

LENNOX

FORCED AIR GAS FURNACES—DOWN-FLO G8R SERIES—82,000 to 165,000 Btuh INPUT ADD-ON COOLING—1½ THRU 5 NOMINAL TONS



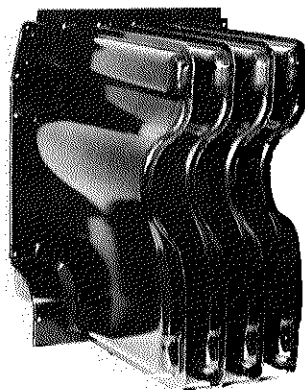
- DURACURVE[®] Heat Exchanger with LENNOX DURAGLASS[™] Coating
- Sulky Blower
- Sized For Air Conditioning
- Hammock Filter
- Continuous Port Steel Burners
- Many Sizes Available
- Low Height Compact Units
- Crisp New Cabinet Lines
- Complete Service Access

LENNOX DURACURVE HEAT EXCHANGER

A major engineering breakthrough—Lennox engineering and experience brings to the heating industry the first direct-fired heat exchanger which **eliminates** all the historic fatigue failure, ticking, resonance and cleanability problems inherent in clam type furnaces. Its name is LENNOX DURACURVE. Its secret—freedom.

Old style clam type heat exchangers were rigidly constrained, dimpled, ribbed and internally baffled to maintain proper and constant flue restriction required for complete combustion and maximum efficiency while maintaining proper venting. Metal so constrained and held—ticked, groaned and sometimes cracked as its desire to expand during heating was restricted.

Not so with LENNOX DURACURVE !!! In this unique design 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.



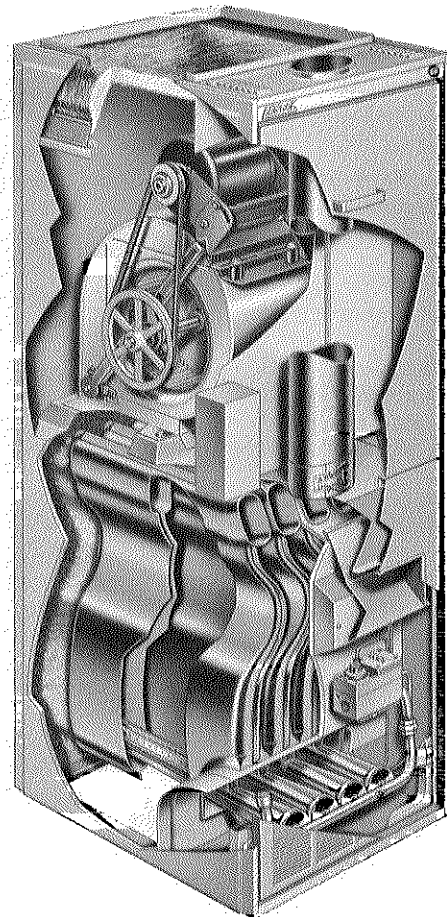
LENNOX DURAGLASS The industry's first heat exchanger coating designed specifically for direct-fired furnaces. Unlike common types of thin, porous combination vitreous metallic finishes which are classified under Bureau of Standard No. A-19, LENNOX DURAGLASS is a relatively thick (.0045"), highly flexible, non-porous glass coating fused to the entire heat exchanger—inside and out—at 1600F. LENNOX DURAGLASS—product of seven years of research and development—has exactly the same coefficient of expansion as the steel it protects—will never chip, crumble or crack. Gives lifetime protection against the wet acids formed by gas flames fed combustion air contaminated by small quantities of hydro-or fluorocarbons. Vastly superior to porous A-19 vitreous coatings, aluminized or stainless steel. LENNOX DURAGLASS—Another first from Lennox where good ideas become great products.

Result—perfect combustion, proper venting and absolute freedom of movement for the metal. No stress or strain—no ticking, groaning or popping noises caused by internal metal expansion forces—and complete elimination of clam-section failure due to fatigue cracking.

Resonance eliminated—The flat drum-like surface of old style heat exchangers could—and did—vibrate in harmony with the pulsations of the combustion process. The result was the irritating, noisy and elusive phenomenon known as resonance. Since all LENNOX DURACURVE surfaces are sections of concentric cylinders there are no drum-like surfaces and, hence no resonance.

No cleaning problem exists since this type exchanger has no ribs, dimples or internal baffling to interfere with a flexible cleaning tool.

The rugged heat exchanger is the quietest, most durable clam type ever developed—another Lennox Engineering breakthrough!!

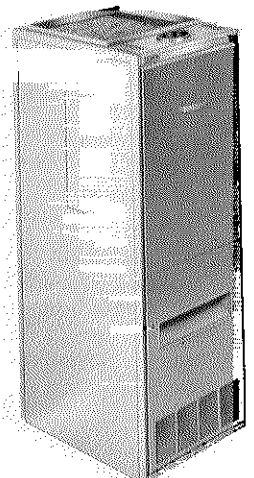


G8R-110-V Cutaway View

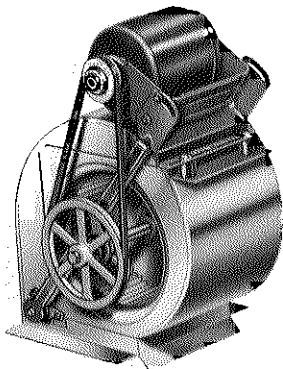
CRISP NEW CABINET LINES

Ultra modern cabinet is attractive when viewed at any angle. Trim "sheer" looking cabinet with "furniture" finish of baked enamel will enhance any environment. Good looking and quiet enough to be installed in a kitchen !!! Die formed panels and doors have a ruggedness and appearance unequalled by any other make of residential furnace.

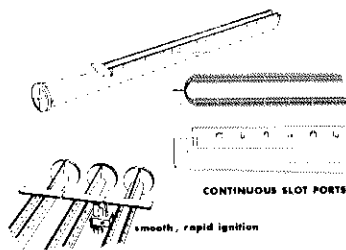
Complete service access is accomplished by removing both front doors which expose the controls, burners, filters, and blower motor for quick and easy servicing. Four ¾ inch weld nuts are provided in cabinet base corners for leveling.



Sulky Blower—Exclusive Lennox designed belt drive blowers are the quietest in the industry. All moving parts are anchored on a rigid "U" frame which in turn is resiliently mounted to the blower housing. No vibration or noise can be transmitted to the blower housing, furnace cabinet or ductwork. Ingenious design of motor cradle allows quick and simple belt adjustment and pulley alignment.

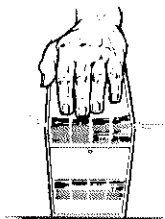


Continuous Port Steel Burners—Each burner has four rows of practically continuous ports which result in amazingly quiet and clean combustion. These continuous ports provide almost twice the "port area" as do conventional burners. This produces a clean, short, soft, quiet and efficient flame with all types of gases except mfd.



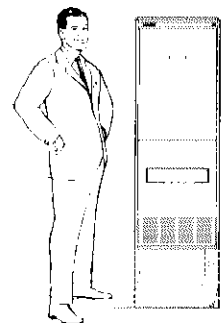
A new super quiet crossover igniter of actual burner ports, perpendicular to the main burner carries a positive flame from burner to burner to achieve the fastest, surest and quietest ignition of multiple burners known in the industry. No "flame roll" noise here, just the most quiet ignition possible.

Low Height Compact Units—Exclusive Lennox DURACURVE design permits a much lower overall cabinet height than ordinary reverse-flo furnaces. Height of entire cabinet is only approximately 4½ feet including larger than usual blowers. Lower height is vitally important for additive cooling. Lennox DURACURVE leaves plenty of height for cooling coils and distributing ductwork connection. See application drawings. Compact size units require very little floor space. See dimensions.

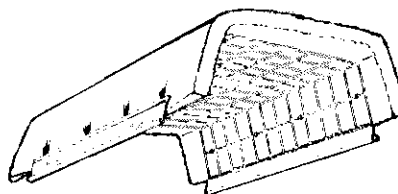


Standard Controls—Accurately positioned fan and limit controls are buried between the heating sections. They are nestled in the offset cavity created by the Lennox DURACURVE heating sections, where they are not effected by the blower velocity. Thus they sense heating temperatures more accurately resulting in consistent control operation. Silent operating gas controls provide 100% safety shutoff for all gases. The 24 volt control transformer has enough capacity to handle the blower relay when cooling is added.

Sized For Air Conditioning—The Lennox DURACURVE gas furnace line has been developed with strict attention paid to the design details required for air conditioning. The smooth lines of the DURACURVE heat exchanger give minimum resistance to air travel. Extra large blowers deliver cooling air requirements whisper quiet. New shorter height cabinet makes additive cooling installation much easier than on conventional down-flo furnaces. Supply air plenum opening exactly matches the supply air openings in Lennox direct expansion evaporator coil cabinets.



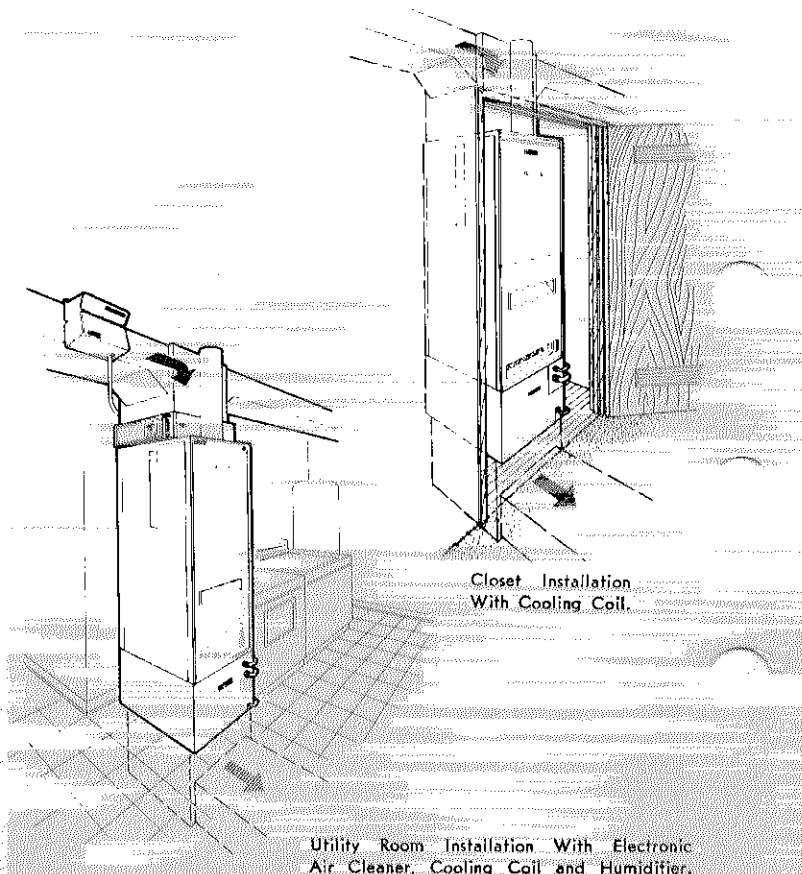
Hammock Filter—Another exclusive Lennox feature. Permits two to three times as much filter area compared to conventional furnaces. The tremendous surface area permits use of the most efficient throw-away type filter media available for superfine filtering and long life.



LENNOX TOTAL COMFORT SYSTEM

Consists of central furnace with the air mover, central air conditioning system, air filter and humidifier. Air is circulated through these units (Also outdoor fresh air, if desired) where it is heated or cooled, cleaned by the air filter and humidity added (in summer humidity is removed). The air mover (blower) operates constantly, gently and quietly 24 hours a day. This constant air circulation keeps even room temperature and lowers operating costs by continually mixing and recirculating the air.

TYPICAL APPLICATIONS



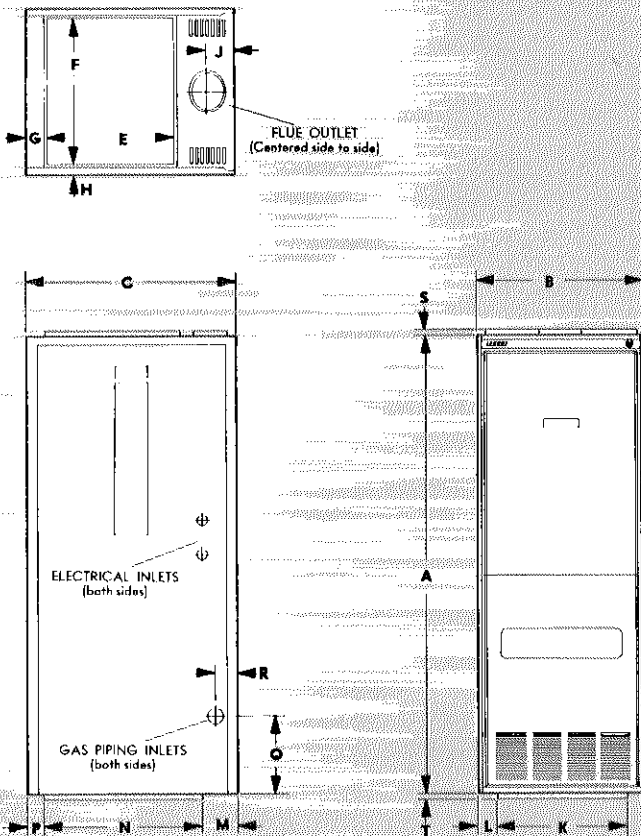
SPECIFICATIONS

Model Number	G8R-82-V	G8R-110-V	G8R-137-V	G8R-165-V
Btuh input	82,000	110,000	137,000	165,000
Btuh bonnet output	65,600	88,000	109,600	132,000
Cfm for 100 F temperature rise	610	815	1015	1220
Flue size (in. round)	4	5	5	6
High static approved by A.G.A. (in. wg.)	1.00	1.00	1.00	1.00
Gas piping size (I.P.S. in.)	Natural or Mixed	1/2	1/2	3/4
	LP-Air	1/2	3/4	1
	Propane	1/2	1/2	1/2
Blower wheel nominal diam. x width (in.)	10 x 7	10 x 7	12 x 12	12 x 12
Blower motor horsepower	1/6	1/4	1/4	1/3
Blower pulley bore x diam. (in.)	3/4 x 7	3/4 x 6	1 x 8	1 x 7
Adj. motor pulley bore x diam. (in.)	1/2 x 3 1/8	1/2 x 3 1/8	1/2 x 3 1/8	1/2 x 3 1/8
Rpm range with drives furnished	540-740	635-865	475-645	475-645
Belt	3L430	3L410	3L460	3L440
Net filter area (sq ft) & cut size (in.)	2.78—22 x 22 x 1	3.50—22 x 24 x 1	4.32—(2) 22 x 20 x 1	5.24—(2) 22 x 24 x 1
Tons of cooling that can be added	1 1/2, 2, 2 1/2 or 3	1 1/2, 2, 2 1/2 or 3	2 1/2, 3, 4, or 5	3, 4 or 5
Electrical characteristics	120v/60 cy/1φ	120v/60 cy/1φ	120v/60 cy/1φ	120v/60 cy/1φ
Net weight (lbs.)	223	280	413	450
Number of packages in shipment	1	1	1	1

NOTE—High altitude derate—A.G.A. requires gas furnaces be derated 4% per thousand feet above sea level when the installation is at an altitude of 2000 feet or more. Thus an installation at 3000 feet altitude requires a derate of 12% while up to 2000 feet altitude the unit has a full rating.

Units are available for GUAG requirements

DIMENSIONS (in.)



Model No.	G8R-82-V	G8R-110-V	G8R-137-V	G8R-165-V
A	58	58	64	64
B	16	21	26	31
C	26 1/8	26 1/8	26 1/8	26 1/8
E	16 3/4	16 3/4	16 3/4	16 3/4
F	14	19	24	29
G	23 1/16	23 1/16	23 1/16	23 1/16
H	1"	1"	1"	1"
J	3 1/8	3 1/8	3 3/16	3 3/8
K	12	17	22	27
L	2 1/8	2 1/8	2 1/8	2 1/8
M	4 1/8	4 1/8	4 1/8	4 1/8
N	20 1/4	20 1/4	20 1/4	20 1/4
P	1 3/4	1 3/4	1 3/4	1 3/4
Q	9 3/4	9 3/4	9 3/4	9 3/4
R	2 9/16	2 9/16	2 9/16	2 9/16
S	1/2	1/2	1/2	1/2
T	1/2	1/2	1/2	1/2

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

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

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 BM-4264 for G8R-82, BM-4265 for G8R-110, BM-4266 for G8R-137 and BM-4267 for G8R-165. When using the additive base make opening in floor 2 5/8 inches larger (front to rear and side to side) than furnace supply air opening.

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

BLOWER DATA

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

G8R-82-V BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT—Inches Water Gauge																					
	0		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
500	400	.09	510	.12	600	.13	680	.15	750	.17	820	.19	880	.21	933	.23	987	.25	1000	.27	1075	.29
600	480	.11	575	.13	650	.15	725	.17	797	.19	855	.21	920	.24	975	.26	1026	.28	1070	.31	1110	.33
700	559	.13	640	.16	715	.18	780	.20	845	.23	900	.25	960	.27	1010	.30	1060	.32	1105	.35	1150	.38
800	643	.17	710	.20	780	.22	845	.25	900	.27	950	.29	1004	.32	1055	.34	1102	.37	1140	.41	1188	.44
900	725	.22	785	.24	850	.27	905	.29	955	.32	1005	.34	1055	.37	1105	.40	1155	.44	1195	.47	1235	.51
1000	802	.27	868	.30	920	.33	970	.35	1030	.38	1072	.41	1118	.44	1160	.48	1200	.51	1244	.55	1280	.60
1200	970	.41	1020	.44	1067	.47	1105	.51	1151	.54	1197	.58	1232	.62	1275	.67	1315	.72	1350	.76	1387	.81
1400	1125	.60	1166	.64	1210	.68	1255	.73	1297	.78	1330	.83	1375	.89	1407	.93						

G8R-110-V BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT—Inches Water Gauge																					
	0		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
700	410	.09	500	.11	590	.13	660	.15	720	.18	780	.20	840	.22	900	.26	950	.30	1000	.34	1050	.37
800	500	.12	575	.15	650	.17	710	.19	770	.21	830	.23	885	.26	935	.30	985	.34	1035	.38	1080	.42
900	575	.15	640	.18	705	.20	770	.23	825	.25	880	.29	930	.32	980	.36	1020	.39	1070	.44	1110	.48
1000	640	.20	710	.23	770	.25	830	.28	885	.31	930	.35	980	.38	1025	.42	1070	.46	1110	.50	1150	.54
1200	800	.31	855	.34	905	.38	960	.42	1000	.45	1050	.50	1085	.53	1130	.58	1170	.62	1210	.66	1240	.70
1400	950	.47	1000	.52	1040	.56	1085	.60	1130	.66	1170	.69	1225	.74	1240	.78	1285	.84	1315	.89		
1600	1100	.71	1150	.76	1180	.80	1225	.86	1260	.91												

G8R-137-V BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT—Inches Water Gauge																					
	0		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
900	315	.11	410	.13	500	.16	570	.19	630	.21	690	.24	740	.28	790	.31	835	.35	880	.39	925	.45
1000	350	.13	440	.16	520	.18	590	.21	650	.24	705	.27	755	.31	805	.35	850	.39	895	.44	935	.49
1200	420	.18	500	.21	565	.23	625	.27	690	.30	740	.34	790	.38	835	.43	880	.48	925	.54	965	.61
1400	495	.24	555	.27	615	.30	675	.34	730	.38	780	.42	830	.48	870	.53	915	.60	950	.65	985	.71
1600	570	.31	620	.34	675	.38	725	.43	775	.48	825	.53	870	.59	910	.66	950	.72	985	.78	1020	.84
1800	630	.40	680	.44	725	.49	775	.53	825	.60	870	.66	910	.73	950	.80	985	.87	1020	.93	1060	1.01
2000	700	.52	740	.56	790	.62	835	.68	875	.75	915	.82	955	.89	990	.97	1030	1.05	1070	1.12		
2200	770	.67	810	.72	850	.78	890	.925	925	.92	970	1.01	1000	1.08	1040	1.15						
2400	835	.85	880	.92	910	.99	950	1.08	990	1.16												
2600	910	1.08	935	1.14																		

G8R-165-V BLOWER PERFORMANCE

Air Volume (cfm)	STATIC PRESSURE EXTERNAL TO UNIT—Inches Water Gauge																					
	0		.10		.20		.30		.40		.50		.60		.70		.80		.90		1.00	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1100	400	.16	480	.19	555	.23	620	.26	670	.29	725	.33	770	.37	810	.40	850	.44	895	.49	925	.53
1200	435	.18	510	.22	580	.26	645	.29	700	.33	740	.37	790	.40	830	.44	875	.50	910	.54	940	.58
1400	500	.25	570	.28	630	.32	695	.37	750	.42	795	.46	830	.50	880	.56	920	.61	955	.65	990	.65
1600	575	.31	635	.36	700	.42	750	.46	800	.52	845	.57	885	.62	925	.68	960	.73	995	.77	1025	.82
1800	650	.42	700	.47	755	.52	805	.58	850	.63	900	.70	935	.75	970	.81	1005	.87	1004	.92	1075	.99
2000	720	.53	770	.60	820	.65	870	.71	915	.79	955	.86	985	.92	1020	.97	1060	1.05	1090	1.11		
2200	790	.67	835	.73	885	.81	925	.88	970	.95	1000	1.02	1040	1.10	1075	1.17						
2400	865	.84	905	.92	955	1.0	990	1.09	1025	1.16												
2600	940	1.06	975	1.14																		

BLOWER DRIVES FOR ADDITIVE COOLING

Furnaces are shipped with drives that will handle cooling requirements not shown on table below. When a more powerful cooling drive is

required select it from table. Furnaces can be shipped with correct drive mounted. Specify tons of cooling when ordering.

Furnace and Additive Cooling	Blower Pulley	Motor Pulley	Belt	*Rpm Range	Motor Hp
G8R-82-V (2 tons)	3/4 x 7	1/2 x 4 3/4	3L440	815-1010	1/4
G8R-82-V (2 1/2 tons)	3/4 x 7	1/2 x 4 3/4	3L440	815-1010	1/3
G8R-82-V (3 tons)	3/4 x 6	5/8 x 4 3/4	4L430	950-1265	1/2
G8R-110-V (2 1/2 tons)	3/4 x 6	1/2 x 4 1/8	3L410	775-1000	1/4
G8R-110-V (3 tons)	3/4 x 6	5/8 x 4 1/8	4L420	805-1090	1/2

Furnace and Additive Cooling	Blower Pulley	Motor Pulley	Belt	*Rpm Range	Motor Hp
G8R-137-V (3 tons)	1 x 8	1/2 x 4 1/8	3L470	580-755	1/3
G8R-137-V (4 tons)	1 x 6	5/8 x 3 1/4	4L420	550-835	1/2
G8R-137-V (5 tons)	1 x 6	5/8 x 4 1/8	4L430	690-935	3/4
G8R-165-V (4 tons)	1 x 6	5/8 x 3 1/4	4L420	550-835	1/2
G8R-165-V (5 tons)	1 x 6	5/8 x 4 1/8	4L430	690-935	3/4

*At 1725 rpm motor speed

*At 1725 rpm motor speed