I - INTRODUCTION

LF3 units are built with Duracurve heat exchangers formed out of cold rolled steel. Both LF3 and LF unit heaters use a standing pilot with a thermocouple to verify flame. In the event of pilot outage, the gas valve locks itself out in response to the thermocouple.

Power venters are available for LF3 installations and must be ordered extra:

- LF3-110 thru LF3-275 models:
  - PV3-115-24 (volt) — (P-8-8519)
  - (4" flue connection)
  - Optional PV3 flue adaptors (flue size and no.):
    - 5" to 4" — (P-8-8515)
    - 7" to 4" — (P-8-85178)
    - 6" to 4" — (P-8-8516)
    - 8" to 4" — (P-8-8518)

- LF3-330 models
  - PV4-115-24 (volt) — (P-8-8521)
  - (6" flue connection)
  - Flue adaptor must be supplied by installer.

II - UNIT INFORMATION

A - Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>LF3-110</th>
<th>LF3-137</th>
<th>LF3-165</th>
<th>LF3-220</th>
<th>LF3-275</th>
<th>LF3-330</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating Capacity Input (Btuh)</td>
<td>110,000</td>
<td>137,000</td>
<td>165,000</td>
<td>220,000</td>
<td>275,000</td>
<td>330,000</td>
</tr>
<tr>
<td>Heating Capacity Output (Btuh)</td>
<td>88,000</td>
<td>109,600</td>
<td>132,000</td>
<td>176,000</td>
<td>220,000</td>
<td>264,000</td>
</tr>
<tr>
<td>Fan diameter (in.)</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>(2) — 14</td>
<td>(2) — 16</td>
<td>(2) — 18</td>
</tr>
<tr>
<td>Fan motor hp</td>
<td>1/15</td>
<td>1/15</td>
<td>1/8</td>
<td>(2) — 1/15</td>
<td>(2) — 1/15</td>
<td>(2) — 1/8</td>
</tr>
<tr>
<td>Air volume (cfm)</td>
<td>1250</td>
<td>1635</td>
<td>2185</td>
<td>2400</td>
<td>3135</td>
<td>4415</td>
</tr>
<tr>
<td>Temperature rise (degrees F)</td>
<td>65</td>
<td>62</td>
<td>56</td>
<td>68</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>Vent size (in. round)</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>No. of burners</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Gas piping size</td>
<td>Natural</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
<td>3/4</td>
</tr>
<tr>
<td>Gas piping size</td>
<td>LPG</td>
<td>1/2</td>
<td>1/2</td>
<td>3/4</td>
<td>3/4</td>
<td>3/4</td>
</tr>
</tbody>
</table>

Electrical characteristics: 120 volt, 60 hertz, 1 phase — All Models

B - Field Wiring

Line voltage connections are made at unit junction box. The transformer furnished with unit must be field installed. Thermostat connections are made directly to transformer.

C - Requirements

Installation of gas unit heaters must conform to local codes or in absence of local codes, with the National Fuel Gas Code (ANSI - Z223.1 - 1974).

III - UNIT COMPONENTS

1 - Combination Fan/Limit Control

The limit control is wired through the 120 volt circuit to...
de-energize the transformer at excessive unit temperature. On LF3-220, -275 & -330 models a secondary limit is wired in series to the other.

2 - Fan Motor
LF and LF3-110, -137 & -165 use a single fan. Larger models have two motors. All motors have overload protection.

3 - Air Shutters
Minor adjustments for flame lifting, burner noise, etc., may be necessary. Refer to Figure 3.

IV - SCHEMATIC WIRING DIAGRAM
OPERATING SEQUENCE
Figure 4 shows a typical LF3 sequence of operation.
1 - Line potential feeds through limit(s) to power transformer and provide the 24 volt control circuit.

2 - On a heating demand the thermostat heating bulb makes.

3 - This energizes the gas valve to ignite the main burners.

4 - The fan control makes after temperature rises above cut-in setpoint. This energizes the fan motor(s).

5 - As the heating demand is satisfied, the thermostat heating bulb breaks. This de-energizes the gas valve.

6 - The blower motor continues running until furnace temperature drops below fan control setpoint.

7 - If optional summer fan switch is used, the fan control can be by-passed to operate fan motors.