



ORIGINAL DOCUMENT



# INVIZATHERM™

*COMFORT HEATERS*

*HEATREX*

*425 Hanley Industrial Court – St. Louis, MO 63144 – (333) 333-5500*

[www.heatrex.com](http://www.heatrex.com)

# IMPORTANT INSTRUCTIONS:

**Read all these instructions before installing or using this heater.**

HEATREX is interested in the safe operation of its equipment. All wiring to this equipment must be connected to the electrical source in strict accordance with National Electrical Code (N.E.C.), Canadian Electrical Code (C.E.C.), international and/or any local codes having jurisdiction.

Do not further insulate the back of the heater section which might cause a heat buildup in the wiring raceway. The back surface of the raceway should be at least 4 inches from combustible material.

Puncture of the element face may result in a shock hazard.

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, paper, clothes, etc. and curtains at least 3 feet from the front of the heater and keep them away from the sides and rear.

Extreme caution is necessary when any heater is used by or near children or invalids and whenever the heater is left operating and unattended.

Do not operate any heater after it malfunctions. Disconnect power at service panel and have heater inspected by a reputable electrician before reusing.

To disconnect the heater, turn off power to heater circuit at main disconnect panel.

Do not insert or allow foreign objects to enter any ventilation opening as this may cause an electric shock or fire, or damage to the heater.

A heater has hot and arcing or sparking parts inside. Do not use it in areas where gasoline, paint, or flammable vapors or liquids are used or stored.

Use this heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.

## SAVE THESE INSTRUCTIONS

# INSTALLATION:

All wiring to this equipment must be connected to the electrical source in strict accordance with National Electrical Code (N. E. C.), Canadian Electrical Code (C.E.C.), international and/or any local codes having jurisdiction.

## FOR WALL MOUNTING:

Do not install the section closer than:

- 4 inches to a horizontal surface
- 12 inches to an adjacent vertical surface
- 36 inches to another heater
- 6 feet from the floor

For angle positioning, the heater should not be directed toward any vertical surface closer than 6 feet.

**IMPORTANT:** When using the mounting brackets, a minimum of 4 inches should be left between the corners of the heating section and any horizontal or vertical surface. See drawing below.

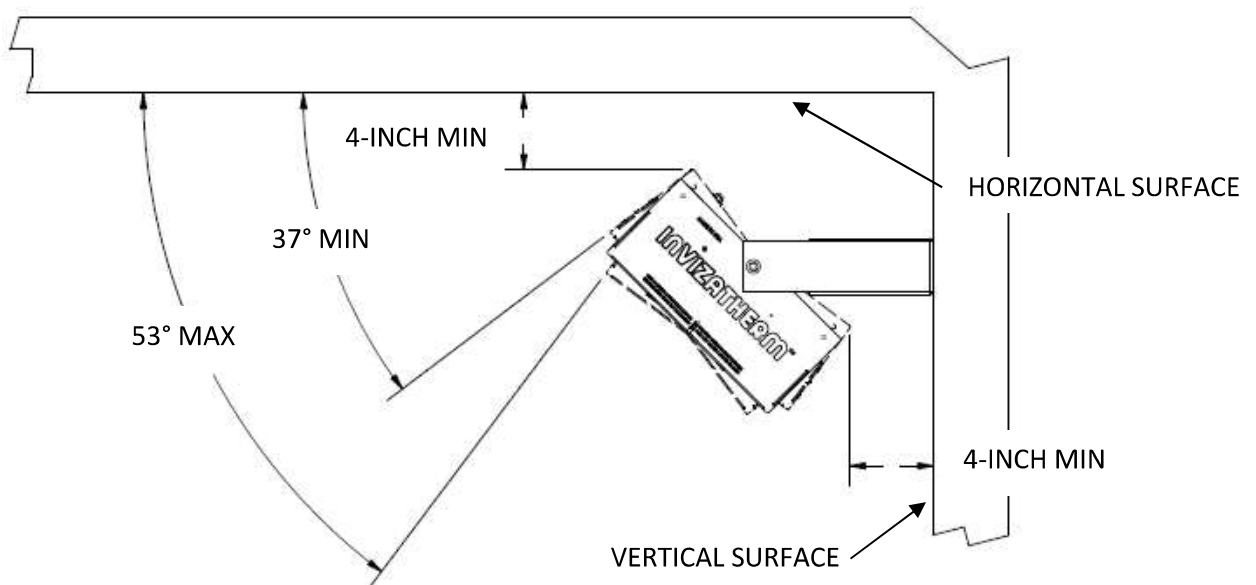
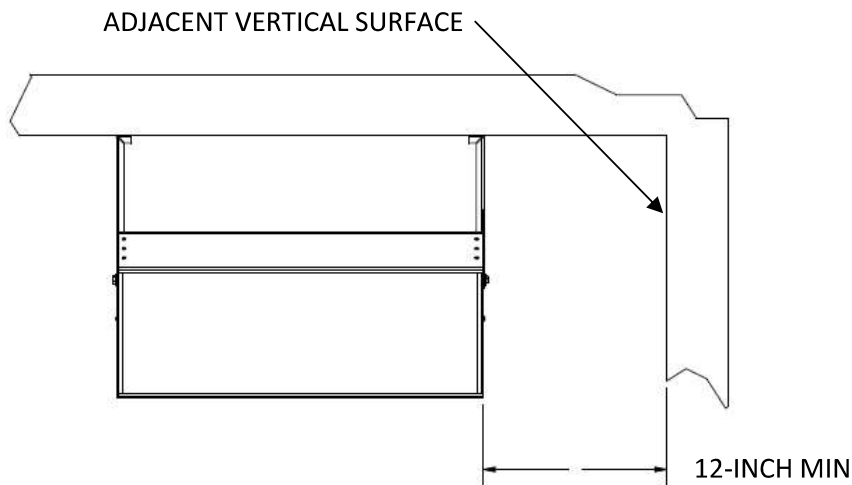


Fig. 1a – WALL MOUNTING



**Fig. 1b – WALL MOUNTING**

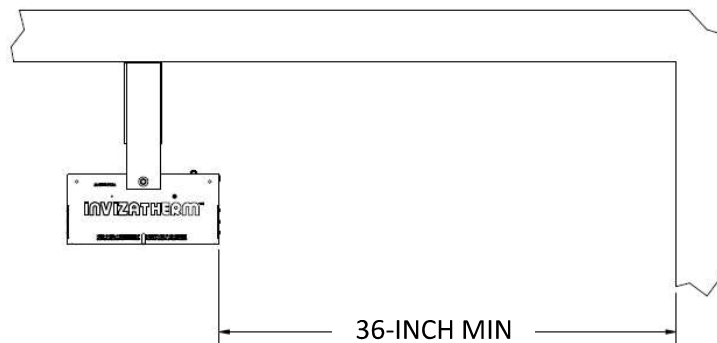
Once the heater is mounted to the wall, position the heater to the desired angle between 37° and 53° downward from the horizontal, limited by the flanges of the mounting bracket. Tighten the two bolts to secure the heater.

**WARNING!** Risk of fire. Do not position any heater at an angle not allowed by the flanged bracket (37°-53°).

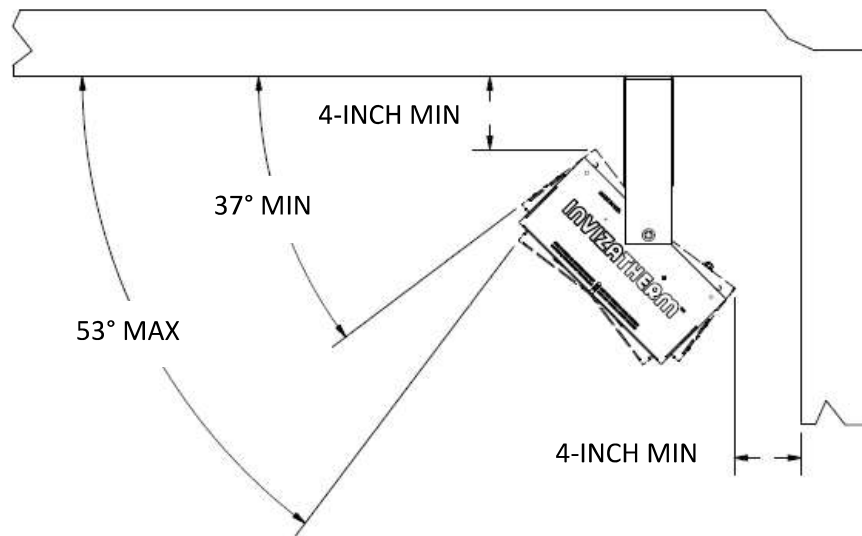
**FOR CEILING MOUNTING:**

Do not install the section closer than:

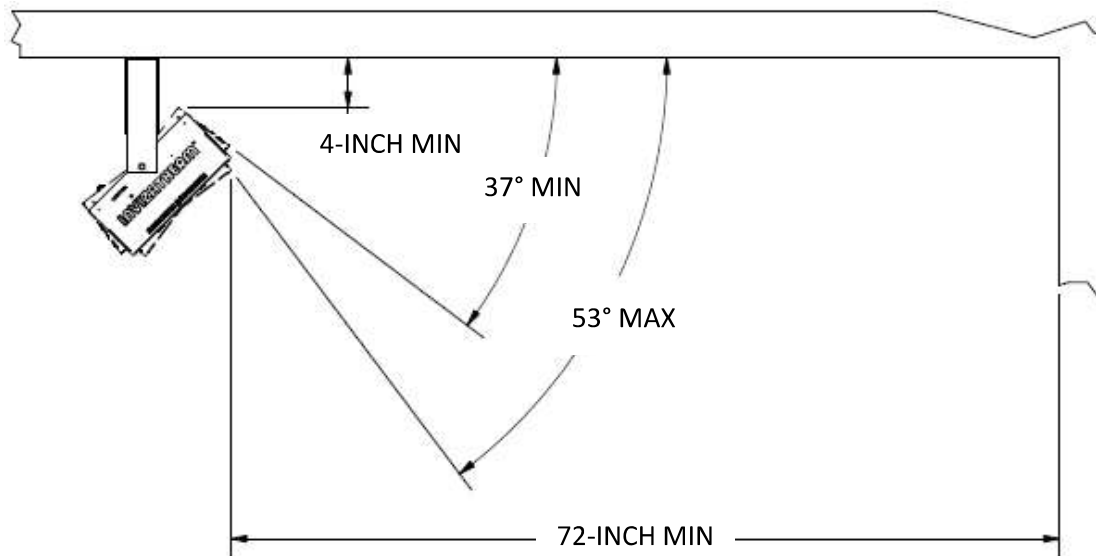
- 36 inches to a vertical surface for vertical mounting
- 4 inches to a vertical surface for angled ceiling mounting
- 12 inches to an adjacent vertical surface
- 36 inches to another heater
- 6 feet from the floor



**Fig. 2 – CEILING MOUNTING VERTICAL**



**Fig. 3 – CEILING MOUNTING ANGLED AWAY FROM VERTICAL SURFACE**



**Fig. 4 – CEILING MOUNTING ANGLED TOWARDS VERTICAL SURFACE**

**PROTECTED AREA MOUNTING:**

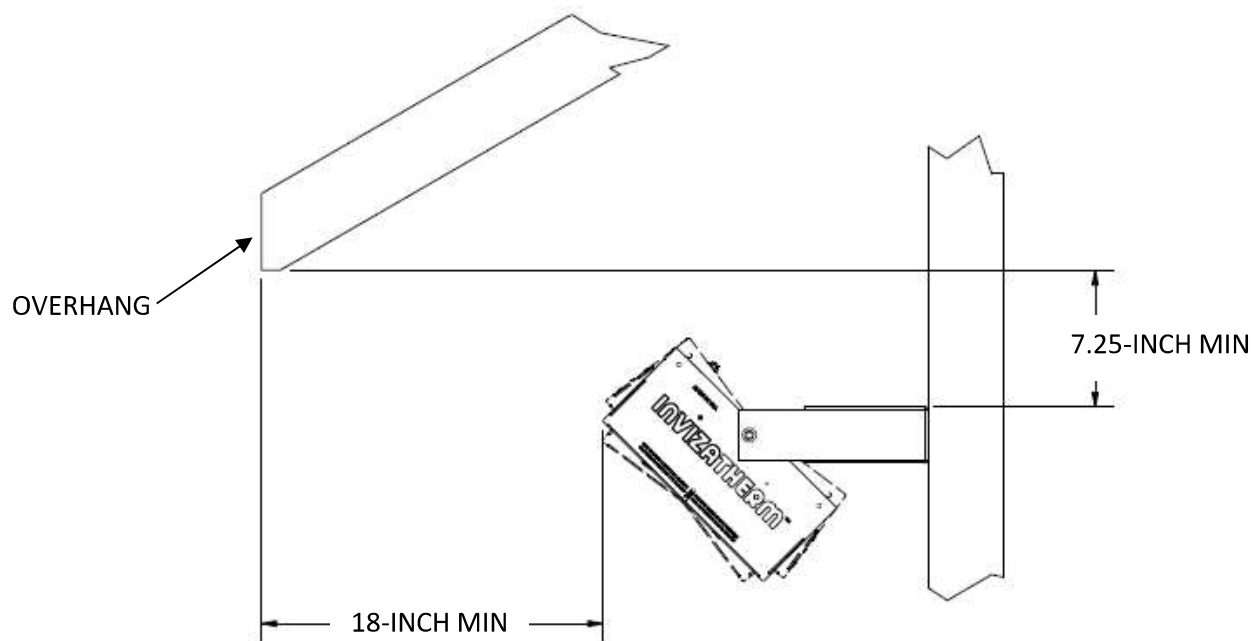
A *Protected Area* is defined as “Located in an area that is partially protected from the effects of weathering.” Typical *protected areas* would be the underside of a pavilion with a roof, garage port, and the like.

**FOR PROTECTED AREA WALL MOUNTING:**

Adhere to all requirements for mounting listed above. Additionally:

Do not install the section closer than 18 inches to edge of overhang of roof and no more than 7.25 inches (to top of bracket) below the edge.

The heater needs to be installed in a position such that it is protected from rain, snow, and similar outdoor wet areas.



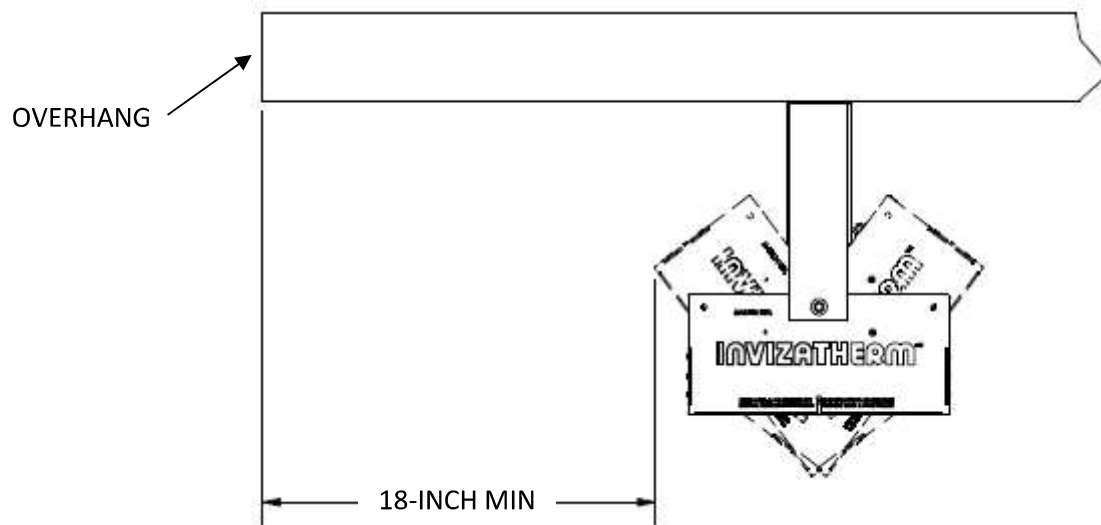
**Fig. 5 – PROTECTED AREA MOUNTING**

**FOR PROTECTED AREA CEILING MOUNTING:**

Adhere to all requirements for Ceiling Mounting listed above. Additionally:

Do not install the section closer than 18 inches to edge of overhang of roof.

The heater needs to be installed in a position such that it is protected from rain, snow, and similar outdoor wet areas.



**Fig. 6 – PROTECTED AREA CEILING MOUNTING**

For supply connections use the wire size (or larger) as directed by the chart below. All wires must be suitable for at least 75°C (167°F).

| SINGLE PHASE SECTIONS  |               |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| MODEL NUMBER   | 120 VOLT      | 208/240 VOLT  | 277 VOLT      | 347 VOLT      | 480 VOLT      | 600 VOLT      |
|  | AWG WIRE SIZE | AWG WIRE SIZE | AWG WIRE SIZE | AWG WIRE SIZE | AWG WIRE SIZE | AWG WIRE SIZE |
| HX-ST5-U12-0871B<br>HX-ST5-U12-1081B   | 14            | -             | -             | -             | -             | -             |
| HX-ST5-U12-1111B<br>HX-ST5-U12-1681B   | 12            | -             | -             | -             | -             | -             |
| HX-ST5-U12-1436J   | -             | 14            | -             | -             | -             | -             |
| HX-ST5-U24-1316B   | 14            | -             | -             | -             | -             | -             |
| HX-ST5-U24-1659B   | 12            | -             | -             | -             | -             | -             |
| HX-ST5-U24-2192B<br>HX-ST5-U24-2222B   | 10            | -             | -             | -             | -             | -             |
| HX-ST5-U24-3363B   | 8             | -             | -             | -             | -             | -             |
| HX-ST5-U24-1015V<br>HX-ST5-U24-1297V<br>HX-ST5-U24-1701V<br>HX-ST5-U24-2001V<br>HX-ST5-U24-2428V | -             | 14            | -             | -             | -             | -             |
| HX-ST5-U24-3239V   | -             | 12            | -             | -             | -             | -             |
| HX-ST5-U24-1982N<br>HX-ST5-U24-2388N<br>HX-ST5-U24-3008N   | -             | -             | 14            | -             | -             | -             |
| HX-ST5-U24-2060I<br>HX-ST5-U24-2488I<br>HX-ST5-U24-3176I   | -             | -             | -             | 14            | -             | -             |
| HX-ST5-U48-2030V<br>HX-ST5-U48-2594V   | -             | 14            | -             | -             | -             | -             |
| HX-ST5-U48-3402V   | -             | 12            | -             | -             | -             | -             |
| HX-ST5-U48-4002V<br>HX-ST5-U48-4856V   | -             | 10            | -             | -             | -             | -             |
| HX-ST5-U48-6478V   | -             | 8             | -             | -             | -             | -             |
| HX-ST5-U48-2030T<br>HX-ST5-U48-2594T   | -             | 14            | -             | -             | 14            | -             |
| HX-ST5-U48-3402T   | -             | 12            | -             | -             | 14            | -             |
| HX-ST5-U48-4002T<br>HX-ST5-U48-4856T   | -             | 10            | -             | -             | 14            | -             |
| HX-ST5-U48-6478T   | -             | 8             | -             | -             | 12            | -             |
| HX-ST5-U48-3964N   | -             | -             | 12            | -             | -             | -             |
| HX-ST5-U48-4776N<br>HX-ST5-U48-6056N   | -             | -             | 10            | -             | -             | -             |



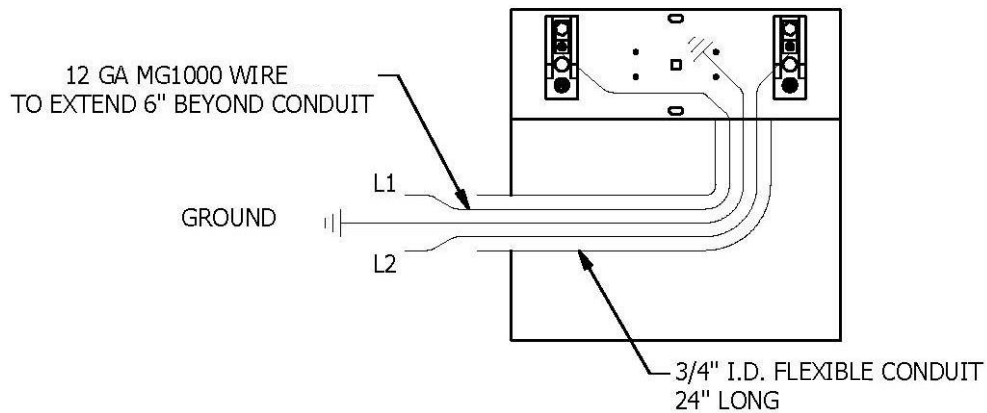
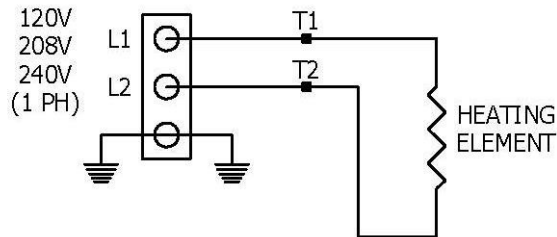
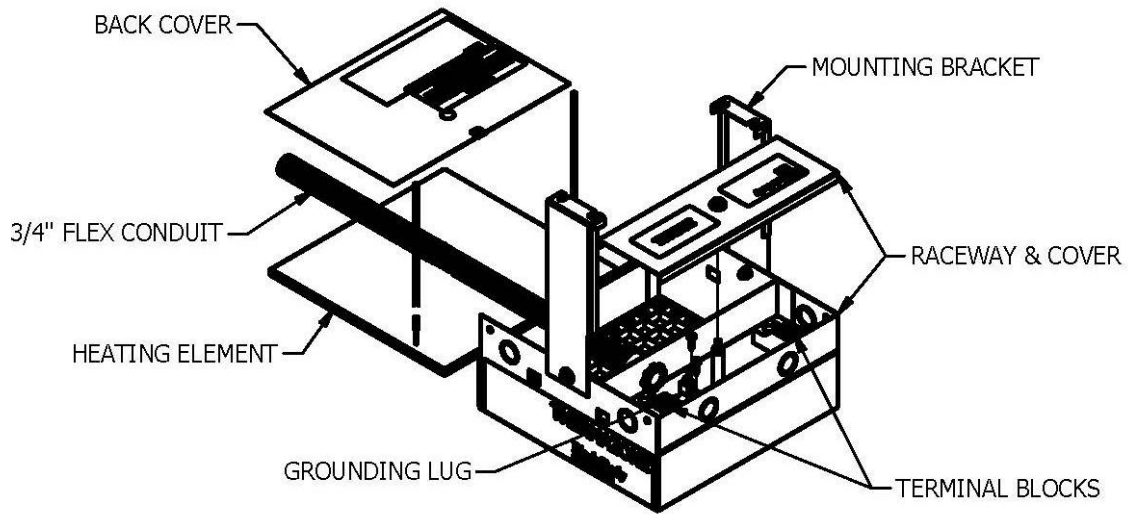
| SINGLE PHASE SECTIONS - Continued                        |                |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|
| MODEL NUMBER   | 120 VOLT       | 208/240 VOLT   | 277 VOLT       | 347 VOLT       | 480 VOLT       | 600 VOLT       |
|  | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE |
| HX-ST5-U48-2014I<br>HX-ST5-U48-2502I<br>HX-ST5-U48-3206I | -              | -              | -              | 14             | -              | -              |
| HX-ST5-U48-4120I<br>HX-ST5-U48-4976I                     | -              | -              | -              | 12             | -              | -              |
| HX-ST5-U48-6352I   | -              | -              | -              | 10             | -              | -              |
| HX-ST5-U48-4042Y<br>HX-ST5-U48-4878Y<br>HX-ST5-U48-6118Y | -              | -              | -              | -              | -              | 14             |
| 3-PHASE SECTIONS   |                |                |                |                |                |                |
| MODEL NUMBER   | 120 VOLT       | 208 / 240 VOLT | 277 VOLT       | 347 VOLT       | 480 VOLT       | 600 VOLT       |
|  | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE | AWG. WIRE SIZE |
| HX-ST5-U24-1992P<br>HX-ST5-U24-2442P<br>HX-ST5-U24-3041P | -              | 14             | -              | -              | -              | -              |
| HX-ST5-U48-3971P   | -              | 14             | -              | -              | -              | -              |
| HX-ST5-U48-4794P<br>HX-ST5-U48-5954P                     | -              | 12             | -              | -              | -              | -              |
| HX-ST5-U48-3928U<br>HX-ST5-U48-4838U<br>HX-ST5-U48-6060U | -              | -              | -              | -              | 14             | -              |
| HX-ST5-U48-3963Z<br>HX-ST5-U48-4797Z<br>HX-ST5-U48-5982Z | -              | -              | -              | -              | -              | 14             |

To reduce the risk of fire, do not store or use gasoline or other flammable vapors and liquids in the vicinity of the heater.

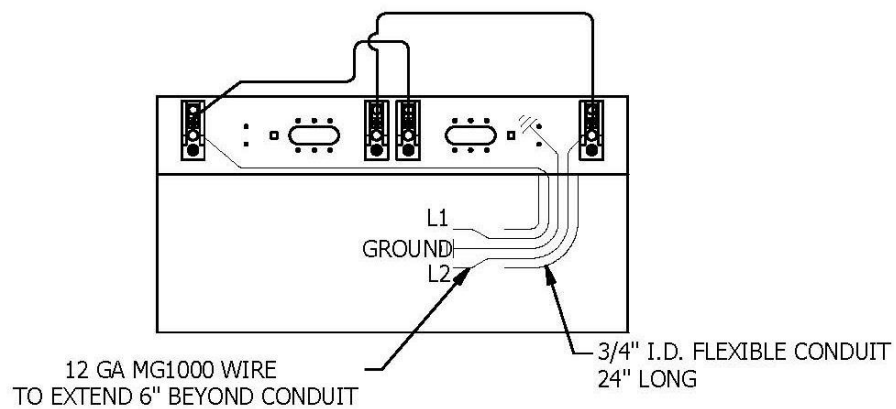
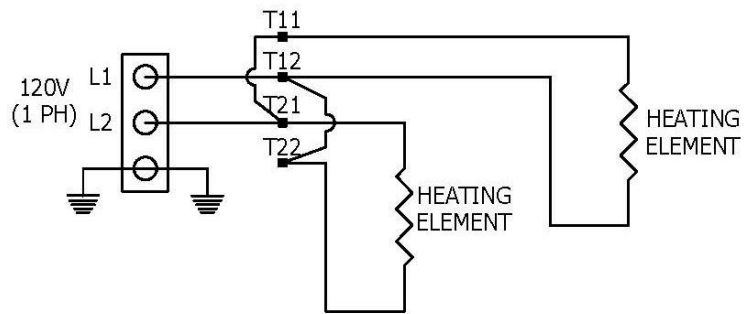
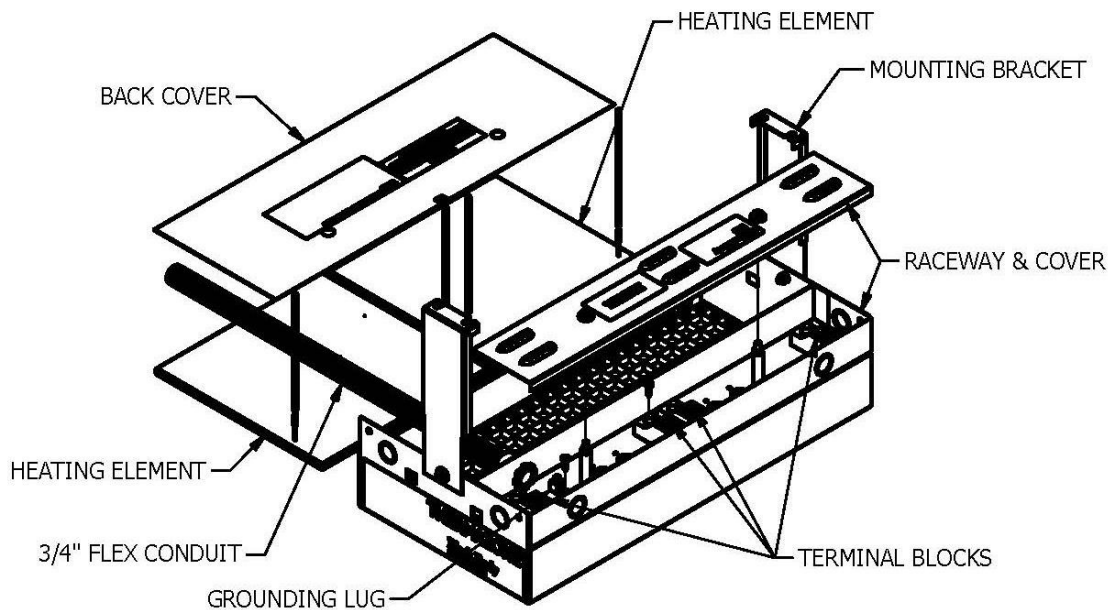
**CAUTION** – High temperature, risk of fire, keep electrical cords, drapery, furnishings, and other combustibles at least 6 feet (0.9 m) from the front of the heater and away from the side and rear.

# WIRING DIAGRAMS

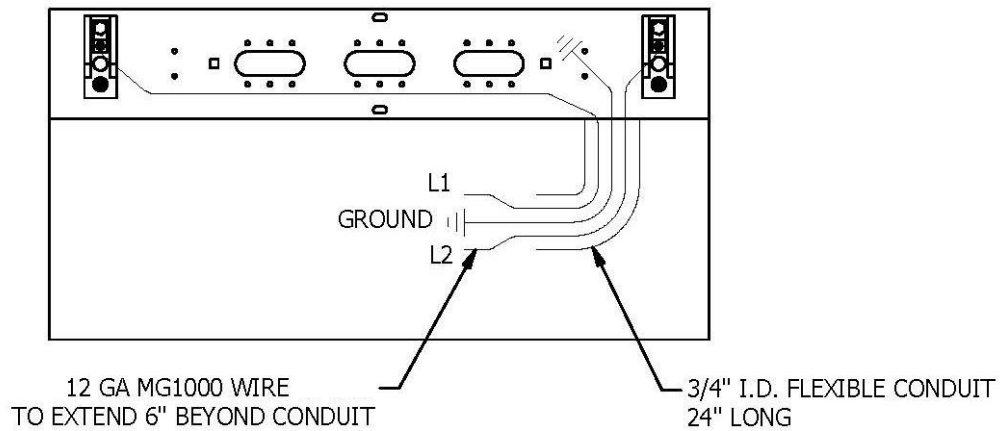
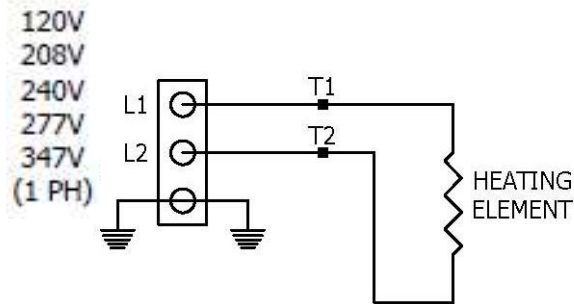
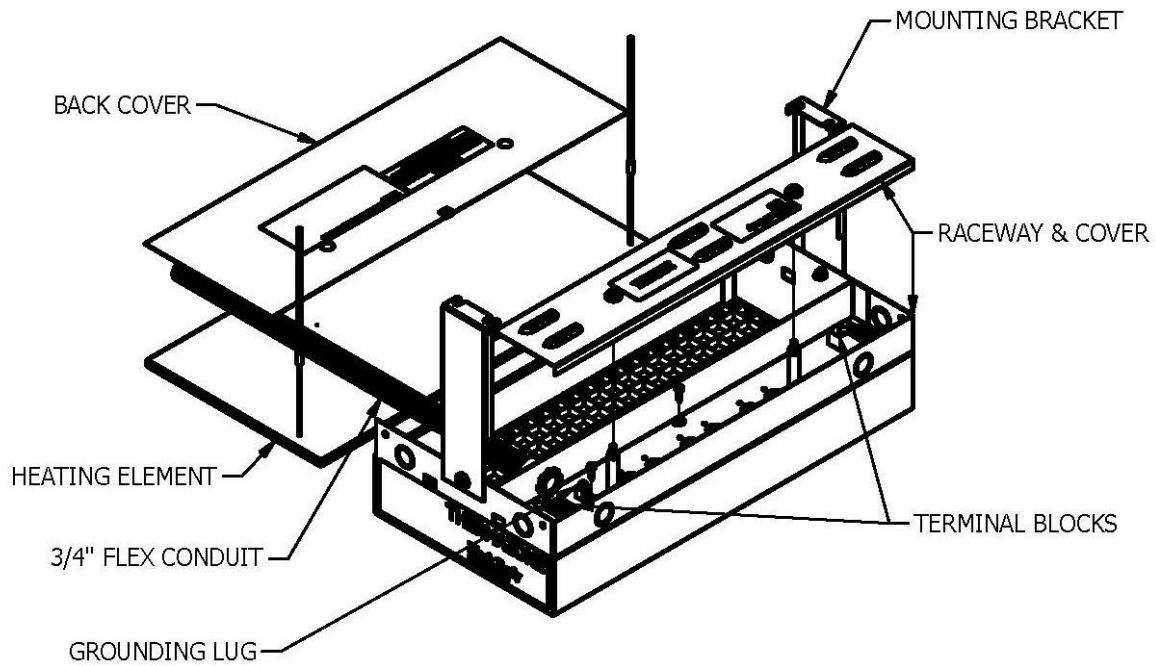
# FIG. 1 – 12" x 12" SECTIONS 120 / 208 / 240 VOLT – SINGLE PHASE



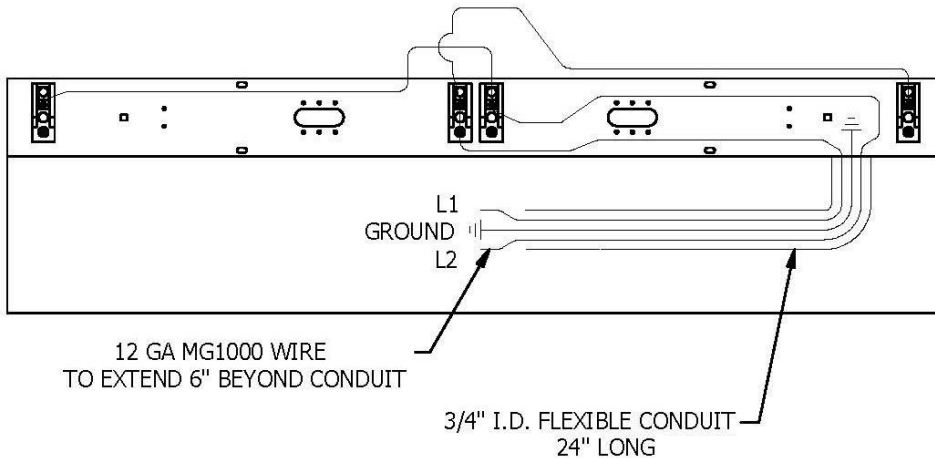
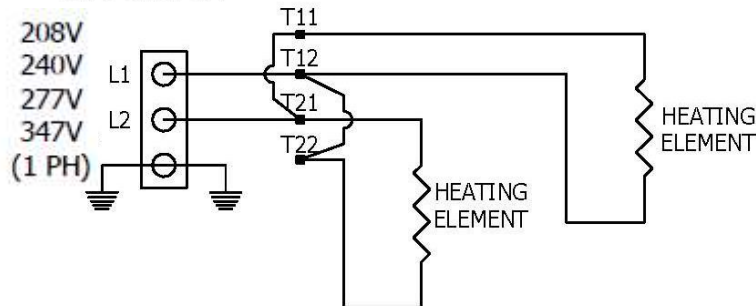
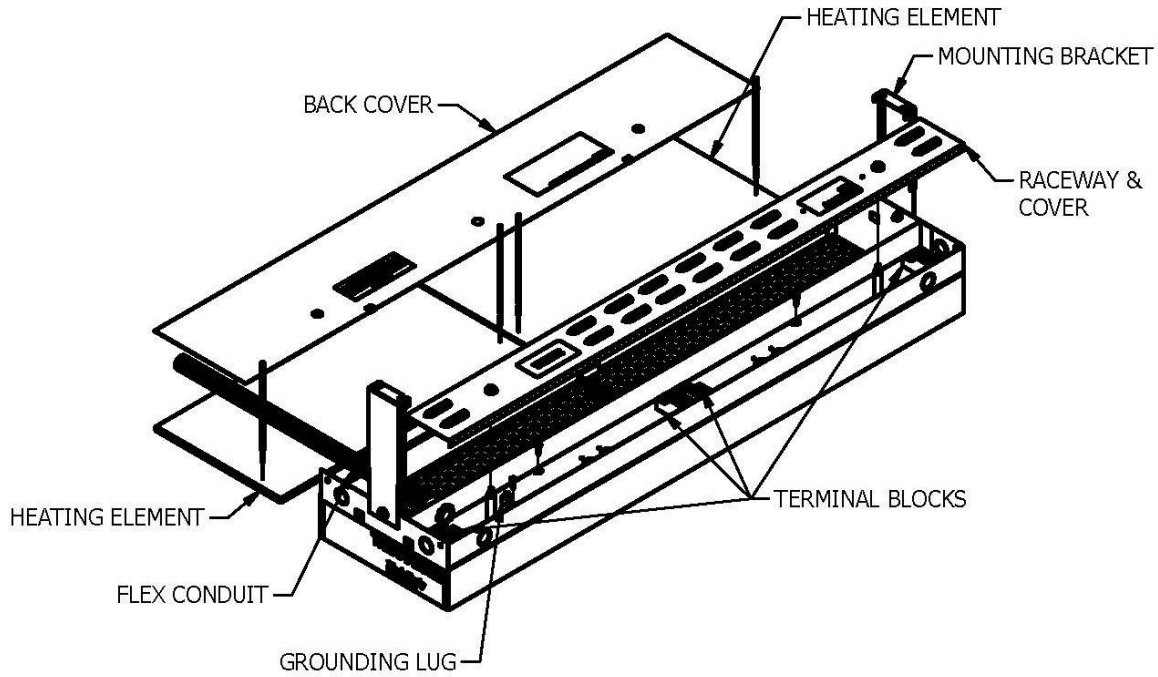
# FIG. 2 – 24" x 12" SECTIONS (DUAL ELEMENT) 120 VOLT – SINGLE PHASE



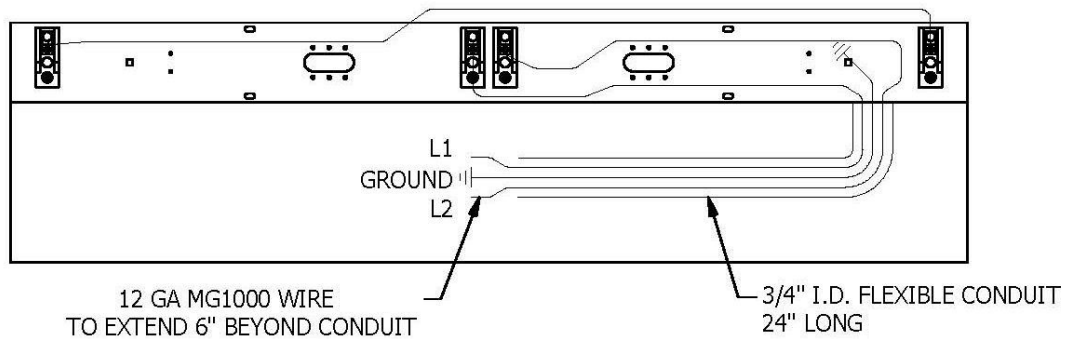
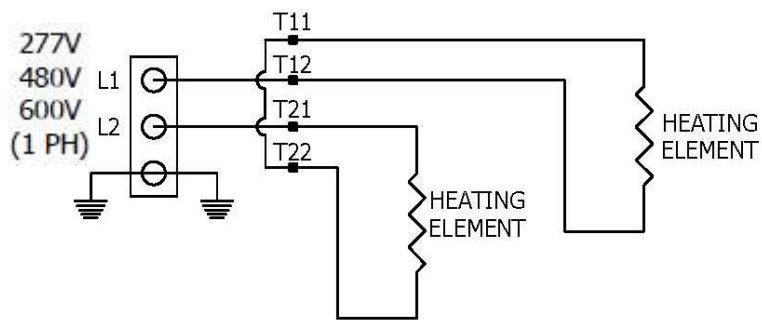
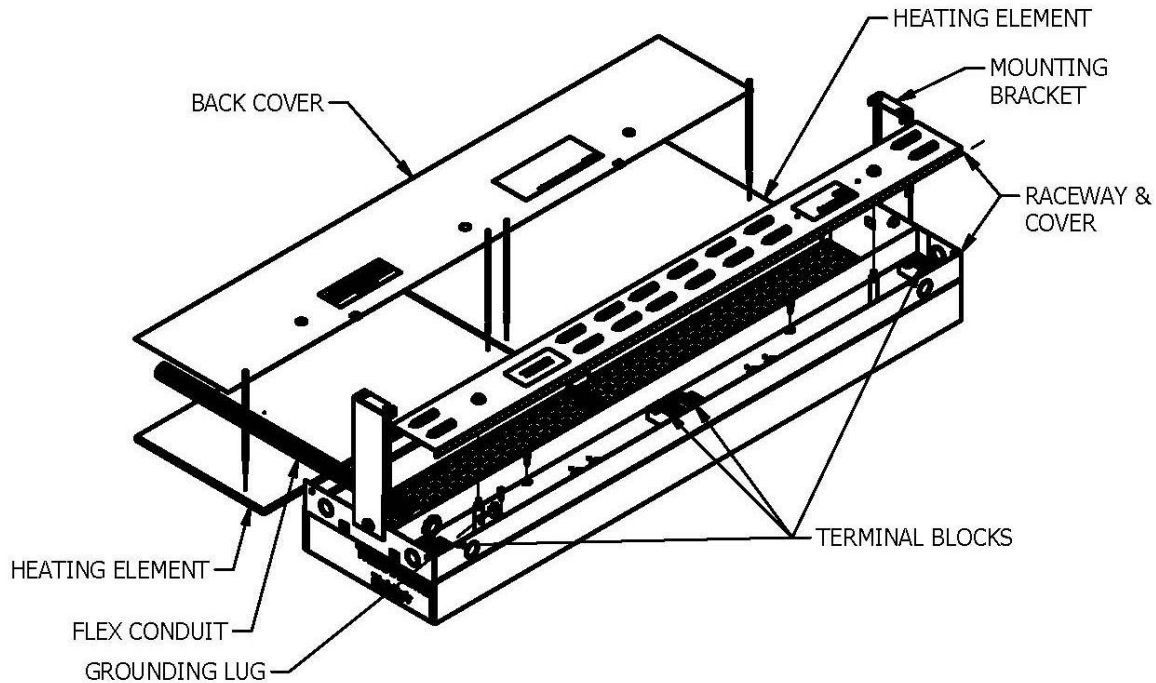
# FIG. 3 – 24" x 12" SECTIONS (SINGLE ELEMENT) 120 / 208 / 240 / 277 / 347 VOLT SINGLE PHASE



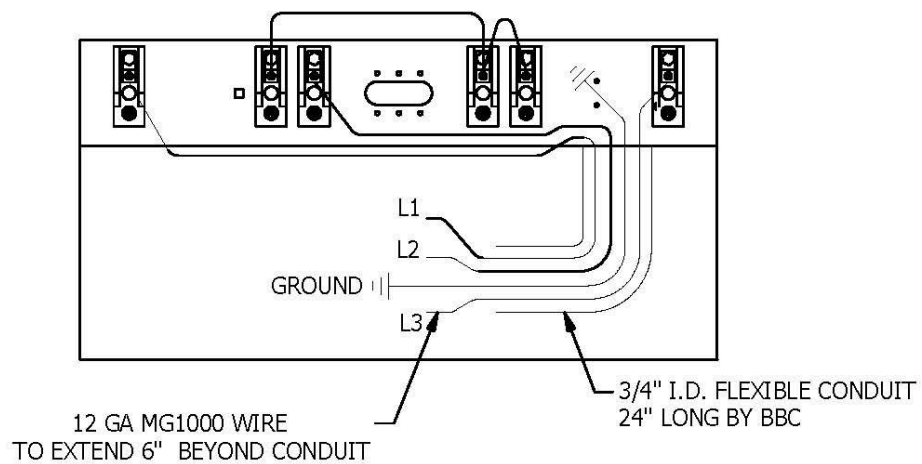
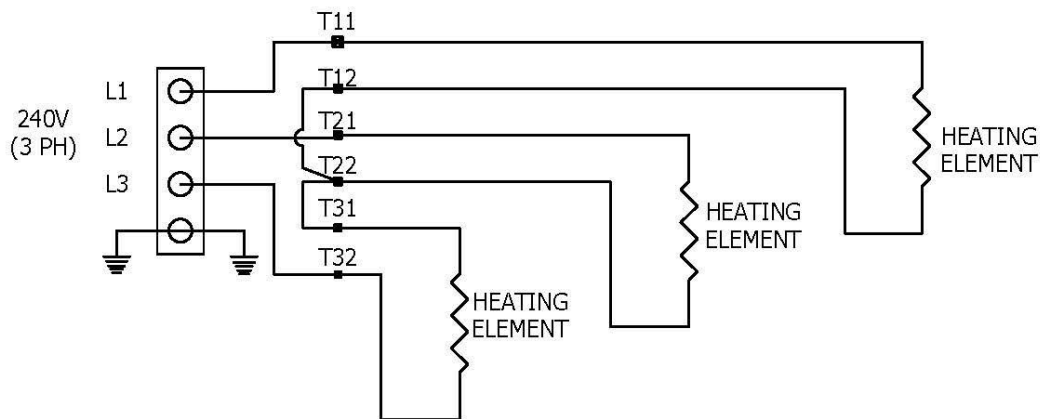
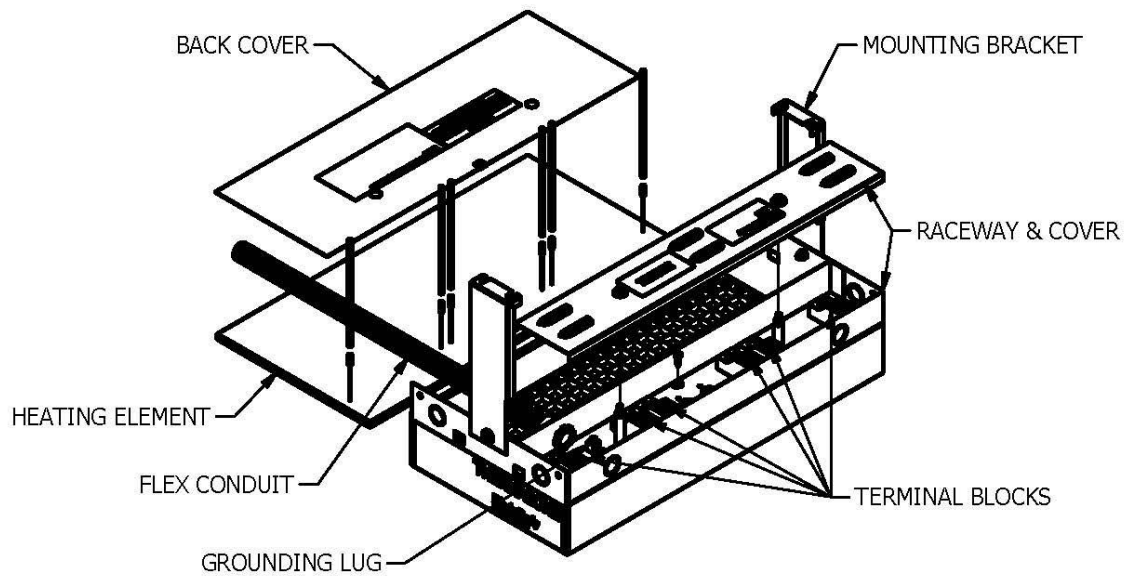
# FIG. 4 – 48" x 12" SECTIONS 208 / 240 / 277 / 347 VOLT – SINGLE PHASE



# FIG. 5 – 48" x 12" SECTIONS 277 / DV (480) / 600 VOLT SINGLE PHASE



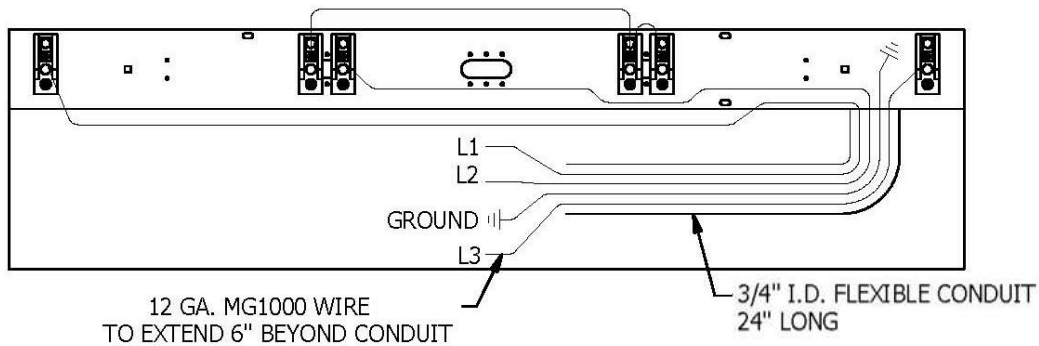
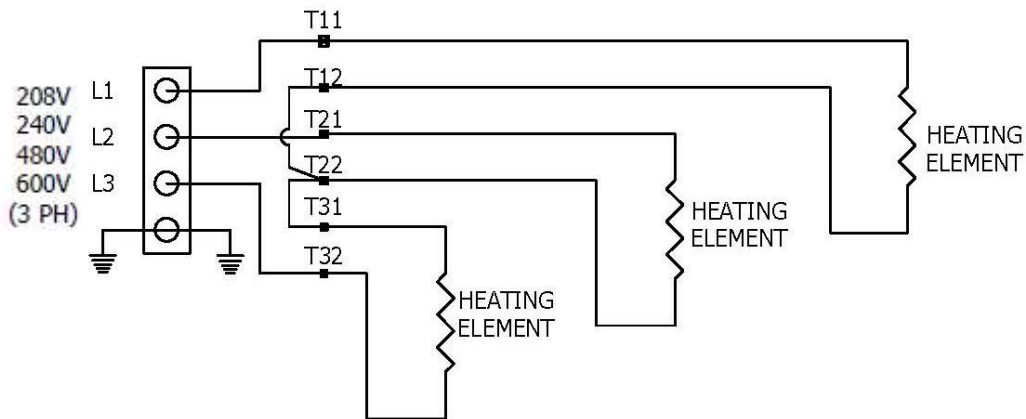
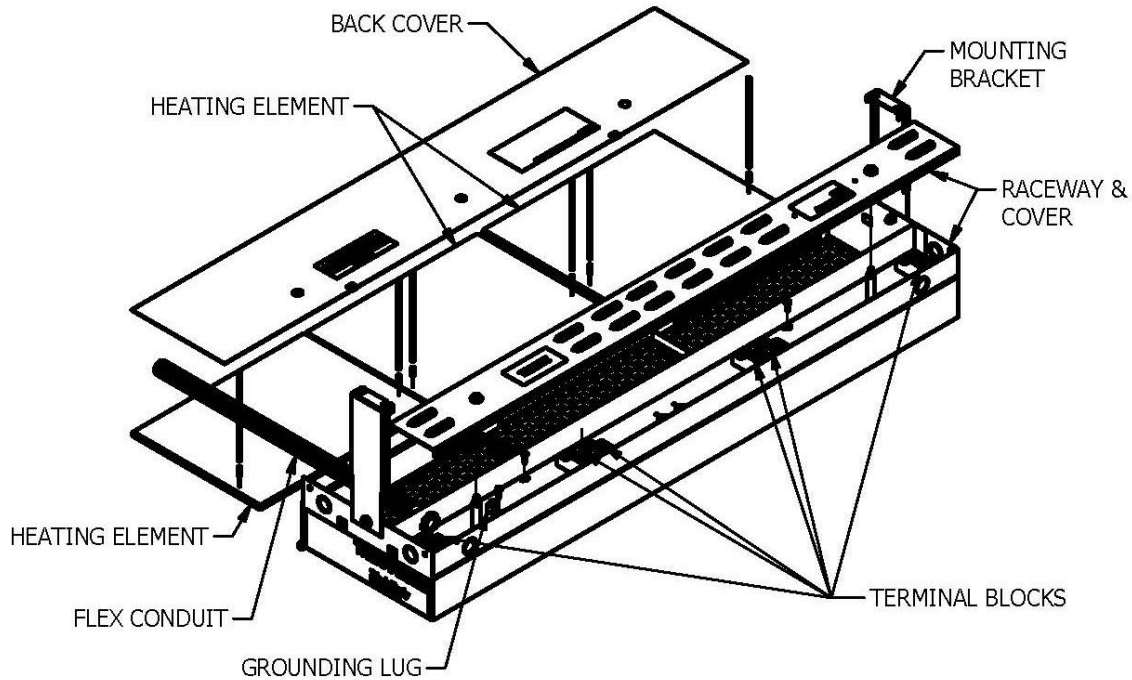
# FIG. 6 – 24" x 12" SECTIONS 240 VOLT – THREE PHASE





# FIG. 7 – 48" x 12" SECTIONS

## 208 / 240 / 480 / 600 VOLT – THREE PHASE



## OPERATION:



Heaters must be properly installed before use.

Do not operate heaters without all covers in place.

No user maintenance is needed for heaters. Any other servicing should be performed by authorized service personnel.

During production, the heating element of this unit may have absorbed moisture. The first time your heater is turned ON, it may smoke/steam while the moisture is released. This smoke/steam is NORMAL and not harmful. It will stop after 10-15 minutes of operation and not occur after first use.