WARM AIR FURNACES

GENERAL DESCRIPTION

1. GENERAL

1.01 This section describes the controls and subordinate parts of warm air furnaces.

1.02 Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 The recommendations contained in this section are minimum requirements. Other codes having jurisdiction will apply if they are more stringent. Engineering judgment, based on a specific job, may dictate more stringent requirements. Refer to Section 760-530-108* for additional information.

1.04 Each warm air furnace, whether it is a central, duct, wall, direct-vent wall, or unit heater, shall be indirect fired. Warm air furnaces shall be manufactured in conformance with the applicable American Gas Association (AGA) American National Standards Institute (ANSI) Standards Z 21.44, Z 21.47, Z 21.49, Z 83.8, Z 83.9, and Underwriters Laboratories (UL) Standards #296, #372, #727, #729, #730, #733, #795, #1025, and #1096.

2. DESCRIPTION

2.01 ***The operating control*** for all warm air furnaces shall be a room (space), return air, or supply-duct thermostat.

2.02 ***The fan control (stop/start)*** shall be provided on each oil- or gas-fired furnace, except duct furnaces, to prevent the air circulating fan from starting until the heat exchanger reaches a temperature to assure a warm air discharge from the furnace. It will also keep the fan operating until the air discharge temperature reaches an allowable minimum, after the burner shuts off under the direction of the operating control.

2.03 ***The high temperature control*** shall be provided on each oil- or gas-fired furnace to limit the outlet air temperature. This control shall shut down the burner when its set point is reached. This control shall be an automatic-recycling type and shall have a minimum differential of 10°F. This control may sense either the heat-exchanger bonnet or leaving-air temperature.

2.04 ***The high temperature limit control*** may be provided on each oil- or gas-fired furnace to limit the outlet air temperature. This control shall be a manual-reset type of control. This control may sense either the heat exchanger bonnet or leaving air temperature.

2.05 ***Filters*** shall be provided in each warm air furnace except on unit heaters and duct furnaces. Filters shall be provided in the duct system upstream of the duct furnace. Filters shall be sized so as not to exceed filter manufacturers' recommended face velocity. See Section 760-230-110* for additional information on air filters.

2.06 ***The high temperature control*** shall be provided on each electric warm air furnace to limit the outlet-air temperature. This control will de-energize the electric heating element when its set point is reached. This control shall be an automatic resetting type and have a minimum differential of 10°F.

2.07 ***The manual reset temperature limit control*** shall be provided on each electric warm air furnace to limit the outlet air temperature. This control may be an eutectic compound that melts at a predetermined temperature. The heat that causes the melting action is a result of high ambient temperature and not from the heat generated by the current flow through this control. If a temperature activated electric switch is used, it must have the capacity to carry the full load of the heating element through its own contacts. A control-operated relay is not acceptable. This control must require manual reset before the heating element can be re-energized.

2.08 The ***air proving switch*** may be provided on each electric warm air furnace to protect the heating element. This switch may be a pressure differential type or a sail (paddle) switch. This switch protects the heating element against burnout due to no or low air flow.

*Check Divisional Index 760 for availability.

Printed in U.S.A.