

LENNOX

**FORCED AIR GAS FURNACES — DOWN-FLO
G11R & G12R SERIES
DIRECT DRIVE BLOWERS
55,000 to 165,000 Btuh INPUT
Add-On Cooling — 1-1/2 Thru 5 Nominal Tons**

- DURACURVE® Heat Exchanger
- G12R Models Cold Rolled Steel Heat Exchanger
- G11R Models DURAGLASS® II Coated Heat Exchanger
- Sized For Air Conditioning
- Large Efficient Filter
- Continuous Port Steel Burners
- Many Sizes Available
- Factory Assembled
- Powerful Blower
- Durable Cabinet Finish



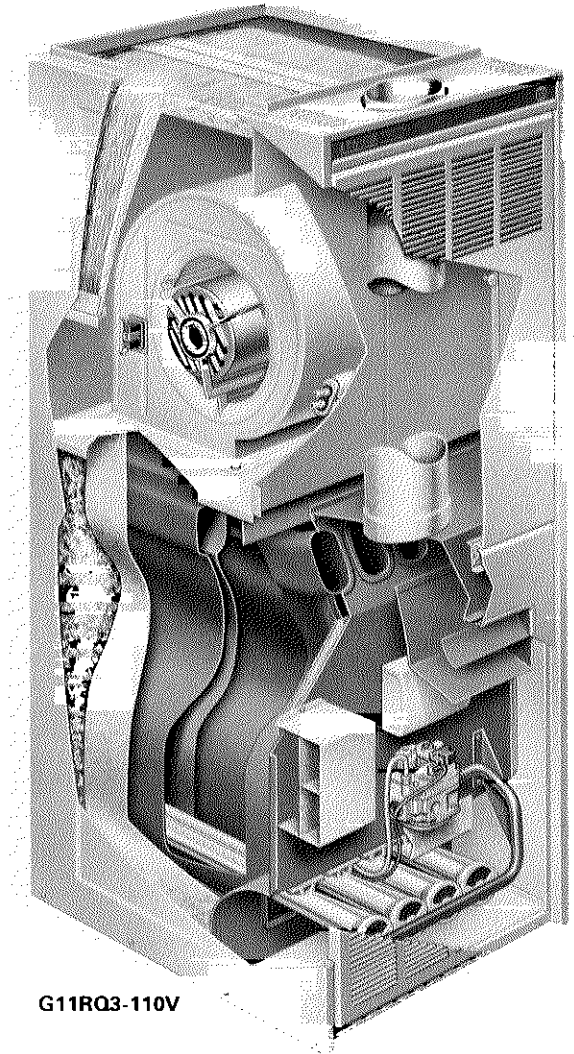
Down-Flo Gas Units Engineered For Long Service Life, Efficient Operation and Ease Of Installation

These compact gas fired down-flo furnaces are designed for installations with the distribution duct work installed under the floor or tunneled into a concrete slab floor. Several sizes and models are available with a choice of heating capacities and air volumes. The attractive modern design of the cabinet and quiet operation of the unit will permit installation in a family or recreation room, utility room or closet.

Traditional Lennox quality is evident in the rugged ultra modern cabinet with a furniture finish of baked-on enamel. Die formed panels and doors gives the cabinet a trim and sheer look that is unequalled. Large removable front doors provide complete access for service. Powerful blowers have sufficient capacity to handle air volume requirements for additive cooling. A Lennox direct expansion evaporator unit and remote condensing unit, electronic air cleaner and power humidifier can easily be added to the down-flo gas

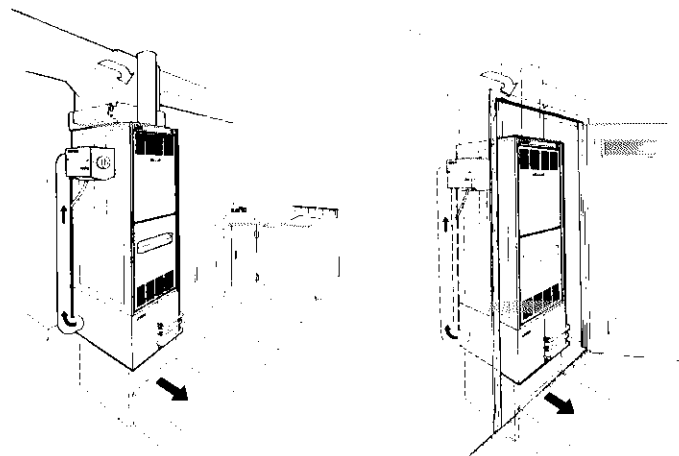


unit for a complete Total Comfort all season installation. The design of the unit is completely certified by A.G.A. In addition units have been developed and thoroughly tested in the Lennox Research Laboratory. Each unit is test operated on the assembly line before shipment insuring proper operation. Blower data is from actual unit tests conducted in the Lennox Laboratory air test chamber. Units are shipped completely factory assembled with all controls installed, piped and wired. Installer has only to mount thermostat, make duct, flue, gas supply and electrical supply connections to complete a low cost installation.



G11RQ3-110V

Typical Applications

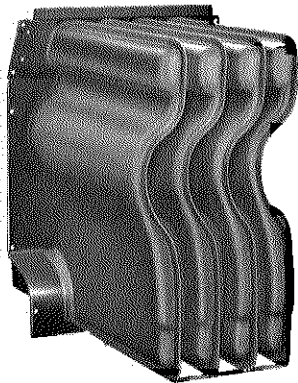


Utility Room Installation
With cooling coil, electronic air
cleaner and humidifier.

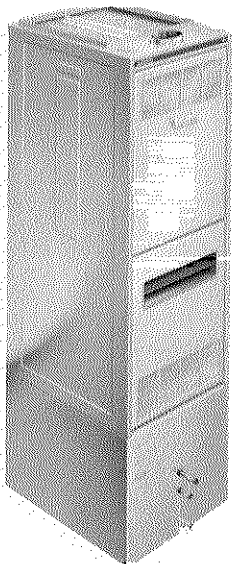
Closet Installation
With cooling coil and humidifier.

FEATURES

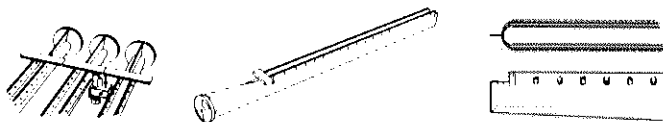
Lennox DURACURVE Heat Exchanger — G12R series models have a cold rolled steel heat exchanger. G11R series models are DURAGLASS II coated. Coating is fused to entire heat exchanger inside and out. Lennox developed heat exchanger eliminates fatigue failure, ticking, resonance and cleanability problems. In the unique design of this heat exchanger the sides of the clam section form a flue restriction zone comprised of sections of two concentric cylinders. As the sides grow they expand and move, but in the same direction and at the same rate. The result is perfect combustion, proper venting and absolute freedom of movement for the metal. Heat exchanger has no ribs, dimples or internal baffling to interfere with a flexible cleaning tool. Heavy gauge cold rolled steel construction provides long service life. Compact size permits low overall design of furnace cabinet and smooth lines give minimum resistance to air travel. Lennox Laboratory life cycle test insures long life of heat exchanger.



Rugged Trim Cabinet — Constructed of heavy gauge cold rolled steel. Interior metal liners and foil faced fiberglass insulation keep outer cabinet surface temperatures low. Draft diverter on G11R models is DURAGLASS II coated. Complete service access is accomplished by removing furnace door, blower section door and access panels. Blower assembly and filter assembly may be completely removed from unit for service. Factory installed flue pipe permits easy field connection exterior to the cabinet. Gas piping and electrical inlet knockouts are provided in both sides of cabinet. Supply air plenum opening matches the supply air opening in add-on Lennox down-flo evaporator coils. 1-1/2 thru 5 tons of cooling is available.

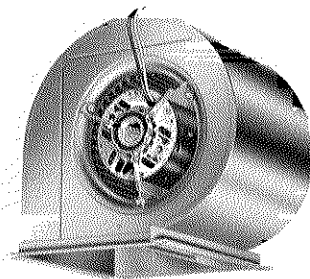


Cabinet and Blower Paint Process — The cabinet and blower have a special "Electro Deposition" process paint finish. Metal preparation consists of a special 6 station wash metal process. 1—Spray application of a strong alkaline cleaner. 2—Spray water rinse. 3—Spray application of a corrosion resistant, paint bonding iron phosphate compound. 4—Spray water rinse. 5—Spray application of a chromic acid. 6—Spray rinse with "de-ionized" water. After the final rinse the cabinet and blower enter a drying oven and are completely dried before receiving the paint finish. They are then completely submerged in the paint vats where the electroplating paint finish is applied. The paint solution and metal are given opposite electrical charges resulting in positive adhesion and even coverage of the paint to the metal surfaces. This process completely covers the entire surfaces, inside and out, including the edges of assembly holes. Following the paint process the finished components enter a high temperature oven where the bonded finish is baked on.

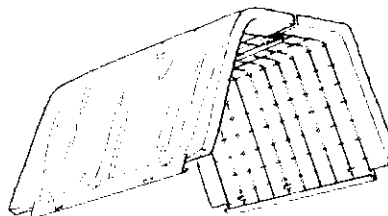


Steel Burners — Each burner has four rows of practically continuous ports which result in quiet and clean combustion. A cross-over igniter of actual burner ports, perpendicular to the main burner, carries a positive flame from burner to burner to achieve quiet and sure ignition.

Powerful Blowers — Units are equipped with quiet variable 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 performance charts. Change in blower speed is easily accomplished by simple wiring change.



Wiring Junction Box — Power supply and thermostat wiring connections are made at the wiring junction box which is located on the furnace vestibule panel. Provisions have been made in the box for additional wiring connections required for power humidifiers and electronic air cleaners. Blower speeds may be easily changed by interchanging the blower wiring connections within the box. See wiring diagram inside blower compartment door.



Hammock Filter — Units are equipped with "hammock" wrap-around type filter. Media is one inch thick oil impregnated fiberglass. Filter mounting rack design provides quick and simple replacement of media for servicing.

Transformer — 24 volt control transformer is furnished as standard equipment and is factory installed in wiring junction box.

Automatic Gas Controls — Silent operating gas controls provide 100% safety shut off. Manual lighted pilot burner provides sure and safe burner operation.

Fan and Limit Controls — Factory installed and accurately located. Fan control has adjustable temperature setting. Continuous blower operation may be accomplished by setting fan control to minimum temperature setting. Limit controls (dual) have fixed temperature setting and are located in furnace and blower section. Protects unit in case of abnormal operating conditions.

Thermostat (Not Furnished) — Heating thermostat is optional equipment and must be ordered extra. For all season application heating-cooling thermostat is furnished with the condensing unit.

Blower Cooling Relay — Furnished as standard equipment and factory installed in the wiring junction box. Relay activates blower operation during cooling cycle.

Fresh Air Inlet (Optional) — Fresh air inlet provides entry of outdoor air into return air system of installation. Equipped with internal mesh screen. Connects to 6" round pipe. Order number BM-3632.

SPECIFICATIONS

*Model No.	C.R. Steel		G12RD2-55	G12RD2-82	G12RQ3-82	G12RD2-110	G12RQ3-110	G12RQ3-137	G12RQ5-137	G12RQ5-165
	DURAGLASS II		G11RD2-55V	G11RD2-82V	G11RQ3-82V	G11RD2-110V	G11RQ3-110V	G11RQ3-137V	G11RQ5-137V	G11RQ5-165V
Btuh input			55,000	82,000	82,000	110,000	110,000	137,000	137,000	165,000
Btuh bonnet output			44,000	65,600	65,600	88,000	88,000	109,600	109,600	132,000
Flue size (in.)			4	4	4	5 oval	5 oval	6 oval	6 oval	6 oval
High static certified by A.G.A. (in. wg.)			.50	.35	.50	.35	.65	.50	.75	.60
Gas piping size (I.P.S. in.)	Nat.		1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4
	Prop.		1/2	1/2	1/2	1/2	1/2	1/2	1/2	3/4
Blower wheel nominal diam. x width (in.)			9 x 7	9 x 7	10 x 7	9 x 9	10 x 8	10 x 8	12 x 12	12 x 12
Blower motor hp			1/5	1/5	1/3	1/5	1/3	1/3	3/4	3/4
Net filter area (sq. ft.) & cut size (in.)			(4.2) 2 — 18 x 24 x 1	(4.2) 2 — 18 x 24 x 1	(4.2) 2 — 18 x 24 x 1	(4.2) 2 — 18 x 24 x 1	(4.2) 2 — 18 x 24 x 1	(4.7) 2 — 24 x 20 x 1	(4.7) 2 — 24 x 20 x 1	(5.3) 2 — 24 x 22 x 1
Tons of cooling that can be added			1-1/2	1-1/2 or 2	2-1/2 or 3	2	2-1/2 or 3	2-1/2 or 3	3-1/2, 4 or 5	3-1/2, 4 or 5
Net weight (lbs.-1 pkg.)			188	193	198	245	250	388	393	430
Electrical characteristics			120 volts/60 hertz/1 phase (All Units)							

*G12R series models are equipped with cold rolled steel heat exchanger. G11R series models are DURAGLASS II coated.

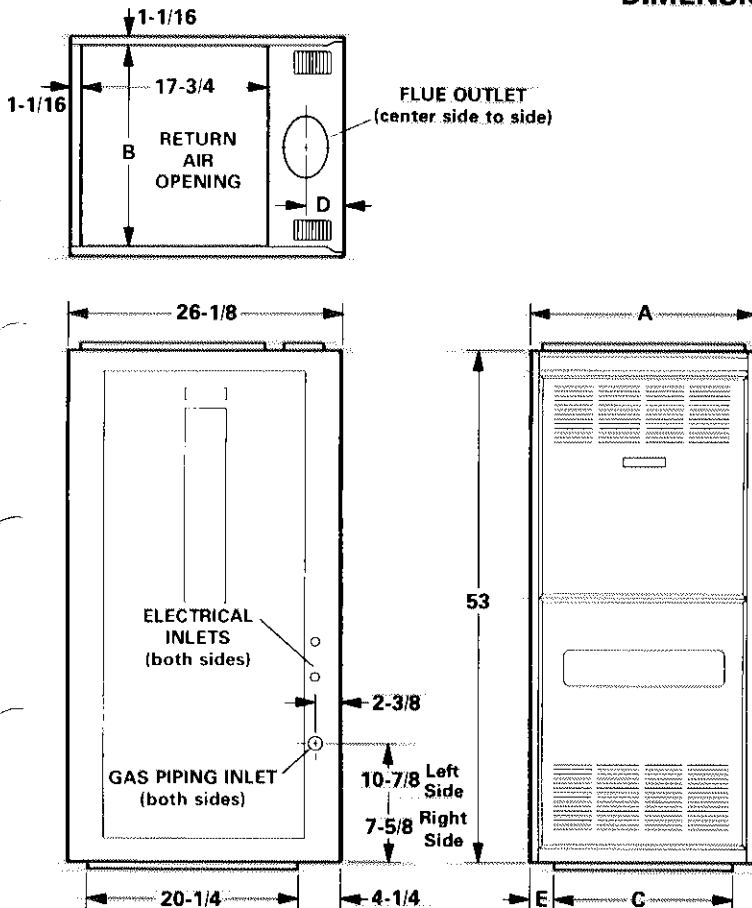
†For Propane units a field changeover kit is required and must be ordered extra. Order number LB-80131D for 55,000 thru 110,000 Btuh input models and LB-80133D for 137,000 and 165,000 Btuh input.

HIGH ALTITUDE DERATE

If the heating value of the gas does not exceed values listed in the table, derating the unit is not required. Should the heating value of the gas exceed the table values, or if the elevation is greater than 6,000 feet above sea level it will be necessary to derate the unit. Lennox requires that derate conditions be 4% per thousand feet above sea level. Thus at an altitude of 4000 feet, if the heating value of the gas exceeds 1000 Btu/ft³, unit will require a 16% derate.

Elevation Above Sea Level (feet)	Maximum Heating Value (Btu/ft ³)
5001 — 6000	900
4001 — 5000	950
3001 — 4000	1000
2001 — 3000	1050
Sea Level — 2000	1100

DIMENSIONS (inches)



A.G.A. INSTALLATION CLEARANCES (in.)

Sides, Top & Rear	1 inch
Front	6 inches
**Floor	Combustible
*Flue	6 inches

*This clearance is to all flue pipes except type "B". Type "B" flue pipe clearance is listed by U.L.

**Clearance for installation on combustible floor if optional additive base is installed between the furnace and the combustible floor.

When the furnace is installed in a confined space, two openings must be provided into the confined area, one opening near the top of the enclosure and one near the bottom. Each opening must have one square inch of free area per 1000 Btuh input and must not be smaller than 100 square inches of free area.

Model No.	G12RD2-55	G12RD2-82	G12RD2-110	G12RQ3-137	G12RQ5-165
	G11RD2-55V	G11RD2-82V	G11RD2-110V	G11RQ3-137V	G11RQ5-165V
A	16-1/4	21-1/4	26-1/4	31-1/4	
B	14-1/8	19-1/8	24-1/8	29-1/8	
C	12	17	20	24-1/4	
D	3-1/8	3-1/4	3-5/16	3-3/8	
E	2-1/8	2-1/8	3-1/8	3-1/2	

NOTE — When unit is installed on a combustible floor an additive base is required. This base is optional equipment and must be ordered extra. Order number LB-80639BA for 55,000 & 82,000 Btuh input models, LB-80639BB for 110,000 Btuh input models, LB-80639BC for 137,000 Btuh input models and LB-80639BD for 165,000 Btuh input models. When using additive base make opening in floor 2-5/8 inches larger (front to rear and side to side) than furnace supply air opening.

BLOWER DATA

G11RD2-55V & G12RD2-55 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	1012	835	575
.05	987	830	605
.10	960	820	625
.15	932	810	640
.20	905	795	650
.25	877	775	650
.30	845	755	638
.40	775	700	595
.50	690	628	535

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RD2-82V & G12RD2-82 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	990	815	635
.05	965	810	635
.10	940	800	635
.15	915	785	635
.20	885	770	635
.25	860	755	625
.30	830	730	615
.40	760	675	570

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RQ3-82V & G12RQ3-82 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds			
	High	Med-High	Medium	Low
0	1370	1249	1095	905
.05	1342	1228	1081	904
.10	1315	1207	1064	899
.15	1285	1185	1045	891
.20	1256	1162	1024	880
.25	1227	1138	1002	865
.30	1197	1110	978	850
.40	1130	1045	930	815
.50	1055	977	872	765

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RD2-110V & G12RD2-110 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds	
	High	Low
0	1140	740
.05	1120	760
.10	1090	760
.15	1060	760
.20	1030	760
.25	990	750
.30	950	730
.40	860	---

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RQ3-110V & G12RQ3-110 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds			
	High	Med-High	Med-Low	Low
0	1610	1385	1055	890
.05	1585	1375	1055	890
.10	1555	1360	1050	895
.15	1525	1340	1045	895
.20	1500	1325	1040	900
.25	1465	1305	1035	900
.30	1435	1285	1025	900
.40	1370	1240	1000	885
.50	1300	1180	960	855
.60	1225	1115	900	---
.70	1145	1040	---	---

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RQ3-137V & G12RQ3-137 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds		
	High	Medium	Low
0	1620	1350	1090
.05	1590	1335	1070
.10	1560	1310	1060
.15	1530	1290	1040
.20	1500	1265	1020
.25	1470	1240	1005
.30	1435	1215	990
.40	1360	1160	---
.50	1280	1105	---

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RQ5-137V & G12RQ5-137 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds				
	High	Med-High	Medium	Med-Low	Low
0	2440	2310	2240	2010	1790
.05	2410	2280	2200	1970	1760
.10	2370	2240	2160	1920	1730
.15	2330	2210	2110	1880	1695
.20	2290	2170	2070	1830	1660
.25	2255	2130	2030	1790	1630
.30	2210	2090	1990	1750	1600
.40	2130	2010	1910	1670	1535
.50	2040	1930	1835	1600	1465
.60	1945	1845	1760	1520	1400
.70	1840	1750	1680	1440	1320

NOTE — All cfm is measured external to the unit with the air filter in place.

G11RQ5-165V & G12RQ5-165 BLOWER PERFORMANCE

External Static Pressure (in. wg.)	Air Volume (cfm) @ Various Speeds				
	High	Med-High	Medium	Med-Low	Low
0	2600	2470	2310	1960	1690
.05	2565	2435	2280	1930	1670
.10	2530	2400	2250	1900	1650
.15	2500	2370	2220	1870	1630
.20	2460	2335	2185	1845	1610
.25	2430	2300	2150	1810	1585
.30	2390	2260	2120	1785	1560
.40	2315	2190	2050	1720	1505
.50	2235	2110	1970	1660	1450
.60	2150	2020	1890	1590	1390

NOTE — All cfm is measured external to the unit with the air filter in place.