

# Chromalox®

## Installation, Operation and RENEWAL PARTS IDENTIFICATION

### SERVICE REFERENCE

DIVISION 4		SECTION VUH	
SALES REFERENCE	(Supersedes PF452-3)	PF452-4	
		161-057824-001	
DATE		JULY, 2002	

## Type VUH Vertical Unit Heater

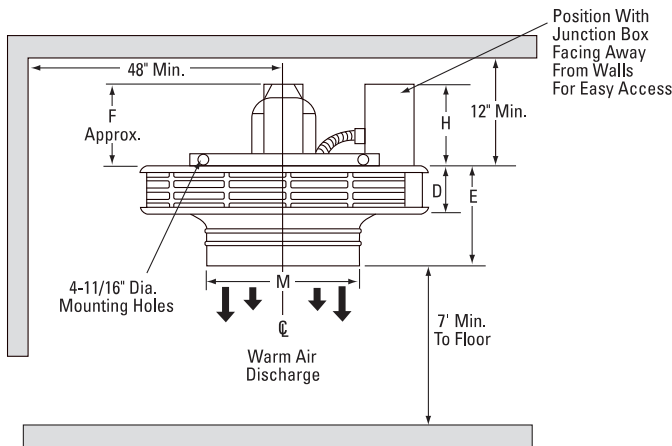


Figure 1

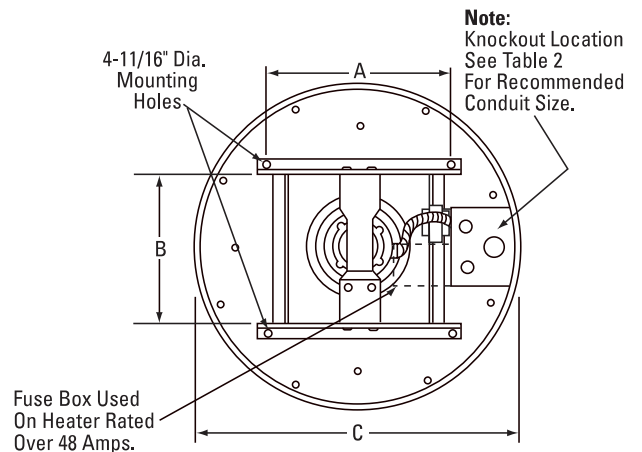


Figure 2

Specifications – Table 1

Model	Heating Capacity		Volts		Air Delivery			Max. Mtg. Height (Ft.)	Dimensions (In.)							Mtg. Weight (Lbs.)	
	kW	BTUH	1 Phase	3 Phase	CFM	FPM	Outlet Temp. °F*		A	B	C	D	E	F	H		M
VUH-C-30	30	102,000	–	208 240 480	2500	1200	96	33	18-7/8	19	34	10-5/8	15-1/4	3	11	20-3/4	250
VUH-C-40	38.5 39	136,000	–	240 480	2500	1200	108	30	18-7/8	19	34	10-5/8	15-1/4	3	11	20-3/4	250
VUH-C-50	50	170,000	–	480	2500	1200	120	27	18-7/8	19	34	10-5/8	15-1/4	3	11	20-3/4	250

\*Based on 60°F entering air.

\*\*For instructions on VUH units rated S-10 kW refer to Bulletin PF450

\*\*\*For instructions on VUH units rated IS-25 kW refer to Bulletin PF451

Table 2 – Electrical Data

Model	Power Supply Circuit							Contactor Holding Coil Volt Amperes (Note 3)		Motor		
	kW	Volts	Phase	Line Amps (Note 1)	Line Wire Size (Note 2)	No. Circuits	Minimum Conduit Size †	Inrush	Sealed	Volts	H.P.	Phase
VUH-C-30	30	208	3	44	6	2	1-1/4	104	18	208	1/3	3
		240	3	38	8	2	1					
		480	3	37	8	1	1-3/4					
VUH-C-40	38.5	240	3	48	6	2	1-1/4	104	18	240	1/3	3
		480	3	48	6	1	1					
VUH-C-50	50	480	3	31	8	2	1	104	18	480	1/3	3

1. Includes Fan Motor Amps
2. Use 90°C Wire - Copper conductors only
3. Standard units have two contactors. Units with separate fan motor control use three contactors.

† Conduit knockout location – top of Junction Box.

## IMPORTANT

Failure to understand and follow these installation instructions and the “WARNING” notes therein may result in serious personal injury from electrical shock, or from the heater falling due to faulty installation.

**WARNING: 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).**

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

The heater must be mounted at least 7’ above the floor to prevent accidental contact with the heating elements or fan blade which

could cause injury.

The ceiling structure, the brackets, hangers or chains used to suspend the heater, and the anchoring provisions must be of sufficient strength to support the total weight of the heater installation (250 pounds for VUH-C-30, 40, 50 plus the weight of the supports).

Prior to operating the heater verify that the fan hub setscrews are tightened and the push-on clip is secured to assure that the fan blade is securely fastened to the motor shaft.

On Models connected to three-phase power, fan blade rotation must be checked. If the airflow is not downward, interchange any two of the three customer power leads.

First stage of thermostat must be connected to terminals C1 and C2 to insure proper operation of overheat protective devices.

## INSTALLATION

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

1. Heater should be positioned with junction box facing away from walls to provide easy access for servicing relay(s) mounted within.

**WARNING: Mount the heater for down discharge only.**

2. It is important that 12” minimum dimension shown in Figure 1 be maintained to make it possible for a serviceman to remove the fan motor, if necessary, without moving the heater from its mounting.

**WARNING: The heater must be mounted at least 7’ above the floor to prevent accidental contact with the heating elements or fan blade which could cause injury.**

The ceiling structure, the brackets, hangers or chains used to suspend the heater, and the anchoring provisions must be of sufficient strength to support the total weight of the heater installation (250 pounds for VUH-C-30, 40, 50 plus the weight of the supports).

3. The heater may be mounted to the ceiling by attaching rigid angle brackets, hangers, or chains to the four mounting holes on top of the heater case using four 5/8” bolts (by others). See Figures 1 and 2.

**Note:** Brackets, hangers, or chains to support the heater are supplied by the customer.

4. All wiring should be done in accordance with the National Electrical Code and with local codes by a qualified person as defined in the NEC.

**WARNING: Use copper conductors only.**

5. Rough-in wiring to heater. See Table 2 for line amperes, recommended wire size and conduit size.
6. Wire heater per wiring diagram supplied with this instruction sheet.

**Note:** Power relay(s) are provided as standard on all heaters.

**WARNING: Prior to operating the heater, verify that the fan hub setscrews are tightened and the push-on clip is secured to assure that the fan blade is securely fastened to the motor shaft.**

7. Carefully inspect the completed installation. Rotate the fan blade by hand to be sure that it turns freely. Investigate any binding, rubbing or interference.

**WARNING: On Models connected to three-phase power, fan blade rotation must be checked if the airflow is not downward. Interchange any two of the three customer power leads.**

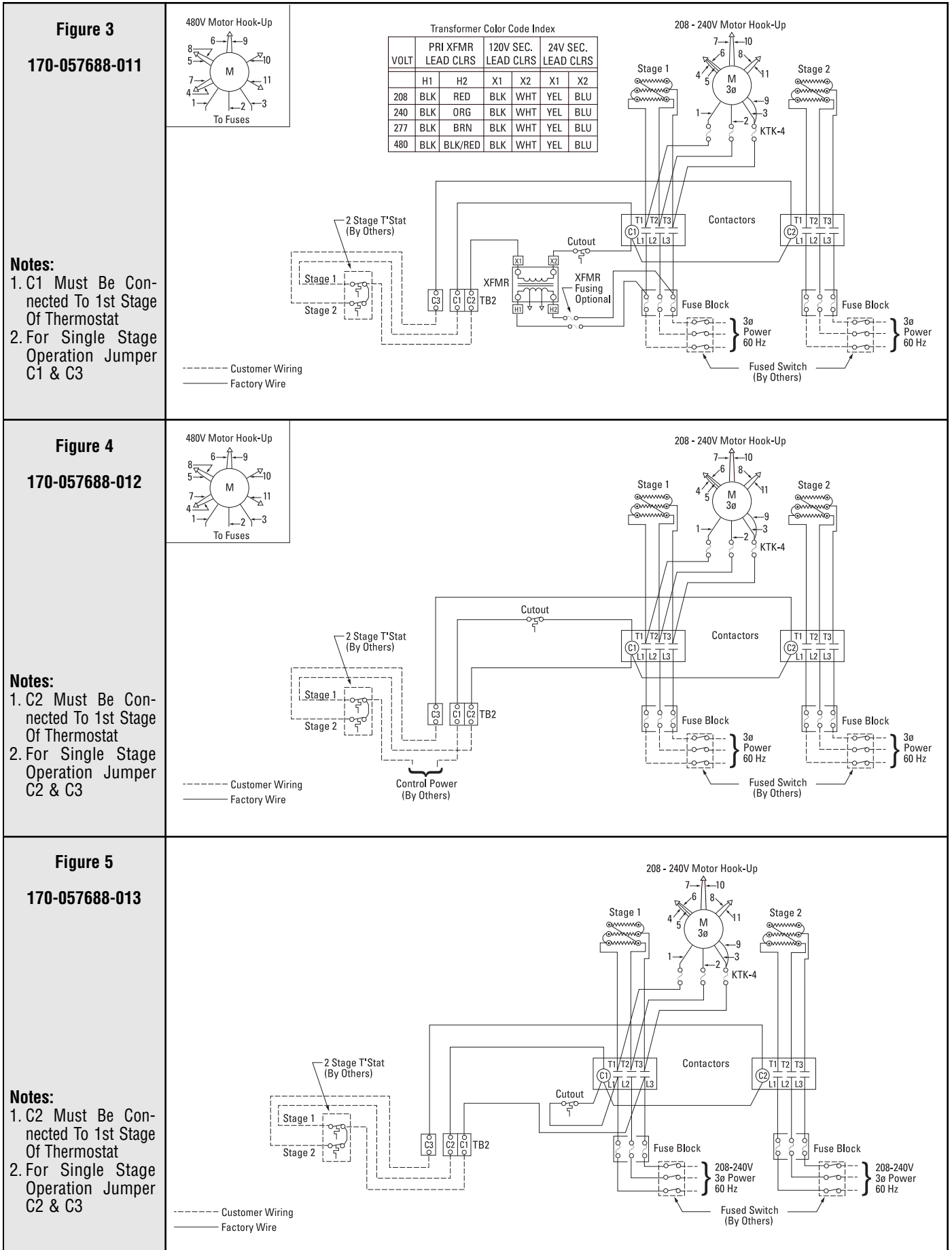
8. Air diffusers for deflecting the air are optional. See Instruction Sheet PF449 for installation instructions.

## MAINTENANCE

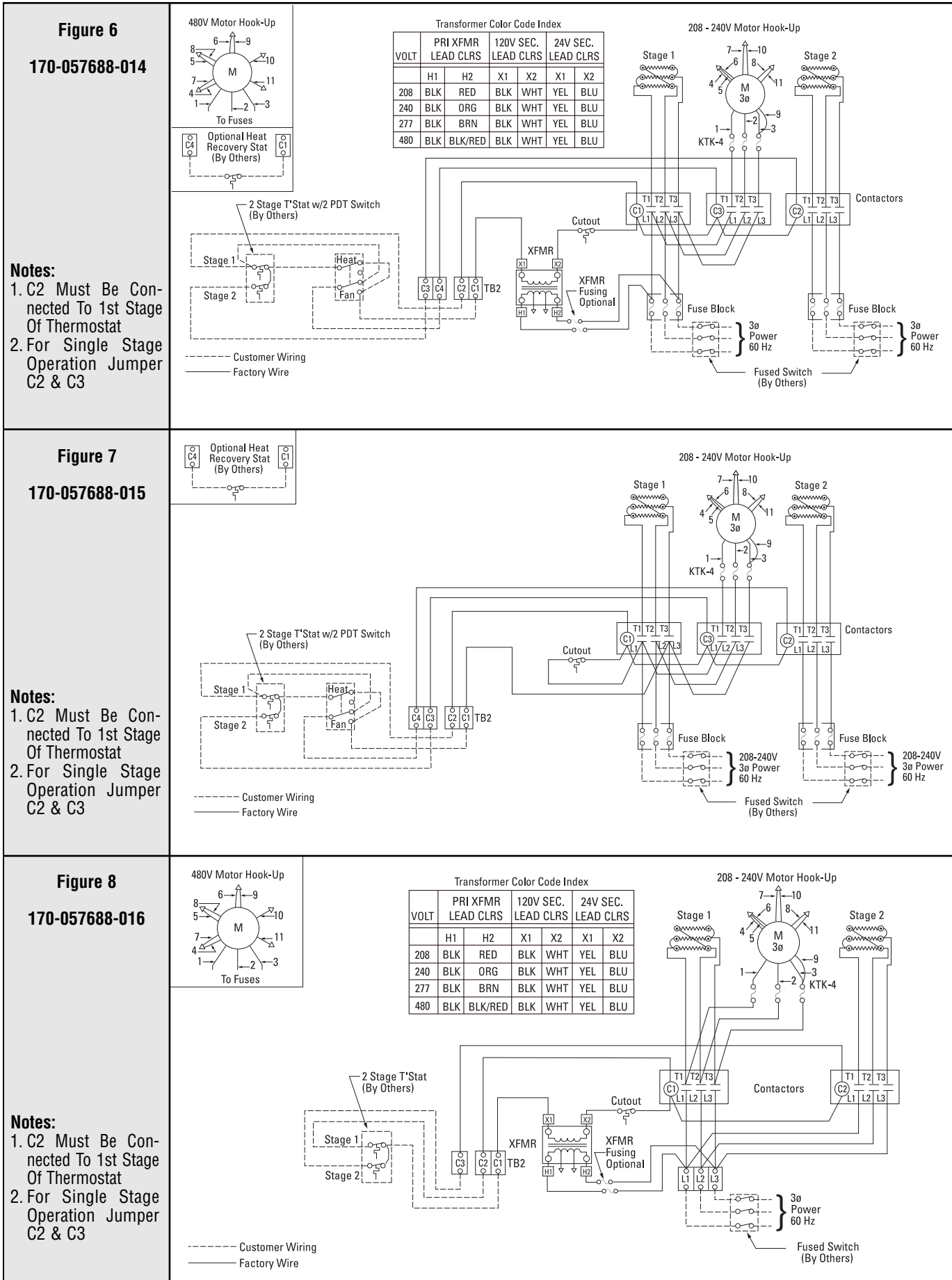
**WARNING: Hazard of Shock. Disconnect all power to heater before servicing or replacing heaters. Do not attempt to service heater while unit is operating as there is hazard of electric shock, injury from operating fan, and burns from hot heating elements.**

1. Before activating for next heating season, vacuum or use compressed air to remove accumulated dust or lint, which otherwise may restrict proper air flow.
2. Periodically check all electrical connections and retighten to avoid electrical wiring difficulties.

# WIRING DIAGRAMS



# WIRING DIAGRAMS





# RENEWAL PARTS IDENTIFICATION

## MANUFACTURER PART NUMBER BREAKDOWN (LOCATED ON UNIT NAMEPLATE)

V U H - C - [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ]

### Common Parts

Diagram Item No.	Description	Part No.
4	Fan	112-510500-001
5	Grille	134-130490-001
6	Overheat Cutout	300-024283-006

### Main Line Fusing (Applicable On Units Over 48 Amps Only)

Fuse Type	Used On	Part No.
JKS -60	30-83, 40-23	128-026510-007 (6)
JKS -50	30-23	128-026510-006 (6)
JKS -40	50-43	128-026510-004 (6)

### Optional Transformer Fusing

Fuse Type	Part No.
KTK-3	128-047763-007 (2)

### Motor Fusing

Fuse Type	Part No.
KTK-4	128-047763-008 (2)

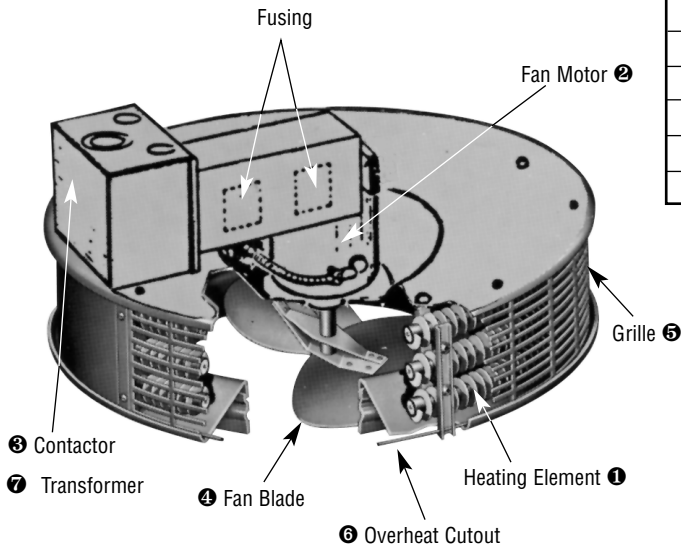
**Note:** Number in parentheses ( ) indicates quantity required of that part.

### Controls

Code	Description	Part Number	Diagram Item No.	Wiring Dia. Fig.	Wiring Diag. Part No.
30-00	Contactor-24V Coil (30A)	072-303180-001	3	3 & 8	170-057688-011 170-057688-016
	Contactor-24V Coil (50A)	072-303180-002	3		
	Transformer	315-304252-002	7		
31-00	Contactor-24V Coil (30A)	072-303180-001	3	4 & 9	170-057688-012 170-057688-017
	Contactor-24V Coil (50A)	072-303180-002	3		
32-00	Contactor-120V Coil (30A)	072-303180-007	3	3 & 8	170-057688-011 170-057688-016
	Contactor-120V Coil (50A)	072-303180-008	3		
	Transformer	315-304252-001	7		
32-45	Contactor-120V Coil (30A)	072-303180-007	3	6 & 10	170-057688-014 170-057688-018
	Contactor-120V Coil (50A)	072-303180-008	3		
33-00	Contactor-120V Coil (30A)	072-303180-007	3	4 & 9	170-057688-012 170-057688-017
	Contactor-120V Coil (50A)	072-303180-008	3		
34-00	Contactor-208V/240V Coil (30A)	072-303180-003	3	5	170-057688-013
	Contactor-208V/240V Coil (50A)	072-303180-014	3		
34-45	Contactor-208V/240V Coil (30A)	072-303180-003	3	7	170-057688-015
	Contactor-208V/240V Coil (50A)	072-303180-014	3		

### Elements and Motor

Code	kW	Volts	Phase	Element Part No. (Item No. 1)	Motor Part No. (Item No. 2)
30-83	30	208	3	118-130486-009 (6)	193-057646-001
30-23		240		118-130486-001 (6)	
30-43		480		118-130486-002 (6)	
40-23	38.5	240		118-130486-009 (6)	
40-43	39	480		118-130486-005 (6)	
50-43	50	480		118-130486-008 (6)	



### Limited Warranty:

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

# Chromalox®

PRECISION HEAT AND CONTROL

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