



PRODUCT SPECIFICATIONS

OIL FURNACES

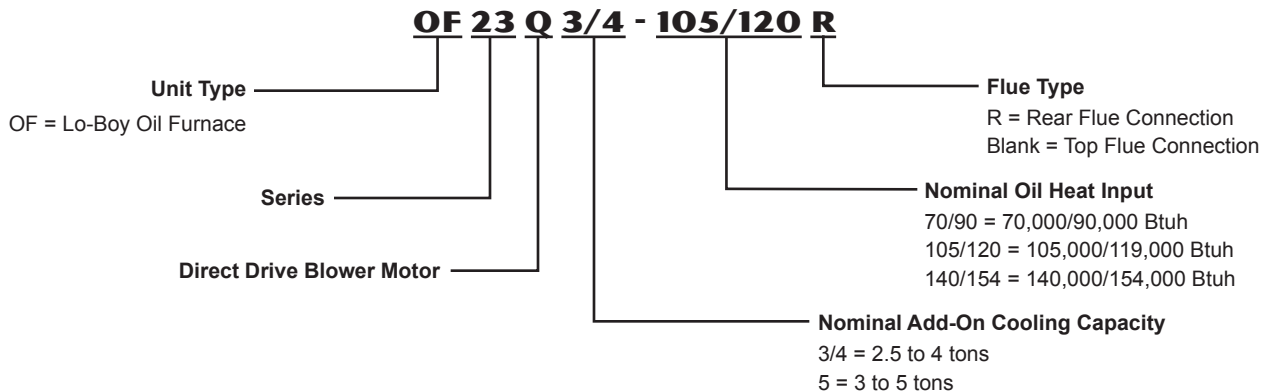
**OF23
ELITE® SERIES
Lo-Boy**

Bulletin No. 210096
August 2010
Supersedes August 2008



AFUE - Up to 81%
Heating Input - 105,000 to 210,000 Btuh
Nominal Add-on Cooling - 2.5 to 5 Tons

MODEL NUMBER IDENTIFICATION



FEATURES

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EQUIPMENT WARRANTY

Heat exchanger - Limited lifetime warranty in residential applications.

Oil burners and all other covered components - Five year limited warranty in residential applications.

Refer to the Lennox Equipment Limited Warranty certificate included with the equipment for details.

APPROVALS

Units have been rated and tested according to U.S. Department of Energy (DOE) test procedures and Federal Trade Commission (FTC) labeling regulations.

Units are certified by AHRI.

Units are ETL/Intertek listed.

Developed in accordance with ISO 9001 quality standards.

APPLICATIONS

Lennox OF23 series lo-boy oil furnaces are applicable to residential or commercial applications.

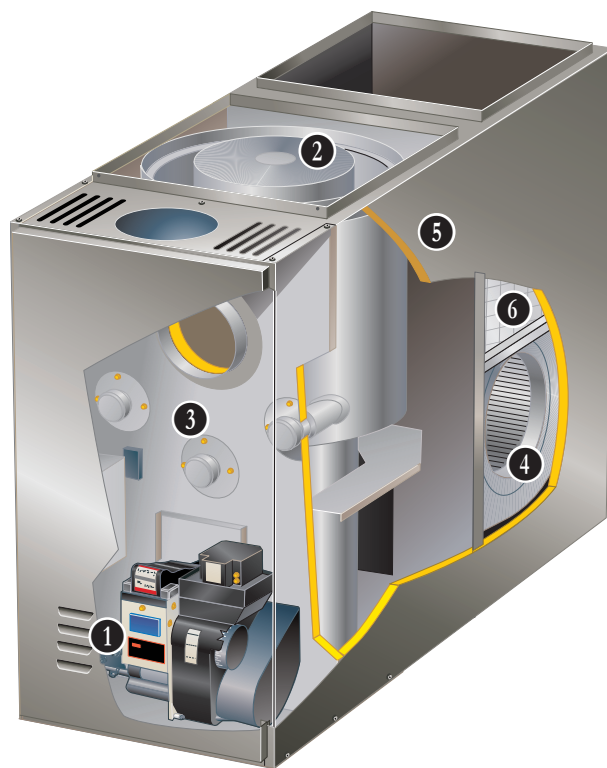
Lennox indoor units matched with high-efficiency air conditioners, air cleaners and humidifiers can be added to the lo-boy units.

Large front and rear doors provide complete service access.

Blowers have sufficient capacity to handle cooling air volume requirements.

Heat exchanger and high-performance oil burner combine to provide maximum efficiency.

Units are shipped completely assembled ready for installation.



HEATING SYSTEM

1 Beckett Flame-Retention 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.

Burner design features 4 in. connection to air inlet for optional outdoor combustion air.

Oil pump located on opposite side of air inlet to prevent any dirt accumulation from inlet air.

Burner has 14,000 volt ignition transformer and ceramic glazed electrodes which provide a safe continuous flame.

Equipped with a 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. Units are shipped for lower heating capacity operation.

Nozzle must be field provided for field conversion to higher heating capacity.

FEATURES

HEATING SYSTEM (CONTINUED)

2 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.

3 Strategically placed ports allow easy cleaning.

Heavy gauge mounting channels are provided in cabinet base for support of heat exchanger.

Combustion Chamber

All models have a factory installed, 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 and field installed in flue pipe.

OPTIONS

Oil Filter

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

Two Stage Oil Pump

Two stage oil pump is available.

See Specifications table for order number.

CONTROLS

Electronic Fan Timer Control

Furnished and factory installed in control box.

Contains necessary controls to operate furnace.

Fan control consists of adjustable blower timed-off delay (60, 90, 120, 150 seconds) and fixed blower timed-on delay (30 seconds).

For air-conditioning applications, blower is automatically energized on thermostat demand for cooling.

Also included is a low voltage terminal strip for thermostat connections.

Terminal connections are available with additional power supply requirements for 120 volt (less than 4 amps) electronic air cleaners and humidifiers.

Continuous indoor air circulation terminal is also available as an option.

Limit Control

Factory installed on vestibule panel.

Control has fixed temperature setting and protects unit from abnormal operating conditions.

Transformer

24 volt (40VA) control transformer with circuit breaker is furnished as standard and factory installed.

OPTIONS

Thermostat

See Thermostat bulletins in Controls section and Lennox Price Book.

BLOWER

4 Units are equipped with quiet, four-speed, direct drive blowers.

Each blower assembly is statically and dynamically balanced.

Multiple-speed motor is resiliently mounted.

A choice of blower speeds is available on each blower.

See blower data tables.

Change in blower speed is easily accomplished by simple wiring change

CABINET

5 Constructed of heavy gauge steel with a pre-painted, textured finish.

Entire heating section is lined with foil faced fiberglass insulation keeping cabinet surface temperatures low.

Removal of louvered heating section door allows access to oil burner, inspection door and control compartment.

Control compartment is totally enclosed to provide a safe, compact and clean area.

Large blower access door gives complete service access to blower.

Blower compartment is completely insulated.

Oil line and electrical inlet openings are provided in sides of cabinet, see dimension drawing.

FILTER

6 Units are equipped with large, cleanable, frame-type filters. Easily removed when servicing is required.

SPECIFICATIONS

Oil Heating Performance	Model Number	Top Flue Rear Flue	OF23Q3/4-105/120	OF23Q5-140/154	- - -
			OF23Q3/4-105/120R	OF23Q5-140/154R	³ OF23Q5-175/210R
Input - Btuh	Low Fire	105,000	140,000	175,000	
		² High Fire	119,000	154,000	210,000
Output - Btuh	Low Fire	85,000	113,000	140,000	
	² High Fire	97,000	125,000	168,000	
	¹ AFUE	81.0%	81.0%	80.0%	
	Flue Size Diameter - in.	6	6	6	
	Temperature rise range	50 - 80°F	50 - 80°F Rear Flue 45 - 70°F Top Flue	50 - 80°F	
Oil Burner	Nozzle rating - gph	Low Fire	.65	.85	1.10
		¹ High Fire	.75	1.00	1.25
	Nozzle spray angle		80° solid	80° solid	80° solid
	Oil Burner Pump		1 Stage	1 Stage	1 Stage
	Oil Burner Pump Pressure - psig		140	140	140
	Air Inlet Connection (diameter) - in.		4	4	4
Indoor Blower	Blower Motor Output - hp		1/2	3/4	3/4
	Nominal add-on cooling - Tons		2.5 thru 4	3 thru 5	3 thru 5
	Blower wheel nom. diameter x width - in.		10 x 9	12 x 10	12 x 10
Filter	Number of filters		1	1	⁴ 2
	Size of filters - in.		18 x 19 x 1	19 x 21 x 1	20-1/4 x 22-7/16 x 1
Shipping weight - lbs. 1 package			250	285	295
Electrical	Characteristics		115V-60hz-1ph	115V-60hz-1ph	115V-60hz-1ph
	Maximum Overcurrent Protection (amps)		15	15	15

OPTIONAL ACCESSORIES - MUST BE ORDERED EXTRA

Oil Filters	10 micron without mounting bracket		81P89	81P89	81P89
	10 micron with mounting bracket		53P92	53P92	53P92
	Replacement cartridge - 10 micron, 45 gph		53P93	53P93	53P93
	Filter restriction indicator gauge		53P90	53P90	53P90
Two-Stage Oil Pump			65A44	65A44	65A44

¹ Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.

² Nozzle must be field provided for field conversion to higher heating input.

³ Not available in Canada.

INSTALLATION CLEARANCES

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

Sides of cabinet	6 in.
Rear of cabinet	24 in.
Front of cabinet	4 in.
Service Clearance (Front)	24 in.
Service Clearance (Rear)	24 in.
Floor	0 in.
Top of plenum	2 in.
Plenum sides	3 in.
Flue pipe horizontal	9 in.
Horizontal warm air duct within 3 feet of furnace	2 in.

BLOWER DATA

OF23Q3/4-105/120 and OF23Q3/4-105/120R BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium High	Medium	Low
.20	1760	1605	1375	1160
.30	1670	1415	1345	1150
.40	1600	1460	1300	1130
.50	1550	1395	1260	1105
.60	1410	1305	1190	1035

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

OF23Q5-140/154 BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium High	Medium	Low
.20	2160	1850	1650	1480
.30	2080	1810	1600	1470
.40	2010	1745	1580	1445
.50	1970	1670	1490	1380
.60	1850	1580	1430	1330
.70	1735	1510	1370	1275
.80	1625	1405	1310	1195
.90	1510	1305	1235	1090

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

OF23Q5-140/154R BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium High	Medium	Low
.20	2220	1815	1565	1360
.30	2125	1755	1525	1355
.40	2030	1705	1500	1310
.50	1980	1625	1435	1260
.60	1835	1550	1370	1205
.70	1730	1455	1280	1150
.80	1575	1350	1205	1085
.90	1515	1250	1115	1000

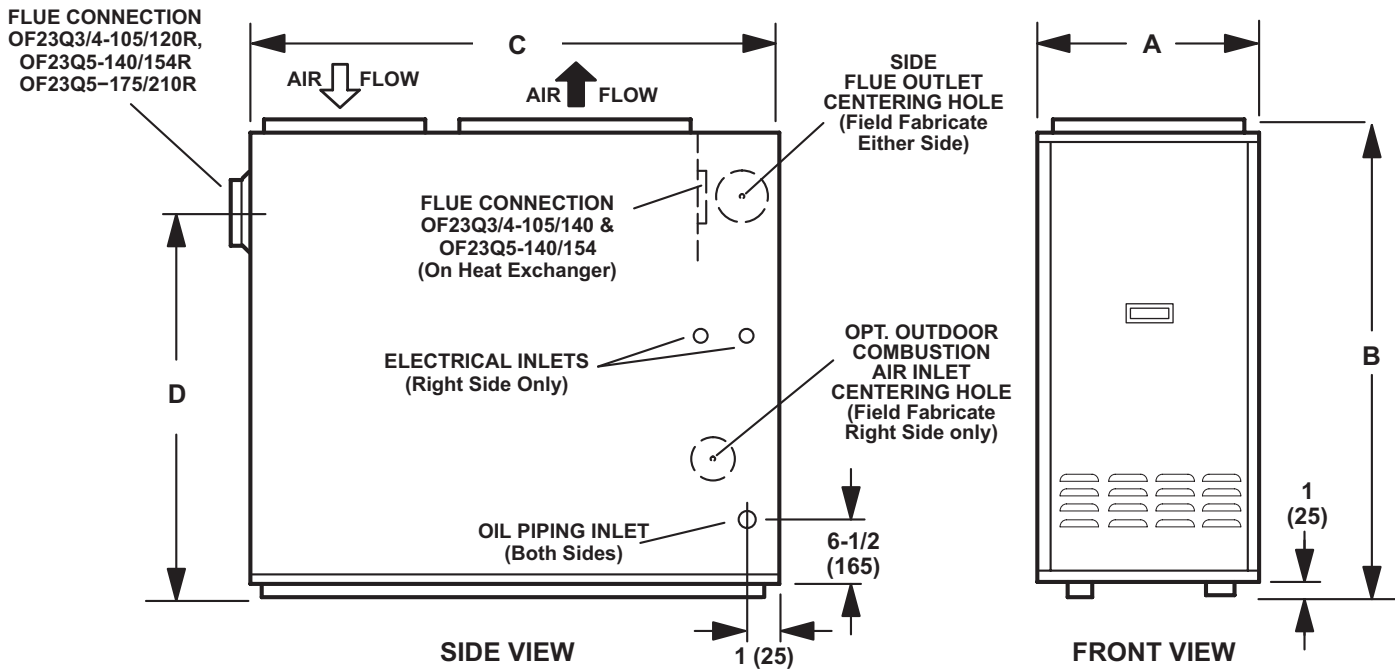
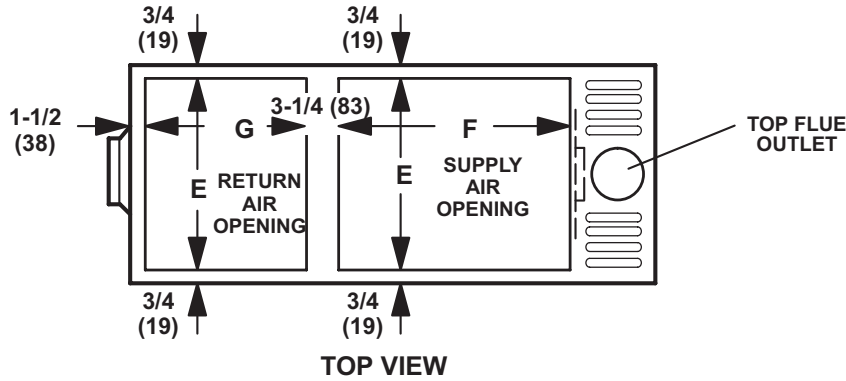
NOTE - All air data is measured external to the unit with the air filter in place.

OF23Q5-175/210R BLOWER PERFORMANCE

External Static Pressure in. w.g.	Air Volume at Various Blower Speeds - cfm			
	High	Medium High	Medium	Low
.20	2245	1835	1620	1460
.30	2140	1780	1590	1435
.40	2035	1730	1540	1400
.50	1985	1670	1490	1320
.60	1835	1610	1435	1280
.70	1750	1525	1335	1200
.80	1690	1415	1270	1130
.90	1550	1320	1190	1050

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

DIMENSIONS - INCHES (MM)



Model No.	A		B		C		D		E		F		G	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
OF23Q3/4-105/120	19-1/2	495	37	940	52-1/8	1324	---	---	18	457	21	533	16	406
OF23Q3/4-105/120R	19-1/2	495	37	940	52-1/8	1324	27	686	18	457	21	533	16	406
OF23Q5-140/154	22-1/2	572	37	940	52-1/8	1324	---	---	21	533	21	533	16	406
OF23Q5-140/154R	22-1/2	572	37	940	52-1/8	1324	27	686	21	533	21	533	16	406
OF23Q5-175/210R	24	610	39	991	54-3/4	1391	29	737	22-1/2	572	23-1/8	587	18	457

REVISIONS

Sections	Description of Change
Blower Data	Corrected blower cfm for OF23Q5-140/154.



Visit us at www.lennox.com

For the latest technical information, www.lennoxravenet.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.

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