LENNOX

ENGINEERING DATA

ELITE 80M™ SERIES MULTI-POSITION GAS FURNACES

*80.0% to 80.5% A.F.U.E.

45,000 to 140,000 Btuh (13.2 to 41.0 kW) Gas Heating Input

1-1/2 thru 6 Tons (3.5 thru 21.1 kW) Nominal Add-on Cooling

***Isolated Combustion System Rating For Non-Weatherized Furnaces**

G24M

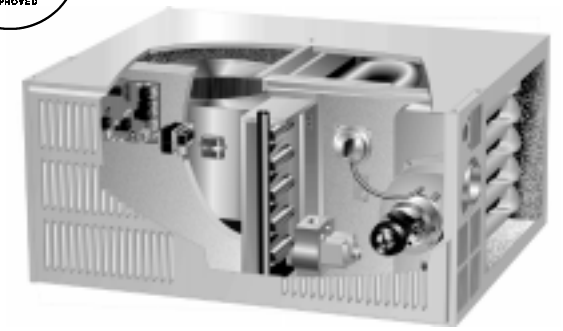
Bulletin #210025

May 1998

Supersedes

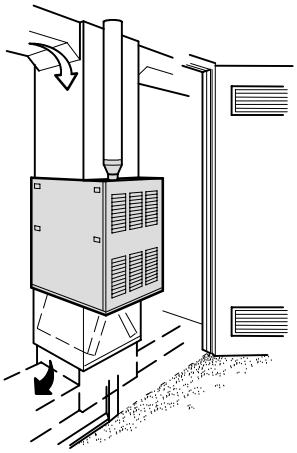
December 1996

UP-FLOW POSITION

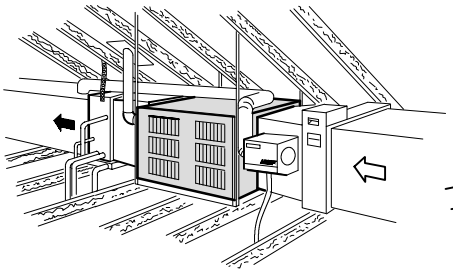


HORIZONTAL POSITION

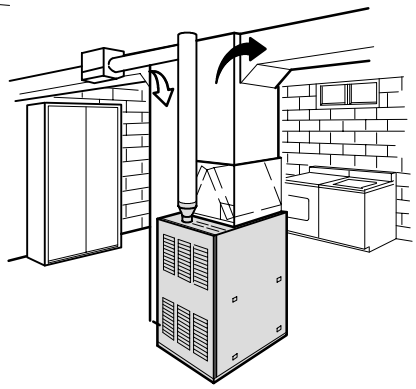
Typical Applications



Down-Flow Closet Installation
With Cooling Coil



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



Up-Flow Utility Room Installation
With Cooling Coil
and Automatic Humidifier

Applications

- Eleven models (natural gas or LPG/propane) with input capacities of 45,000, 60,000, 75,000, 100,000, 120,000 and 140,000 Btuh (13.2, 17.6, 22.0, 29.3, 35.2 and 41.0 kW).
- Energy efficiencies (AFUE) of up to 80.5%.
- Up-flow, down-flow or horizontal applications.
- Add-on evaporator coils, electronic air cleaners and power humidifiers available.
- Shipped factory assembled with all controls installed and wired.
- Each unit is factory test operated to insure proper operation.

Approvals

- Certified by A.G.A./C.G.A. Laboratories
- Ratings are certified by GAMA.
- Tested and rated according to U.S. DOE test procedures and FTC labeling regulations.
- "X" models meet California Nitrogen Oxides (NOx) Standards and California Seasonal Efficiency requirements.
- Blower data is from unit tests conducted in the Lennox Laboratory air test chamber.
- Developed in accordance with ISO 9001 quality system.
- Approved for vertical or horizontal (sidewall) venting.

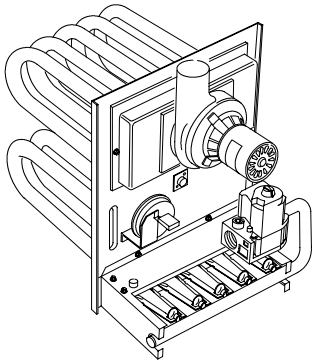
NOTE — Horizontal venting requires sidewall power venting kit, see Optional Accessories.

Equipment Warranty

- Heat exchanger — twenty year limited warranty.
- All other covered components — five year limited warranty in residential installations and one year in non-residential installations.
- Refer to the Lennox Equipment Limited Warranty certificate included with the equipment for specific details.

Tubular 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 life cycle tested.



♔The maple leaf symbol in this bulletin denotes Canadian only usage where applicable

NOTE — Due to Lennox' ongoing committment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.

FEATURES

Inshot Burners
- Aluminized steel inshot burners provide efficient trouble free operation.
- Burner venturi mixes air and gas in correct proportion for proper combustion.
- Assembly is removeable from the unit as a single component for ease of service and each burner may be removed individually.

Induced Draft Blower
- Shaded pole heavy duty induced draft blower prepurges heat exchanger and safely vents flue products.
- Pressure switch prevents unit operation in case of blockage of combustion air or flue outlet.
- Induced draft blower operates only during heating cycle.

SureLight™ Hot Surface Ignition
- Tough, reliable, long-life, trouble-free performance.
- Tungsten heater element sandwiched between two plates of silicon nitride.
- Cemented to steatite block for protection against current leakage.
- Ignition leads constructed of nickel plated copper enclosed in high temperature Teflon insulation for dependable operation.
- Adaptive technology of ignition control board monitors and adjusts voltage and temperature for ignition at just the needed combustion point - extending ignitor life.
- No electrical noise.

SureLight™ Integrated Control Board
- Solid-state board contains all necessary controls and relays to operate furnace.
- Induced draft blower is controlled by module. Prior to ignition, a pre-purge cycle for 15 seconds is initiated. After the main burners are turned off, a post-purge cycle for 5 seconds is run.
- Continuously monitors and adjusts the ignitor voltage to operate at minimum igniter temperature required for ignition, prolonging ignitor life.
- Electronic flame sensor control assures safe and reliable operation.
- Should loss of flame occur, flame sensor controls will initiate 5 attempts at re-ignition before locking out unit operation for 60 minutes.
- Watchguard type circuit automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance calls for service.
- Fan control consists of adjustable blower timed-off delay (60 to 180 seconds) and fixed blower timed-on delay (45 seconds).
- For air-conditioning applications, blower is automatically energized on thermostat demand for cooling.
- Provisions for additional power supply requirements for 120 volt (less than 4 amps) power humidifiers and electronic air cleaners.
- Ignition control has two LED's to indicate status and as an aid in troubleshooting.

Gas Control Valve
- 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.

Flame Rollout Switches
- Dual manual reset switches are furnished as standard and are factory installed on either side of the burner box.
- Prevent unit operation in the event combustion products passage through the flueway is reduced or blocked.

Limit Controls
- Factory installed and accurately located.
- Provides protection from abnormal operating conditions.
- Primary limit is located on heating compartment vestibule panel.
- Two secondary limits are located on either side of the blower housing.

Cabinet
- Constructed of heavy gauge pre-painted cold rolled steel.
- Five station metal wash process resulting in a perfect paint bonding surface.
- Insulated with foil faced fiberglass insulation on side and back panels of heat section.
- Blower section is completely insulated with mat faced fiberglass insulation.
- Complete service access is accomplished by removing one-piece front panel and interior blower access door.
- Blower assembly may be completely removed from unit for service.
- Safety interlock switch located on blower access door automatically shuts off power to the unit when door is removed.
- Gas piping inlets are provided in both sides and top of cabinet. Electrical knockouts are provided in both sides, top and bottom of cabinet.
- Units have flanges on top and bottom of cabinet that may be bent out for duct connection to unit. See dimension drawing.
- Painted panel is furnished to block off bottom air return air.
- Return air entry is possible on either side or bottom of cabinet for up-flow applications.
- End return air entry is available for horizontal and down-flow applications.

Multi-Position Capability
- Shipped from factory for up-flow applications and horizontal applications with right hand or left hand air discharge.
- Down-flow applications: interchange top and bottom caps, remove heat exchanger section, rotate 180° top for bottom and re-install.

Blower
- Units are equipped with quiet multi-speed direct drive blower.
- Each blower assembly is statically and dynamically balanced.
- Multiple-speed motor is resiliently mounted.
- Choice of blower motor speeds is available on each blower. See blower performance tables.

Transformer
- 24 volt control transformer furnished as standard equipment and is factory installed on blower access door.

OPTIONAL ACCESSORIES – MUST BE ORDERED EXTRA

Thermostat (Optional)
- Thermostat is not furnished and must be ordered extra.
- See Thermostats bulletin in Thermostats and Controls section and Lennox Price Book.
- For all-season applications, heating and cooling thermostat is available with the condensing unit.

LPG/Propane Conversion Kit (Optional)
- For LPG/propane models a conversion kit is required for field changeover from natural gas.
- See specifications table for order number.

Up-Flow/Horizontal Filter and Rack Kit (Optional)
- Washable or vacuum cleanable polyurethane frame type air filter and external rack is available for field installation.
- Includes adjustable filer rack with access door, filter removal tool for bottom return air applications, and filter.
- Available in single and ten pack kits. See Specifications table for order number.

High Altitude Pressure Switch
- Required on certain units for proper unit operation on installations above 4,500 ft. (1372 m).
- See Specifications table for applications and catalog numbers.

Down-Flow Filter Rack (Optional)
- Available for field installation in down-flow applications.
- Filters are not furnished and must be ordered extra. See Specifications table for filter sizes and filter rack order number.

Down-Flow Combustible Floor Base (Optional)
- Additive base is required for field installation with heating only, down-flow units installed on combustible floors. Not required in add-on cooling applications.
- See Specifications table and dimension drawing.

Hanging Bracket Kit (Optional)
- Field installed kit LB-69957 **(46J66)** available for easy suspension of unit in horizontal applications.
- Includes four vertical supports for mounting to joists and two horizontal channels.

Sidewall Power Venting Kit (Optional)
- Required for horizontal venting.
- Kit **(79J15)** includes E.T.L. listed power venter and control kit.
- Control kit includes junction box with pressure switch, aluminum tubing, tubing, conduit connectors and barometric draft control.
- See venting table for requirements. Flue piping must be field provided.

SPECIFICATIONS

Model No.		G24M2-45(S)	G24M2-60(S)	G24M3-60(S)	G24M2-75(S)	G24M3-75(S)	G24M4-75(S)
Model No. - "X" Models		- - - -	- - - -	G24M3X-60	- - - -	G24M3X-75	G24M4X-75
Input Btuh (kW)		45,000 (13.2)	60,000 (17.6)		75,000 (22.0)		
Output Btuh (kW)		36,900 (10.8)	49,200 (14.4)		61,700 (18.1)		
☆A.F.U.E.		80.1%	80.5%	80.5%	80.1%	80.0%	
California Seasonal Efficiency		75.4%	76.4%	75.9%	76.8%	76.8%	76.3%
Flue size connection diameter — in. (mm) round		3 (76)			4 (102)		
Temperature rise range — °F (°C)		30 - 60 (17 - 33)	45 - 75 (25 - 42)				
High static certified by A.G.A./C.G.A. — in wg. (Pa)		.50 (125)					
Gas Piping Size I.P.S. Natural or LPG/propane		1/2 (13)					
Blower wheel nominal diameter x width	in.	9 x 7		10 x 7	9 x 7	10 x 7	12 x 8
	mm	229 x 178		254 x 178	229 x 178	254 x 178	305 x 203
Blower motor output — hp (W)		1/4 (187)		1/3 (224)	1/4 (187)	1/3 (224)	1/2 (373)
Nominal cooling that can be added	Tons	1 thru 2		2 thru 3	1 thru 2	2 thru 3	2 thru 4
	kW	3.5 thru 7.0		7.0 thru 10.6	3.5 thru 7.0	7.0 thru 10.6	7.0 thru 14.1
Shipping weight — lbs. (kg) 1 package		130 (59)		135 (61)			140 (64)
Electrical characteristics		120 volts — 60 hertz — 1 phase (less than 12 amps) All models					
Optional Accessories (Must Be Ordered Extra)							
LPG/propane kit		LB-69845L **(38K84)**					
High Altitude Pressure Switch		- - - -					**88J80**
Up-Flow/Horizontal Filter and Filter Rack Kits ‡No. & size of filters - in. (mm)		Single (**32J02**) Ten Pack (**66K64**) (1) 16 x 20 x 1 (406 x 508 x 25)					
[1] Down-flow Filter Kit	Catalog No.	LB-69843A **(32J01)** — 3 lbs. (1 kg)					
	No. & Size of Filters — in. (mm)	(2) 16 x 20 x 1 (406 x 508 x 25)					
Down-flow Combustible Floor Base		LB-79239A **(67J91)** — 10 lbs. (4 kg)					
Sidewall Power Venting Kit		**79J15** — 25 lbs. (11 kg)					
Hanging Bracket Kit		LB-69957 **(46J66)** — 15 lbs. (8 kg)					

"S" suffix denotes optional stainless steel heat exchanger.
☆Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.
‡Polyurethane frame type filter is furnished with kit.
[1] Filters are not furnished with kit and must be ordered extra.

Model No.		G24M3/4-100(S)	G24M4/5-100(S)	G24M3/4-120(S)	G24M4/5-120(S)	G24M4/5-140(S)
Model No. - "X" Models		G24M3/4X-100	G24M4/5X-100	- - - -	G24M4/5X-120	- - - -
Input Btuh (kW)		100,000 (29.3)		120,000 (35.2)		140,000 (41.0)
Output Btuh (kW)		82,000 (24.0)		98,400 (28.8)		114,800 (33.6)
☆A.F.U.E.		80.1%	80.0%	80.0%	80.1%	80.0%
California Seasonal Efficiency		76.5%	77.0%	76.8%	75.5%	77.6%
Flue size connection diameter — in. (mm) round		4 (102)				5 (127)
Temperature rise range — °F (°C)		45 - 75 (25 - 42)	35 - 65 (19 - 36)	45 - 75 (25 - 42)		
High static certified by A.G.A./C.G.A. — in wg. (Pa)		.50 (125)				.65 (162)
Gas Piping Size I.P.S. Natural or LPG/propane		1/2 (13)				
Blower wheel nominal diameter x width	in.	12 x 8	12 x 9	12 x 8	12 x 9	
	mm	305 x 203	305 x 229	305 x 203	305 x 229	
Blower motor output — hp (W)		1/2 (373)	3/4 (560)	1/2 (373)	3/4 (560)	
Nominal cooling that can be added	Tons	2 thru 4	3.5 thru 6	2 thru 4	3.5 thru 6	
	kW	7.0 thru 14.1	12.3 thru 21.1	7.0 thru 14.1	12.3 thru 21.1	
Shipping weight — lbs. (kg) 1 package		175 (79)				190 (86)
Electrical characteristics		120 volts — 60 hertz — 1 phase (less than 12 amps) All models				
Optional Accessories (Must Be Ordered Extra)						
LPG/propane kit		LB-69845K **(81J14)**				
High Altitude Pressure Switch		**18L24**				- - - -
Up-Flow/Horizontal Filter and Filter Rack Kits ‡No. & size of filters - in. (mm)		Single **(46J14)** Ten Pack **(66K65)** (1) 20 x 20 x 1 (508 x 508 x 25)				Single **(58J93)** Ten Pack **(66K66)** (1) 20 x 20 x 1 (508 x 508 x 25)
[1] Down-flow Filter Kit	Catalog No.	LB-69843A **(32J01)** — 3 lbs. (1 kg)				
	No. & Size of Filters — in. (mm)	(2) 16 x 20 x 1 (406 x 508 x 25)				
Down-flow Combustible floor Base		LB-79239B **(67J92)** — 10 lbs. (4 kg)				LB-79239C **(67J93)** — 12 lbs. (5 kg)
Sidewall Power Venting Kit		**79J15** — 25 lbs. (11 kg)				
Hanging Bracket Kit		LB-69957 **(46J66)** — 15 lbs. (8 kg)				

"S" suffix denotes optional stainless steel heat exchanger.
☆Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and according to FTC labeling regulations. Isolated combustion system rating for non-weatherized furnaces.
‡Polyurethane frame type filter is furnished with kit.
[1] Filters are not furnished with kit and must be ordered extra.

INSTALLATION CLEARANCES

UP-FLOW OR DOWN-FLOW POSITION

Vent Type	Type "B"	Type "C"
Sides	0 inches (0 mm)	0 inches (0 mm)
Rear	0 inches (0 mm)	0 inches (0 mm)
Top	1 inch (25 mm)	1 inch (25 mm)
Front	2 inches (51 mm)	2 inches (25 mm)
Front (service)	24 inches (610 mm)	24 inches (610 mm)
Floor (up-flow)	Combustible	Combustible
[1] Floor (down-flow)	[1] Combustible	[1] Combustible
Flue	1 inch (25 mm)	6 inch (152 mm)

NOTE—Air for combustion and supply air ventilation must conform to the methods outlined in American National Standard (ANSI-Z223.1) National Fuel Gas Code or National Standard of Canada CAN/CGA-149.1, & CAN/CGA-149.2 "Installation Code for Gas Burning Appliances".

NOTE—In the U.S. flue sizing must conform to the methods outlined in current GAMA/A.G.A. venting tables, American National Standard (ANSI-Z223.1) National Fuel Gas Code or applicable provisions of local building codes. In Canada flue sizing must conform to the methods outlined in National Standard of Canada CAN/CGA-149.1 and .2.

[1] Down-flow Applications Only — Clearance for installation on combustible floor if optional additive base is installed between the furnace and the combustible floor. Not required in add-on cooling applications if installed in accordance with local codes or National Fuel Gas Code ANSI-Z223.1 or CAN/CGA-149.1,.2.

HORIZONTAL POSITION

Vent Type	Type "B"	Type "C"
[1] Sides	[1] 2 inches (51 mm)	[1] 2 inches (51 mm)
Rear	0 inches (0 mm)	0 inches (0 mm)
[1] Top	[1] 0 inches (0 mm)	[1] 0 inches (0 mm)
Front	2 inches (25 mm)	2 inches (25 mm)
Front (service)	24 inches (610 mm)	24 inches (610 mm)
Floor	0 inches (0 mm)	0 inches (0 mm)
Flue	1 inch (25 mm)	6 inch (152 mm)

NOTE—Air for combustion and supply air ventilation must conform to the methods outlined in American National Standard (ANSI-Z223.1) National Fuel Gas Code or National Standard of Canada CAN/CGA-149.1, & CAN/CGA-149.2 "Installation Code for Gas Burning Appliances".

NOTE—In the U.S. flue sizing must conform to the methods outlined in current GAMA/A.G.A. venting tables, American National Standard (ANSI-Z223.1) National Fuel Gas Code or applicable provisions of local building codes. In Canada flue sizing must conform to the methods outlined in National Standard of Canada CAN/CGA-149.1 and .2.

[1] Line contact installation permissible between jacket top or sides and building joists.

BLOWER DATA

G24M2-45, G24M2-60 AND G24M2-75 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1270	600	980	460	770	365	570	270
.05	12	1245	590	975	460	770	365	565	265
.10	25	1220	575	975	460	770	365	565	265
.15	37	1195	565	965	455	765	360	560	265
.20	50	1170	550	960	455	760	360	560	265
.25	62	1140	540	950	450	760	360	555	260
.30	75	1110	525	940	445	760	360	550	260
.40	100	1060	500	910	430	750	355	545	255
.50	125	990	465	880	415	740	350	540	255
.60	150	900	425	810	380	690	325	530	250
.70	175	800	380	740	350	630	295	520	245

NOTE — All air data is measured external to unit with 1 in. (25 mm) cleanable filter (not furnished) in place. Also see Filter Air Resistance table

G24M3-60 AND G24M3-75 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds							
		High		Medium-High		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1425	670	1240	585	1000	470	800	380
.05	12	1415	670	1230	580	995	470	800	380
.10	25	1400	660	1220	575	990	465	795	375
.15	37	1385	655	1200	565	985	465	795	375
.20	50	1370	645	1180	555	980	460	790	375
.25	62	1350	635	1160	545	970	460	780	370
.30	75	1330	630	1140	540	955	450	770	365
.40	100	1280	605	1095	515	925	435	750	355
.50	125	1210	570	1040	490	900	425	720	340
.60	150	1135	535	985	465	860	405	680	320
.70	175	1070	505	920	435	800	380	630	300

NOTE — All air data is measured external to unit with 1 in. (25 mm) cleanable filter (not furnished) in place. Also see Filter Air Resistance table

BLOWER DATA

G24M4-75, G24M3/4-100 AND G24M3/4-120 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	1830	865	1600	755	1325	625	1070	505	880	415
.05	12	1815	855	1585	750	1320	625	1070	505	880	415
.10	25	1800	850	1570	740	1315	620	1070	505	880	415
.15	37	1875	885	1550	730	1310	620	1065	505	875	415
.20	50	1750	825	1530	720	1300	615	1060	500	875	415
.25	62	1725	815	1515	715	1290	610	1050	495	870	410
.30	75	1700	800	1500	710	1275	600	1040	490	870	410
.40	100	1650	780	1460	690	1245	590	1020	480	860	405
.50	125	1600	755	1420	670	1210	570	1000	470	840	395
.60	150	1550	730	1380	650	1170	550	980	460	820	385
.70	175	1480	700	1330	630	1130	535	960	455	790	375

NOTE — All air data is measured external to unit with 1 in. (25 mm) cleanable filter (not furnished) in place. Also see Filter Air Resistance table

G24M4/5-100, G24M4/5-120 AND G24M4/5-140 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds									
		High		Medium-High		Medium		Medium-Low		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
0	0	2450	1155	2160	1020	1970	930	1700	800	1500	710
.05	12	2440	1150	2155	1015	1965	925	1695	800	1500	710
.10	25	2430	1145	2150	1015	1960	925	1690	800	1495	705
.15	37	2415	1140	2135	1010	1950	920	1685	795	1495	705
.20	50	2400	1135	2120	1000	1940	915	1680	795	1490	705
.25	62	2380	1125	2105	995	1930	910	1675	790	1480	700
.30	75	2360	1115	2090	985	1915	905	1670	790	1470	695
.40	100	2310	1090	2050	965	1870	880	1650	780	1440	680
.50	125	2260	1065	2000	945	1810	855	1610	760	1410	665
.60	150	2180	1030	1950	920	1750	825	1560	735	1370	645
.70	175	2100	990	1890	890	1700	800	1520	715	1330	630

NOTE — All air data is measured external to unit with 1 in. (25 mm) cleanable filter (not furnished) in place. Also see Filter Air Resistance table

FILTER AIR RESISTANCE

cfm (L/s)	in. w.g. (Pa)
0 (0)	0.00 (0)
200 (95)	0.01 (2)
400 (185)	0.03 (7)
600 (280)	0.04 (10)
800 (375)	0.06 (15)
1000 (470)	0.09 (22)
1200 (560)	0.12 (30)
1400 (655)	0.15 (37)
1600 (750)	0.19 (47)
1800 (845)	0.23 (57)
2000 (935)	0.27 (67)
2200 (1030)	0.33 (82)
2400 (1125)	0.38 (95)
2600 (1220)	0.44 (110)

HIGH ALTITUDE DERATE

Unit does not require gas pressure adjustment when operating at elevations of 0 to 4500 feet (0 to 1372 m). See table for correct manifold pressures for natural and LPG/Propane gases at altitudes greater than 4,500 ft. (1372 m)

In Canada, certification for installation at altitudes over 4500 feet (1372 m) above sea level is the jurisdiction of local authorities.

MANIFOLD GAS PRESSURE

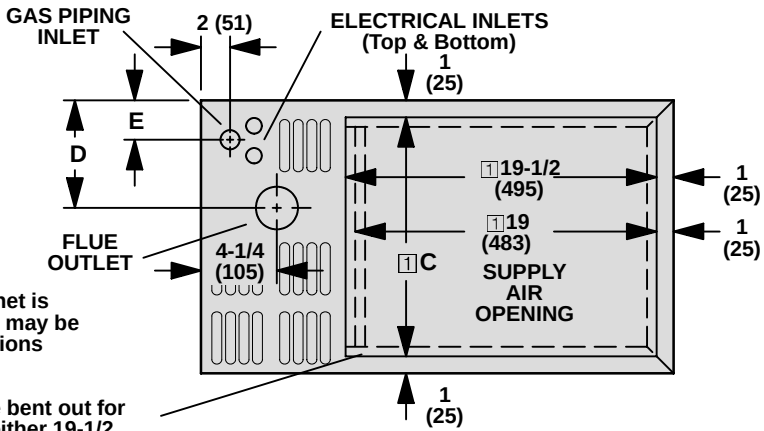
ALTITUDE ft. (m)	Fuel	Manifold Pressure (Outlet) in. w.g. (kPa)
0-4500 (0-2285)	Natural Gas	3.5 (0.87)
	LPG/Propane	9.5 (2.37)
4501 - 5500 (2286 -1676)	Natural Gas	3.4 (0.85)
	LPG/Propane	9.2 (2.29)
5501-6500 (1677 - 1981)	Natural Gas	3.3 (0.82)
	LPG/Propane	8.9 (2.21)
6501-7500 (1982 - 2286)	Natural Gas	3.2 (0.80)
	LPG/Propane	8.6 (2.14)

HORIZONTAL VENTING REQUIREMENTS (THRU THE WALL)

Furnace Model No.	Vent Pipe Diameter Furnace Connection		Vent Pipe Minimum Equivalent Length		Vent pipe Maximum Equivalent Length		Horizontal Venting Transition Required	
	in.	mm	feet	meters	feet	meters	in.	mm
G24M2-45 , G24M2-60 G24M3-60	3	76	10	3.0	60	18.0	[2] 3 to 4	[2] 76 to 102
G24M2-75, G24M3-75 G24M4-75, ,G24M3/4-100 G24M4/5-100, G24M3/4-120 G24M4/5-120	4	102	10	3.0	60	18.0	- - - -	- - - -
G24M4/5-140	[1] 5	[1] 127	10	3.0	48	14.5	- - - -	- - - -

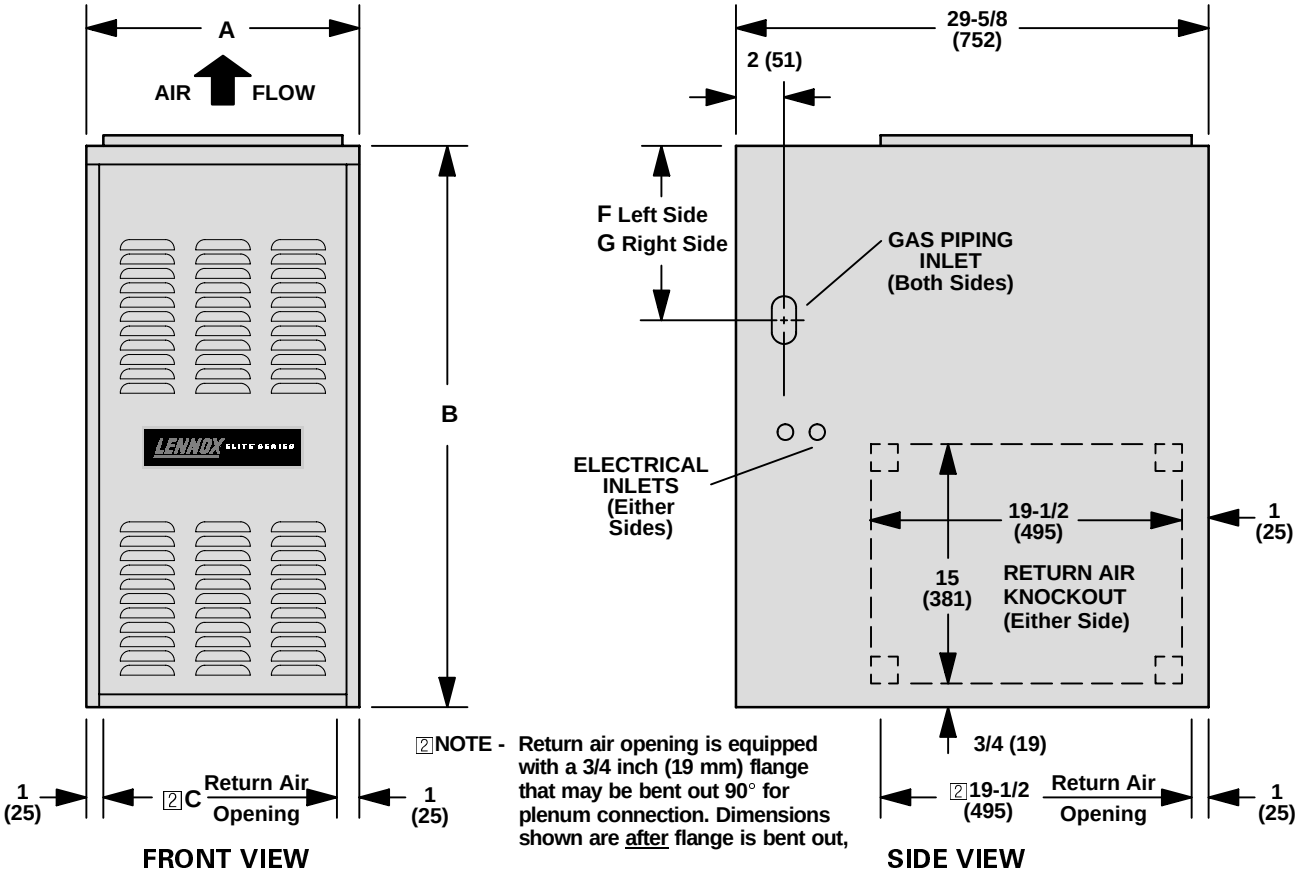
VENTING NOTES — Elbows — One 3 inch (76 mm) diameter 45° elbow is equivalent to 3 feet (1.0 m) of straight vent pipe.
One 4 inch (102 mm) diameter 45° elbow is equivalent to 4 feet (1.2 m) of straight vent pipe.
One 3 inch (76 mm) 90° elbow is equivalent to 5 feet (1.5 m) of straight vent pipe.
One 4 inch (102 mm) 90° elbow is equivalent to 7 feet (2.1 m) of straight vent pipe.
Two 45° elbows are equal to one 90° elbow.
Tees — One 3 inch (76 mm) diameter tee is equivalent to 19 feet (5.8 m).of straight vent pipe.
One 4 inch (102 mm) diameter tee is equivalent to 25 feet (7.6 m).of straight vent pipe.
Transition — 3 inch to 4 inch (76 mm to 102 mm) transition is equivalent to 2 feet (0.61 m) of straight vent pipe.
[1] Flue Adaptors —2 in x 5 in. (51 mm x 127 mm) flue adaptor furnished with -140 input furnaces for connection to furnace induced draft blower.
[2] Transition furnished with power venter should be installed on top of flue adaptor at induced draft blower.
NOTE — All horizontal venting applications require optional Sidewall Power Venting Kit.

DIMENSIONS – INCHES (MM) – Up-Flow Position Shown



[1]NOTE- Supply air opening at rear and sides of cabinet is equipped with a 3/4 inch (19 mm) flange that may be bent out 90° for plenum connection. Dimensions shown are <u>after</u> flange is bent out,

Flange at front of supply air opening may be bent out for a total opening dimension (front to rear) of either 19-1/2 inches (495 mm) or 19 inches (483 mm).

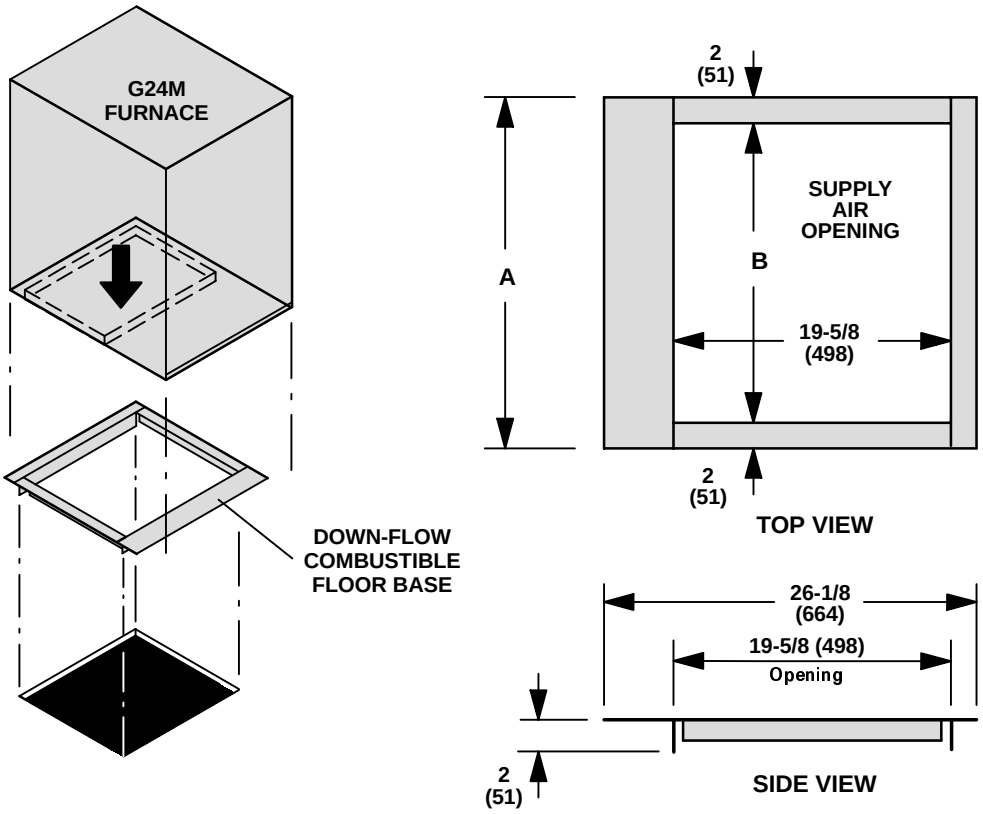


[2]NOTE - Return air opening is equipped with a 3/4 inch (19 mm) flange that may be bent out 90° for plenum connection. Dimensions shown are <u>after</u> flange is bent out,

Model No.		A	B	C	D	E	F	G
G24M2-45, G24M2-60 G24M2-75, G24M3-60 G24M3-75, G24M4-75	in.	17	36-1/4	15	6-3/4	2-7/16	6-1/2	12
	mm	432	921	381	171	62	114	254
G24M3/4-100, G24M3/4-120 G24M4/5-100, G24M4/5-120	in.	20-1/2	39	18-1/2	8-3/8	4-1/4	8	13-1/2
	mm	521	991	470	213	108	203	343
G24M4/5-140	in.	23-1/4	39	21-1/4	9-3/4	4-1/4	8	13-1/2
	mm	591	991	540	248	108	203	343

OPTIONAL ACCESSORY DIMENSIONS – INCHES (MM)

DOWN-FLOW COMBUSTIBLE FLOOR BASE



Furnace Model No.	A		B	
	in.	mm	in.	mm
G24M2-45 G24M2-60 G24M2-75 G24M3-60 G24M3-75 G24M4-75	19-1/8	486	15-1/8	384
G24M3/4-100 G24M3/4-120 G24M4/5-100 G24M4/5-120	22-1/2	572	18-1/2	470
G24M4/5-140	25-1/4	641	21-1/4	540