



ELECTRIC HEAT UNITS

503,271M
2/2001



EHA150 AND EHB060 ELECTRIC HEAT

INSTALLATION INSTRUCTIONS FOR EHA150 AND EHB060 ELECTRIC HEAT ASSEMBLIES USED WITH LCB036, 060, AND 120 UNITS

Shipping and Packing List

Package 1 of 1 contains (EHB060-15-2G):

- 1- Electric heat assembly with pigtail wiring
- 1- Bag assembly containing:
 - 12-Screws
- 1- Bag assembly containing:
 - 15-Wiring diagrams
- 1-Circuit breaker

Package 1 of 1 contains (EHA150-15-2G):

- 1- Electric heat assembly with pigtail wiring
- 1- Bag assembly containing:
 - 12-Screws
 - 3-Circuit breaker connectors
- 1- Bag assembly containing:
 - 22-Wiring diagrams

Fuse Block Assemblies (F4)

Ordered and shipped separately

LBFBG15 (3 & 5 ton units)

LBFBG35 (10 ton units)

Fuse block assembly (F4) is not furnished with electric heat and must be ordered extra. Assembly is used with all units installed with single disconnect switch.

Inspect package upon receiving. If damage is found, contact last carrier immediately.

Application

EHA and EHB electric heat sections are used as primary heaters for LCB036, 060, and 120 units. EHB060 is used with LCB036 and 060 units. EHA150 is used with LCB120 units.

Requirements

The EHA and EHB series heaters are CSA and ETL design certified.

Installation of electric heaters must conform with standards of the National Fire Protection Association (NFPA) "Standard for Installation of Air Conditioning and Ventilation Systems NFPA No. 90A;" "Standard for the Installation of Residence Type Warm Air Heating and Air Conditioning Systems NFPA No. 90B;" in Canada, CSA C22.1 Canadian Electrical Code — Part I and all applicable CSA requirements; manufacturer's installation instructions and local municipal building codes. Heaters are approved for clearances to combustible materials as listed on heater rating plate.

Accessibility and service clearances must take precedence over fire protection clearances. All wiring must conform with local building codes and the current National Electric Code (NEC) ANSI-C1 and in Canada, CSA C22.1 Canadian Electrical Code —Part I and the applicable CSA requirements.

Installation

- 1- Disconnect all power to unit.
- 2- Open blower or compressor access door. Remove screws and discard rectangular vestibule cover(s).
- 3- Insert electric element heat assembly into rectangular vestibule opening and secure assembly using screws provided. See figure 1.
- 4- *Single disconnect installations-* Install fuse block assembly (ordered separately) using screws provided. See figure 1 for location.
- 5- Insert fuses from bag assembly in fuse block assembly.
- 6- Affix F4 and fuse amp stickers next to fuse block.

LCB UNIT WITH ELECTRIC HEAT

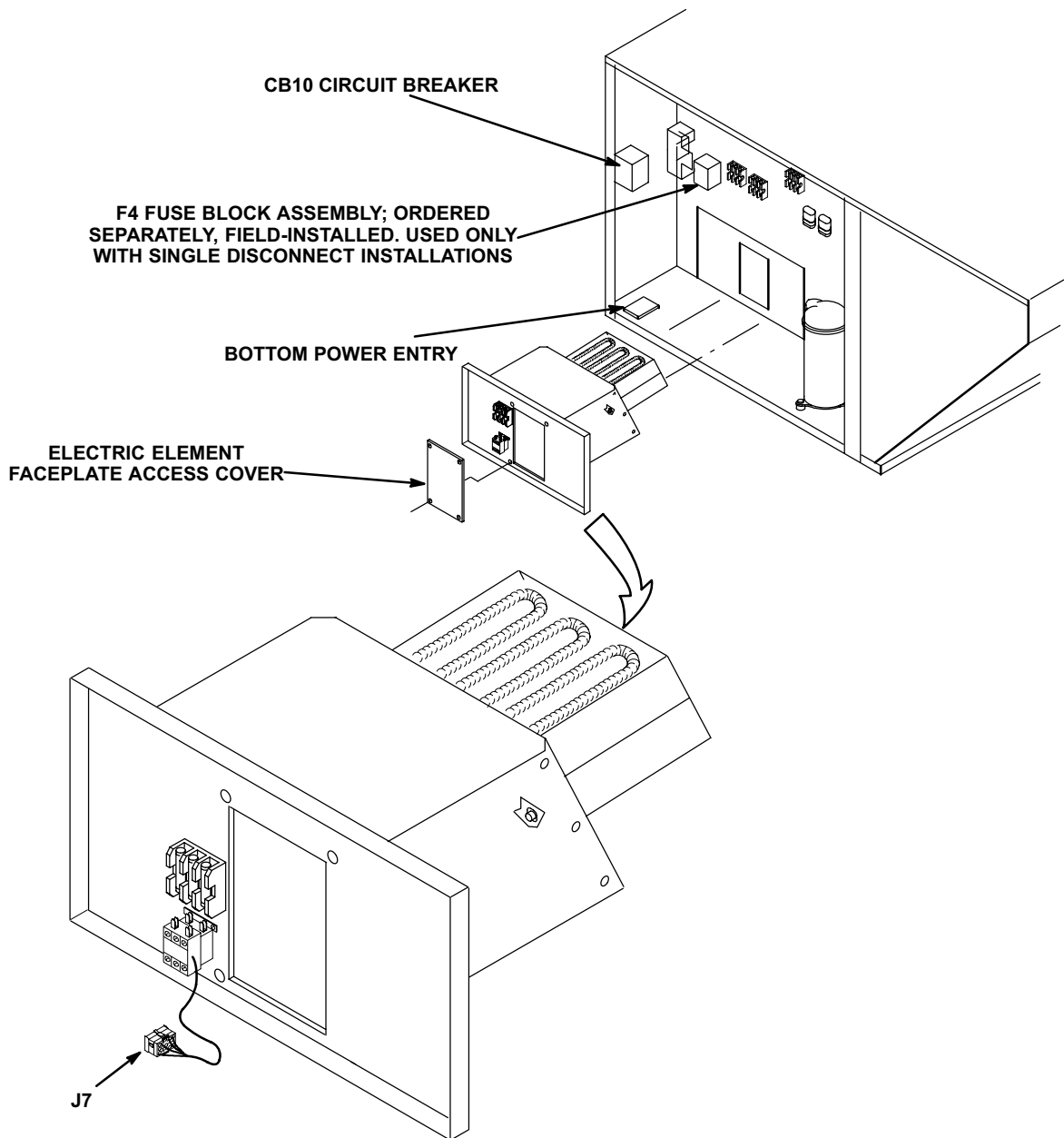


FIGURE 1

Electrical Connections

Wiring must conform to local codes and NEC/CEC. Refer closely to wiring diagram in this instruction and the following information: if electric heat assembly is being installed in an existing unit, a change in power supply wiring and disconnect switch may be required. Remove the original supply wires or disconnect at power source. Refer to heater nameplate for minimum circuit ampacity and maximum fuse size.

- 1- Review heater installed nameplate for MCA values and enlarge power entry knockouts as needed. Route power wires as shown in figure 2. Make field wiring connections as shown in figure 3. For low voltage wiring connections, refer to unit installation instruction.
- 2- Make 24 volt harness jack/plug connections as follows. Connect electric heat jack J7 to electric heat plug P7.

- 3- Place wiring diagram (provided) on the inner side of compressor access panel. Refer to table 1 to determine the appropriate diagram.

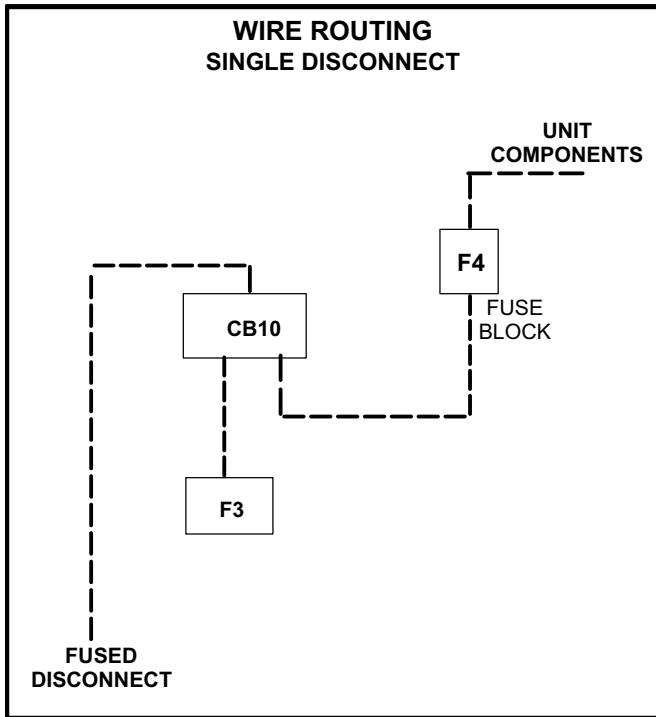


FIGURE 2

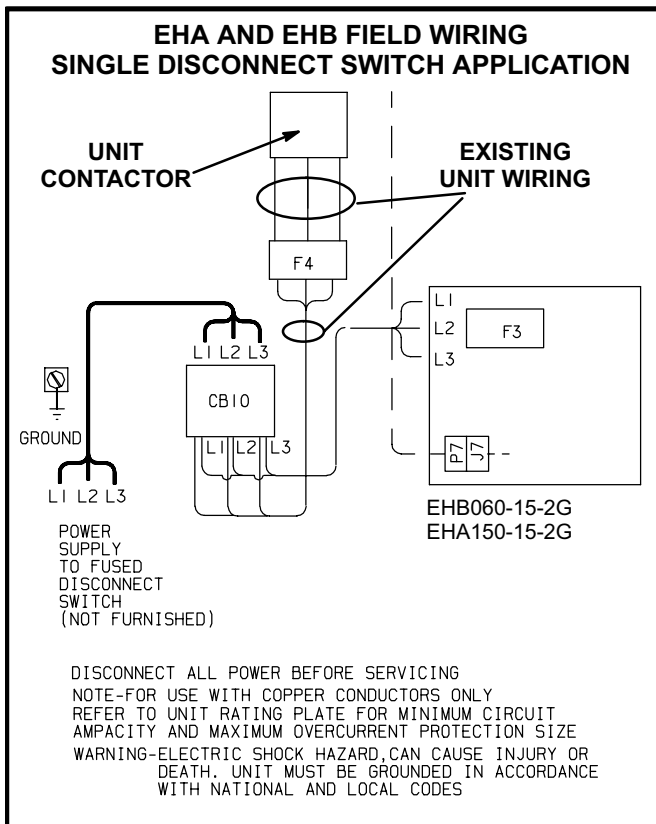


FIGURE 3

Blower Speed Requirements

EHA and EHB electric heater applications require specific blower air volumes. Refer to tables 2, 3, and 4 for proper blower speeds.

**TABLE 1
WIRING DIAGRAM REFERENCE**

Unit	Wiring Diagram
LCB036HN1G-A-DD	532,335W
LCB036HN1G-B-DD	532,343W
LCB036HN1G-C-DD	532,351W
LCB036HN1G-D-DD	532,310W
LCB036HN1G-G-DD	532,617W

LCB060HN1G-A	532,336W
LCB060HN1G-B	532,344W
LCB060HN1G-C	532,352W
LCB060HN1G-D	532,311W
LCB060HN1G-G	533,075W

LCB120HN1G-A	532,458W	532,459W
LCB120HN1G-B	532,462W	532,463W
LCB120HN1G-C	532,466W	532,467W
LCB120HN1G-D w/ PED	532,470W	532,471W
LCB120HN1G-D w/o PED	532,474W	532,475W

LCB036HN2G-A	533,165W
LCB060HN2G-A	533,165W
LCB036HN2G-B	533,185W
LCB060HN2G-B	533,185W
LCB036HN2G-C	533,205W
LCB060HN2G-C	533,205W
LCB036HN2G-D	533,240W
LCB060HN2G-D	533,240W
LCB036HN2G-G	533,271W
LCB060HN2G-G	533,271W

LCB120HN2G-A	533,170W	533,171W
LCB120HN2G-B	533,190W	533,191W
LCB120HN2G-C	533,210W	533,211W
LCB120HN2G-D w/ PED	533,227W	533,228W
LCB120HN2G-D w/o PED	533,245W	533,246W
LCB120HN2G-G	533,276W	533,277W

Unit Start-Up (Heating Cycle)

Set room thermostat for proper heat or auto operation if switching subbase is used. Close disconnect switch and position heat setpoint lever above room temperature. Refer to unit installation instructions for additional information on start-up operations and adjustments.

**TABLE 2
LCB036 BLOWER PERFORMANCE (460v/575v)**

External Static Pressure - in. w.g.	Air Volume (cfm) at Specific Blower Taps			
	High (Terminal 2)	Medium-High (Terminal 3)	Medium-Low (Terminal 4)	Low (Terminal 5)
0	----	1700	1480	----
.05	----	1685	1475	----
.10	----	1665	1470	----
.15	----	1645	1455	----
.20	----	1620	1445	----
.25	----	1600	1425	----
.30	----	1575	1405	----
.35	----	1545	1385	----
.40	----	1520	1355	----
.45	1750	1490	1325	----
.50	1700	1455	1290	----
.55	1655	1420	1250	----
.60	1600	1380	1200	----
.65	1550	1330	1150	----
.70	1500	1275	1090	----
.75	1435	1200	1025	----
.80	1365	1100	----	----

NOTES - 1- All air data is measured external to unit with dry coil, electric heat and 2 inch (51 mm) filters in place.
2- 1200 CFM minimum air with electric heat.

**TABLE 3
LCB036 AND 060 BLOWER PERFORMANCE (BELT DRIVE)**

Air Volume cfm (L/s)	TOTAL STATIC PRESSURE — Inches Water Gauge (Pa)																								
	.10 (25)		.20 (50)		.30 (75)		.40 (100)		.50 (124)		.60 (150)		.70 (174)		.80 (200)		.90 (224)		1.00 (250)		1.10 (274)		1.20 (300)		
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM
900 (425)	490	0.10 (0.07)	595	0.10 (0.07)	685	0.15 (0.11)	765	0.20 (0.15)	835	0.25 (0.19)	905	0.30 (0.22)	970	0.40 (0.30)	1025	0.45 (0.34)	1085	0.50 (0.37)	1135	0.60 (0.45)	1190	0.65 (0.48)	1235	0.75 (0.56)	
1000 (470)	520	0.10 (0.07)	620	0.15 (0.11)	705	0.20 (0.15)	785	0.25 (0.19)	855	0.30 (0.22)	920	0.35 (0.26)	980	0.40 (0.30)	1040	0.50 (0.37)	1095	0.55 (0.41)	1150	0.65 (0.48)	1200	0.70 (0.52)	1245	0.75 (0.56)	
1100 (520)	550	0.15 (0.11)	645	0.15 (0.11)	725	0.20 (0.15)	805	0.30 (0.22)	870	0.35 (0.26)	935	0.40 (0.30)	1000	0.45 (0.34)	1055	0.55 (0.41)	1110	0.60 (0.45)	1160	0.65 (0.48)	1210	0.75 (0.56)	1260	0.80 (0.60)	
1200 (565)	580	0.15 (0.11)	670	0.20 (0.15)	750	0.25 (0.19)	825	0.30 (0.22)	890	0.35 (0.26)	955	0.45 (0.34)	1015	0.50 (0.37)	1070	0.55 (0.41)	1125	0.65 (0.48)	1175	0.70 (0.52)	1225	0.80 (0.60)	1270	0.90 (0.67)	
1300 (615)	615	0.20 (0.15)	700	0.25 (0.19)	775	0.30 (0.22)	845	0.35 (0.26)	915	0.40 (0.30)	975	0.50 (0.37)	1030	0.55 (0.41)	1085	0.60 (0.45))	1140	0.70 (0.52)	1190	0.80 (0.60)	1240	0.85 (0.63)	1285	0.95 (0.71)	
1400 (660)	645	0.20 (0.15)	730	0.30 (0.22)	805	0.35 (0.26)	870	0.40 (0.30)	935	0.45 (0.34)	995	0.55 (0.41)	1050	0.60 (0.45)	1105	0.70 (0.52)	1155	0.75 (0.56)	1205	0.85 (0.63)	1255	0.90 (0.67)	1300	1.00 (0.75)	
1500 (710)	680	0.25 (0.19)	760	0.35 (0.26)	830	0.40 (0.30))	900	0.45 (0.34)	960	0.55 (0.41)	1015	0.60 (0.45)	1070	0.65 (0.48)	1125	0.75 (0.56)	1175	0.80 (0.60)	1225	0.90 (0.67)	1270	1.00 (0.75)	1315	1.05 (0.78)	
1600 (755)	715	0.30 (0.22)	790	0.40 (0.30)	860	0.45 (0.34)	925	0.50 (0.37)	985	0.60 (0.45)	1040	0.65 (0.48)	1095	0.75 (0.56)	1145	0.80 (0.60)	1195	0.90 (0.67)	1245	1.00 (0.75)	1290	1.05 (0.78)	1335	1.15 (0.86)	
1700 (800)	750	0.35 (0.26)	825	0.45 (0.34)	890	0.50 (0.37))	950	0.60 (0.45)	1010	0.65 (0.48)	1065	0.75 (0.56)	1115	0.80 (0.60)	1165	0.90 (0.67)	1215	1.00 (0.75)	1260	1.05 (0.78)	1310	1.15 (0.86)	1350	1.25 (0.93)	
1800 (850)	790	0.45 (0.34)	855	0.50 (0.37)	920	0.60 (0.45))	980	0.65 (0.48)	1035	0.75 (0.56)	1090	0.80 (0.60)	1140	0.90 (0.67)	1190	1.00 (0.75)	1240	1.05 (0.78)	1285	1.15 (0.86)	1330	1.25 (0.93)	1370	1.35 (1.01)	
1900 (895)	825	0.50 (0.37)	890	0.55 (0.41)	950	0.65 (0.48)	1010	0.75 (0.56)	1065	0.80 (0.60)	1115	0.90 (0.67)	1165	1.00 (0.75)	1215	1.05 (0.78)	1260	1.15 (0.86)	1305	1.25 (0.93)	1350	1.35 (1.01)	1390	1.45 (1.08)	
2000 (945)	860	0.55 (0.41)	925	0.65 (0.48)	985	0.75 (0.56)	1040	0.80 (0.60)	1090	0.90 (0.67)	1140	1.00 (0.75)	1190	1.05 (0.78)	1240	1.15 (0.86)	1285	1.25 (0.93)	1330	1.35 (1.01)	1370	1.45 (1.08)	1415	1.55 (1.16)	
2100 (990)	900	0.65 (0.48)	960	0.75 (0.56)	1015	0.80 (0.60)	1070	0.90 (0.67)	1120	1.00 (0.75)	1170	1.10 (0.82)	1220	1.20 (0.90)	1265	1.25 (0.93)	1310	1.35 (1.01)	1350	1.45 (1.08)	1395	1.55 (1.16)	1435	1.65 (1.23)	
2200 (1040)	935	0.75 (0.56)	995	0.85 (0.63)	1050	0.90 (0.67)	1100	1.00 (0.75)	1150	1.10 (0.82)	1200	1.20 (0.90)	1245	1.30 (0.97)	1290	1.40 (1.04)	1335	1.50 (1.12)	1375	1.60 (1.19)	1415	1.70 (1.27)	1455	1.80 (1.34)	
2300 (1085)	975	0.85 (0.63)	1030	0.95 (0.71)	1080	1.00 (0.75)	1130	1.10 (0.82)	1180	1.20 (0.90)	1230	1.30 (0.97)	1275	1.40 (1.04)	1315	1.50 (1.12)	1360	1.60 (1.19)	1400	1.70 (1.27)	1440	1.80 (1.34)	1480	1.90 (1.42)	
2400 (1135)	1010	0.95 (0.71)	1065	1.05 (0.78)	1115	1.15 (0.86)	1165	1.25 (0.93)	1210	1.35 (1.01)	1255	1.45 (1.08)	1300	1.55 (1.16)	1345	1.65 (1.23)	1385	1.75 (1.31)	1425	1.85 (1.38)	1465	1.95 (1.45)	1505	2.05 (1.53)	
2500 (1180)	1050	1.05 (0.78)	1100	1.15 (0.86)	1150	1.25 (0.93)	1200	1.35 (1.01)	1245	1.45 (1.08)	1290	1.55 (1.16)	1330	1.65 (1.23)	1375	1.80 (1.34)	1415	1.90 (1.42)	1455	2.00 (1.49)	1495	2.10 (1.57)	1530	2.20 (1.64)	

NOTE - 1- All data is measured external to the unit with dry coil and air filters in place. 2- 1200 CFM minimum air with electric heat for LCB036. 3- 2000 CFM minimum air with electric heat for LCB060.

**TABLE 4
LCB120 BLOWER PERFORMANCE (BELT DRIVE)**

Air Volume cfm (L/s)	TOTAL STATIC PRESSURE EXTERNAL TO UNIT — inches water gauge (Pa)																			
	.10 (25)		.20 (50)		.30 (75)		.40 (100)		.50 (125)		.60 (150)		.70 (175)		.80 (200)		.90 (225)		1.00 (250)	
	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)	RPM	BHP (kW)
3000 (1415)	475	0.60 (0.45)	515	0.70 (0.52)	550	0.75 (0.56)	590	0.85 (0.63)	625	0.95 (0.71)	665	1.10 (0.82)	700	1.20 (0.90)	740	1.35 (1.01)	775	1.50 (1.12)	810	1.65 (1.23)
3200 (1510)	490	0.65 (0.48)	530	0.75 (0.56)	565	0.85 (0.63)	605	1.00 (0.75)	640	1.10 (0.82)	675	1.20 (0.90)	715	1.35 (1.01)	750	1.50 (1.12)	785	1.65 (1.23)	820	1.80 (1.34)
3400 (1605)	510	0.80 (0.60)	545	0.85 (0.63)	580	1.00 (0.75)	615	1.10 (0.82)	655	1.20 (0.90)	690	1.35 (1.01)	725	1.50 (1.12)	760	1.65 (1.23)	795	1.80 (1.34)	830	1.95 (1.45)
3600 (1700)	525	0.90 (0.67)	560	1.00 (0.75)	595	1.10 (0.82)	630	1.20 (0.90)	670	1.35 (1.01)	705	1.50 (1.12)	740	1.65 (1.23)	775	1.80 (1.34)	805	1.95 (1.45)	840	2.10 (1.57)
3800 (1795)	545	1.00 (0.75)	580	1.10 (0.82)	615	1.25 (0.93)	650	1.35 (1.01)	685	1.50 (1.12)	720	1.65 (1.23)	755	1.80 (1.34)	785	1.95 (1.45)	820	2.10 (1.57)	850	2.25 (1.68)
4000 (1890)	565	1.15 (0.86)	595	1.25 (0.93)	630	1.40 (1.04)	665	1.50 (1.12)	700	1.65 (1.23)	735	1.80 (1.34)	770	2.00 (1.49)	800	2.15 (1.60)	830	2.30 (1.72)	865	2.50 (1.87)
4200 (1980)	580	1.30 (0.97)	615	1.40 (1.04)	650	1.55 (1.16)	685	1.70 (1.27)	715	1.85 (1.38)	750	2.00 (1.49)	785	2.15 (1.60)	815	2.35 (1.75)	845	2.50 (1.87)	875	2.65 (1.98)
4400 (2075)	605	1.45 (1.08)	635	1.60 (1.19)	670	1.75 (1.31)	700	1.85 (1.38)	735	2.05 (1.53)	770	2.20 (1.64)	800	2.35 (1.75)	830	2.55 (1.90)	860	2.70 (2.01)	890	2.90 (2.16)
4600 (2170)	625	1.65 (1.23)	655	1.75 (1.31)	690	1.95 (1.45)	720	2.10 (1.57)	755	2.25 (1.68)	785	2.40 (1.79)	815	2.60 (1.94)	845	2.75 (2.05)	875	2.95 (2.20)	905	3.15 (2.35)
4800 (2265)	645	1.85 (1.38)	680	2.00 (1.49)	710	2.15 (1.60)	740	2.30 (1.72)	775	2.50 (1.87)	805	2.65 (1.98)	835	2.85 (2.13)	865	3.05 (2.27)	890	3.20 (2.39)	920	3.40 (2.54)
5000 (2360)	670	2.05 (1.53)	700	2.20 (1.64)	730	2.35 (1.75)	765	2.55 (1.90)	795	2.75 (2.05)	825	2.90 (2.16)	850	3.10 (2.31)	880	3.30 (2.46)	910	3.50 (2.61)	935	3.65 (2.72)

NOTES: 1-All data is measured external to the unit cabinet with electric heat, dry coil, 2" filters in place, and Lennox rail type curb.
2-4000 CFM minimum air with electric heat.