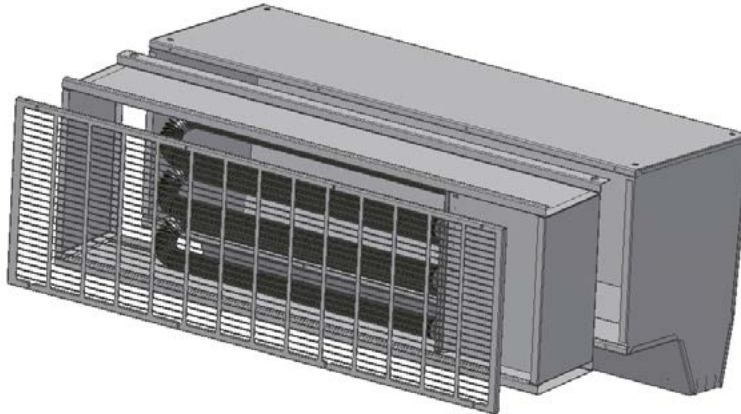


**AIR CURTAIN HEAT PACKAGE (ELECTRIC)  
INSTALLATION INSTRUCTIONS  
MODEL CFHTR - 3 KW THROUGH 15 KW**



**READ ALL WARNING STATEMENTS, NOTICES AND RETAIN  
INSTRUCTIONS FOR FUTURE REFERENCE**

1. Make certain that the power source conforms to the electrical requirements of the unit. Disconnect power before installing or servicing. If the power disconnect is out of sight, lock it in the open position and tag it to prevent unexpected application of power. Failure to do so could result in fatal electrical shock.

**WARNING: DO NOT DEPEND UPON A THERMOSTAT OR OTHER SWITCH AS THE SOLE MEANS OF DISCONNECTING POWER WHEN INSTALLING OR SERVICING THE UNIT. ALWAYS DISCONNECT POWER AT THE MAIN CIRCUIT BREAKER AS DESCRIBED ABOVE. FAILURE TO DO SO COULD RESULT IN FATAL ELECTRIC SHOCK.**

2. This product is intended **ONLY** for permanent indoor installation in accordance with the National Electrical Code (**NEC**), all applicable local codes and ordinances, and all sections of this manual. Any variance voids the warranty and may create unsafe conditions. All wiring should be done by a qualified electrician, using copper conductors only.
3. Special attention must be given to any grounding information pertaining to this product to prevent the risk of electrocution, the unit must be securely and adequately grounded.

- This should be accomplished by connecting a grounded conductor between the service panel and the grounding lug provided in the wiring compartment. To ensure a proper ground, the grounding means must be tested by a qualified electrician.
4. Do not insert fingers or foreign objects into the air curtain. Do not block or tamper with in any manner while in operation or just after it has been turned off, as some parts may be hot enough to cause injury.
  5. This product must **NOT** be used in potentially dangerous locations such as flammable, explosive chemical-laden or wet atmospheres.
  6. Do not attach ductwork to this product or attempt to use it as a make-up air heater. Such use voids the warranty and may create unsafe conditions.
  7. Heater is to be installed at least 6 feet from floor.
  8. Do not block heater grille or discharge vanes in any manner.

## IMPORTANT INSTRUCTIONS

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

1. Read all instructions before using this heater.
2. **CAUTION:** High temperatures. Keep cords and all other combustible material, such as furniture, papers, clothes and curtains away from the heater. For safe and efficient operation, keep an open space around heater of three feet in front and 12 inches at ends and rear.  
  
**ATTENTION:** Les températures élevées. Gardez les cordons et tout autre matériau combustible, tels que les meubles, papiers, vêtements et rideaux à l'extérieur de l'appareil de chauffage. Pour un fonctionnement sûr et efficace, garder un espace ouvert autour de chauffage de trois pieds à l'avant et 12 pouces aux extrémités et à l'arrière.
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.
4. Do not operate any heater after it malfunctions, has been dropped or damaged in any manner. Return heater to authorized service facility for examination, electrical or mechanical adjustment, or repair.
5. Do not use outdoors. CONTROL SYSTEM
6. To disconnect heater, turn controls to off, and turn off power to heater circuit at main disconnect panel (or operate internal disconnect switch if provided).
7. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater.
8. To prevent a possible fire, do not block air intakes or exhaust in any manner.
9. A heater has hot and arcing or sparking parts inside. **WARNING: Do not use it in area where gasoline, paint, or flammable liquids are used or stored.**
14. 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.
10. This heater may include an audible or visual alarm to warn that parts of the heater are getting excessively hot. If the alarm sounds (or illuminates), immediately turn the heater off and inspect for any objects on or adjacent to the heater that may have blocked the airflow or otherwise caused high temperatures to have occurred.  
DO NOT OPERATE THE HEATER WITH THE ALARM SOUNDING (OR ILLUMINATING).
11. SAVE THESE INSTRUCTIONS

## MAINTENANCE AND CLEANING

The heater should be cleaned at least annually to prevent excess build-up of dirt and lint accumulated under normal operating conditions. In an unusually dirty environment the cleaning should be done more often. To clean the heater first DISCONNECT THE HEATER FROM THE MAIN POWER SOURCE. Using a vacuum cleaner with soft brush attachment clean the intake and discharge louvers of any accumulated dirt or lint. The outside cabinet can be cleaned with mild detergent and damp cloth. There is no other maintenance required. Restore power and resume operation. DO NOT OPERATE THE HEATER WITHOUT GRILLE.

## INSTALLATION

Air Curtain should be installed and in place. Refer to instructions furnished with selected Air Curtain. Following is a listing of basic units which describes equipment match.

### **BASIC AIR CURTAIN**

CF 36 or CFHD 36  
CF 48 or CFHD 48  
CF 60 or CFHD 60

### **BASIC HEAT PACKAGE**

CFHTR 36  
CFHTR 48  
CFHTR 60

1. Remove grille front from installed unit - save all hardware.
2. Unplug motor cable at wiring compartment cover located at right end of air curtain. Plug is released from locking projections by squeezing them and, withdrawing plug at the same time. Note direction of one way tab on plug for reassembly reference.
3. Using #10-32 screws provided, partially install them in bottom front of air curtain. Using the

partially inserted screw body as locators, assemble heat package on screws, engaging open slots provided on lower flange of unit. With the aid of another person, tilt the assembly forward enough to allow access to motor plug and receptacle on wiring compartment cover. With keyed one-way plug/receptacle combination, align and plug in cable from motor into receptacle in lower side wall of element and control box enclosure. Insert plug extending from back of control box into receptacle on right end junction box cover. The interchange of plug and receptacle is all that is needed to interlock air curtain with heat package.

4. Secure heat package to air curtain with #10-32 screws provided. Do not install front cover grille until completion of wiring.

### **WIRING OF HEAT SECTION**

Choose correct wire size and over current protection as required by NEC and local codes - see nameplate for heater loads and recommended wire size.

receptacle located on underside of right end of heat package. Use twist connectors provided to make connections.

1. Remove Cover. Knockouts are located at right end of unit and right end bottom. Choosing the most convenient knockout, connect to box lugs on power contactor. It is recommended that flexible conduit be used to reduce the probability of unwanted vibrations
2. A 120 V, 15 Amp HZ source is to be provided for

3. Control wiring is to be connected to control block located in wiring compartment near top. Use a suitable heat/cool low voltage thermostat.

### **CONTROL SYSTEM**

With heater properly attached to air curtain, the combined system converts to 24 volt control. Select the proper low voltage thermostat with fan only, heat - cool, including manual or auto function. All controlling of the heat should be done with the thermostat. The heater is equipped with a fan delay - off (approximately 100 seconds). this will allow full cool-down of elements and heater case. Avoid switching heater OFF with the speed selector switch on air curtain. To do so will not create a hazard, but it is

possible that over temperature device may open the control circuit. Heater will be inoperative until safety control resets. If this condition should occur, set speed switch to on position and the "Fan Only" switch on at thermostat. This will cause control to reset within a few seconds.

### **THERMOSTAT FUNCTIONS**

Heat - Auto     Heater will operate and shut off with temperature rise. Fan off after delay.

Cool - Auto     Fan will shut off when temperature falls

Heat - On     Heat will shut off with temperature rise. Fan on constant.

Cool - On     Fan runs continuous.

24V Control Circuit (50 VA)  
Fan Only .15 Amps  
Heat .71 Amps

Do not spark control leads - transformer will be permanently inoperative - device has embedded one-time fuse.

MODEL NOMENCLATURE

CFHTR 48 12 480 3 60

Example: 48" Long, 12Kw, 480 Volts, 3 Phase, 60 Hz

CFHTR	48 LENGTH	12 KW	480 VOLTS	3 PH	60 HZ
	36	5.0	208	1	
	48	7.5	240	3	
	60	10.0	277		
		12.0	480		
		15.0			

BASIC MODEL	LENGTH	WATTS	VOLTS	PH	HZ	HTR AMPS	AMPS MIN CIRCUIT	AMPS MAX FUSE	75°C WIRE AWG	CONTROL VOLTAGE
CFHTR	36	3 Kw	208	3	60	8.3	10.4	15	14	24
	48	3 Kw	240	3	60	7.2	9.0	15	14	24
	60	3 Kw	480	3	60	3.6	4.5	15	14	24
		3 Kw	277	1	60	10.8	13.5	15	14	24
		3 Kw	208	1	60	14.4	18.0	20	12	24
		3 Kw	240	1	60	12.5	15.6	20	12	24
CFHTR	36	5 Kw	208	3	60	13.8	17.25	20	10	24
	48	5 Kw	240	3	60	12.0	15.0	20	12	24
	60	5 Kw	480	3	60	6.0	7.5	15	14	24
		5 Kw	277	1	60	18.0	22.5	25	10	24
		5 Kw	208	1	60	24.0	30.0	35	8	24
		5 Kw	240	1	60	20.8	26.6	30	10	24
CFHTR	36	7.5 Kw	208	3	60	20.8	26.0	30	10	24
	48	7.5 Kw	240	3	60	18.0	22.5	25	10	24
	60	7.5 Kw	480	3	60	9.0	11.3	15	15	24
		7.5 Kw	277	1	60	27.0	33.8	35	8	24
		7.5 Kw	208	1	60	36.0	45.0	50	8	24
		7.5 Kw	240	1	60	31.2	39.0	40	8	24
CFHTR	36	10 Kw	208	3	60	27.7	34.7	35	8	24
	48	10 Kw	240	3	60	24.0	30.1	35	8	24
	60	10 Kw	480	3	60	12.0	15.0	20	12	24
		10 Kw	277	1	60	36.1	45.1	50	6	24
		10 Kw	240	1	60	41.6	52.0	55	6	24
CFHTR	36	12 Kw	208	3	60	33.3	41.6	45	8	24
	48	12 Kw	240	3	60	28.8	36.0	40	8	24
	60	12 Kw	480	3	60	14.4	18.0	30	12	24
			277	1	60	43.3	54.1	60	6	24
CFHTR	36	15 Kw	208	3	60	41.6	52.0	60	6	24
	48	15 Kw	240	3	60	36.0	45.1	55	6	24
	60	15 Kw	480	3	60	18.0	22.5	30	10	24

