

ES4 SERIES
MULTI-POSITION ELECTRIC FURNACES
10.0 to 25.0 kW Electric Heat Output
1.5 to 2.5 Tons (5.3 to 8.8 kW) Add-on Cooling

ES4

Bulletin #485000

July 1997

Supersedes December 15, 1982



FEATURES

Applications

- 10 to 25 kW nominal sizes.
- Up-flow, down-flow or horizontal (right or left hand air discharge) applications.

Warranty

- Heating elements have a full ten year limited warranty. All other covered components have a full one year warranty.
- Refer to Lennox Limited Warranty Certificate included with each unit for additional details.

Tested and Approved

- Units are C.S.A. certified and components within are bonded for grounding to meet CEC safety standards.
- Blower performance data according to unit tests conducted in laboratory air test chamber.
- Units are shipped completely pre-wired and assembled.

Electric Heaters

- Available in four kW sizes. See Electric Heat tables.
- Helix wound nichrome heating elements exposed directly in air stream resulting in instant heat transfer, low element temperatures and long service life.
- Element support frame constructed of heavy gauge steel.
- Porcelain insulators are accurately located for proper element support.
- Elements may be removed from unit individually for servicing.
- Each element equipped with accurately located limit control with fixed temperature off setting and automatic reset.
- Thermal sequencer relay brings elements on and off line, in sequence and equal increments, with time delay between each. Initiates and terminates blower operation.
- Factory assembled with controls installed and wired.

Controls

- Heavy duty terminal block is provided for power supply connection.
- Separate low voltage junction box with terminal strip is provided for low voltage field connections.
- 24V control transformer is factory installed and wired.
- Manual blower switch provided for continuous blower operation.

Cabinet

- Constructed of heavy gauge steel with baked on enamel finish.
- Metal liner encases heating elements keeping cabinet surface temperatures low.
- Removable panels provide complete service access.
- Return air entry either side or bottom (up-flow position).
- Electrical inlets provided in sides of cabinet. See dimension drawings for locations.

Direct Drive Blower

- Lennox designed direct drive blower.
- Statically and dynamically balanced before installation in unit.
- Resiliently mounted multi-speed motor.
- Choice of blower speeds. See blower performance tables.
- Speed changes easily accomplished by a simple wiring change.
- Blower easily removed from cabinet for servicing.

Air Filter

- □Hammock□ type filter provides large dirt holding capacity and allows a tight seal against cabinet panels.
- Easily accessible for servicing and media replacement.
- See Specifications table for size.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

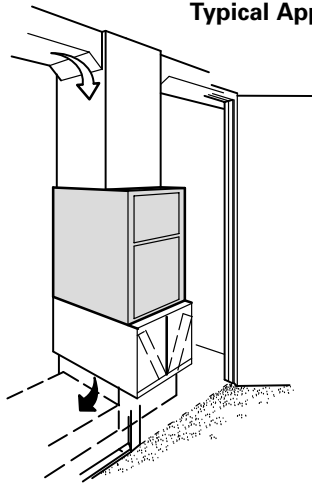
Thermostat (Optional)

- Thermostat not furnished with unit. See Thermostats bulletin in Thermostat and Controls Section and Lennox Price Book.

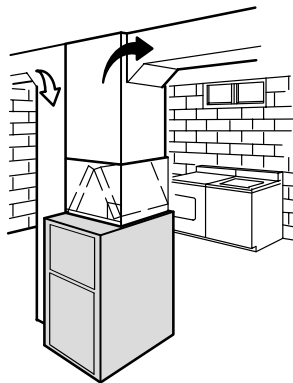
Outdoor Thermostat (Optional)

- Outdoor thermostat can be used to lock out some electric heating elements on indoor units where two stage control is applicable.
- Outdoor thermostat maintains heating load on low power input as long as possible before allowing full power load to come on line.
- Thermostat kit LB-29740BA (56A87) and mounting box M-10260 (33A09), must be ordered extra.

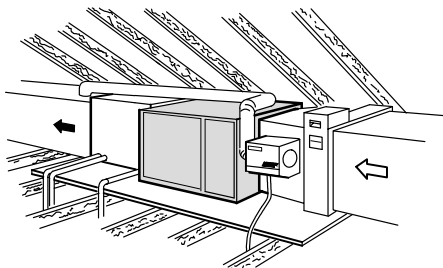
Typical Applications



Down-Flow Closet Installation
With Cooling Coil



Up-Flow Utility Room Installation
With Cooling Coil



Horizontal Attic Installation
With Cooling Coil, Electronic Air Cleaner
and Automatic Humidifier

SPECIFICATIONS

Model Number	ES4-10	ES4-15	ES4-20	ES4-25
Heating Capacity - kW (Btuh)	10 (34,100)	15 (51,200)	20 (68,300)	25 (85,300)
Blower wheel nominal diameter x width □ in. (mm)	9 x 7 (229 x 178)			
Blower motor output □ hp (W)	1/4 (187)			
Filter Hammock type fiberglass	Cut Size - in. (mm)			44 x 22 x 1 (1118 x 559 x 25)
	Net Area - sq. ft. (m ²)			5.68 (0.53)
Nominal cooling capacity that can be added □ tons (kW)	1.5, 2 and 2.5 tons (5.3, 7.0 and 8.8 kW)			
Electrical characteristics (60hz)	208/240v - 1 phase			
Shipping weight □ lbs. (kg) 1 package	115 (52)			

BLOWER DATA

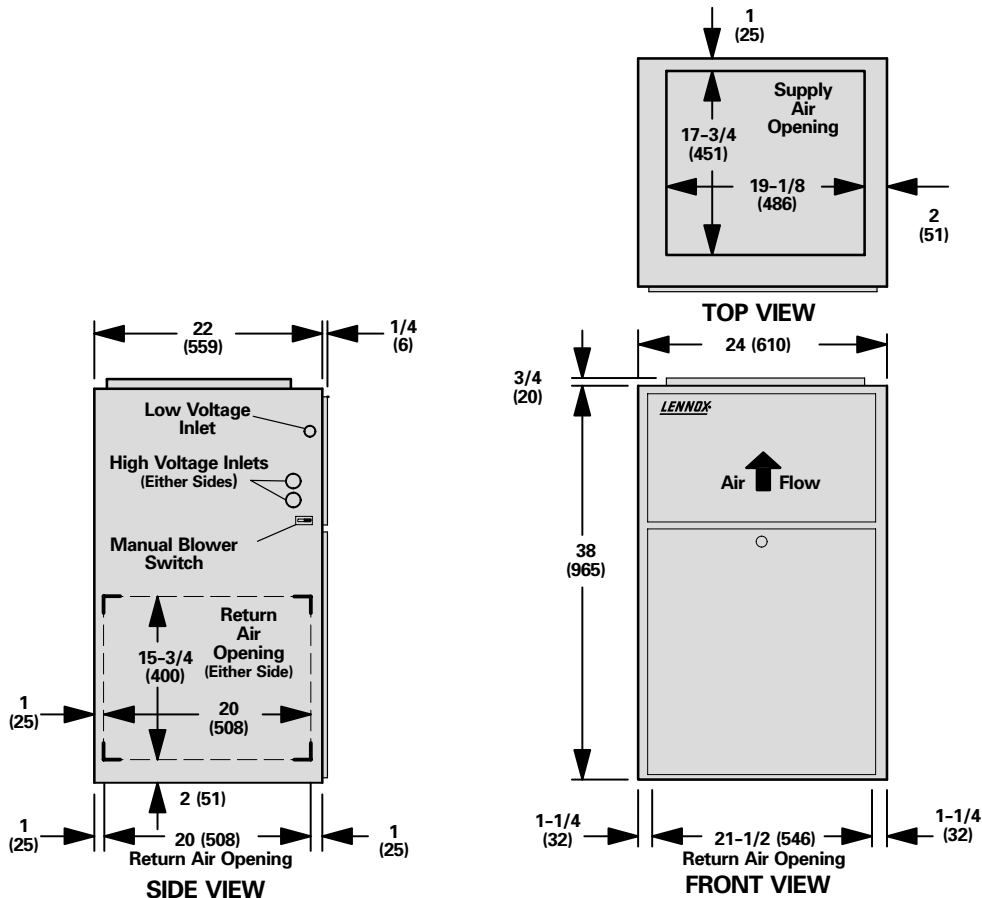
External Static Pressure		Air Volume at Specific Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.00	0	1230	580	900	425	630	300
.10	25	1210	570	890	420	625	295
.20	50	1185	560	885	420	620	295
.30	75	1140	540	880	415	615	290
.40	100	1100	520	870	410	600	285
.50	125	1040	490	850	400	580	275
.60	150	960	455	790	375	540	255
.70	175	860	405	710	335	460	215

NOTE □ All air data is measured external to unit with air filter in place.

INSTALLATION CLEARANCES - inches (mm)

Cabinet	0 inch (0 mm)
Plenum and warm air duct within 4 feet (1.2 m) of cabinet	1 inch (25 mm)
Floor	Combustible
Service at front of unit	24 inch (610 mm)

DIMENSIONS - inches (mm)



ELECTRIC HEAT DATA

Model Number	Number of Steps	Volts Input	kW Input	Btuh Input	†Minimum Circuit Ampacity	Maximum Fuse Size
↙ 208/230v-1 ph ↘						
ES4-10	2	208	7.5	25,600	40	50
		220	8.4	28,600	48	60
		230	9.2	31,400	48	60
		240	10.0	34,100	48	60
ES4-15	3	208	11.3	38,500	64	80
		220	12.6	43,000	64	80
		230	13.8	47,100	64	80
		240	15.0	51,200	72	90
ES4-20	4	208	15.0	51,200	80	100
		220	16.8	57,300	80	100
		230	18.4	62,800	88	110
		240	20.0	68,200	88	110
ES4-25	5	208	18.8	64,100	100	125
		220	21.0	71,700	100	125
		230	23.0	78,500	120	150
		240	25.0	85,300	120	150

†Refer to or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements. Use wires suitable for at least 167°F (75°C).