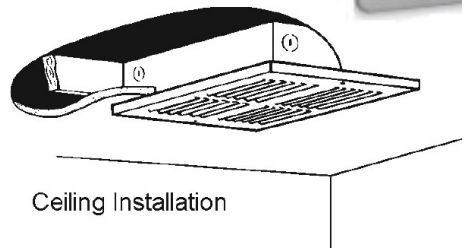




# INSTALLATION AND MAINTENANCE



## Ceiling Heater WHFC Series



 **DANGER** 









**ELECTRIC SHOCK OR FIRE HAZARD**

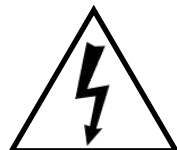
READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND PERSONAL INJURY

 **WARNING** 

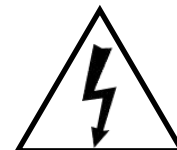
**READ CAREFULLY** - Use the heater only as described in this manual. Any other use is not recommended and could result in fire, electric shock, and personal injury. Following these instructions will prevent difficulties that might occur during the installation and use of the heater. Please study the instructions first, as they may save considerable time and trouble during use addition to providing important safety information. Make sure to save these instructions for future use.

### NEVER LEAVE HEATER UNATTENDED WHILE CONNECTED TO A POWER SOURCE

-  **WARNING** To prevent a possible electrical shock, disconnect all power coming to heater at main service panel before wiring or servicing.
-  **WARNING** All wiring must be in accordance with the National Electrical Code (Canadian Electrical Code in Canada) and all applicable local codes. The heater must be grounded as a precaution against electrical shock. Supply wiring must be copper and suitable for at least 75° C.
-  **WARNING** Verify power supply and control voltages coming to the heater match the ratings printed on the heater nameplate before energizing.
-  **WARNING** Heater must be installed so the minimum clearances shown in Specifications table are maintained.
-  **WARNING** This heater is NOT suitable for use in hazardous locations as described by the National Fire Protection Association (NFPA). this heater has hot and arcing or sparking parts inside. DO NOT use in areas where gasoline, paint or other flammable liquids are used or stored.
-  **WARNING** The mounting structure and anchoring hardware MUST BE capable of reliably supporting the weight of the heater plus mounting bracket if used. Refer to specifications table for heater weight.
-  **WARNING** Heater air flow MUST be directed parallel to or away from adjacent walls.
-  **WARNING** To prevent a possible fire, DO NOT block air intakes or exhaust openings in any manner. DO NOT allow foreign objects to enter grille openings as this may cause electric shock, fire or damage to heater.



**CAUTION—RISK OF ELECTRIC SHOCK  
DO NOT OPEN HEATER SHELL  
NO USER—SERVICEABLE PARTS INSIDE**



# WHFC Series INSTALLATION INSTRUCTIONS

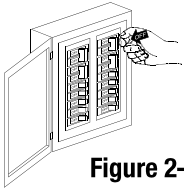


Figure 2-1

**CAUTION!**

**Turn OFF all electrical power to install heater**

It is extremely important you verify the electrical power supply is the same voltage as the heater you are installing. 240 and 120 Volt heaters are not interchangeable. Powering a 240 Volt unit with 120 Volt supply wires will reduce the heater output by approximately 75%. Powering a 120 Volt unit with 240 Volt supply wires will destroy the heater and voids all warranties.

DANGER

ELECTRIC SHOCK OR FIRE HAZARD

READ ALL WIRE SIZING, VOLTAGE REQUIREMENTS AND SAFETY DATA TO AVOID PROPERTY DAMAGE AND PERSONAL INJURY

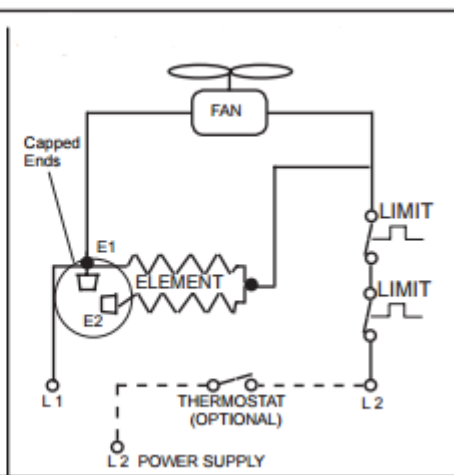
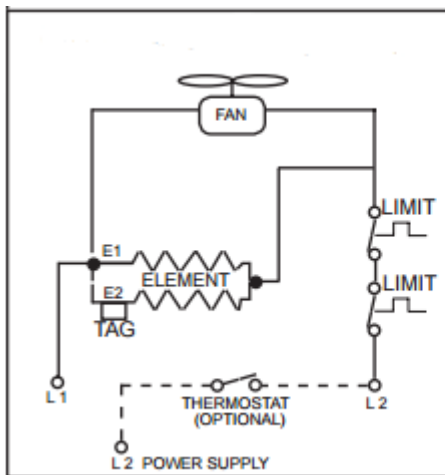
**Ceiling Installation:** King recommends this ceiling heater be installed adjacent to outside walls to direct warm air flow toward outside walls. The heater should be operated with a quality wall thermostat - for optimum performance locate thermostat on an inside wall. Heaters should be placed a minimum of 6 feet from the floor and a minimum of 16" from any adjacent vertical wall surface. Heater may be installed 12" above doors. Do not install where any combustible items will be within 24" immediately below the heater.

1. Connect heater only to the voltage, amperage and frequency specified on the nameplate.
2. Wiring procedures and connections shall be in accordance with all National and local codes having jurisdiction.
3. Set the bag containing the grille and packet with two (2) grille screws aside.
4. Loosen mounting screw and remove fan heater assembly.
5. 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 strain relief connectors for your wire entering the wallbox.
6. Install wallbox a minimum of 16" from adjacent vertical side-walls and minimum of 6 feet above floor. **The front edge of wall can MUST extend 1/2" beyond finished wall surface**
7. Secure the ceiling wallbox to 2" x 4" frames or adequate support in the ceiling using the 4 holes provided on each side of the wallbox. The face of the wall can must be 1/2" from the finished ceiling face
8. Connect supply wires, attach ground feed wire to the green ground wire with wire nuts.
9. Reinstall heater assembly into wallbox with screw at top of interior.
10. Install grille securely with screws provided in packet. Do not over tighten.
11. 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.
12. Heater will continue to run until the room temperature you set is reached and then turn itself off until the temperature drops again.

**WHFC - HEATER WIRING DIAGRAM**

Two Element - Factory Wiring

Single Element - Factory Wiring



MODEL	VOLTS	2-ELEMENT WATTAGE	1-ELEMENT WATTAGE
WHFC1210	120	1000	500
WHFC1212	120	1200	600
WHFC1215	120	1500	750
WHFC2410	240	1000	500
WHFC2415	240	1500	750

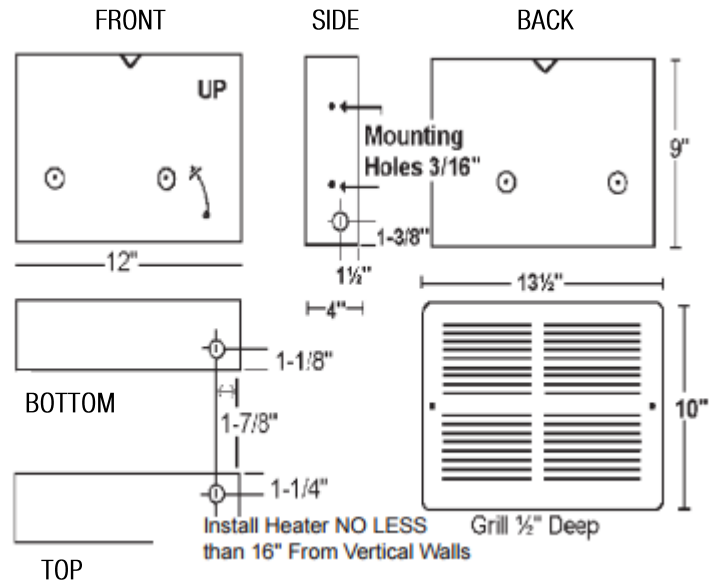
# WHFC Series INSTALLATION INSTRUCTIONS

This heater is equipped with a thermal overload Smart Limit Protection which disconnects elements and motor in the event normal operating temperatures are exceeded. If thermal overload trips due to abnormal operating temperatures, thermal overload shall 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. **DO NOT TAMPER OR REMOVE THIS THIS DEVICE.**

### 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. All service should be preformed by a authorized service representative. Only replace components with King approved replacement parts.

**Warning:** Clean Heater annually. Wait for heater to cool before removing grill. Use only a soft brush or vacuum on blow to clean heater. Re-attach grill before reapplying power.



## TROUBLESHOOTING

SYMPTOM	PROBLEM	SOLUTION
Breaker Trips	<ol style="list-style-type: none"> <li>1. Short circuit</li> <li>2. Overload Circuit</li> <li>3. Improper Voltage</li> </ol>	<ol style="list-style-type: none"> <li>1. Find source of short. Trace heater circuit and verify the heater is wired properly</li> <li>2. Reduce wattage in circuit. Refer to circuit sizing table for maximum wattage.</li> <li>3. Verify the heater voltage matches the supply voltage.</li> </ol>
Heater not working	<ol style="list-style-type: none"> <li>1. No power</li> <li>2. Loose connections</li> <li>3. Defective Limit</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn Breaker ON, turn thermostat ON, check that the breaker is position properly on panel bus-bar. A 2-Pole breaker must be connected to both busbars (A&amp;B phase) to produce 240V power.</li> <li>2. Tighten wire connections.</li> <li>3. By-pass the limit to test. If heater works, replace the limit.</li> </ol>
Heater Smokes	<ol style="list-style-type: none"> <li>1. No power</li> <li>2. Loose connections</li> <li>3. Defective Limit</li> </ol>	<ol style="list-style-type: none"> <li>1. It is normal for the element to burn off some light finishing oil used in the manufacturing process when first energized. Open windows and allow room to vent until it stops, usually within a few minutes.</li> <li>2. Remove any dust or dirt accumulations.</li> </ol>
Room temperature does not match thermostat setting	<ol style="list-style-type: none"> <li>1. Thermostat affected by another heat source</li> <li>2. Improper calibration</li> </ol>	<ol style="list-style-type: none"> <li>1. Sunlight or other heat sources can affect the thermostat. Move the thermostat to another location or remove the heat source.</li> <li>2. Remove cover and adjust calibration screw</li> </ol>
Room Temperature swings from too hot to too cold	<ol style="list-style-type: none"> <li>1. Defective or low quality thermostat</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace with a better quality thermostat. Anticipated thermostats are fairly accurate; an electronic thermostat is best.</li> </ol>

# WHFC Series Maintenance & Warranty

**Maintenance & Cleaning:** Basic maintenance is listed below and should be performed annually. When necessary, any required servicing should be performed by qualified service personnel. 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

1. Before removing grill, turn the electrical power OFF and elements to cool. Circuit breakers are often not marked correctly and turning the wrong breaker off could mean electricity is flowing to the heater, even if the heater does not appear to be working. If you are uncomfortable working with electrical appliances, unable to follow these guidelines, or do not have the necessary equipment, consult a qualified electrician. Once you verify the power is off completely and element is cool, proceed to the next step.
2. Remove screws and take off grill. Wash grille with hot soapy water and dry immediately
3. Using a hair dryer or vacuum on blow cycle, blow debris back through the element. Do not touch element. Vacuum or use a soft brush and remove loose debris without touching the elements. The fan motor does not require lubrication.
4. Re-attach grill and secure with screws.
5. Turn thermostat to desired setting.
6. Turn power back ON at the electrical panel board.

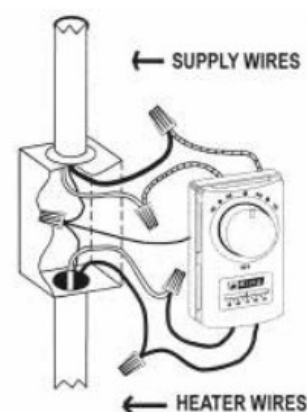
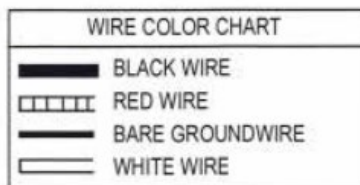
**WARNING:** All other servicing should be performed by an authorized service personnel.

## Remote Wall Thermostat



Connection Diagram for Wall Mounted Single Pole Thermostat

1. Red thermostat wire to black power supply wire.
2. Black thermostat wire to black heater wire.
3. White power supply wire to white heater wire.
4. Connect all bare ground wires together.



Connection Diagram for Wall Mounted Double Pole Thermostat

1. Connect the two red thermostat wires to the black and white power supply wires.
2. Connect the two black thermostat wires to the black and white heater wires.
3. Connect all the bare ground wires together.

## Warranty Information

King Electrical Manufacturing Company will repair or replace, without charge to the original owner, any WHFC Series heater found to be defective or malfunctioning within 1 year of installation. This warranty requires the owner or his agent install the equipment in accordance with the National Electrical Code, any other applicable heating or electrical codes, and the manufacturer's installation instructions. It further requires that reasonable and necessary maintenance be performed on the unit. Failure to properly maintain the unit will result in the warranty being voided. The company is not liable for abuse or misuse of product as may be finally determined by the company. The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs and shipping costs incurred to return products to King Manufacturing. King Manufacturing will repair or replace, at our option, at no charge to the customer with return freight paid by King. King Manufacturing shall not be liable for consequential damages arising with respect to the product, whether based upon negligence, tort, strict liability or contract. No other written or oral warranty applies, nor any warranties by representatives dealers, employees of King, or any other person. All returns require a King Return Goods Authorization (RGA); Unauthorized returns will be refused. Do not return malfunctioning/defective products to store.