



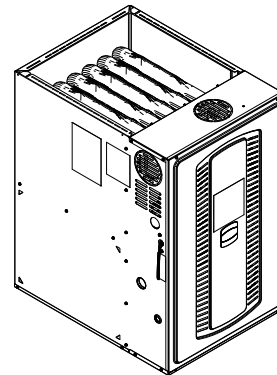
# Product Data

## Upflow/Horizontal Left/Right Gas-Fired, Single Stage Induced Draft Furnace with High Efficiency Variable Speed Blower Motor

Upflow, Horizontal Right/Left  
(For use with Natural Gas only.)

L8V1A040U3VSAA  
L8V1A060U3VSAA  
L8V1B080U4VSAA  
L8V1C100U5VSAA

*Note: This product complies with SJVAPCD 4905 and SCAQDMD 1111 with NO<sub>x</sub> levels below 14 ng/J.*



*Note: Graphics in this document are for representation only. Actual model may differ in appearance.*



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## General Features

### **NATURAL GAS MODELS**

L8V1 models are certified for installation in natural gas applications only.

### **SAFE OPERATION**

Each component is vigorously tested to help ensure consistent, reliable performance.

### **QUICK HEATING**

Durable, cycle tested, heavy gauge tubular stainless steel heat exchanger quickly transfers heat to provide warm conditioned air to the structure.

### **INTEGRATED SYSTEM CONTROL**

Includes a 7-segment display with self diagnostics for ease of service. Dry contacts for electronic air cleaners and humidifiers included on all models.

### **ENERGY EFFICIENT OPERATION**

Furnace is certified to leak 1% or less of nominal air conditioning CFM delivered when pressurized to 0.5" water column with all inlets and outlets sealed. L8V1 models are certified by the SCAQMD and SJVAPC Districts to operate with NOx levels below 14 ng/J.

### **AIR DELIVERY**

The highly efficient, variable speed blower motor delivers consistent airflow and will switch from heating to colling speeds on demand from the room thermostat.

### **STYLING**

Heavy gauge steel and "wrap-around" cabinet construction is used with baked-on enamel finish for strength and beauty. Every orientation has at least two venting options.

### **FEATURES AND GENERAL OPERATION**

The L8V1 furnace utilizes a Variable speed combustion inducer for precise combustion control and quiet operation. In addition, the Silicon Nitride Hot Surface Ignition system eliminates the waste of a constant burning pilot. The integrated system control lights the main burners upon a demand for heat from the room thermostat.



## Features and Benefits

### **80% AFUE on L8V1 FURNACE MODELS**

Lowers utility bills

### **ELECTRICALLY EFFICIENT**

Efficient airflow design reduces electrical energy use

### **34 INCH TALL**

Lighter, easier to move and fit into tight spaces like short basements or tight closets

Works great with larger, high-efficiency coils

### **3-WAY POISE**

4 SKU's – Upflow/Horizontal Left/Horizontal Right

Each model offers 3 poises to help increase installation flexibility

### **AIRFLOW**

At least 350 CFM/ton at 0.5 in. H<sub>2</sub>O external static pressure

### **REGULATORY**

All models are certified to 1% or less air leakage

### **DIMENSIONS**

Widths are industry standard: 14.5", 17.5" and 21"

Depth is approximately 28"

### **INTEGRATED FURNACE CONTROL**

Setup / Status / Diagnostics / Digital Display

No dip switches

Last six errors stored

Dry contact EAC and HUM connections

All Molex connections; no spade terminals

Low voltage labeled above and below

Rain shield over IFC keeps condensate off the control

### **TUBULAR STAINLESS STEEL HEAT EXCHANGER**

### **ULTRA-LOW NOX OPERATION**

Models are certified to operate with NO<sub>x</sub> levels below 14 ng/J

### **VORTICA™ II BLOWER HOUSING**

Improved airflow efficiency

Durable, easy to clean

Single piece belly band/ motor arm assembly

Blower deck has full-length rails for easy removal and replacement, regardless of poise



# Accessories

**Table 1. Accessories**

<b>Model Number</b>	<b>Description</b>	<b>Use with</b>
BAYHANG	Horizontal Hanging Kit	All Furnaces
BAYLIFTB	Dual Return Kit (B size extension)	B Cabinet Furnaces
BAYLIFTC	Dual Return Kit (C size extension)	C Cabinet Furnaces
BAYSF1165AA <sup>(a)</sup>	1" SlimFit Box with MERV 4 Filter	All Furnaces
BAYSF1255BA	1" SlimFit Filter and Insulated Frame	All furnaces when used in side return application B Cabinet furnaces only when in bottom return application
FLRSF1255	1" Filter replacement (Qty 12)	BAYSF1255BA
BAYVENT800B	Masonry Chimney Vent Kit	All furnaces
PIP02095	U fitting for gas piping	All Furnaces for right hand gas entry
BAYHALTMOD0004	High Altitude Module	L8V1C100U5VS*
BAYHALTMOD0005	High Altitude Module	L8V1A040U3VS*
BAYHALTMOD0006	High Altitude Module	L8V1A060U3VS*
BAYHALTMOD0007	High Altitude Module	L8V1B080U4VS*

<sup>(a)</sup> Airflow greater than 1600 CFM requires dual returns



# Product Specifications

MODEL	L8V1A040U3VSAA <sup>(a)</sup>	L8V1A060U3VSAA <sup>(a)</sup>	L8V1B080U4VSAA <sup>(a)</sup>	L8V1C100U5VSAA <sup>(a)</sup>
<b>Type</b>	Upflow / Horizontal	Upflow / Horizontal	Upflow / Horizontal	Upflow / Horizontal
<b>RATINGS <sup>(b)</sup></b>				
Input BTUH	40,000	60,000	80,000	100,000
Capacity BTUH (ICS) <sup>(c)</sup>	31,700	48,100	63,000	80,200
Temp. Rise (Min. - Max.) °F	30 - 60	30 - 60	30 - 60	30 - 60
AFUE - Rating <sup>(c)</sup>	80	80	80	80
Return Air Temp. (Min. - Max.) °F	55°F - 80°F	55°F - 80°F	55°F - 80°F	55°F - 80°F
<b>BLOWER DRIVE</b>	DIRECT	DIRECT	DIRECT	DIRECT
Diameter - Width (in.)	11 X 8	11 X 8	11 X 8	11 X 10
No. Used	1	1	1	1
Speeds (No.)	Variable	Variable	Variable	Variable
CFM vs. in. w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
Motor HP	0.5	0.5	0.75	1
R.P.M.	Variable	Variable	Variable	Variable
Volts / Ph / Hz	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60
FLA	6.4	6.4	9.6	9.85
<b>COMBUSTION FAN - Type</b>	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Drive - No. Speeds	Variable	Variable	Variable	Variable
Motor RPM	4700	4700	4700	4700
Volts/Ph/Hz	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60
FLA	1.00	1.00	1.00	1.00
Inducer Orifice	3.15	3.15	3.15	3.15
<b>FILTER - Furnished?</b>	No	No	No	No
Type Recommended	High Velocity	High Velocity	High Velocity	High Velocity
Hi Vel. (No.-Size-Thk.)	1 - 14 X 25 - 1 in.	1 - 14 X 25 - 1 in.	1 - 16 X 25 - 1 in.	1 - 20 X 25 - 1 in.
<b>VENT PIPE DIAMETER - Min. (in.) <sup>(d)</sup></b>	4 Round	4 Round	4 Round	4 Round
<b>HEAT EXCHANGER - Type</b>	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Gauge (Fired)	20	20	20	20
<b>ORIFICES - Main</b>				
Nat. Gas Qty. - Drill Size	1 - 3.2mm	1 - #23	1 - #15	1 - #11
<b>GAS VALVE</b>	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage	Redundant - Two Stage
<b>PILOT SAFETY DEVICE - Type</b>	120 V SiNi Igniter	120 V SiNi Igniter	120 V SiNi Igniter	120 V SiNi Igniter
<b>BURNERS</b>				
Type	Premix-ULN	Premix-ULN	Premix-ULN	Premix-ULN
Quantity	1	1	1	1
<b>POWER CONN. - V/Ph/HZ <sup>(e)</sup></b>	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60
Ampacity (Amps)	9.2	9.2	13.2	14.3
Max. Overcurrent Protection (Amps)	15	15	15	15
<b>PIPE CONN. SIZE (IN.)</b>	1/2	1/2	1/2	1/2
<b>DIMENSIONS</b>	H x W x D	H x W x D	H x W x D	H x W x D
Uncrated (in.)	34 x 14.5 x 28.75	34 x 14.5 x 28.75	34 x 17.5 x 28.75	34 x 21 x 28.75
Crated (in.)	35.5 x 16.5 x 30.87	35.5 x 16.5 x 30.87	35.5 x 19.5 x 30.87	35.5 x 23 x 30.87
<b>WEIGHT</b>				
Shipping (Lbs.)/Net (Lbs.)	100 / 92	110 / 102	123 / 115	146 / 134

(a) Central Furnace heating designs are certified to ANSI Z21.47 – latest edition.

(b) For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level.

(c) Based on U.S. government standard tests.

(d) Refer to the Installer's Guide.

(e) The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.



# Airflow Tables

**Table 2. L8V1A040U3VS Heating Airflow**

L8V1A040U3VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure (iwc) with Filter								
				Heating Capacity = 31,700				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating	Low	550	CFM	594	614	634	653	673
			Temp. Rise	50	48	47	45	44
			Watts	21	66	112	158	204
	Medium Low (a)	610	CFM	668	684	699	714	730
			Temp. Rise	44	43	42	42	41
			Watts	28	76	124	172	220
	Medium	630	CFM	705	715	725	736	746
			Temp. Rise	42	41	41	40	40
			Watts	31	80	128	177	225
	High	700	CFM	792	797	801	806	810
			Temp. Rise	37	37	37	37	37
			Watts	43	93	143	194	244

**Table 3. L8V1A040U3VS Cooling Airflow**

L8V1A040U3VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter								
Outdoor Tonnage - ODT	Airflow Setting (CFM/Ton)		EXTERNAL STATIC PRESSURE (IN. W. C.)					
			0.1	0.3	0.5	0.7	0.9	
1.5	450	CFM / WATTS	687 / 58	682 / 99	677 / 143	673 / 190	668 / 239	
	420	CFM / WATTS	642 / 51	638 / 90	635 / 133	632 / 178	628 / 225	
	400	CFM / WATTS	612 / 46	609 / 84	607 / 126	604 / 170	602 / 217	
	370	CFM / WATTS	566 / 40	566 / 76	565 / 116	564 / 159	563 / 205	
	350	CFM / WATTS	536 / 36	536 / 71	536 / 110	536 / 153	536 / 198	
	330	CFM / WATTS	506 / 33	507 / 67	508 / 105	509 / 146	510 / 191	
	310	CFM / WATTS	476 / 29	478 / 62	480 / 99	482 / 140	484 / 184	
	290	CFM / WATTS	446 / 26	449 / 58	452 / 94	455 / 134	458 / 178	
2.0	450	CFM / WATTS	913 / 111	901 / 161	889 / 213	877 / 267	865 / 323	
	420	CFM / WATTS	853 / 92	843 / 139	833 / 189	822 / 242	812 / 295	
	400	CFM / WATTS	813 / 83	804 / 129	795 / 177	786 / 228	777 / 280	
	370	CFM / WATTS	752 / 70	746 / 114	739 / 160	732 / 209	725 / 259	
	350	CFM / WATTS	712 / 71	707 / 113	701 / 158	695 / 205	690 / 255	
	330	CFM / WATTS	672 / 56	668 / 96	663 / 140	659 / 186	655 / 234	
	310	CFM / WATTS	632 / 49	629 / 88	626 / 130	623 / 175	620 / 222	
	290	CFM / WATTS	592 / 43	590 / 81	588 / 122	586 / 165	585 / 211	
2.5	450	CFM / WATTS	1140 / 177	1120 / 236	1101 / 297	1081 / 358	1062 / 422	
	420	CFM / WATTS	1064 / 152	1047 / 207	1030 / 264	1013 / 324	996 / 385	
	400	CFM / WATTS	1014 / 136	998 / 189	983 / 245	968 / 303	952 / 362	
	370	CFM / WATTS	938 / 114	925 / 164	913 / 218	900 / 273	887 / 329	
	350	CFM / WATTS	888 / 100	877 / 149	866 / 200	854 / 254	843 / 309	
	330	CFM / WATTS	838 / 88	828 / 135	818 / 185	809 / 236	799 / 290	
	310	CFM / WATTS	788 / 77	780 / 122	771 / 170	763 / 220	755 / 271	
	290	CFM / WATTS	737 / 67	731 / 110	724 / 156	718 / 204	712 / 255	
3.0 (a)	450	CFM / WATTS	1366 / 190	1339 / 248	1312 / 333	1285 / 409	1259 / 483	
	420	CFM / WATTS	1275 / 231	1251 / 295	1228 / 361	1204 / 427	1180 / 495	
	400	CFM / WATTS	1215 / 206	1193 / 267	1171 / 331	1149 / 396	1127 / 462	
	370	CFM / WATTS	1124 / 172	1105 / 230	1087 / 290	1068 / 352	1049 / 414	
	350	CFM / WATTS	1064 / 152	1047 / 207	1030 / 264	1013 / 324	996 / 385	
	330	CFM / WATTS	1004 / 133	989 / 186	974 / 241	959 / 298	944 / 357	
	310	CFM / WATTS	943 / 115	930 / 166	917 / 219	904 / 275	891 / 331	
	290	CFM / WATTS	883 / 99	872 / 148	861 / 199	850 / 252	838 / 307	



## Airflow Tables

**Table 4. L8V1A060U3VS Heating Airflow**

L8V1A060U3VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure (iwc) with Filter								
				Heating Capacity = 48,100				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating	Low	830	CFM	857	850	843	836	829
			Temp. Rise	51	52	52	53	54
			Watts	51	102	153	204	255
	Medium Low	960	CFM	993	981	970	958	946
			Temp. Rise	44	45	46	47	47
			Watts	76	131	186	241	296
	Medium (a)	990	CFM	1014	1010	1005	1001	996
			Temp. Rise	43	44	44	44	45
			Watts	82	139	197	255	312
	High	1130	CFM	1163	1153	1143	1133	1124
			Temp. Rise	38	38	39	39	40
			Watts	120	182	244	307	369

**Table 5. L8V1A060U3VS Cooling Airflow**

L8V1A060U3VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter							
Outdoor Tonnage - ODT	Airflow Setting (CFM/Ton)		EXTERNAL STATIC PRESSURE (IN. W. C.)				
			0.1	0.3	0.5	0.7	0.9
1.5	450	CFM / WATTS	718 / 56	706 / 96	694 / 140	682 / 185	670 / 232
	420	CFM / WATTS	673 / 49	661 / 87	649 / 129	637 / 173	625 / 219
	400	CFM / WATTS	642 / 44	630 / 82	618 / 122	606 / 165	594 / 210
	370	CFM / WATTS	596 / 38	584 / 74	572 / 113	560 / 154	548 / 198
	350	CFM / WATTS	565 / 35	553 / 69	541 / 107	529 / 147	517 / 190
	330	CFM / WATTS	534 / 31	522 / 65	510 / 101	498 / 141	485 / 183
	310	CFM / WATTS	502 / 28	490 / 60	478 / 96	466 / 135	454 / 176
	290	CFM / WATTS	470 / 25	458 / 56	446 / 91	434 / 128	422 / 169
2.0	450	CFM / WATTS	938 / 103	926 / 153	914 / 204	902 / 258	890 / 313
	420	CFM / WATTS	881 / 88	868 / 136	856 / 185	844 / 237	832 / 289
	400	CFM / WATTS	842 / 80	830 / 125	818 / 173	806 / 223	794 / 274
	370	CFM / WATTS	783 / 67	771 / 111	759 / 156	747 / 204	735 / 253
	350	CFM / WATTS	743 / 61	731 / 102	719 / 146	707 / 192	695 / 240
	330	CFM / WATTS	703 / 53	691 / 93	679 / 136	667 / 181	655 / 228
	310	CFM / WATTS	663 / 47	651 / 86	638 / 127	626 / 170	614 / 216
	290	CFM / WATTS	622 / 41	610 / 78	598 / 118	586 / 160	574 / 205
2.5	450	CFM / WATTS	1146 / 172	1134 / 230	1122 / 291	1110 / 352	1098 / 416
	420	CFM / WATTS	1078 / 146	1066 / 202	1054 / 259	1042 / 318	1030 / 379
	400	CFM / WATTS	1032 / 131	1020 / 184	1008 / 240	996 / 297	984 / 356
	370	CFM / WATTS	962 / 110	950 / 160	938 / 213	926 / 267	914 / 323
	350	CFM / WATTS	914 / 97	902 / 145	890 / 196	878 / 249	866 / 303
	330	CFM / WATTS	866 / 85	854 / 132	842 / 180	830 / 231	818 / 284
	310	CFM / WATTS	817 / 74	805 / 119	793 / 166	781 / 215	769 / 265
	290	CFM / WATTS	768 / 65	756 / 107	744 / 152	732 / 199	720 / 249
3.0 (a)	450	CFM / WATTS	1342 / 266	1330 / 333	1318 / 402	1306 / 472	1294 / 543
	420	CFM / WATTS	1265 / 225	1253 / 289	1241 / 354	1229 / 421	1217 / 489
	400	CFM / WATTS	1213 / 200	1201 / 262	1188 / 325	1176 / 389	1164 / 455
	370	CFM / WATTS	1132 / 167	1120 / 224	1108 / 284	1096 / 345	1084 / 408
	350	CFM / WATTS	1078 / 146	1066 / 202	1054 / 259	1042 / 318	1030 / 379
	330	CFM / WATTS	1023 / 128	1011 / 181	999 / 236	986 / 293	974 / 351
	310	CFM / WATTS	966 / 111	954 / 162	942 / 214	930 / 269	918 / 325
	290	CFM / WATTS	909 / 96	897 / 144	885 / 195	873 / 247	861 / 301



**Table 6. L8V1B080U4VS Heating Airflow**

L8V1B080U4VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure (iwc) with Filter								
				Heating Capacity = 63,000				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating	Low	1180	CFM	1253	1243	1234	1224	1214
			Temp. Rise	47	48	48	49	49
			Watts	124	184	244	305	365
	Medium Low	1250	CFM	1313	1298	1283	1268	1253
			Temp. Rise	45	46	46	47	47
			Watts	142	204	266	328	390
	Medium (a)	1350	CFM	1438	1414	1390	1366	1342
			Temp. Rise	42	42	43	43	44
			Watts	184	249	314	379	444
	High	1400	CFM	1454	1442	1429	1417	1404
			Temp. Rise	41	42	42	42	42
			Watts	194	263	332	401	470

**Table 7. L8V1B080U4VS Cooling Airflow**

L8V1B080U4VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter							
Outdoor Tonnage - ODT	Airflow Setting (CFM/Ton)		EXTERNAL STATIC PRESSURE (IN. W. C.)				
			0.1	0.3	0.5	0.7	0.9
2.0	450	CFM / WATTS	911 / 90	905 / 140	893 / 191	881 / 241	878 / 292
	420	CFM / WATTS	853 / 77	849 / 125	833 / 172	823 / 221	816 / 269
	400	CFM / WATTS	814 / 69	811 / 115	795 / 161	781 / 208	774 / 255
	370	CFM / WATTS	757 / 58	755 / 102	738 / 145	722 / 190	714 / 235
	350	CFM / WATTS	719 / 52	719 / 94	700 / 136	683 / 179	671 / 223
	330	CFM / WATTS	682 / 46	681 / 86	662 / 127	644 / 169	631 / 212
	310	CFM / WATTS	645 / 41	645 / 79	625 / 118	603 / 159	588 / 201
	290	CFM / WATTS	608 / 36	609 / 72	587 / 110	565 / 150	548 / 191
2.5	450	CFM / WATTS	1130 / 152	1121 / 214	1113 / 274	1110 / 334	1117 / 393
	420	CFM / WATTS	1058 / 129	1049 / 187	1039 / 244	1034 / 301	1035 / 356
	400	CFM / WATTS	1008 / 115	1000 / 170	990 / 225	981 / 279	981 / 333
	370	CFM / WATTS	936 / 95	927 / 147	917 / 199	907 / 250	906 / 302
	350	CFM / WATTS	887 / 84	882 / 134	868 / 183	859 / 233	853 / 282
	330	CFM / WATTS	838 / 74	835 / 121	819 / 168	806 / 216	802 / 264
	310	CFM / WATTS	790 / 64	787 / 109	771 / 154	758 / 200	750 / 247
	290	CFM / WATTS	743 / 56	742 / 99	724 / 142	708 / 186	698 / 231
3.0	450	CFM / WATTS	1349 / 241	1340 / 313	1337 / 384	1339 / 453	1357 / 523
	420	CFM / WATTS	1261 / 202	1253 / 270	1246 / 336	1249 / 402	1260 / 467
	400	CFM / WATTS	1203 / 179	1195 / 244	1187 / 308	1186 / 370	1198 / 434
	370	CFM / WATTS	1116 / 147	1106 / 208	1097 / 268	1095 / 327	1101 / 386
	350	CFM / WATTS	1058 / 129	1049 / 187	1039 / 244	1034 / 301	1035 / 356
	330	CFM / WATTS	998 / 112	991 / 167	980 / 221	972 / 275	972 / 329
	310	CFM / WATTS	940 / 97	933 / 149	921 / 201	911 / 252	911 / 304
	290	CFM / WATTS	882 / 83	877 / 132	863 / 182	852 / 231	848 / 280
3.5	450	CFM / WATTS	1565 / 360	1559 / 442	1562 / 523	1575 / 604	1597 / 682
	420	CFM / WATTS	1465 / 300	1457 / 378	1455 / 454	1463 / 528	1484 / 603
	400	CFM / WATTS	1397 / 264	1388 / 339	1384 / 411	1392 / 484	1408 / 555
	370	CFM / WATTS	1295 / 216	1285 / 286	1280 / 354	1283 / 421	1296 / 488
	350	CFM / WATTS	1227 / 188	1219 / 254	1213 / 320	1210 / 383	1221 / 447
	330	CFM / WATTS	1159 / 162	1151 / 225	1142 / 287	1139 / 348	1148 / 409
	310	CFM / WATTS	1091 / 139	1083 / 199	1073 / 258	1068 / 315	1073 / 373
	290	CFM / WATTS	1023 / 119	1015 / 175	1004 / 230	998 / 286	1000 / 341



## Airflow Tables

**Table 7. L8V1B080U4VS Cooling Airflow (continued)**

L8V1B080U4VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter							
4.0 (a)	450	CFM / WATTS	1779 / 513	1779 / 607	1788 / 698	1807 / 788	1839 / 877
	420	CFM / WATTS	1665 / 427	1661 / 514	1666 / 600	1683 / 685	1712 / 769
	400	CFM / WATTS	1589 / 375	1584 / 459	1587 / 541	1600 / 622	1623 / 702
	370	CFM / WATTS	1474 / 305	1465 / 383	1466 / 460	1475 / 536	1495 / 611
	350	CFM / WATTS	1397 / 264	1388 / 339	1384 / 411	1392 / 484	1408 / 555
	330	CFM / WATTS	1319 / 227	1310 / 298	1304 / 367	1308 / 435	1323 / 503
	310	CFM / WATTS	1241 / 194	1232 / 261	1227 / 327	1226 / 391	1237 / 455
	290	CFM / WATTS	1164 / 164	1155 / 227	1147 / 289	1144 / 350	1153 / 411

**Table 8. L8V1C100U5VS Heating Airflow**

L8V1C100U5VS Furnace Heating Airflow (CFM), Temp. Rise (°F), and Power (Watts) vs. External Static Pressure (iwc) with Filter								
				Heating Capacity = 80,200				
Heating	Airflow Setting	Target Airflow		External Static Pressure				
				0.1	0.3	0.5	0.7	0.9
Heating	Low (a)	1500	CFM	1608	1624	1640	1656	1672
			Temp. Rise	46	46	46	45	45
			Watts	231	301	371	440	510
	Medium Low	1600	CFM	1685	1701	1716	1732	1747
			Temp. Rise	44	44	44	43	43
			Watts	264	343	422	500	579
	Medium	1900	CFM	2014	2021	2027	2033	2039
			Temp. Rise	37	37	37	37	37
			Watts	435	524	613	703	792
	High	2000	CFM	2086	2085	2084	2083	2082
			Temp. Rise	36	36	36	36	36
			Watts	510	606	701	796	892

**Table 9. L8V1C100U5VS Cooling Airflow**

L8V1C100U5VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter							
Outdoor Tonnage - ODT	Airflow Setting (CFM/Ton)		EXTERNAL STATIC PRESSURE (IN. W. C.)				
			0.1	0.3	0.5	0.7	0.9
2.5	450	CFM / WATTS	1107 / 105	1105 / 152	1101 / 205	1094 / 261	1085 / 321
	420	CFM / WATTS	1033 / 88	1029 / 134	1023 / 184	1015 / 239	1004 / 297
	400	CFM / WATTS	983 / 78	978 / 122	971 / 172	961 / 225	950 / 282
	370	CFM / WATTS	909 / 65	901 / 107	892 / 155	880 / 206	866 / 262
	350	CFM / WATTS	860 / 57	850 / 98	838 / 144	824 / 195	808 / 250
	330	CFM / WATTS	810 / 50	797 / 90	783 / 135	767 / 185	750 / 238
	310	CFM / WATTS	760 / 44	744 / 82	728 / 126	710 / 175	691 / 228
	290	CFM / WATTS	710 / 38	691 / 75	671 / 118	651 / 167	631 / 220
3.0	450	CFM / WATTS	1328 / 167	1328 / 221	1327 / 280	1324 / 342	1318 / 407
	420	CFM / WATTS	1240 / 140	1239 / 191	1237 / 247	1233 / 307	1226 / 370
	400	CFM / WATTS	1180 / 123	1180 / 173	1177 / 227	1172 / 286	1164 / 347
	370	CFM / WATTS	1092 / 101	1090 / 148	1085 / 201	1079 / 257	1069 / 316
	350	CFM / WATTS	1033 / 88	1029 / 134	1023 / 184	1015 / 239	1004 / 297
	330	CFM / WATTS	973 / 76	968 / 120	961 / 170	951 / 223	938 / 279
	310	CFM / WATTS	914 / 66	907 / 108	897 / 156	885 / 208	871 / 263
	290	CFM / WATTS	855 / 56	844 / 97	832 / 143	818 / 194	803 / 248
3.5	450	CFM / WATTS	1550 / 253	1549 / 312	1548 / 377	1545 / 446	1540 / 517
	420	CFM / WATTS	1447 / 210	1446 / 267	1445 / 328	1442 / 394	1437 / 462
	400	CFM / WATTS	1378 / 184	1377 / 239	1377 / 299	1374 / 363	1368 / 429
	370	CFM / WATTS	1274 / 150	1274 / 202	1272 / 259	1269 / 320	1262 / 384
	350	CFM / WATTS	1205 / 130	1204 / 180	1202 / 235	1198 / 294	1190 / 356
	330	CFM / WATTS	1136 / 112	1135 / 160	1131 / 214	1126 / 271	1117 / 331
	310	CFM / WATTS	1067 / 95	1064 / 142	1060 / 194	1052 / 249	1042 / 307
	290	CFM / WATTS	998 / 81	994 / 126	987 / 176	978 / 229	966 / 286

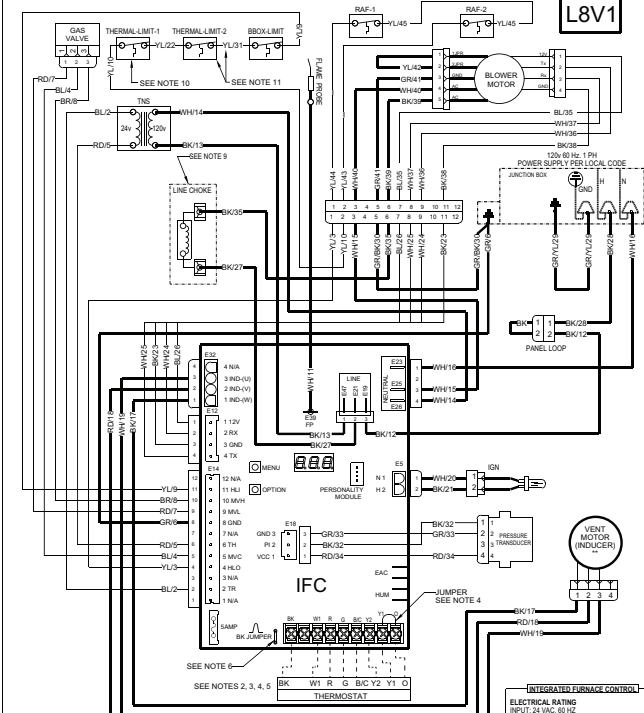
**Table 9. L8V1C100U5VS Cooling Airflow (continued)**

<b>L8V1C100U5VS Furnace Cooling Airflow (CFM) and Power (Watts) vs. External Static Pressure with Filter</b>							
4.0	450	CFM / WATTS	1773 / 364	1769 / 430	1765 / 501	1760 / 576	1754 / 653
	420	CFM / WATTS	1654 / 301	1652 / 364	1649 / 431	1646 / 503	1640 / 577
	400	CFM / WATTS	1575 / 264	1574 / 324	1572 / 390	1569 / 459	1564 / 530
	370	CFM / WATTS	1456 / 214	1456 / 271	1455 / 333	1452 / 399	1447 / 467
	350	CFM / WATTS	1378 / 184	1377 / 239	1377 / 299	1374 / 363	1368 / 429
	330	CFM / WATTS	1299 / 158	1299 / 210	1297 / 268	1294 / 330	1288 / 394
	310	CFM / WATTS	1220 / 134	1219 / 185	1217 / 240	1213 / 300	1206 / 362
	290	CFM / WATTS	1141 / 113	1140 / 161	1137 / 215	1131 / 272	1122 / 333
4.5	450	CFM / WATTS	1996 / 506	1988 / 578	1980 / 655	1971 / 736	1962 / 819
	420	CFM / WATTS	1862 / 417	1856 / 486	1851 / 559	1845 / 636	1837 / 715
	400	CFM / WATTS	1773 / 364	1769 / 430	1765 / 501	1760 / 576	1754 / 653
	370	CFM / WATTS	1639 / 294	1637 / 356	1635 / 423	1631 / 494	1626 / 568
	350	CFM / WATTS	1550 / 253	1549 / 312	1548 / 377	1545 / 446	1540 / 517
	330	CFM / WATTS	1461 / 216	1461 / 273	1460 / 335	1457 / 401	1452 / 470
	310	CFM / WATTS	1373 / 182	1373 / 237	1372 / 297	1369 / 361	1363 / 427
	290	CFM / WATTS	1284 / 153	1284 / 205	1282 / 263	1279 / 324	1272 / 388
5.0 <sup>(a)</sup>	450	CFM / WATTS	2220 / 680	2206 / 759	2194 / 842	2181 / 929	2167 / 1018
	420	CFM / WATTS	2071 / 560	2061 / 635	2051 / 714	2041 / 796	2031 / 882
	400	CFM / WATTS	1971 / 488	1963 / 560	1956 / 636	1948 / 716	1939 / 799
	370	CFM / WATTS	1823 / 393	1817 / 461	1813 / 533	1807 / 608	1800 / 687
	350 <sup>(a)</sup>	CFM / WATTS	1723 / 337	1720 / 402	1717 / 471	1712 / 544	1707 / 620
	330	CFM / WATTS	1624 / 287	1622 / 349	1620 / 415	1617 / 486	1612 / 559
	310	CFM / WATTS	1526 / 242	1525 / 301	1523 / 365	1520 / 433	1515 / 503
	290	CFM / WATTS	1427 / 202	1427 / 258	1426 / 320	1423 / 385	1418 / 453

<sup>(a)</sup> Factory Setting

# Wiring Diagrams

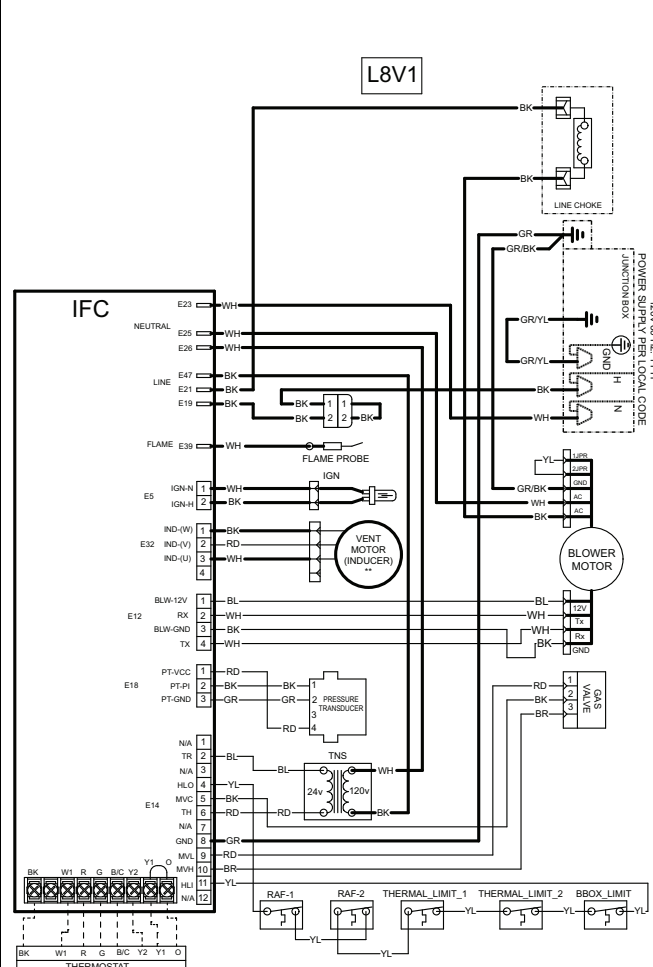
- NOTES:
- IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105°C.
  - FOR PROPER AIRFLOW IN COOLING/HEAT PUMP MODES, Y1 AND/OR Y2 MUST CONNECT FROM THE THERMOSTAT TO THE IFC LOW VOLTAGE TERMINAL STRIP.
  - FOR COOLING ONLY SYSTEMS, LEAVE Y1-O JUMPER IN PLACE ON THE IFC FOR CORRECT LED READOUT.
  - FOR HEAT PUMP SYSTEMS, REMOVE THE Y1-O JUMPER, CONNECT 'O' FROM THE THERMOSTAT TO 'O' ON THE IFC LOW VOLTAGE TERMINAL STRIP FOR CORRECT LED READOUT.
  - VSPD OD SYSTEMS REQUIRE DIFFERENT CONNECTIONS. SEE RELAY PANEL INSTRUCTIONS.
  - THE 'BK' JUMPER MUST BE CUT WHEN APPLYING AN AIRFLOW COMMAND TO THE 'BK' TERMINAL SUCH AS PULSE WIDTH MODULATION OR WHEN PAIRED WITH A VSPD OD UNIT.
  - AIRFLOW TABLES ARE LOCATED IN THE SERVICE FACTS. TO CHANGE AIRFLOW, REFER TO THE INTEGRATED FURNACE CONTROL MENU AND OPTIONS TO SET AIRFLOW AND BLOWER DELAYS.
  - CORRECT PERSONALITY MODULE IS REQUIRED FOR PROPER FURNACE OPERATION AND IS SPECIFIC TO EACH MODEL & SERIAL NUMBER. IT IS TO REMAIN WITH THE ORIGINAL UNIT.
  - LINE CHOKE AND WIRE BK/35 ONLY USED ON MODELS WITH 1 HP MOTORS.
  - THERMAL LIMIT SWITCH 1 IS FOR UPFLOW, RIGHT SIDE RETURN ONLY ON C100 MODEL.
  - THERMAL LIMIT SWITCH 2 AND WIRE 31 ONLY PRESENT IN C100 MODEL.



**LEGEND:**

- WIRE COLOR:** BK (BLACK), GR (GREEN), BR (BROWN), YL (YELLOW), OR (ORANGE), WH (WHITE), RD (RED), BL (BLUE)
- LINE TYPE:** FACTORY WIRING (solid line), FIELD WIRING (dashed line)
- COMPONENTS:** IGM HOT SURFACE IGNITER, FUSE, THERMAL LIMIT, FP FLAME PROBE, RAUF REVERSE AIR FLOW, LC LINE CHOKE, \*\* INTERNAL THERMAL PROTECTION, PT PRESSURE TRANSDUCER, GROUND

Variable Speed Inducer and Blower Motor Status Codes	Heat Off Delay (sec)	Heat On Delay (sec)	Error Codes
I Idc	5d	5d	E5.1 Voltage reversed polarity
Hc-1 Gas Heating	5d	5d	E5.2 Bad Grounding
R-1 Run Test Mode	5d	5d	E5.3 (1) Igniter relay fails, (2) Igniter open
R-F Airflow (followed by Airflow x 10)	E1.1	E1.2	E7.1 1st stage gas valve (MV) is energized when it should be off
CDP Continuous Fan	E2.1	E2.2	E7.2 Redundant Relay (RLO) energized when it should be off
CL 1 1st Stage Cooling	E2.3	E2.4	E0B Flame current is low, but still strong enough to allow operation.
CL 2 2nd Stage Cooling	E2.5	E2.6	E1d Inducer motor no communication response. Possibly caused by a communication failure between two microcontrollers.
HP1 1st Stage Heat Pump	E2.7	E2.8	E1f (1) 1st stage gas valve energized when it should not be
HP2 2nd Stage Heat Pump	E2.9	E2.10	E1j (2) 1st stage gas valve not energized when it should be
dFd Defrost Mode	E2.11	E2.12	E1k Redundant relay (HLO output) not energized when it should be
Mnu Menu Options	E2.13	E2.14	E1l Open fuse
E-1 Active Alarm Menu	E2.15	E2.16	E1m Blower HP/IDEM ID
E-2 Last 6 Faults (To Clear, Hold Option Button 5 sec)	E2.17	E2.18	E1n Both Unit Data File in PM and local Unit Data File are Corrupt
C-1 Code Release Number	E2.19	E2.20	E1t Signal Out of Bounds >+25V @ 5.0V supply BK(VCC)-RD(GND)
C-2 Cooling Off Delay (sec)	E2.21	E2.22	E1u Blower motor no communication response
C-3 Outdoor Tonnage	E2.23	E2.24	E1v Blower communication failure on the control
C-4 Outdoor Unit	E2.25	E2.26	
C-5 Blower Constant Fan Airflow Multiplier %	E2.27	E2.28	
C-6 Cooling (CFM/Ton)	E2.29	E2.30	
C-7 Heat Pump Heating (CFM/Ton)	E2.31	E2.32	



**LEGEND:**

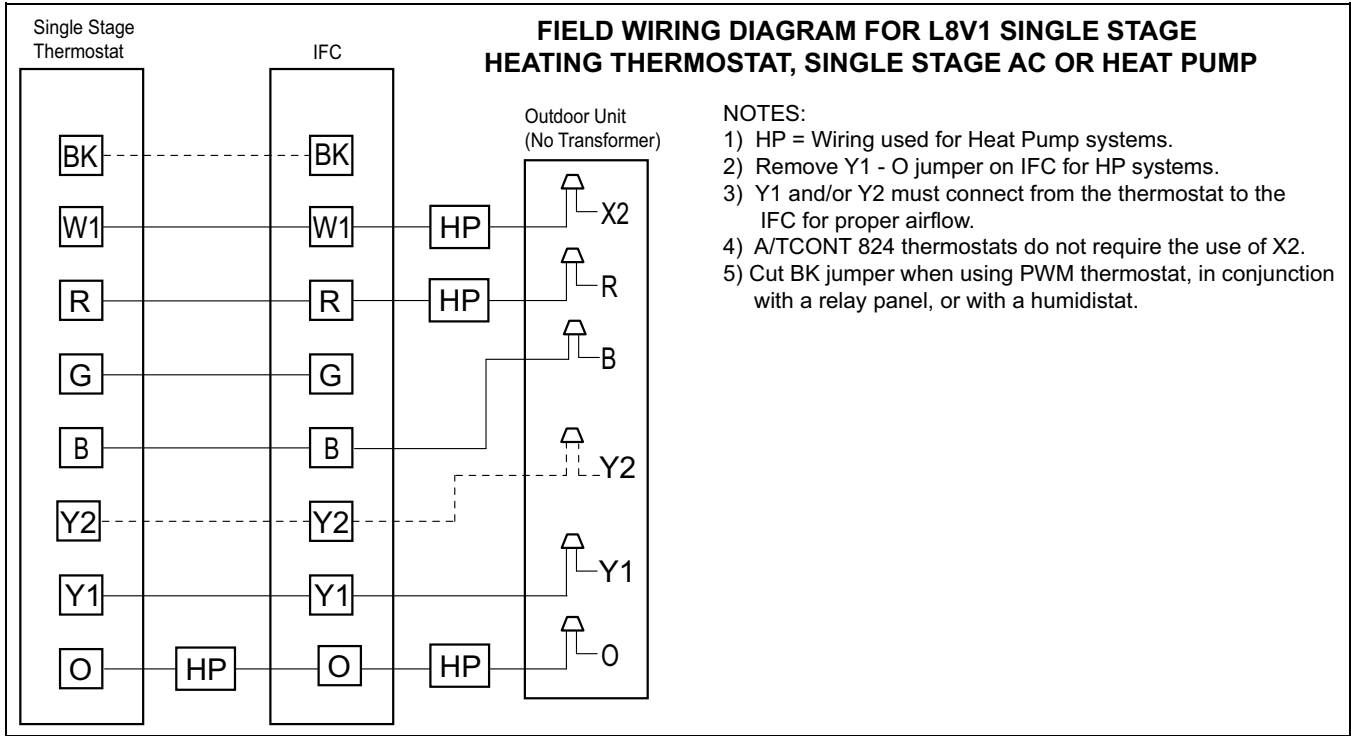
- WIRE COLOR:** BK (BLACK), GR (GREEN), BR (BROWN), YL (YELLOW), OR (ORANGE), WH (WHITE), RD (RED), BL (BLUE)
- LINE TYPE:** FACTORY WIRING (solid line), FIELD WIRING (dashed line)
- COMPONENTS:** IGM HOT SURFACE IGNITER, FUSE, THERMAL LIMIT, FP FLAME PROBE, RAUF REVERSE AIR FLOW, LC LINE CHOKE, \*\* INTERNAL THERMAL PROTECTION, PT PRESSURE TRANSDUCER, GROUND



# Electrical Connections

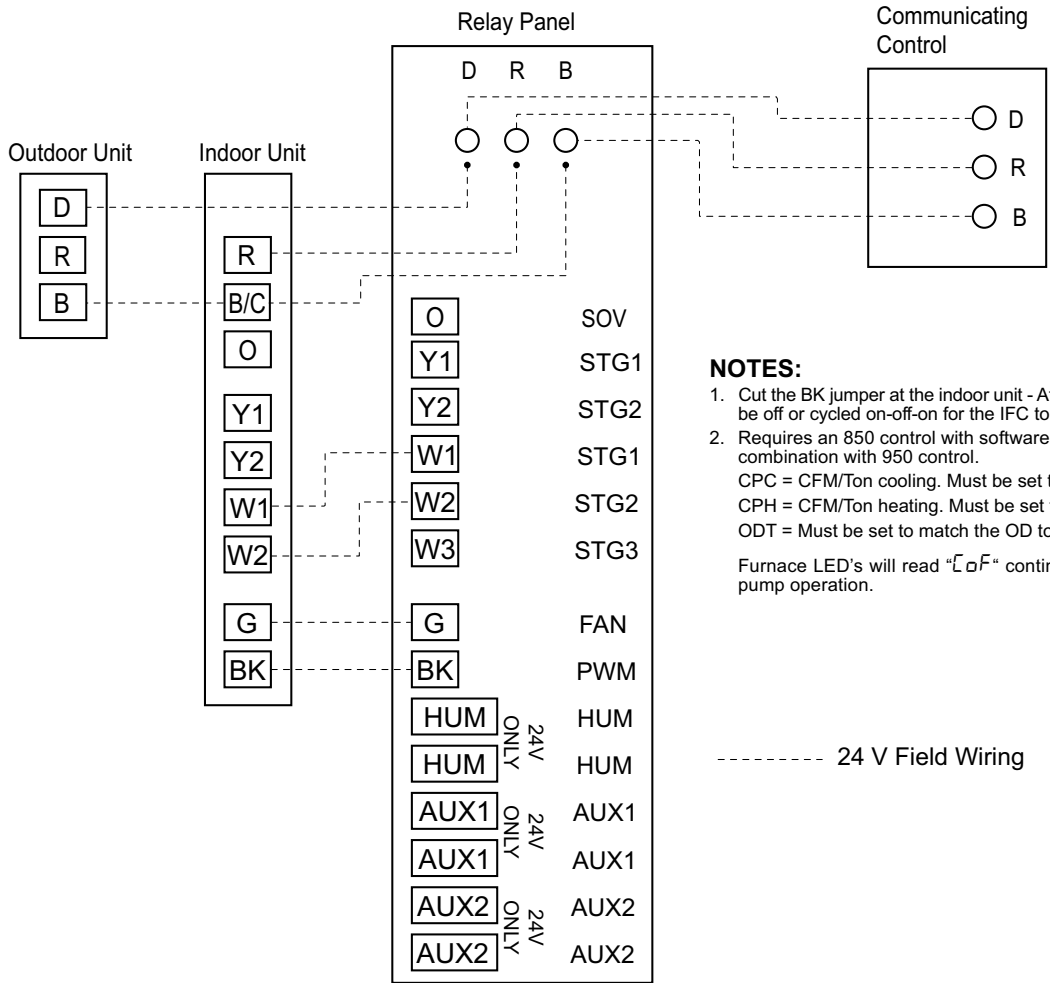
Make wiring connections to the unit as indicated on enclosed wiring diagram. As with all gas appliances using electrical power, this furnace shall be connected into a permanently live electric circuit. It is recommended that furnace be provided with a separate "circuit protection device" electric circuit. The furnace must be electrically grounded in accordance with local codes or in the absence of local codes with the National Electrical Code, ANSI/NFPA 70, if an external electrical source is utilized. **The integrated furnace control is polarity sensitive.** The hot leg of the 120V power supply must be connected to the black power lead as indicated on the wiring diagram. Refer to the SERVICE FACTS literature and unit wiring diagram attached to furnace.

## Field Wiring



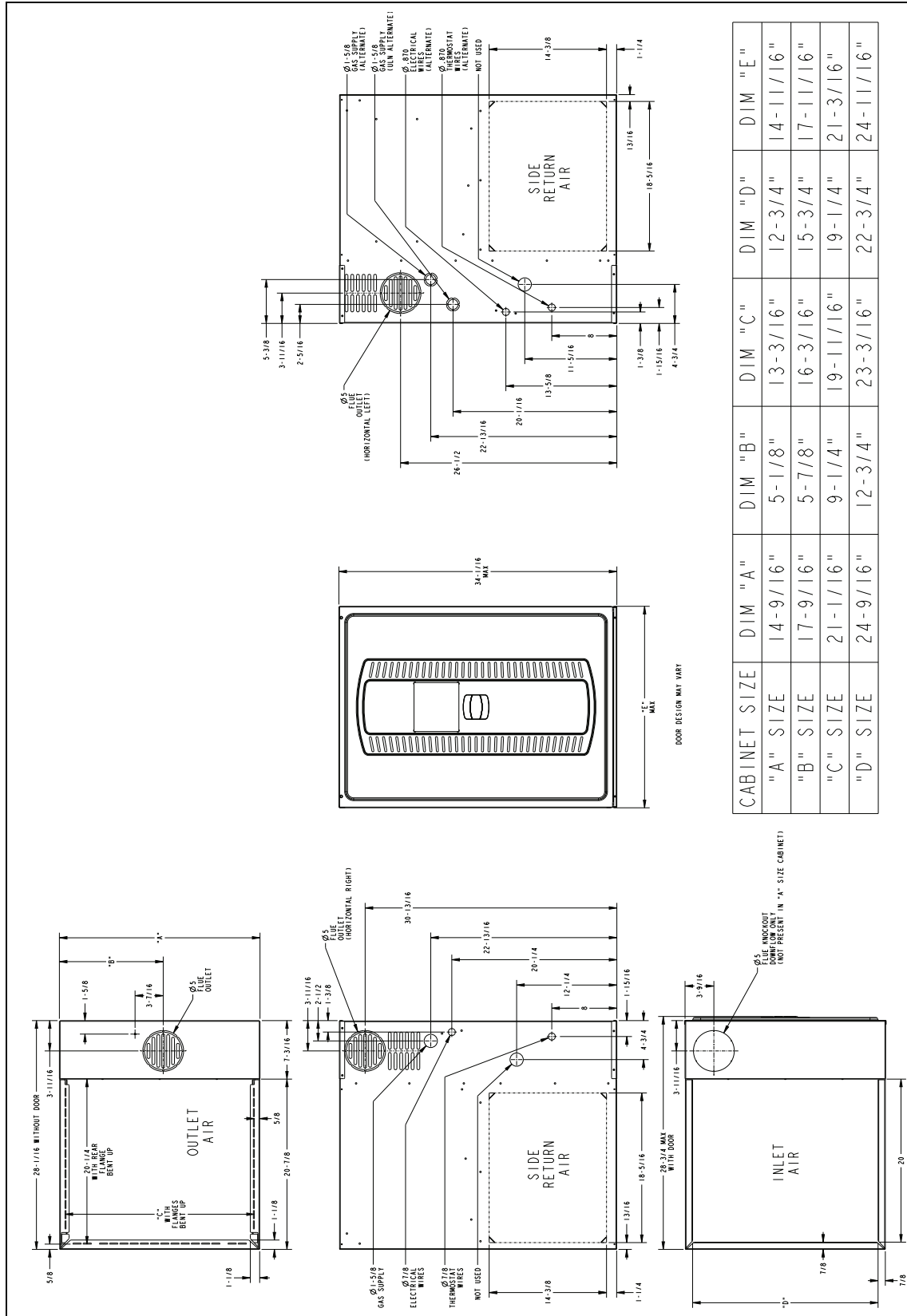
# Electrical Connections

## COMMUNICATING CONTROLS WITH NON-COMMUNICATING L8V1 FURNACE AND COMMUNICATING VS COOLING/HP



# Outline Drawing

Table 10. 14.5", 17.5", 21" and 24.5" Width Cabinets





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