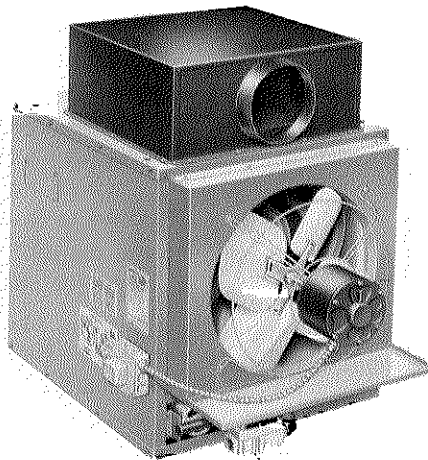


LENNOX®

GAS FIRED UNIT HEATERS LF3E SERIES — HORIZONTAL 110,000 to 330,000 Btuh Input

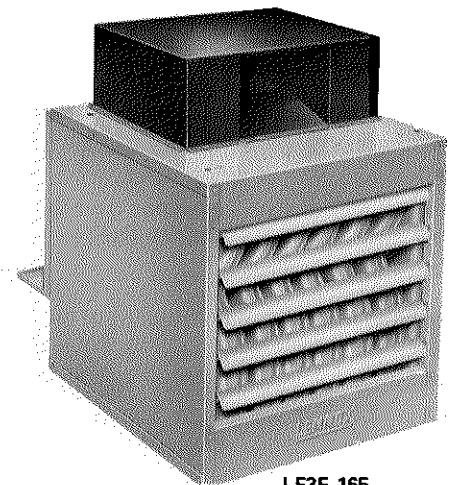


- DURACURVE® Heat Exchanger
- Electronic POWERLITE™ Pilot Ignition
- Space Saving Installations
- Minimum Installation Costs
- Factory Assembled and Wired
- Several Sizes Available
- Cold Rolled Steel Heat Exchanger
- Durable Cabinet
- Electro-bonded Paint Finish
- Efficient Steel Burners
- Adjustable Discharge Louvers
- A.G.A. Certified



LF3E-165

(LF3E-220, LF3E-275 and LF3E-330 models are equipped with dual fans.)



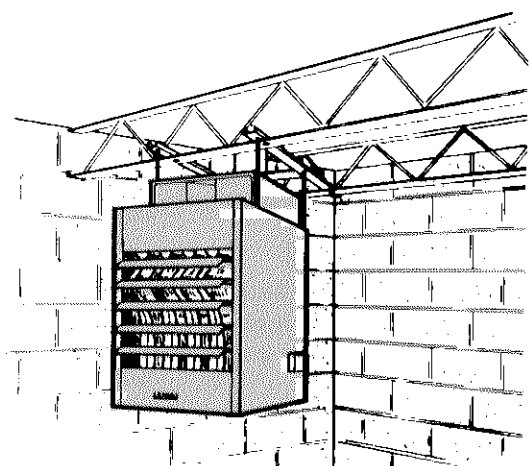
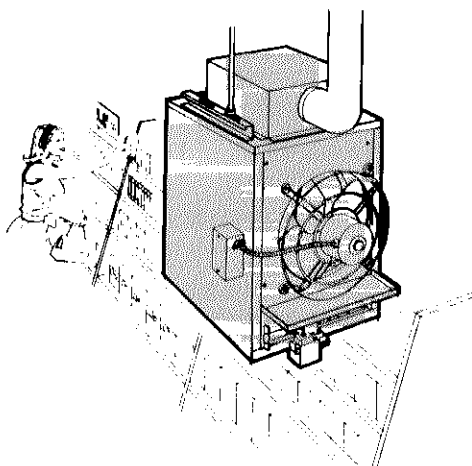
LF3E-165

Efficient Unit Heater Line Features Energy Saving Intermittent Ignition System And Minimum Installation Cost

Lennox gas fired horizontal unit heaters are designed for installation overhead, out of the way, thus saving valuable floor space. Compact construction and ease of installation make these overhead heaters a natural for economical, out of the way heating. Sturdily built for factory or warehouse, yet attractively designed for shopping centers, supermarkets or restaurants. Several sizes of unit heaters with a wide and varied range of heating capacities are available. Lennox has incorporated the famous DURACURVE heat exchanger into the unit heater line, assuring maximum heating efficiency and many years of service. Heavy gauge steel cabinet has an Electro-bonded paint finish for a durable

finish. Cabinet has provisions for suspending. Units are equipped with efficient and quiet operating direct drive fan(s). Adjustable discharge air louvers provide precise air control and diffusion. Silent gas controls provide 100% safety shut-off. POWERLITE electronic pilot ignition system provides positive ignition of pilot burner on furnace operating cycle. Pilot flame is on only during heating cycle. Units are shipped completely assembled (except for draft hood) with controls factory installed and wired. In addition, each unit is test operated at the factory to insure proper operation. Installer has only to locate unit, make flue, gas supply and electrical connections to complete a low cost installation.

Typical Applications



FEATURES

Lennox DURACURVE® Heat Exchanger — Lennox developed heat exchanger eliminates fatigue failure, ticking, resonance and cleanability problems. In the unique design of this heat exchanger the sides of the clam section form a flue restriction zone comprised of two concentric cylinders. As the sides grow they expand and move, but in the same direction and at the same rate. The result is perfect combustion, proper venting and absolute freedom of movement for the metal. Design of heat exchanger will allow cleaning with a flexible cleaning tool. Heavy gauge cold rolled steel construction provides long service life. Compact size permits low overall design of furnace cabinet and smooth lines give minimum resistance to air travel. Life cycle test insures long life of heat exchanger.

Steel Burners — Each burner has four rows of practically continuous ports which result in quiet and clean combustion. A crossover igniter of actual burner ports, perpendicular to the main burner, carries a positive flame from burner to burner to achieve fast and quiet ignition of multiple burners. Burners are readily accessible for service.

Rugged Cabinet — Constructed of heavy gauge cold rolled steel. Metal side panel liners and foil covered fiberglass insulation in bottom of cabinet keep outer cabinet surface temperatures low. Wiring junction box is conveniently located on outside of cabinet. Fan and limit control access cover in side panel provides complete access to controls. Four 3/8-16 spot nuts are located in top of cabinet for ease of suspension. Draft hood is shipped separate and must be field installed.

Cabinet Paint Process — The unit heater cabinet has a special "Electro-Deposition" process paint finish. Metal preparation consists of a special 6 station wash process. 1 — Spray application of a strong alkaline cleaner. 2 — Spray water rinse. 3 — Spray application of a corrosion resistant, paint bonding iron phosphate compound. 4 — Spray water rinse. 5 — Spray application of a chromic acid. 6 — Spray rinse with "de-ionized" water. After the final rinse the cabinet components enter a drying oven and are completely dried before receiving the paint finish. They are then completely submerged in the paint vat where the electroplating paint finish is applied. The paint solution and metal are given opposite electrical charges resulting in positive adhesion and even coverage of the paint to metal surfaces. This process completely covers the entire surfaces, inside and out, including the edges of assembly holes. After the paint process the finished cabinet components enter a high temperature oven where the Electro-bonded finish is baked on.

Direct Drive Fan(s) — Unit heaters are equipped with efficient and quiet operating direct drive fan(s). Fan motor has overload protection and is totally enclosed. LF3E-110, LF3E-137 and LF3E-165 use a single fan. LF3E-220, LF3E-275 and LF3E-330 have dual fans and motors.

Discharge Louvers — Adjustable horizontal louvers provide control of air direction and diffusion. Louvers are under spring tension preventing movement after being set in desired position.

Automatic Gas Controls & POWERLITE Pilot Ignition — Silent operating gas controls provide 100% safety shut off. 24 volt redundant combination gas control valve combines automatic safety pilot, pilot and bleed gas filtration, automatic electric valve (dual) and gas pressure regulation into a compact combination control. Additionally, manual main shut-off valve is included. Dual valve design provides double assurance of 100% close off of gas to the pilot and main burners on each heating cycle. Solid-state electronic direct spark igniter provides positive ignition of pilot burner on each operating cycle. Pilot gas is ignited and burns during each running cycle (intermittent pilot) of the furnace. Main burners and pilot gas are extinguished during the off cycle. This system permits main gas valve to open only when the main pilot burner is proven to be lit. Should a loss of flame occur the main valve closes and the pilot spark recurs immediately. Pilot ignition is a fully automatic operation on demand for heat.

Fan and Limit Controls — Factory installed and accurately located. Limit control provides protection against abnormal operating conditions and has fixed temperature setting. Two limit controls are furnished with the LF3E-220, LF3E-275 and LF3E-330 models. Fan control provides automatic fan operation.

Transformer — 24 volt transformer is furnished as standard. Field installed.

Approvals — Design is A.G.A. certified for use with natural gas.

Thermostat (Not Furnished) — Heating thermostat is optional equipment and must be ordered extra.

Fan Guard(s) (Optional) — Fan guard kits are available for field installation and must be ordered extra. The galvanized mesh screen provides maximum fan protection with minimal resistance to air flow.

Order Number:

LF3E-110—(LB-25798BA)	LF3E-220—(LB-25798BD)
LF3E-137—(LB-25798BB)	LF3E-275—(LB-25798BE)
LF3E-165—(LB-25798BC)	LF3E-330—(LB-25798BF)

Hanging Bracket Kit (Optional) — Field installed hanging bracket kit (LB-25981BA) is available for easy two point suspension of units. Kit includes (2) brackets equipped with 3/4" female pipe connection suspending points and necessary hardware for installing. Brackets mount to spot nuts provided on top of unit.

Power Venters (Optional) — Power venters are available for field installation and must be ordered extra.

LF3E-110 thru LF3E-275 models:

PV3-115-24 (volt) — (P-8-8519)
(4" flue connection)

Optional PV3 flue adapters (flue size and no.):

5" to 4" — (P-8-8515)	7" to 4" — (P-8-8517)
6" to 4" — (P-8-8516)	8" to 4" — (P-8-8518)

LF3E-330 models:

PV4-115-24 (volt) — (P-8-8521)
(6" flue connection)

Flue adapter must be supplied by installer.

SPECIFICATIONS

Model No.	LF3E-110	LF3E-137	LF3E-165	LF3E-220	LF3E-275	LF3E-330
Heating Capacity Input (Btuh)	110,000	137,000	165,000	220,000	275,000	330,000
Heating Capacity Output (Btuh)	85,800	106,800	128,700	171,600	214,500	260,700
A.G.A. Thermal Efficiency	78.0%	78.0%	78.0%	78.0%	78.0%	79.0%
Fan diameter (in.)	14	16	18	(2) – 14	(2) – 16	(2) – 18
Fan motor hp	1/15	1/15	1/8	(2) – 1/15	(2) – 1/15	(2) – 1/8
Air volume (cfm)	1250	1635	2185	2400	3135	4415
Temperature rise (degrees F)	65	62	56	68	65	55
Flue size (in. round)	5	6	7	8	8	9
Gas piping size (in.) Natural	1/2	1/2	3/4	3/4	3/4	3/4
Shipping weight (lbs.)	160	183	209	265	313	361
*Number of packages	2	2	2	2	2	2
Electrical characteristics	120 volts, 60 hertz, 1 phase — All Models					

*Package 1 consists of assembled unit. Package 2 contains draft hood for field installation.

HIGH ALTITUDE DERATE

Units must be derated when installed at an elevation of 2000 feet or more above sea level. Table shows the derate manifold pressure for high altitude operation with natural gas. Operating the unit at manifold pressure specified will insure proper unit heat input at high altitude.

Elevation Above Sea Level (feet)	Manifold Pressure (in. wc)				
	†Heating Value (Btu/ft ³) Natural Gas				
	900	950	1000	1050	1100
Sea Level – 0	4.32	3.88	3.50	3.17	2.89
1000	4.32	3.88	3.50	3.17	2.89
2000	3.65	3.30	2.95	2.70	2.45
3000	3.35	3.00	2.70	2.45	2.25
4000	3.05	2.75	2.45	2.25	2.04
5000	2.77	2.48	2.25	2.05	1.85
6000	2.50	2.25	2.00	1.85	1.65

†Heating value is based on an atmospheric pressure of 30 inches mercury and temperature at 60°F. Consult your gas utility for the local natural gas heating value.
NOTE - This is the only permissible field derate for the units.

AIR THROW DATA

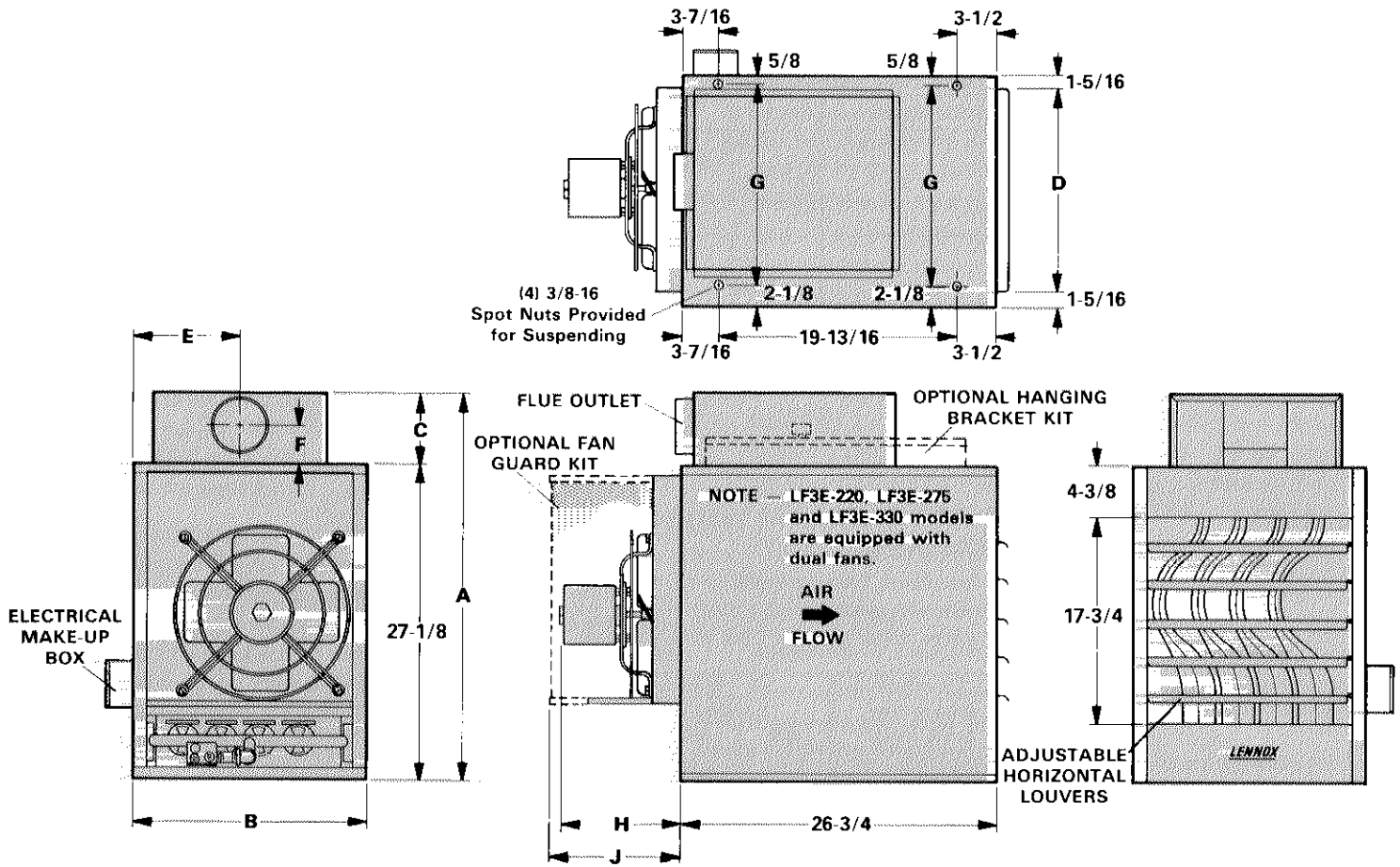
Model Number	Louver Position	Air Volume (cfm)	*Mounting Height 8' **Effective Throw In Feet
LF3E-110	45° Down	1250	40
LF3E-137	45° Down	1635	45
LF3E-165	45° Down	2185	55
LF3E-220	45° Down	2398	60
LF3E-275	45° Down	3135	65
LF3E-330	45° Down	4415	75

*Distance from floor to bottom of unit heater.

**Throw terminates where velocity reaches 50 fpm.

NOTE — By adjusting louvers a wide variation in throw and spread may be obtained.

DIMENSIONS (inches)



Model No.	A	B	C	D	E	F	G	H	J
LF3E-110	33-3/8	19-3/4	6-1/4	17-1/8	9-3/16	3-3/8	17	7-1/4	8-1/2
LF3E-137	34-3/8	22-7/8	7-1/4	20-1/4	10-3/4	3-5/8	20-1/8	9-1/8	10-7/8
LF3E-165	35-3/8	26	8-1/4	23-3/8	12-3/16	4-1/8	23-1/4	9-5/8	10-7/8
LF3E-220	36-3/8	32-1/4	9-1/4	29-5/8	15-5/16	4-5/8	29-1/2	8-3/4	9-13/16
LF3E-275	36-3/8	38-1/2	9-1/4	35-7/8	18-7/16	4-5/8	35-3/4	9-1/8	10-7/8
LF3E-330	37-3/8	44-3/4	10-1/4	42-1/8	21-9/16	5-1/8	42	9-5/8	10-7/8

INSTALLATION CLEARANCES TO COMBUSTIBLES

Four Sides	18 inches
Top	6 inches
Bottom	12 inches
Flue	6 inches