

IMPORTANT INSTRUCTIONS



KTW Series Toe Space and Wall Heater
Covers Models: KTW1215/KTW2415



Figure 1

Covers all KTW models

⚠ DANGER ⚠

ELECTRIC SHOCK OR FIRE HAZARD

Read all wire sizing, voltage requirements and safety data to avoid property damage and personal injury.



WARNING



Read Carefully - These instructions are written in an effort to prevent potential difficulties that might arise during installation. Studying the instructions first may save you considerable time and money later. Observing the following procedures will keep installation time to a minimum.

IMPORTANT INSTRUCTIONS

When using electrical heating appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Read all instructions before wiring or using this heater.

- ⚠ 2. WARNING:** This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, boxes, etc., and curtains at least 3 ft. (.9 m) from the front of the heater and keep them away from the sides and rear.
- 3. CAUTION:** Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
- ⚠ 4. Do not operate any heater after it malfunctions.** Disconnect power at service panel and have heater inspected by qualified electrician for repair before reusing.
- 5. Do not use outdoors.**
- 6. WARNING:** To disconnect heater, turn controls to OFF, and turn OFF power to heater circuit at main disconnect panel.
- 7. WARNING:** Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock, fire, or damage to the heater.
- ⚠ 8. To prevent any chance of fire, do not block air intakes or exhaust in any man-**

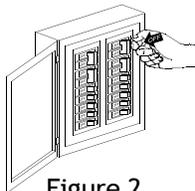


Figure 2

- ⚠ 9. A heater has hot and arching or sparking parts inside.** Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.
- 10. WARNING:** Use this heater only as described in this manual. Any other use is not recommended by the manufacturer and may cause fire, electric shock, explosion or injury to people and or property.
- ⚠ 11. Heater is not intended for use in bathrooms, laundry areas or similar indoor locations.** Never locate heater where it may fall into a bathtub or other water container.
- 12. This heater includes a over-temperature safety device that stops the heater from operating.** Immediately turn heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused the high temperatures to have occurred temperatures.

SAVE THESE INSTRUCTIONS



KTW INSTALLATION INSTRUCTIONS

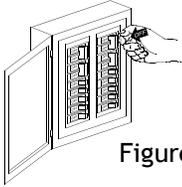


Figure 2

CAUTION!
Turn OFF all electrical power to install heater

⚠ DANGER ⚠

ELECTRIC SHOCK OR FIRE HAZARD

Read all wire sizing, voltage requirements and safety data to avoid property damage and personal injury.

Model and Rating Label Location



Figure 4.1

Figure 4



Selecting A Location For Your Heater: KT

This heater has been designed to allow it to be recessed at floor level in the toe space of cabinets or under counters or at the base of walls. When selecting the location, be sure the materials that will be located in the air heated by this heater (such as floor coverings) will not distort or discolor at temperatures above 140°F (60°C). DO NOT select a location directly beneath sinks or other work areas where people are likely to stand for extended periods of time. DO NOT install less than 6" (15cm) from vertical side walls or open edge of door. This heater must have an unrestricted airflow. DO NOT select a location where it is likely to be blocked by furniture, throw rugs, etc. Be sure the location selected allows sufficient space for the heater as shown by Table 1. DO NOT locate this heater in an area where combustible vapors, gases liquids, or excessive lint, dust or moisture is present.

Minimum Horizontal Clearances

When placed in toe space of a cabinet only. Horizontal

| Front | Top | Bottom | Sides |
|-------|------|--------|-------|
| 36 in | 0 in | 0 in | 0 in |
| 91 cm | 0 cm | 0 cm | 0 cm |

TABLE 1

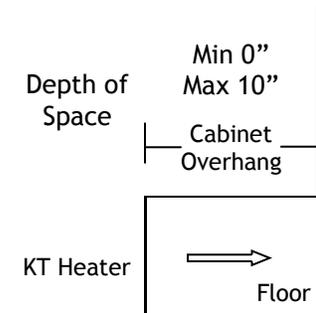


Figure 3

Specific to KT Series:

The KT heater is intended for a toe space installation only. Other grilles are available for a flush surface mount installation that will trim out the wall can. The heater is designed to be installed in the toe-space of a cabinet with a minimum of 2" overhang to maximum 7" of overhang. Shorter overhangs may overheat the floor where longer than 7" overhangs may overheat the cabinet door area.

The wire and breaker sizing chart will give a general rule of installation size. Consult an electrician if you are not knowledgeable about wiring codes.

Wire and Breaker Sizing:

Table 2

| Total Amps | Minimum AWG. Wire Size (Copper) 90 c | Circuit Breaker or Fuse Size |
|------------|--------------------------------------|------------------------------|
| 1 thru 12 | #14 | 15 amp |
| 13 thru 16 | #12 | 20 amp |
| 17 thru 25 | #10 | 30 amp |

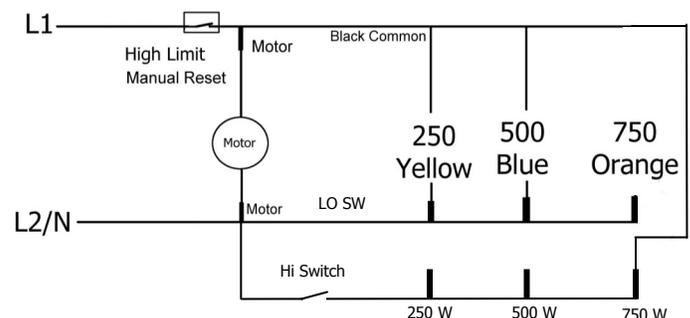
WIRING: Branch Circuit Connection

1. Connect heater only to the voltage, amperage and frequency specified on the nameplate.
2. heater only to the voltage, amperage and frequency specified on the nameplate.
3. Wiring procedures and connections shall be in accordance with all National and local codes having jurisdiction.
4. Remove the two screws holding the grille in place & set grille aside retaining the screws.
5. Removing the two screws holding the cover in place on each side of the heater will allow you access to the wiring compartment.
6. A knockout of 1/2 inch conduit size (7/8 inch / 2.2cm) is provided in the back and side of the heater for power to enter. Provide proper conduit connectors for your flexible connections.
7. Attach ground to the green wire attached to wall case with a wire nut.
8. Assemble all covers on electrical and apply power. Test unit by turning thermostat up past room temperature. You will see a puff of smoke as the elements are energized and the fan turns on. This is a normal burn off of manufacturing lubricants and will dissipate in 5 minutes.
9. Heater will continue to run until the room temperature you set is reached and then turn itself off until the temperature drops again.

CAUTION - High temperature. Risk of fire, keep electrical cords, drapery, furnishings, and other combustibles at least 3 feet (0.9 m) from the front of the heater as well as away from the side and rear. To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.

Factory Wiring Diagram

Figure 5



OPERATING INSTRUCTIONS



KTW Toe and Space Heater



This heater is equipped with a thermal overload called Smart Limit Protection. It disconnects elements and motor in the event normal operating temperatures are exceeded. If the thermal overload trips due to abnormal operating temperatures, the thermal overload will remain open until manually reset by turning the heater OFF for fifteen minutes. Inspect for any objects on or adjacent to the heater that may cause high temperatures. After inspecting the heater, keep the power to the heater off for 10 minutes to reset the SLP thermal protector. If the SLP thermal protector shuts the heater off again, immediately turn the heater OFF at the circuit breaker and inspect the heater for possible fan motor failure or dirt and lint on the heating element. Repeat the starting procedure.

General information and Guidelines:

This heater must be properly installed before it is used. DO NOT tamper with or change the operating of this heater. If replacing components only use King approved replacement parts. No other parts are an equal.

Operation:

1. After the electric heater has been completely installed, all thermostats should be turned to LOW or NO HEAT. Turn ON breaker, wait 3 to 5 minutes and check to see that the heaters are not operating. If operating, disconnect power and check for improper wiring. If none are operating then turn thermostats to highest position and wait 3 to 5 minutes. Check to see that all heaters are operating. Should any not be operating, disconnect power and check wiring.
2. Allow entire system to operate steadily for 1/2 hour. This should remove oily residue from manufacturing. (Some smoking may occur).
3. Select the setting for comfort on all thermostats.
4. A safety limit control is provided to turn off the heater automatically if it is blocked or otherwise overheats due to an abnormal condition. DO NOT bypass or remove this safety device from the electrical circuit-see Warning Figure 3 on page 2. During normal use, this safety control should not operate. If you find that this control is operating, make sure the heater is not being blocked. If it continues to cycle the heater off, Check that you have the proper voltage, disconnect power to heater and have it checked and or repaired by an electrician.

KTW Adjustable wattage feature

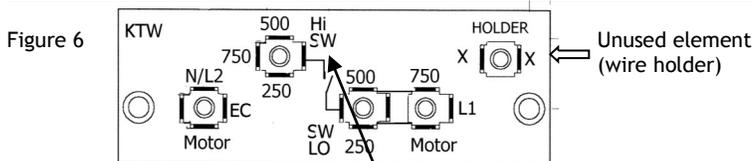


Figure 6

Factory wiring

KTW1215 and KTW2415 will come factory wired with 750 watts on the Low setting and 1500 watt output on the high setting.

WARNING: Make all wattage changes before wiring this heater, Danger of electrical shock is possible.

Table 3

| Terminal | Terminal | Terminal | Switched Wattage |
|---------------|-------------------------|------------|------------------|
| Holder X | SW LO | Hi SW | Low / High |
| 750 Orange | 250 Yellow | 500 Blue | 250/750 |
| 250 Yellow | 500 Blue | 750 Orange | 500/750 |
| 500 Blue | 250 Yellow | 750 Orange | 250/1000 |
| 500 Blue | 750 Orange | 250 Yellow | 750/1000 |
| 250 Yellow | 500 Blue | 750 Orange | 500/1250 |
| 250 Yellow | 750 Orange | 500 Blue | 750/1250 |
| | 250 Yellow | 500 + 750 | 250/1500 |
| Factory Wired | 250 Yellow + 500 Blue | 750 Orange | 750/1500 |
| | 250 Yellow + 750 Orange | 500 Blue | 1000/1500 |

Installer may change the Hi and the LO heat output by simply moving quick connect wires from one terminal board location to another.

See table 3 to find your high and low wattage preference for the front grill heat switch, and then move the wires to the proper locations on the terminal board. Place any un-used quick connects on the holder terminal. Other wattage selections are possible and the chart is only a few of the many possible wattage combinations.

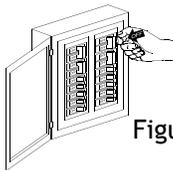
Element Color Code

250 watt = Yellow
 500 watt = Blue
 750 watt = Orange
 Common = Black

Table 4

Yearly Maintenance & Yearly Cleaning

Maintenance & Cleaning: Basic maintenance is listed below. All other servicing should be performed by qualified service personnel once a year. Your heater will give you years of service and comfort with only minimum care. To assure efficient operation follow the simple instructions below.



WARNING: Turn the electrical power OFF at the electrical panel board (circuit breaker or fuse box) and lock or tag this panel board door to prevent someone from turning on power while you are working on this heater. Failure to do so could result in serious electrical shock, burns, or possible death.

Figure 2 **Before cleaning this heater, the heating element of the heater must be cool.**

1. There are no consumer user serviceable parts inside this heater and removing the grill can expose you to electrical wiring that can be an electrical shock hazard. For deeper cleaning or repair contact a Licensed Electrician or take heater to a servicing or appliance repair station.
2. Turn the electrical power OFF. Circuits are often not marked correctly and turning the wrong breaker off could mean electricity is still flowing to the heater, even if the heater does not appear to be working. Turn the thermostat till it clicks to verify that there is no power. Once you verify the power is off completely, Turn thermostat down completely and proceed to the next cleaning step.
3. Wipe grille with a moist soapy sponge and dry immediately
4. Using a hair dryer on cool and high, vacuum on blow cycle, or use canned compressed computer air for cleaning, and direct air into heaters outlet grill, and blow debris back through the element and blower. Do not ever go past the grill. Vacuum lose debris out of grill with out removing grill. Repeat this for the inlet grill.
5. Turn power back ON at the electrical panel board.
6. Turn thermostat up till it clicks to test heaters improved operation. Some smell of burning dust is normal for a few minutes. If the smell persists you will need to have it professional service or replaced.
7. If lubrication is required a Service tech should use a 10 weight light oil or anything oil that would work in a sewing machine. Signs that lubrication is required would be excessive glowing, slow motor speed, or squeaking noises.
8. Life expectancy of this product is 6 to 12 years depending on hours of use, proper cleaning and environmental conditions. Replace any heater that shows signs of age related malfunctioning. If in doubt or you have a concern about the heater turn off and replace immediately. Delaying the replacement is not recommended.

Installation Warnings

1. Heater must be properly installed and mounted before it is energized or operated.
2. Do not operate heater with grill or any covers removed.
3. Only mount heater where it is recommended by the manufacture or a factory Technician.
4. Do not modify this product in any way that is not instructed by this installation or a King Factory Technician.
5. KTW is the only heater that can be turned Vertically.
6. Inbuilt Thermostat kits T-1and T-2 will regulate the temperature between 40 and 80 degrees F.

KTW Mounting options

Vertical or horizontal positions can be used with the KTW. Direction of heater installation is important. Up label arrows must be followed on wall can for vertical or horizontal installation. On a Vertical installation the blower should be at the top of the heater. Warm air will be directed to the floor so make sure this area of warm air will not damage any flooring materials.

See Table 5 for vertical installation clearances.

With a Horizontal installation the blower should be on the Left side when facing front grill. The warm air is directed to the right of the heater at about a 25 degree or less angle out the front. Minimum vertical installed clearances are in Table 1. and should be followed closely.

Minimum Clearances in Wall

When placed in a wall or a filler section of a cabinet.

Table 5 Vertical

| Front | Top | Bottom | Sides |
|-------|------|--------|-------|
| 36 in | 0 in | 2 in | 0 in |
| 91 cm | 0 cm | 5 cm | 0 cm |

