

# INSTALLATION AND MAINTENANCE



## Large Fan Wall Heater EFW-MW Models

EFW1230-MW/ EFW2040-MW/EFW2440-MW

DANGER

ELECTRIC SHOCK OR FIRE HAZARD

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



Shown with thermostat

CATALOG #	VOLTS	WATTAGE	AMPS
EFW1230-MW	120	3000/2000	25 –16.6
EFW2040-MW	208	4000/3000/2000	19.2 –9.6
EFW2440-MW	240	4000/3000/2000	16.6 –8.3

Options	
-T	Factory Installed Single Pole Thermostat
-T2	Factory Installed Double Pole Thermostat

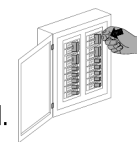
Accessories	
EFT-1	Single Pole 22Amp Thermostat Kit
EFT-2	Double Pole 22Amp Thermostat Kit



## ⚠ 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.

- ⚠ **WARNING** 1. Read all instructions before wiring or using this heater.
- ⚠ **WARNING** 2. This heater is hot when in use. To avoid burns, don't let bare skin touch hot surfaces. Keep combustible materials, such as furniture, pillows, bedding, papers, clothes, boxes, etc., & curtains must be at least 3 feet away from front and sides of heater.
- ⚠ **WARNING** 3. Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.
- ⚠ **WARNING** 4. Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a qualified electrician for repair before reusing.
- ⚠ **WARNING** 5. Do not use outdoors.
- ⚠ **WARNING** 6. To disconnect heater, turn controls to OFF, and turn OFF power from main service panel.
- ⚠ **WARNING** 7. 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.
- ⚠ **WARNING** 8. To prevent a possible of fire, do not block air intakes or exhaust in any manner.
- ⚠ **WARNING** 9. A heater has hot and arching or sparking parts inside. Do not use it in areas where gasoline, paint, or any other flammable vapors or liquids are stored.
- ⚠ **WARNING** 10. Use this heater only as described in the manual. Any other use is not recommended by the manufacturer and may cause fire, electric shock, explosion or injury to people and or property.
- ⚠ **WARNING** 11. This heater includes a Smart limit protection that shuts down heater in the event of excessive over heating. To reset heater: Turn OFF Power, Wait 10 Minutes for the limit to reset and then Turn Power Back On.



**Figure 1-2**

# EFW INSTALLATION INSTRUCTIONS



## 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

Figure 2-2

## Rating Label Location

MODEL: EFW1230-MW King Electrical Mfg.  
 VOLTS: 120 50/60 Hz PHASE:1 9131 10th Ave So.  
 WATTS: 3000 AMPS: 25 Seattle WA 98166

**CIRCLE MAXIMUM WATTS THIS HEATER IS WIRED FOR**  
 120: 2000-3000

ALL WARRANTIES VOID IF THIS HEATER IS USED DURING CONSTRUCTION FOR HEAT. DO NOT INSTALL BOTTOM OF HEATER LESS THAN 4 INCHES ABOVE FLOOR & 6 INCHES TO SIDEWALL, 6 INCHES TO OPEN EDGE OF DOOR. TOUTES LES GARANTIES SONT NULLES SI CE CHAUFFAGE EST UTILISE D'AVANT LA CONSTRUCTION DE CHALEUR. N'INSTALLEZ PAS LE FOND DU CHAUFFAGE MOINS DE 4 POUCEES AU-DESSUS DU PLANCHER ET 6 POUCEES D'UN MUR VERTICAL, 6 POUCEES POUR OUVRIR SORS DE PORTE.

**CAUTION: RISK OF ELECTRICAL SHOCK. DO NOT OPEN. NO USER SERVICEABLE PARTS INSIDE. MUST DISCONNECT POWER BEFORE SERVICING. DO NOT OPERATE HEATER WITH PARTS REMOVED. NOT TO BE USED IN EXPLOSIVE ENVIRONNEMENTS. RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR. PAS DE PIECES REGULABLES PAR L'UTILISATEUR A L'INTERIEUR. DOT DEBRANCHER L'ALIMENTATION AVANT D'ENTRETIEN. NE PAS UTILISER LE CHAUFFAGE AVEC DES PIECES DETACHEES. NE PAS ETRE UTILISE DANS LES ENVIRONNEMENTS EXPLOSIFS.**



Figure 2-3

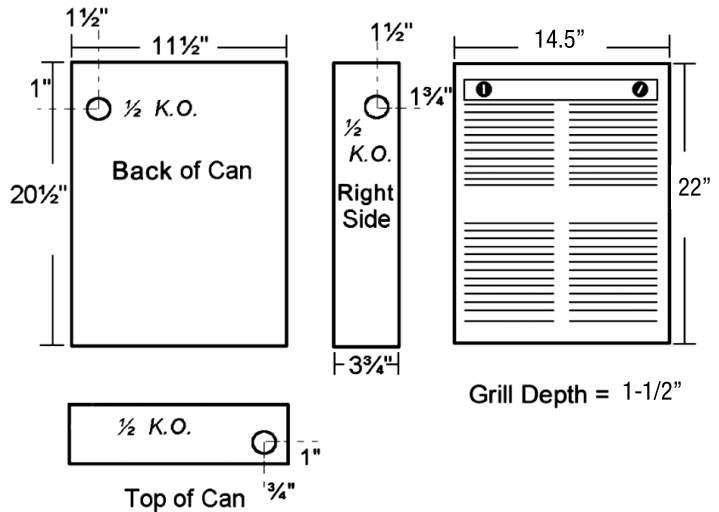
### Selecting a location for your heater:

Do NOT install less than 6 inches from vertical side walls or open edge of door. Heater must have unrestricted airflow. Do Not select a location where it is likely to be blocked by furniture, curtains, etc. Be sure the location selected allows sufficient space for the heater as shown below by Table 1. Do NOT locate heater in areas where combustible vapors, gases, flammable liquids, or excessive lint, dust or moisture is present.

Minimum Clearances for heater:			
Front	TOP	BOTTOM	SIDES
36 in	12 in	4 in	6 in
0.9 m	30.5 cm	10.2 cm	15.2 cm

Table 1

Zero clearance to insulation.  
 KO location as mounted in wall.



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

### Wire and Breaker Sizing: WIRING: Branch Circuit Connection

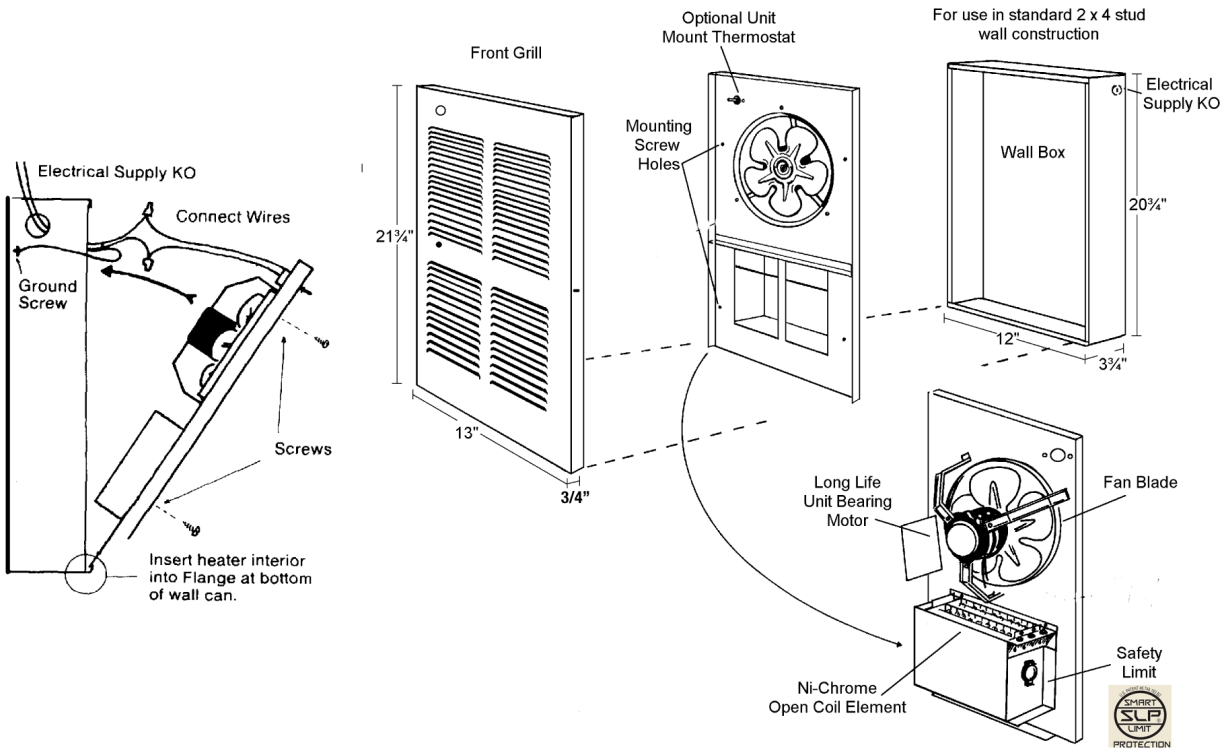
Total Amps	Minimum AWG. Wire Size (Copper)	Circuit Breaker or Fuse Size
0 thru 12	#14	15 amp
12.1 thru 16	#12	20 amp
16.1 thru 24	#10	30 amp

Table 2

1. Connect heater only to the voltage, amperage and frequency specified on the nameplate.
2. Remove the grill by loosening and removing the four screws on the side of the front panel.
3. Detach the interior from the wall can by removing the four screws along each side of the interior. Remove the interior by tilting it away from the wall can to release the bottom edge.
4. Wiring procedures and connections shall be in accordance with all National and local codes having jurisdiction.
5. A knockout of 1/2 inch conduit size (7/8 inch) is provided in the back and side of the heater for power to enter. Provide proper strain relief connectors (not included) for your wire entering the wall box.
6. Install wall box a minimum of 6 inches from vertical side walls and 10 inches above floor.
7. Secure wall box to the 2 x 4 studs using the (2) holes on the side of the wall box. Secure to wall stud on opposite side if required.
8. Make electrical connections per the wiring diagram. Supply wires L1 and L2 can be connected to the red or black wires on the heater - the order does not matter. Attach the field groundwire to the green screw or pigtail. When installing a built-in thermostat red always connects to the supply wires and black to the heater.
9. Reinstall interior. Make sure electrical wires are clear the interior sides. Fasten the interior and then the grill with the screws provided.
10. 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.
11. Heater will continue to run until the room temperature you set is reached and then turn itself off until temperature drops again.

SAVE THESE INSTRUCTIONS

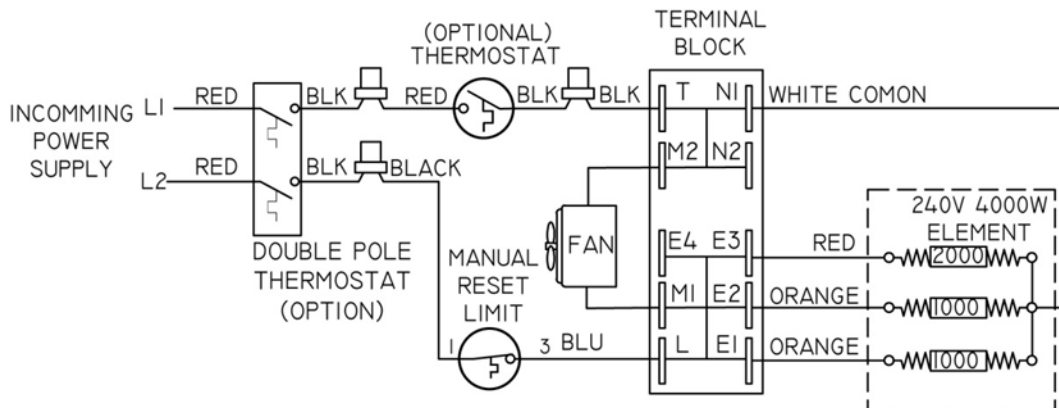
# INSTALLATION AND WIRING



## 208V or 240V Wiring Diagram– 4000W Max

The heater is factory wired to 4000 Watts at 208/240 Volts. To reduce wattage unplug (disconnect) an insulated push on terminal per the color coding chart below and wrap with electrical tape to prevent the possibility of electrical contact with other parts. Choose between 2000W, 3000W or 4000W options.

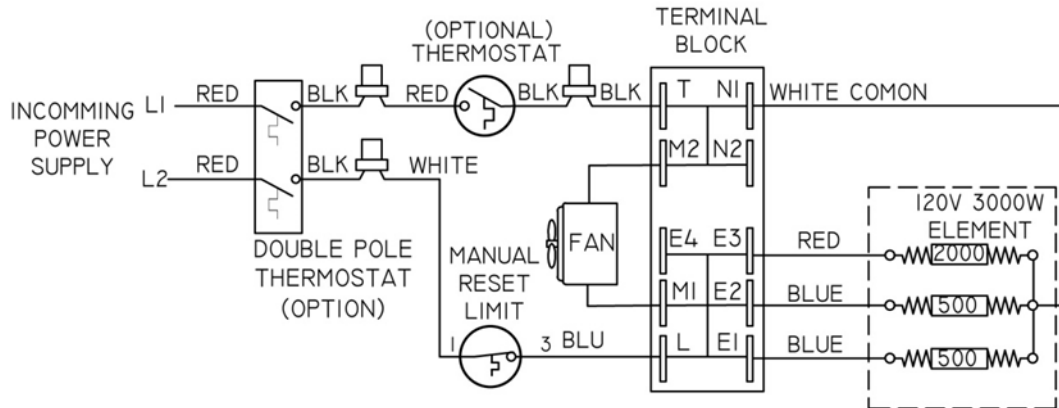
<b>A</b>	<b>Red</b>	Disconnects the 2000 Watt element
<b>B</b>	<b>Orange</b>	Disconnects the 1000 Watt element
<b>C</b>	<b>Orange</b>	Disconnects the 1000 Watt element
<b>D</b>	<b>White</b>	DO NOT DISCONNECT (Common)



## 120V Wiring Diagram– 3000W Max

The heater is factory wired to 3000 Watts at 120 Volts. To reduce wattage unplug (disconnect) an insulated push on terminal per the color coding chart below and wrap with electrical tape to prevent the possibility

<b>A</b>	<b>Red</b>	Disconnects the 2000 Watt element
<b>B</b>	<b>Blue</b>	Disconnects the 500 Watt element
<b>C</b>	<b>Blue</b>	Disconnects the 500 Watt element
<b>D</b>	<b>White</b>	DO NOT DISCONNECT (Common)



## SMART LIMIT PROTECTION AND MAINTENANCE



### Heater Safety Limit Tripped?

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 15 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

### Maintenance & Warranty Information:

The high quality and superior design of this heater will provide years of trouble-free performance. Each year the heater should be checked and cleaned for lint and dust accumulation. We recommend using a soft bristled brush such as a paint brush to assist in removing contaminants from the heater.

### Limited One Year Warranty:

King Mfg. Co. will repair or replace without charge any King product found to be defective or malfunctioning during the first year of purchase to the original owner.

**We're Here to Help!**

For any difficulties installing or operating this product

Call Us Toll Free at:

**1-800-603-5464 Ext 111**

7:00 am -3:30 pm PST Mon-Fri

Visit [king-electric.com](http://king-electric.com) or email us at [info@king-electric.com](mailto:info@king-electric.com)