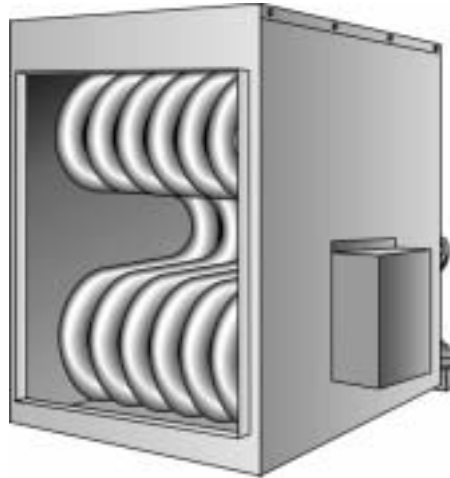


LD24

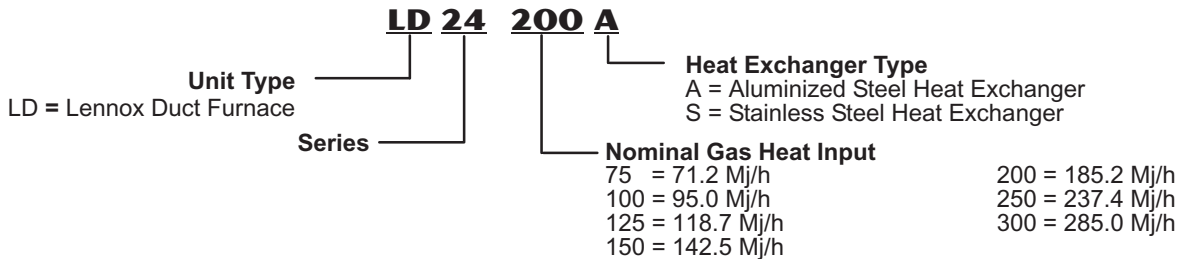
GASFIRED DUCT FURNACE

Steady State Efficiency - 80%
Input - 71.2 to 285 Mj/h

Bulletin No. 210092/50Hz
May 2005



MODEL NUMBER IDENTIFICATION



FEATURES

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APPLICATIONS

- Compact in design and easy to install.
- Natural gas applications.
- Input capacities 71.2, 95.0, 118.7, 142.5, 185.2, 237.4 and 285.0 Mj/h.
- Steady state heating efficiency of 80%.
- Ideal for economical commercial heating systems.
- Shipped completely assembled with controls factory installed and wired.
- Each unit factory test operated to ensure proper operation.

APPROVALS

- Units certified by CSA International.
- Units are certified for vertical or horizontal venting.
- Approved for installation with single wall and type B-1 double wall vent pipe.
- ISO 9001 Registered Manufacturing Quality System.

EQUIPMENT WARRANTY

- Heat exchanger - stainless steel - ten year limited warranty, aluminized steel - two year limited warranty.
- All other covered components - two year parts only warranty
- Refer to Lennox Equipment Limited Warranty certificate included with equipment for details.

CONTROLS

- 24 volt main combination gas valve with 100% safety shutoff, direct spark ignition, main shutoff valve, gas pressure regulation, 240/24V transformer, blower timer and limit control.

Combination Direct Spark Ignition/Fan Timer Control

- Solid-state control board contains all necessary controls and relays to operate unit.
- Fan timer control - fan on 45 seconds (fixed), fan off (Adjustable) 60, 90, 120 and 180 seconds.
- Terminal strip for thermostat connections.
- Diagnostic LED's for troubleshooting.
- Available continuous fan operation.

CABINET

- Constructed of heavygauge, p ainted steel.
- Insulation keeps outer cabinet surface temperatures low.
- Wiring junction box is conveniently located on outside of cabinet for easy access. Box contains all electrical and safety controls.
- 3/8" x 16 spotnuts are located on the top of cabinet for suspending unit. See dimension drawing.

FEATURES

HEATING SYSTEM

24 volt redundant combination gas control valve combines a manual main shutoff valve, pressure regulation and automatic electric valve (dual) into one compact combination control. Solid-state electronic direct spark ignition control provides positive and safe main burner ignition. Occurs only when required. Separate electronic flame sensor control assures safe and reliable operation. Should loss of flame occur, flame sensor control will initiate 5 attempts at re-ignition before locking out unit operation. Pressure switch proves blower operation before allowing gas valve to open.

Combustion air inducer operates only during heating cycle.

Tubular, Aluminized or Stainless Steel Heat Exchanger

Constructed of aluminized or stainless steel for superior resistance to corrosion and oxidation.

Curving design allows complete exposure of heating surfaces to supply air stream.

Round surfaces create minimum air resistance and allow air to surround all surfaces for excellent heat transfer.

Compact design reduces space requirements in unit cabinet.

Heat exchanger has been laboratory lifecycle tested.

Inshot Burners

Aluminized steel inshot burners provide efficient, troublefree operation.

Burner venturi mixes air and gas in correct proportion for proper combustion.

Burner assembly is removeable from the unit as a single component for ease of service. Each burner may be removed individually.

Limit Control

Factory installed and accurately located.

Limit control has fixed temperature setting.

Protects heating system from abnormal operating conditions.

Combustion Air Inducer

Combustion air inducer prepurges heat exchanger and safely vents combustion products.

Motor has ball bearings and is thermally protected.

Pressure switch prevents unit operation in case of blockage of combustion air inlet or flue outlet.

May be rotated 90° to left or right of vertical to facilitate installation (-75-100-125-150 models only).

OPTIONAL ACCESSORIES MUST BE ORDERED EXTRA

THERMOSTAT

See Thermostat bulletins in Controls section and Lennox Price Book for a complete list of thermostats.

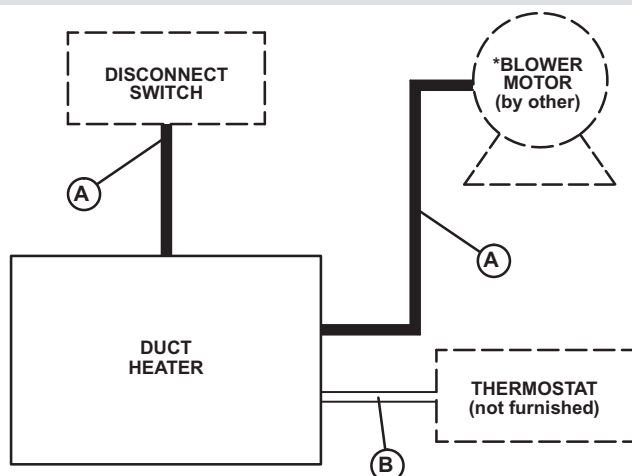
SPECIFICATIONS

Gas Heating Performance	Aluminized Steel Heat Exchanger	LD24-75A	LD24-100A	LD24-125A	LD24-150A	LD24-200A	LD24-250A	LD24-300A
	Stainless Steel Heat Exchanger	LD24-75S	LD24-100S	LD24-125S	LD24-150S	LD24-200S	LD24-250S	LD24-300S
Heating Capacity	Input Mj/h	71.2	95.0	118.7	142.5	185.2	237.4	285.0
	Output Mj/h	55.4	74.6	92.5	110.9	147.9	185.1	222.3
	kW	15.4	20.6	25.7	30.8	41.1	51.4	61.6
Steady State Efficiency		80.0%	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Air Volume Throughput - L/s		370 - 1275	410 - 1745	480 - 2220	625 - 2645	700 - 1995	875 - 2495	1050 - 2920
Temperature Rise - °C		12 - 40	11 - 47	11 - 51	11 - 47	19 - 57	19 - 57	20 - 57
Connections in. (mm)	Flue Size (round)	1 4 (102)	1 4 (102)	1 4 (102)	1 4 (102)	2 5 (127)	2 5 (127)	2 5 (127)
	Gas Piping Size (npt)	1/2 (13)	1/2 (13)	1/2 (13)	1/2 (13)	3/4 (19)	3/4 (19)	3/4 (19)
	Condensate Drain Size (barb)	1/4 (6)	1/4 (6)	1/4 (6)	1/4 (6)	1/4 (6)	1/4 (6)	1/4 (6)
Shipping Weight - 1 package	lbs. (kg)	95 (43)	130 (59)	135 (61)	150 (68)	245 (111)	260 (118)	275 (125)
Electrical characteristics	240 volts - 50 hertz - 1 phase							

¹ 2-1/4 x 4 in. (57 x 102 mm) round flue adaptor furnished.

² 2-1/4 x 2-3/4 in. (57 x 70 mm) rectangular to 5 in. (127 mm) round flue adaptor furnished.

FIELD WIRING



A – Two wire power (not furnished)

B – Two or three wire low voltage (not furnished)

NOTE – All wiring must conform to local electrical codes.

*Relay rating: 1 hp at 240VAC.

If a larger motor is used, an additional relay is required.

AIR RESISTANCE/TEMPERATURE RISE

Model No.	Air Volume	Total Resistance	Temperature Rise
	L/s	Pa	°C
LD2475	370	3	39
	470	5	31
	615	12	24
	755	17	19
	895	25	16
	1040	30	14
	1180	42	12
	1275	51	12
LD24100	410	5	47
	425	5	46
	615	7	32
	800	15	24
	990	22	19
	1180	30	17
	1370	37	14
	1555	45	12
	1745	57	11
LD24125	480	6	51
	520	7	47
	755	15	32
	990	27	24
	1225	40	20
	1465	52	17
	1700	65	14
	1935	77	13
	2170	90	11
2220	92	11	
LD24150	625	6	47
	660	7	44
	945	17	31
	1225	30	24
	15100	50	19
	1795	70	16
	2075	92	14
	2360	112	12
	2645	137	11

AIR RESISTANCE/TEMPERATURE RISE

Model No.	Air Volume	Total Resistance	Temperature Rise
	L/s	Pa	°C
LD24200	700	7	56
	710	7	55
	945	10	41
	1180	17	33
	1415	22	27
	1650	32	23
	1890	37	21
	1995	40	19
LD24250	875	10	56
	945	12	52
	1180	20	41
	1415	27	34
	1650	32	29
	1890	42	26
	2125	47	23
	2360	57	21
LD24300	2495	63	19
	1050	18	56
	1320	27	44
	1605	35	36
	1890	45	31
	2170	57	27
	2455	65	24
	2735	77	21
	2920	82	20
	2925	82	20

HIGH ALTITUDE DERATE

Unit may be fired at full input up to 2000 feet (610 m) above sea level. At altitudes of 2000-4500 feet (610-1372 m), units have a fixed derate. See markings on unit for correct input. No additional adjustment is necessary. If unit is installed at an altitude greater than 4500 feet (1372 m), unit must be derated by 4% for each additional 1000 feet (305 m) above sea level. In Canada, if the unit is installed at an altitude greater than 4500 feet (1372 m), unit may be derated as permitted by the requirements of the local authorities.

NOTE - This is the only permissible derate for the units.

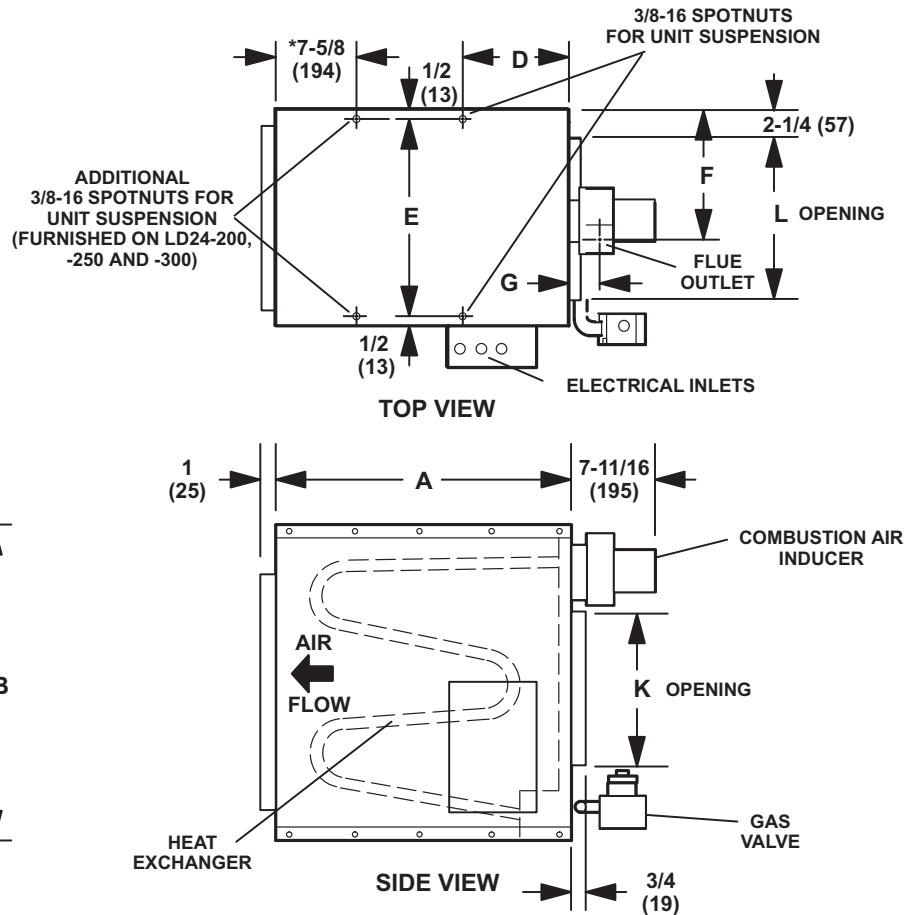
INSTALLATION CLEARANCES

Model No.	LD24-75	LD24-100, LD24-125 LD24-150, LD24-200 LD24-250, LD24-300
Top	1 inch (25 mm)	6 inches (152 mm)
Sides	6 inches (152 mm)	6 inches (152 mm)
Rear	18 inches (457 mm)	18 inches (457 mm)
Bottom	2 inches (51 mm)	2 inches (51 mm)
Flue	6 inches (152 mm)	6 inches (152 mm)

NOTE - Provide adequate clearance for servicing.

DIMENSIONS INCHES (MM)

*NOTE - Two spotnuts are furnished on LD24-75, -100, -125, -150
- Four spotnuts are furnished on LD24-200, -250, -300



Model No.		A	B	C	D	E	F	G	H	J	K	L
LD24-75	in.	26	28-5/16	19-1/2	8-1/2	18-1/2	11-3/4	2-1/2	21-1/8	17-1/2	13-3/8	15
	mm	660	719	495	216	469	298	64	537	445	340	381
LD24-100 LD24-125	in.	31-5/16	32-3/16	20-1/8	10-1/2	19-1/16	11-3/4	3-1/4	25	18-1/8	15-3/8	15-5/8
	mm	795	818	511	267	484	298	83	635	460	391	397
LD24-150	in.	31-5/16	32-3/16	23-1/8	11-3/8	23-1/16	8-1/2	3-1/4	25	21-1/8	15-3/8	17-1/8
	mm	795	818	587	289	586	216	83	635	537	391	435
LD24-200 LD24-250 LD24-300	in.	31-5/16	32-3/16	41-1/8	3-11/16	40	17-1/2	3-1/4	25	39-1/8	15-3/8	35-1/16
	mm	795	818	1045	97	1016	445	83	635	994	391	891