BREEZAIRE PRODUCTS COMPANY

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WKE SERIES

(USA ONLY)

--INSTALLATION INSTRUCTIONS--

Thank you for choosing a ***BREEZAIRE*** cooling unit. We believe our products are the best on the market and will provide many years of trouble free service.

Please take a few minutes and read the entire instruction before beginning the installation.

Before removing the cooling unit from the box, please inspect for damage, which might have occurred during shipping. If damage is found, notify the Freight Company immediately. *BREEZAIRE* is not responsible for any damages during shipping.

MODEL_____ **SERIAL NUMBER**_____

INSTALLED BY_____ **DATE**_____

INSTALLATION INSTRUCTIONS
FOR WKE SERIES SENTINEL II EQUIPPED COOLING UNITS

The ***BREEZAIRE*** WKE Series cooling units are designed to, when installed in a properly constructed enclosure, provide a constant, selectable temperature between 48°F and 62°F while reducing the excess relative humidity to the proper 50% to 75%. ***BREEZAIRE*** cooling units are designed to lower the temperature, while removing *only* excessive moisture. In a properly constructed enclosure this process can raise the *relative* humidity. The unit does not add moisture to the enclosure. The unit does not include a heating system and will not warm the enclosure. The WKE Series is not intended to cool service cabinets, which are maintained at lower temperatures and opened or entered frequently.

ENCLOSURE CONSTRUCTION

To use the below SIZING GUIDE, the enclosure to be cooled must be built to the following minimum specifications. If the enclosure cannot be built to these minimum specifications, consult your ***BREEZAIRE*** dealer for assistance in choosing the correct unit. ***BREEZAIRE*** **cooling units are not warranted to cool a specific enclosure.**

All interior walls and floor should have a vapor barrier and a minimum of R-11 insulation. An exterior wall's insulation value should be a minimum of R-19. The ceiling should have a vapor barrier and a minimum of R-19 insulation. The vapor barrier should be installed on the warm side of the insulation. There should be no glass windows or doors.

- ☞ All joints, door frames, electrical outlets or switches and any pipes or vents which go through the enclosure should be sealed to prevent air and moisture leakage into the room. Concrete and brick are not insulation or moisture barriers.
- ☞ Doors into the enclosure should be of minimum size, insulated to R-11 and be tightly sealed with a high quality weather stripping. Be sure to seal the bottom of the door and underneath the door frame's molding.
- ☞ Enclosure lighting should be of low wattage, with a timer to insure lights are not left on when the enclosure is unoccupied. Recessed lighting should not be used, as they will allow outside air to enter the enclosure.
- ☞ The ambient temperature surrounding the enclosure should not exceed the desired cellar's temperature by more than 25°F. No enclosure wall should receive direct sunlight or strong wind.

SIZING GUIDE & SPECIFICATIONS

This guide to be used only for enclosures meeting the above construction requirements.

BREEZAIRE Model	Enclosure Volume	Electrical	Dimensions (inches)	Weight
WKE 3000	650 cu.ft.	5 Amps	14.25W x 19.75H x 21.63D	76 lb.
WKE 4000	1000 cu.ft.	7 Amps	14.25W x 19.75H x 21.63D	81 lb.
WKE 6000	1500 cu.ft.	9.5 Amps	16.25W x 22.00H x 21.63D	101 lb.
WKE 8000	2000 cu.ft.	10 Amps	16.25W x 22.00H x 21.63D	101 lb.

Note: All units are 115 Volt, 60 Hz

INSTALLATION

Before installing the unit, inspect it again for any shipping damage. Test the unit by placing it in a room where the temperature is above 65°F and plug it into a properly grounded electrical outlet. The thermostat has no "off" position; therefore it will begin to run within 5 minutes of being plugged in. Allow it to run for a minimum of 15 minutes. There should be a flow of cool air from the upper grille (see Fig. 1) and warm air should be flowing from the upper opening on the warm air exhaust side (see fig. 3). If there is no airflow or no change in temperature on either side, contact your dealer.

BREEZAIRE units should not be installed in a fire rated wall without consulting your local building inspector and building codes.

If your installation cannot be performed in accordance with these instructions contact your dealer.

The unit must be installed in the upright position and is not designed to have duct work on either the warm air or cold air sides. Do not drill any holes into the cooling unit. It may damage the unit, promotes rust, and will void the warranty. Do not install the unit so that its removal will be difficult or impossible. It may be necessary to periodically remove the unit to clean the condenser coil.

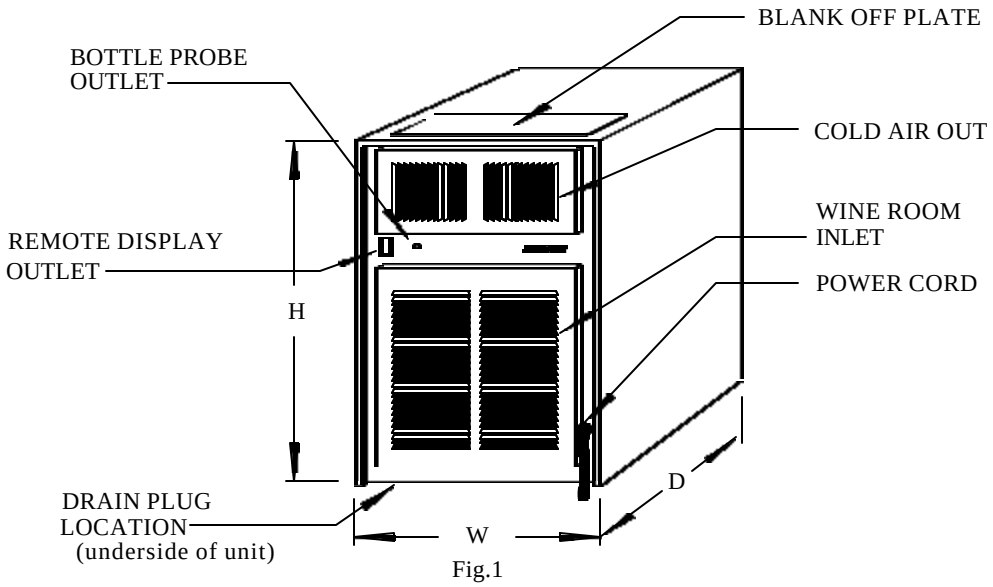


Fig.1

- Select a place to mount the unit where the warm air flow from the warm air exhaust is unobstructed for a minimum of 3 feet. The area into which the unit exhausts must be well ventilated. If not, the unit will be unable to reject the excessive moisture and heat and will not operate satisfactorily. Inappropriate locations for the warm air exhaust includes unventilated laundry rooms, closets, bathrooms, garages, crawl spaces, attics and humid basements.
- Additionally, cold air flowing from the upper cold side grille must remain unobstructed for 3 feet. It is preferred that the unit be mounted near the ceiling and as close to equal distance from each end of the wall as possible. If necessary, these units may be mounted near the floor if the upper grille is interchanged with the blank off plate so that the cold air will be directed up (See Fig. 1). There should be nothing above the unit to block air flow. Remove the insulation under the blank off plate with a knife. Make sure that the warm air exhaust grille can be properly attached to the unit (see fig. 3).
- Make a hole through the wall as illustrated in Fig. 2. The dimensions of the hole should be approximately 1/4 inch larger than the width and height given in the specifications. If the unit is to be installed above floor level, construct a shelf as shown in Fig. 3. This shelf must be capable of supporting the weight indicated in the specifications. NOTE: Insulation placed between the unit and the shelf will reduce additional noise and help reduce condensate from forming on the underside of the unit.
- Cut a hole in the shelve that corresponds to the Pull down drain tube's location on the underside of the unit for easy access. Refer to section "CONDENSATE DRAIN TUBE".
- Place the unit through the opening with the warm air exhaust side, flush to the outside of the wall (see fig. 3). Attach the warm air exhaust grille to the unit and to the wall with screws supplied with grille. Note: the unit may be installed with the cold side flush to the inside wall, however, 2 provisions must be made. First, insure the warm air exhaust grille will be installed. Second, insulate and vapor barrier the framed opening to prevent any wall moisture

from condensing on the cold surface of the cooling unit in the wall. Please remember that in all cases the warm air exhaust grille must be directly attached to the warm side of the unit. Do not leave an air gap between the unit's surface and the warm air exhaust grille. **The unit will not work properly without this grille.** The exhaust grille has only a white primer coat. If the grille is installed on an outside wall it should be coated with an appropriate paint.

- ☞ **Seal the opening around the unit with high quality weather stripping and cover with an appropriate molding.** Attach the molding to the wall, not the unit.
- ☞ Plug the unit into a properly grounded 115-volt outlet of adequate capacity. See specifications.

OPERATION

On initial start-up the cooling unit will reduce the temperature of the enclosure slowly. The unit may run constantly or cycle off for short periods. The time required to reach the desired temperature will vary, depending on the enclosure construction and contents. The thermostat is factory set to approximately 55°F. Unless the temperature falls below that which is desired, do not change the thermostat setting for at least 3 days. After initial cool down, the "on-off" cycle should be relatively constant. The percentage of "off " time will depend on enclosure construction, contents, and the temperature surrounding the enclosure. If it is necessary to adjust the temperature of the enclosure; adjust the thermostat to a colder temperature while the unit is running and to a warmer temperature while the unit is off. **If the operation of the unit is stopped, either by unplugging it or by turning the thermostat, do not restart it for at lease 10 minutes.**

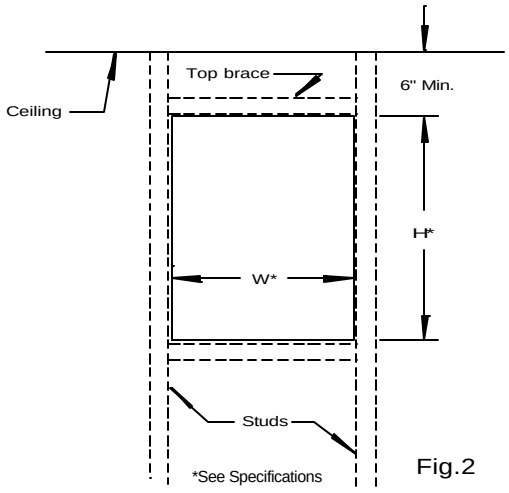


Fig.2

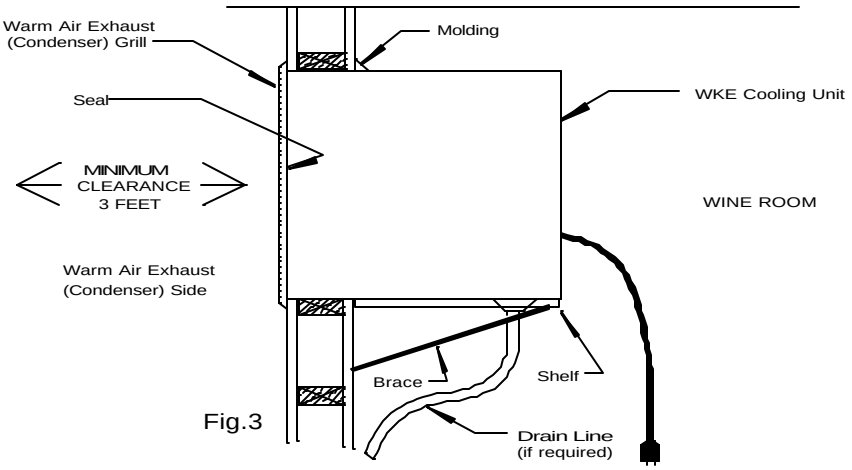


Fig.3

MAINTENANCE

The ***BREEZAIRE*** cooling unit requires very little maintenance. To keep the system operating at its top performance, at least once every three months the condenser coil should be inspected and vacuumed to prevent air blockage. Remove the large warm air exhaust grille located outside the enclosure where the warm air is discharged. Use a vacuum with a brush attachment to remove the lint or dirt that may reside between the aluminum fins. **If the condenser coil becomes blocked preventing proper air flow the unit will overheat causing a loss in cooling efficiency and will result in a failure of the unit not covered under warranty.**

ENCLOSURE PROBLEMS

BREEZAIRE is extremely proud of the quality and reliability of its products. Experience has shown that of the small number of problems encountered, the large majority are due to improper unit selection or enclosure construction.

Should the cooling system be suspected of malfunctioning, check the temperature of the air being exhausted from the upper part of the warm air exhaust grille. If it is warm, the unit is working. A further check may be made by comparing the temperature entering the lower grille on the cold side with that leaving from the upper cold side grille. If the air leaving the unit is 6°F or more degrees colder than the temperature entering, the unit is working properly.

In situations where the ambient relative humidity is very low, the desired enclosure relative humidity may not be achieved without adding moisture. To add moisture to the enclosure only use slow, natural evaporation from a small porous water container. Do not use a humidifier.

In some cases, improper placement or installation may cause the unit's performance to be degraded. **The warm air exhaust side of the unit must have a constant supply of fresh air, less than 85^{o}F.** If the unit is exhausted into a confined area with poor ventilation, it will not be able to reject the heat and moisture it is removing from the enclosure and a malfunctioning unit will be suspected. Similar symptoms may be caused by an obstruction to the free flow of air into or out of the unit. **In severe cases of reduced airflow, the unit may over heat causing the enclosure to be heated instead of cooled.**

Proper sealing of the enclosure through the use of a vapor barrier and weather stripping cannot be over emphasized. The unit will not be able to maintain the proper conditions if fresh; moisture-laden air is constantly being introduced into an improperly sealed enclosure. Symptoms of this condition are; unit runs all the time with only a slight reduction in enclosure temperature and/or water overflows from the unit. One way of discovering gross air leaks is to stand inside the enclosure with the lights off, allow your eyes to adapt to the dark and look for light showing through cracks in the walls or around the door. Because of the temperature difference between the inside and outside, very small cracks can allow large amounts of outside air into the enclosure. Please be aware that moisture will pass through solid concrete, brick, paint, paper and wood.

CONDENSATE DRAIN TUBE

Your ***BREEZAIRE*** wine cooling unit is designed to maintain the proper temperature and humidity in a well-insulated and sealed enclosure. If the "cellar" is not well sealed, infiltration of outside moisture will cause loss of humidity control, possible damage to the wine and an overflow of condensate from the unit. When placed into operation in this type of environments, the wine cooling unit may not be able to reject enough excess moisture and can overflow. Your unit is equipped with a **Pull-down Drain tube** to prevent condensate overflow. Engage the drain tube and provide a receptacle or drain to receive the excess condensate. Often a newly constructed room contains fresh wood, paint, concrete and other building materials, which may contain large amounts of moisture. Again, this can result in large amounts of excess condensate that will overflow the cooling unit.

Do not drill or tap the drain hole. Rusting of the metal base will result and void the unit's warranty. Use of this drain is explained below.

EXTENDING THE DRAIN TUBE: To extend and open the drain, use a pair of small pliers to grab the red plastic plug and vinyl tubing. Pull the plug and tubing down approximately 6 inches until it snaps into the locked position and the "Grey Fitting" is visible through the drain hole (see fig. 4). Remove the bottom red plug. Now the cooling unit will drain any condensate that is standing above 1/4 inch deep in the base pan.

CLOSING THE DRAIN TUBE: To close the drain tube, simply replace the "Red stopper" and push the vinyl tubing back up into the bottom of the cooling unit. This action extends the top of the tube above the water line preventing it from draining. **CAUTION:** Do not push the entire length of tubing back up into the drain hole.

INSTALLING A DRAIN LINE: To extend the drain tube into a basement drain or container, acquire a length of vinyl tubing with a inside diameter of 7/16 inch from a local hardware store. Slip this larger piece of tubing over the Pull-down drain tube. **CAUTION:** Always have the extended drain line running "down hill". This is a gravity flow system. If a horizontal run is encountered, an air vent or condensate pump may be required to maintain drainage.

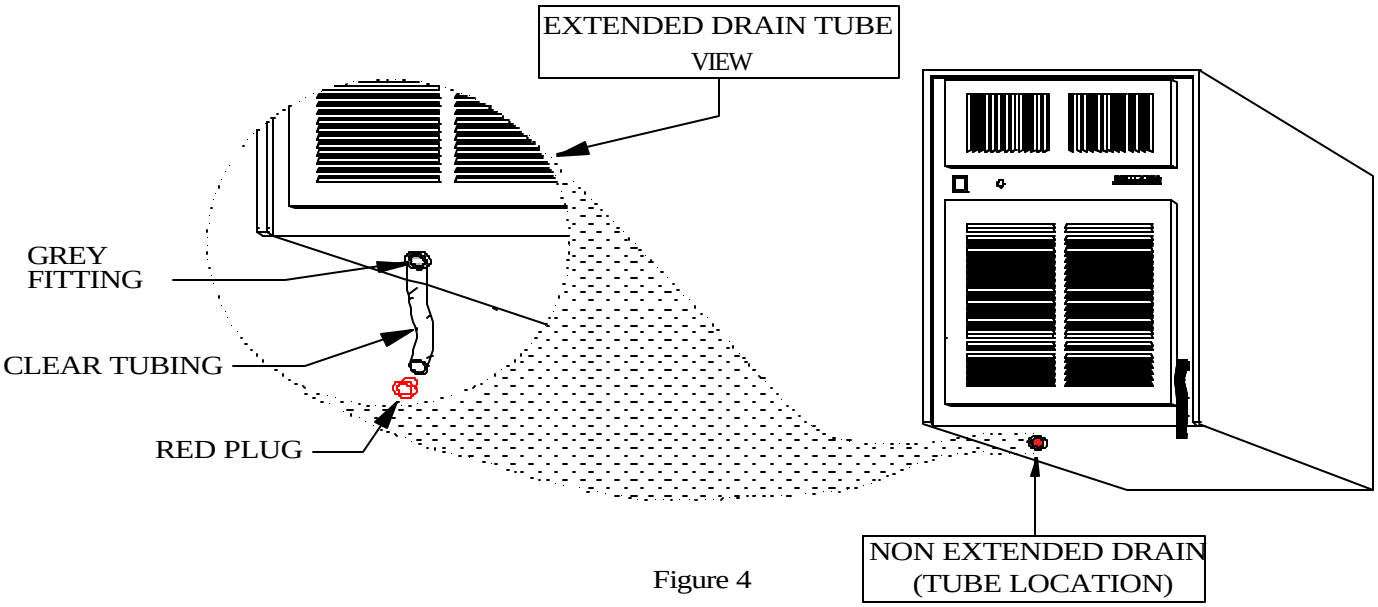


Figure 4

SENTINEL II CONTROL SYSTEM

The ***BREEZAIRE*** **Sentinel II** is the precision micro-processor control system that makes the WKE Series the most sophisticated wine cooling units available. The **Sentinel II** features a remote display and control panel that serves as a wine cellar temperature display, programming panel and alarm. The following three parameters are set through the display-control panel:

1- DESIRED TEMPERATURE OF WINE CELLAR. Choose temperature between 45°F and 65°F.

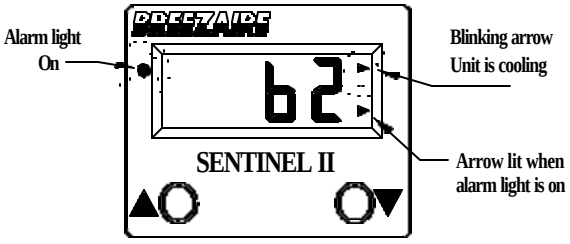
2- EVAPORATOR FAN OPERATION. Choice of "auto" or "on" modes. Evaporator fan will turn on and off with the cooling unit in the "auto" mode, and remain on all the time in the "on" mode. The "auto" setting should be used for normal operation. For floor mount applications where the wine cellar temperature variation is unacceptable, the "on" setting will work best.

3- ALARM TEMPERATURE. You can choose an alarm temperature between 50°F and 75°F. If the temperature of the wine cellar goes above the alarm temperature the red alarm indicator on the program panel will be lit. Choose an alarm temperature approximately 6°F above the desired temperature setting of wine cellar.

The **Sentinel II** also controls the speed of the condenser fan to provide maximum cooling while reducing energy usage and noise. During warm days the condenser fan will run at a higher speed than under less severe conditions.

The **Sentinel II** display-control panel can be mounted directly on the cooling unit face or may be mounted in a remote location. If a remote location is desired, obtain a standard four wire (two line) telephone extension cord of not more than 100 feet in length from a local supplier. If the extension cord does not have one female end, an adapter to join the two male ends will be required.

The Sentinel II is not a temperature sensing device. It is only a display/control panel so the Sentinel II may be mounted outside the cellar. The display has three arrows to the far right of the screen. One arrow, two, or three arrows may be lit at any time.



When the cooling unit is plugged in and receiving electrical power the top arrow will be lit. This top arrow will blink when the compressor is operating and the unit is cooling. The middle arrow is lit when the programming is being changed. The bottom arrow is lit when the cellar's temperature exceeds the alarm set temperature. Also at this point the red alarm light will be on.

BOTTLE PROBE (OPTIONAL)

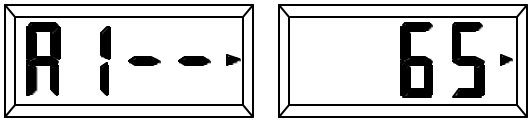
Allow the enclosure to stabilize at the desired temperature for several days. Fill a suitable bottle with wine (preferably) or water, insert the bottle probe into the bottle, and place it in the enclosure. Do not connect the probe to the unit until the bottle has had sufficient time to cool to the enclosure temperature (several days). Connect the probe to the outlet located on the front face of the unit. The on and off operation of the unit is now controlled by the temperature of the wine in the bottle. The temperature displayed is that of the bottle. Unplugging the probe will return control of the unit to the room air temperature.

PROGRAMMING THE SENTINEL II

In order to set the DESIRED TEMPERATURE OF THE WINE CELLAR, the cooling unit must be installed as per previous instructions. The current temperature will appear on the display and control panel. Press the two panel buttons at the same time once and release. The panel will show the word "set", followed by "cool". After a few seconds the panel will automatically show the set temperature previously programmed.

To change to your desired wine cellar temperature press either of the panel buttons until the desired temperature is shown. If the desired temperature is the only parameter you wish to change press the two panel buttons simultaneously three more times until the panel shows the word "done" however to continue in the program mode press the panel buttons simultaneously once more. Now you can change the **EVAPORATOR FAN OPERATION.**

The panel will show the word "fan" for a few seconds and then change automatically to the current fan setting, either "auto" or "on". To change the current setting press either panel button once. The new setting should now appear. If you do not wish to change any other parameters press the panel buttons simultaneously twice until the panel shows the word "done", however to continue in the program mode press the panel buttons simultaneously once more. Now you can set the **ALARM TEMPERATURE.**



To change the current setting press either panel button until the desired alarm temperature is reached. To complete the program operation press the panel buttons simultaneously once. The panel should show the word "done". Your changes have now been recorded by the Sentinel II. If the word "done" does not appear at the end of the programming mode the changes will not be saved.