

G19 DIPLOMAT™ SERIES UP-FLO GAS FURNACES

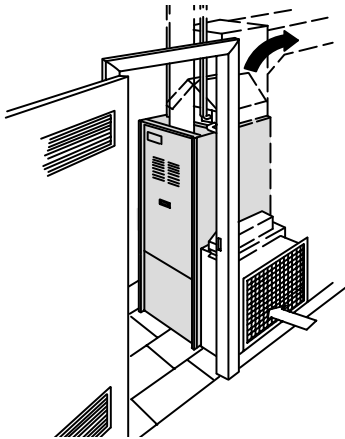
*80.0% A.F.U.E.

50,000 to 150,000 Btuh (14.7 to 44.0 kW) Input
1-1/2 thru 5 Tons (5.3 thru 17.6 kW) Nominal Add-On Cooling

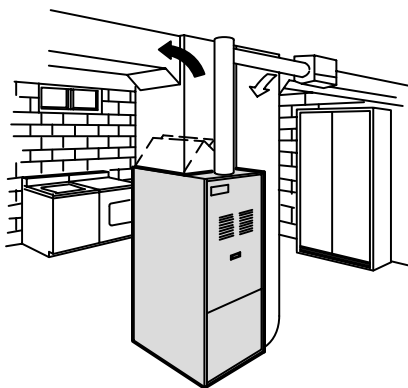
*Isolated Combustion System Rating For Non-Weatherized Furnaces



Typical Applications



Closest Installation
With cooling coil and
electronic air cleaner



Utility Room Installation
With cooling coil and humidifier

Applications — G19 Diplomat™ series gas fired furnaces include ten models with input capacities of 50,000, 75,000, 100,000, 125,000 and 150,000 Btuh (14.6, 22.0, 29.3, 36.6, and 44.0 kW) and energy efficiencies (AFUE) of 80.0%. Compact cabinet will allow installation in a basement, closet, recreation or utility room. Lennox add-on evaporator coils, electronic air cleaners and power humidifiers can be easily added to the furnace. Units are shipped factory assembled. Each unit is factory test operated.

Approvals — Units are certified by A.G.A. and C.G.A. Blower data is from unit tests conducted in laboratory air test chamber. Units are certified for conventional or sidewall venting.

Rugged Cabinet — Constructed of heavy gauge cold rolled steel with a durable baked-on enamel finish. Heating section is completely lined with foil faced fiberglass insulation. Complete service access is accomplished by removing furnace and blower compartment access panels. Blower assembly may be completely removed from unit for service. Safety interlock switch automatically shuts off power to the unit when blower compartment access door is removed. Gas piping and electrical inlet knockouts are provided in both sides of the cabinet. Return air entry is possible on either side or bottom of cabinet.

Aluminized Steel Heat Exchanger — Clamshell type heat exchanger is constructed of heavy gauge aluminized steel, designed for normal expansion and contraction without metal fatigue. Crimped seam design and construction provides for long service life, maximum efficiency and minimum resistance to air flow.

Aluminized Steel Tubular Burners — Single port tubular type non-linting burners provide trouble free operation. Burner venturi mixes gas and air in correct proportion for proper combustion. Crossover igniter of burner ports, perpendicular to the main burner, carries a positive flame from burner to burner to achieve quiet and sure ignition.

Electronic Pilot Control — Solid-state electronic direct spark igniter provides positive ignition of pilot burner on each operating cycle. Pilot gas is ignited and burns during each running cycle of the furnace. Main burners and pilot gas are extinguished during the off cycle. This system permits main gas valve to open only when pilot burner is proven to be lit. Should a loss of flame occur, the main valve closes, shutting down the unit. Pilot is a fully automatic operation on demand for heat.

FEATURES

Automatic Gas Control — 24 volt combination gas control valve combines automatic safety pilot, pilot filtration, automatic electric valve (dual) with manual set off knob (Off-On), and gas pressure regulation into a compact combination control. Dual valve design provides double assurance of 100% close off of gas to the pilot and main burners on each off cycle.

Power Vent Blower — Factory installed power vent blower pre-purges heat exchanger and safely vents combustion products. Operates only during heating demand cycle. Pressure switch prevents unit operation in case of blockage of combustion air or flue outlet.

Flame Rollout Switch — Manual reset switch is furnished as standard and is factory installed on the vestibule panel. Switch prevents unit operation in the event combustion products passage through the flueway is reduced or blocked.

Limit Control — Factory installed and accurately located limit control gives protection against abnormal operating conditions.

Solid-State Control Panel — Factory installed on the vestibule panel. Panel contains all necessary relays and controls to operate the furnace. Control regulates the power vent blower and the supply air blower. Timed-on feature minimizes possibility of nuisance blower cycling. Timed "on" (30 seconds) fixed. Fan "off" (60, 90, 120 or 150 seconds) adjustable. For air-conditioning applications, blower is automatically energized on thermostat demand for cooling. Also included is a low voltage terminal strip for thermostat connections.

Transformer — 24 volt control transformer is furnished as standard equipment and is factory installed on vestibule panel.

Cleanable Air Filter and Filter Rack — Washable or vacuum cleanable slab type filter is furnished as standard. Heavy gauge steel filter rack is field installed external to unit on either side for side return air applications. See dimension drawing. Two filter racks are furnished with G19Q5-100, G19Q5-125 and G19Q5-150 models for side return air on both sides of the unit cabinet.

For bottom return air applications an optional kit is available and must be ordered extra. See below.

For applications requiring a higher air volume, an optional Dual Filter Side Return Air Cabinet is available and must be ordered extra. See below.

Powerful Blowers — Units are equipped with quiet multi-speed direct drive blowers. Each blower assembly is statically and dynamically balanced. Multiple-speed leadless motor is resiliently mounted. A choice of blower speeds is available on each blower. See blower performance tables.

OPTIONAL ACCESSORIES (Must Be Ordered Extra)

LPG/Propane Conversion Kit (Optional) — For LPG/propane models a conversion kit (15J24) is required for field change-over from natural gas. Kit is not furnished and must be ordered extra.

⚡ **High Altitude Conversion Kit (Optional)** — Kit (15J25) is available for units installed in high altitude applications to allow full input operation. See Specifications tables.

⚡ **Blocked Vent Shutoff Sensor (Optional)** — Manual reset temperature sensor (15J23) prevents unit operation in case of flue blockage and meets CGA requirements. Must be ordered extra for vertical draft applications. Not required for horizontal venting applications.

Thermostat (Optional) — Heating thermostat is not furnished and must be ordered extra. For all-season applications, heating and cooling thermostat is available with the condensing unit.

Bottom Return Air Filter Kit (Optional) — Kit (16J41) is available for bottom return air applications and must be ordered extra. Kit contains filter channels, all necessary installing hardware and cleanable slab type filter. See Specifications tables.

Furnace Twinning Kit (Optional) — Field Installed kit LB-63093A (64H88) is available to operate two furnaces simultaneously. Kit consists of heavy gauge steel control box and two auxiliary limit controls. Control box has electrical inlet knockouts and contains low voltage and high voltage terminal strips, blower control relay, heat relays, door interlock relay and 24 volt control transformer. All controls are factory installed and wired. Limit controls are field installed in each furnace. Holes for mounting control box are provided. Box may be field installed in any convenient location adjacent to or on one of the furnaces. Optional Continuous Low Speed Blower Switch (67H18) is available for plug-in connection to twinning kit.

Dual Filter Side Return Air Cabinet (Optional) — Filter cabinet (15J26) is available for side return air applications requiring a higher air volume. Filters are furnished with cabinet. See Specifications tables for filter size and dimension drawing.

INSTALLATION CLEARANCES — inches (mm)

Sides	•0 inches (0 mm) — G19Q2-50, G19Q3-50, G19Q2-75, G19Q3-75
	*3 inches (76 mm) — G19Q2-50, G19Q3-50, G19Q2-75, G19Q3-75
Rear	0 inches (0 mm) — G19Q3-100, G19Q5-100 1 inch (25 mm) — G19Q3-125, G19Q5-125, G19Q5-150
	0 inches (0 mm) — G19Q2-50, G19Q3-50, G19Q2-75, G19Q3-75, G19Q3-100, G19Q5-100 1 inch (25 mm) — G19Q3-125, G19Q5-125, G19Q5-150
Top	1 inch (25 mm)
Front	6 inches (152 mm)
Floor	Combustible
•Flue	•1 inch (25 mm)
*Flue	*6 inch (152 mm)

•Type "B" vent clearances as listed by U.L. and U.L.C.

*This is clearance to all flue pipes except type "B".

NOTE—Flue sizing and air for combustion and air for combustion must conform to

the methods outlined in American National Standard (ANSI-Z223.1) National Fuel Gas Code and CAN/CGA-149.1,.2 Installation Code for gas burning appliances.

HIGH ALTITUDE DERATE — A.G.A. Units Only

A.G.A. certified units must be derated when installed at an elevation of more than 2000 ft. (610 m) above sea level. If unit is installed at an altitude higher than 2000 ft. (610 m), the unit must be derated 45 for every 1000 ft. (305 m) above sea level. Thus, at an altitude of 4000 ft. (1210 m), the unit would require a derate of 16%.

NOTE — This is the only permissible derate for these units.

SPECIFICATIONS

Model No.		G19Q2-50	⊕ G19Q3-50	⊕ G19Q2-75	G19Q3-75	G19Q4-75
Input — Btuh (kW)		50,000 (14.7)	50,000 (14.7)	75,000 (22.0)	75,000 (22.0)	75,000 (22.0)
Output — Btuh (kW)		40,000 (11.7)	40,000 (11.7)	59,000 (17.3)	59,000 (17.3)	59,000 (17.3)
*A.F.U.E.		80.0%	80.0%	80.0%	80.0%	80.0%
Flue size connection — in. (mm) dia. round		4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
Temperature rise range — °F (°C)		45–75 (25–42)	30–60 (17–33)	55–85 (31–47)	45–75 (25–42)	45–75 (25–42)
High static certified by A.G.A./C.G.A. — in wg. (Pa)		0.50 (124)	0.50 (124)	0.50 (124)	0.50 (124)	0.50 (124)
Gas Piping Size I.P.S. — in. (mm) Natural or **LPG/Propane		1/2 (13)	1/2 (13)	1/2 (13)	1/2 (13)	1/2 (13)
Blower wheel nominal diameter x width	in.	10 x 6	10 x 8	10 x 6	10 x 6	10 x 8
	mm	254 x 152	254 x 203	254 x 152	254 x 152	254 x 203
Blower motor hp (W)		1/6 (124)	1/3 (249)	1/6 (124)	1/3 (249)	1/2 (373)
Number & Size of Filters	in.	(1) 16 x 25 x 1				
	mm	(1) 406 x 635 x 25				
Additive Cooling	Tons	1-1/2 or 2	2 or 2-1/2	1-1/2 or 2	2 or 2-1/2	3, 3-1/2 or 4
	kW	5.3 or 7.0	7.0 or 8.8	5.3 or 7.0	7.0 or 8.8	10.6, 12.3 or 14.1
Shipping weight — lbs. (kg) 1 package		145 (66)	145 (66)	165 (75)	165 (75)	165 (75)
Electrical characteristics		120 volts — 60 hertz — 1 phase (less than 12 amps) All models				
**LPG/Propane Kit (optional)		15J24 (all models)				
Bottom Return Air Filter Kit (optional)		16J41 (all models)				
Dual Filter Side Return Air Cabinet (optional)	Catalog No.	15J26 (all models)				
	No. & filter size — in. (mm)	(2) 16 x 20 x 1 (406 x 508 x 25)				
**High Altitude Conversion Kit (optional)		15J25 (all models)				

*Annual Fuel Utilization Efficiency. Isolated combustion system rating for non-weatherized furnaces.

**Kits must be ordered extra for field changeover.

⊕ Not available in the U.S.

SPECIFICATIONS

Model No.		G19Q3-100	G19Q5-100	⊕ G19Q3-125	G19Q5-125	⊕ G19Q5-150
Input — Btuh (kW)		100,000 (29.3)	100,000 (29.3)	125,000 (36.6)	125,000 (36.6)	150,000 (43.4)
Output — Btuh (kW)		79,000 (23.1)	79,000 (23.1)	99,000 (29.0)	99,000 (29.0)	120,000 (35.2)
*A.F.U.E.		80.0%	80.0%	80.0%	80.0%	80.0%
Flue size connection — in. (mm) dia. round		4 (102)	4 (102)	4 (102)	4 (102)	4 (102)
Temperature rise range — °F (°C)		45–75 (25–42)	35–65 (19–36)	65–95 (36–53)	45–75 (25–42)	55–85 (31–47)
High static certified by A.G.A./C.G.A. — in wg. (Pa)		0.50 (124)	0.50 (124)	0.50 (124)	0.50 (124)	0.50 (124)
Gas Piping Size I.P.S. — in. (mm) Natural or **LPG/Propane		1/2 (13)	1/2 (13)	1/2 (13)	1/2 (13)	1/2 (13)
Blower wheel nominal diameter x width	in.	10 x 8	12 x 8	10 x 8	12 x 9	12 x 9
	mm	254 x 203	305 x 203	254 x 203	305 x 229	305 x 229
Blower motor hp (W)		1/3 (249)	3/4 (560)	1/3 (249)	3/4 (560)	3/4 (560)
Number & Size of Filters	in.	●(1) 16 x 25 x 1				
	mm	●(1) 406 x 635 x 25				
Additive Cooling	Tons	2-1/2 or 3	3, 3-1/2 or 4	2-1/2 or 3	4 or 5	3, 3-1/2, 4 or 5
	kW	8.8 or 10.6	10.6, 12.3 or 14.1	8.8 or 10.6	14.1 or 17.6	10.6, 12.3, 14.1 or 17.6
Shipping weight — lbs. (kg) 1 package		185 (84)	185 (84)	230 (104)	230 (104)	265 (120)
Electrical characteristics		120 volts — 60 hertz — 1 phase (less than 12 amps) All models				
**LPG/Propane Kit (optional)		15J24 (all models)				
Bottom Return Air Filter Kit (optional)		16J41 (all models)				
Dual Filter Side Return Air Cabinet (optional)	Catalog No.	15J26 (all models)				
	No. & filter size — in. (mm)	(2) 16 x 20 x 1 (406 x 508 x 25)				
**High Altitude Conversion Kit (optional)		15J25 (all models)				

*Annual Fuel Utilization Efficiency. Isolated combustion system rating for non-weatherized furnaces.

**Kits must be ordered extra for field changeover.

● Two filters are furnished with G19Q5-100, G19Q5-125 and G19Q5-150 models.

⊕ Not available in the U.S.

BLOWER DATA**G19Q2-50 BLOWER PERFORMANCE**

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	820	385	620	295	590	280
.30	75	810	380	630	295	550	260
.40	100	800	380	630	295	550	260
.50	125	780	370	620	295	560	265
.60	150	750	355	600	285	540	255
.70	175	700	330	570	270	510	240

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

G19Q3-50 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	1525	720	1305	615	1070	505
.30	75	1475	695	1255	590	1065	505
.40	100	1415	665	1225	580	1045	495
.50	125	1355	640	1185	560	1025	485
.60	150	1310	620	1130	535	980	460
.70	175	1230	580	1060	500	900	425

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

G19Q2-75 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	810	380	630	295	540	255
.30	75	800	380	630	295	550	260
.40	100	780	370	630	295	550	260
.50	125	750	355	600	285	530	250
.60	150	720	340	580	275	510	240
.70	175	670	315	590	280	480	225

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

G19Q3-75 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	1160	545	1080	510	950	450
.30	75	1120	530	1040	490	930	440
.40	100	1060	500	990	465	910	430
.50	125	1000	470	940	445	890	420
.60	150	920	435	880	415	850	400
.70	175	800	380	800	380	780	370

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

G19Q4-75 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	1730	815	1385	655	1025	485
.30	75	1680	795	1385	655	1080	510
.40	100	1610	760	1360	640	1090	515
.50	125	1550	730	1350	635	1100	520
.60	150	1450	685	1320	625	1090	515
.70	175	1340	630	1290	610	1070	505

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

BLOWER DATA

G19Q3-100 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	1410	665	1220	575	1010	475
.30	75	1370	645	1200	565	1010	475
.40	100	1310	620	1160	545	1000	470
.50	125	1260	595	1110	525	970	460
.60	150	1190	560	1040	490	930	440
.70	175	1080	510	920	435	850	400

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

G19Q5-100 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	2050	965	1680	795	1240	585
.30	75	2010	950	1680	795	1240	585
.40	100	1980	935	1650	780	1230	580
.50	125	1930	910	1630	770	1215	575
.60	150	1880	885	1590	750	1200	565
.70	175	1820	860	1540	725	1160	545

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

G19Q3-125 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		●Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	1440	680	1260	595	1050	495
.30	75	1420	670	1230	580	1040	490
.40	100	1370	645	1190	560	1020	480
.50	125	1270	600	1120	530	1020	480
.60	150	1100	520	1010	475	990	465
.70	175	900	425	870	410	950	450

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

●Low speed not recommended for heating.

G19Q5-125 BLOWER PERFORMANCE

External Static Pressure		Air Volume at Various Blower Speeds							
		High		High		Medium		Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	2180	1030	2030	960	1750	825	1360	640
.30	75	2120	1000	1970	930	1730	815	1350	635
.40	100	2100	990	1910	900	1690	800	1340	630
.50	125	2000	945	1850	875	1650	780	1320	625
.60	150	1910	900	1760	830	1600	755	1290	610
.70	175	1770	835	1650	780	1540	725	1250	590

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

NOTE — Shaded area denotes air volume with optional Dual Filter Side Return Air Cabinet or side return air on both sides of unit cabinet.

G19Q5-150 BLOWER PERFORMANCE

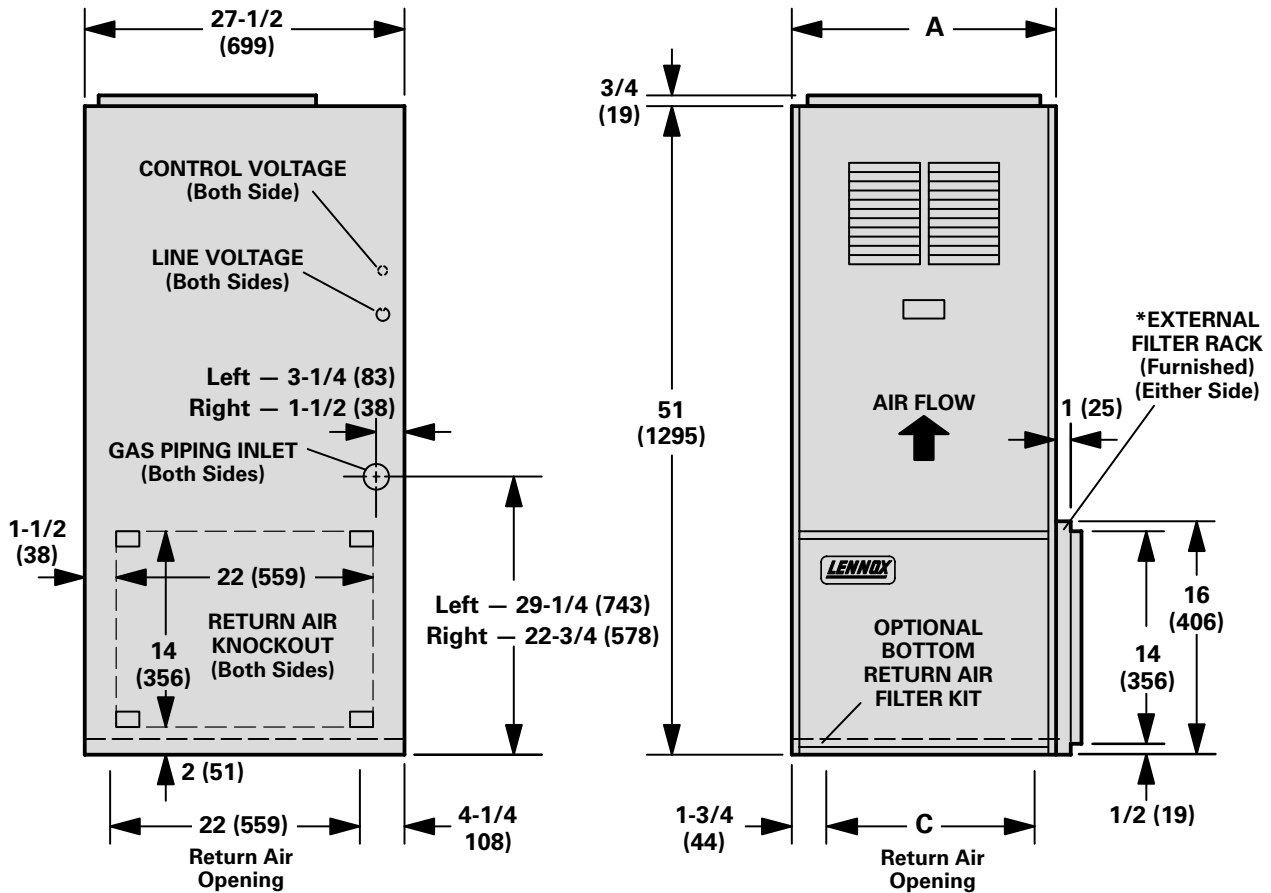
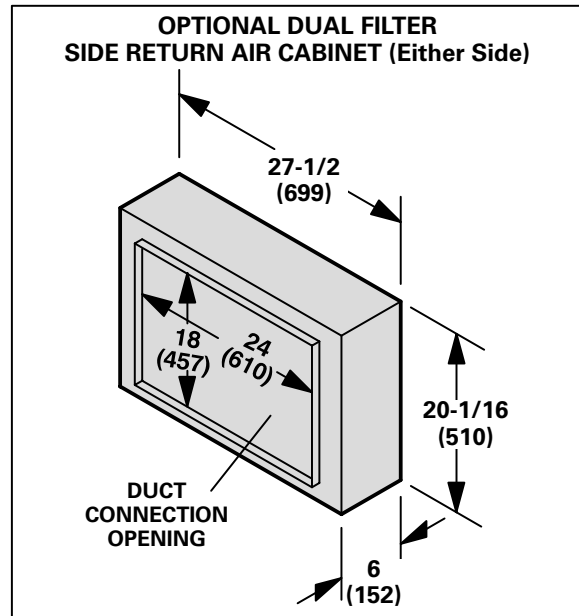
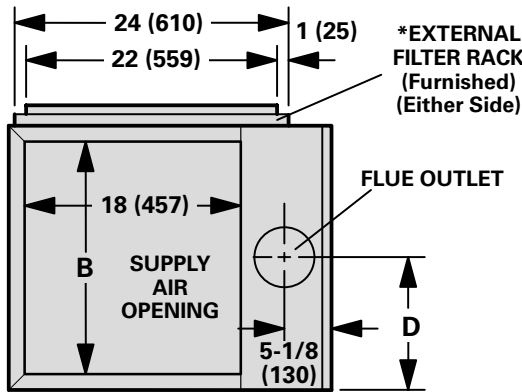
External Static Pressure		Air Volume at Various Blower Speeds					
		High		Medium		●Low	
in. w.g.	Pa	cfm	L/s	cfm	L/s	cfm	L/s
.20	50	2080	980	1690	800	1280	605
.30	75	2060	970	1680	795	1280	605
.40	100	2040	965	1670	790	1270	600
.50	125	2020	955	1650	780	1270	600
.60	150	1980	935	1630	770	1250	590
.70	175	1940	915	1590	750	1210	570

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

NOTE — Shaded area denotes air volume with optional Dual Filter Side Return Air Cabinet or side return air on both sides of unit cabinet.

●Low speed not recommended for heating.

DIMENSIONS – inches (mm)



*NOTE – Two Filter Racks are Furnished with G19Q5-100, G19Q5-125 and G19Q5-150 Models.

Model No.	A		B		C		D	
	in.	mm	in.	mm	in.	mm	in.	mm
G19Q2-50, G19Q3-50, G19Q2-75, G19Q3-75, G19Q4-75	13-1/2	343	12	305	10	254	5-1/4	133
G19Q3-100, G19Q5-100	17-1/2	445	16	406	14	365	7-1/2	191
G19Q3-125, G19Q5-125	21-1/2	546	20	508	18	457	9-1/4	235
G19Q5-150	25-1/2	648	22	559	22	559	11-1/4	286