

# Chromalox®

## Installation, Operation and RENEWAL PARTS IDENTIFICATION

### SERVICE REFERENCE

DIVISION 4	SECTION UB
SALES REFERENCE (Supersedes PF417-13)	PF417-14
161-048445-001	
DATE	July, 2002

## Type UB-1002E, UB-1252E, UB-1502E, UB-2002E Forced-Air Heaters

### Dimensions —

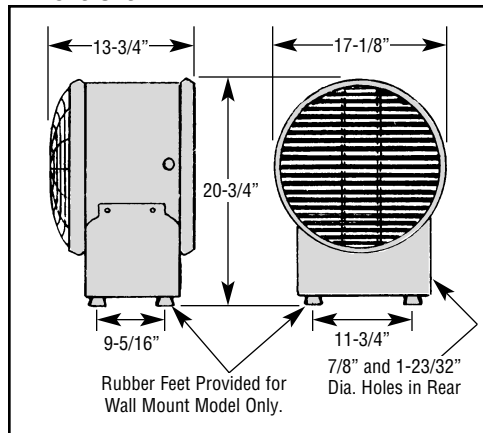


Figure 1  
Mounting UB using  
Ceiling Mounting  
Brackets\*

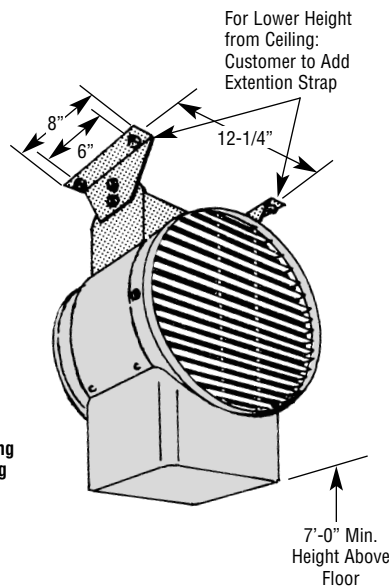


Figure 2  
Mounting UB using Wall  
Mounting Brackets\*

\*Wall and/or Ceiling Mounting Brackets are available as an accessory option — Contact your local sales representative.

### Specifications —

Model ‡	Volts and Phase	kW	Horizontal Air Discharge
UB-1002E	208 - 240 - 480 (1 or 3)	10	40'
UB-1252E	208 (3) - 240 (3) - 480 (1 or 3)	12.5	40'
UB-1502E	208 (3) - 240 (1 or 3) - 480 (1 or 3)	15	45'
UB-2002E	240 (1 or 3)	19.9	45'
UB-2002E	208 (3) - 480 (1 or 3)	20	45'

‡ Models with suffix "T" added (480 volts only) are equipped with a transformer, 480 volt primary — 120/240 volt secondary.

‡ Models with suffix "R" added are equipped with a relay (Example: UB-1002E-R 240 volt or 480 volt — 3 phase only).

## MOUNTING

**WARNING: Hazard of Electric Shock. Disconnect all power before installing heater.**

**Note:** These heaters are designed for wall or ceiling mounting only. Other modes of mounting voids factory warranty.

### 1. Height above floor

A. In areas where ceiling height is more than 12 feet, recommended mounting height is approximately 10 feet to underside of heater.

B. For ceiling heights of 12 feet or less, maximum mounting height is determined by use of ceiling mounting brackets offered for these heaters. Minimum spacing to ceiling is 3" (see Figure 2).

- In either case, minimum mounting height is 7 feet from floor to bottom of heater (see Figures 1 and 2).
- Spacing to adjacent walls
  - Rear of case to back wall 4-7/8" minimum (see Figure 2).
  - Side of case to side wall 6" minimum (see Figure 2).
- If two or more units are operated in the same enclosed space, their discharges should be directed to aid in development of mass air movement for uniform heat dispersal.
- Controlling thermostats to individual heaters should be mounted at shoulder height on inside walls or columns.

## WIRING

**Note:** All wiring should be done in accordance with local codes and the National Electrical Code by a qualified person.

**WARNING: Hazard of Electric Shock. Any installation involving electric heaters must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.**

1. Connect heater according to the voltage and frequency specified on the nameplate and using the appropriate wiring diagram (Figures 3 thru 7).

**Note:** Be sure to check voltage rating of the fan motor which is either 120, 208 or 240 volt, single phase since heater circuit could be 480 volts, single or three phase.

2. If an external transformer is used to step down the voltage for operating the fan motor, use appropriate wiring diagram (Figures 3, 5 or 7).

3. Heaters are not provided with a control switch and should be controlled by a magnetic contactor (integral or external) and a separately mounted thermostat. External contactor is not necessary with heaters having a model number suffixed with the letter "R".
4. Protection against overheating is provided by an internal automatic thermal cutout which opens the electric circuit if the normal air-flow is restricted or stopped. Cutout automatically energizes heater on removal of the obstruction.

**WARNING: Users should install adequate back-up controls and safety devices with their electric heating equipment. Where the consequences of failure may be severe, back-up controls are essential. Although the safety of installation is the responsibility of the user, Chromalox will be glad to make equipment recommendations.**

## OPERATION

**DANGER:**

1. **Do not restrict air-flow through the heater by placing fabric or other obstructions in front of or behind the heaters. With some combustible materials, the resulting high discharge temperatures could cause a fire.**

2. **This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in explosion or fire. For these applications see PDS CXH-EP (PF305).**

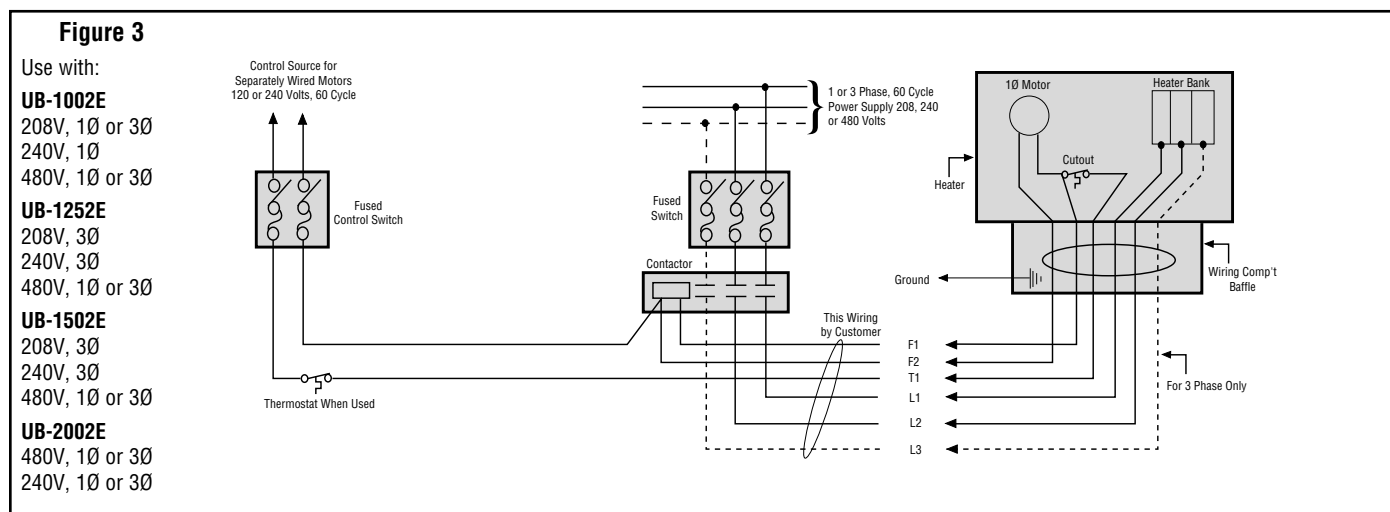
## MAINTENANCE

**WARNING: Turn off all power to service heater. Do not attempt to service heater while unit is operating as there is hazard of electric shock, injury from operating fan and burns from hot heating elements.**

1. Fan motors in these heaters are provided with sealed ball bearings, factory lubricated, requiring no further lubrication under normal service conditions.

2. Following long periods of idleness, heater should be vacuumed before start-up, to remove accumulated combustible particles which otherwise may smoke or incinerate on initial heat up.
3. Periodically inspect all electrical connections and terminals to avoid electrical wiring difficulties. Inspect all wiring for frayed or worn insulation.

## WIRING DIAGRAMS

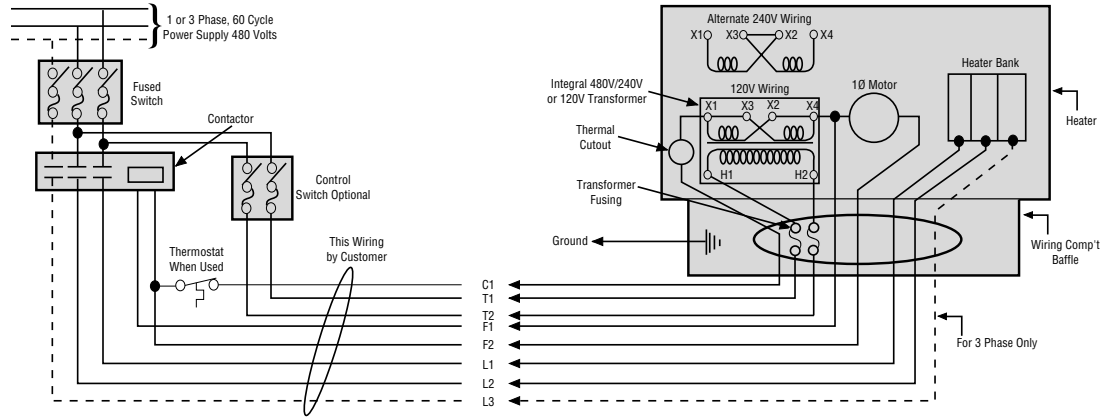


# WIRING DIAGRAMS

**Figure 4**

Use with:

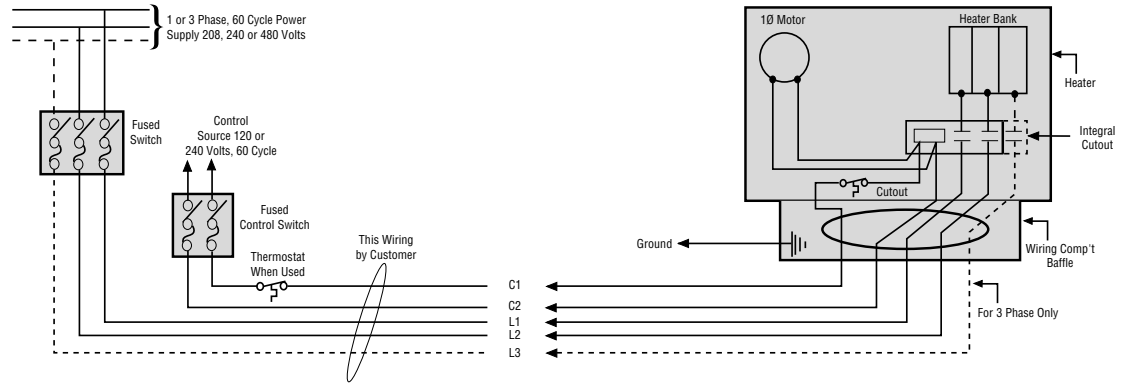
- UB-1002E-T**  
480V, 1Ø or 3Ø
- UB-1252E-T**  
480V, 1Ø or 3Ø
- UB-1502E-T**  
480V, 1Ø or 3Ø
- UB-2002E-T**  
480V, 1Ø or 3Ø



**Figure 5**

Use with:

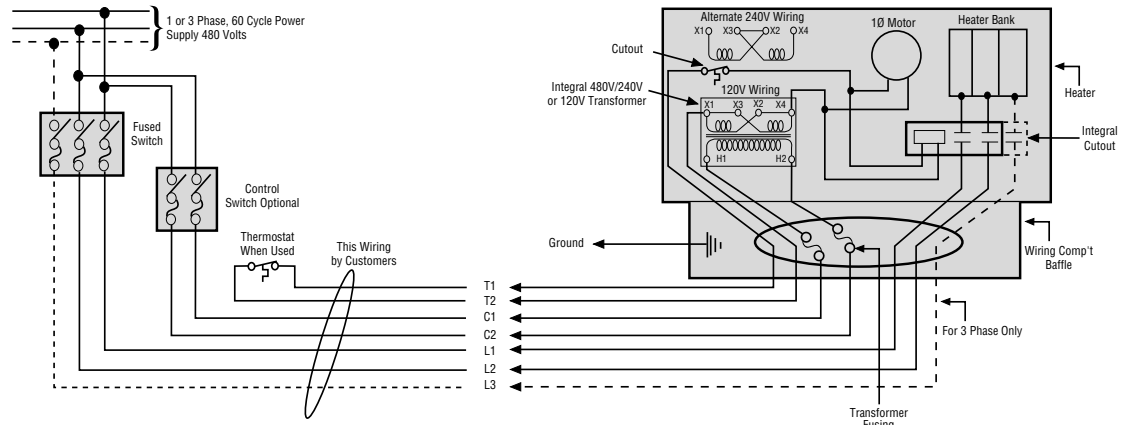
- UB-1002E-R**  
208V, 1Ø or 3Ø  
240V, 1Ø or 3Ø  
480V, 1Ø or 3Ø
- UB-1252E-R**  
208V, 3Ø  
240V, 3Ø  
480V, 1Ø or 3Ø
- UB-1502E-R**  
208V, 3Ø  
240V, 3Ø  
480V, 1Ø or 3Ø
- UB-2002E-R**  
480V, 1Ø or 3Ø  
240V, 3Ø



**Figure 6**

Use with:

- UB-1002E-TR**  
480V, 1Ø or 3Ø
- UB-1252E-TR**  
480V, 1Ø or 3Ø
- UB-1502E-TR**  
480V, 1Ø or 3Ø
- UB-2002E-TR**  
480V, 1Ø or 3Ø



# WIRING DIAGRAMS

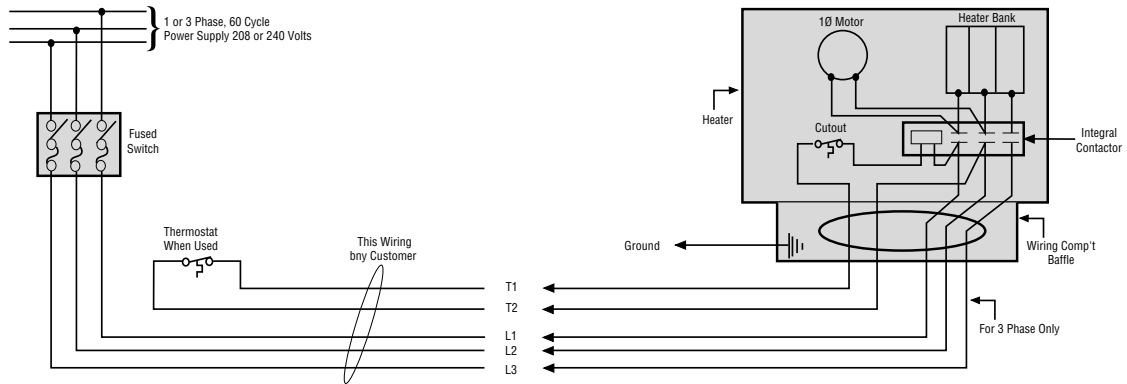
**Figure 7**

Use with:

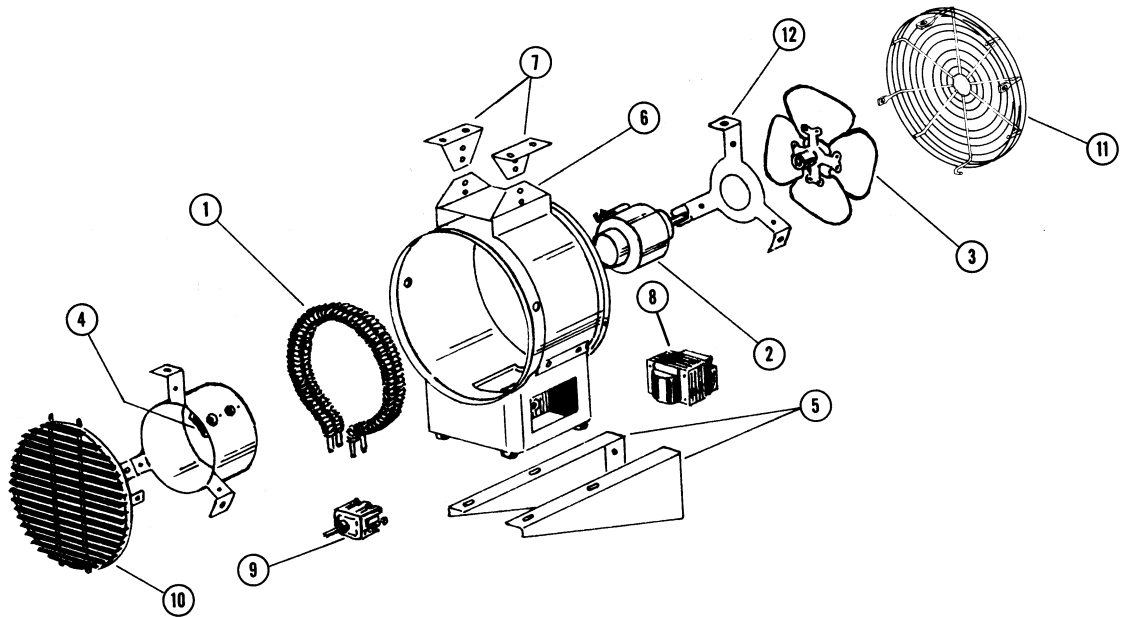
**UB-1002E-R**  
208V, 1Ø or 3Ø  
240V, 1Ø or 3Ø

**UB-1252E-R**  
208V, 3Ø  
240V, 3Ø

**UB-1502E-R**  
208V, 3Ø  
240V, 3Ø



## RENEWAL PARTS IDENTIFICATION



Model	Volts	Phase	① Heating Element	② MOTORS			③ Fan	④ Thermal Cutout	⑧ Transformer
				120V	208V	240V			
UB-1002E	208	1 or 3	118-045311-001 (3)	193-302120-009	193-302120-009	—————	112-045422-001	300-049200-002 1 (1) 300-049200-002 3 (1)	—————
UB-1002E	240	1 or 3	118-045311-002 (3)	193-302120-009	—————	193-302120-009	112-045422-001	300-049200-002 1 (1) 300-049200-002 3 (1)	—————
UB-1002E*	480	1 or 3	118-045311-003 (3)	193-302120-009	—————	193-302120-009	112-045422-001	300-049200-002 1 (1) 300-049200-002 1 (1)	315-303675-001
UB-1252E	208	3	118-045311-004 (3)	193-302120-009	193-302120-009	—————	112-045422-001	300-049200-002 3 (1)	—————
UB-1252E	240	1 or 3	118-045311-005 (3)	193-302120-009	—————	193-302120-009	112-045422-001	300-049200-002 1 (1) 300-049200-002 3 (1)	—————
UB-1252E*	480	1 or 3	118-045311-006 (3)	193-302120-009	—————	193-302120-009	112-045422-001	300-049200-002 1 (1) 300-049200-002 3 (1)	315-303675-001
UB-1502E	208	3	118-045307-001 (3)	193-302120-009	193-302120-009	—————	112-045422-002	300-049200-006 3 (1)	—————
UB-1502E	240	1 or 3	118-045307-002 (3)	193-302120-009	—————	193-302120-009	112-045422-002	300-049200-006 1 (1) 300-049200-006 3 (1)	—————
UB-1502E*	480	1 or 3	118-045307-003 (3)	193-302120-009	—————	193-302120-009	112-045422-002	300-049200-006 (1)	315-303675-001
UB-2002E	208	3	118-045307-004 (3)	193-302120-009	193-302120-009	—————	112-045422-002	300-049200-006 (1)	—————
UB-2002E	240	1 or 3	118-045307-009 (3)	193-302120-009	—————	193-302120-009	112-045422-002	300-049200-006 1 (1) 300-049200-006 3 (1)	—————
UB-2002E*	480	1 or 3	118-045307-006 (3)	193-302120-009	—————	193-302120-009	112-045422-002	300-049200-006 (1)	315-303675-001

**Note:** Part numbers suffixed by a number in ( ) indicates quantity of same part number used.

**\*Note:** Fuse 3A 600V KTK-3 — 128-047763-007 (2)

Fuse BLK Barrier — 129-048475-001 (1)

Fuse Block — 129-048473-001 (2)

## RENEWAL PARTS IDENTIFICATION

### ⑨ RELAYS

Model	Volts	Phase	kW	Motor	Relay
UB-1002E	208	1	10	120V	072-303180-008
UB-1002E	208	1	10	208V	072-303180-014
UB-1002E	208	3	10	120V	072-303180-007
UB-1002E	208	3	10	208V	072-303180-013
UB-1002E	240	1	10	120V	072-303180-008
UB-1002E	240	1	10	240V	072-303180-014
UB-1002E	240	3	10	120V	072-303180-007
UB-1002E	240	3	10	240V	072-303180-013
UB-1002E	480	1	10	120V	072-303180-011
UB-1002E	480	1	10	240V	072-304551-015
UB-1002E	480	3	10	120V	072-303180-007
UB-1002E	480	3	10	240V	072-303180-013
UB-1252E	208	3	12.5	120V	072-303180-008
UB-1252E	208	3	12.5	240V	072-303180-014
UB-1252E	240	3	12.5	120V	072-303180-008
UB-1252E	240	3	12.5	240V	072-303180-014
UB-1252E	480	1	12.5	120V	072-303180-011
UB-1252E	480	1	12.5	240V	072-304551-015
UB-1252E	480	3	12.5	120V	072-303180-007
UB-1252E	480	3	12.5	240V	072-303180-013

Model	Volts	Phase	kW	Motor	Relay
UB-1502E	208	3	15	120V	072-303180-008
UB-1502E	208	3	15	240V	072-303180-014
UB-1502E	240	3	15	120V	072-303180-008
UB-1502E	240	3	15	240V	072-303180-014
UB-1502E	480	1	15	120V	072-303180-008
UB-1502E	480	1	15	240V	072-303180-014
UB-1502E	480	3	15	120V	072-303180-007
UB-1502E	480	3	15	240V	072-303180-013
UB-2002E	208	3	20	120V	—————
UB-2002E	208	3	20	208V	—————
UB-2002E	240	1	19.9	120V	—————
UB-2002E	240	1	19.9	240V	—————
UB-2002E	240	3	19.9	120V	072-303180-008
UB-2002E	240	3	19.9	240V	072-303180-014
UB-2002E	480	1	20	120V	072-303180-008
UB-2002E	480	1	20	240V	072-303180-014
UB-2002E	480	3	20	120V	072-303180-007
UB-2002E	480	3	20	240V	072-303180-013

#### PARTS COMMON TO ALL HEATERS

- ⑤ Wall Bracket Set .....168-026844-003
- ⑥ Ceiling Mounting Support (Includes ⑦) .....027-044419-003
- ⑦ Ceiling Suspension Brackets .....027-033363-001 (2)
- ⑩ Louver .....182-047073-003
- ⑪ Grille .....134-119147-003
- ⑫ Motor Mounting Frame .....194-045314-001

**Note:** Part Numbers suffixed by a number in ( ) indicates quantity of same part number used.

#### Limited Warranty:

Please refer to the Chromalox limited warranty applicable to this product at  
<http://www.chromalox.com/customer-service/policies/termsforsale.aspx>.

# Chromalox®

## PRECISION HEAT AND CONTROL

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