

# MORTEX™

## Manufactured Housing Products

### INSTALLATION INSTRUCTIONS DOWNFLOW ELECTRIC FURNACE

#### A. Introduction

Mortex Downflow Electric Furnaces are specifically designed for Manufactured Housing applications. The furnaces are rated at 240 volts, 60 Hz, single phase. 10, 12, 15, 17 and 20Kw models are available. All models have multi-speed blowers capable of handling a wide range of BTUs of cooling.

These instructions are primarily to assist qualified individuals trained and experienced in the proper installation of this type of equipment. Refer to authorities having jurisdiction for additional guidance.

#### B. Rules For Safe Installation And Operation

1. This unit has been designed and manufactured to comply with National Codes, it is the installers responsibility to install this unit to comply with National Codes and/or prevailing local codes and regulations. Mortex assumes no responsibility for units installed in violation of any code or regulation.

2. Access for servicing is an important factor in the location of the furnace. A minimum of 24 inches should be provided in front of the furnace for access to the heating elements and controls.

3. This electric furnace is approved for zero (0) clearance to combustible material on all or any part of the furnace exterior and the inlet or outlet duct work.

4. Duct work must be installed in accordance with the standards of the National Fire Protection Association (NFPA) for the installation of Air Conditioning, Warm Air Heating and Ventilating Systems (NFPA 90A and 90B). See National Environmental Systems Contractors Association Manual K for duct sizing recommendations.

5. Ground the unit to prevent electric shock. All electrical wiring should be in accordance with the National electrical Code.

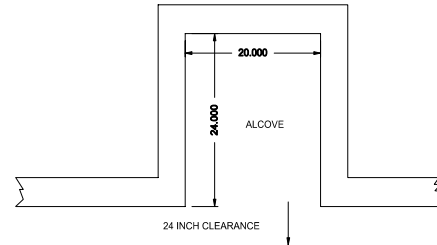
6. The safety testing agency label appearing on these units covers the unit only. It does not cover any other equipment.

7. The unit should be unpacked on receipt and if damage is found, a claim should be made immediately by the receiver upon the shipping carrier.

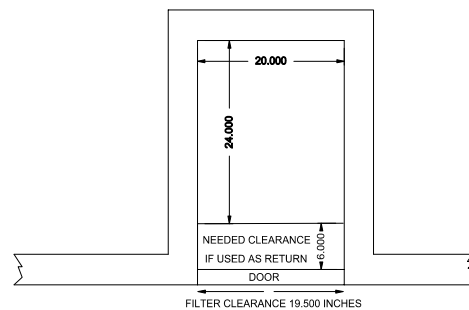
#### C. Physical Installation

**Alcove:** Must be a minimum of 24 inches deep by 20 inches wide. Electrical connections are on right side. Door makes overall depth of unit 25 inches. 24 inches must be clear in front of the unit to nearest wall or partition. A return air opening must be provided to allow return air to enter top opening of furnace. Opening must be a minimum of 200

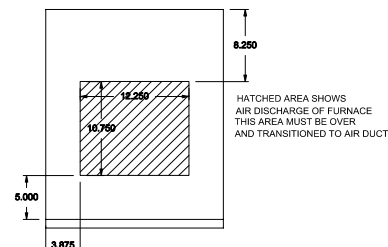
square inches for heating. Increase to a minimum of 300



square inches for A/C operation. For large A/C or HP applications a larger opening may be required.



**Closet:** Must be of sufficient size to allow removal of air filter and maintenance of the blower in the furnace. If return is in door or wall below the furnace casing height a minimum of 6 inches clearance must be allowed on that side of furnace to



allow proper air flow to top of the furnace. Return air openings must be as stated in alcove installation.

Furnace must be positioned to allow the discharge air to flow unrestricted into the duct below. A metal transition should be used. Be sure to seal the joints to prevent air leakage.

#### **D. Electrical Wiring**

Refer to the units nameplate for specific electrical data.

**Caution: Disconnect power at main fuse or circuit breaker distribution panel before wiring furnace to prevent shock or fire hazard.**

##### **Power wiring**

Unit is suitable for use with copper conductors. Tighten all wire connectors. Take care not to damage heater ceramic insulators. For correct field wire size see unit nameplate and field wiring table inside electrical compartment. Use 75 degree C minimum wire if wire must be replaced. Circuit breakers are provided and supply circuits are to be connected directly to the marked circuit breaker terminals.

**Caution: Furnace is equipped with a protective shield over field wiring connection. When field wiring is completed, shield must be replaced to prevent hazard of electrical shock when servicing furnace.**

**Note: See unit for complete wiring diagram attached to back of electrical compartment door.**

##### **Control wiring**

Field connections to the low voltage leads are made using appropriate field supplied wiring connectors. Consult installation instructions provided with accessory items for specific information on control wiring. Do not use two separate thermostats for operation of heating and cooling. If two class two circuits are used, use a thermostat with isolating contacts to prevent inter-connection of two circuits. Set thermostat heat anticipator at 0.15 amps for furnaces 10KW or smaller, 0.30 amps for larger furnaces.

#### **D. Blower Motor**

Units are equipped with a three speed blower motor. Two factory selected motor speed leads are connected to the blower relay to provide automatic speed change for heating and cooling airflow volumes.

#### **E. Air Filter**

Air handlers are factory equipped with an air filter. If the return grille has its own filter, a filter installed in the air handles is not recommended.

#### **F. Check Test and Start**

The unit should be tested after the system has been completely installed to determine proper operation. Unit is equipped with heater time delay controls. All heating elements should turn on within one minute.

#### **G. Periodic Maintenance**

The filter must be changed at least twice a year to permit proper airflow for safe and efficient operation.

#### **H. Contact us for Help or for Any Comments on Our Products**

As we strive to better serve our customers like you, we are always ready to help you. We also welcome any comments from our customers concerning quality and improvements that could be made to our products. Please feel free to call or write us. Thank you for the purchase of our product.

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