



**RESIDENTIAL  
PRODUCT SPECIFICATIONS**

**OIL FURNACES**

**ELO183UF**

**ELITE® SERIES**

**Upflow - 60 Hz**

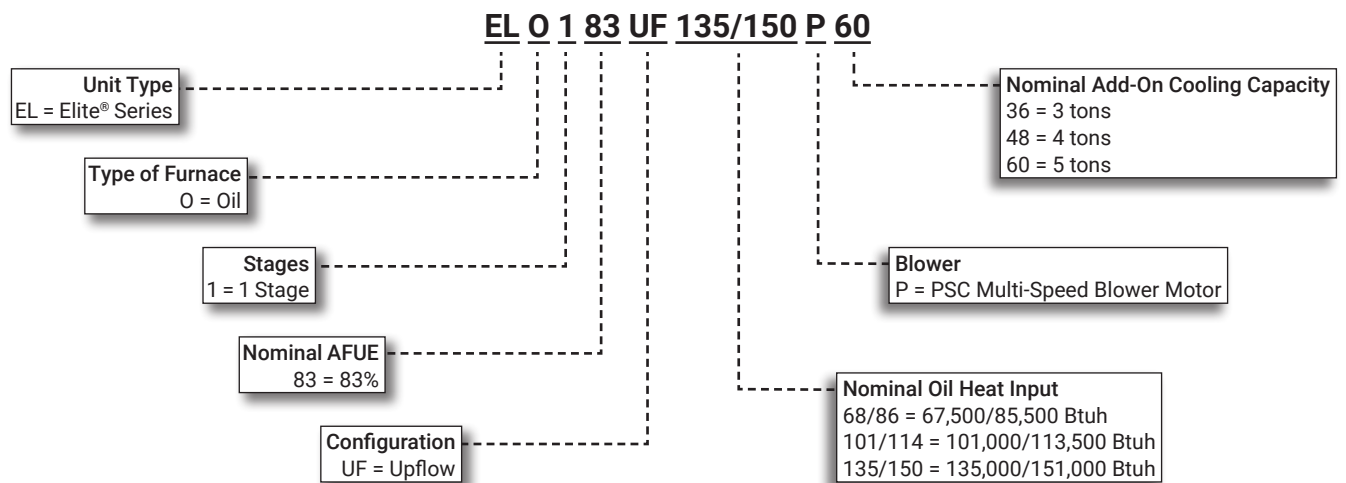
Bulletin No. 210628  
May 2020  
Supersedes February 2019

**ELITE®  
SERIES**



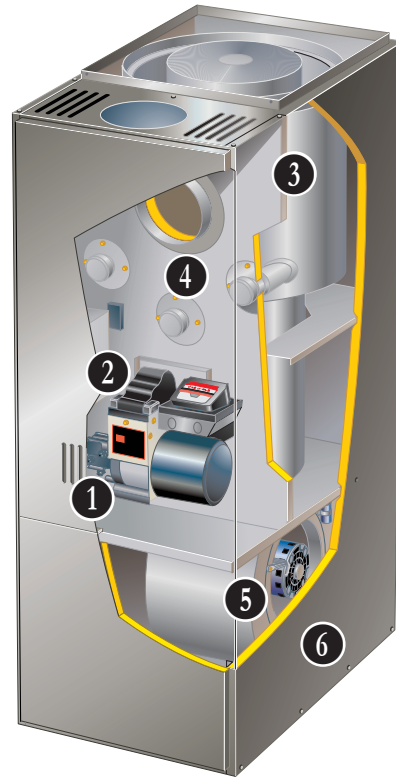
**AFUE - Up to 84%**  
**Heating Input - 67,500 to 151,000 Btuh**  
**Nominal Add-on Cooling - 1.5 to 5 Ton**

**MODEL NUMBER IDENTIFICATION**



## FEATURE HIGHLIGHTS

1. Beckett™ Flame-Retention AFG Oil Burner
2. Advanced Burner Control
3. EZ Clean Heat Exchanger
4. Strategically Placed Cleaning Ports
5. Four-Speed Direct Drive Blower
6. Heavy Gauge Steel Cabinet



## CONTENTS

Approvals And Warranty . . . . .	3
Blower Data . . . . .	6
Dimensions . . . . .	7
Features . . . . .	3
Installation Clearances . . . . .	5
Optional Accessories - Order Separately . . . . .	5
Specifications . . . . .	5

## APPROVALS AND WARRANTY

### APPROVALS

- AHRI Certified
- ETL-Intertek listed
- Tested and rated according to US DOE test procedures and FTC labeling regulations
- Oil furnaces comply with US DOE Fan Efficiency Rating (FER) regulations

### WARRANTY

- Heat Exchanger:
  - Limited lifetime (twenty year transferable) in residential applications
  - Limited ten years in non-residential applications
- Oil Burner and all other covered components:
  - Limited five years in residential installations
  - Limited one year in non-residential installations

**NOTE** - Refer to Lennox Equipment Limited Warranty certificate included with unit for specific details.

## FEATURES

### APPLICATIONS

- Compact cabinet
- Approved for reduced clearances to combustibles
- Lennox add-on indoor coils, high-efficiency air cleaners and humidifiers can easily be added to furnace
- Shipped factory assembled including the oil burner, with all controls installed and wired
- Factory test operated to ensure proper operation
- Features side or bottom return air entry

### HEATING SYSTEM

#### 1 Beckett™ Flame-Retention AFG Oil Burner

- Smooth operating, high-pressure atomizing type burner blends oil and air to attain maximum efficiency
- Heavy duty motor drives quiet operating blower wheel and fuel pump
- Air turbo injector directs combustion air for smooth ignition
- Flame retention head is designed to agitate and mix oil and air for complete combustion and highest efficiency
- 120VAC primary safety control and ceramic glazed electrodes which provide a safe continuous flame
- Factory installed cadmium sulfide cell flame detector and primary safety control that provides complete shutdown in case of flame failure
- All burner parts are easily removable for servicing
- Burner is U.L. approved, C.S.A. certified and certified according to ANSI Standard 296.6
- Burner is factory installed in the unit, wired and fire tested

**NOTE** - Units are shipped for lower heating capacity operation.  
Nozzle must be field provided for field conversion to higher heating capacity.

#### 2 Advanced Burner Control



- 120 VAC primary safety control
- Controls the oil burner motor and igniter
- Control features:
  - Welded Relay Protection
  - Limited Reset and Limited Recycle
  - Reset Button - Resets burner if a restricted lockout is present
  - Three Status Lights for System Monitoring and Diagnostics:
    - **Yellow** - Pump Prime Mode
    - **Green** - Flame sensing (flashing = 60 second recycle)
    - **Red** - Restricted Lockout (flashing = Soft lockout) "Strike three" lockout protection to avoid nuisance calls
  - Valve-On Delay / Motor-Off Delay
  - Lockout Time - 15 Seconds
  - Interrupted or Intermittent Duty Ignition
  - Technician Pump Priming Mode
  - Disable Function

## FEATURES

### HEATING SYSTEM (continued)

- 3 • **EZ Clean Heat Exchanger**
  - Streamlined drum type heat exchanger exposes maximum surface area to the air stream with minimum air resistance
  - Constructed of heavy gauge steel for maximum service life
- 4 • Strategically placed ports allow easy cleaning
- Heavy gauge mounting channels are provided in cabinet base for support of heat exchanger

#### **Combustion Chamber**

- Specially designed alumina silica ceramic fiber combustion chamber
- Combustion chamber can withstand temperatures of up to 2550°F resulting in more complete combustion and higher efficiencies

#### **Flame Inspection Tube**

- Conveniently located at the front of the unit.
- Opening is large enough for normal inspection mirror

#### **Barometric Draft Control**

- Furnished as standard equipment
- Field installed in flue pipe

#### **Optional Accessories**

##### **Combustion Air Boot**

- Provides 4 in. air inlet connection to burner for outdoor combustion air
- Damper furnished for installation in air inlet pipe for adjustment

##### **Oil Filter**

- Recommended for proper oil filtration
- See Specifications table for order number

##### **Two-Stage Oil Pump**

- See Specifications table for order number

### BLOWER

- 5 • Quiet, four-speed, direct drive blower
- PSC motor is statically and dynamically balanced, resiliently mounted and has integral overload protection
- Blower assembly easily removed for servicing
- A choice of blower speeds is available
- See blower data tables
- Change in blower speed with simple wiring change

### CABINET

- 6 • Heavy gauge steel
- Pre-painted, textured finish
- Entire heating section is lined with foil faced fiberglass insulation keeping cabinet surface temperatures low
- Large blower access door for complete service access to blower
- Blower compartment is completely insulated
- Return air entry on either side or bottom of cabinet
- Removal of louvered heating section door allows access to oil burner, inspection door and control compartment
- Door is equipped with handhold for ease of removal
- Control compartment is totally enclosed to provide a safe, compact and clean area
- Oil line and electrical inlet openings are provided in sides of cabinet, see dimension drawing

#### **Flue Outlet**

- Flue outlet is located on top of cabinet and can be relocated to either side of cabinet
- See dimension drawing

#### **Air Filter (Not Furnished)**

- Air filter and provisions for mounting are not furnished and must be field provided

### CONTROLS

#### **Transformer and Terminal Strip**

- 24 volt (40VA) control transformer and terminal strip furnished as standard and factory installed

#### **Fan and Limit Control**

- Factory installed on vestibule panel
- Time-start fan control assures proper blower operation
- Adjustable blower off temperature setting
- Control turns blower on 60 to 90 seconds after thermostat demand
- Limit control has fixed temperature setting
- Protects unit from abnormal operating conditions

#### **Blower Cooling Relay**

- Furnished with the unit and factory installed on the wiring junction box
- Relay activates blower operation during cooling cycle

#### **Optional Accessories**

##### **Thermostat**

- Thermostat (programmable/non-programmable) is not furnished with unit
- See Thermostat bulletins in Controls Section and Lennox Price Book for selection

## SPECIFICATIONS

		Model Number	ELO183UF68/86P36	ELO183UF101/114P48	ELO183UF135/150P60
<b>Oil Heating Performance</b>	Input - Btuh	Low Fire	67,500	101,000	135,000
		<sup>1</sup> High Fire	85,500	113,500	151,000
	Output - Btuh	Low Fire	57,000	84,000	113,000
		<sup>1</sup> High Fire	72,000	95,000	126,000
		<sup>2</sup> AFUE	84%	83%	83%
		Flue Size Diameter - in.	6	6	6
	Temperature rise range	50 - 80°F	50 - 80°F	55 - 85°F	
<b>Oil Burner</b>	Nozzle rating - US gph	Low Fire	.50	.65	.85
		<sup>1</sup> High Fire	.65	.75	1.00
	Nozzle spray angle	Low Fire	80° hollow	80° solid	80° solid
		<sup>1</sup> High Fire	80° solid	80° solid	80° solid
		Oil Burner Pump	1 Stage	1 Stage	1 Stage
		Oil Burner Pump Pressure - psig	100	140	140
	Air Inlet Connection (diameter) - in.	4	4	4	
<b>Indoor Blower</b>	Blower Motor Output - hp	1/2	1/2	3/4	
	Nominal add-on cooling - Tons	2 thru 3	2.5 thru 4	3 to 5	
	Blower wheel nom. diameter x width - in.	10 x 8	10 x 10	12 x 11	
<b>Shipping weight - lbs. 1 package</b>			230	250	270
<b>Electrical</b>	Characteristics		120V-60hz-1ph	120V-60hz-1ph	120V-60hz-1ph
	Maximum Overcurrent Protection (amps)		15	15	15

## OPTIONAL ACCESSORIES - ORDER SEPARATELY

<b>Combustion Air Boot (4 in. diameter)</b>		<b>83W32</b>	<b>83W32</b>	<b>83W32</b>
<b>Oil Filters</b>	10 micron with mounting bracket	<b>53P92</b>	<b>53P92</b>	<b>53P92</b>
	Filter restriction indicator gauge	<b>53P90</b>	<b>53P90</b>	<b>53P90</b>
<b>Two-Stage Oil Pump</b>	with solenoid	<b>71M18</b>	<b>71M18</b>	<b>71M18</b>

<sup>1</sup> Nozzle must be field provided for field conversion to higher heating input.

<sup>2</sup> Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.

## INSTALLATION CLEARANCES

Approved for closet or alcove installation. When installing in a confined space, two ventilation openings must be provided into the the space; one 6 in. (152 mm) from the top and one 6 in. (152 mm) from the bottom. Each opening should be 8 x 16 in. (203 x 406 mm).

Top of Cabinet	2 in.	51 mm
Sides & Rear of Cabinet	0 in.	0 mm
Front of Cabinet	4 in.	102 mm
Service Clearance (Front)	24 in.	610 mm
Top of Plenum	2 in.	51 mm
Sides of Plenum	3 in.	76 mm
Horizontal Warm Air Duct within 3 feet (1 m) of furnace	2 in.	51 mm
Flue Pipe Vertical or Horizontal	6 in.	152 mm
Floor	Combustible	Combustible

## BLOWER DATA

### ELO183UF68/86P36 BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium - High	Medium	Low
.20	1410	1260	1040	885
.30	1355	1215	1025	880
.40	1300	1170	990	850
.50	1220	1120	960	830
.60	1155	1060	910	785
.70	1075	990	860	740
.80	990	915	790	680
.90	890	800	680	605

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

### ELO183UF101/114P48 BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium - High	Medium	Low
.20	1755	1445	1190	990
.30	1695	1425	1180	980
.40	1640	1400	1145	960
.50	1590	1335	1110	925
.60	1495	1285	1055	880
.70	1360	1200	985	835
.80	1250	1065	895	775
.90	1095	965	825	690

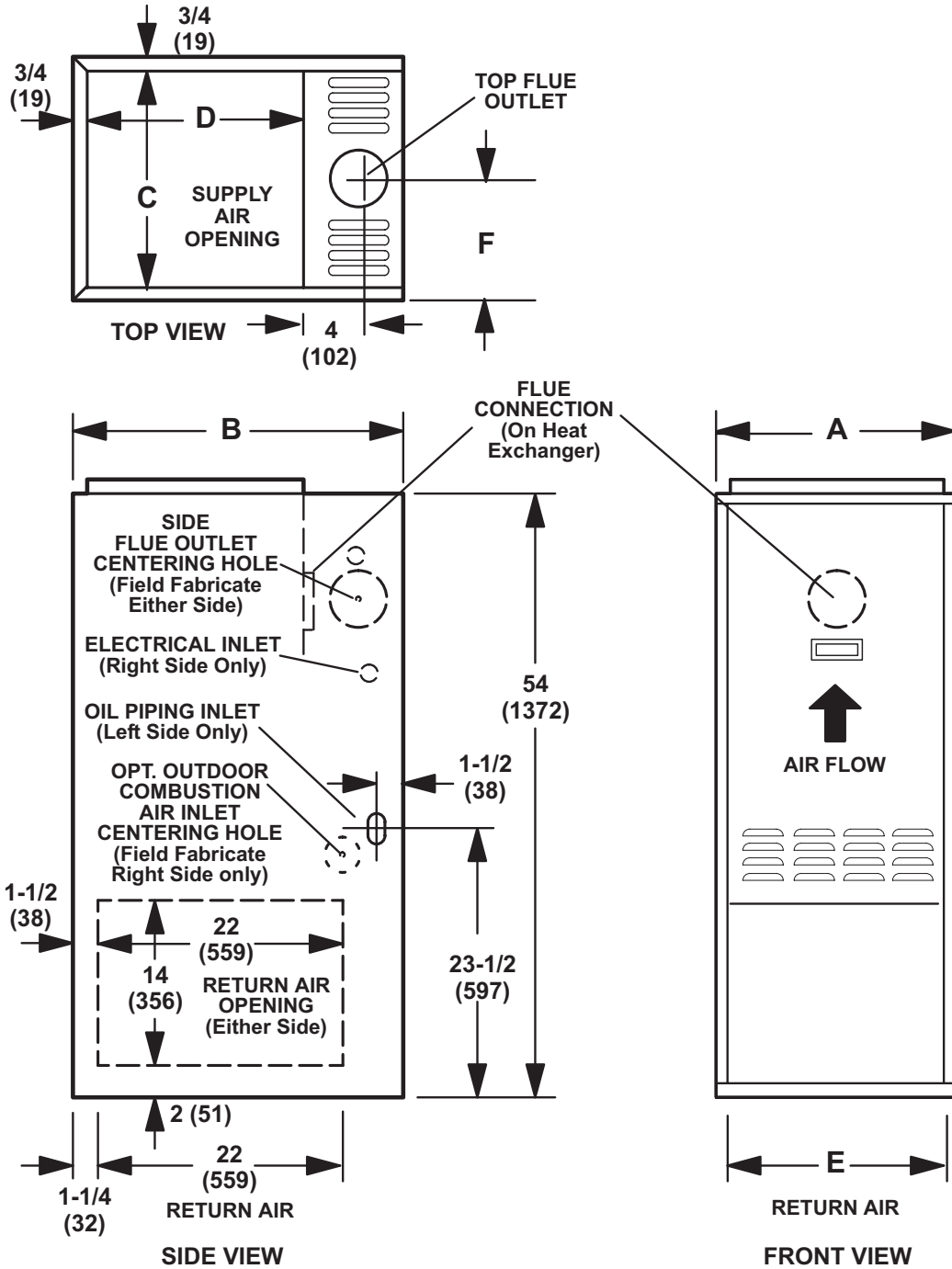
NOTE - All air data is measured external to the unit with the air filter in place.

### ELO183UF135/150P60 BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium - High	Medium	Low
.20	2090	1835	1630	1425
.30	1995	1785	1615	1390
.40	1940	1725	1560	1375
.50	1835	1660	1500	1335
.60	1760	1595	1460	1300
.70	1665	1525	1385	1240
.80	1570	1440	1310	1165
.90	1480	1345	1240	1110

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

# DIMENSIONS



Model No.	A		B		C		D		E		F	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
ELO183UF68/86P36 ELO183UF101/114P48	19-1/2	495	30-5/8	778	18	457	19-5/8	498	16	406	9-3/4	248
ELO183UF135/150P60	22-1/2	572	33-1/8	841	21	533	22-1/8	562	18	457	11-1/4	286

## REVISIONS

Sections	Description of Change
Approvals	Added US DOE Fan Efficiency Rating (FER) regulations approval.



Visit us at [www.lennox.com](http://www.lennox.com)

For the latest technical information, [www.LennoxPros.com](http://www.LennoxPros.com)

Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury. Installation and service must be performed by a qualified installer and servicing agency.

©2020 Lennox Industries, Inc.