

# LENNOX®

## FORCED AIR ELECTRIC FURNACES E8 SERIES — UP-FLO 56,600 To 112,600 Btuh Output Add-On Cooling — 2 Thru 4 Nominal Tons

Canadian Edition  
ENGINEERING DATA

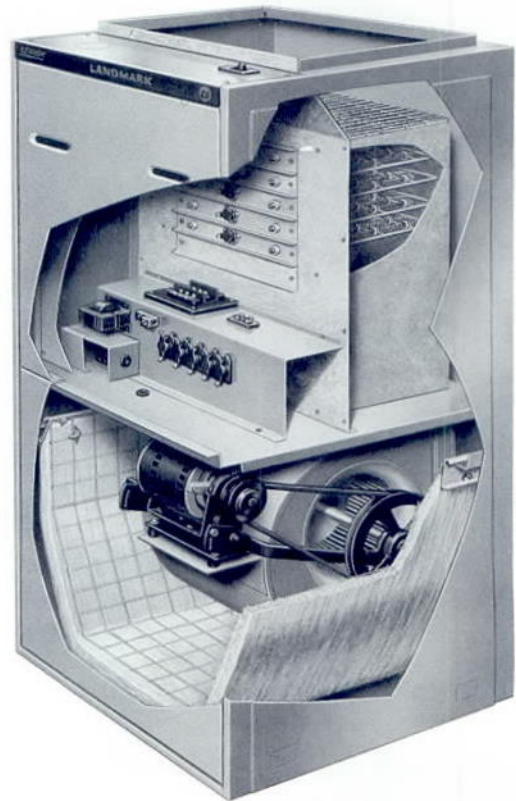
HEATING UNITS

ELECTRIC

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December 15, 1974

- Several Sizes Available
- Attractive Cabinet
- Powerful Belt Drive Blower
- Complete Service Access
- Optional Solid State Controls
- Add-On Cooling
- Large Hammock Filter
- Return Air Choice
- C.S.A. Certified

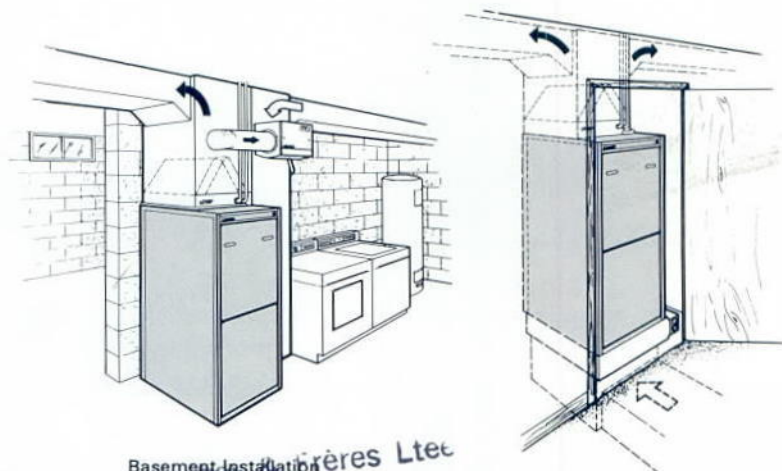


### Trim Appearance, Maximum Efficiency and Application Flexibility Featured in Up-Flo Electric Furnaces

The attractive cabinet design, low height and quiet operation of the Lennox E8 series electric furnaces permits installation in a recreation or family room, basement, utility room, alcove or closet. Several models and sizes are available with a wide range of heating capacities and air volumes. The furnace cabinet is trim and sheer looking with a finish of baked-on enamel. Die formed panels and doors have a durability and appearance unequalled. Complete service access and a choice of return air entry are provided in cabinet. A Lennox direct expansion evaporator unit with remote condensing unit, electronic air cleaner and automatic humidifier can be added to the electric furnace for a Total Comfort installation. Nichrome heating elements give long service life and efficient heating operation. Quiet operating blowers have sufficient capacity to handle add-on cooling air volume requirements. Units have been developed and thoroughly tested in the Lennox Research Laboratory. Furnaces are C.S.A. listed as certified. Blower data is from actual unit tests conducted in the Lennox Laboratory air test chamber. Each unit is test operated at the factory and shipped assembled with all controls mounted and prewired. Installer has only to mount thermostat, make duct and electrical connections to complete the job.



### Typical Applications



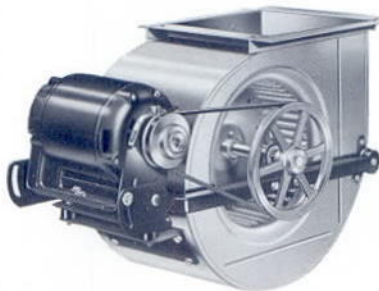
Basement Installation  
With cooling coil  
and power humidifier

Closet Installation  
With cooling coil and  
electronic air cleaner.

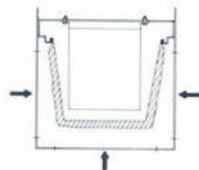
## FEATURES

**Rugged Trim Cabinet** — Constructed of heavy gauge cold rolled steel with a durable finish of baked-on enamel. Metal liner encases heating elements keeping outer cabinet surface temperatures low. Leveling bolts and nuts are furnished and holes are provided in base to level unit. Complete service access is accomplished by removing heating section door, element and control access panel and blower section door. Heating section door and blower section door are easily removed and replaced without the use of tools. Blower assembly and filter assembly may be slid completely out of unit for service. Electrical inlet knockouts are provided in left side panel and cabinet cap. Return air entry is possible in either side or bottom of cabinet. Matching add-on Lennox up-flo evaporator coils (2 thru 4 nominal tons) are available for all season applications.

**Sulky Blower** — Units are equipped with belt drive sulky blowers. All moving parts are mounted on a rigid steel frame secured to blower housing on resilient rubber mounts assuring quiet operation. Motor mount design allows easy belt adjustment and pulley alignment. Blower wheels are statically and dynamically balanced. Adjustable motor pulley permits various speed adjustments. Bearings are rubber enclosed, self aligning, solid bronze grooved and graphite filled. Large grease cups are furnished for lubrication.



**Large Air Filter** — Units are equipped with hammock wrap around type filter. Media is one inch thick oil impregnated fiberglass. Filter mounting rack design provides quick and simple replacement of media.



**CAC (Continuous Air Circulation) Switch** — Furnaces are equipped with a manual (ON-OFF) blower switch to give continuous blower operation. The switch is conveniently located on cabinet top near right front corner of the unit.

**Nichrome Heaters** — The helix wound nichrome bare wire heating elements are exposed directly in the air stream resulting in instant heat transfer, lower element temperatures and long service life. Element support frame is constructed of heavy gauge steel. Porcelain insulators are accurately located for proper element support and best heater operation. Elements may easily be removed from unit individually for service.

**Thermal Time Delay Relay** — Factory installed and wired on element and control vestibule panel. A relay is provided for each heating element. Relays bring the heating elements on and off the line, in sequence and equal increments, with a time delay between each element. In addition, relay initiates and stops blower operation simultaneous with element operation.

**Limit Controls** — Each heating element is equipped with a limit control with a fixed setting. Accurately located to give protection against abnormal operating conditions.

**Transformer** — 24 volt transformer is furnished as standard equipment and factory installed on the element and control vestibule panel.

**Thermostat (Not Furnished)** — Heating thermostat is optional equipment and must be ordered extra. For all season applications heating-cooling thermostat is furnished with the condensing unit.

**Blower Cooling Relay (Not Furnished)** — Relay is furnished with condensing unit. Relay activates blower for cooling operation.

**Deluxe Solid State Control System (Optional)** — A factory installed, wired and tested 100% solid state, step-modulating control system is available as an option. The control system consists of a wall mounted sensing thermostat and a control circuit board which mounts inside the electric furnace. The solid state thermostat senses room temperature and emits a signal proportional to the difference between the room air temperature and the thermostat setting. The circuit board inside the furnace interprets the signal and activates only as many elements as necessary to compensate for heat loss. A DC relay operates the heater elements, blower motor and cooling relay. The solid state control system eliminates fluctuations between "hot" and "cold." By using only the power consumption necessary to compensate for heat loss the result is a constant room temperature and heating economy.

**Fresh Air Inlet (Optional)** — Fresh air inlet provides entry of outdoor air into return air system of installation. Equipped with internal mesh screen. Connects to 6 inch round pipe. Order number BM-3632.

**Lennox Total Comfort System** — Consists of central furnace with the air mover, central air conditioning system, air filter and humidifier. Air is circulated through these units (also the proper amount of outdoor fresh air, if desired) where it is heated or cooled, cleaned by the air filter and humidity added (in summer humidity is removed). The air mover (blower) operates constantly, gently and quietly 24 hours a day. This constant air circulation keeps even room temperature and lowers operating costs by continually mixing and recirculating the air.

## SPECIFICATIONS

Model Number	E8-20 E8-25 E8-30
Blower wheel nominal diam. x width (in.)	12 x 12
Blower motor horsepower	1/3
Adj. motor pulley bore x diam. (in.)	1/2 x 3-1/4
Blower pulley bore x diam. (in.)	3/4 x 9
Rpm range with drives furnished	480-620
Belt length (in.) and section	44 — "A"
Net filter area (sq. ft.) & cut size (in.)	10.1 — 28 x 54 x 1
Tons of cooling that can be added	2, 2-1/2, 3 or 4
Electrical characteristics	208-240v/60hz/1ph
Net weight (lbs.) (1 pkg.)	165

## BLOWER DRIVES FOR ADDITIVE COOLING

Furnaces are shipped standard with heating drives selected for average heating applications. When additive cooling is desired a more powerful blower drive is required and may be selected from table below. Furnaces can be shipped with correct drive factory mounted. Specify tons of cooling required when ordering. If your design exceeds the capacity of cooling drives listed below, turn to Miscellaneous Engineering Data section for complete information on selecting high static drives. Refer to Blower Performance Charts.

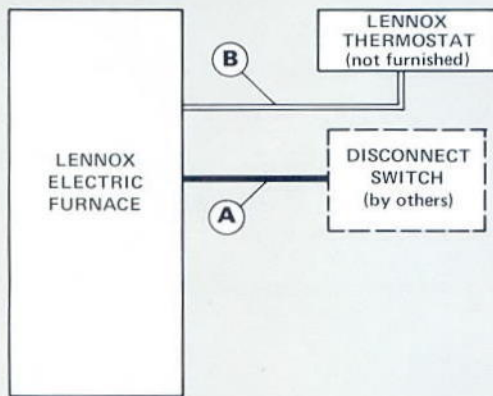
Furnace and additive cooling	Blower Pulley	Motor Pulley	Belt Length	*Rpm Range	Motor Hp
E8-20 2-1/2 tons	3/4 x 10	1/2 x 4-1/8	49" — "A"	485-655	1/3
E8-25 3 tons	3/4 x 9	5/8 x 4-1/8	51" — "A"	535-730	1/2
E8-30 4 tons	3/4 x 9	5/8 x 4-3/4	51" — "A"	650-840	3/4

## ELECTRICAL DATA

Model	No. of Elements	Volts Input	KW Input	Btuh Output	*Total Amps	**AWG Wire Size	Disconnect Size (Amps)	†Fuse Size (Amps)	Conduit Size
E8-20	4	208	16.6	56,600	90	3	125	125	1-1/4
		220	18.6	63,400	90	3	125	125	1-1/4
		230	20.2	68,800	95	3	125	125	1-1/4
		240	22.0	75,000	100	3	125	125	1-1/4
E8-25	5	208	20.7	70,500	110	2	150	150	1-1/4
		220	23.2	79,100	115	2	150	150	1-1/4
		230	25.3	86,300	120	1	150	150	1-1/2
		240	27.5	93,800	125	1	200	175	1-1/2
E8-30	6	208	24.8	84,600	130	0	200	175	2
		220	27.8	94,700	140	0	200	175	2
		230	30.4	103,800	145	0	200	200	2
		240	33.0	112,600	150	0	200	200	2

\*Includes maximum horsepower blower motor for high static.  
 \*\*Up to 100' of run using 75C copper conductors. Local codes take precedence.  
 †Use fuse type D or HRC.

### FIELD WIRING

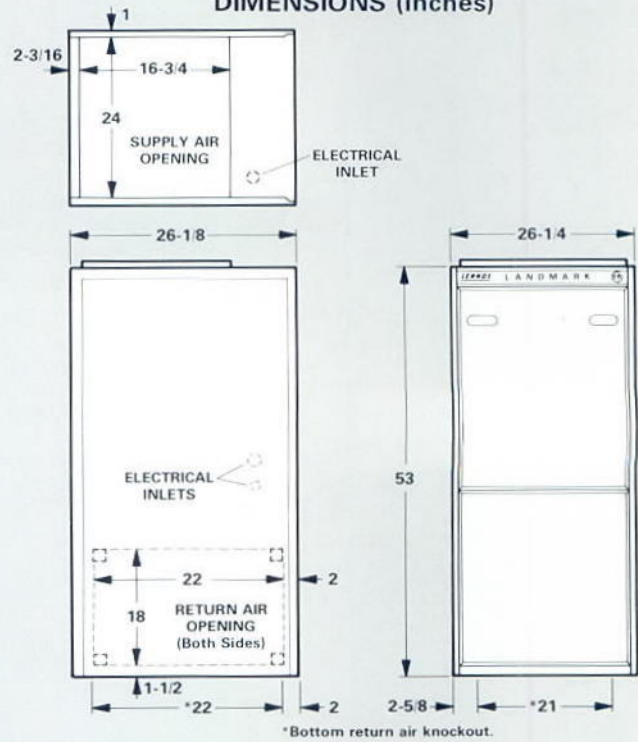


A — Two wire power supply (not furnished).  
 See Electrical Data for size.

B — Two wire low voltage (not furnished) — 18 ga. minimum.

NOTE — All wiring must conform to CEC and local electrical codes.

### DIMENSIONS (inches)



**Climate Control & Freres Ltd.**

### C.S.A. INSTALLATION CLEARANCES

Sides, Rear, Top & Front of Cabinet	0 inches
Floor	Combustible
Plenum & warm air duct within 4' of cabinet	1 inch

### BLOWER DATA

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT (Inches Water Gauge)											
	0	.10	.20	.30	.40	.50	.60	.70	.80	.90		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
800	---	---	480	.12	550	.17	615	.23	670	.29	725	.34
900	---	---	500	.14	570	.20	630	.26	685	.32	740	.38
1000	---	---	440	.10	520	.17	590	.23	650	.30	705	.36
1100	---	---	465	.14	540	.20	610	.27	665	.33	725	.40
1200	---	---	490	.17	565	.24	630	.31	685	.37	740	.44
1300	430	.13	515	.20	585	.27	650	.35	710	.42	765	.50
1400	460	.17	540	.24	615	.32	675	.40	730	.47	780	.55
1500	490	.21	570	.29	640	.37	695	.44	755	.53	800	.61
1600	525	.26	600	.35	665	.43	725	.50	775	.59	825	.67
1700	555	.31	630	.40	690	.48	745	.57	795	.65	845	.74
1800	590	.38	660	.47	715	.54	770	.64	820	.73	---	---
1900	630	.45	685	.52	740	.62	795	.71	---	---	---	---
2000	660	.52	715	.60	770	.70	---	---	---	---	---	---

NOTE — All cfm data is measured external to unit with the air filter in place.