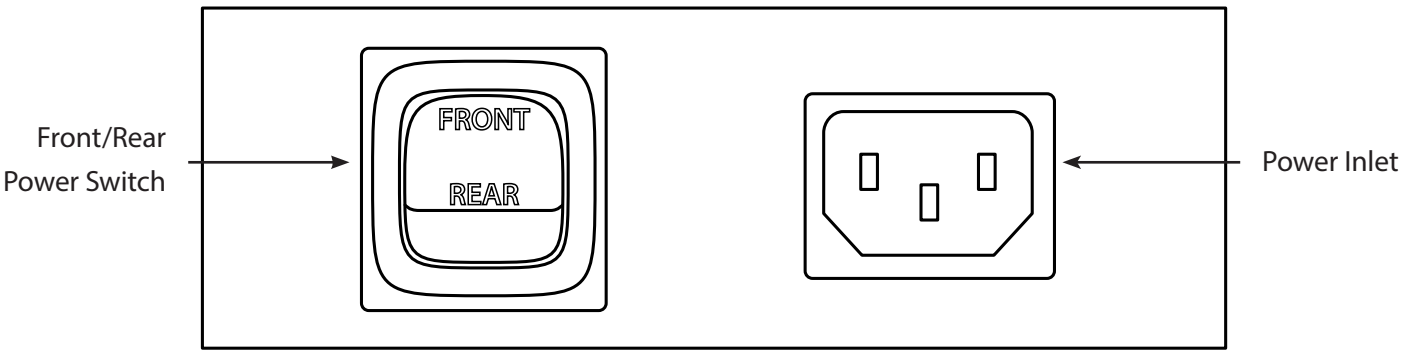
The WhisperKOOL Unit requires a dedicated 240V, 15-amp circuit. The unit draws a large amount of amps during its initial startup. By designating a dedicated circuit breaker, you will guarantee the unit has enough power to run effectively. Contact an electrician for assistance with the installation of this dedicated electrical circuit.

The unit must sit upright for 24 hours prior to installation. To prepare the unit for installation:

- Remove unit from box.
- Match the electrical outlet to the plug provided on the WhisperKOOL unit.
- Provide a dedicated circuit and wiring for the unit (see above).
- Provide a weatherproof plug for units connected outside.

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.

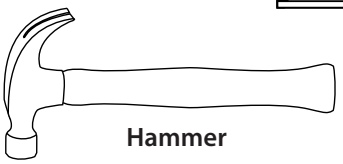
The unit is equipped with two power inlets. One is located on the right side of the unit (inside of the cellar), and the other is located on the rear of the unit (outside of the cellar). Use the selector switch located on the right side of the unit to select which power inlet you would like to use. If you would like to plug the unit into a socket outside of the cellar, set the selector switch to rear. If you would like to plug the unit into a socket inside of the cellar, set the selector switch to the front position. When placed in either position, power can only enter the unit utilizing the power inlet you've selected.
In case the unit should lose power, check the home/main circuit breaker. If the unit does not respond properly, refer to the Troubleshooting Guide.



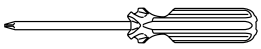
PREPARING THE INSTALLATION LOCATION

Minimum Tools Needed:

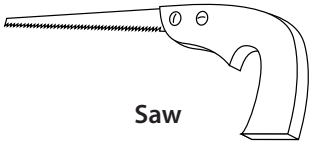
Level



Hammer



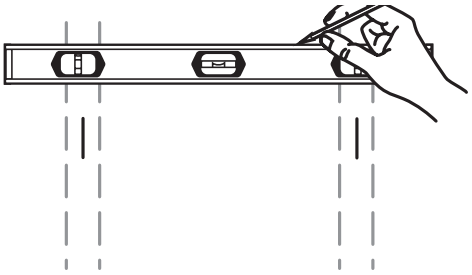
Screwdriver



Saw

3500/5000tiR Cut-Out Dimensions: 368mm W x 406mm H

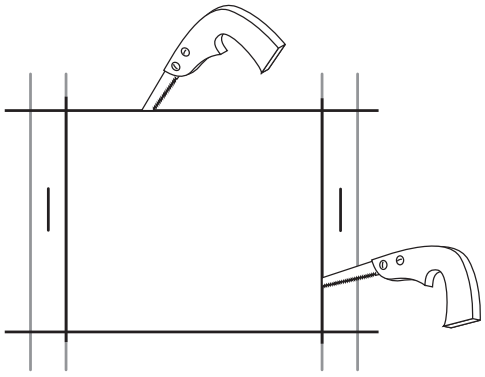
8000tiR Cut-Out Dimensions: 368mm W x 578mm H



Locate the desired installation location (no more than 457 mm 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 38 mm and no more than 457 mm from the ceiling.

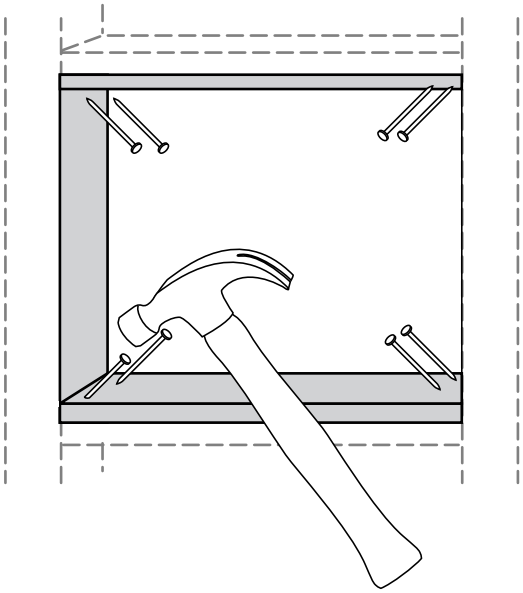
Using a ruler or measuring tape, measure 406 mm down (3500ti & 5000ti) or 578 mm (8000 ti), and mark another horizontal line parallel to the first one.



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

Make the second horizontal cut from stud to stud on the line 406 mm 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 both vertical cuts have been made, there should be rectangular hole in the sheetrock. Make the same hole on the other side of the wall. Using a nail, mark all four corners of the first hole by making nail holes through the sheetrock. Connect the holes with a pencil mark and cut on the other side of the wall.



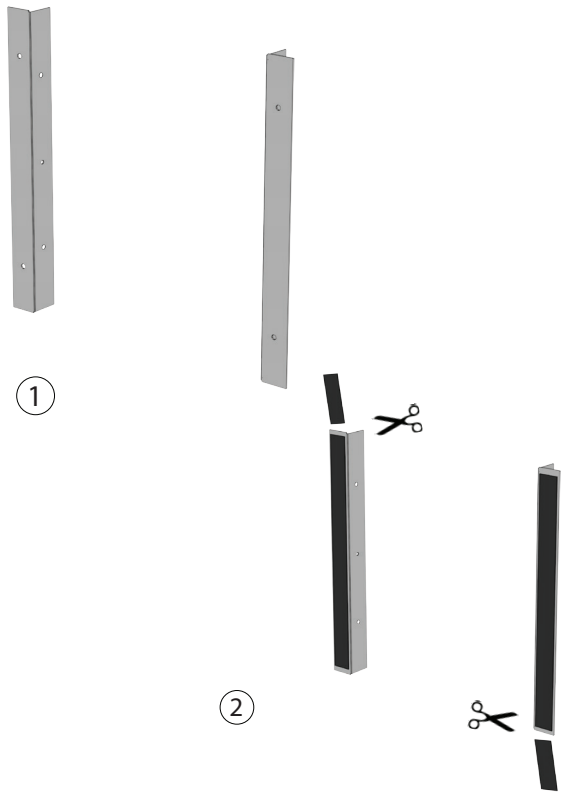
Sheetrock alone cannot support the weight of a 43-kg cooling unit. Therefore, it is necessary to frame the hole that has just been cut with upper and lower supports. These supports also provide solid material for the mounting bracket screws.

Using two 2x4s (368 mm 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 at 406 mm (3500ti & 5000ti) or 578 mm (8000 ti) so that the WhisperKOOL unit will fit snugly through the framed cut-out.

PREPARING THE UNIT FOR INSTALLATION

A two-piece mounting bracket is used to secure the unit to the wall studs. Two optional filler brackets can also be installed to frame around the top and bottom of the unit.

The mounting holes on the unit have been designed to hold the unit at a two-degree (2°) angle. This helps project air into the space and aids in condensate drainage.



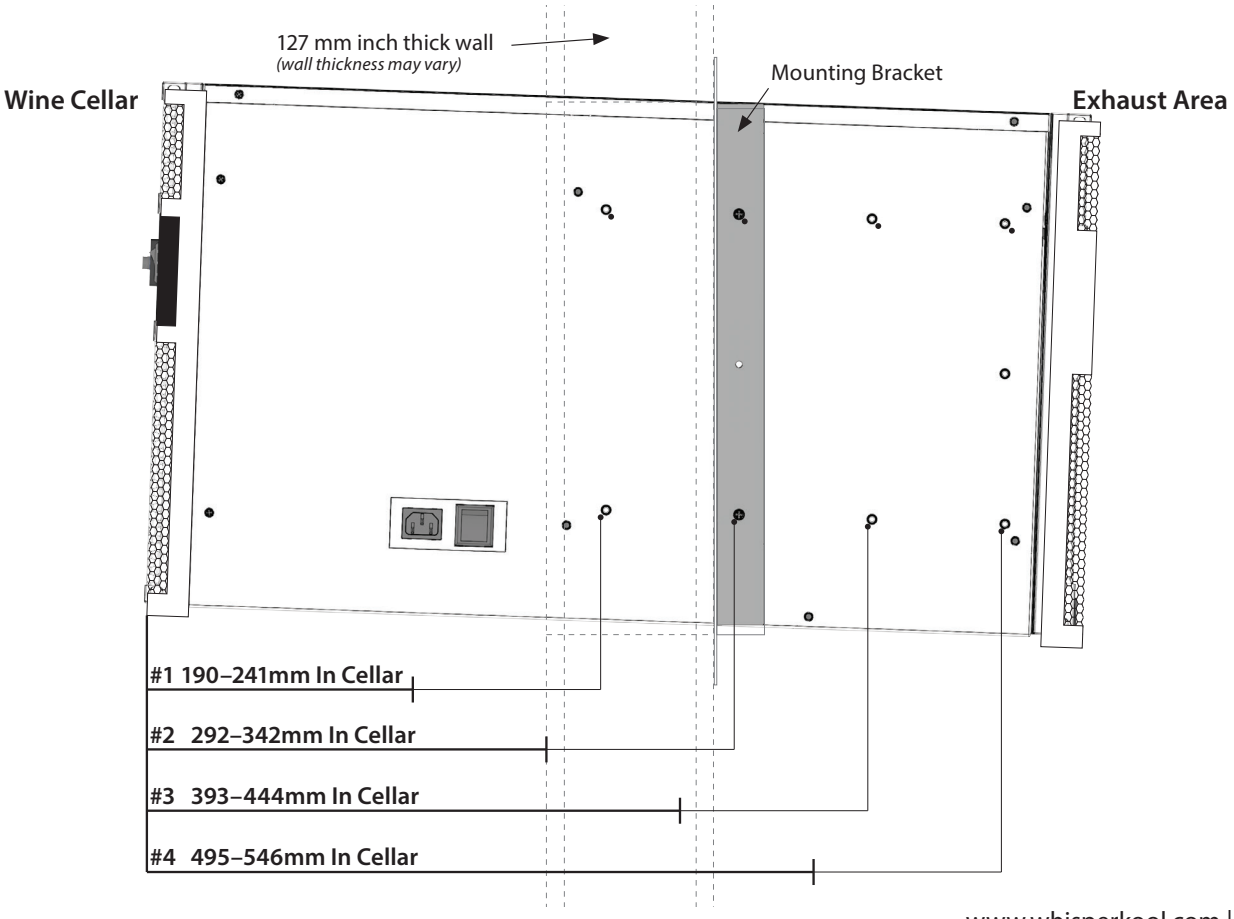
Applying Insulation Tape

Locate the foam tape included in the accessory kit. Cut strips to match the length of the mounting brackets. Peel off backing material and install foam tape against wall-facing side of brackets. Foam tape needs to be placed on the bracket surfaces which will be in direct contact with the wall.

Mounting Bracket Installation

Select your desired mounting bracket 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 #4 sets the back of the unit near flush with the exterior wall. Secure the brackets to the sides of the cooling unit using the provided 6.35 mm Phillips screws. Do not use any other screws to secure the brackets to the unit.

If you are installing through an exterior wall, please review the next page for specific instructions on exterior grill installation.



OPTIONAL EXTERIOR GRILLE

The exterior grille is required on all installations where the exhaust side of the unit is exposed to the outdoors (i.e., rain and other adverse weather conditions).

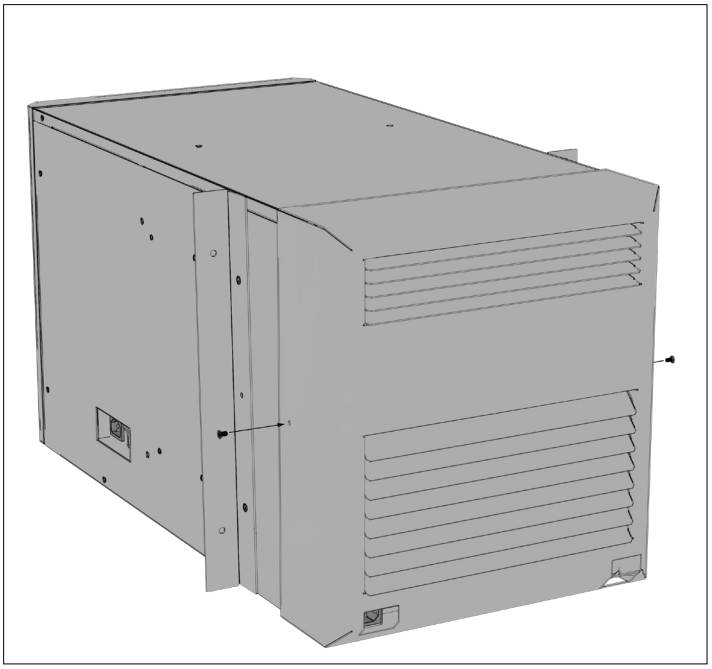
Non-Flush Installation

Install the unit according to the standard through-the-wall procedure. After the unit is installed, place the exterior grille over the exhaust side filter grille and align the screw holes on the sides of the unit. Use the supplied pan-head screws to fasten the grille to the unit.

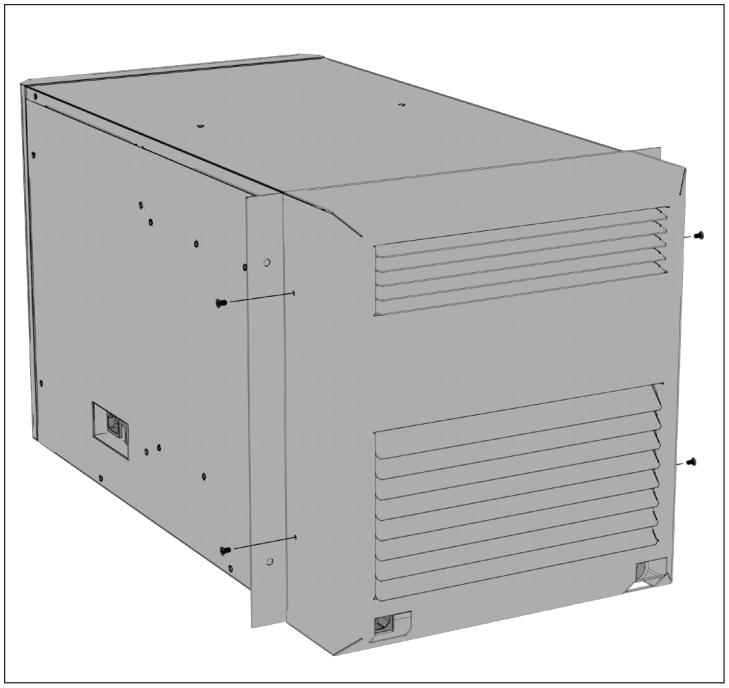
Flush Installation

If utilizing the flush installation, simply slide the exterior grille cover over the mounting bracket side flanges. Align the screw holes on the sides of the unit. The mounting screws will secure through the center holes on the mounting bracket flanges. Use the supplied pan-head screws to fasten the grille to the unit.

You are required to use the 13 mm pan-head screws provided. Do not drill holes into unit.



Non-Flush Installation

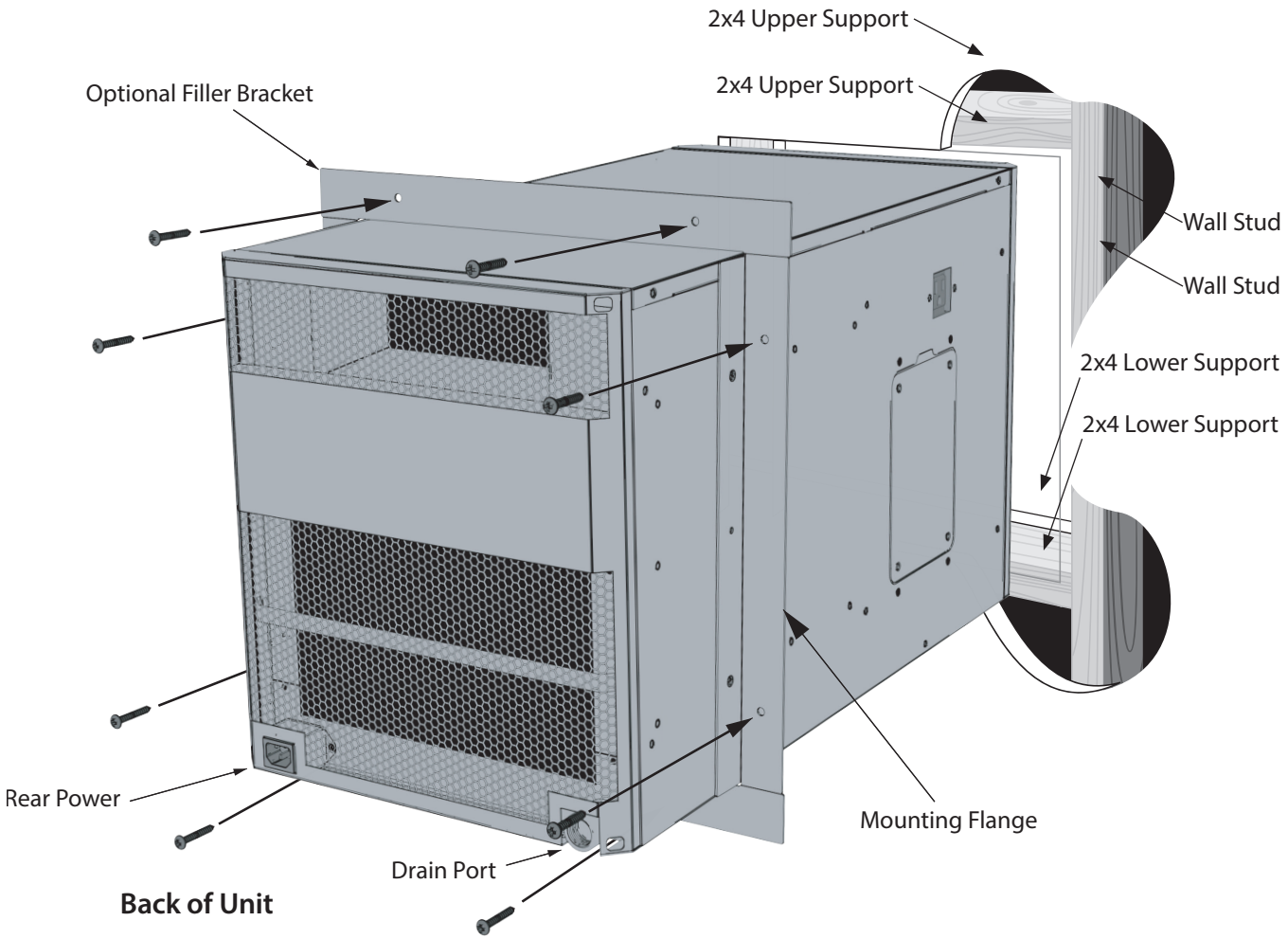


Flush Installation

INSTALLING THE UNIT

Slide the unit from the outside wall into your wine cellar with the outer flange flush with the wall. Secure the flange to the wall using the pre-drilled holes. The 44 mm screws should penetrate the studs as well as the upper and lower supports to provide adequate support for the WhisperKOOL unit (see illustration). Seal all cracks and gaps around the WhisperKOOL Extreme unit with an air-tight sealant or caulking to prevent air leakage.

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.



DUCTING OVERVIEW

Use ductwork to connect the unit to the supply and return outlets in the wine cellar. Use only insulated ductwork to minimize cooling losses, prevent sweating, and reduce noise. Use ductwork on the condenser section to redirect or absorb sound, bring in outside air to the unit inlet, and/or exhaust the hot air.

Note: Do not exceed a total of 7.5 meters for each length of ductwork run and a combined total of 15 meters for both the supply and return lengths.

Avoid crimping the flexible ducts. This reduces airflow, causing the unit to operate improperly. Be sure all ductwork and outer surfaces in contact with the airflow are insulated and have a vapor barrier on the outside. Uninsulated supply and return ducts may cause bare, exposed metal surfaces to sweat, further degrading the insulation and equipment cooling capacity.

Do not allow sharp turns to squeeze or decrease the inside diameter of the flexible ducting.

General duct recommendations:

- Provide support for the flexible duct to prevent sags and bends.
- 3500tiR and 5000tiR duct size: 200 mm supply and return
- 8000tiR duct size: 200 mm supply and 250 mm return
- Stretch out the duct to make a smoother interior which reduces air resistance.
- Maximum duct length is 7.5 m.
- For 90° bends, use a 90° adjustable elbow.
- No more than two 90° bends on each duct. Sweep 90° bends are recommended rather than sharp 90° bends.
- Generously apply duct sealant to all metal seams to fill in gaps that can leak air. Allow sealant to dry until firm to the touch before applying fiberglass insulation.
- Do not squeeze or reduce the inside diameter of the ducts, as this will reduce airflow.
- Use short and straight ductwork where possible.
- Check that all fan blades move freely.
- Keep air paths free of loose foreign objects and debris.
- To provide adequate airflow the fan speed must be set to high when the unit is ducted.
- Locate the supply and return grilles inside the cellar to create an airflow pattern that maximizes air circulation in the room. Avoid short circulation of the air.
- If the unit is installed through the wall, it must be mounted no more than 457 mm from the wine cellar ceiling. If the unit is ducted, the cold air supply duct must be installed no more than 457 mm from the wine cellar ceiling.

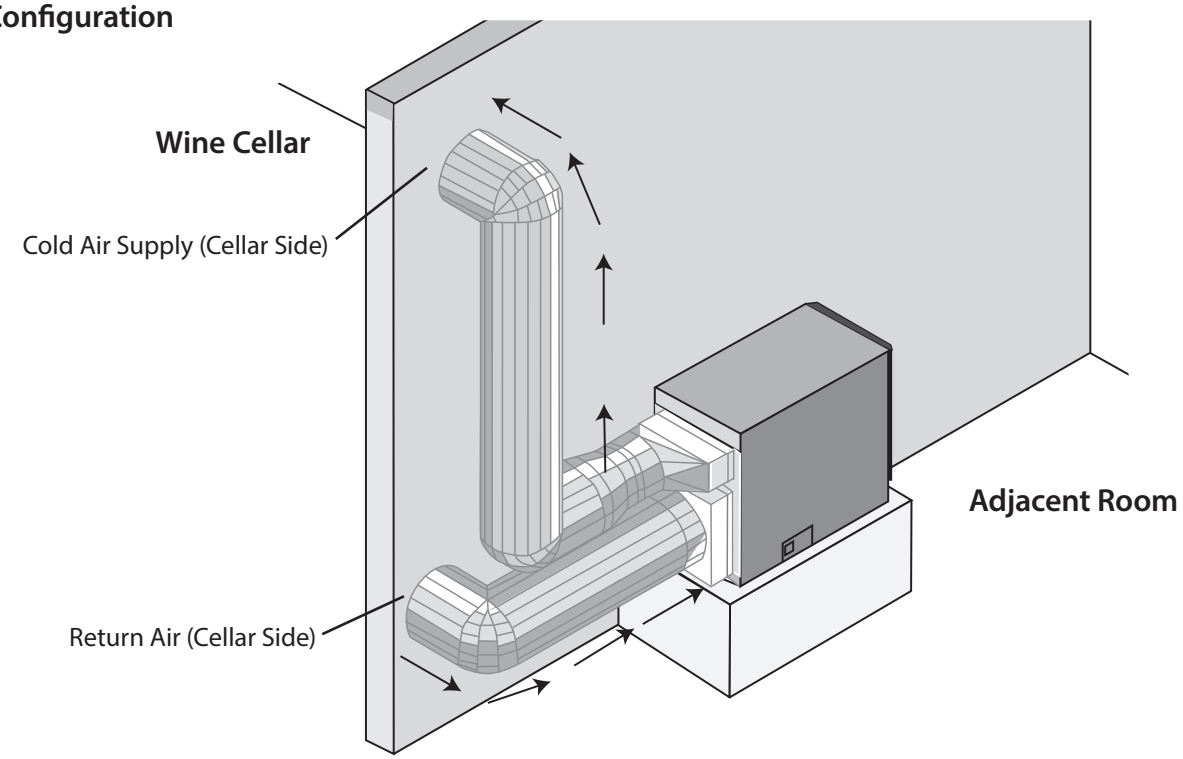
DO NOT:

- Install through-the-wall return air grilles at floor level where they will collect dust from the floor.
- Locate the supply or return air grille where it is blocked by bottles, boxes, or cases.

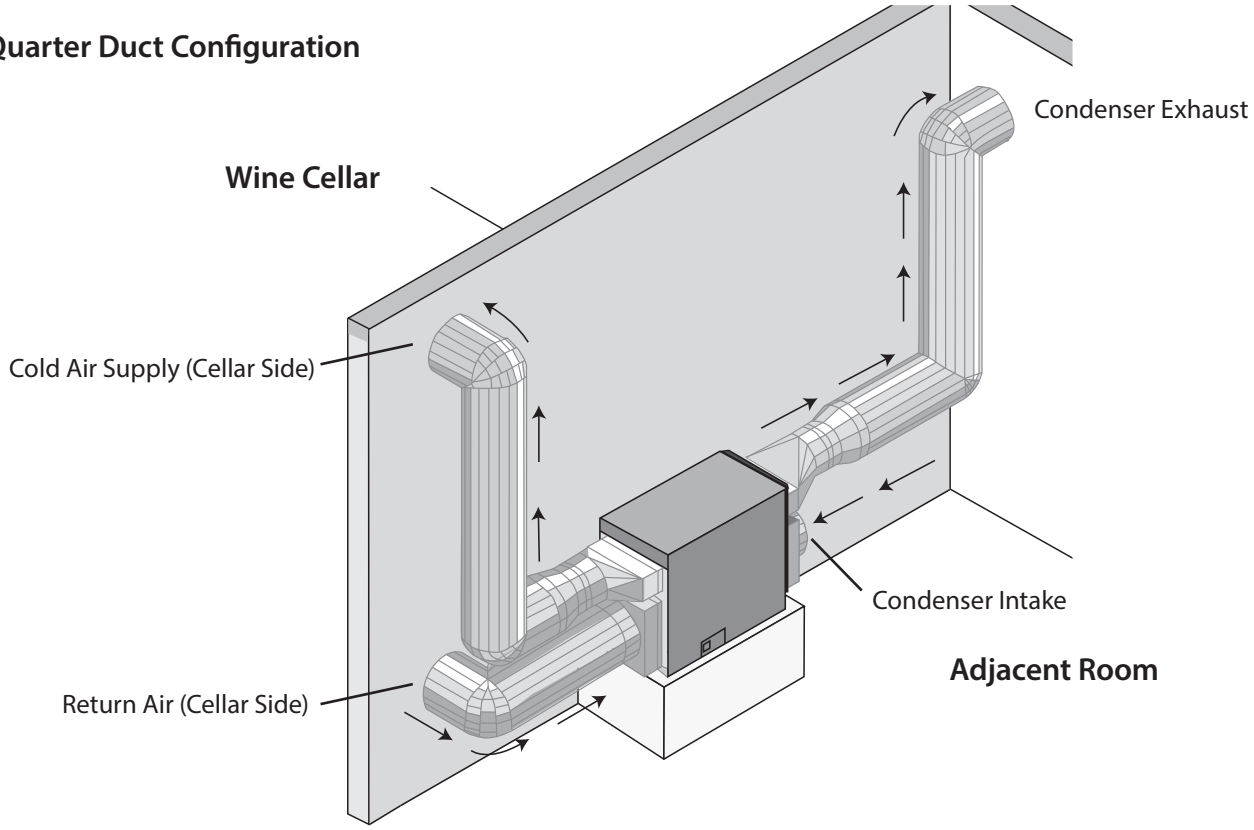
DUCTING CONFIGURATIONS

There are a variety of ways to duct this unit. Please review the different configurations to determine a basis for your particular installation. Remember to contact a wine cellar professional if you have any questions.

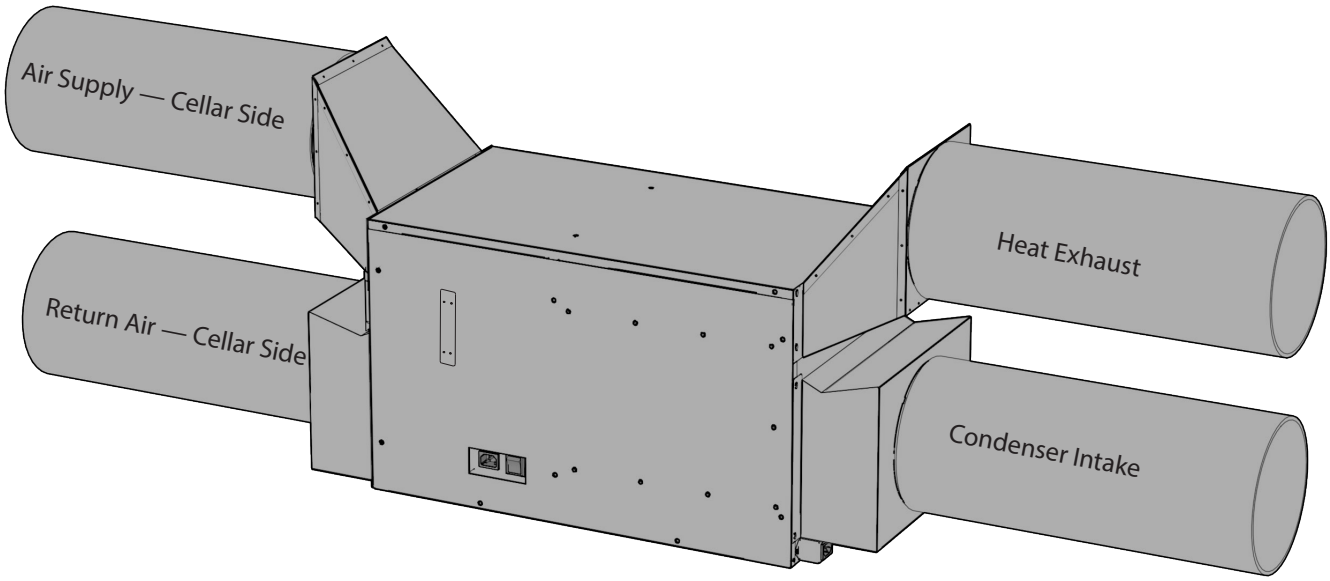
Half Duct Configuration



Three-Quarter Duct Configuration

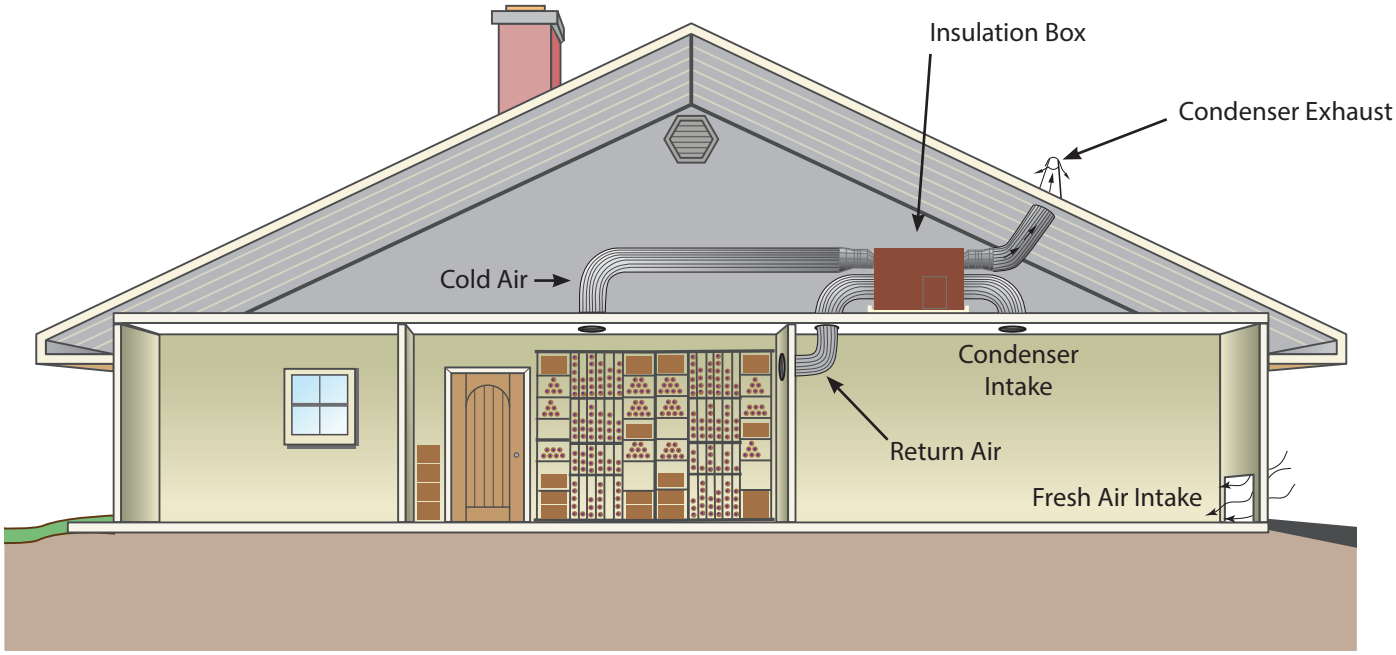


Fully Ducted



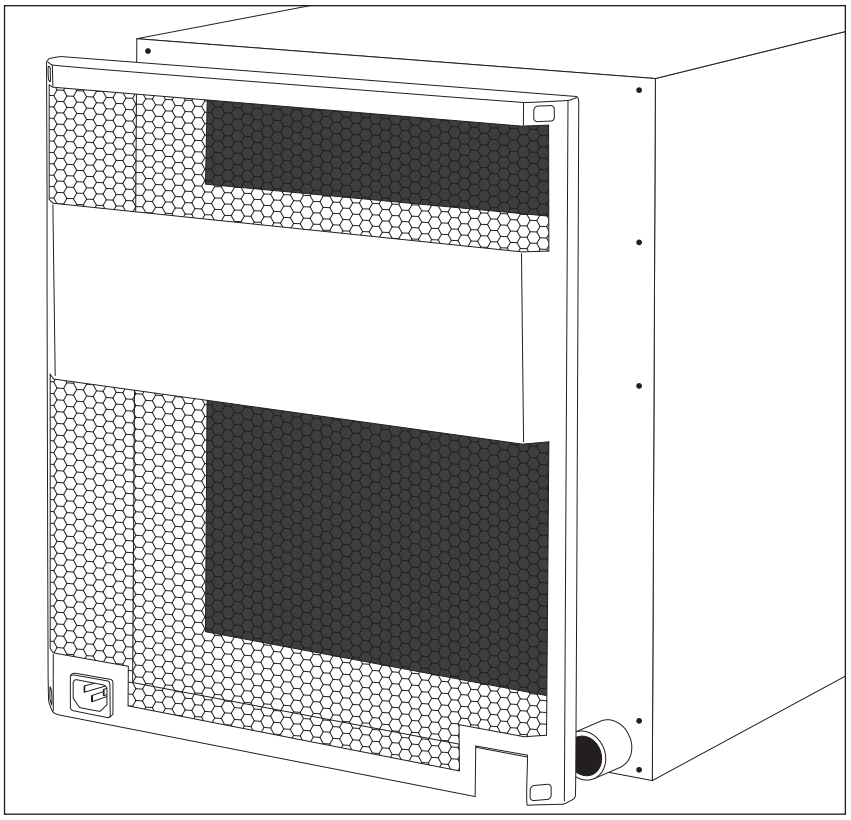
Attic Mounted Unit

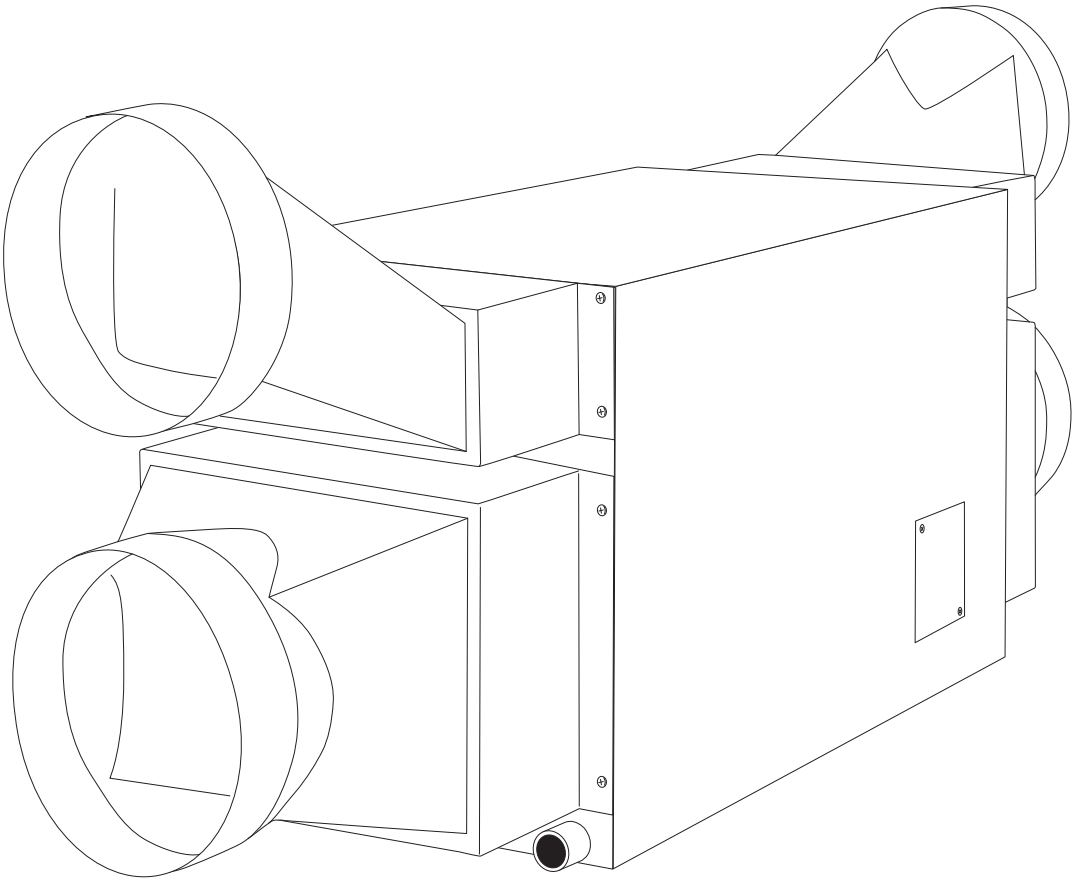
It is recommended that you use a condensate pan for this application.



INSTALLING THE DUCT PLENUMS

1. Remove the filter grille from the unit by unscrewing the screws that hold it in place.
2. Move the ducting adapters into place.
3. Screw the ducting adapters into place using the supplied screws.

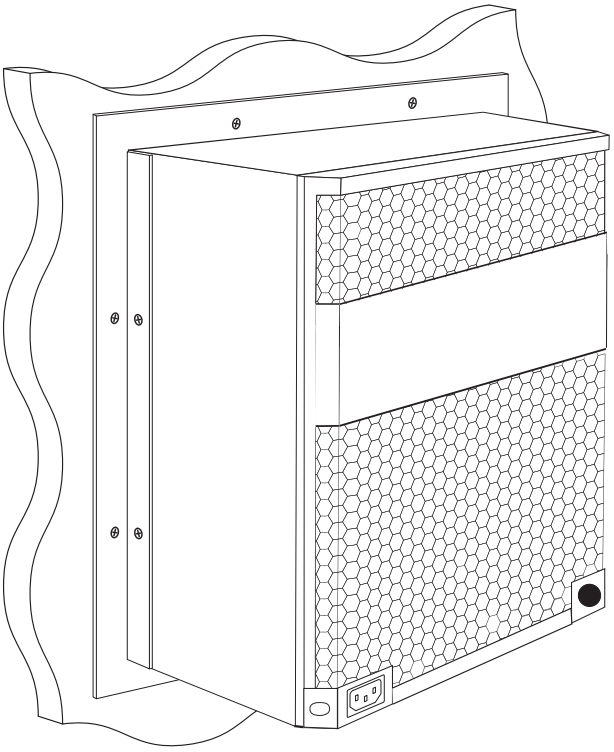




CONDENSATION DRAIN LINE

The condensation drain line tube is used to drain excess condensation from the unit to a proper discharge location. It is important that the drain line tube be properly connected in order 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.



All units come with a drain line for additional removal of excessive condensate. It is mandatory to install the drain line with a "tee" fitting. During operation, the cooling unit will strip excess water from the air in order to maintain the proper level of humidity within the cellar. However, in extreme humidity, additional condensate will be removed. The drain line will prevent overflow and leaking by allowing for discharge of the additional condensate.

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

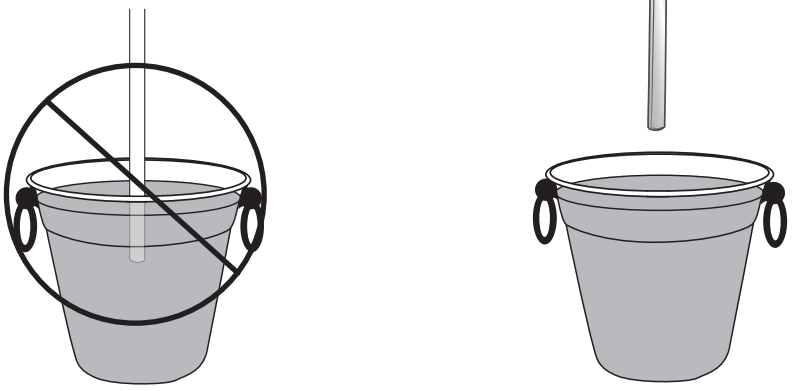
Extreme Drain Line Installation

1. Wrap tee with Teflon tape one or two turns clockwise.

2. Next, thread the barbed tee into the drain port and rotate until tight. Make sure the barbed parts of the tee are vertical.

3. Next, attach the piece of 13 mm ID clear plastic tubing to the lower barb of the tee.

4. Every six weeks, disconnect the drain line from the tee. Remove the tee from the rear drain port and clean it. Then use the supplied drain line brush to clean the interior drain line. Use the drain line access door to drop a pan tab into the drip tray to prevent the buildup of microbial growth.



WRONG: Drain line is under water.

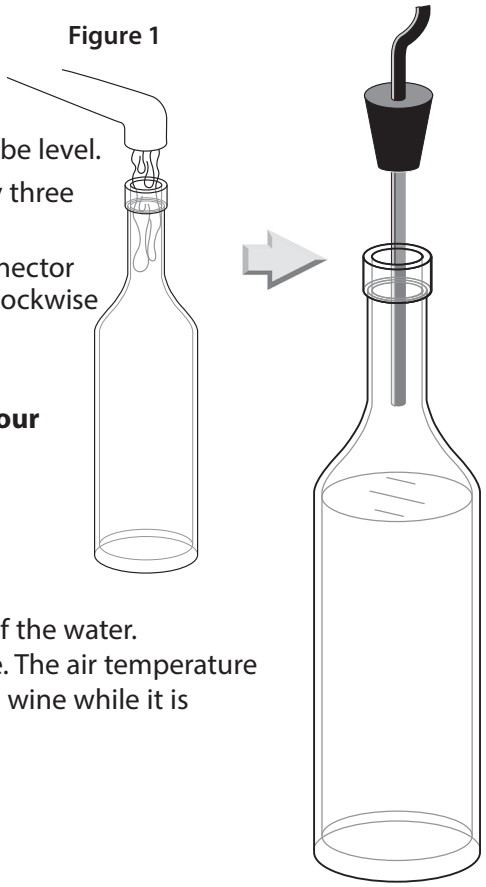
LIQUID-MEASURING THERMOSTAT SYSTEM (BOTTLE PROBE)

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. By measuring the liquid temperature rather than air, the unit will operate 75–80% of the time.

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 bottle off to the side of the unit in your wine cellar, with the probe level.
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.
6. Connect the opposite end of the bottle probe wire to the circular connector on the front of the unit marked "BOTTLE PROBE." Twist the connector clockwise to lock it in place as seen in Figure 2.

Figure 1

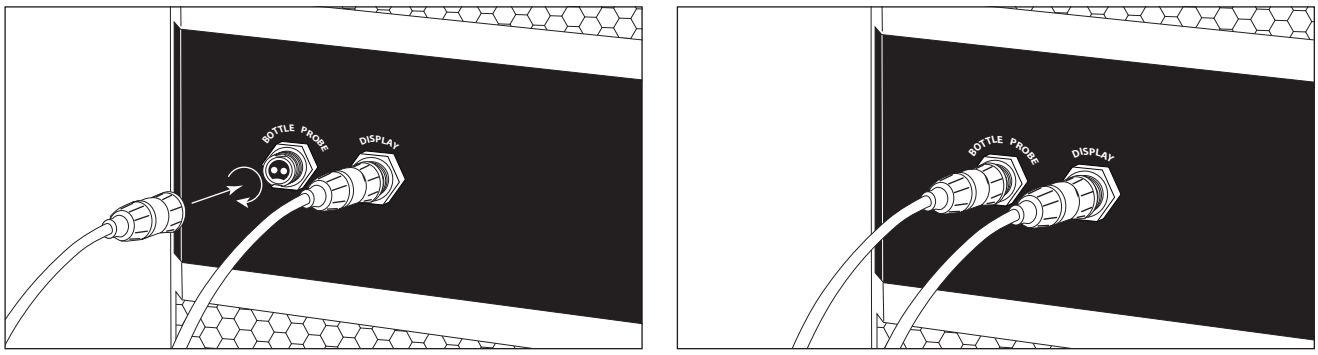


It is recommended that the bottle be placed in a central location of your wine cellar. Avoid pulling too much on the probe cord. It may become disconnected, resulting in limited functionality of the unit.

Note: The thermostat can be set between 10-21°C.

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

Figure 2

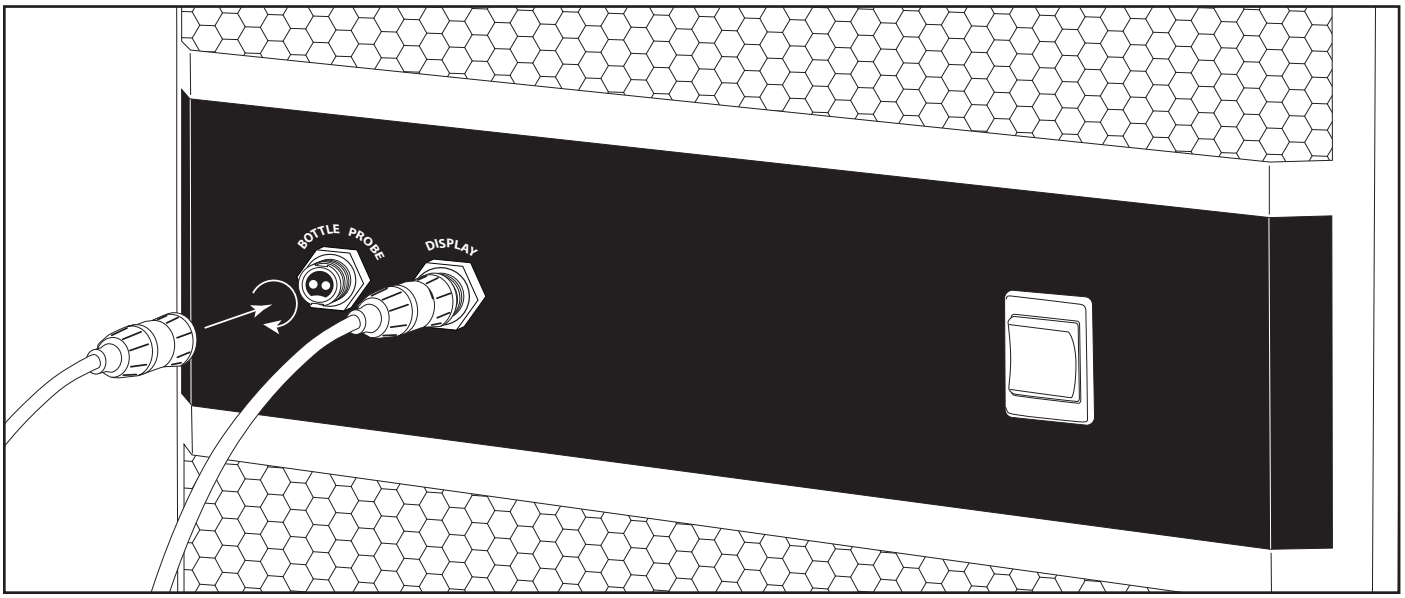


MULTI-SPEED FAN CONTROL

Designed for wine cellars up to 35 and 56 cubic meters, the Extreme 3500ti, 5000ti, and 8000ti feature multi-speed fans. These fans have a high setting for maximum performance in high-temperature (+43°C) environments and a low setting for super-quiet operation.

Fan Speed Selector Switch (Low/Med/High)

The cooling unit fans operate on three speed settings: **Low**, **Medium**, and **High**. For optimum sound and energy efficiency, select the lowest fan speed that will maintain the desired cellar temperature. If the relative humidity is low, a higher fan speed will cause less moisture to be removed during cooling. High speed is recommended for initial cellar cool-down, extreme temperature conditions, and ducted installations.

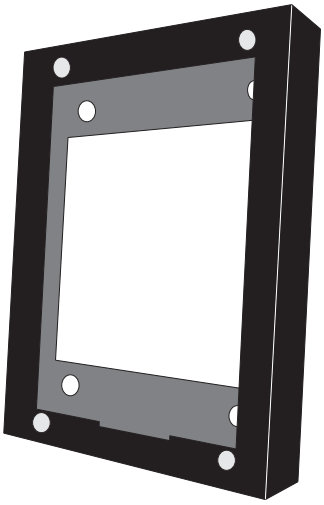


Fan speed selection is determined by the amount of heat that needs to be removed from the cellar and the type of installation (through-the-wall or fully ducted). Fan speed selection is based on cellar size, insulation ratings, door seals, and the desired wine temperature. When initially installing the unit, set the fan speed to the **High** setting to quickly cool down the cellar. Once the wine cellar reaches the desired temperature, a lower fan speed may be selected. In the event that the outdoor temperature rises

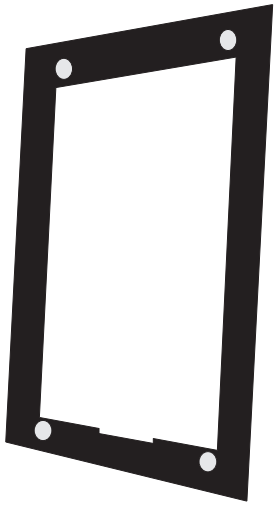
REMOTE DISPLAY: INSTALLATION AND CONFIGURATION*

Tools needed: 8 mm drill bit, 5 mm drill bit, plaster saw, level, pencil
What's included: Display panel, wall mount bracket, flush mount bracket, flush mount template

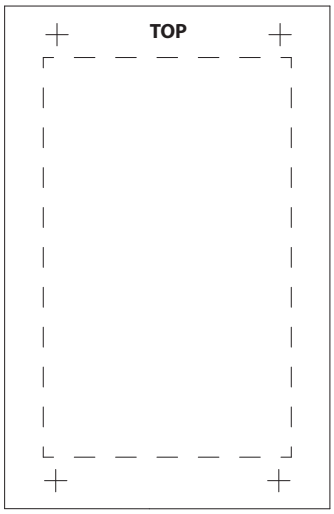
Display panel



Wall mount bracket



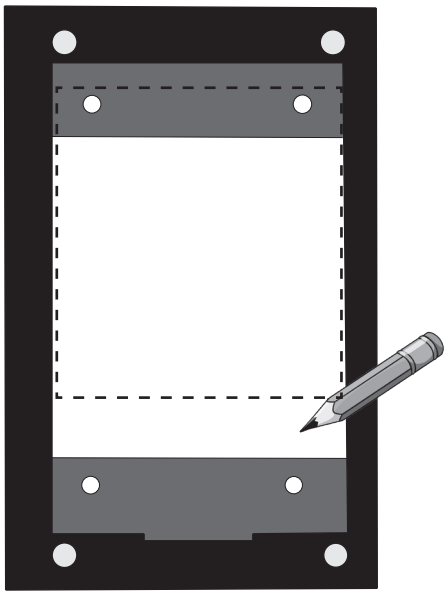
Flush mount bracket



Flush mount template

Wall Mount Bracket Installation

1. Place the bracket on the wall. Use a level to ensure that the bracket is level. Using a pencil, mark the four screw holes in the rear of the bracket.

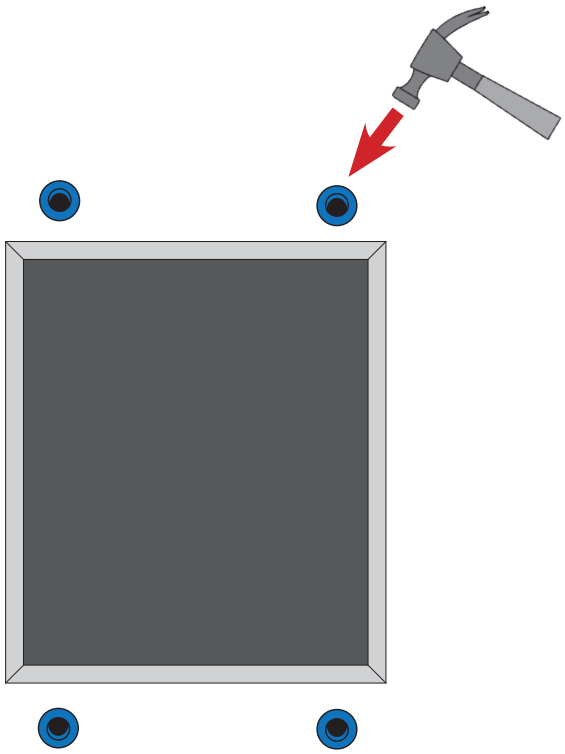


NOTE: Cut hole in the location shown for routing the display cable.

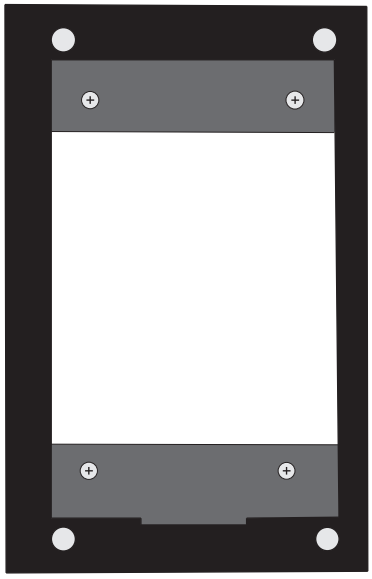
* The display can be mounted on any wall (inside or outside the wine cellar), up to 15 m from the cooling unit.

WALL MOUNT BRACKET INSTALLATION, CONTINUED

2. Using a drill with a 5 mm bit, drill four holes in the plaster for the screws. Insert the four (4) provided plaster anchors into the plaster, then tap them in with a hammer until they are flush with the wall.



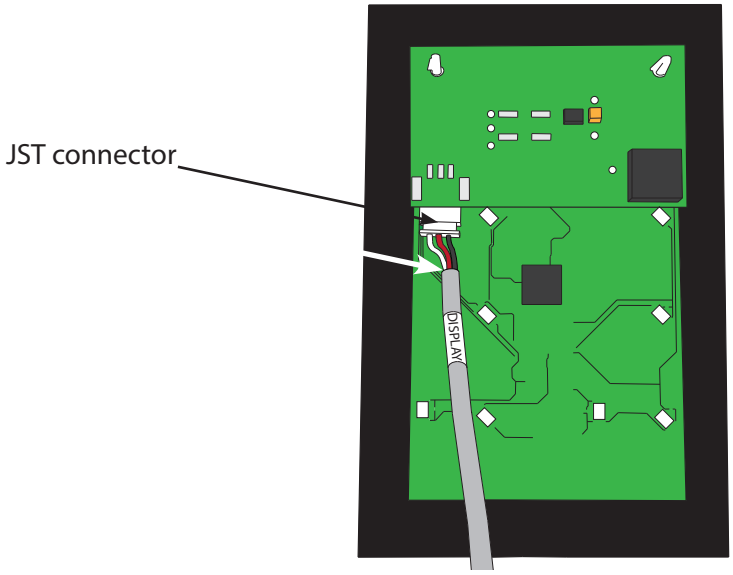
3. Place bracket against wall, aligning screw holes with plaster anchors. Insert the four supplied Phillips-head screws into the plasterl anchors. Tighten the screws to secure the bracket to the wall.

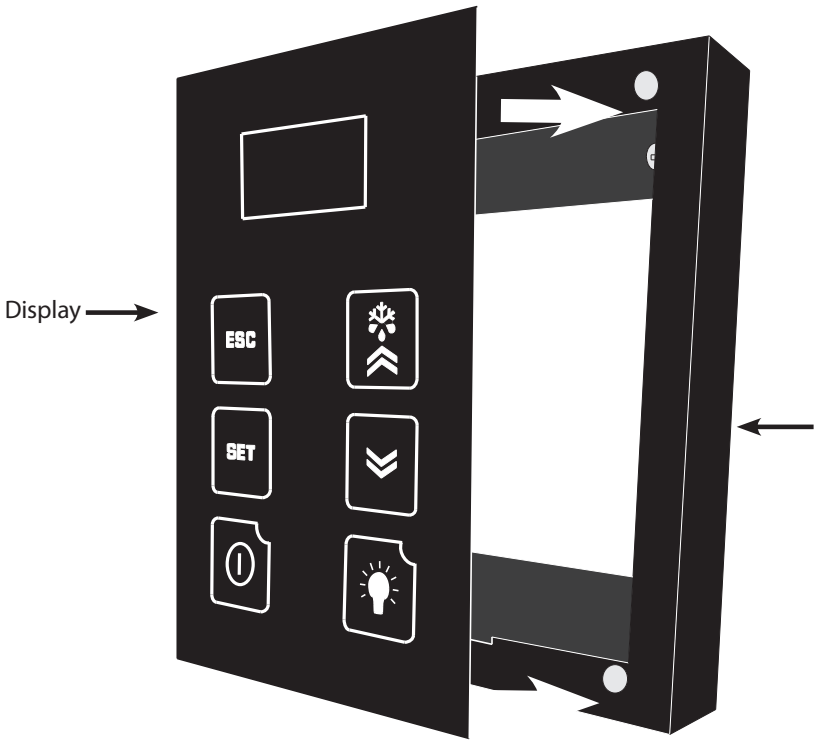


WALL MOUNT BRACKET INSTALLATION, CONTINUED

NOTE: Before you continue to Step 4, locate the area where the display will be mounted. You may route the display wire into the housing one of three ways: either through the wall or through one of the holes on the top or bottom edges of the wall mount bracket. If you'd like to route the display cable through one of these holes, place a rubber grommet into the hole and then route the display cable through the grommet and into the wall mount bracket.

4. Connect the end of the display cable labeled "DISPLAY" to the JST connector on the back of the display.



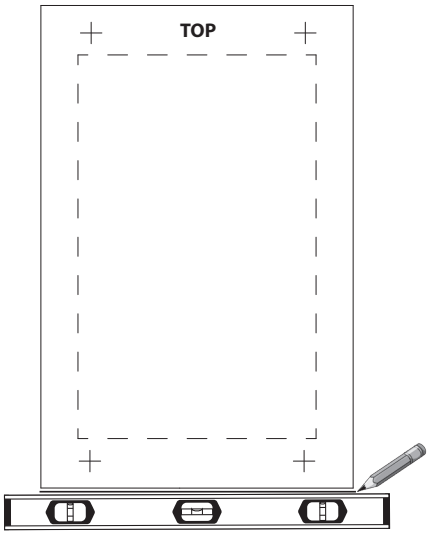


5. Place the display on the wall mount bracket as shown, attaching the back of the display panel to the magnets on the mounting bracket. Make sure that the alignment tab on the back of the display panel sits in the notch on the bottom of the bracket.

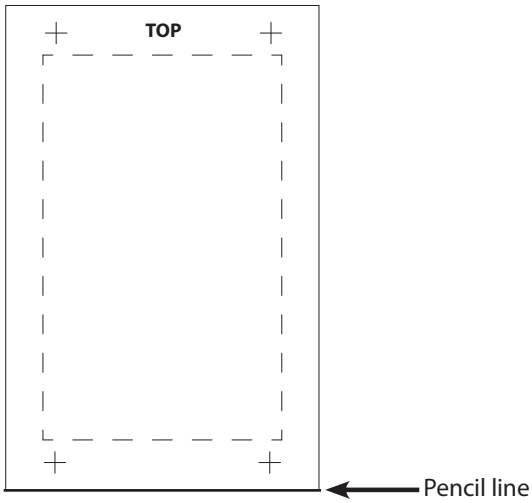
FLUSH MOUNT BRACKET INSTALLATION

Flush Mount Bracket Installation

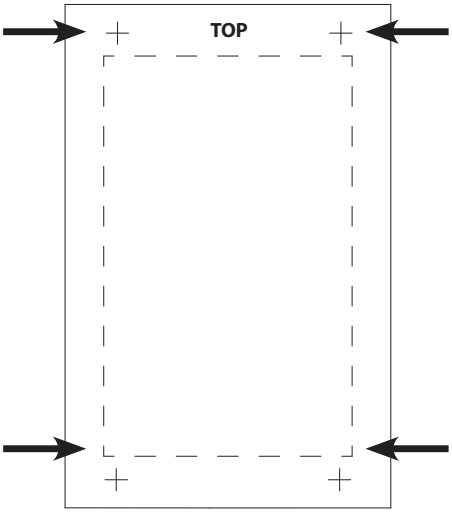
1. Square the flush mount template on the wall using a level. Then draw a 76 mm line along the bottom edge of the template.



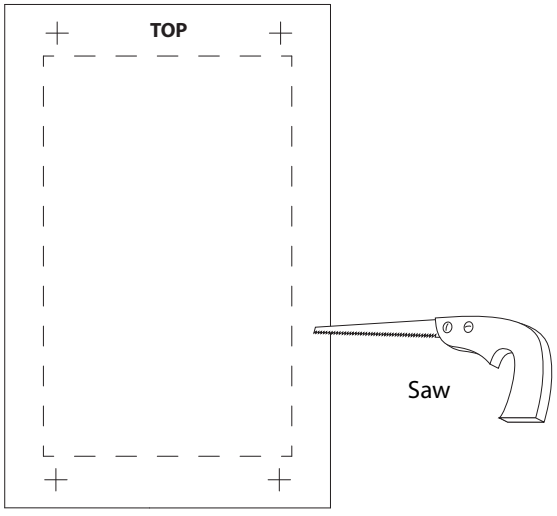
2. Peel the backing off the template and stick it to the wall, aligning the bottom edge with the line drawn in Step 1.



3. Use a 8 mm drill bit to drill a hole in the center of each cross (+).



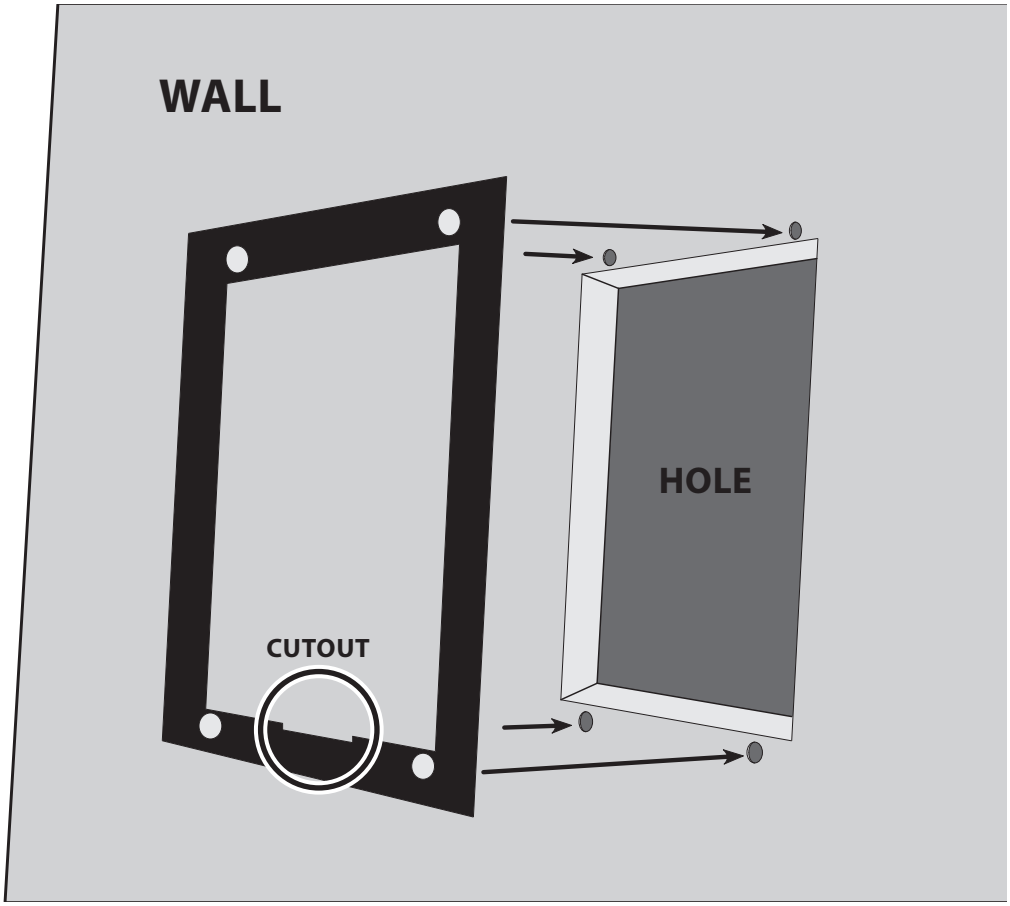
4. Cut along the perforated lines. When finished, remove template from wall.



FLUSH MOUNT BRACKET INSTALLATION, CONTINUED

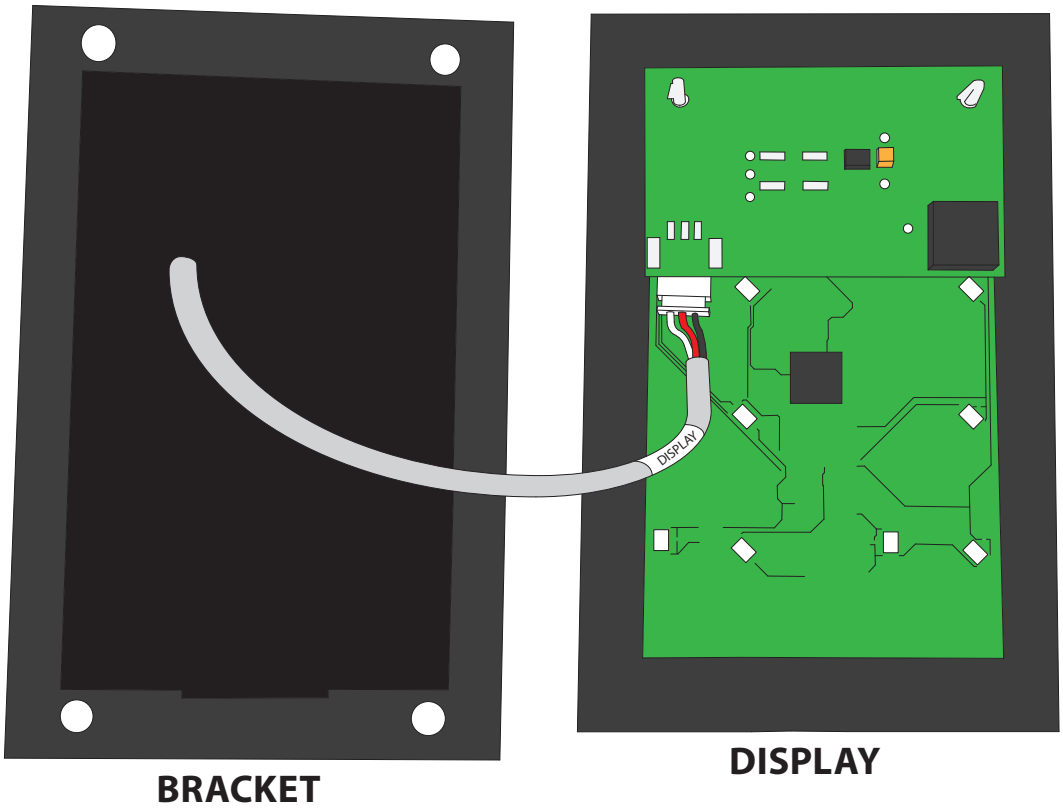
5. Remove the backing from the double-sided tape on the flush mount bracket.

6. Align magnets with previously drilled holes. Make sure the cut-out portion of the bracket (circled below) is on the bottom. Press the bracket firmly against the wall.

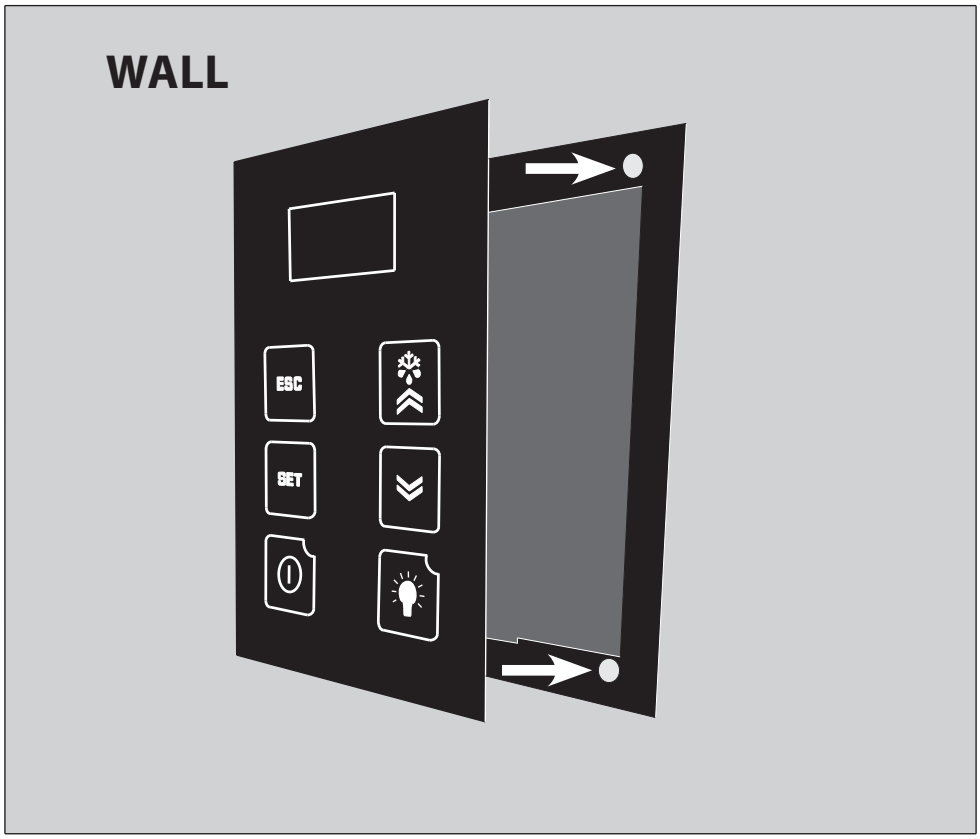


FLUSH MOUNT BRACKET INSTALLATION, CONTINUED

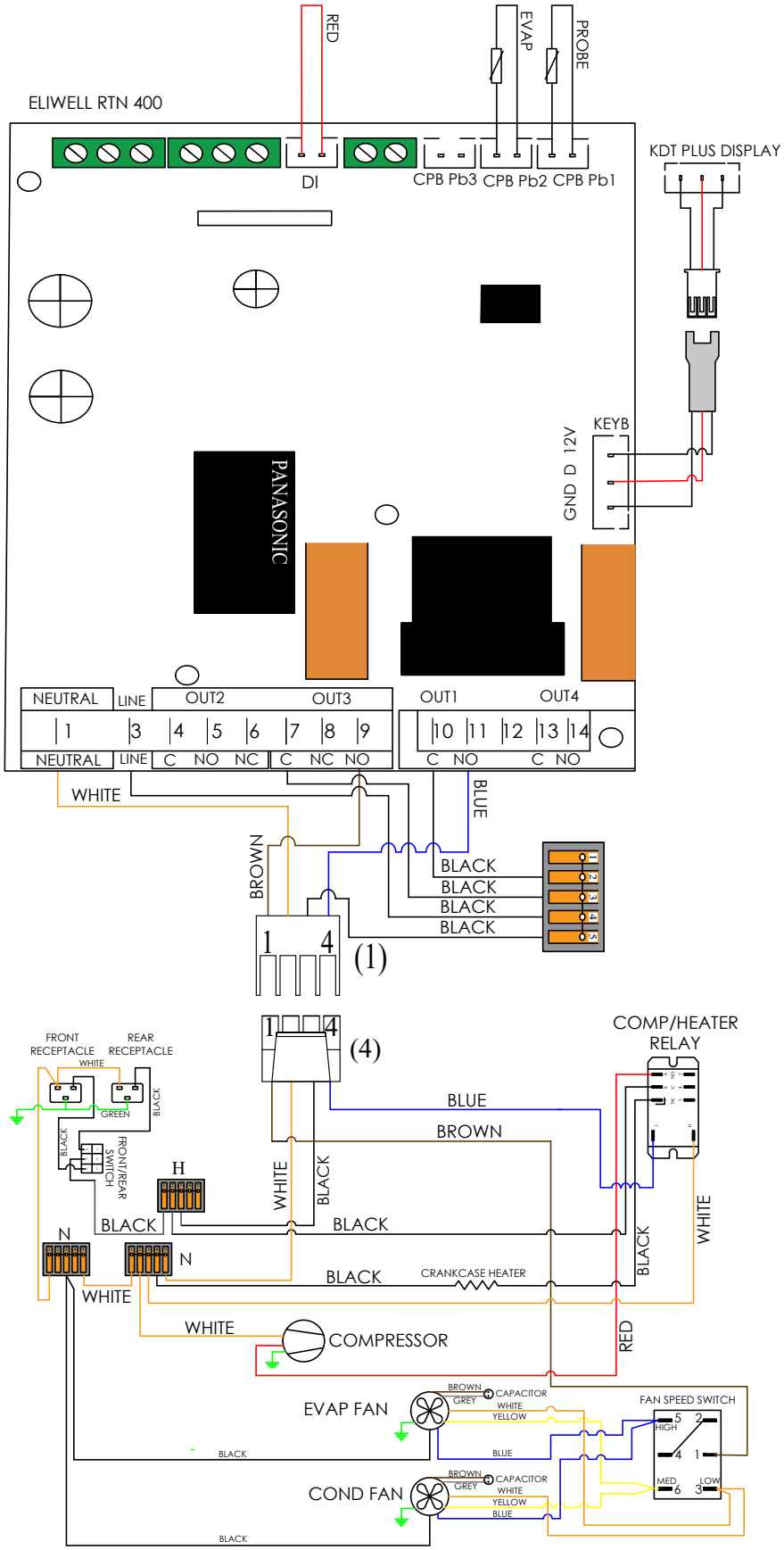
7. Connect the end of the display cable to the JST connector on the display panel.



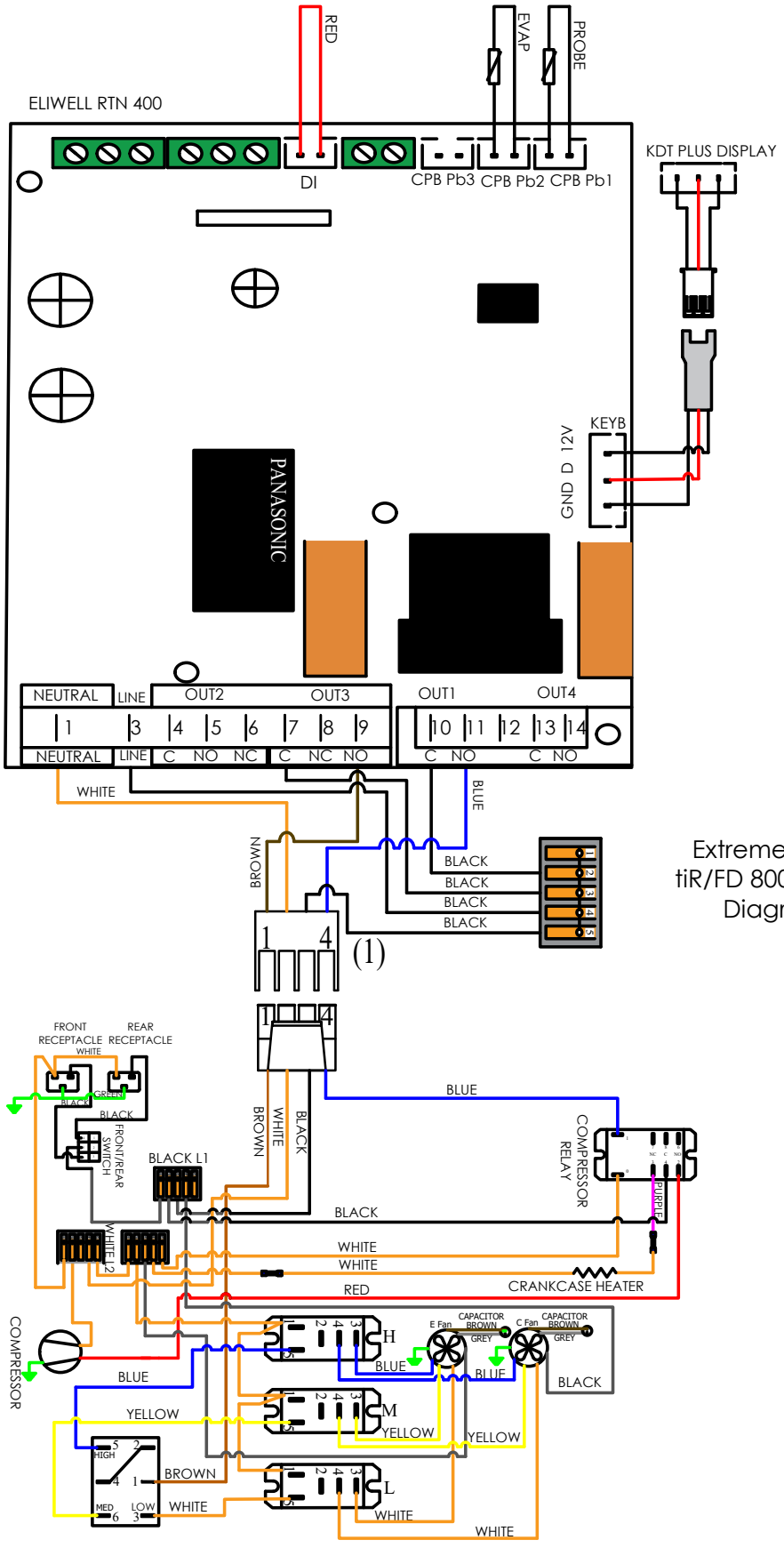
8. Place the display on the flush mount bracket as shown, attaching the back of the display panel to the magnets on the mounting bracket. Make sure that the alignment tab on the back of the display panel sits in the notch on the bottom of the bracket.



EXTREME 3500tiR/tiR FD, 5000tiR/tiR FD WIRING DIAGRAM



EXTREME 8000tiR/tiR FD WIRING DIAGRAM



Extreme (AUS)
tiR/FD 8000 Wiring
Diagram

SYSTEM OPERATION

Initial Start-Up
When the unit is plugged in and power is sent to the controller, a beep will sound, confirming that the controller is getting power. All LEDs on the display will blink three times. Three dashes will then appear on the screen. All display LEDs will then blink three times. Once the controller has gone through the initial startup process, and all LEDs have cycled, the home screen will be displayed.

Setpoint
The setpoint is preset at the factory to 14°C. It can be adjusted by the customer between 10–21°C in 0.1 degree increments.

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 unit will remain off for a period of five minutes after the unit has reached the setpoint. This allows the pressure in the refrigeration system to equalize prior to starting the compressor.

Once the compressor is turned off, the controller must wait five minutes before reactivating the compressor. This prevents the compressor from repeatedly turning off and on. If the unit is calling for cooling during this time, the compressor icon will blink, indicating that cooling is needed but the controller is waiting for the Anti-Short Cycle delay.

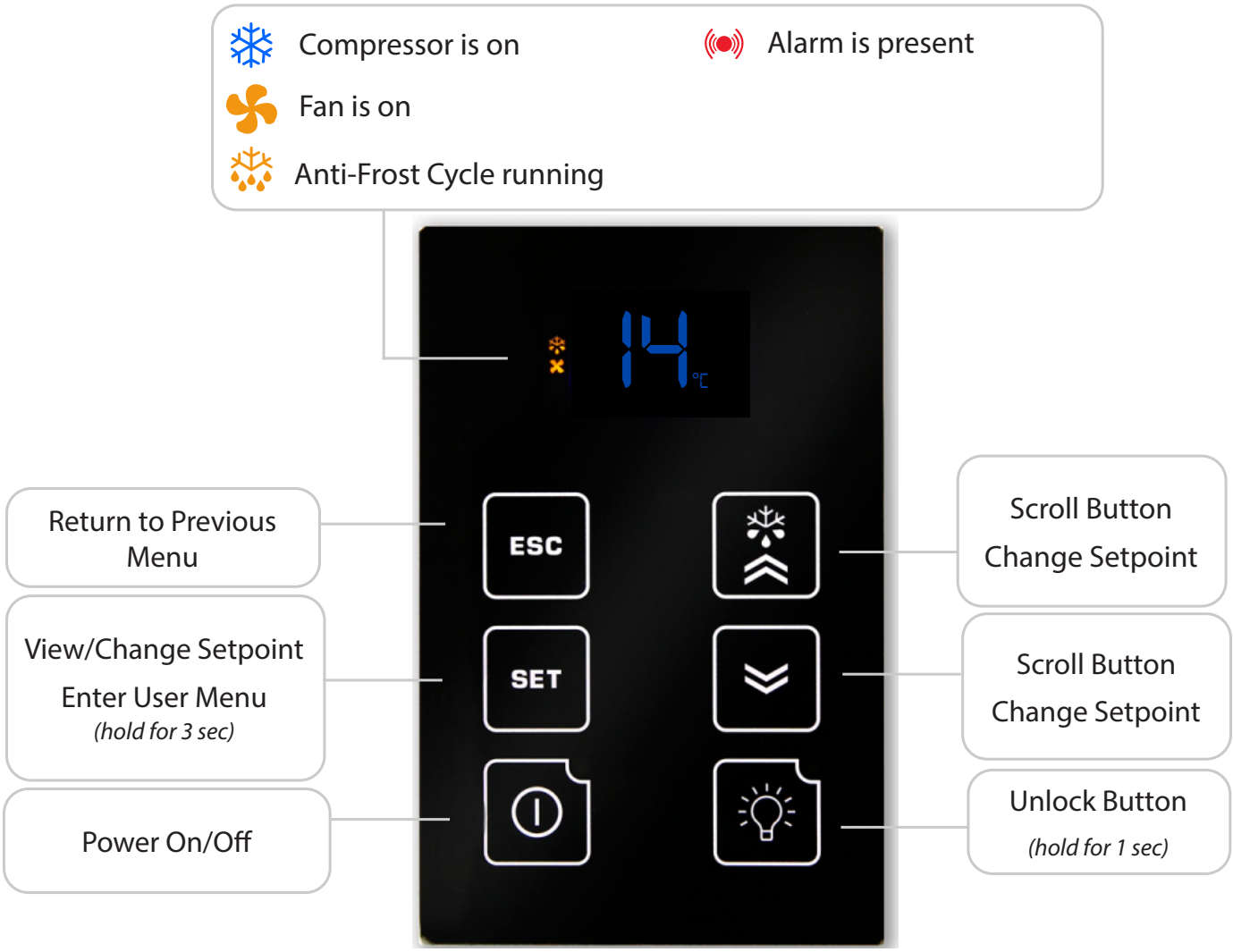
Anti-Frost Cycle
When the evaporator probe senses a temperature of -3°C for a duration of one minute, an Anti-Frost Cycle will be initiated. This will shut down the compressor, allowing the evaporator fan to run and melt any frost accumulation on the coil. While the Anti-Frost Cycle is running, "dEF" will be displayed on the screen. The compressor will remain off until the evaporator coil reaches 4°C, or for a maximum of one hour. The unit will then return to normal operation.

Digital Display
The display is designed to give the user the ability to adjust the setpoint, Fon/FOF parameters, and other settings. (See User Menu on page 33 for more details.) The bottle probe temperature is displayed by default. "dEF" will be displayed during an Anti-Frost Cycle. The bottle probe and evaporator probe temperatures can be accessed by pushing the SET button and scrolling through "Pb1" (bottle probe) and "Pb2" (evaporator probe). The light button may be used as an unlock button.

Safety Features
In the event of a faulty bottle probe, the compressor will cycle off for 10 minutes and on for 40 minutes. "E1" will be displayed on the screen.

Alarms
See "Alarm Codes" in the Controller Functions chart.

DISPLAY LAYOUT



CONTROLLER FUNCTIONS

Button	Normal Functions
INITIAL STARTUP	When the unit is plugged in and power is sent to the controller, a beep will sound, confirming that the controller is getting power. All LEDs on the display will blink three times. Three dashes will then appear on the screen. All display LEDs will then blink three times. Once the controller has gone through the initial startup process, and all LEDs have cycled, the home screen will be displayed.
UNLOCKING THE DISPLAY	Press and hold any button for one second to unlock the display. (A white LED will appear in the top left corner of the button being pressed.) A beep will sound, signifying that the display is unlocked. **NOTE**: The display must be unlocked before any button functions become available.
ON/OFF 	To turn the unit ON, press and hold the ON/OFF button until the red LED turns OFF. To turn the unit OFF, press and hold the ON/OFF button until the red LED turns ON.
UP/DOWN 	The up and down arrows are used to navigate through menus and adjust parameters.
SET 	• To change the setpoint, 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 setpoint is reached.
	• The SET button allows you to view the setpoint, evaporator temperature, bottle temperature, alarms, and the hidden menu. • Press the SET button once. "SEt" will be displayed. Press the UP or DOWN ARROW buttons to scroll through ALr, Pb1, or Pb2.

Set	Setpoint
Alr	Alarm folder
Pb1	Liquid (bottle probe) temperature
Pb2	Evaporator coil temperature

• Press the SET button again to view any of these values.
• Hold the SET button for approximately 5 seconds to enter the User Menu. (More information about the User Menu is available on page 45.) • Other parameters in the User Menu which are not available for adjustment include: idF, rEL, and LAn.
ESC  This button confirms changes made to parameters such as the setpoint and returns you to the previous menu.
LIGHT  The light function is not in use. However, this button can still be used to unlock the display.

ICON GLOSSARY

Icon	Meaning
SNOWFLAKE 	**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 compressor's protection. **Constant:** The unit is in cooling mode and the condensing unit is running.
DRIPPING SNOWFLAKE 	The unit is undergoing an Anti-Frost Cycle. While the Anti-Frost Cycle is running, "dEF" will be displayed on the screen. See System Operation page for further details.
FAN 	The evaporator fan is running.
ALARM 	The alarm icon is shown when the unit encounters an issue that needs attention. Alarm codes are explained on the following page. All temperature-related alarms are blocked for the first 10 hours after the unit is plugged in to allow the system to stabilize and acclimate to the new environment.

WHISPERKOOL CONTROLLER ALARM CODES

Code	Cause	Solution
The following alarm codes will be displayed on the screen along with the alarm icon.		
E1	Bottle probe is not connected	Attach bottle probe to circular connector
	Faulty bottle probe connection	Locate faulty bottle probe connection by inspecting all wiring connections between the bottle probe and the circuit board. The two-pin connector for the bottle probe should be connected to the CPB/PB1 terminal on the circuit board. If it is not connected, plug it in. If a faulty connection has been identified, correct the issue or contact customer service for further assistance. **NOTE:** The E1 code will not appear in the alarms menu. It will be permanently displayed on the screen.
	Defective bottle probe	Replace the bottle probe
E2	Faulty evaporator probe connection	Locate faulty evaporator probe connection by inspecting evaporator probe wire. The two-pin connector for the evaporator probe should be connected to the CPB/PB2 terminal on the circuit board. If it is not connected, plug it in.
	Defective evaporator probe	Replace the evaporator probe
E7	No communication between keypad and circuit board for 60 seconds	Verify that the display cable is connected to the keypad and the circuit board and is not damaged, frayed, or kinked. If problem persists, contact Customer Service for troubleshooting information.
E10	Clock battery is dead	Replace battery **NOTE:** A dead clock battery will not affect the operation of your cooling unit.
The following alarm codes will not be displayed on the home screen. However, the alarm icon will be displayed in the event of an alarm. The alarms can be viewed in the Set Menu's ALr folder.		
AH1	The bottle probe is sensing a temperature that is 2°C above the setpoint	1. Allow time for the wine to reach the desired temperature 2. Ensure that the cellar is sealed properly 3. Verify that the bottle probe is calibrated correctly (refer to the User Menu on the following page) 4. Verify that the unit is sized correctly for the cellar
AL1	The bottle probe is sensing a temperature that is 2°C below the setpoint	1. Make sure the unit is not in cooling mode (the snowflake icon will not be illuminated) 2. Add heat to the room until the wine reaches the desired temp 3. Verify that the bottle probe is calibrated correctly (refer to the User Menu on the following page)
Ad2	The 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 to which the unit is exhausting is not below 16°C 3. If the unit repeatedly goes into Anti-Frost Cycles (one per minute), call Customer Service for more troubleshooting information

USER MENU

The User Menu is accessed by **pressing and holding the SET button for 3 seconds.** Use the UP and DOWN ARROW buttons to navigate to desired parameters. Press the SET button again to view these parameters. Press the UP and DOWN ARROW buttons to adjust a parameter.

The following parameters are available in the menu:

Parameter	Description
Fdc - humidity enhancement	This parameter is measured in minutes, and is preset at the factory to 1. An increase in this parameter will increase the humidity enhancement of your cellar. This parameter should not be adjusted to zero. Adjustments should be made in increments of 5, with a maximum of 15 and a minimum of 1. After making any adjustments to humidity enhancement, **you should wait a minimum of 3 days** before making any additional adjustments. This will allow sufficient time for the cellar to acclimate to the new setting.
CA1 - bottle probe (Pb1) calibration	**CA1 - bottle probe (Pb1) calibration:** You may use this parameter to calibrate the bottle probe to a known temperature. This parameter can be adjusted between -6°C to 6°C. For example, if the bottle probe temperature is 14°C, and the known temperature is 13°C, you can set the CA1 parameter to -1°C to match the known temperature.
PA2 - installer menu	This menu is only accessible using a password and is not available for adjustment.
dOA - digital input	This setting determines which of the unit's components will be activated or deactivated when a certain electrical relay is activated or deactivated in response to an alarm. The controller comes pre-programmed with a factory setting of 2. 2 = activates the compressor and fans 5 = disables the compressor and fans **NOTE:** Setting the dOA to any number other than 2 or 5 will prevent the unit from operating properly.

TROUBLESHOOTING GUIDE

Unit has ice forming on the evaporator

Possible cause	Solution
Evaporator coil is dirty	Clean the coil with a vacuum. If coil is very dirty, use a spray bottle with a small amount of liquid dish detergent or coil cleaner. Spray coil, let set for five minutes, then flush with fresh water.
There is something blocking the supply and/or return air	Remove blockage
The evaporator fan is not turning on	Call a service tech to troubleshoot
The unit has not gone through an Anti-Frost Cycle yet	Check the coil for surface ice. Melt with blow drier until coil is warm to the touch. Soak up water with a towel.
The unit continues to ice	Observe ice formation pattern. If only part way up the coil face, unit could be low on refrigerant. If all the way up, the coil may be dirty or airflow is blocked.

Unit does not run/power up

Possible cause	Solution
Unit is not plugged in	Make sure the unit is plugged into an outlet
Power switch not on	Turn unit on by pressing the power button on the control
Line voltage is incorrect rating for unit	Check line voltage to make sure there is 240v
Bottle at setpoint	Lower setpoint
Thermostat not calling for cooling	Lower setpoint
Power select switch in wrong position	See page 11 for correct switch position
Faulty thermostat or wiring	Call Customer Service

Cellar temperature is too warm

Possible cause	Solution
The temperature of the room to which the unit exhausts exceeds 110°F	Intake temperature needs to drop below 43°C
The unit is undersized for the cellar	Order correct size 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 cellar	Relocate unit so the distance from the ceiling and top of the unit or cold air supply duct is no more than 457 mm
One or more of the fans is not turning on	Call Customer Service
Compressor is not turning on	Call Customer Service
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, unit could be low on refrigerant. If so, call Customer Service.

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 9)

Unit leaks water

Possible cause	Solution
Unit is level	System should have a two-degree (2°) pitch towards the exhaust side
Drain line clogged or kinked	Check drain line to make sure water can flow freely
Drain is clogged, preventing water from escaping	1. Disconnect exterior drain line and clear it out; run provided drain line brush through the drain port and into the interior drain line. 2. Open access door and, using a flashlight, check drain line for blockage; drop a pan tab into the drip tray to prevent further blockages.
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 drip tray 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 fan is unobstructed and coil is clean
Compressor not running	Call Customer Service
Unit undersized	Call Customer Service
Compressor is overheating	Shut unit off for 1 hour to allow compressor to cool. Turn back on and check for cooler air to flow out. If compressor runs, check for and clean condenser coil as a possible cause of compressor overheating. If problem repeats, call Customer Service.

Evaporator fan runs but compressor does not

Possible cause	Solution
Running an Anti-Frost cycle	Check evaporator coil temperature
Compressor and/or starting components faulty	Call Customer Service
"Fan on" (FOn) setting has been increased, allowing fans to run after the compressor turns off	Lower the "fan on" (FOn) time
Compressor may have overheated	Shut unit off for 1 hour to allow compressor to cool. Turn back on and check for cooler air to flow out. If compressor runs, check for and clean condenser coil as a possible cause of compressor overheating. If problem repeats, call Customer Service.

Compressor runs but evaporator fan does not

Possible cause	Solution
Faulty fan motor	Call Customer Service
Faulty controller	Call Customer Service

Compressor short cycles

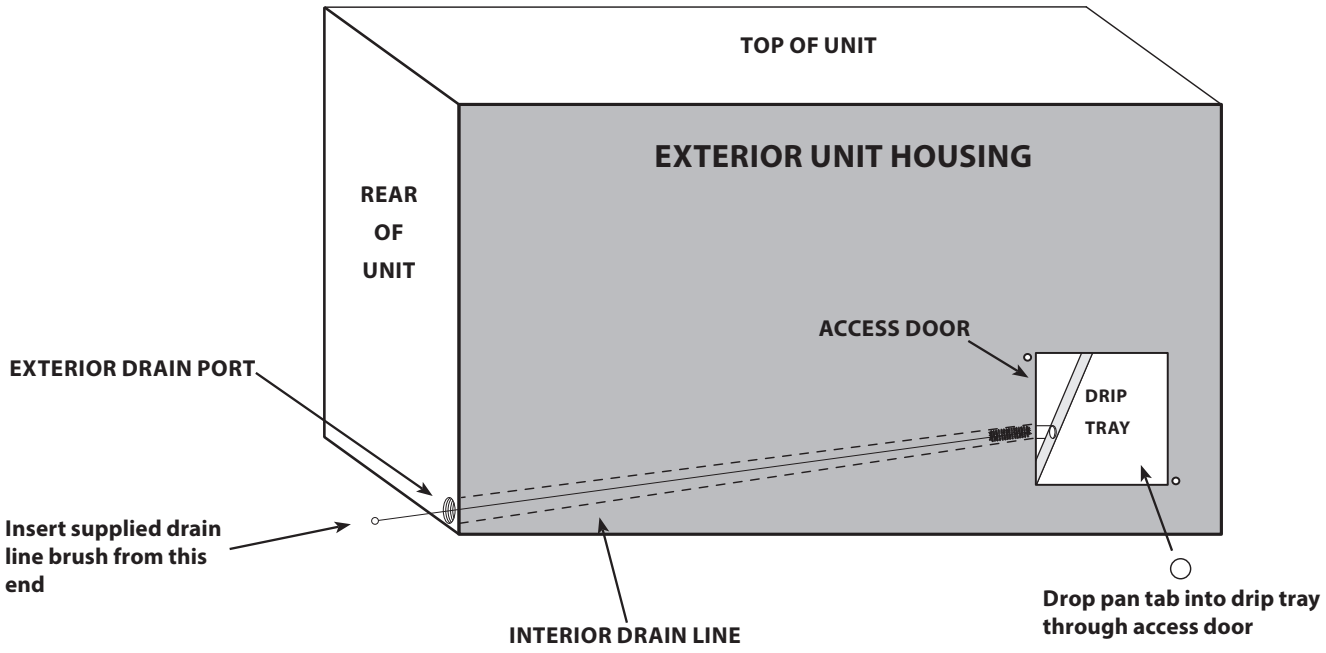
Possible cause	Solution
Evaporator blows on bottle probe	Move bottle probe to a more central location
Unit low on refrigerant charge	Call Customer Service
Condensing fan motor/capacitor faulty	Call Customer Service
Compressor and/or starting components faulty	Call Customer Service

Humidity in cellar too low

Possible cause	Solution
Not enough moisture	Install a humidifier or decorative fountain in the wine cellar

MAINTENANCE SCHEDULE

Monthly	1. Check filters and clean if necessary 2. Check for unusual noise or vibration 3. Check drain line to see if it is above the waterline (when draining into a vessel)
Every Six Weeks	Using the supplied drain line brush, clean the interior drain line leading from the drip tray and drop a pan tab into the drip tray (see illustration below for more details).
Quarterly	1. Clean filters 2. Replace filters on ducted units (see diagram below)
Annually	1. Replace filters if worn or plugged beyond cleaning 2. Use a vacuum with brush attachment to clean coils; be careful not to crush coil fins 3. Inspect for corrosion 4. Check wiring connections and integrity of cords 5. Examine duct work for cracks or possible leaks 6. Pour a 50/50 bleach solution into the external drain line every spring



Pan tabs kill bacteria and related odors, remove sludge and scale, and help to prevent water damage caused by condensate overflow. They are non-corrosive and easy to install. Simply use the access door to drop a pan tab into the drip tray every six weeks.

WARNING: *Keep pan tabs out of reach of children. They contain quaternary ammonium chloride and can cause skin and eye irritation. They are harmful or fatal if ingested. Wear protective gloves when handling pan tabs. Wash hands thoroughly after handling. If pan tabs make contact with eyes, rinse cautiously with water for several minutes.*

FILTER REPLACEMENT PROCEDURE (FOR DUCTED UNITS)

NOTE: For 3500/5000/8000 models the filters will be located at the return register inside the wine cellar. Replace filters according to specific register type selected by customer.

NOTES

WhisperKOOL™

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