

# **BREEZAIRE** PRODUCTS COMPANY

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## **WKC 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** \_\_\_\_\_ .

While great effort has been made to provide accurate guidelines, **BREEZAIRE** 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 **BREEZAIRE**.

## INSTALLATION INSTRUCTIONS FOR WKC SERIES COOLING UNITS

The **BREEZAIRE** WKC 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 WKC Series is not intended to cool service cabinets, which are maintained at lower temperatures and opened or entered frequently.

The cooling unit comes with two (2) optional thermostat systems. Mechanical or Digital Electronic (Sentry III).

The mechanical version is low profile and will blend in with the casing of the unit. The mechanical version is of a simplest design and the adjustments requires a 1/4" straight type screwdriver.

The Digital Electronic (Sentry III) thermostat adds additional safety to your enclosure and has the following features:

- ☞ Large, easy to read, green LED display.
- ☞ Accurate, easy to adjust (no tools needed) readable set points with continuous reading of enclosure temperature or displaying of set point when changing enclosure temperatures.
- ☞ Power outage protection, which delays unit start up after power outages.
- ☞ Blocked airflow protection, which shuts down unit and protects wine in case of high temperatures caused by condenser blockage.
- ☞ Controls temperature by enclosure air sensors or optional bottle probe.

The configuration of the units having the cold air discharge on the bottom makes them ideal to be installed in cabinets and credenzas. **BREEZAIRE** WKC series cooling units are not always recommended for converted closets. Ask your dealer for details.

### ENCLOSURE CONSTRUCTION GUIDELINES

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 walls, floors and ceilings should have a vapor barrier. This vapor barrier should be installed on the warm side of the insulation. All interior walls and floors should be lined with a minimum of R-11 insulation and exterior walls and ceiling insulation value should be a minimum of R-19. There should be no glass windows or doors.

- ☞ WKC series are specifically designed and engineered to be installed in cabinets and credenzas. The enclosures in which you install the cooling unit must be well insulated and air tight for the cooling unit to perform properly.
- ☞ 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 behind 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 enclosure's temperature by more than 25°F. No enclosure wall should receive direct sunlight or strong wind.

- ☞ **Note:** Glass doors and/or windows are not included in our calculations and should not be used in a wine enclosure.

## CONVERTED CLOSETS APPLICATIONS

The **BREEZAIRE WKC** series cooling units were designed and engineered for cabinets and credenzas. However if you have looked at the **BREEZAIRE WK** series cooling unit and you feel the **WKC** series units will better serve your application you must follow these specifications:

- ☞ This is a mechanical piece of equipment, it will make noise and produce heat on the warm side exterior grille (Fig. 3). Remember, unit installation location is not only important inside the wine cellar, but just as important is where the warm side exhaust air is being rejected.

## SIZING GUIDE & SPECIFICATIONS

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

BREEZAIRE Model	Electrical	Dimensions (inches)	Weight (Lbs.)
WKC(E) 1060	3 Amp	18W x 10.5H x 16.5D	45
WKC(E) 2200	4 Amp	18W x 10.5H x 16.5D	55

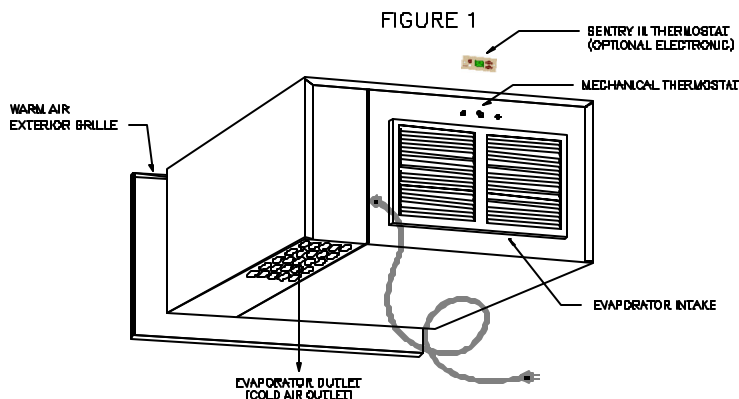
Note: All units are 115 Volt, 60 Hz

## 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. Position the unit to allow cold air to flow from evaporator outlet. (See Fig. 1) Plug the unit's electrical cord into a properly grounded electrical outlet of adequate capacity (see unit specification for unit electrical requirements).

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 lower evaporator outlet side (see Fig. 1) and warm air should be flowing from the rear opening on the exterior grille 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.
- ☞ The best location for the WKC series cooling unit is six (6) inches from the ceiling, mounted on a shelf (see above unit specifications for weight of unit) and with no obstruction for the evaporator cold air outlet airflow (minimum 12 inches) and a minimum of three (3) feet for the warm air discharge from the exterior grille. (see Fig. 1, 2 and 3) It is preferred that the unit is mounted as close to equal distance from each end of the wall as possible.



- ☞ 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 resulting in unsatisfactory performance.

- ☞ Inappropriate locations for the warm air exhaust includes unventilated laundry rooms, closet, bathrooms, garages, crawl spaces, attics and humid basements.
- ☞ Make sure that the warm air exterior grille can be properly attached to the unit (see Fig. 3).
- ☞ Make a hole through the wall as illustrated in Fig. 2. This 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.

Place the unit through the opening with the exhaust side flush to the outside wall. Attach the warm side exterior grille (Fig. 1&3) to unit and wall with screws supplied. Please remember that in *all* cases the exterior 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 exterior grille. **The unit will not work properly without this grille.** The warm side exterior grille has only a white primer coat. If the grille is installed on an outside wall it should be coated with an appropriate paint to prevent rust.

FIGURE 2

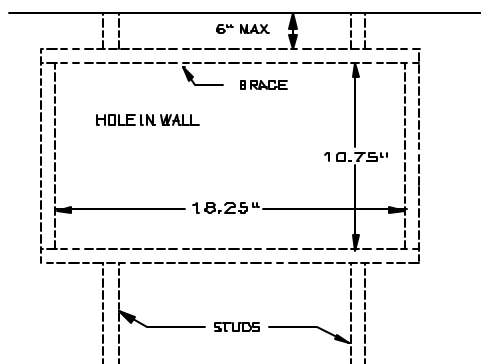
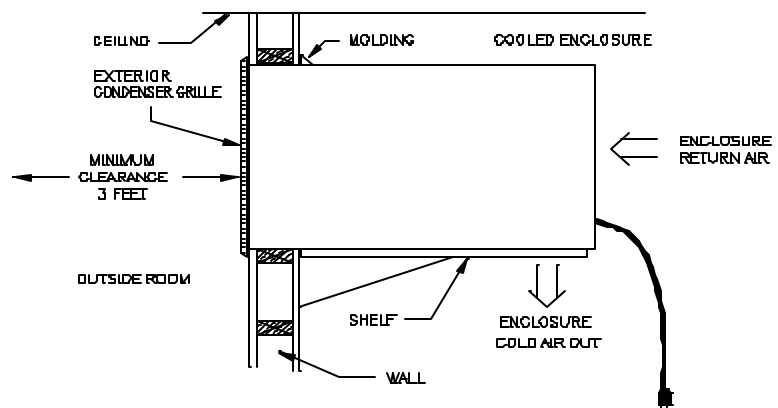


FIGURE 3



## 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's construction and contents.

The thermostat is factory set to approximately 55° Fahrenheit. Unless the temperature falls below that desired, do not change the thermostat setting for at least 3 days.

During normal operation of the (optional) Sentry III thermostat the LED readout will display the temperature of the air entering the intake of the cooling unit. If the optional bottle probe is installed the intake air sensor will be disconnected and the temperature of the probe will be displayed. The temperature being displayed is also the temperature used by the control system to turn the cooling unit on and off.

After initial cool down, the "on-off" cycle should be relatively constant. The percentage of "off" time will depend on enclosure's construction, placement of unit, contents, and surrounding outside temperatures. 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. The set point may be set no lower than 48°F or higher than 62°F. NOTE: If the enclosure is not cooling to the current set point, lowering the set point temperature further will not help. (See ENCLOSURE PROBLEMS section)

Adjustment of mechanical thermostat only requires 1/8 clockwise turn of screw to lower enclosure temperature. Screw is located on front of unit. (See Fig. 1)

The Sentry III set point (desired enclosure temperature) may be changed by pressing and holding the "SET" button while pressing the "COOLER" or "WARMER" button. When the "SET" button is pressed the readout will automatically change and display the current set point temperature

Should the operation of the cooling unit be interrupted by a power outage or by raising the set point temperature while the unit is running the Sentry III internal delay will be activated and the unit will not restart for two (2) to three (3) minutes. NOTE: This delay may also occur on initial power-up.

## **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 the unit will over heat 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 warm air exterior grille. If it is warm, the unit is working. A further check may be made by comparing the temperature entering the front grille on the cold side (Evaporator Intake) with that leaving from the bottom left side (Cold Air Outlet)(see Fig.1). If the air leaving the unit is 6°F or more colder than the temperature entering, the unit is working properly. In some cases, improper placement or installation may cause the unit's performance to be compromised.

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 exterior side of the unit must have a constant supply of fresh air, less than 85°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. If an obstruction to the flow of fresh air into or from the cooling unit (see Fig. 3) is stopped or restricted for any reason the unit could heat rather than cool the enclosure.

NOTE: Should this condition develop when using the Sentry III, the unit will turn off when the enclosure temperature rises to approximately 75°F, the unit will not restart until the enclosure temperature is lowered to approximately 65°F or the unit is disconnected and then re-connected to the power supply. This feature is disabled for approximately 45 minutes after the unit is connected or re-connected to a power supply.

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. Also close the door on a piece of paper, if you can pull the paper through the door, that means air and moisture are also entering into your wine cellar. 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.

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