

# UNIT INFORMATION

# LCT SERIES 3 to 6 ton

## Service Literature

100054  
03/2024

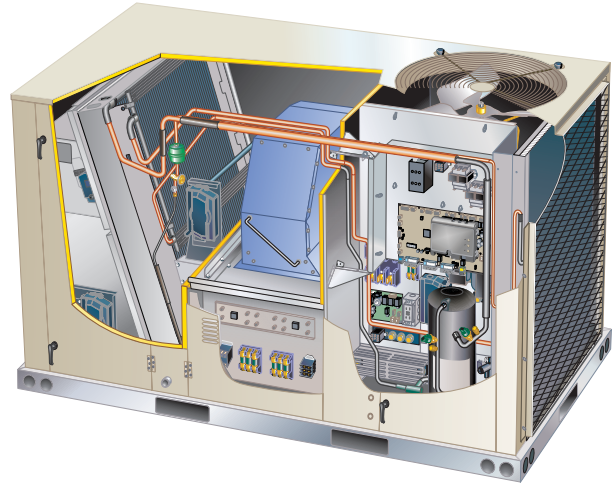
### LCT036 through 072

LCT036 , 048 , 060 , and 072 are high efficiency gas packaged units equipped with a two-speed compressor and a variable speed outdoor fan.


Optional electric heat is factory or field installed . Electric heat operates in single stage depending on the kW input size. 7.5kW through 22.5 kW heat sections are available for the LCT unit

Information contained in this manual is intended for use by qualified service technicians only. All specifications are subject to change. Procedures outlined in this manual are presented as a recommendation only and do not supersede or replace local or state codes.

If the unit must be lifted for service, rig unit by attaching four cables to the holes located in the unit base rail (two holes at each corner). Refer to the installation instructions for the proper rigging technique.



**⚠ WARNING**

 Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

**⚠ IMPORTANT**

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFC's and HCFC's) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for non-compliance.

**⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

**⚠ WARNING**

To prevent serious injury or death:

- 1- Lock-out/tag-out before performing maintenance.
- 2- If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
- 3- Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.

**⚠ CAUTION**

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

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## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		036	048	060	072	
<b>COOLING SYSTEM</b>						
Condensate Drain Trap	PVC	<b>22H54</b>	X	X	X	X
	Copper	<b>76W27</b>	X	X	X	X
Drain Pan Overflow Switch		<b>21Z07</b>	OX	OX	OX	OX
<b>BLOWER - SUPPLY AIR</b>						
Motors - Standard Static (All voltages)	Direct Drive ECM Blower - 0.50 hp	Factory	O			
	1 hp	Factory		O	O	
Motors - High Static (3 phase only)	DirectPlus™ Direct Drive ECM Blower System with MSAV® - 1.5 hp	Factory	O	O	O	O
<b>CABINET</b>						
Combination Coil/Hail Guards		<b>13T03</b>	OX	OX	OX	OX
Corrosion Protection		Factory	O	O	O	O
<b>CONTROLS</b>						
Blower Proving Switch		<b>21Z10</b>	OX	OX	OX	OX
Commercial Controls	CPC Einstein Integration	Factory	O	O	O	O
	LonTalk® Module	<b>54W27</b>	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O	O
Dirty Filter Switch		<b>53W66</b>	OX	OX	OX	OX
Fresh Air Tempering		<b>21Z08</b>	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)		<b>21Z11</b>	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		<b>21Z12</b>	OX	OX	OX	OX
<b>ELECTRICAL</b>						
Voltage 60 Hz	208/230V - 1 phase	Factory	O	O	O	
	208/230V - 3 phase	Factory	O	O	O	O
	460V - 3 phase	Factory	O	O	O	O
	575V - 3 phase	Factory	O	O	O	O
HACR Circuit Breakers		Factory	O	O	O	O
Disconnect Switch (See Electrical Accessories - Disconnects Table for selection)	80 amp	<b>22A23</b>	OX	OX	OX	OX
	150 amp	<b>22A24</b>	OX	OX	OX	OX
<sup>1</sup> Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V only)	<b>74M70</b>	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V only)	Factory	O	O	O	O
	<sup>2</sup> 20 amp non-powered, field-wired (208/230V, 460V, 575V)	<b>67E01</b>	X	X	X	X
	<sup>2</sup> 20 amp non-powered, field-wired (575V)	Factory	O	O	O	O
Weatherproof Cover for GFI		<b>10C89</b>	X	X	X	X
Phase/Voltage Detection - 3 Phase Models Only		Factory	O	O	O	O

<sup>1</sup> Disconnect Switch not available with SCCR option.  
SCCR option is only available with factory installed electric heat or no electric.  
SCCR option is not available if the MOCP of the configured unit is greater than 200A.

<sup>2</sup> Canada requires a minimum 20 amp circuit. Select 20 amp, non-powered, field wired GFI.

NOTE - Catalog numbers shown are for ordering field installed accessories.  
OX = Configure To Order (Factory Installed) or Field Installed.  
O = Configure To Order (Factory Installed).  
X = Field Installed.

## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		036	048	060	072	
<b>ELECTRIC HEAT</b>						
7.5 kW	208/240V-1ph	<b>22V73</b>	OX	OX	OX	
	208/240V-3ph	<b>21Z26</b>	OX	OX	OX	OX
	460V-3ph	<b>21Z27</b>	OX	OX	OX	OX
	575V-3ph	<b>22U17</b>	OX	OX	OX	OX
15 kW	208/240V-1ph	<b>22V74</b>	OX	OX	OX	
	208/240V-3ph	<b>21Z28</b>	OX	OX	OX	OX
	460V-3ph	<b>21Z29</b>	OX	OX	OX	OX
	575V-3ph	<b>22U18</b>	OX	OX	OX	OX
22.5 kW	208/240V-1ph	<b>22V75</b>			OX	
	208/240V-3ph	<b>21Z30</b>			OX	OX
	460V-3ph	<b>21Z31</b>			OX	OX
	575V-3ph	<b>22U19</b>			OX	OX
30 kW	208/240V-3ph	<b>22V72</b>				OX
	460V-3ph	<b>22V71</b>				OX
	575V-3ph	<b>22V70</b>				OX
<b>ECONOMIZER</b>						
<b>High Performance Economizer With Outdoor Air Hood (Sensible Control) (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)</b>						
High Performance Economizer - Includes Barometric Relief Dampers and Combination Hood	<b>20H48</b>		OX	OX	OX	OX
<b>Economizer Accessories</b>						
Horizontal Economizer Conversion Kit	<b>17W45</b>		X	X	X	X
<b>Economizer Controls</b>						
Single Enthalpy (Not for Title 24)	<b>21Z09</b>		OX	OX	OX	OX
Differential Enthalpy (Not for Title 24)	Order 2 <b>21Z09</b>		OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O
Outdoor Air CFM Control		<b>13J76</b>	X	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O	O
Building Pressure Control		<b>13J77</b>	X	X	X	X
<b>POWER EXHAUST FAN (DOWNFLOW ONLY)</b>						
Standard Static	208/230V-1 or 3ph	<b>21Z13</b>	OX	OX	OX	OX
<i>NOTE - Factory or Field installed Power Exhaust Fan requires "Barometric Relief Dampers for Power Exhaust Kit" for field installation. See below.</i>	460V-3ph	<b>21Z14</b>	OX	OX	OX	OX
	575V-3ph	<b>21Z15</b>	OX	OX	OX	OX
<b>BAROMETRIC RELIEF</b>						
<sup>1</sup> Barometric Relief Dampers for Power Exhaust Kit	<b>21Z21</b>		X	X	X	X
<sup>2</sup> Horizontal Barometric Relief Dampers With Exhaust Hood	<b>19F01</b>		X	X	X	X
<b>OUTDOOR AIR</b>						
<b>Outdoor Air Dampers With Outdoor Air Hood</b>						
Motorized	<b>15D17</b>		OX	OX	OX	OX
Manual	<b>15D18</b>		X	X	X	X

<sup>1</sup> Required when Economizer is factory installed with factory installed Power Exhaust Fan option.

<sup>2</sup> Required when Economizer is configured for horizontal airflow.

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX = Configure To Order (Factory Installed) or Field Installed.

O = Configure To Order (Factory Installed).

X = Field Installed.

## OPTIONS / ACCESSORIES

Item	Catalog Number	Unit Model Number				
		036	048	060	072	
<b>HUMIDITROL® CONDENSER REHEAT OPTION</b>						
Humiditrol Dehumidification Option	Factory	O	O	O	O	
Humidity Sensor Kit, Remote mounted (required)	<b>17M50</b>	X	X	X	X	
<b>INDOOR AIR QUALITY</b>						
<b>Air Filters</b>						
Healthy Climate® High Efficiency Air Filters 20 x 20 x 2 in. (Order 4 per unit)	MERV 8	<b>54W21</b>	OX	OX	OX	OX
	MERV 13	<b>52W39</b>	OX	OX	OX	OX
	MERV 16	<b>21U40</b>	X	X	X	X
Replaceable Media Filter With Metal Mesh Frame (includes non-pleated filter media) (order 4 per unit)	20 x 20 x 2 in.	<b>44N60</b>	X	X	X	X
<b>Indoor Air Quality (CO<sub>2</sub>) Sensors</b>						
Sensor - Wall-mount, off-white plastic cover with LCD display		<b>77N39</b>	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		<b>23V86</b>	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting		<b>87N52</b>	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		<b>87N54</b>	X	X	X	X
CO <sub>2</sub> Sensor Duct Mounting Kit - for downflow applications		<b>85L43</b>	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO <sub>2</sub> sensors ( <b>77N39</b> )		<b>90N43</b>	X	X	X	X
<b>Needlepoint Bipolar Ionization (NPBI)</b>						
Needlepoint Bipolar Ionization (NPBI) Kit		<b>22U14</b>	X	X	X	X
<b>UVC GERMICIDAL LAMPS</b>						
<sup>1</sup> Healthy Climate® UVC Light Kit (110/230V-1ph)		<b>21A92</b>	X	X	X	X
Step-Down Transformers	460V primary, 230V secondary	<b>10H20</b>	X	X	X	X
	575V primary, 230V secondary	<b>10H21</b>	X	X	X	X
<b>ROOF CURBS</b>						
<b>Hybrid Roof Curbs, Downflow</b>						
8 in. height		<b>11F50</b>	X	X	X	X
14 in. height		<b>11F51</b>	X	X	X	X
18 in. height		<b>11F52</b>	X	X	X	X
24 in. height		<b>11F53</b>	X	X	X	X
<b>Adjustable Pitched Curb</b>						
14 in. height		<b>42W27</b>	X	X	X	X
<b>Transition Curb</b>						
Matches Enlight™ 036-072 Units to existing L Series® Curbs		<b>31B05</b>	X	X	X	X
<b>CEILING DIFFUSERS</b>						
Step-Down - Order one	RTD11-95S	<b>13K61</b>	X	X	X	X
Flush - Order one	FD11-95S	<b>13K56</b>	X	X	X	X
Transitions (Supply and Return) - Order one	T1TRAN20N-1	<b>17W54</b>	X	X	X	X

<sup>1</sup> Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s).

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX = Configure To Order (Factory Installed) or Field Installed.

O = Configure To Order (Factory Installed).

X = Field Installed.



## SPECIFICATIONS

General Data		Nominal Tonnage	3 Ton	4 Ton	5 Ton	6 Ton
Model Number			LCT036H4E	LCT048H4E	LCT060H4E	LCT072H4E
Efficiency Type			High	High	High	High
Blower Type			MSAV® ECM Direct Drive	MSAV® ECM Direct Drive	MSAV® ECM Direct Drive	MSAV® ECM Direct Drive
<b>Cooling Performance</b>	Gross Cooling Capacity (Btuh)		36,600	50,100	61,600	72,000
	<sup>1</sup> Net Cooling Capacity (Btuh) 3ph		36,000	49,000	60,000	69,000
	<sup>1</sup> AHRI Rated Air Flow (cfm-high/low) 3ph		1200/800	1800/1200	1800/1350	2000/1500
	<sup>1</sup> SEER (Btuh/Watt) - 208/230V-3ph		17.8	17.6	17.1	---
	<sup>1</sup> SEER (Btuh/Watt) - 460V, 575V-3ph		17.0	17.0	17.0	---
	<sup>1</sup> IEER (Btuh/Watt) 3ph		---	---	---	17.0
	<sup>1</sup> EER (Btuh/Watt) 3ph		13.3	12.8	12.7	12.2
	Total Unit Power (kW) 3ph		2.7	3.8	4.6	5.6
	<sup>1</sup> Net Cooling Capacity (Btuh) 1ph		36,000	49,000	59,500	---
	<sup>1</sup> AHRI Rated Air Flow (cfm-high/low) 1ph		1200/800	1800/1200	1800/1350	---
	<sup>1</sup> SEER2 (Btuh/Watt) 1ph		16.8	17.3	16.3	---
	<sup>1</sup> EER2 (Btuh/Watt) 1ph		13.0	12.1	12.0	---
	Total Unit Power (kW) 1ph		2.8	4.1	5.0	---
<sup>2</sup> Sound Rating Number (SRN) (dBA)			75	75	82	82
<b>Refrigerant Charge</b>	Refrigerant Type		R-410A	R-410A	R-410A	R-410A
	Without Reheat Option		5 lbs. 11 oz.	5 lbs. 4 oz.	4 lbs. 13 oz.	5 lbs. 6 oz.
	With Reheat Option		5 lbs. 13 oz.	5 lbs. 10 oz.	5 lbs. 2 oz.	5 lbs. 14 oz.
<b>Electric Heat Available</b>			7.5 and 15 kW	7.5 and 15 kW	7.5, 15 and 22.5 kW	7.5, 15, 22.5 and 30 kW
<b>Compressor Type (one per unit)</b>			Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll	Two-Stage Scroll
<b>Outdoor Coil</b>	Net face area (total) - sq. ft.		17.80	17.80	17.80	17.80
	Number of rows		1	1	1	1
	Fins per inch		20	20	20	20
<b>Outdoor Coil Fans</b>	Motor - (No.) horsepower		(1) 1/3 (ECM)	(1) 1/3 (ECM)	(1) 1/3 (ECM)	(1) 1/3 (ECM)
	Motor rpm		550-830	765-1010	830-1030	830-1030
	Total Motor watts		65-175	130-300	170-350	170-350
	Diameter - (No.) in.		(1) 24	(1) 24	(1) 24	(1) 24
	Number of blades		3	3	3	3
	Total air volume - cfm		2400 - 3795	2700 - 4100	3200 - 4700	3200 - 4700
<b>Indoor Coil</b>	Net face area (total) - sq. ft.		8.65	8.65	8.65	8.65
	Number of rows		1	1	1	1
	Fins per inch		20	20	20	20
	Drain connection (Number) and size - in.		(1) 1 NPT	(1) 1 NPT	(1) 1 NPT	(1) 1 NPT
	Expansion device type		Balanced Port Thermostatic Expansion Valve,removable power head			
<b>Indoor Blower</b>	Standard Static (All Voltages)	Blower type	Direct Drive ECM			---
		Blade type	Forward Curved			---
		Nominal motor HP	0.50	1	1	---
		Blower wheel D x W - in.	(1) 10 X 10	(1) 11 X 10	(1) 11 X 10	---
	High Static (3ph Only)	Blower type	DirectPlus™ Direct Drive ECM			
		Blade type	Backward Curved			
	Nominal motor HP	1.5	1.5	1.5	1.5	
	Blower wheel D x W - in.	(1) 14 X 5	(1) 14 X 5	(1) 14 X 5	(1) 14 X 5	
<b>Filters</b>	Type of filter	MERV 4, Disposable				
	Number and size - in.	(4) 20 x 20 x 2				
<b>Electrical characteristics</b>			208/230V - 60 Hz - 1 phase 208/230V, 460V, or 575V - 60 Hz - 3 phase			208/230V, 460V, or 575V - 60 Hz - 3 phase

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

<sup>1</sup> AHRI Certified to AHRI Standard 210/240 (3-5 ton) or 340/360 (6 ton); 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

**BLOWER DATA**

**0.5 HP**

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See Page 10 for wet coil and options/accessory air resistance data. See Page 10 for minimum air volume with electric heat.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%		30%		40%		50%		60%		70%		80%		90%		100%										
	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM							
0	811	50	415	994	82	473	1177	114	531	1319	154	579	1461	194	626	1564	236	663	1667	278	700	1804	349	753	1878	396	783
0.1	716	47	494	906	81	547	1095	115	599	1243	158	642	1391	200	685	1500	243	718	1608	286	751	1753	361	798	1833	409	824
0.2	631	49	570	827	85	618	1023	121	665	1176	165	704	1329	209	742	1442	254	772	1555	299	802	1708	375	843	1794	425	865
0.3	556	54	644	758	92	687	960	130	729	1118	176	764	1275	222	799	1392	268	825	1509	314	851	1668	392	888	1759	443	907
0.4	489	62	715	696	102	753	903	142	791	1065	189	822	1227	236	853	1347	284	877	1467	331	900	1632	410	932	1726	462	949
0.5	---	---	---	---	---	---	851	155	851	1017	204	879	1183	253	906	1306	301	927	1429	349	948	1597	430	976	1693	481	991
0.6	---	---	---	---	---	---	804	170	909	973	220	933	1141	269	957	1267	318	976	1392	367	994	1562	449	1019	1660	501	1032
0.7	---	---	---	---	---	---	759	184	964	930	235	985	1101	286	1006	1228	336	1023	1355	385	1039	1527	467	1062	1624	519	1074
0.8	---	---	---	---	---	---	716	199	1017	889	251	1036	1061	302	1054	1189	352	1069	1317	402	1083	1489	484	1103	1585	535	1115
0.9	---	---	---	---	---	---	671	211	1067	845	264	1083	1019	316	1099	1148	366	1112	1276	416	1125	1447	499	1144	1540	549	1156
1.0	---	---	---	---	---	---	625	222	1114	800	275	1128	974	327	1142	1102	378	1154	1230	428	1165	1400	510	1183	1489	559	1196
1.1	---	---	---	---	---	---	576	230	1158	751	283	1170	925	336	1182	1052	387	1193	1179	437	1203	1345	518	1221	1430	566	1235
1.2	---	---	---	---	---	---	521	234	1199	695	288	1210	869	341	1220	995	391	1230	1121	441	1240	1283	521	1258	1361	567	1273
1.3	---	---	---	---	---	---	---	---	---	---	---	---	806	340	1255	930	390	1265	1054	440	1274	1210	519	1293	1281	562	1311
1.4	---	---	---	---	---	---	---	---	---	---	---	---	734	335	1288	856	384	1297	977	433	1306	1126	510	1326	1188	552	1347

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%		30%		40%		50%		60%		70%		80%		90%		100%										
	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	Cfm	RPM	
0	794	45	388	970	76	454	1146	107	519	1281	149	575	1416	191	630	1522	110	678	1627	293	726	1715	351	768	1802	408	810
0.1	709	44	460	895	78	519	1080	111	577	1223	155	627	1366	199	677	1477	251	721	1588	303	764	1681	362	804	1773	420	843
0.2	630	46	531	855	82	583	1019	117	634	1169	163	679	1318	208	723	1435	262	763	1552	315	803	1648	375	841	1743	434	878
0.3	556	51	602	759	88	646	961	125	690	1117	172	730	1273	219	769	1395	274	805	1516	328	841	1615	388	877	1714	448	912
0.4	486	58	671	696	97	709	906	135	746	1068	184	781	1230	232	815	1356	288	848	1481	343	880	1582	403	914	1683	463	948
0.5	420	66	740	637	107	771	854	147	802	1021	196	831	1188	245	860	1317	301	890	1446	357	919	1549	418	951	1652	478	983
0.6	---	---	---	---	---	---	804	159	856	946	209	881	1147	259	905	1279	316	932	1410	372	958	1514	432	989	1618	492	1019
0.7	---	---	---	---	---	---	756	172	910	932	223	930	1107	273	949	1241	330	973	1374	386	996	1478	446	1026	1582	506	1055
0.8	---	---	---	---	---	---	709	185	962	888	236	978	1066	287	993	1201	344	1014	1336	400	1034	1440	460	1063	1544	519	1091
0.9	---	---	---	---	---	---	663	197	1013	844	249	1025	1025	300	1036	1161	357	1054	1296	413	1072	1399	472	1100	1502	530	1127
1.0	---	---	---	---	---	---	---	---	---	---	---	---	982	313	1078	1118	369	1094	1254	424	1109	1355	482	1136	1456	540	1163
1.1	---	---	---	---	---	---	---	---	---	---	---	---	938	323	1119	1073	379	1133	1208	434	1146	1307	491	1172	1406	548	1198
1.2	---	---	---	---	---	---	---	---	---	---	---	---	892	332	1158	1026	387	1170	1159	441	1182	1255	497	1208	1351	553	1233
1.3	---	---	---	---	---	---	---	---	---	---	---	---	843	340	1197	975	393	1207	1106	446	1216	1198	501	1242	1290	555	1268
1.4	---	---	---	---	---	---	---	---	---	---	---	---	790	344	1234	920	396	1242	1049	448	1250	1137	501	1276	1224	553	1302

**BLOWER DATA**

**1.0 HP**

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See Page 10 for wet coil and options/accessory air resistance data. See Page 10 for minimum air volume with electric heat.

**DOWNFLOW**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%		30%		40%		50%		60%		70%		80%		90%		100%										
	Cfm	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM							
0	1067	112	488	1325	196	573	1583	279	657	1759	381	726	1934	482	794	2046	579	845	2157	676	896	2285	816	956	2358	925	989
0.1	984	97	537	1249	184	616	1513	270	695	1697	376	760	1881	481	825	2002	584	873	2123	686	921	2273	838	978	2352	947	1008
0.2	912	91	587	1183	180	661	1453	268	735	1644	377	796	1835	486	856	1964	593	902	2093	700	947	2264	863	1001	2349	973	1030
0.3	851	92	636	1126	183	706	1400	273	775	1597	385	832	1794	497	889	1931	607	932	2067	717	974	2256	891	1026	2348	1001	1053
0.4	797	100	687	1075	192	751	1353	283	815	1555	397	869	1757	511	922	1901	625	962	2044	738	1002	2248	919	1051	2347	1031	1077
0.5	752	114	737	1032	206	796	1312	298	855	1518	413	905	1724	528	955	1873	644	993	2021	760	1030	2239	948	1078	2345	1061	1102
0.6	712	132	787	994	224	842	1275	316	896	1484	432	942	1692	548	988	1845	666	1024	1998	783	1059	2228	977	1104	---	---	---
0.7	678	155	836	960	246	886	1242	336	936	1452	452	979	1662	568	1021	1818	687	1055	1974	806	1088	2214	1004	1131	---	---	---
0.8	648	180	885	929	269	931	1210	358	976	1421	474	1016	1632	589	1055	1790	709	1086	1948	828	1117	2195	1028	1158	---	---	---
0.9	621	207	933	900	294	974	1179	381	1015	1390	495	1051	1600	609	1087	1760	728	1117	1919	847	1146	2170	1049	1185	---	---	---
1.0	596	235	981	872	319	1017	1148	403	1053	1357	516	1086	1566	628	1119	1725	746	1147	1884	864	1174	2139	1066	1212	---	---	---
1.1	---	---	---	---	---	---	1115	424	1090	1322	534	1120	1528	643	1150	1686	760	1176	1844	876	1201	2100	1078	1238	---	---	---
1.2	---	---	---	---	---	---	1080	443	1126	1283	549	1153	1485	655	1180	1641	770	1204	1797	884	1228	2052	1083	1264	---	---	---
1.3	---	---	---	---	---	---	1040	458	1161	1238	561	1185	1436	663	1209	1589	775	1231	1742	886	1253	1993	1081	1288	---	---	---
1.4	---	---	---	---	---	---	996	469	1194	1189	567	1215	1381	665	1236	1530	773	1257	1678	881	1277	1923	1071	1311	---	---	---

**HORIZONTAL**

External Static Press. in. w.g.	Percentage of Total Motor Torque																										
	20%		30%		40%		50%		60%		70%		80%		90%		100%										
	Cfm	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM	Cfm	Watts	RPM							
0	1087	111	493	1304	184	579	1520	257	665	1689	368	738	1857	478	810	1972	588	864	2087	698	918	2196	844	975	2283	925	1000
0.1	1021	104	537	1246	180	618	1470	255	699	1646	368	768	1821	480	837	1941	592	888	2061	704	938	2179	852	992	2255	926	1017
0.2	961	102	582	1193	181	658	1425	259	734	1607	373	799	1789	487	864	1914	601	912	2039	714	960	2163	864	1012	2231	932	1034
0.3	906	106	628	1145	186	699	1384	266	769	1572	382	831	1759	498	892	1889	613	938	2018	728	984	2149	879	1033	2209	941	1053
0.4	855	113	674	1101	196	740	1347	278	806	1540	396	864	1732	513	921	1866	629	965	1999	744	1008	2134	896	1054	---	---	---
0.5	808	125	720	1060	209	781	1312	293	842	1509	412	896	1706	530	950	1843	646	992	1980	762	1033	2119	915	1077	---	---	---
0.6	764	139	766	1022	225	823	1279	310	879	1481	430	930	1682	549	980	1821	666	1019	1960	782	1058	2102	935	1101	---	---	---
0.7	722	155	812	984.5	242	864	1247	328	916	1452	449	964	1657	569	1011	1799	686	1048	1940	803	1084	2084	955	1125	---	---	---
0.8	682	172	858	949	260	906	1216	348	953	1424	469	997	1632	589	1041	1776	706	1076	1919	823	1111	2063	974	1150	---	---	---
0.9	643	191	903	914	279	946	1185	367	989	1396	489	1030	1606	610	1071	1751	727	1104	1895	843	1137	2039	992	1175	---	---	---
1.0	---	---	---	---	---	---	1153	386	1024	1366	508	1062	1579	629	1100	1724	745	1132	1869	861	1163	2011	1008	1201	---	---	---
1.1	---	---	---	---	---	---	1120	404	1059	1334	525	1095	1548	646	1130	1694	761	1160	1839	876	1189	1979	1021	1226	---	---	---
1.2	---	---	---	---	---	---	1085	420	1093	1300	541	1126	1515	661	1158	1660	775	1186	1805	889	1214	1941	1031	1250	---	---	---
1.3	---	---	---	---	---	---	1047	433	1126	1263	553	1156	1478	672	1186	1622	785	1213	1766	898	1239	1897	1037	1275	---	---	---
1.4	---	---	---	---	---	---	1005	442	1158	1221	561	1185	1436	680	1212	1579	792	1238	1721	903	1263	1847	1037	1298	---	---	---

**BLOWER DATA**

**BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.**

**1.5 HP**

FOR ALL UNITS ADD:

- 1 - Any factory installed options air resistance (heat section, economizer, etc.).
- 2 - Any field installed accessories air resistance (duct resistance, diffuser, etc.).

See Page 10 for wet coil and options/accessory air resistance data. See Page 10 for minimum air volume with electric heat.

**DOWNFLOW**

Total Air cfm	Total Static Pressure - in. w.g.																											
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3			
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
400	---	---	734	19	823	40	910	60	985	78	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
600	766	28	856	51	944	73	1029	93	1108	111	1180	127	1248	139	1315	149	1383	158	1451	169	1582	214	1643	234	1701	255	1755	281
800	899	57	989	81	1079	104	1163	125	1242	145	1317	161	1386	174	1454	185	1519	198	1582	214	1643	234	1701	255	1755	281	319	345
1000	1084	95	1163	117	1244	139	1323	160	1398	180	1470	196	1538	211	1603	227	1663	245	1721	267	1776	292	1828	320	1876	350	386	412
1200	1319	113	1385	138	1451	162	1517	186	1581	209	1644	231	1703	254	1759	278	1812	306	1863	337	1912	367	1960	397	2003	427	463	489
1400	1542	146	1596	177	1649	208	1703	239	1757	269	1809	300	1860	331	1909	362	1956	393	2003	425	2050	456	2095	483	2139	508	544	570
1600	1721	225	1772	258	1823	291	1873	324	1923	356	1972	388	2019	419	2065	450	2110	480	2156	510	2200	539	2244	565	2287	590	626	652
1800	1909	309	1957	341	2006	373	2054	404	2101	435	2146	465	2190	495	2234	526	2277	557	2320	588	2362	620	2404	651	2444	685	721	747
2000	2103	385	2148	417	2193	450	2239	483	2283	516	2325	550	2367	584	2408	620	2449	658	2490	696	2529	735	2568	777	2605	822	858	884
2200	2299	478	2342	514	2384	552	2426	590	2467	630	2507	671	2547	714	2586	757	2625	800	2663	844	2700	889	2735	935	2770	982	1013	1039
2400	2500	606	2540	647	2580	690	2618	734	2656	779	2694	824	2731	870	2768	915	2804	961	2839	1006	2874	1051	2907	1096	2941	1141	1182	1208
2600	2704	768	2741	810	2778	855	2813	901	2849	947	2884	993	2918	1039	2952	1085	2986	1129	3019	1173	3051	1217	3083	1259	3115	1300	1331	1357
2800	2908	941	2943	985	2976	1030	3010	1076	3042	1121	3075	1166	3107	1210	3139	1253	3170	1296	3200	1338	3231	1379	3261	1419	3290	1456	1487	1513
3000	3110	1111	3142	1156	3173	1201	3205	1245	3236	1289	3267	1332	3296	1373	3325	1414	3354	1455	3382	1496	3412	1536	3439	1573	3465	1609	1640	1666

**Total Static Pressure - in. w.g.**

Total Air cfm	Total Static Pressure - in. w.g.													
	1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	1805	309	1850	337	1895	366	1940	392	---	---	---	---	---	---
1000	1920	380	1962	410	2005	439	2050	466	2094	492	2138	517	2181	541
1200	2045	456	2087	484	2130	510	2174	537	2217	563	2260	589	2302	615
1400	2182	531	2225	555	2268	581	2310	610	2352	640	2393	671	2433	703
1600	2330	616	2371	645	2412	678	2452	713	2491	750	2530	787	2568	824
1800	2484	723	2523	765	2561	808	2598	849	2636	890	2672	931	2708	971
2000	2641	868	2677	915	2713	961	2749	1003	2784	1044	2819	1084	2853	1124
2200	2804	1028	2839	1072	2873	1114	2907	1155	2940	1194	2973	1234	3006	1272
2400	2974	1184	3006	1225	3039	1266	3071	1305	3103	1344	3134	1382	3166	1420
2600	3146	1340	3177	1379	3207	1417	3238	1456	3269	1494	3299	1532	3329	1569
2800	3319	1493	3347	1530	3376	1567	3406	1605	3435	1643	3465	1681	3495	1718
3000	3491	1644	3517	1680	3543	1716	3572	1754	3602	1792	3631	1830	3661	1867





## BLOWER DATA

### FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE - in. w.g.

Air Volume cfm	Wet Indoor Coil	Humiditrol® Reheat Coil	Electric Heat	Economizer	Filters		
					MERV 8	MERV 13	MERV 16
800	0.01	---	0.01	0.04	0.04	0.05	0.04
1000	0.02	0.00	0.03	0.04	0.04	0.07	0.05
1200	0.04	0.00	0.06	0.04	0.04	0.07	0.05
1400	0.05	0.01	0.09	0.04	0.04	0.07	0.06
1600	0.07	0.02	0.12	0.04	0.04	0.07	0.08
1800	0.08	0.02	0.15	0.05	0.04	0.07	0.09
2000	0.10	0.02	0.18	0.05	0.05	0.08	0.10
2200	0.11	0.04	0.18	0.05	0.05	0.08	0.11
2400	0.13	0.04	0.20	0.05	0.05	0.08	0.12

### MINIMUM AIR VOLUME REQUIRED FOR ELECTRIC HEAT

Size	kW Size	Minimum CFM	
		Direct Drive ECM	DirectPlus™ Direct Drive ECM
036-072	7.5	600	1200
	15	1100	1350
	22.5	1600	1800
072	30	N/A	2000

### POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure in. w.g.	Air Volume Exhausted cfm
0.00	2000
0.05	1990
0.10	1924
0.15	1810
0.20	1664
0.25	1507
0.30	1350
0.35	1210

### CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume - cfm	RTD11-95S Step-Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
1800	0.13	0.11	0.09	0.09
2000	0.15	0.13	0.11	0.10
2200	0.18	0.15	0.12	0.12
2400	0.21	0.18	0.15	0.14
2600	0.24	0.21	0.18	0.17
2800	0.27	0.24	0.21	0.20
3000	0.32	0.29	0.25	0.25



**ELECTRICAL/ELECTRIC HEAT DATA**

**3 TON**

Model No.		LCT036H4							
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph		208/230V - 3 Ph		460V - 3 Ph		575V - 3 Ph	
Compressor (Non-Inverter)	Rated Load Amps	14.2		8.8		4		3.4	
	Locked Rotor Amps	78.1		70		31		27	
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8		2.8		1.4		1.1	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4		2.4		1.3		1	
Service Outlet 115V GFI (amps)		15		15		15		20	
Indoor Blower Motor	Horsepower	0.5		0.5		1.5		0.5	
	Full Load Amps	4.3		4.3		4.4		2.2	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	35		25		25		15	
	With (1) 0.33 HP Power Exhaust	40		25		25		15	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	25		19		19		9	
	With (1) 0.33 HP Power Exhaust	28		21		21		10	

**ELECTRIC HEAT DATA**

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V		600V	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	<b>7.5 kW</b>	<sup>4</sup> 40	45	<sup>4</sup> 25	30	30	30	15	15	15	15
		<b>15 kW</b>	<sup>4</sup> 80	90	<sup>4</sup> 45	60	<sup>4</sup> 45	60	30	30	25	25
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	<b>7.5 kW</b>	40	45	25	28	26	29	15	15	12	12
		<b>15 kW</b>	74	84	45	51	45	51	26	26	21	21
<sup>2</sup> Maximum Overcurrent Protection (MOCP) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	<b>7.5 kW</b>	<sup>4</sup> 45	50	<sup>4</sup> 30	35	<sup>4</sup> 30	35	20	20	15	15
		<b>15 kW</b>	<sup>4</sup> 80	90	<sup>4</sup> 50	60	<sup>4</sup> 50	60	30	30	25	25
<sup>3</sup> Minimum Circuit Ampacity (MCA) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	<b>7.5 kW</b>	43	48	28	31	29	32	16	16	13	14
		<b>15 kW</b>	77	87	48	54	48	54	27	28	22	23

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

**ELECTRICAL/ELECTRIC HEAT DATA**

**4 TON**

Model No.		LCT048H4							
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph			460V - 3 Ph		575V - 3 Ph	
Compressor (Non-Inverter)	Rated Load Amps	17.1	11.7			5.7		4.9	
	Locked Rotor Amps	109	123			60		41	
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	2.8			1.4		1.1	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4			1.3		1	
Service Outlet 115V GFI (amps)		15	15			15		20	
Indoor Blower Motor	Horsepower	1	1	1.5	1	1.5	1	1.5	
	Full Load Amps	7.4	7.4	4.4	3.7	2.3	3	2.3	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	45	35	30	15	15	15	15	
	With (1) 0.33 HP Power Exhaust	50	35	35	15	15	15	15	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	32	25	22	13	11	11	10	
	With (1) 0.33 HP Power Exhaust	34	28	25	14	13	12	11	

**ELECTRIC HEAT DATA**

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V		600V	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	<b>7.5 kW</b>	<sup>4</sup> 45	50	35	35	30	30	20	15	15	15
		<b>15 kW</b>	<sup>4</sup> 80	90	<sup>4</sup> 50	60	<sup>4</sup> 45	60	30	30	25	25
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	<b>7.5 kW</b>	44	49	29	32	26	29	16	15	13	12
		<b>15 kW</b>	77	88	49	55	45	51	28	26	22	21
<sup>2</sup> Maximum Overcurrent Protection (MOCP) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	<b>7.5 kW</b>	<sup>4</sup> 50	60	35	35	35	35	20	20	15	15
		<b>15 kW</b>	<sup>4</sup> 80	100	60	60	<sup>4</sup> 50	60	30	30	25	25
<sup>3</sup> Minimum Circuit Ampacity (MCA) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	<b>7.5 kW</b>	47	52	32	35	29	32	18	16	15	14
		<b>15 kW</b>	80	91	52	58	48	54	29	28	24	23

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

**ELECTRICAL/ELECTRIC HEAT DATA**

**5 TON**

Model No.		LCT060H4							
<sup>1</sup> Voltage - 60Hz		208/230V - 1 Ph	208/230V - 3 Ph			460V - 3 Ph		575V - 3 Ph	
Compressor (Non-Inverter)	Rated Load Amps	23.5	14			6.5		4.9	
	Locked Rotor Amps	118	93			60		41	
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	2.8			1.4		1.1	
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	2.4			1.3		1	
Service Outlet 115V GFI (amps)		15	15			15		20	
Indoor Blower Motor	Horsepower	1	1	1.5	1	1.5	1	1.5	
	Full Load Amps	7.4	7.4	4.4	3.7	2.3	3	2.3	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	60	40	35	15	15	15	15	
	With (1) 0.33 HP Power Exhaust	60	40	40	20	15	15	15	
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	40	28	25	14	12	11	10	
	With (1) 0.33 HP Power Exhaust	42	31	28	15	14	12	11	

**ELECTRIC HEAT DATA**

Electric Heat Voltage			208V	240V	208V	240V	208V	240V	480V		600V	
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	60	60	40	40	35	35	20	15	15	15
		15 kW	<sup>4</sup> 80	90	<sup>4</sup> 50	60	<sup>4</sup> 45	60	30	30	25	25
		22.5 kW	<sup>4</sup> 125	150	<sup>4</sup> 70	80	<sup>4</sup> 70	80	40	40	35	30
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	7.5 kW	44	49	29	32	26	29	16	15	13	12
		15 kW	77	88	49	55	45	51	28	26	22	21
		22.5 kW	111	127	68	77	65	74	39	37	31	30
<sup>2</sup> Maximum Overcurrent Protection (MOCP) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	7.5 kW	60	60	40	40	40	40	20	20	15	15
		15 kW	<sup>4</sup> 80	100	60	60	<sup>4</sup> 50	60	30	30	25	25
		22.5 kW	<sup>4</sup> 125	150	80	80	<sup>4</sup> 70	80	45	40	35	35
<sup>3</sup> Minimum Circuit Ampacity (MCA) and (1) 0.33 HP Power Exhaust	Unit+ Electric Heat	7.5 kW	47	52	32	35	29	32	18	16	15	14
		15 kW	80	91	52	58	48	54	29	28	24	23
		22.5 kW	114	130	71	80	68	77	41	39	33	32

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

**ELECTRICAL/ELECTRIC HEAT DATA**

**6 TON**

Model No.		LCT072H4		
<sup>1</sup> Voltage - 60Hz		208/230V - 3 Ph	460V - 3 Ph	575 - 3Ph
Compressor (Non-Inverter)	Rated Load Amps	17.6	8.5	6.3
	Locked Rotor Amps	136	66.1	55.3
Outdoor Fan Motor	Full Load Amps (1 ECM)	2.8	1.4	1.1
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4	1.3	1
Service Outlet 115V GFI (amps)		15	15	20
Indoor Blower Motor	Horsepower	1.5	1.5	1.5
	Full Load Amps	4.4	2.3	2.3
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit Only	45	20	15
	With (1) 0.33 HP Power Exhaust	45	20	15
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit Only	30	15	12
	With (1) 0.33 HP Power Exhaust	32	16	13

**ELECTRIC HEAT DATA**

Electric Heat Voltage			208V	240V	480V	600V
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat	7.5 kW	45	45	20	15
		15 kW	<sup>4</sup> 45	60	30	25
		22.5 kW	<sup>4</sup> 70	80	40	30
		30 kW	<sup>4</sup> 90	100	50	40
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat	7.5 kW	30	30	15	12
		15 kW	45	51	26	21
		22.5 kW	65	74	37	30
		30 kW	84	96	48	39
<sup>2</sup> Maximum Overcurrent Protection (MOCP)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	45	45	20	15
		15 kW	<sup>4</sup> 50	60	30	25
		22.5 kW	<sup>4</sup> 70	80	40	35
		30 kW	<sup>4</sup> 90	100	50	45
<sup>3</sup> Minimum Circuit Ampacity (MCA)	Unit+ Electric Heat and (1) 0.33 HP Power Exhaust	7.5 kW	32	32	16	14
		15 kW	48	54	28	23
		22.5 kW	68	77	39	32
		30 kW	87	99	50	41

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

<sup>1</sup> Extremes of operating range are plus and minus 10% of line voltage.

<sup>2</sup> HACR type breaker or fuse.

<sup>3</sup> Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

<sup>4</sup> Factory installed circuit breaker not available.

## ELECTRIC HEAT CAPACITIES

Input Voltage	7.5 kW			15 kW			22.5 kW			30 kW		
	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output	No of Stages	kW input	Btuh Output
208	1	5.6	19,200	1	11.2	38,200	1	16.9	57,700	1	22.5	76,800
220	1	6.3	21,500	1	12.6	43,000	1	18.9	64,500	1	25.2	86,000
230	1	6.9	23,500	1	13.8	47,000	1	20.7	70,700	1	27.5	93,900
240	1	7.5	25,600	1	15	51,200	1	22.5	76,800	1	30	102,400
440	1	6.3	21,500	1	12.6	43,000	1	18.9	64,500	1	25.2	86,000
460	1	6.9	23,500	1	13.8	47,000	1	20.7	70,700	1	27.5	93,900
480	1	7.5	25,600	1	15	51,200	1	22.5	76,800	1	30	102,400
550	1	6.3	21,500	1	12.6	43,000	1	18.9	64,500	1	25.2	86,000
575	1	6.9	23,500	1	13.8	47,000	1	20.7	70,700	1	27.5	93,900
600	1	7.5	25,600	1	15	51,200	1	22.5	76,800	1	30	102,400

### LCT PARTS ARRANGEMENT (060 SHOWN)

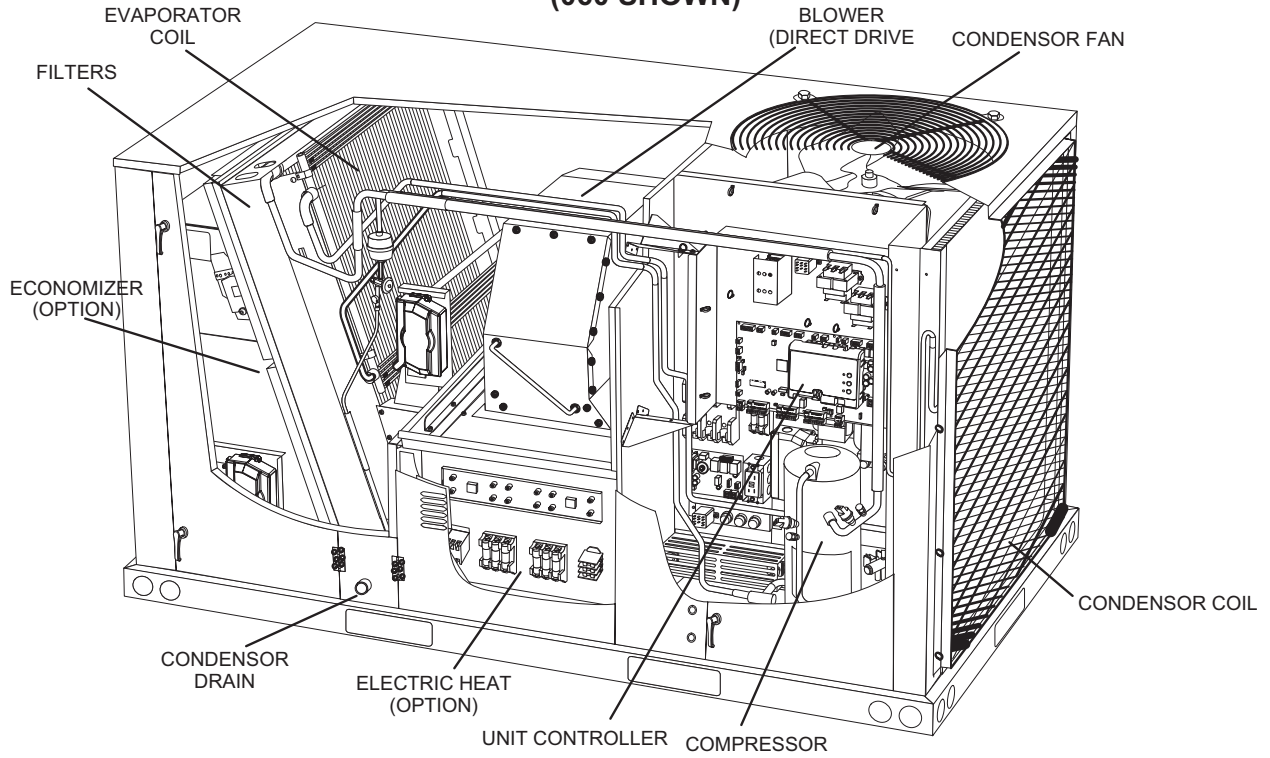


FIGURE 1

### CONTROL BOX

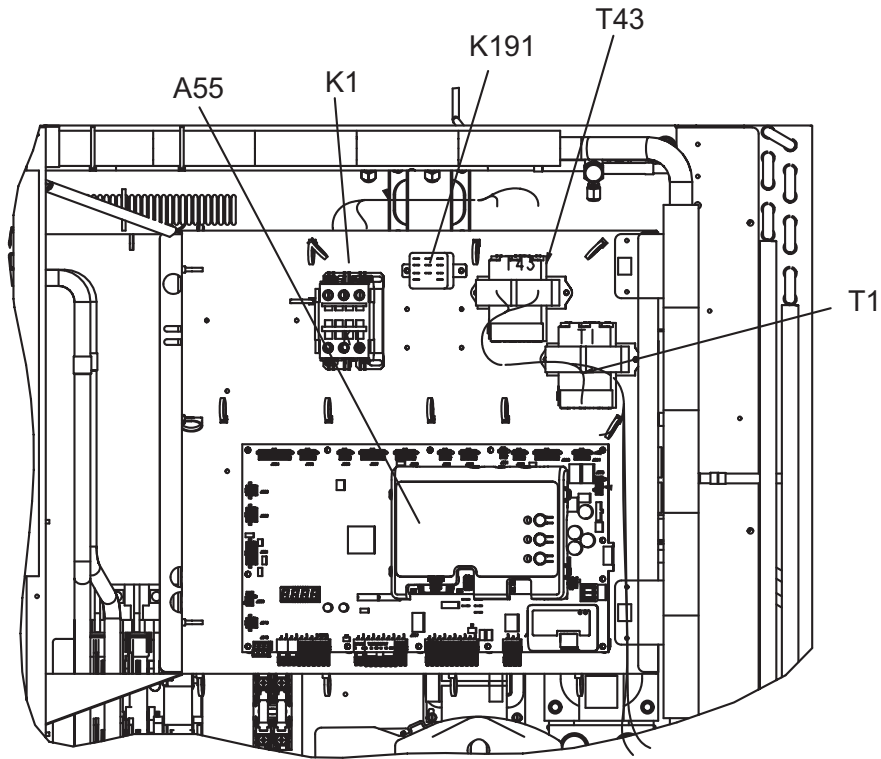


FIGURE 2



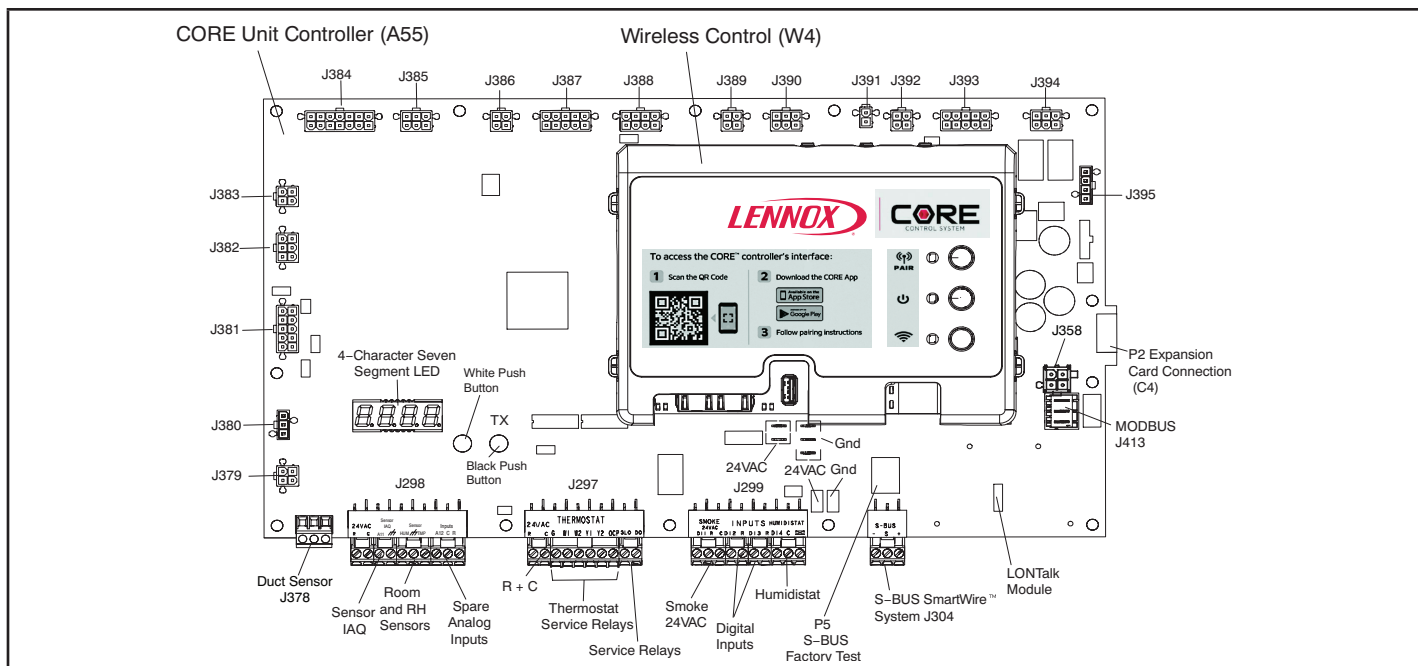


FIGURE 3

## I-UNIT COMPONENTS

### ELECTROSTATIC DISCHARGE (ESD) Precautions and Procedures

⚠ CAUTION

Electrostatic discharge can affect electronic components. Take precautions to neutralize electrostatic charge by touching your hand and tools to metal prior to handling the control.

All 3 through 6 ton (7.5 through 30 kW) units are configured to order units (CTO). The LCT unit components are shown in FIGURE 1. All units come standard with hinged unit panels. All L1, L2, and L3 wiring is color coded; L1 is red, L2 is yellow, and L3 is blue.

#### A-Control Box Components

LCT control box components are shown in FIGURE 2. The control box is located in the upper right portion of the compressor compartment.

#### 1-Control Transformers T1/T43

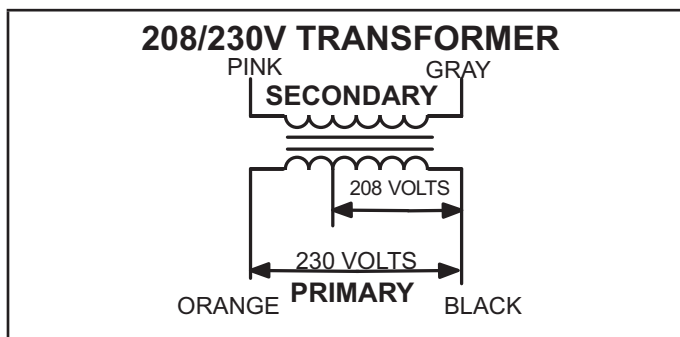


FIGURE 4

All use a single line voltage to 24VAC transformer mounted on the hinged control panel. Transformer supplies power to control circuits in the unit. The transformer is rated at 70VA and is protected by a 3.5 amp circuit (CB8). The 208/230 voltage transformers use two primary voltage taps as shown in FIGURE 4, while the 460 (G) voltage transformer use a single primary voltage tap. T43 is used for units with hot gas reheat for additional 24VAC.

#### 2-Transformer T4 (J voltage)

All J volt units are equipped with a line voltage to 460V 3-phase transformer to power the indoor blower motor. T4 is mounted in the back panel of the compressor section above T5.

#### 3-Transformer T5 (G and J voltage)

All units use transformer T5 mounted in the back panel in the compressor section. T5 is a line voltage to 230V transformer to power the combustion air inducer, outdoor fan motor, and optional UVC light ballast. It is connected to line voltage and is powered at all times.

#### 4-Unit Controller A55 (FIGURE 3)

The Unit Controller provides all unit control functions, unit status information, unit diagnostics, programmable parameters, and USB verification and profile sharing. The unit controller can only be interfaced with via the CORE Service mobile app. Refer to the Unit controller instructions provided for additional details on pairing and app functions

## Attention!

Use this QR code to download the mobile service app. Follow the prompts to pair the app with the unit control system and configure the unit. Refer to the “Download Mobile App” section in this manual and the Setup Guide provided with this unit. The QR code is also available in the unit control area.



The app can be downloaded from the appropriate iOS or Android store. Look for the following



The Unit Controller uses input from a zone/room sensor cooling, a thermostat, or a third-party controller to operate the unit. Zone/room sensor, thermostat, and third-party controller wires are connected to J297 on the Unit Controller.

Many default Unit Controller settings are adjustable. Refer to the unit installation instruction or the Unit Controller manual provided with the unit.

The Unit Controller is configured to identify optional kits and accessories for proper function. Each character in the configuration ID represents a different option. Refer to the unit installation instruction or the Unit Controller manual provided with the unit.

### 5-Compressor Contactor K1

The Unit Controller closes n.o. K1 contacts to provide power to the inverter control board (A192). The contactor does not energize the compressor in the same manner as a traditional cooling system. Three phase units use three pole double break contactors with a 24 volt coil.

### 6-Crankcase Heater Relay K191

All units use relay K191 to control crnkcase heater HR1.

### 7-Power Exhaust Relay K65 (PED units)

Power exhaust relay K65 is a N.O. DPDT relay with a 24VAC coil. K65 is used in all LGT units equipped with the optional power exhaust dampers. K65 is energized by the economizer control panel (A56), after the economizer dampers reach 50% open (adjustable in ECTO). When K65 closes, the exhaust fan B10 is energized.

## B-Cooling Components

All units use a single cooling circuit consisting of a two-speed compressor, all aluminum condenser coil and evaporator coil. See FIGURE 5. All units use one draw-through type condenser fan and a single direct drive blower. The blower draws air across the evaporator during unit operation.

Cooling may be supplemented by a factory- or field-installed economizer. The evaporator coil is slab type and uses a thermostatic expansion valve as the primary refrigerant metering device. The compressor is protected by a high pressure switch (S4) on the discharge line, a high temperature limit switch (S5) on the compressor, and a low pressure switch (S87) on the suction line. See FIGURE 5.

### 1-High Pressure Switch S4

The high pressure switch is an auto-reset SPST N.C. switch which opens on a pressure rise.

S4 is located in the compressor discharge line and wired to the A55 Unit Controller. When discharge pressure rises to  $640 \pm 10$  psig ( $4412 \pm 69$  kPa) (indicating a problem in the system) the switch opens and the compressor inverter is de-energized (the economizer can continue to operate). The switch automatically resets at  $475 + 10$  psig.

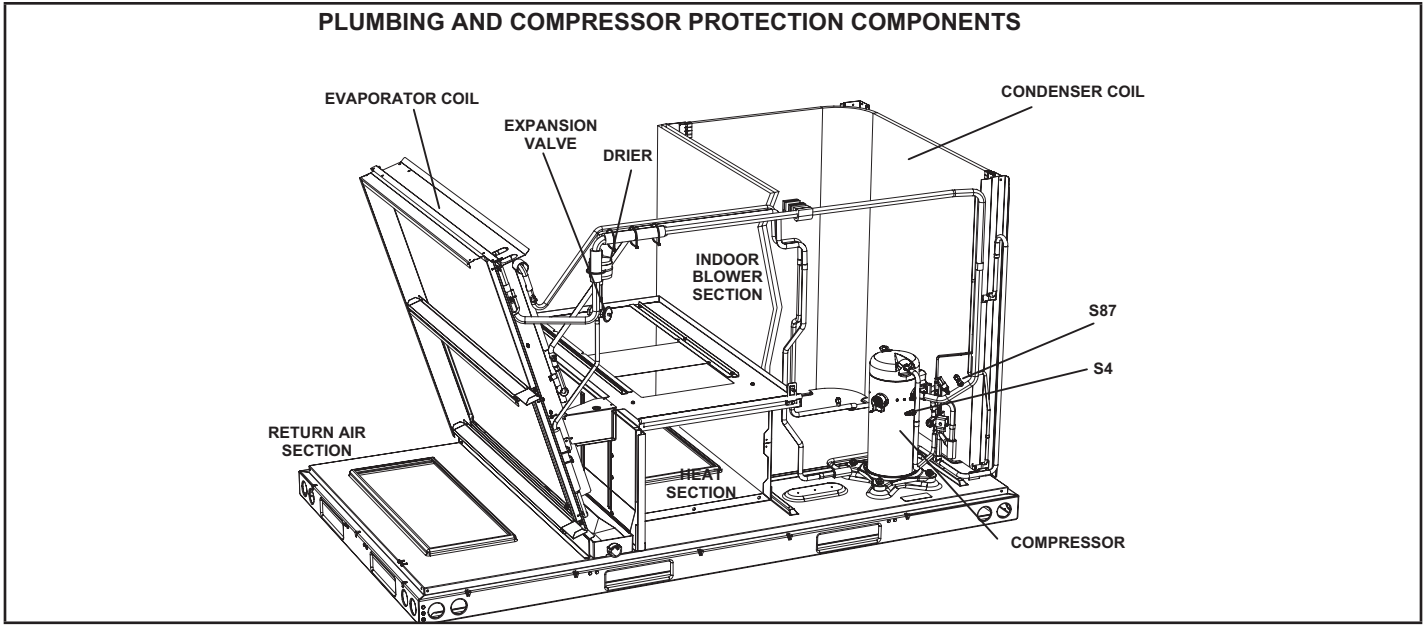
### 2-Low Pressure Switch S87

The compressor circuit is protected by a loss of charge switch located on the suction line. Switch opens at  $40$  psig  $\pm 5$  psig ( $276 \pm 34$  kPa) and automatically resets at  $90$  psig  $\pm 5$  psig ( $621$  kPa  $\pm$  kPa).

### 3-High Temperature Limit Switch S5

The variable speed compressor is equipped with a compressor-mounted normally closed temperature switch that prevents compressor damage due to overheating caused by internal friction. The switch is located on top of the compressor casing. This switch senses the compressor casing temperature and opens at  $239$ - $257^\circ\text{F}$  to shut-off compressor operation. The auto-reset switch closes when the compressor casing temperature falls to  $151$ - $187^\circ\text{F}$ , and the compressor is re-energized. This switch is a single-pole, single-throw (SPST) bi-metallic switch and is wired to the A55 Unit Controller.

**PLUMBING AND COMPRESSOR PROTECTION COMPONENTS**



**FIGURE 5**

**4-Thermistors**

Units are equipped with two factory-installed thermistors (RT46 and RT48) located on different points on the refrigerant circuit.

The thermistors provide the Unit Controller with constant temperature readings of two specific locations on the refrigeration circuit. These temperatures are used as feedback in certain modes of unit operation. In addition, the Unit Controller uses these temperatures to initiate alarms such as loss of condenser or evaporator airflow and loss of charge.

Each thermistor must be specifically placed for proper unit operation and to initiate valid alarms. See TABLE 1 for proper locations.

**TABLE 1  
THERMISTOR LOCATION**

Unit	Sensor Yellow	Figure
LGT/LCT036, 048, 060, 072	RT46	6
LGT/LCT036, 048, 060, 072	RT48	7

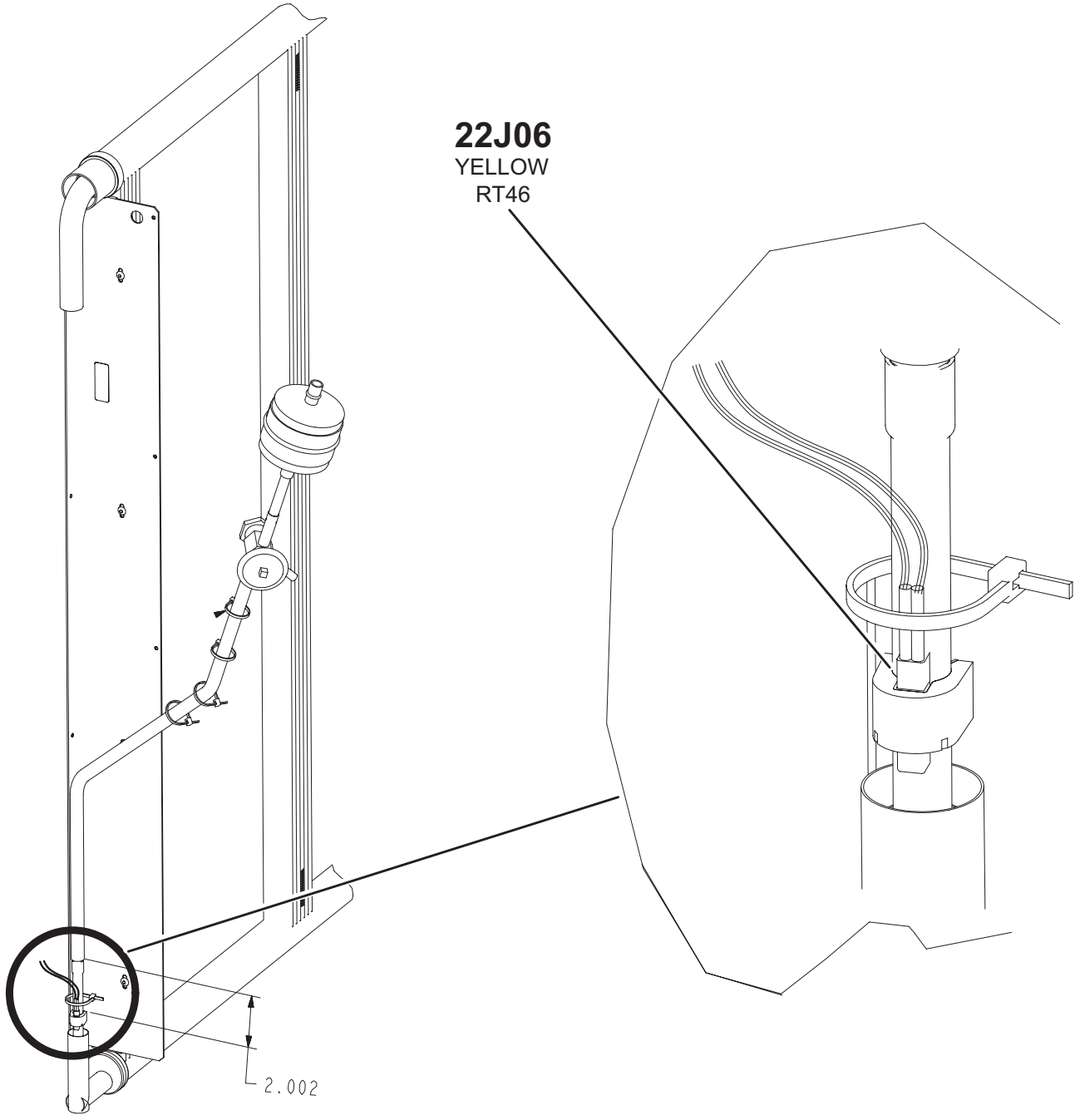
**⚠ WARNING**

**Electrical shock hazard. Compressor must be grounded. Do not operate without protective cover over terminals. Disconnect power before removing protective cover. Discharge capacitors before servicing unit. Failure to follow these precautions could cause electrical shock resulting in injury or death.**

**5-Two-Speed Compressor B1**

All units use one two-speed scroll compressor. See "SPECIFICATIONS" and "ELECTRICAL DATA" (table of contents) or compressor nameplate for compressor specifications.

LGT/LCT 036, 048, 060, 072  
EVAPORATOR COIL  
RT46



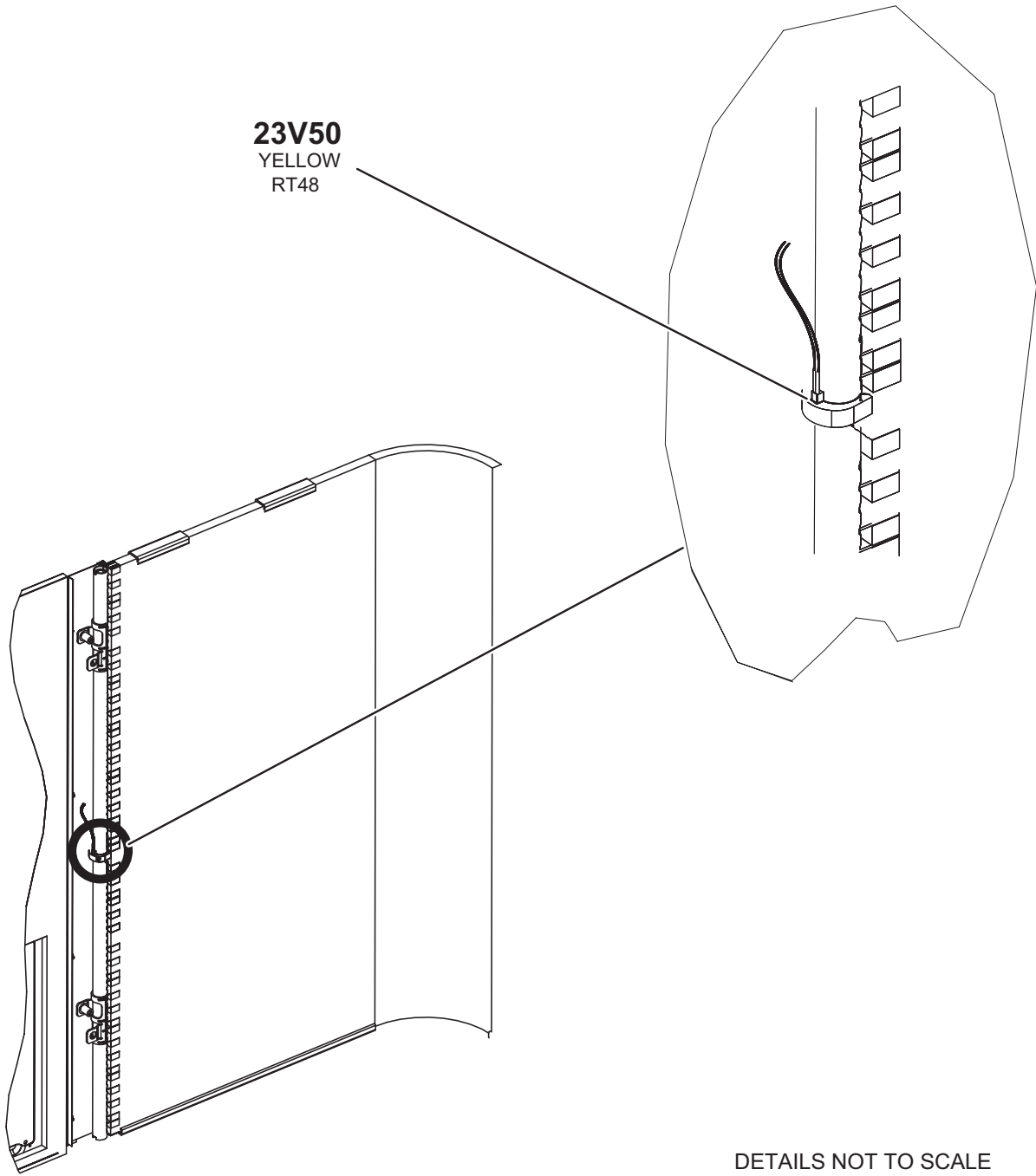
**22J06**  
YELLOW  
RT46

CLAMP THERMISTOR  
TO BARE COPPER.

FIGURE 6

LGT/LCT036, 048, 060, 072  
CONDENSER COIL  
RT48

**23V50**  
YELLOW  
RT48



DETAILS NOT TO SCALE

FIGURE 7

## C-Blower Compartment

### **IMPORTANT**

Three phase scroll compressors must be phased sequentially for correct compressor and blower rotation. Follow “COOLING START-UP” section of installation instructions to ensure proper compressor and blower operation.

Units are equipped with a variable speed, direct drive blower. The installer is able to enter the design-specified supply air CFM into the Unit Controller for optimal efficiency. The Unit Controller calibrates the supply air volume which eliminates the need to manually take duct static measurements.

#### 1-Indoor Blower Motor B3

All direct drive blower motors are electronically commutated, brushless, DC motors. CFM adjustments are made by changing Unit Controller parameters via the service app. Motors are equipped with sealed ball bearings. All motor specifications are listed in the SPECIFICATIONS (table of contents) in the front of this manual. Motors come with premounted aluminum impellers.

#### 2-Blower Operation

Refer to the Unit Controller Setup Guide to energize blower. Use the mobile service app menu; see RTU MENU > COMPONENT TEST > BLOWER > START TEST.

Direct-drive motor may not immediately stop when power is interrupted to the Unit Controller. Disconnect unit power before opening the blower compartment. The Controller’s digital inputs must be used to shut down the blower. See Unit Controller manual for operation sequences.

#### 3-Determining Unit CFM

- 1 - The following measurements must be made with air filters in place.
- 2 - With all access panels in place, measure static pressure external to unit (from supply to return). Blower performance data is based on static pressure readings taken in locations shown in FIGURE 8.

**Note** - Static pressure readings can vary if not taken where shown.

- 3 - Measure the indoor blower wheel RPM.
- 4 - Referring to the Blower Data tables, use static pressure and RPM readings to determine unit CFM. Use the Accessory Air Resistance tables when installing units with any of the options or accessories listed. Refer to TABLE 2 for minimum airflow when electric heat is installed.

### **WARNING**

- 1-Make sure that unit is installed in accordance with the installation instructions and applicable codes.
- 2-Inspect all electrical wiring, both field- and factory-installed, for loose connections. Tighten as required.
- 3-Check to ensure that refrigerant lines do not rub against the cabinet or against other refrigerant lines.
- 4-Check voltage at disconnect switch. Voltage must be within range listed on nameplate. If not, consult power company and have voltage condition corrected before starting unit.
- 5-Make sure filters are new and in place before start-up.

**TABLE 2**  
ELECTRIC HEAT MINIMUM AIRFLOW

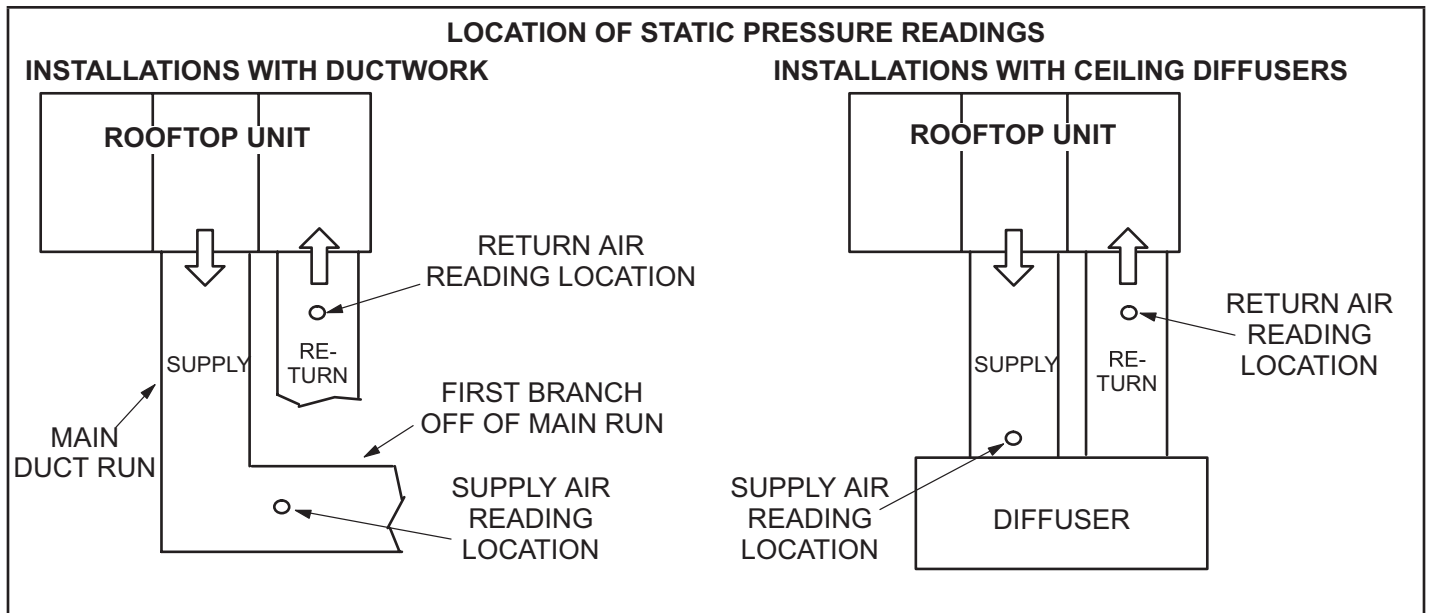
Unit	Kw	CFM	
		Direct Drive	Direct Drive (Impeller Style)
036, 048, 060	7.5	600	1200
	15	1100	1350
	22.5	1600	1800
072	30	n/a	2000

#### 4-Adjusting Unit CFM

The supply CFM can be adjusted by changing Unit Controller settings. Refer to TABLE 3 for menu paths and default settings. Record any CFM changes on the parameter settings label located on the inside of the compressor access panel.

**IMPORTANT** - The default value for Cooling Low CFM is lower than a traditional single- or two-speed blower. If operating the unit with a 2- or 3-stage controller (2- or 3-stage thermostat, DDC controller, etc.), it is recommended to increase the Cooling Low CFM default value to a suitable level for part load cooling (typically 60% of full load CFM).





**FIGURE 8**

**TABLE 3**

**BLOWER PARAMETER SETTINGS - 581102-01**

Parameter	Field Setting	Description
<b>Note: Any changes to Smoke CFM setting must be adjusted before the other CFM settings. Use SETTINGS &gt; RTU OPTIONS &gt; EDIT PARAMETERS = 12 for EBM, 6 for ECM</b>		
BLOWER SMOKE CFM	%	Percentage of torque for blower smoke speed.
<b>SETUP &gt; TEST &amp; BALANCE &gt; BLOWER</b>		
BLOWER HEATING HIGH CFM	%	Percentage of torque for blower heating high speed.
BLOWER HEATING LOW CFM	%	Percentage of torque for blower heating low speed (P volt gas heat only).
BLOWER COOLING HIGH CFM	%	Percentage of torque for blower cooling high speed.
BLOWER COOLING LOW CFM	%	Percentage of torque for blower cooling low speed and vent speed for standard static blowers.
BLOWER VENTILATION CFM	%	Percentage of torque for high static blower ventilation speed.
<b>SETUP &gt; TEST &amp; BALANCE &gt; DAMPER</b>		
BLOWER HIGH CFM DAMPER POS %	%	Minimum damper position for high speed blower operation. Default 0%.
BLOWER LOW CFM DAMPER POS %	%	Minimum damper position for low speed blower operation. Default 0%.
POWER EXHAUST DAMPER POS %	%	Minimum damper position for low power exhaust operation. Default 50%.
<b>SETTINGS &gt; RTU OPTIONS &gt; EDIT PARAMETERS = 216</b>		
POWER EXHAUST DEADBAND %	%	Deadband % for power exhaust operation. Default 10%.
<b>SETTINGS &gt; RTU OPTIONS &gt; EDIT PARAMETERS = 10 (Applies to Thermostat Mode ONLY)</b>		
FREE COOLING STAGE-UP DELAY	sec	Number of seconds to hold blower at low speed before switching to blower at high speed. Default 300 seconds.

**Installer:** Record any parameter changes under "Field Setting" column. Settings need to be recorded by installer for use when Unit Controller is replaced or reprogrammed.

## D-ELECTRIC HEAT COMPONENTS

Electric heat match-ups are found in the ELECTRICAL DATA tables. See table of contents.

All electric heat sections consist of electric heating elements exposed directly to the air stream. See FIGURE 9. See FIGURE 10 for vestibule parts arrangement.

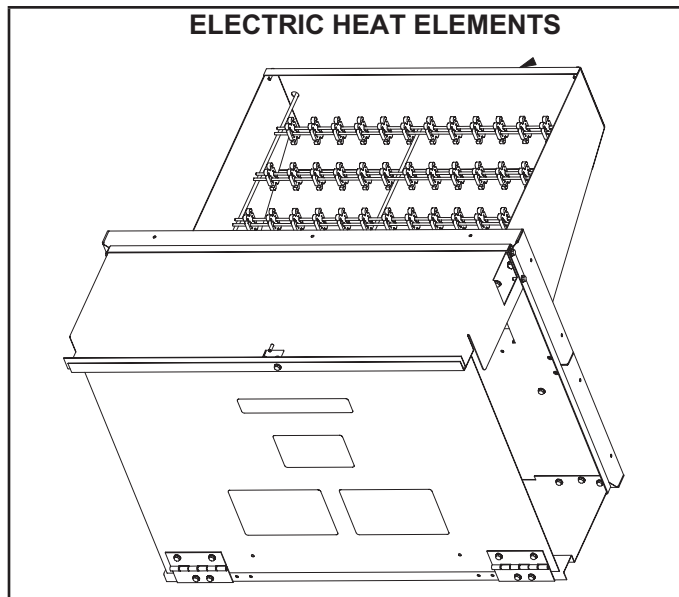


FIGURE 9

### 1-Contactors K15, K16

All contactors are double break and either single, double or three pole (see diagram) and equipped with a 24VAC coil. The coils in the K15 and K16 contactors are energized by the indoor thermostat. In all units K15 energizes the heating elements, while in the 22.5 kW units, K15 and K16 energize the heating elements simultaneously.

### 2-High Temperature Limits S15 (Primary)

S15 is a SPST N.C. auto-reset thermostat located on the back panel of the electric heat section above the heating elements. S15 is the high temperature limit for the electric heat section. When S15 opens, indicating a problem in the system, contactor K15 is de-energized (including K16 in 22.5 kW units). When K15 is de-energized, all stages of heat are de-energized. See table 4 for S15 set points. Set points are factory set and not adjustable.

TABLE 4		
Unit kW (Voltage)	S15 Opens ° F	S15 Closes ° F
5 kW (P)	170	140
7.5 kW (P, Y, G, J)	160	120
10 kW (P)	170	130
15 kW(P, G, J)	160	120
15 kW (Y)	170	130
22.5 kW (Y)	150	110
22.5 kW (Y, G, J)	160	120
30 Kw (Y)	140	100
30Kw (G, J)	150	110

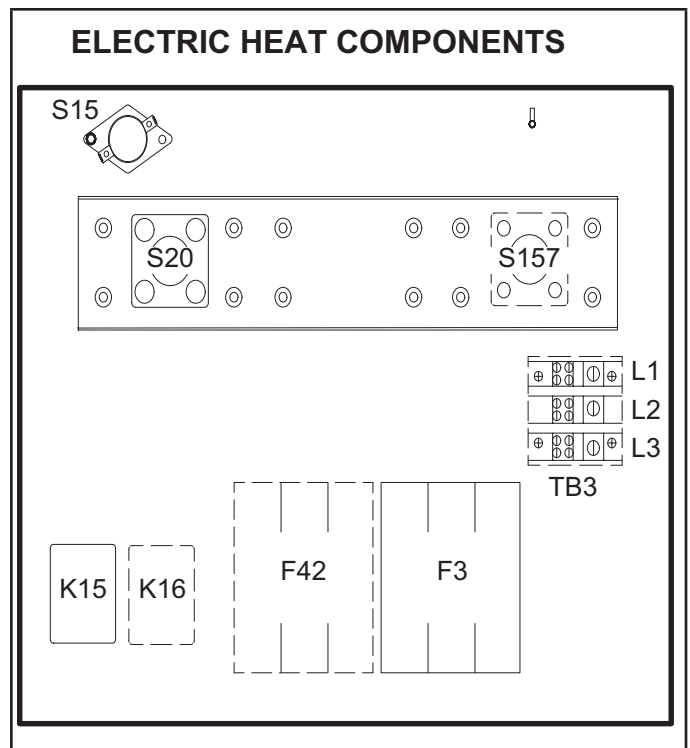


FIGURE 10

### 3-High Temperature Limit S20 and S157 (Secondary)

S20 and S157 are SPST N.C. manual-reset thermostats. S20 and S157 are wired in series with the heating elements. See E1EH wiring diagrams. When S20 or S157 open, power is interrupted to the heating elements which are wired in series with the limits. K15/K16 are only de-energized when S15 opens. When the contactors are de-energized, all stages of heat are de-energized. The thermostat is factory set to open at  $220\text{F} \pm 6^\circ\text{F}$  ( $104\text{C} \pm 3.3^\circ\text{C}$ ) on a temperature rise and can be manually reset when temperature falls below  $160^\circ\text{F}$  ( $71.0\text{C}$ ). See figure 10 for location.

### 4-Terminal Strip TB2

Terminal strip TB2 is used for single point power installations only. TB2 distributes power to TB3. Units with multi-point power connections will not use TB2.

### 5-Terminal Strip TB3

P and Y voltage units are equipped with terminal strip TB3. Electric heat line voltage connections are made to TB3, which distributes power to the electric heat components and is located on the vestibule. See FIGURE 10.

## 6-Heating Elements HE1 through HE6

Heating elements are composed of helix wound bare nichrome wire exposed directly to the air stream. Three elements are connected in a three-phase arrangement. The elements in 208/230V units are connected in a "Delta" arrangement. Elements in 460 and 575V units are connected in "Wye" arrangement. Each stage is energized independently by the corresponding contactors located on the electric heat vestibule panel. Once energized, heat transfer is instantaneous. High temperature protection is provided by primary and redundant high temperature limits and overcurrent protection is provided by fuses.

### 7-Fuse F42/F3

Fuse F3/F42 is housed in a fuse block which holds two or three fuses. Each F42/F3 fuse is connected in series with each leg of electric heat. FIGURE 10 and TABLE 5 show the fuses used with each electric heat section.

### 8-Unit Fuse Block & Fuse F4

Three line voltage fuses F4 provide short circuit and ground fault protection to all cooling components in the LCT units with electric heat. The fuses are rated in accordance with the amperage of the cooling components. The F 4 fuse block is located inside a sheet metal enclosure .

## II-PLACEMENT AND INSTALLATION

Make sure the unit is installed in accordance with the installation instructions and all applicable codes. See accessories section for conditions requiring use of the optional roof mounting frame (T1CURB-AN or C1CURB-AN).

### III-START UP - OPERATION

#### A-Preliminary and Seasonal Checks

- 1 - Make sure the unit is installed in accordance with the installation instructions and applicable codes.
- 2 - Inspect all electrical wiring, both field and factory installed for loose connections. Tighten as required. Refer to unit diagram located on inside of unit compressor access panel.
- 3 - Check to ensure that refrigerant lines are in good condition and do not rub against the cabinet or other refrigerant lines.
- 4 - Check voltage at the disconnect switch. Voltage must be within the range listed on the nameplate. If not, consult the power company and have the voltage corrected before starting the unit.
- 5 - Recheck voltage and amp draw with unit running. If voltage is not within range listed on unit nameplate, stop unit and consult power company. Refer to unit nameplate for maximum rated load amps.

TABLE 5

Unit	Voltage / Phase	Fuse	F42	F3
			Quantity	Quantity
E1EH0050	208/230V-1P	30 A-250V		2
E1H0075	208/230V-1P	40 A-250V		2
	208/230V-3P	25 A-250V		3
	460V-3P	15 A-600V		3
	575V-3P	15 A-600V		3
E1EH0100	208V/230V-1P	30 A-250V	2	2
E1EH150	208/230V-1P	40 A 250V	2	2
	208/230V-3P	50 A 250V	3	3
	460V-3P	25 A-600V		3
	575V-3P	20 A-600V		3
E1EH0225	208V/230V-1P	40 A 250V	3	3
	208/230V-3P	45 A-250V		3
	460V-3P	35 A-600V		3
	575V-3P	30 A-600V		3
E1EH0300	208/230V-3P	60 A250V	3	3
	460V-3P	50 A600V		3
	575V-3P	40 A 600V		3

## B-Cooling Start up

### 1-Operation

- 1 - Initiate full load cooling operation using the following mobile service app menu path:  
RTU>COMPONENT TEST> COOLING>COOLING STAGE 2
- 2 - Units contain one refrigerant circuit or stage.
- 3 - Unit is charged with R-410A refrigerant. See unit rating plate for correct amount of charge.
- 4 - Refer to charging section method to check refrigerant charge.

### C-Electric Heat Start Up

Optional electric heat will stage on and cycle with thermostat demand. See electric heat wiring diagram on unit for sequence of operation.

### D-Safety or Emergency Shutdown

Turn off power to unit. Close manual and main gas valves.

## IV-CHARGING

### A-Refrigerant Charge and Check - All-Aluminum Coil

**WARNING**-Do not exceed nameplate charge under any condition.

This unit is factory charged and should require no further adjustment. If the system requires additional refrigerant, reclaim the charge, evacuate the system, and add required nameplate charge.

**NOTE** - System charging is not recommended below 60F (15C). In temperatures below 60F (15C), the charge must be weighed into the system.

If weighing facilities are not available, or to check the charge, use the following procedure:

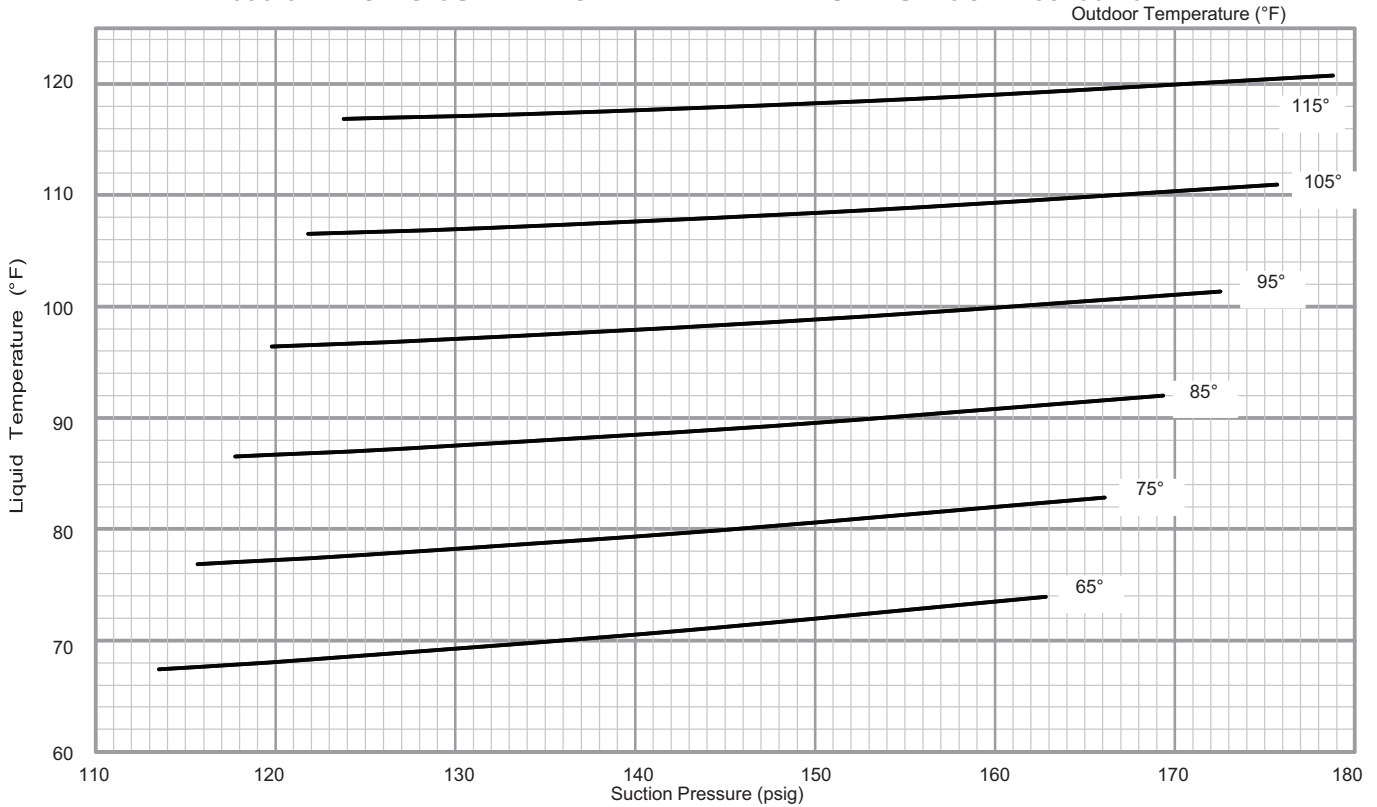
- 1 - Make sure outdoor coil is clean. Attach gauge manifolds and operate unit at full CFM in cooling mode with economizer disabled until system stabilizes (approximately five minutes). Make sure all outdoor air dampers are closed.
- 2 - Compare the normal operating pressures to the pressures obtained from the gauges. Check unit components if there are significant differences.
- 3 - Measure the outdoor ambient temperature and the suction pressure. Refer to the charging curve to determine a target liquid temperature.  
**Note** - Pressures are listed for sea level applications.
- 4 - Use the same thermometer to accurately measure the liquid temperature (in the outdoor section).
  - If measured liquid temperature is higher than the target liquid temperature, add refrigerant to the system.
  - If measured liquid temperature is lower than the target liquid temperature, recover some refrigerant from the system.
- 5 - Add or remove charge in increments. Allow the system to stabilize each time refrigerant is added or removed.
- 6 - Continue the process until measured liquid temperature agrees with the target liquid temperature. Do not go below the target liquid temperature when adjusting charge. Note that suction pressure can change as charge is adjusted.
- 7 - Example: At 95°F outdoor ambient and a measured suction pressure of 130psig, the target liquid temperature is 97°F. For a measured liquid temperature of 106°F, add charge in increments until measured liquid temperature agrees with the target liquid temperature.

**TABLE 6**

**036 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581061-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
114	232	116	271	118	314	120	361	122	412	124	468
123	235	125	274	127	317	130	364	132	415	134	471
142	241	145	280	148	323	150	370	153	422	156	477
163	247	166	286	169	330	173	377	176	429	179	484

**036 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581061-01**

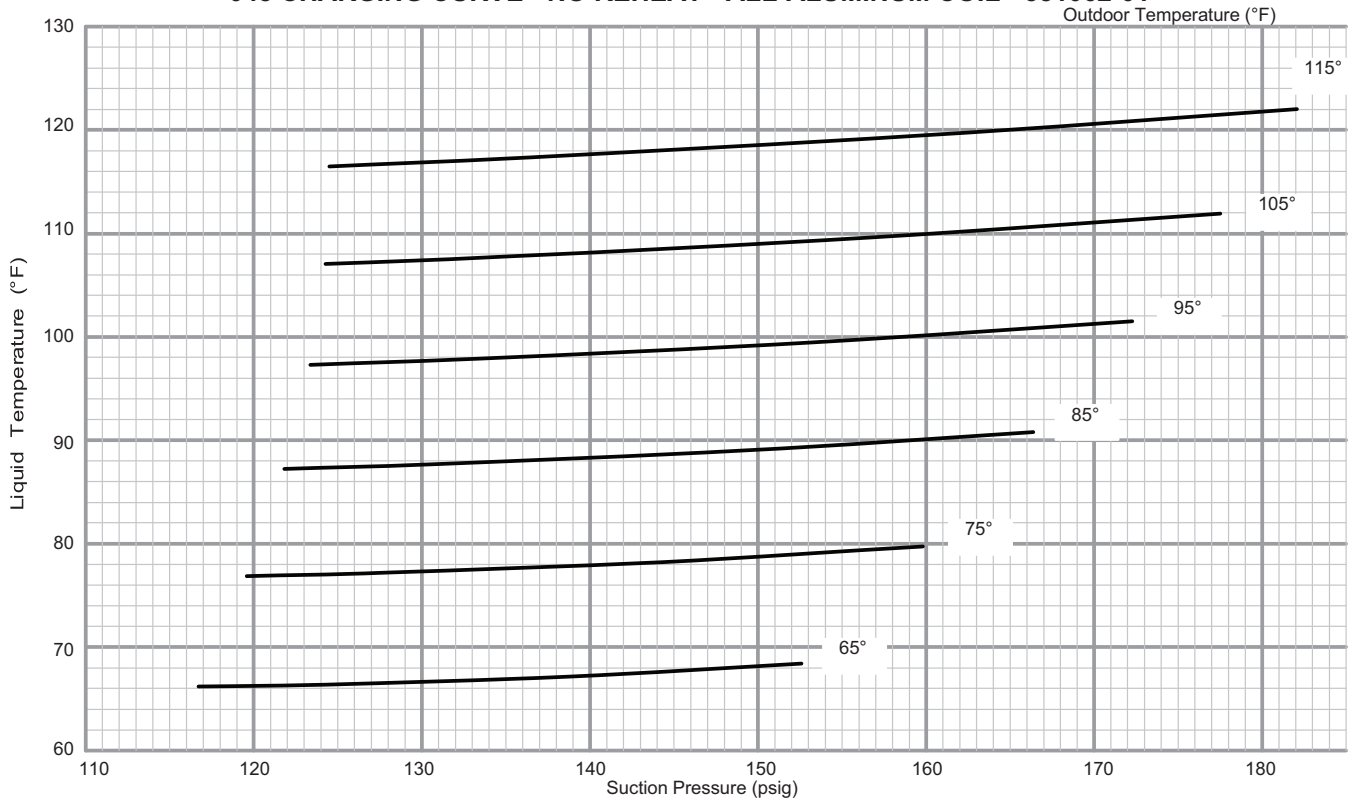


**TABLE 7**

**048 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581062-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
117	244	120	281	122	324	123	372	124	426	124	485
124	247	128	284	131	327	134	375	135	429	136	489
139	255	144	292	149	335	153	383	157	437	160	497
153	264	160	301	166	344	172	393	178	447	182	507

**048 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581062-01**



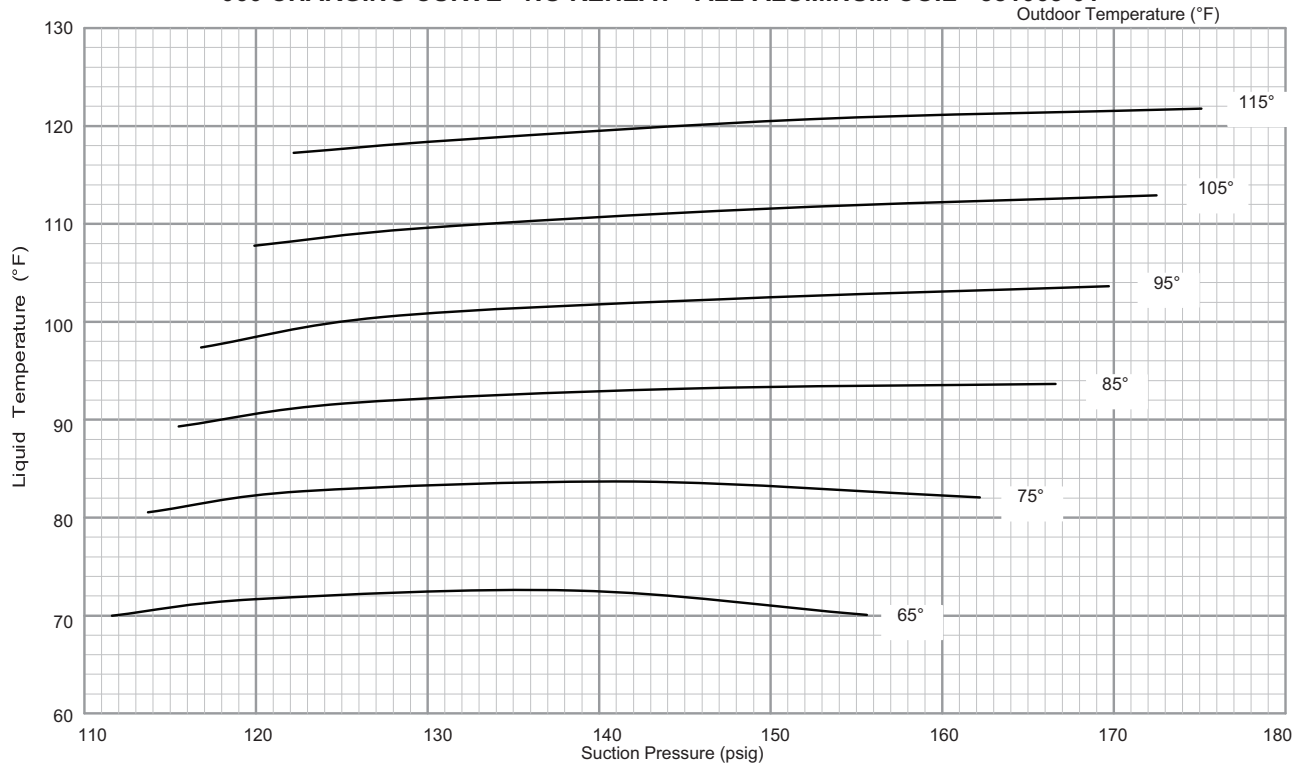


**TABLE 8**

**060 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581063-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
112	245	114	283	116	327	117	379	120	429	122	487
120	249	123	288	125	331	127	380	130	433	132	491
139	259	142	297	145	341	147	389	150	444	152	505
156	270	162	312	167	355	170	403	173	456	175	516

**060 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581063-01**

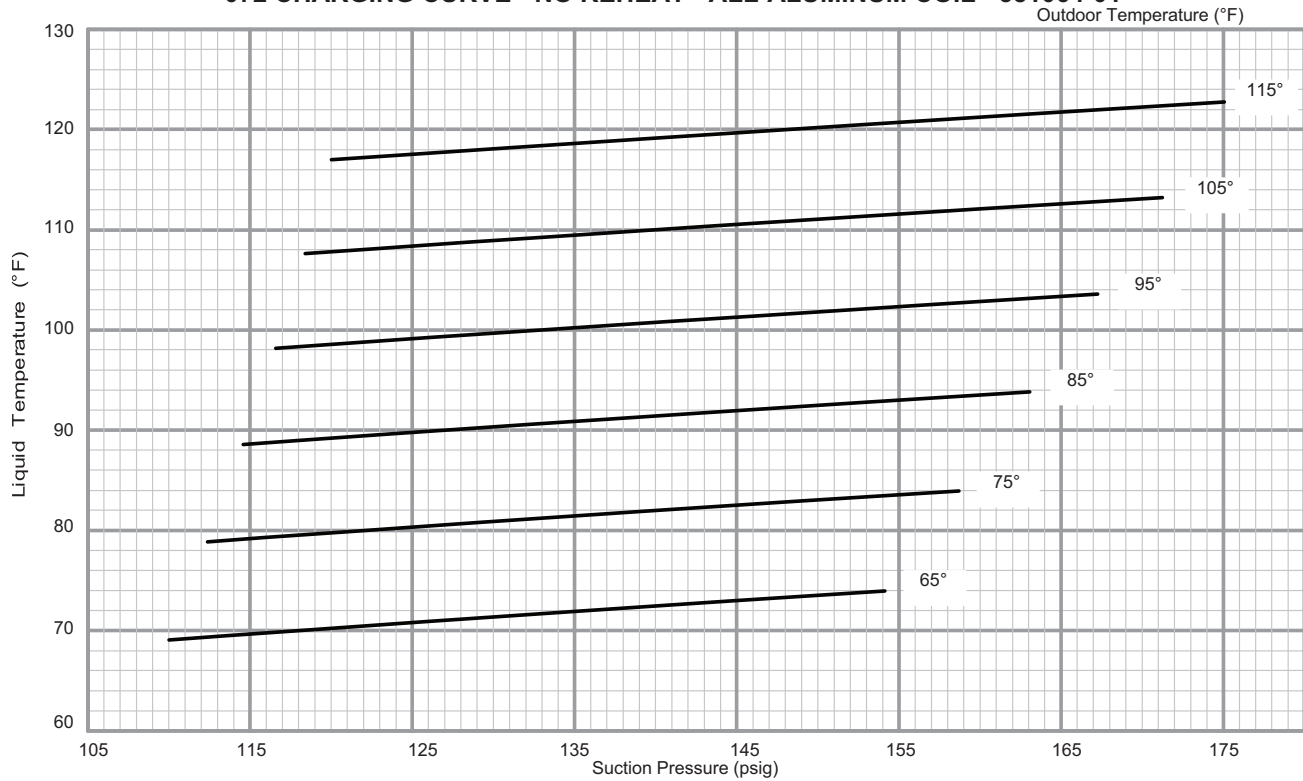


**TABLE 9**

**072 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581064-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
110	260	112	301	115	348	117	401	118	459	120	524
118	263	121	304	124	350	126	403	128	462	130	526
135	272	139	313	143	359	146	412	149	470	152	534
154	286	159	326	163	373	167	425	171	483	175	547

**072 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581064-01**

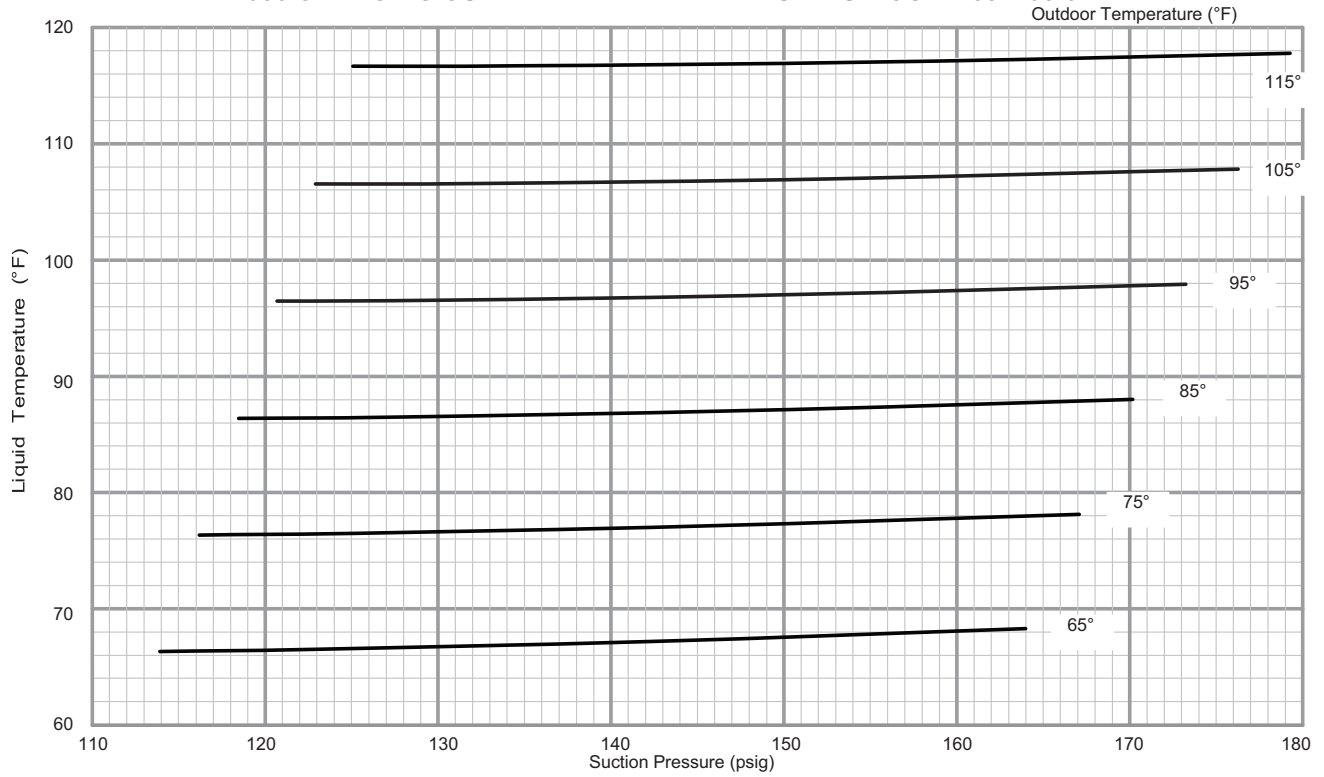


**TABLE 10**

**036 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581108-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
114	239	116	278	118	325	121	378	123	438	125	505
123	241	125	280	128	326	130	379	132	438	135	505
142	248	145	286	148	330	151	382	153	441	156	506
164	257	167	293	170	337	173	388	176	445	179	510

**036 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581108-01**

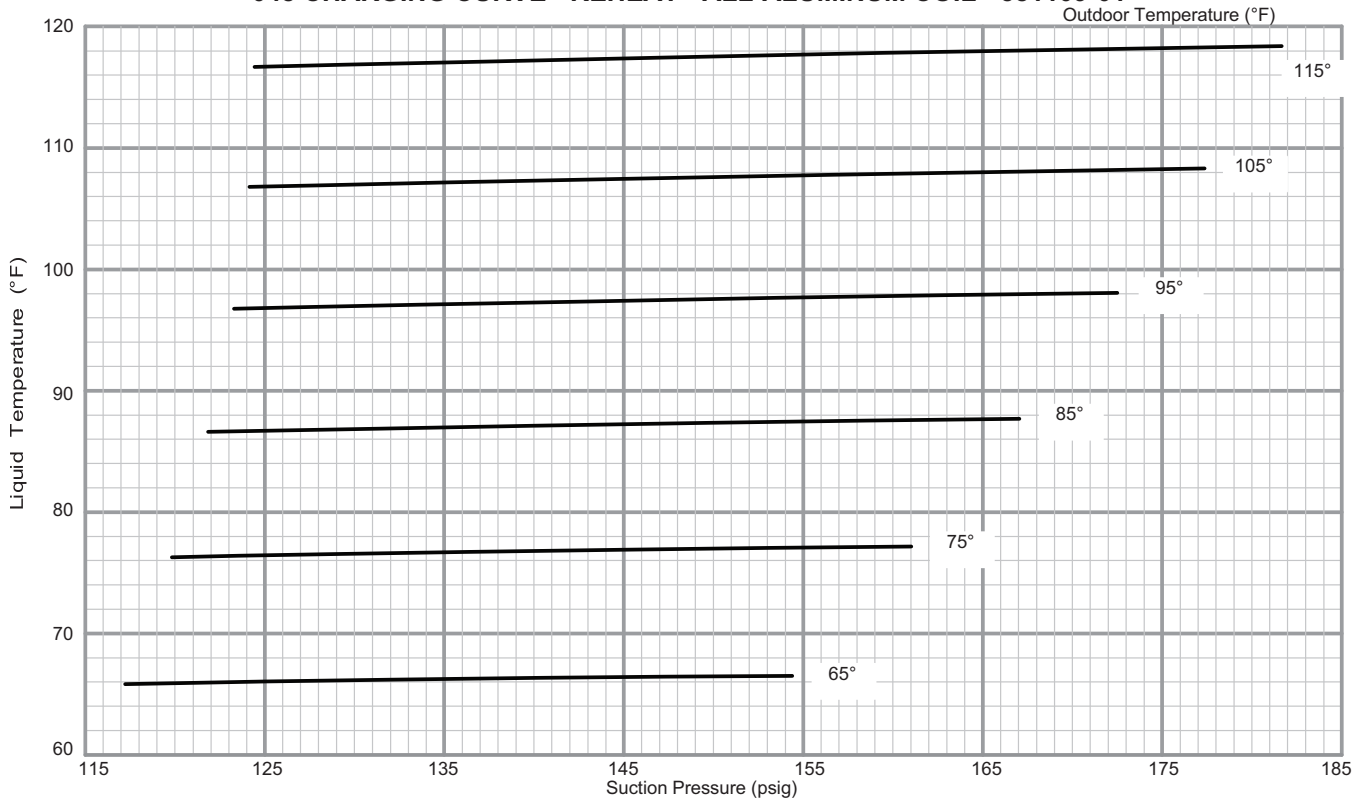


**TABLE 11**

**048 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581109-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
117	253	120	289	122	333	123	386	124	447	124	516
125	254	129	290	131	334	134	386	135	447	136	515
140	261	145	295	150	338	154	390	157	449	159	517
154	272	161	305	167	347	172	398	177	456	182	523

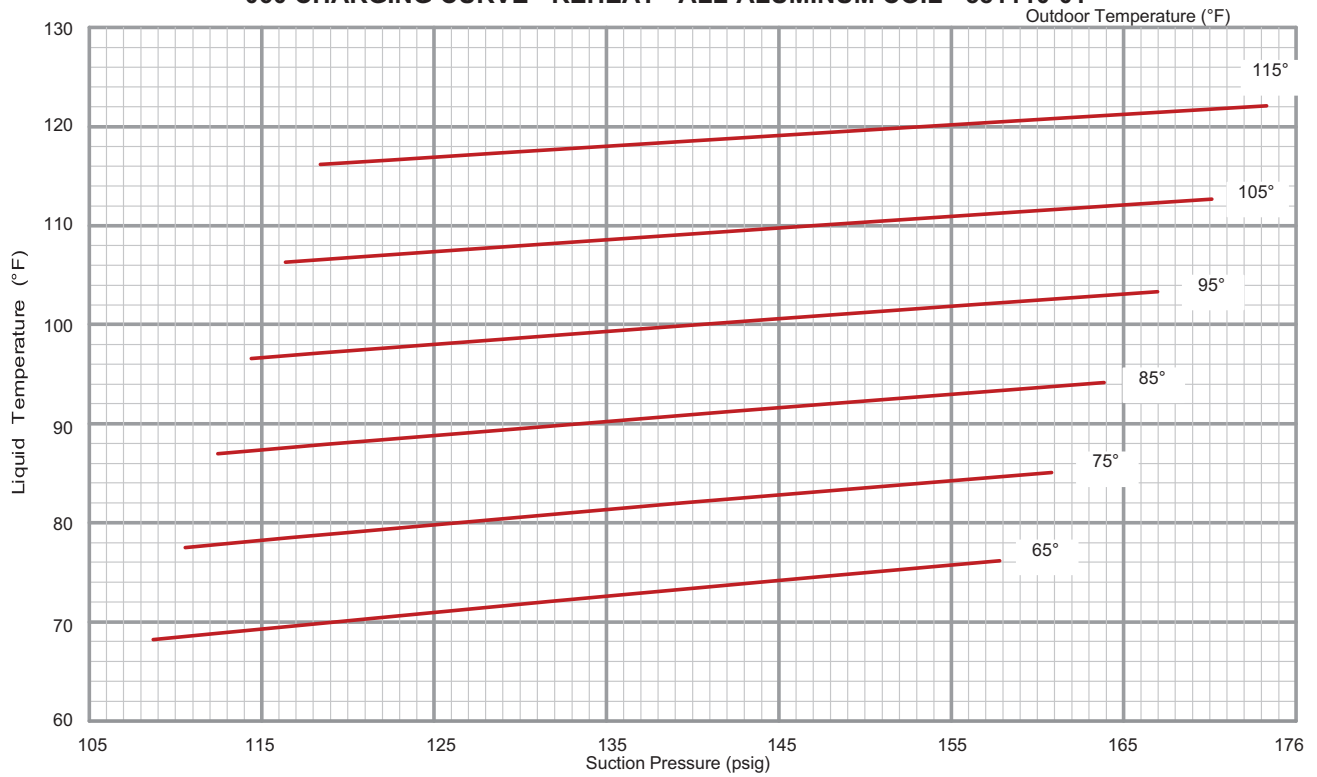
**048 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581109-01**



**TABLE 12**  
**060 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581110-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
109	254	111	293	112	337	114	387	116	442	118	502
118	259	120	298	122	342	124	392	126	447	128	508
137	270	139	309	142	354	145	403	147	458	150	519
158	283	161	322	164	366	167	416	170	471	173	531

**060 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581110-01**

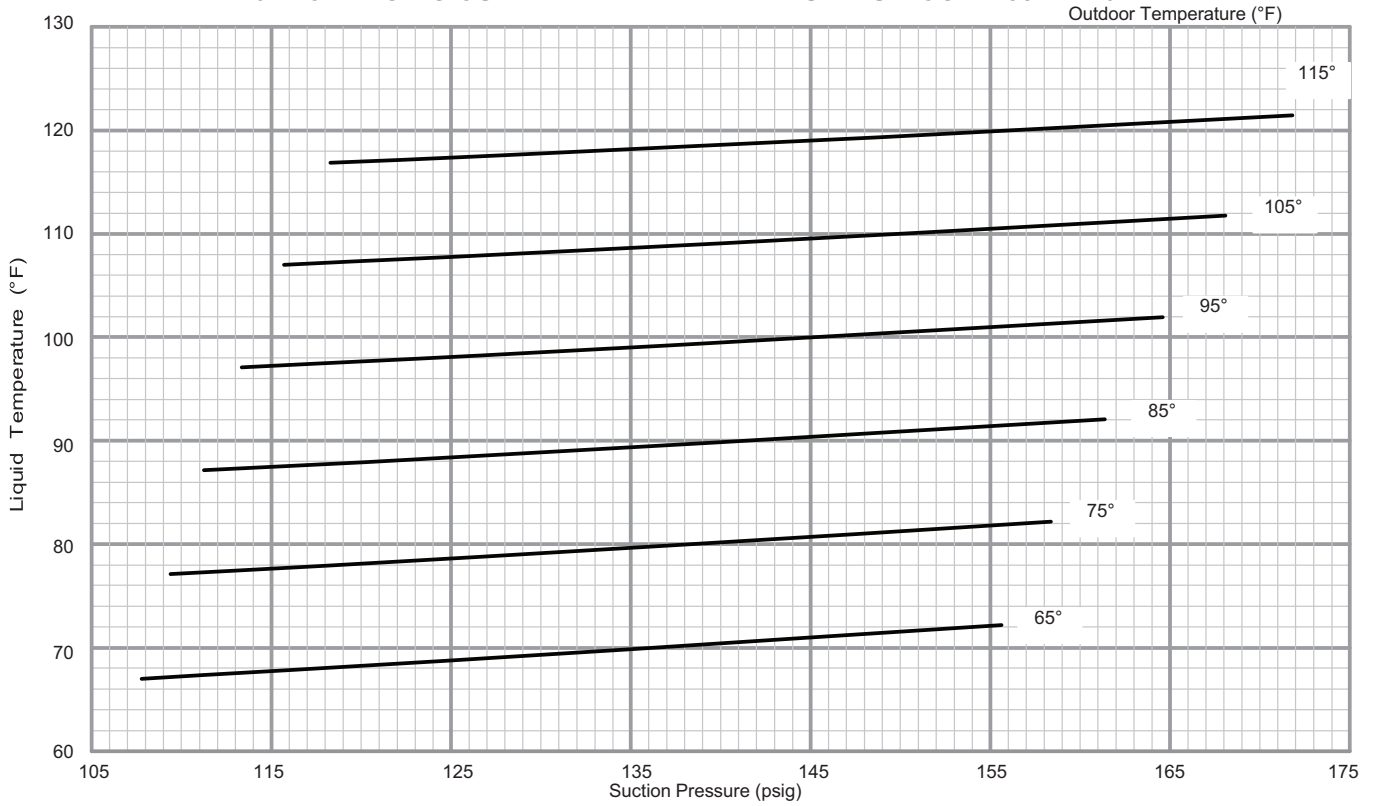


**TABLE 13**

**072 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581111-01**

Outdoor Coil Entering Air Temperature											
65 F		75 F		85 F		95 F		105 F		115 F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
108	276	109	316	111	363	113	418	116	480	118	550
116	281	118	320	120	367	123	422	125	484	128	554
135	294	137	332	140	379	143	432	146	494	149	563
156	310	158	348	161	394	165	447	168	508	172	576

**072 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581111-01**





## V- SYSTEMS SERVICE CHECKS


### A-Cooling System Service Checks

LCT units are factory charged and require no further adjustment; however, charge should be checked periodically using the approach method. The approach method compares actual liquid temperature with the outdoor ambient temperature. See section IV- CHARGING.

**NOTE-**When unit is properly charged discharge line pressures should approximate those in TABLE 6 through TABLE 13.

## VI-MAINTENANCE

The unit should be inspected once a year by a qualified service technician.

<b>⚠ WARNING</b>	
	Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

<b>⚠ IMPORTANT</b>	
Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.	

### A-Filters

Units are equipped with temporary filters which must be replaced prior to building occupation. See FIGURE 11. All units have 20 X 20 X 2 in. (508 X 508 X 51mm) filters. Refer to local codes or appropriate jurisdiction for approved filters.

**NOTE-**Filters must be U.L.C. certified or equivalent for use in Canada.

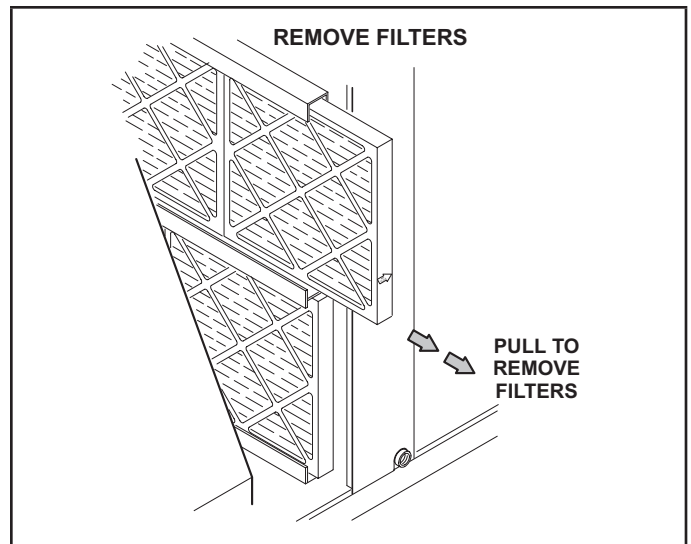


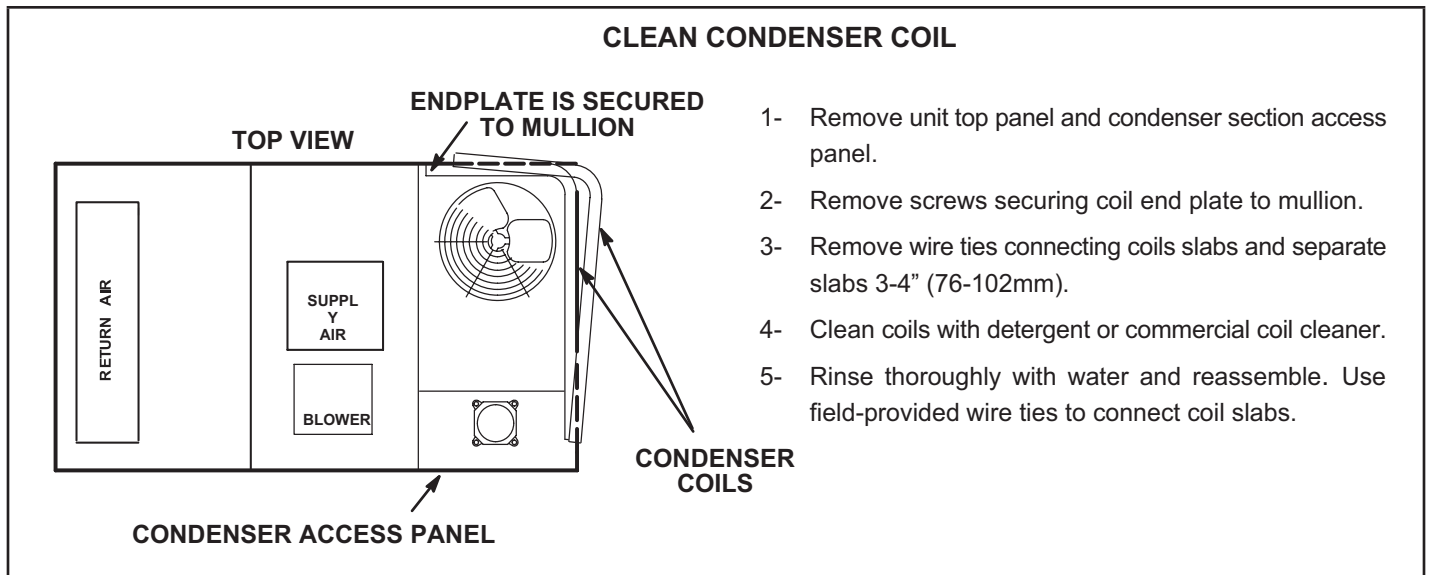
FIGURE 11

### B-Lubrication

All motors are lubricated at the factory. No further lubrication is required.

### C-Evaporator Coil

Inspect and clean coil at beginning of each cooling season. Clean the all-aluminum coil by spraying the coil steadily and uniformly from top to bottom. Do not exceed 900 psi or a 45° angle; nozzle must be at least 12 inches from the coil face. Take care not to fracture the braze between fins and refrigerant tubes. Reduce pressure and work cautiously to prevent damage. Flush condensate drain with water, taking care not to get insulation, filters, and return air ducts wet through entire cleaning process.



**FIGURE 12**

### **D-Condenser Coil**

Clean condenser coil annually with water and inspect monthly during the cooling season. Clean the all-aluminum coil by spraying the coil steadily and uniformly from top to bottom. Do not exceed 900 psi or a 45° angle; nozzle must be at least 12 inches from the coil face. Take care not to fracture the braze between the fins and refrigerant tubes. Reduce pressure and work cautiously to prevent damage.

**Note** - Remove all screws and gaskets prior to cleaning procedure and replace upon completion.

### **E-Supply Blower Wheel**

Annually inspect supply air blower wheel for accumulated dirt or dust. Turn off power before attempting to remove access panel or to clean blower wheel.

## **VII-ACCESSORIES**

The accessories section describes the application of most of the optional accessories which can be factory- or field-installed to the LCT units.

### **A-C1/T1CURB**

When installing the LGT units on a combustible surface for downflow discharge applications, the C1/T1CURB 8 inch, 14-inch, 18 inch or 24-inch height roof mounting frame is used. The roof mounting frames are recommended in all other applications but not required. If the LGT units are not mounted on a flat (roof) surface, they MUST be supported under all edges and under the middle of the unit to prevent sagging. The units MUST be mounted level within 1/16" per linear foot or 5mm per meter in any direction.

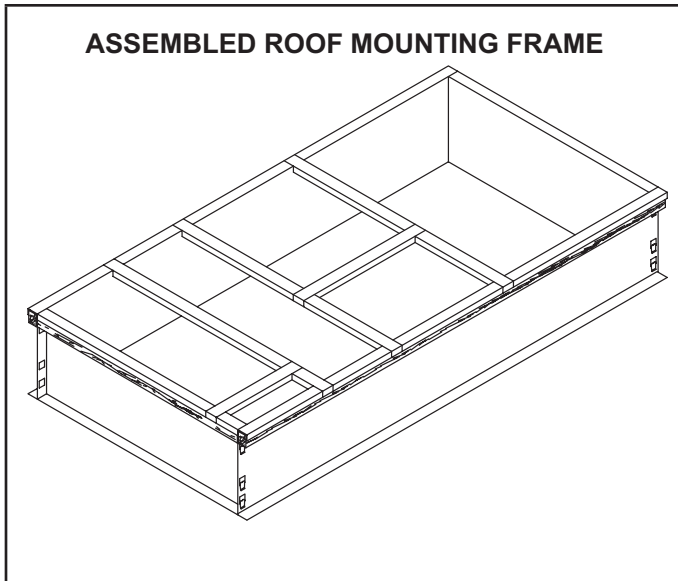
The assembled mounting frame is shown in FIGURE 13. Refer to the roof mounting frame installation instructions for details of proper assembly and mounting. The roof mounting frame MUST be squared to the roof and level before mounting. Plenum system MUST be installed before the unit is set on the mounting frame. Typical roof curbing and flashing is shown in FIGURE 22. Refer to the roof mounting frame installation instructions for proper plenum construction and attachment.

### **B-Transitions**

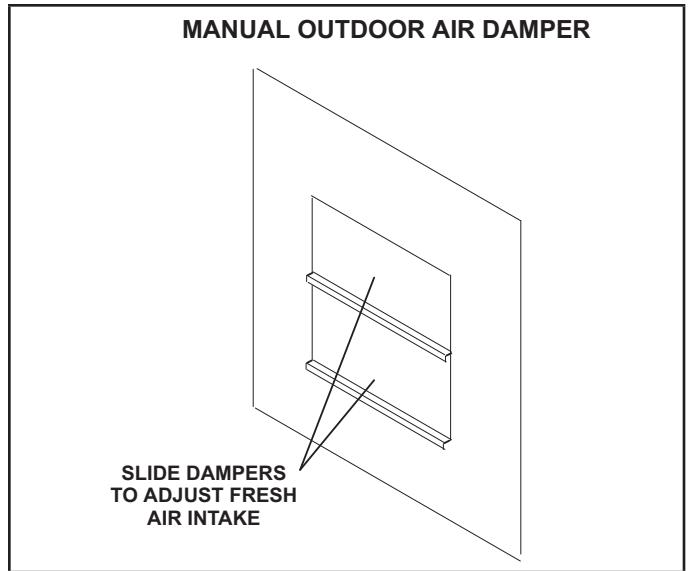
Optional supply/return transitions are available for use with the LCT 3, 4, 5, and 6 ton units (refer to EHB for appropriate transition model). Transition must be installed in the C1/T1CURB mounting frame before mounting the unit to the frame. Refer to the manufacturer's instructions included with the transition for detailed installation procedures.

### **C-Outdoor Air Dampers**

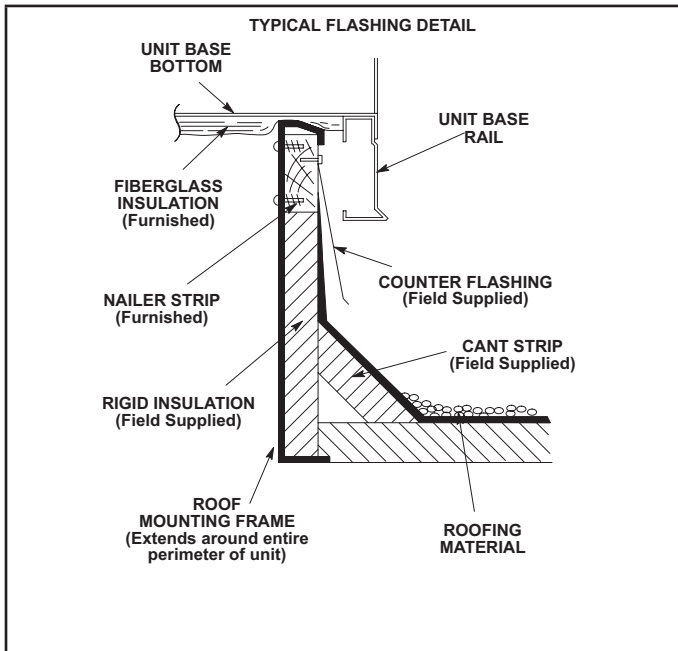
Optional outdoor air dampers are available for use with the LCT 3, 4, 5, and 6 ton units in both manually operated and motorized options (refer to EHB for appropriate transition model). Both sets include the outdoor air hood. The manual damper is set at a fixed point to bring outside air into the building anytime the blower is operating. The motorized damper opens when the blower is operating and the thermostat is sending an occupied signal to the Unit Controller. If the thermostat signal is unoccupied, the motorized damper will not open. Washable filter supplied with the outdoor air dampers can be cleaned with water and a mild detergent. It should be sprayed with Filter Handicoater when dry prior to re-installation. Filter Handicoater is R.P. Products coating no. 418 and is available as Part No. P-8-5069.



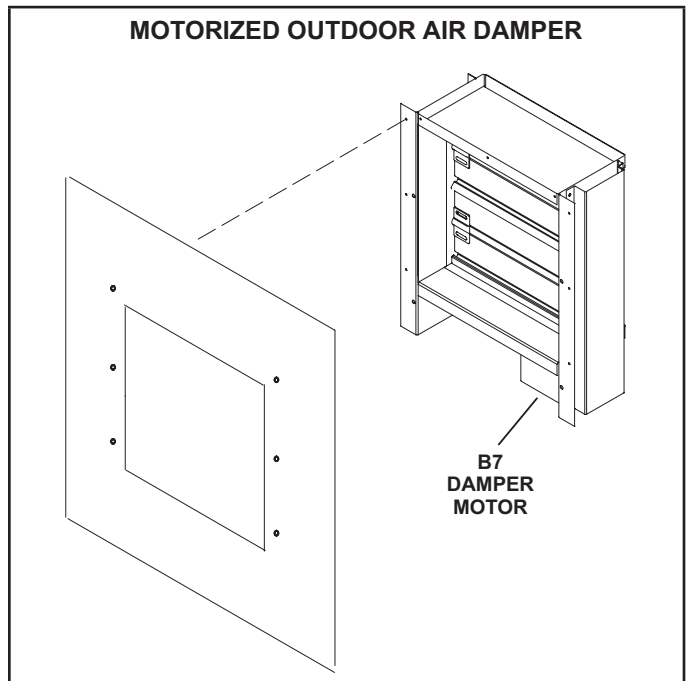
**FIGURE 13**



**FIGURE 15**



**FIGURE 14**



**FIGURE 16**

## D-Supply and Return Diffusers

Optional flush mount diffuser/return FD9-65 and FD11-95 and extended mount diffuser/return RTD9-65 and RTD11-95 are available for use with all LGT units. Refer to manufacturer's instructions included with transition for detailed installation procedures.

## E-Economizer

### (Optional Field- or Factory-Installed)

The economizer uses outdoor air for free cooling when temperature is suitable. See FIGURE 17.

When outdoor air is suitable, the Unit Controller will modulate the economizer dampers to maintain 55°F discharge air (RT6). Refer to unit controller manual for menu paths to adjust economizer setpoints.

### Sensors

Units are equipped with the following factory-installed, CEC Title 24 approved sensors:

RT17 - Outside Air Temperature

RT16 - Return Air Temperature

RT6 - Discharge Air Temperature

See FIGURE 18 for sensor location.

Optional field-provided sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. Refer to TABLE 14. TEMP OFFSET is the default mode.

**Note** - Network OAS signal and California Title 24 Compliance options use either TEMPERATURE OFFSET or TEMPERATURE SETPT mode.

### Minimum Position

The Unit Controller will move the dampers to minimum position during the following:

Ventilation mode (G demand only)

Outdoor air is NOT suitable for free cooling

The damper position will vary linearly with blower speed based on the damper position settings for high and low CFM. Damper calibration must be initiated in the mobile service app to set high and low damper positions.

### GED (Gravity Exhaust / Barometric Relief Dampers) Field-Installed Option

The GED is located in the economizer except in downflow applications or when a PEF (power exhaust fan) is NOT installed. In horizontal airflow applications or when a PEF is installed, the GED is located in the exhaust air hood.

### Horizontal Air Discharge Economizers

The economizer is located in the unit the same as downflow applications but note the position of the return air duct. The duct attaches to a duct transition and duct inlet on the end of the unit. An optional GED is located in the duct transition. See FIGURE 19.

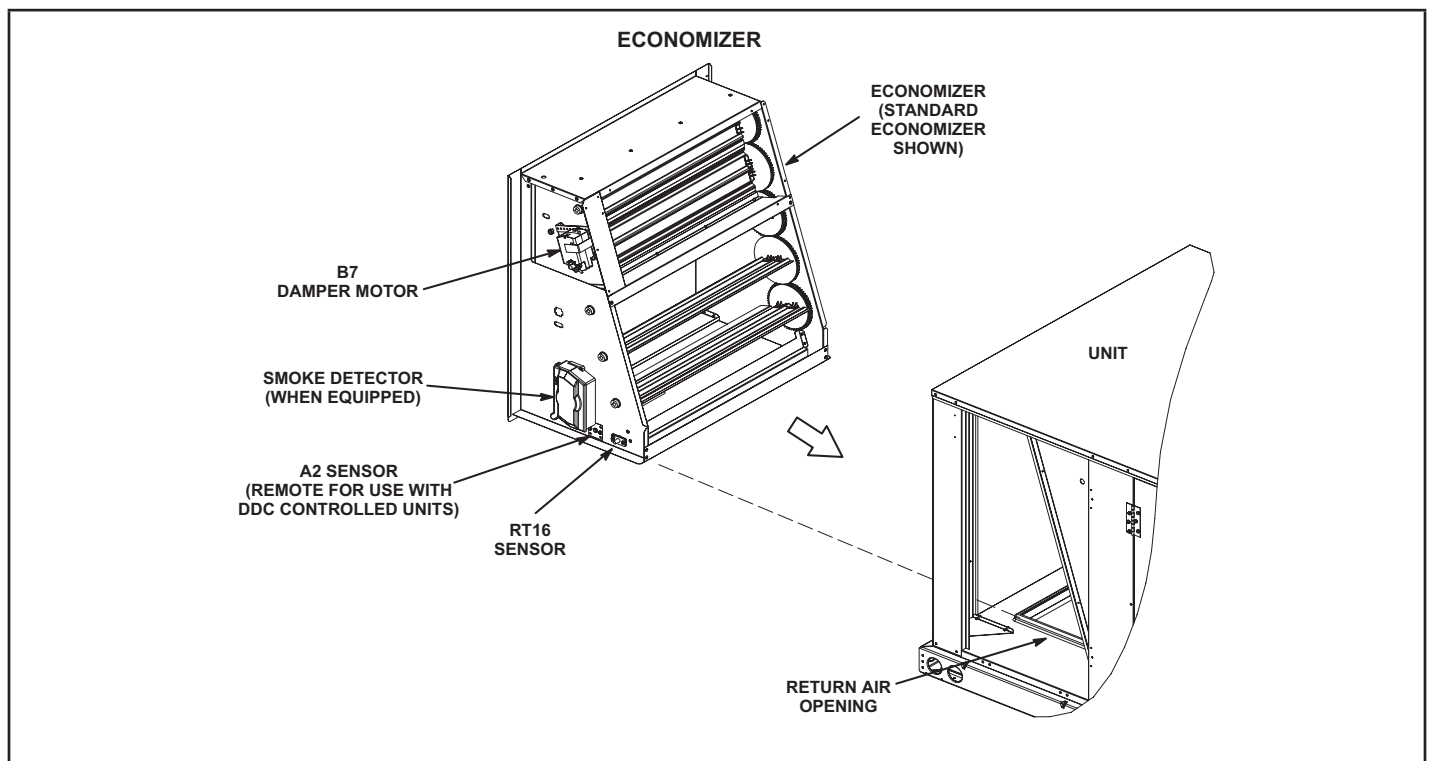


FIGURE 17

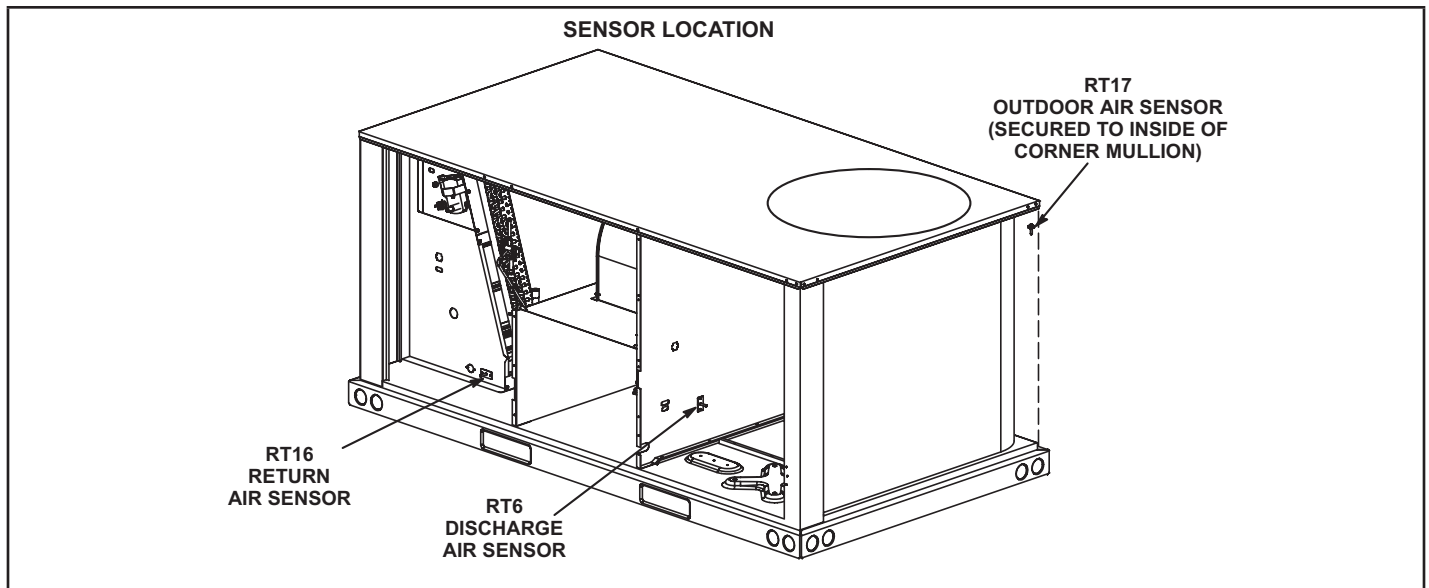


FIGURE 18

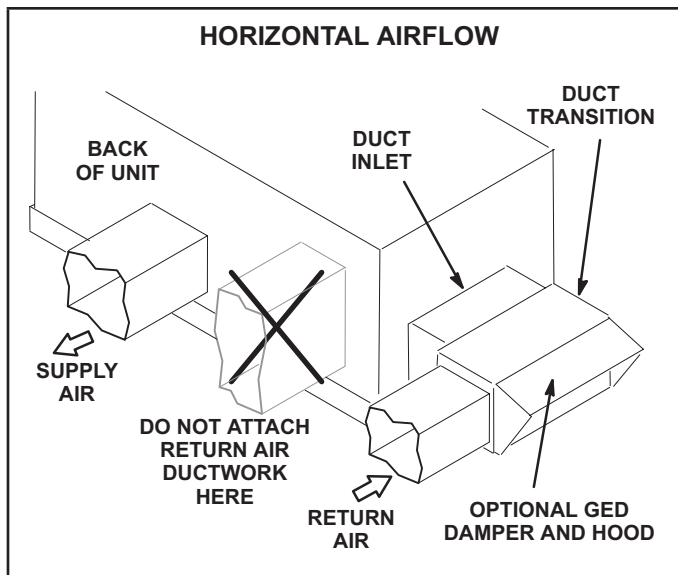


FIGURE 19

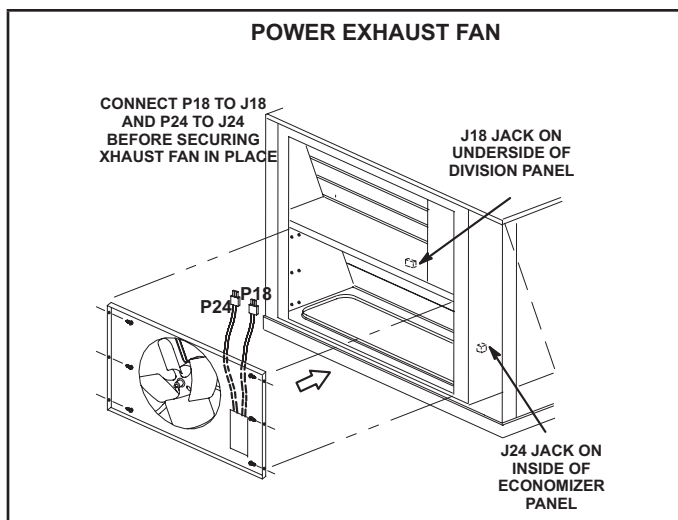


FIGURE 20

### F-Power Exhaust Relay K6 (power exhaust units)

Power exhaust relay K65 is a DPDT relay with a 24VAC coil. K65 is used in all LGT units equipped with the optional power exhaust dampers. K65 is energized by the Unit Controller after the economizer dampers reach 50% open (adjustable). When K65 closes, exhaust fan B10 is energized.

### G-Power Exhaust Fans

Optional power exhaust fans are available for use with the LGT 3, 4, 5, and 6 ton units to provide exhaust air pressure relief (refer to EHB for appropriate transition model). See FIGURE 20 and installation instructions for more detail.

### H-Optional UVC Lights

The germicidal light emits ultraviolet (UVC) energy that has been proven effective in reducing microbial life forms (viruses, bacteria, yeasts, and molds) in the air.

UVC germicidal lamps greatly reduce the growth and proliferation of mold and other bio-aerosols (bacteria and viruses) on illuminated surfaces.

Germicidal lamps are NOT intended to be used for removal of active mold growth. Existing mold growth must be appropriately removed PRIOR to installation of the germicidal lamp.

Refer closely to UVC light installation instruction warnings when servicing units.

**TABLE 14  
ECONOMIZER MODES AND SETPOINT**

Free  Cooling Mode	Free Cooling Setpoint	Field- Provide Sensors	<b>Dampers will modulate to 55°F discharge air (RT6) when outdoor air is suitable:</b>	Permitted Inputs
TEMP	OFFSET	None Needed	Outdoor air temperature (RT17) is less than return air temperature (RT16) by at least the OFFSET value.	0-40°F
TEMP	OAT STPT	None Needed	Outdoor air temperature (RT17) is less than the OAT STPT value.	41-75°F
Remote	Remote	Energy Management System**	Either of the TEMP modes can be used when a network OAS signal is provided by an energy management or building control system, via BACnet, LonTalk, or L Connection. The network can command OAS, NOT OAS, or AUTO. AUTO returns to local control of OAS, which is the selected TEMP mode.	NA
ENTH	DIFF OFFSET	(Two) C7400	Outdoor air enthalpy* (A7) is less than return air enthalpy (A62) by at least the OFFSET value.	0mA-4mA
ENTH	ODE STPT	C7400	Outdoor air enthalpy (A7) is less than free cooling setpoint.	12-19mA
GLOBAL	GLOBAL	24VAC Input Signal	Global input is energized by (P297-9). This setting is also used for outdoor air damper applications. Global input also brings on the blower. (This mode is NOT used when OAS signal is provided via network connection. GLO is only used when a 24VAC signal is used to energize the P297-9 GLO input.)	NA

**Outdoor Air Damper and Economizer Operation**

**DIRECT DRIVE DRIVE SYSTEM OPERATION:**

**Note:** Direct drive units feature ECM condenser fans that are staged to match the compressor's capacity. The condenser fans speed linearly follows the compressor speed.

**Modulating Outdoor Air Damper:**

Damper minimum positions #1 and 2 are adjusted during unit setup to provide minimum fresh air requirements at the indicated supply fan speeds per ASHRAE 62.1.

- Supply fan is off and the outdoor air damper is closed
- Supply fan is on low speed and the outdoor air damper is at minimum position 1
- Supply fan is on high speed and the outdoor air damper is at minimum position 2

**<sup>1</sup>Outdoor Air is Suitable**

**Note:** When outdoor air is not suitable during the occupied time period, damper modulates to minimum position. When outdoor air is not suitable during the unoccupied time period, damper modulates closed.

**1-Economizer With Outdoor Air Suitable**

- Low Cooling Demand -
  - Compressor Off
  - Blower Low
  - Dampers Modulate
- High Cooling Demand -
  - Compressor Low
  - Blower High
  - Dampers Full Open

**Note - Compressor is energized after damper has been at full open for three minutes.**

**Note - Free cooling is locked out when a dehumidification demand is received. The unit operates in dehumidification mode as if the outdoor air is not suitable.**

**2-No Economizer or Outdoor Air Not Suitable**

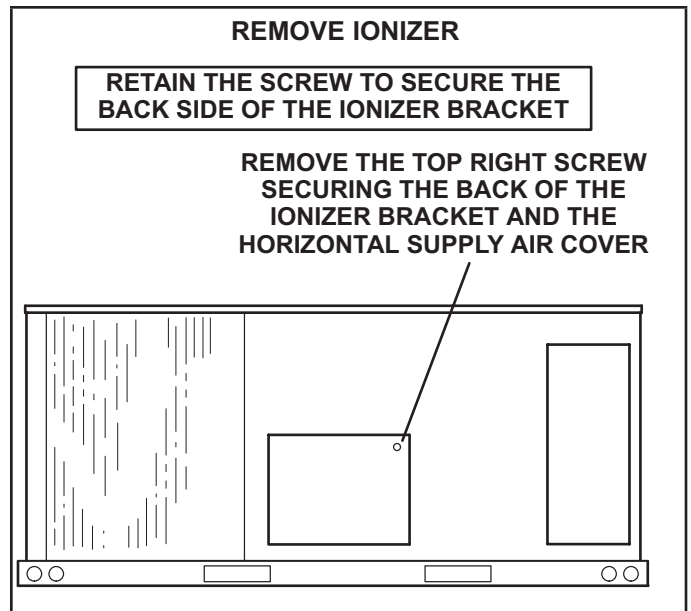
- Low Demand -
  - Compressor Low
  - Blower Low
  - Damper Minimum Position
- High Cooling Demand -
  - Compressor High
  - Blower High
  - Damper Minimum Position



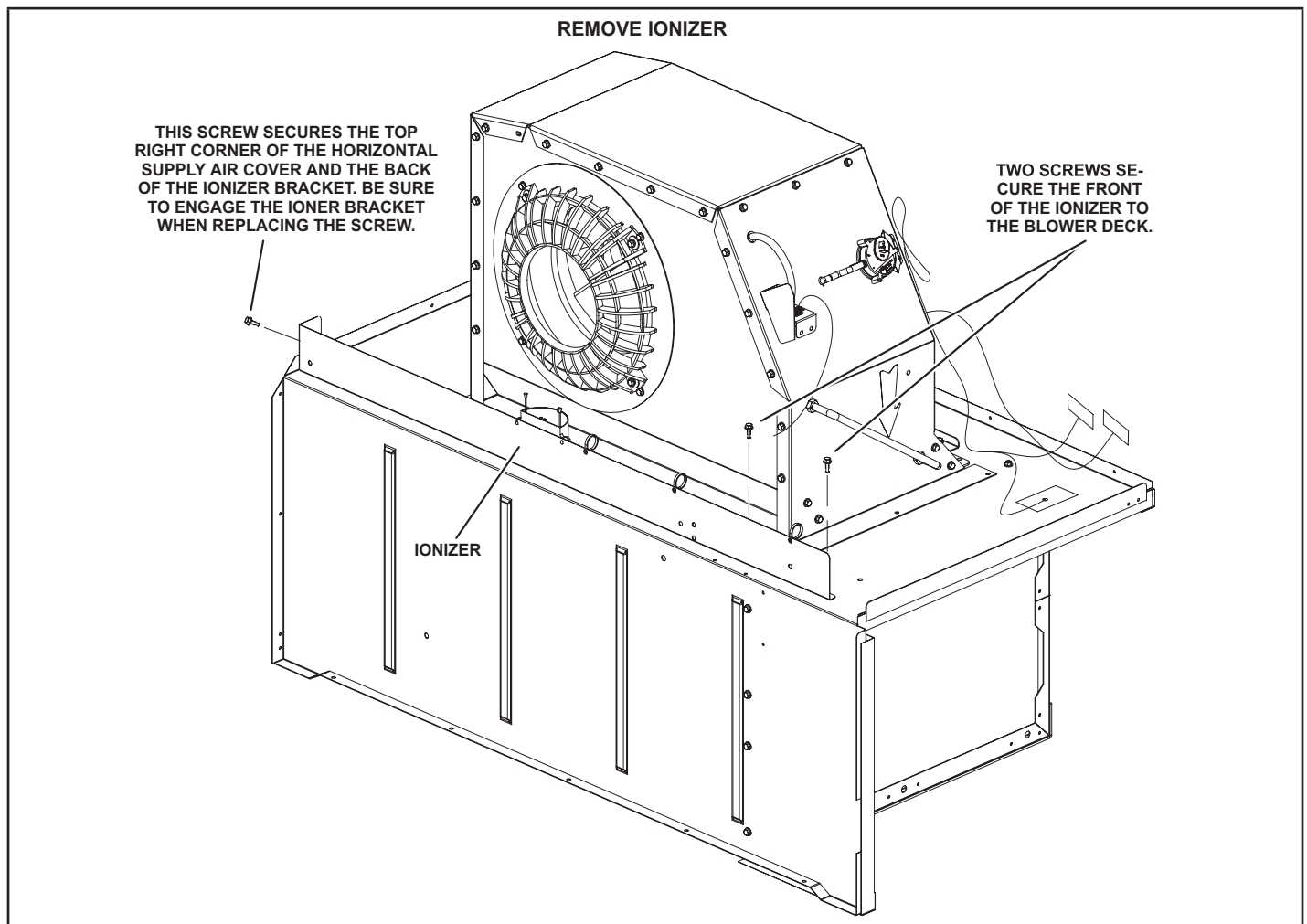
### J-Needlepoint Bipolar Ionizer (Optional)

The optional, brush-type ionizer produces positive and negative ions to clean air and reduce airborne contaminants. The ionizer was designed to be low maintenance. The device should be checked semi-annually to confirm the brushes are clean for maximum output. The ionizer is located behind on the blower deck to the left of the blower. See FIGURE 22.

- 1 - On the back side of the unit, remove the screw securing the back of the ionizer bracket. See FIGURE 21. Retain the screw to secure the back side of the ionizer bracket.
- 2 - Remove two screws securing the front side of the ionizer bracket and pull out of unit and clean brushes.
- 3 - Replace ionizer in the reverse order it was removed.



**FIGURE 21**



**FIGURE 22**



## I-Hot Gas Reheat

Hot gas reheat units provide a dehumidifying mode of operation. These units contain a reheat coil adjacent to and downstream of the evaporator coil. Reheat coil solenoid valve, L14, routes hot discharge gas from the compressor to the reheat coil. Return air pulled across the evaporator coil is cooled and dehumidified; the reheat coil adds heat to supply air. See FIGURE 23 for reheat refrigerant routing and FIGURE 24 for standard cooling refrigerant routing.

### L14 Reheat Coil Solenoid Valve

When Unit Controller input (Unit Controller J298-5 or J299-8) indicates room conditions require dehumidification, L14 reheat valve is energized (Unit Controller P269-3) and refrigerant is routed to the reheat coil.

### Reheat Setpoint

Reheat is factory-set to energize when indoor relative humidity rises above 60% (default). The reheat setpoint can be adjusted by changing mobile service app *Settings - Control* menu. A setting of 100% will operate reheat from an energy management system digital output. The reheat setpoint can also be adjusted using an optional Network Control Panel (NCP).

Reheat will terminate when the indoor relative humidity falls 3% (57% default) or the digital output de-energizes. The reheat deadband can be adjusted at *Settings - Control* menu.

## Check-Out

Test reheat operation using the following procedure.

- 1 - Make sure reheat is wired as shown in wiring section.
- 2 - Make sure unit is in local thermostat mode.
- 3 - Use mobile service app menu path to select RTU Menu > *Component > Test > Dehumidification*.

*The blower, compressor, and reheat valve should be energized. Pressure can be checked on the reheat line pressure tap. Pressure on the reheat line should match discharge pressure closely in reheat mode.*

### Default Reheat Operation

During reheat mode free cooling is locked out.

No Y1 demand but a call for dehumidification:

Compressor is operating low, blower is on low, and the reheat valve is energized.

Y1 demand:

Compressor is operating on low, blower is on low, and the reheat valve is de-energized..

Y2 demand:

Compressor is operating high, blower is on high, and the reheat valve is de-energized.

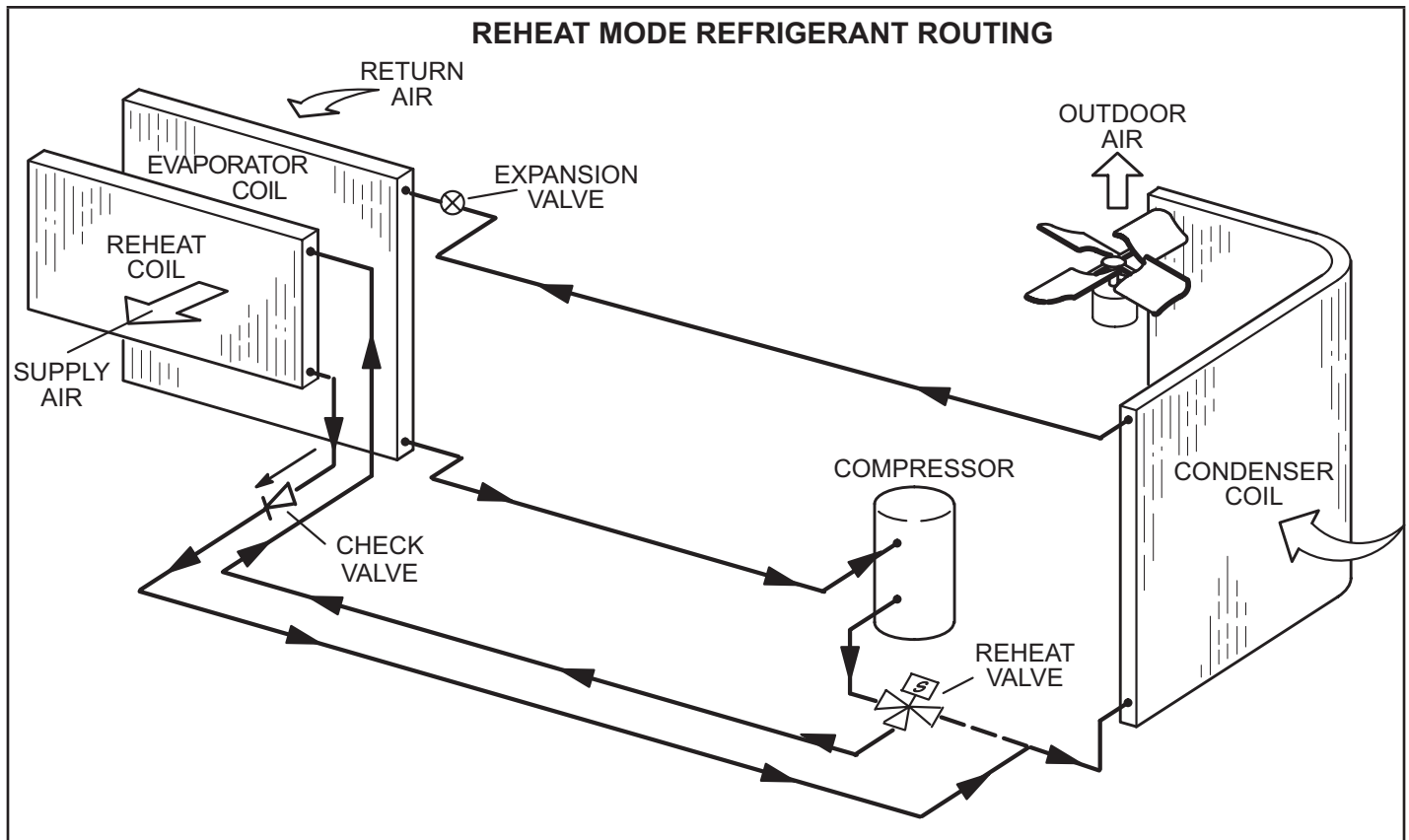


FIGURE 23

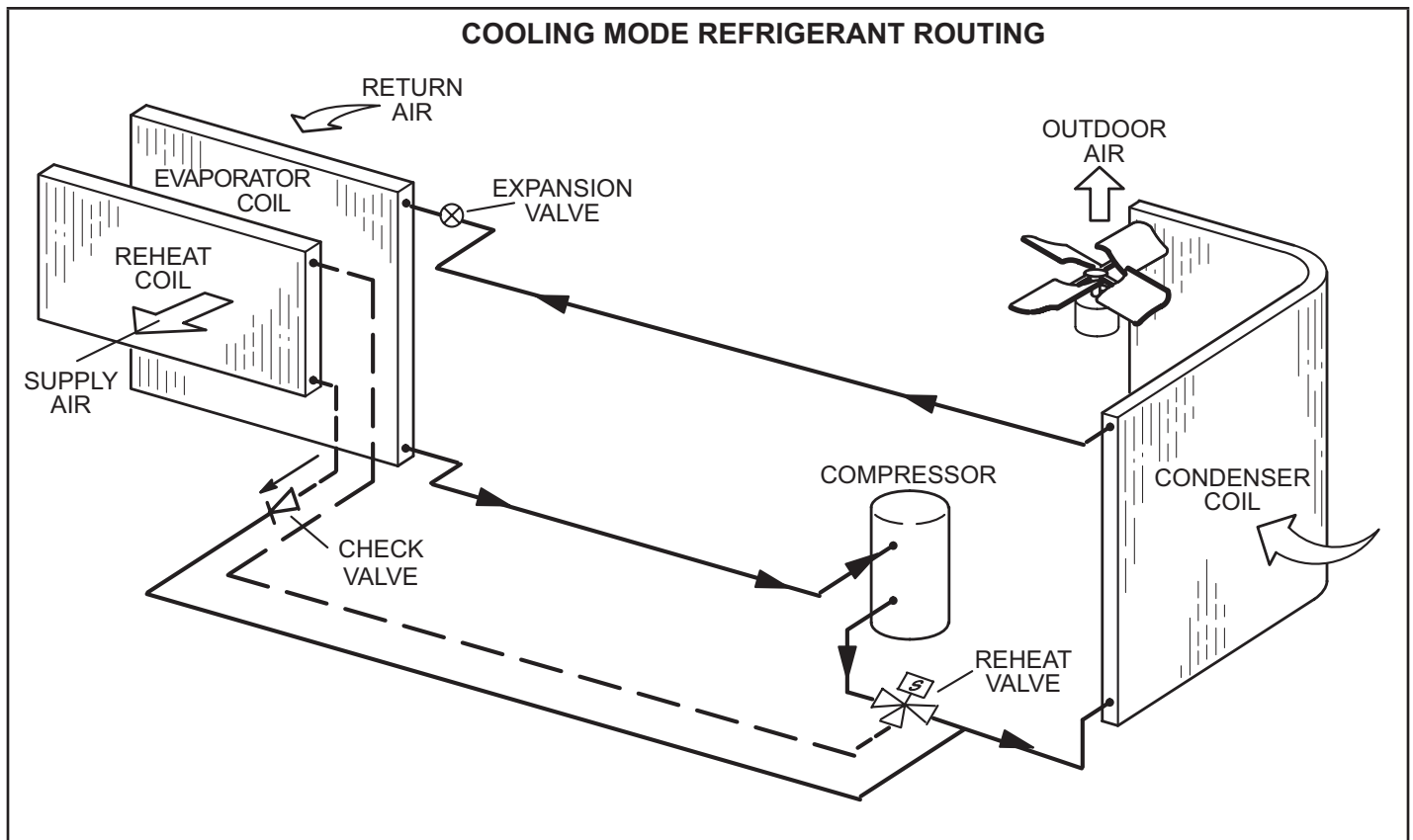
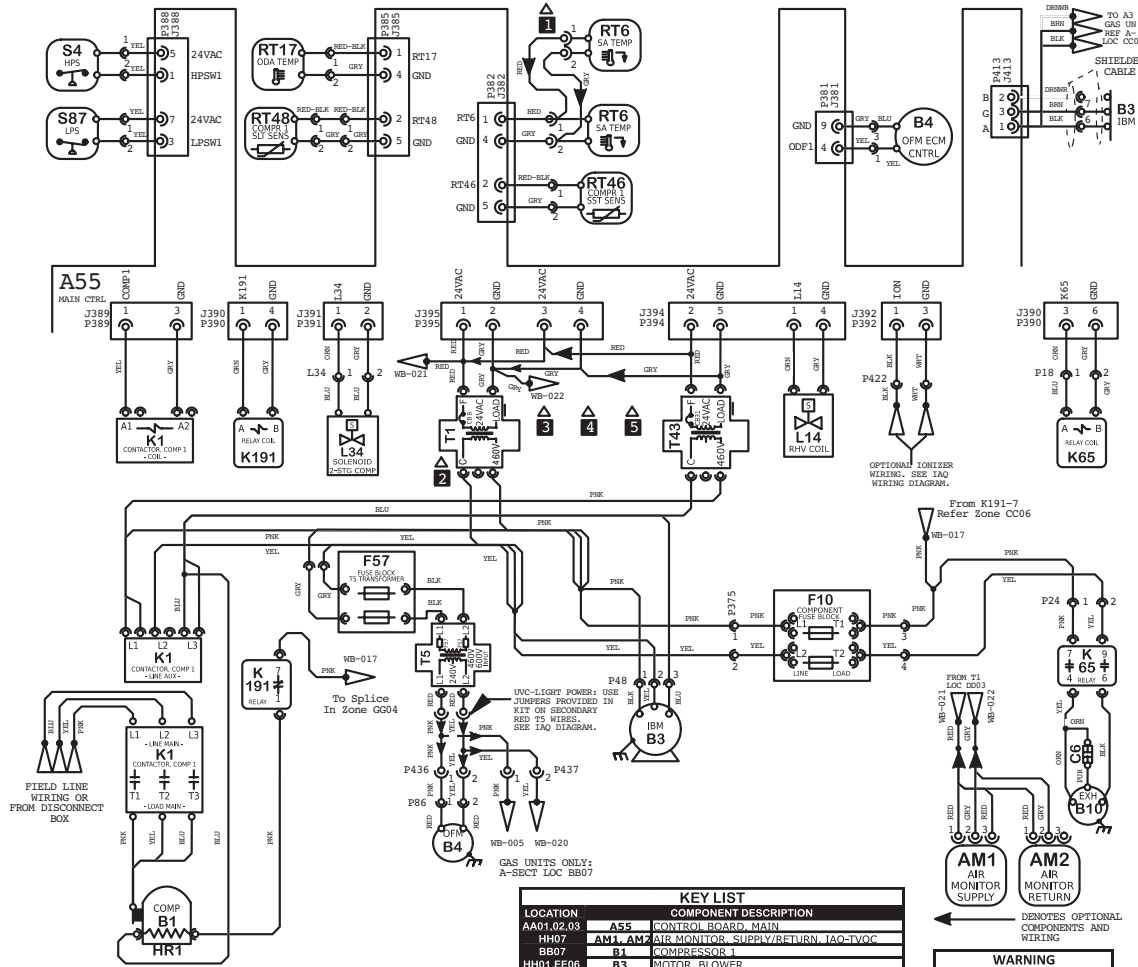


FIGURE 24

# VIII-Wiring Diagrams and Sequence of Operation

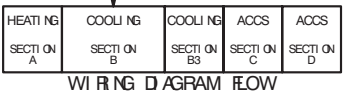
## 036H / 072H G VOLT WITH SCCR



NOTES
1 RT6 REMOTE MOUNT WIRING
2 MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3 W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, 3, 4
4 PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4
5 HUMIDITROL - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4 & J/P394-2, 5, L14 CONNECTED TO J/P394-1, 4

LOCATION	COMPONENT DESCRIPTION
AA01,02,03	A55 CONTROL BOARD, MAIN
BB07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TWOC
HH01,EE06	B1 COMPRESSOR 1
GG02,DD07	B3 MOTOR, BLOWER
HH06	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
FF05	C6 CAPACITOR, EXHAUST FAN 1
CC05	F10 FUSE COMPONENT
CC05	F57 FUSE, TS TRANSFORMER PRIMARY
BB07	HR1 HEATER, COMPRESSOR 1
BB04,05,06	K1 CONTACTOR, COMPRESSOR 1
HH04,05	K65 RELAY, EXHAUST FAN 1
BB04,06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, OUTSIDE AIR TEMP
CC01	RT48 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP, COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4 LIMIT, HI PRESS. SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS., COMP 1
DD04	T1 TRANSFORMER, CONTROL
DD05	T5 TRANSFORMER, MOTOR
EE04	T43 TRANSFORMER, REHEAT

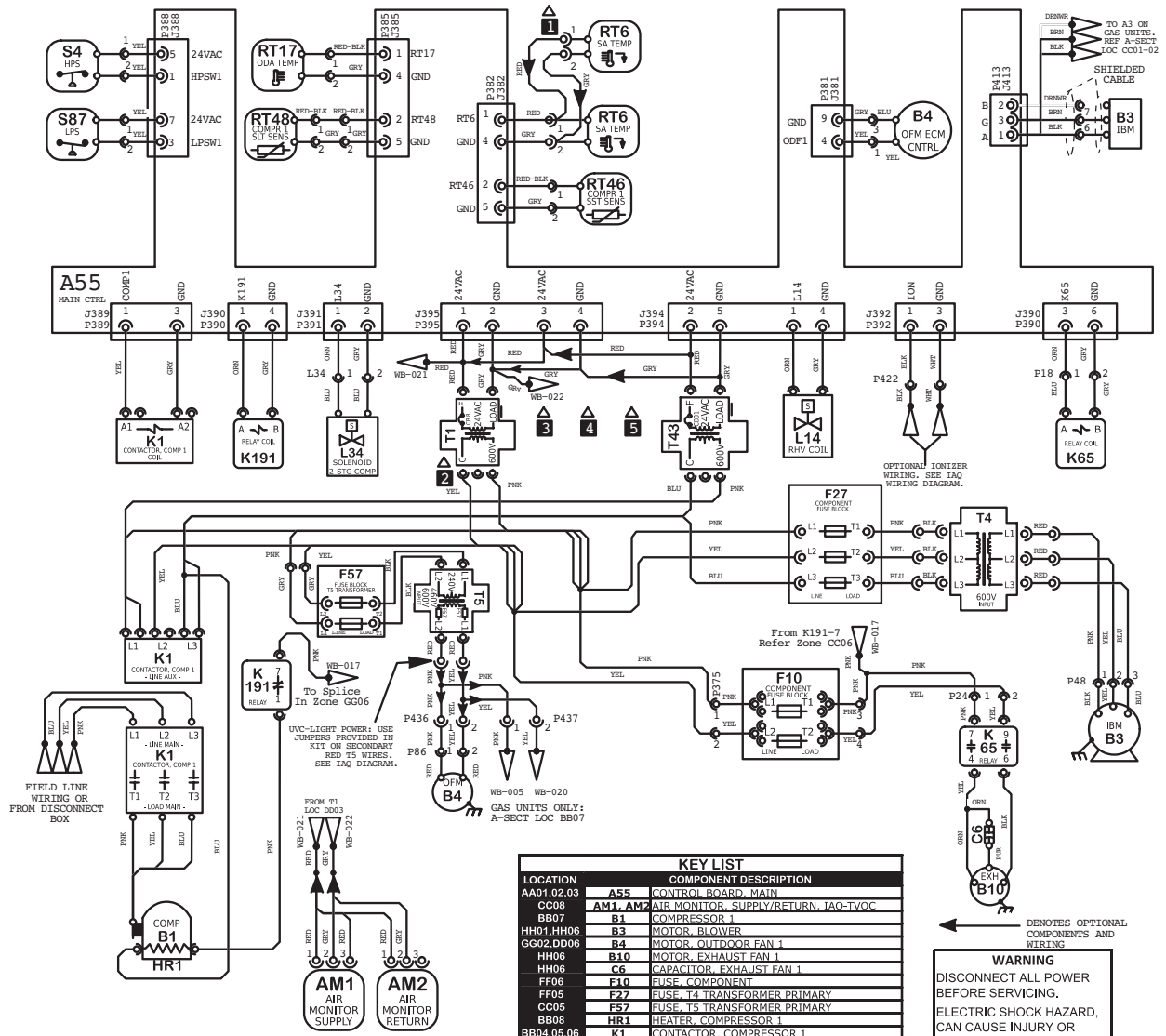
Model: LGT, LCT 036H - 072H G VOLT  
 COOLING - EBM BLOWER WITH HIGHER SCCR  
 Voltage: 460V/3-60Hz (G)  
 Supersedes n/A Form No:538191-01 Rev:0



AM1 AIR MONITOR SUPPLY  
 AM2 AIR MONITOR RETURN

DISCONNECT ALL POWER BEFORE SERVICING.  
 ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH, UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
 FOR USE WITH COPPER CONDUCTORS ONLY, REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
 IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

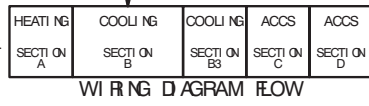
# 036H / 072H J VOLT WITH SCCR



- NOTES**
- 1 RT6 REMOTE MOUNT WIRING
  - 2 MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
  - 3 W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, 3, 4
  - 4 PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4
  - 5 HUMIDITROL - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4 & J/P394-2, 5, L14 CONNECTED TO J/P394-1, 4

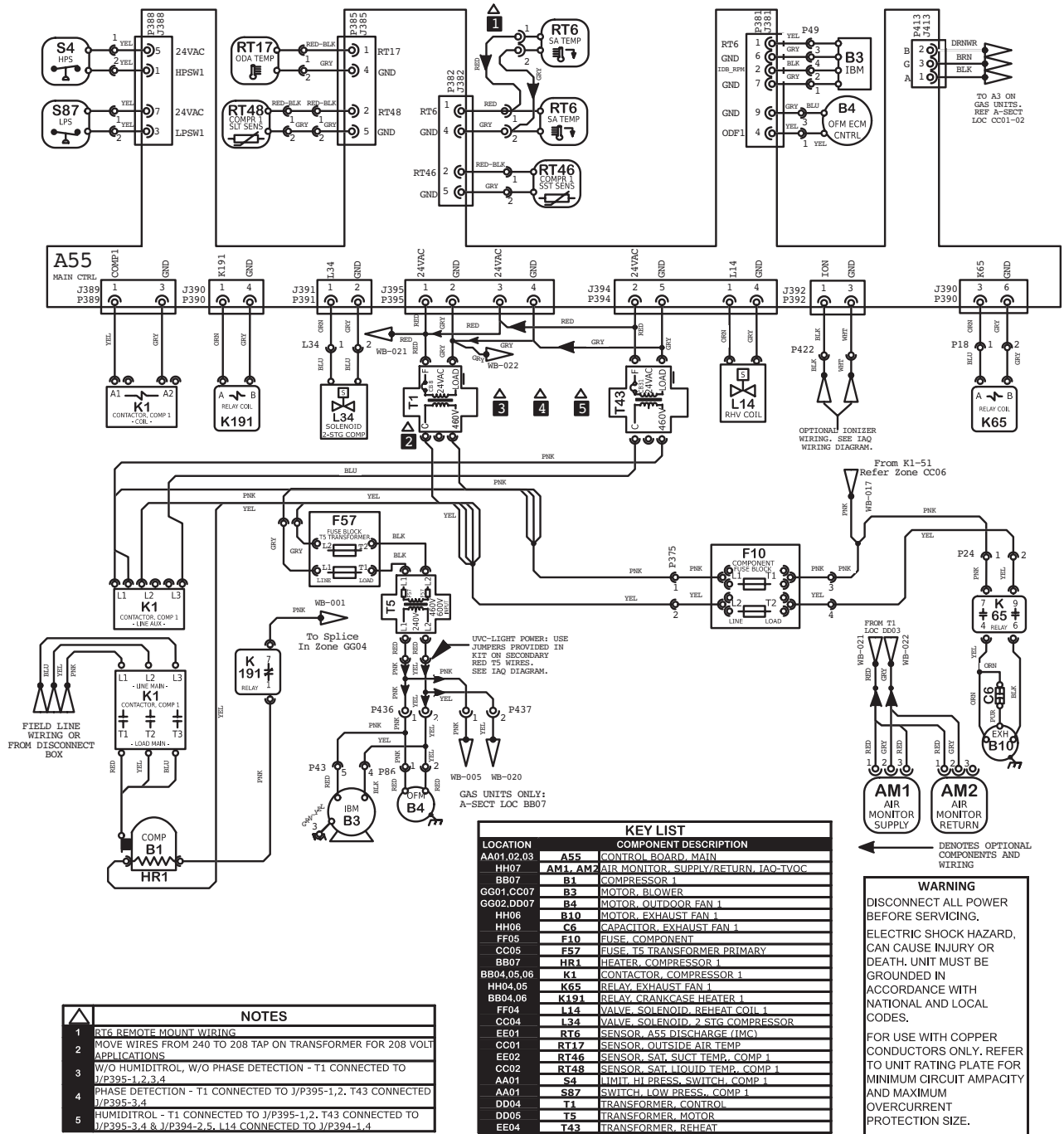
LOCATION	COMPONENT DESCRIPTION
AA01.02.03	A55 CONTROL BOARD, MAIN
CC08	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAO-TVOC
BB07	B1 COMPRESSOR 1
HH01.HH06	B3 MOTOR, BLOWER
GG02.DD06	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
FF06	F10 FUSE, COMPONENT
FF05	F27 FUSE, T4 TRANSFORMER PRIMARY
CC05	F57 FUSE, T5 TRANSFORMER PRIMARY
BB08	HR1 HEATER, COMPRESSOR 1
BB04.05.06	K1 CONTACTOR, COMPRESSOR 1
HH04.06	K65 RELAY, EXHAUST FAN 1
BB04.06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP, COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4 SWITCH, LOW PRESS., COMP 1
DD04	T1 TRANSFORMER, CONTROL
HH05	T4 TRANSFORMER, BLOWER
DD05	T5 TRANSFORMER, OUTDOOR FAN 1
EE04	T43 TRANSFORMER, REHEAT

Model: LGT, LCT 036H - 072H J VOLT  
 COOLING - EBM BLOWER WITH HIGHER SCCR  
 Voltage: 575V/3~/60Hz (J)  
 Supersedes n/A Form No: 538193-01 Rev: 0



**WARNING**  
 DISCONNECT ALL POWER BEFORE SERVICING.  
 ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
 FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
 IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

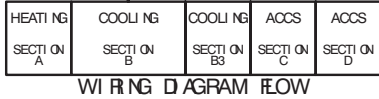
# 036H / 072H G, J VOLT WITH SCCR



NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1,2,3,4
4	PHASE DETECTION - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4
5	HUMIDITROL - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4 & J/P394-2,5, L14 CONNECTED TO J/P394-1,4

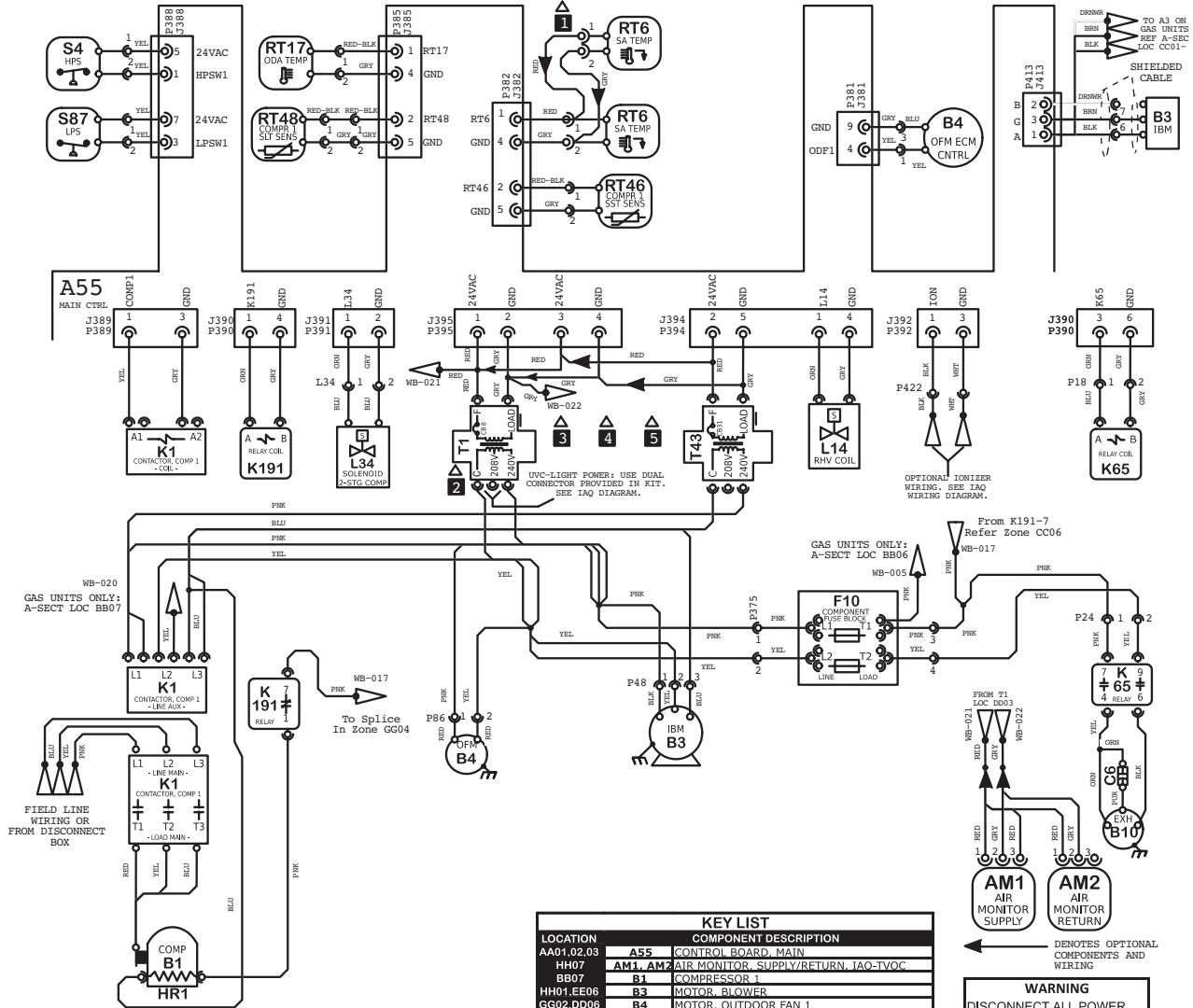
KEY LIST	
LOCATION	COMPONENT DESCRIPTION
AA01.02.03	A55 CONTROL BOARD, MAIN
HH07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, TAO-TVOC
BB07	B1 COMPRESSOR 1
GG01, CC07	B3 MOTOR, BLOWER
GG02, DD07	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
FF06	F10 FUSE, COMPONENT
CC05	F57 FUSE, T5 TRANSFORMER PRIMARY
BB07	HR1 HEATER, COMPRESSOR 1
BB04.05.06	K1 CONTACTOR, COMPRESSOR 1
HH04.05	K65 RELAY, EXHAUST FAN 1
BB04.06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP., COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP., COMP 1
AA01	S4 LIMIT, HI PRESS., SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS., COMP 1
DD04	T1 TRANSFORMER, CONTROL
DD05	T5 TRANSFORMER, MOTOR
EE04	T43 TRANSFORMER, REHEAT

Model: LGT, LCT 036H - 072H G, J VOLT  
 COOLING - ECM BLOWER WITH HIGHER SCCR  
 Voltage: 460V/3~/60Hz (G), 575V/3~/60Hz (J)  
 Supersedes N/A Form No: 538187-01 Rev: 0



**WARNING**  
 DISCONNECT ALL POWER BEFORE SERVICING. ELECTRIC SHOCK HAZARD. CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
 FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
 IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

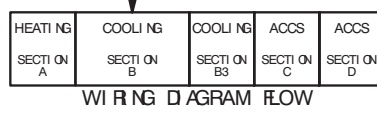
# 036H / 072H Y VOLT WITH SCCR



NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1,2,3,4
4	PHASE DETECTION - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4
5	HUMIDITROL - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4 & J/P394-2,5, L14 CONNECTED TO J/P394-1,4

KEY LIST	
LOCATION	COMPONENT DESCRIPTION
AA01.02.03	A55 CONTROL BOARD, MAIN
HH07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TYOC
BB07	B1 COMPRESSOR 1
HH01.EE06	B3 MOTOR, BLOWER
GG02.DD06	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
FF05	F10 FUSE COMPONENT
BB07	K1 HEATER, COMPRESSOR 1
BB04.05.06	K1 CONTACTOR, COMPRESSOR 1
HH04.05	K65 RELAY, EXHAUST FAN 1
BB04.06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP, COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4 LIMIT, HI PRESS. SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS. COMP 1
DD04	T1 TRANSFORMER, CONTROL
EE04	T43 TRANSFORMER, REHEAT

Model: LGT, LCT 036H - 072H Y VOLT  
 COOLING - EBM BLOWER WITH HIGHER SCCR  
 Voltage: 208-240V/3-/60Hz (Y)  
 Supersedes: N/A Form No: 538189-01 Rev: 0



**WARNING**

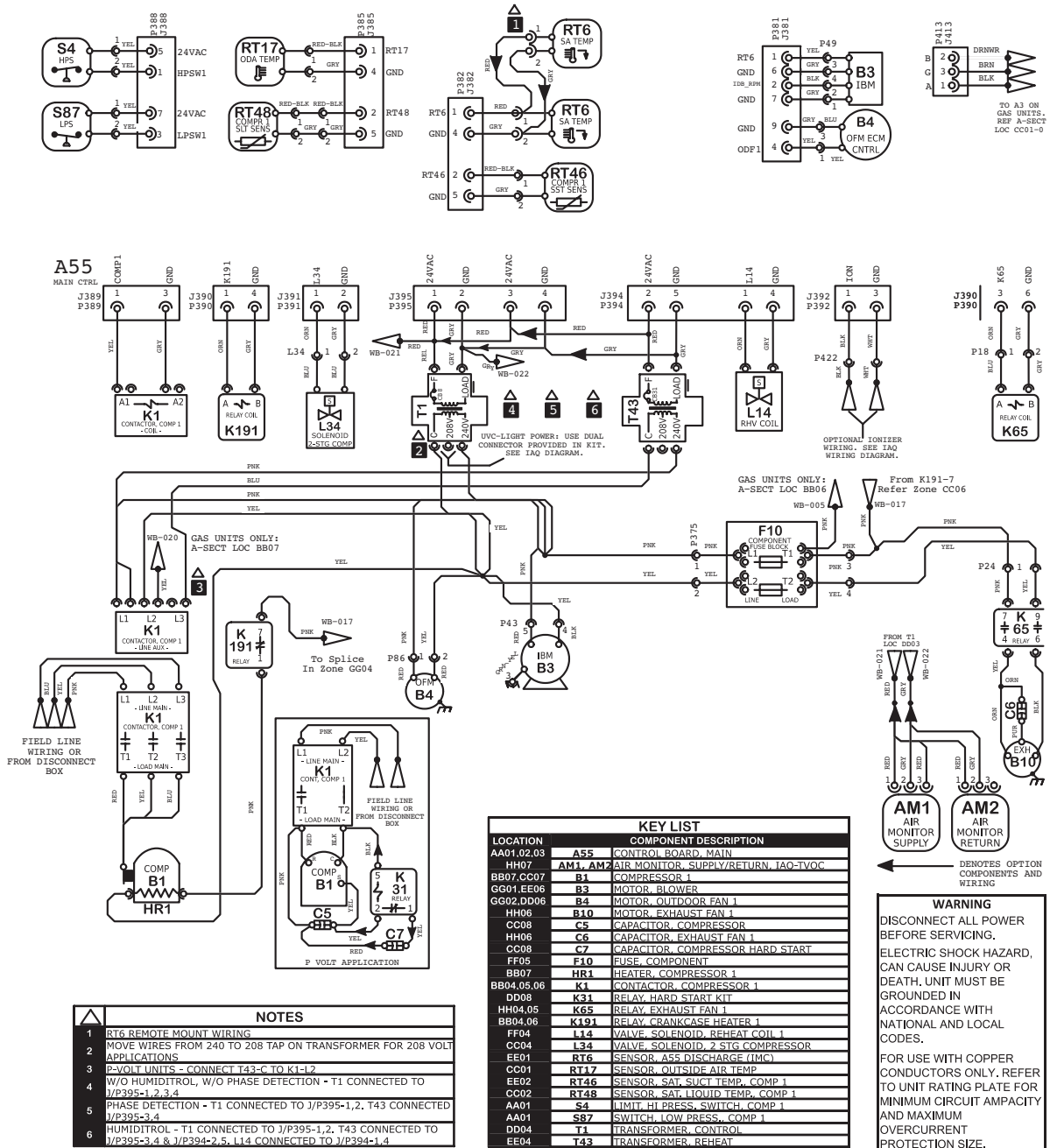
DISCONNECT ALL POWER BEFORE SERVICING.

ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

FOR USE WITH COPPER CONDUCTORS ONLY, REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.

IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

036H / 072H P, Y VOLT WITH SCCR

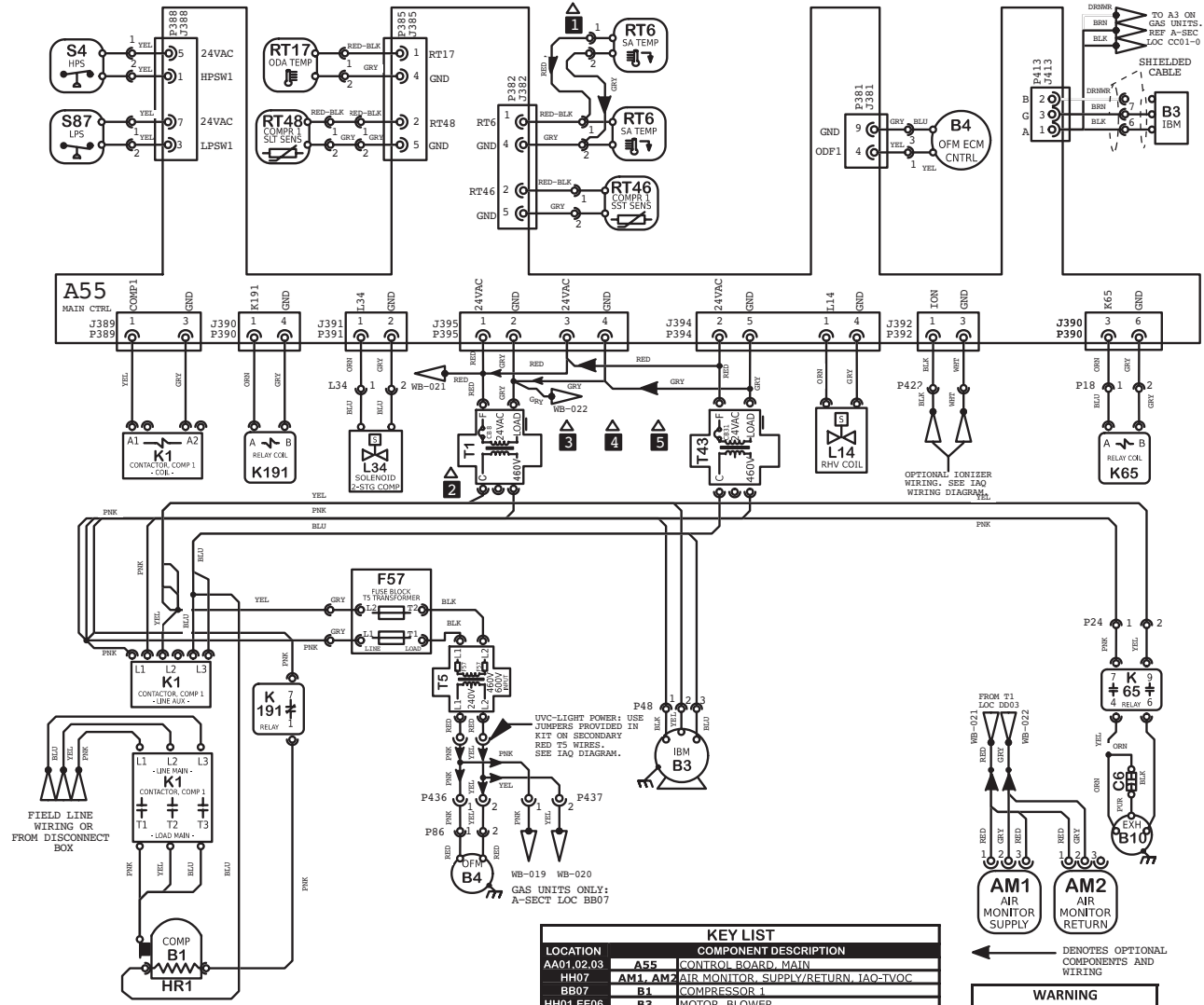


Model: LGT, LCT 036H - 072H P, Y VOLT  
 COOLING - ECM BLOWER WITH HIGHER SCCR  
 Voltage: 208-240V/1-~60Hz (P), 208-240V/3-~60Hz (Y)  
 Supersedes: N/A Form No: 538185-01 Rev: 0





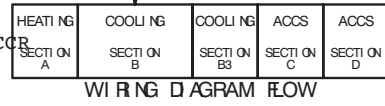
036H / 072H G VOLT WITHOUT SCCR



NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1,2,3,4
4	PHASE DETECTION - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4
5	HUMIDITROL - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4 & J/P394-2,5, L14 CONNECTED TO J/P394-1,4

KEY LIST	
LOCATION	COMPONENT DESCRIPTION
AA01,02,03	A55 CONTROL BOARD, MAIN
HH07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TVOC
BB07	B1 COMPRESSOR 1
HH01,EE08	B3 MOTOR, BLOWER
GG02,DD07	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
CC05	F57 FUSE, T5 TRANSFORMER PRIMARY
BB07	HR1 HEATER, COMPRESSOR 1
BB04,05,06	K1 CONTACTOR, COMPRESSOR 1
HH04,05	K65 RELAY, EXHAUST FAN 1
BB04,06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP, COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4 LIMIT, HI PRESS. SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS. COMP 1
DD04	T1 TRANSFORMER, CONTROL
DD05	T5 TRANSFORMER, MOTOR
EE04	T43 TRANSFORMER, REHEAT

Model: LGT, LCT 036H - 072H G VOLT  
 COOLING - EBM BLOWER WITHOUT HIGHER SCCR  
 Voltage: 460V/3~/60Hz (G)  
 Supersedes:N/A Form No:538190-01 Rev:0

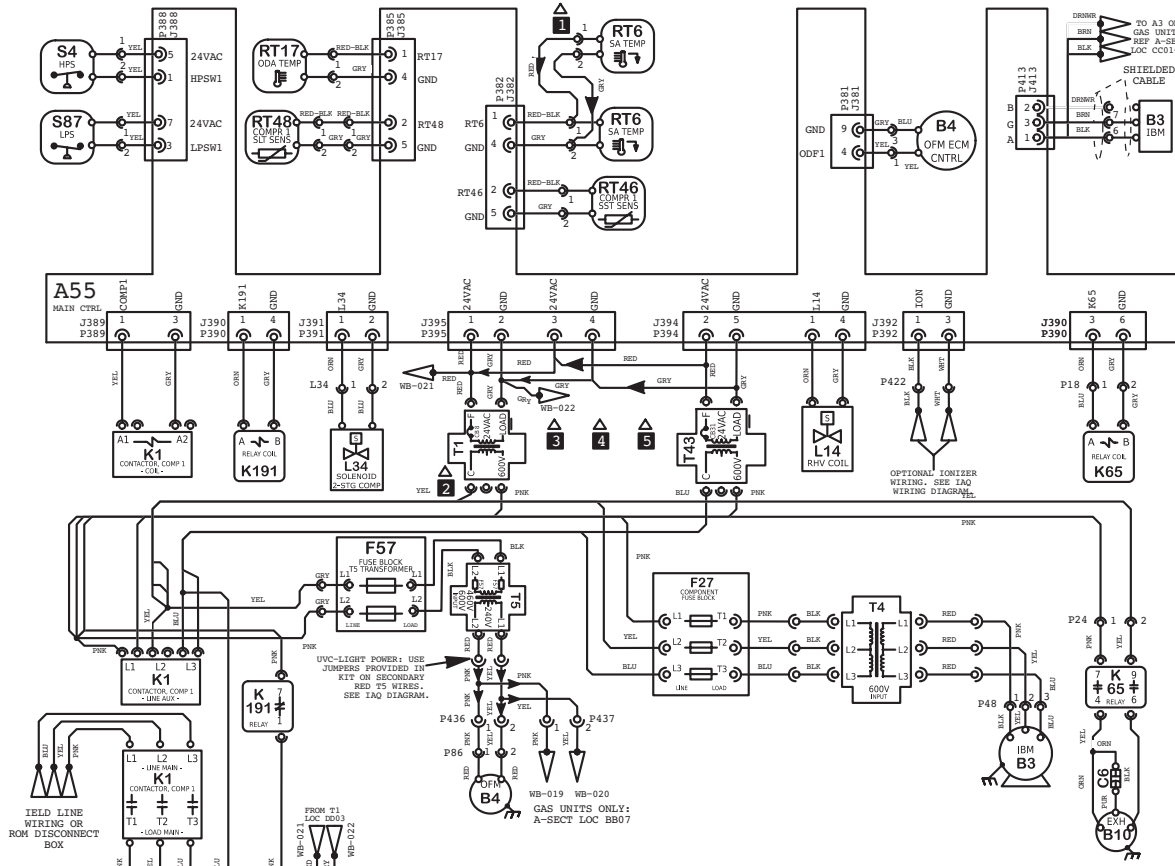


DISCONNECT ALL POWER BEFORE SERVICING. ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.

IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

036H / 072H J VOLT WITHOUT SCCR



- NOTES**
- 1 RT6 REMOTE MOUNT WIRING
  - 2 MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
  - 3 W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, 3, 4
  - 4 PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4
  - 5 HUMIDITROL - T1 CONNECTED TO J/P395-1, 2, T43 CONNECTED TO J/P395-3, 4 & J/P394-2, 5, L14 CONNECTED TO J/P394-1, 4

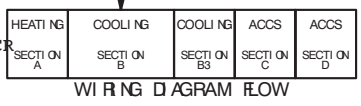
**KEY LIST**

LOCATION	COMPONENT DESCRIPTION
AA01,02,03	A55 CONTROL BOARD, MAIN
CC08	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TVOC
BB07	B1 COMPRESSOR 1
HH01,HH06	B2 MOTOR, BLOWER
GG02,DD08	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
EE05	F27 FUSE, T4 TRANSFORMER PRIMARY
CC05	F57 FUSE, T5 TRANSFORMER PRIMARY
BB07	HR1 HEATER, COMPRESSOR 1
BB04,05,06	K1 CONTACTOR, COMPRESSOR 1
HH04,05	K65 RELAY, EXHAUST FAN 1
BB04,06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2-STE, COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT TEMP, COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4 LIMIT, HI PRESS, SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS, COMP 1
DD04	T1 TRANSFORMER, CONTROL
GG05	T4 TRANSFORMER, BLOWER
DD05	T5 TRANSFORMER, OUTDOOR FAN 1
EE04	T43 TRANSFORMER, REHEAT

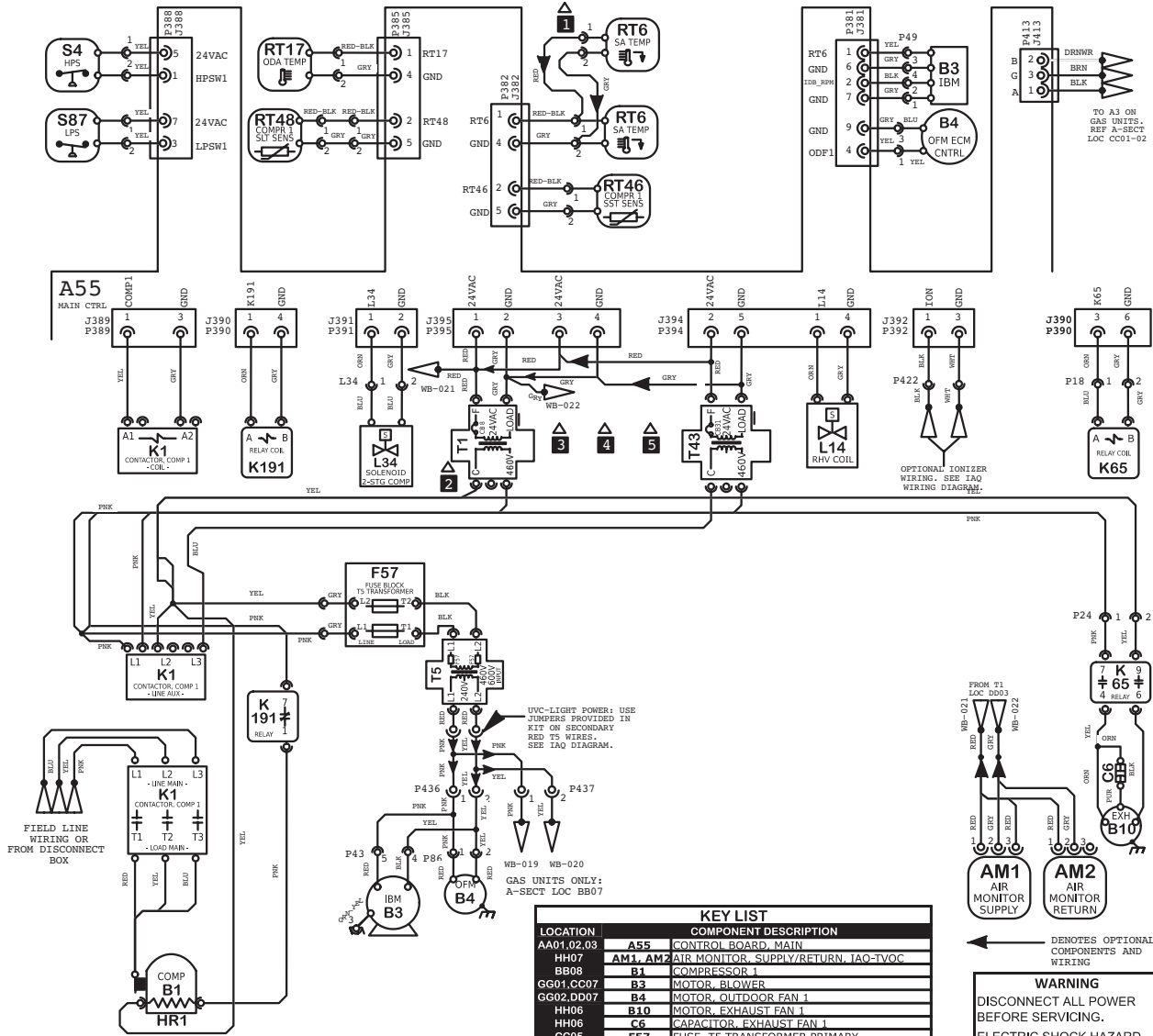
← DENOTES OPTIONAL COMPONENTS AND WIRING

**WARNING**  
DISCONNECT ALL POWER BEFORE SERVICING.  
ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
FOR USE WITH COPPER CONDUCTORS ONLY, REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

odel: LGT, LCT 036H - 072H J VOLT  
COOLING - EBM BLOWER WITHOUT HIGHER SCCR  
oltage: 575V/3~/60Hz (J)  
upersedes: N/A Form No: 538192-01 Rev: 0



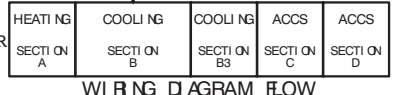
036H / 072H G, J VOLT WITHOUT SCCR



NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1,2,3,4
4	PHASE DETECTION - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4
5	HUMIDITROL - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4 & J/P394-2,5, L14 CONNECTED TO J/P394-1,4

KEY LIST		
LOCATION	COMPONENT	DESCRIPTION
AA01.02.03	A55	CONTROL BOARD, MAIN
HH07	AM1, AM2	AIR MONITOR, SUPPLY/RETURN, IAO-TVOC
BB08	B1	COMPRESSOR 1
GG01,CC07	B3	MOTOR, BLOWER
GG02,DD07	B4	MOTOR, OUTDOOR FAN 1
HH08	B10	MOTOR, EXHAUST FAN 1
CC05	C6	CAPACITOR, EXHAUST FAN 1
BB08	F57	ELSE, TS TRANSFORMER PRIMARY
BB08	HR1	HEATER, COMPRESSOR 1
BB04.05.06	K1	CONTACTOR, COMPRESSOR 1
HH04.05	K65	RELAY, EXHAUST FAN 1
BB04.06	K191	RELAY, CRANKCASE HEATER 1
FF04	L14	VALVE, SOLENOID, REHEAT COIL 1
CC04	L34	VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6	SENSOR, A55 DISCHARGE (IMC)
CC01	RT17	SENSOR, OUTSIDE AIR TEMP
EE02	RT46	SENSOR, SAT. SUCT. TEMP, COMP 1
CC02	RT48	SENSOR, SAT. LIQUID TEMP, COMP 1
AA01	S4	LIMIT, HI PRESS, SWITCH, COMP 1
AA01	S87	SWITCH, LOW PRESS, COMP 1
DD04	T1	TRANSFORMER, CONTROL
DD05	T5	TRANSFORMER, MOTOR
EE04	T43	TRANSFORMER, REHEAT

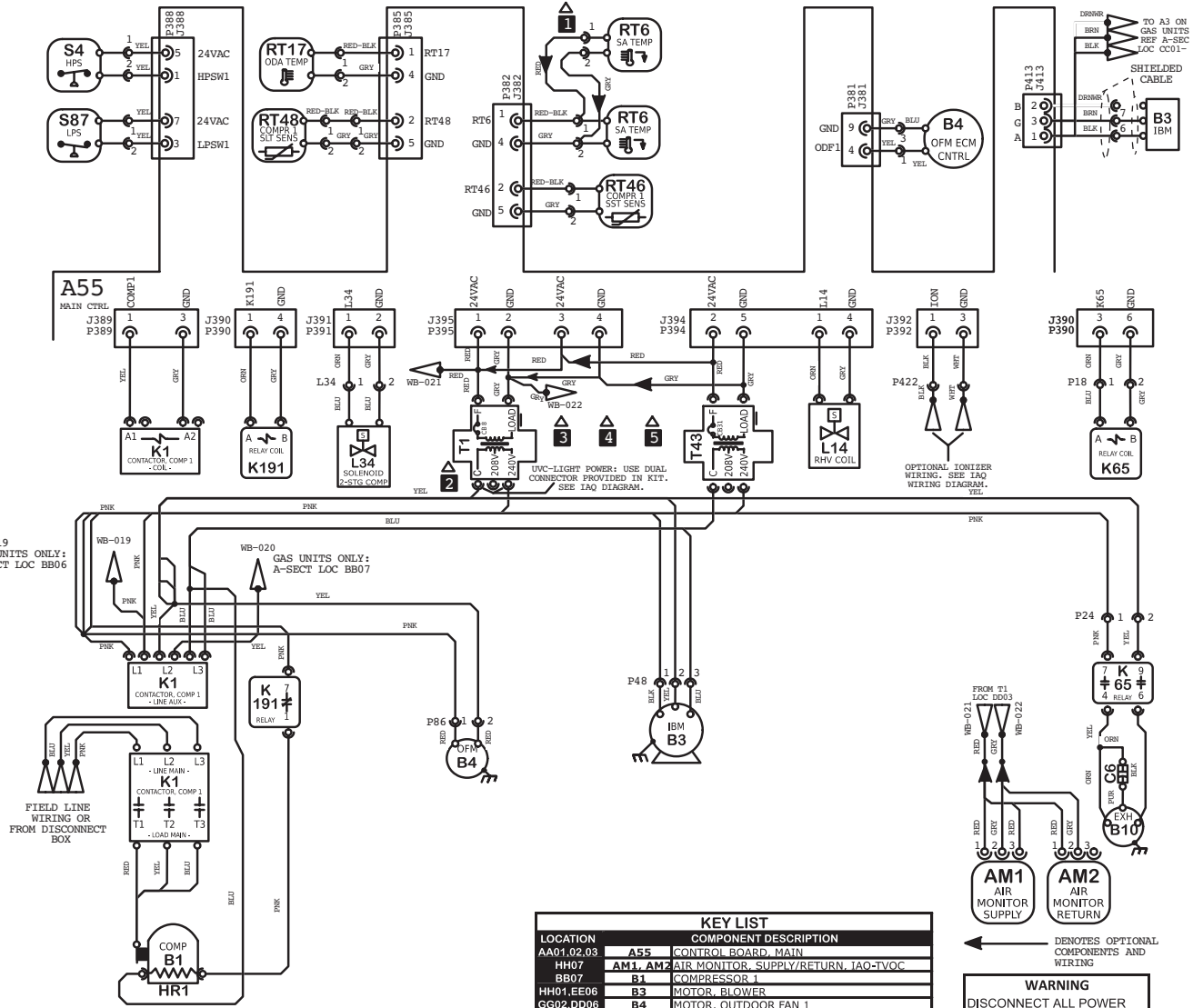
Model: LGT, LCT 036H - 072H G, J VOLT  
 COOLING - ECM BLOWER WITHOUT HIGHER SCCR  
 Voltage: 460V/3-/60Hz (G), 575V/3-/60Hz (J)  
 Supersedes: N/A Form No: 538186-01 Rev: 0



← DENOTES OPTIONAL COMPONENTS AND WIRING

**WARNING**  
 DISCONNECT ALL POWER BEFORE SERVICING.  
 ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
 FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
 IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

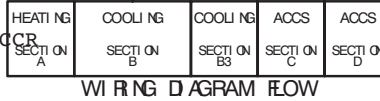
# 036H / 072H Y VOLT WITHOUT SCCR



NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1,2,3,4
4	PHASE DETECTION - T1 CONNECTED TO J/P395-1,2, T43 CONNECTED TO J/P395-3,4
5	HUMIDITROL - T1 CONNECTED TO J/P394-1,2, T43 CONNECTED TO J/P395-3,4 & J/P394-2,5, L14 CONNECTED TO J/P394-1,4

LOCATION	COMPONENT DESCRIPTION
AA01,02,03	A55 CONTROL BOARD, MAIN
HH07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TVOC
HH04,EE06	B1 COMPRESSOR 1
GG02,DD06	B3 MOTOR, BLOWER
HH06	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
HH06	C6 CAPACITOR, EXHAUST FAN 1
BB07	HR1 HEATER, COMPRESSOR 1
BB04,05,06	K1 CONTACTOR, COMPRESSOR 1
HH04,05	K65 RELAY, EXHAUST FAN 1
BB04,06	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. SUCT. TEMP., COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP., COMP 1
AA01	S4 LIMIT, HI PRESS., SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS., COMP 1
DD04	T1 TRANSFORMER, CONTROL
EE04	T43 TRANSFORMER, REHEAT

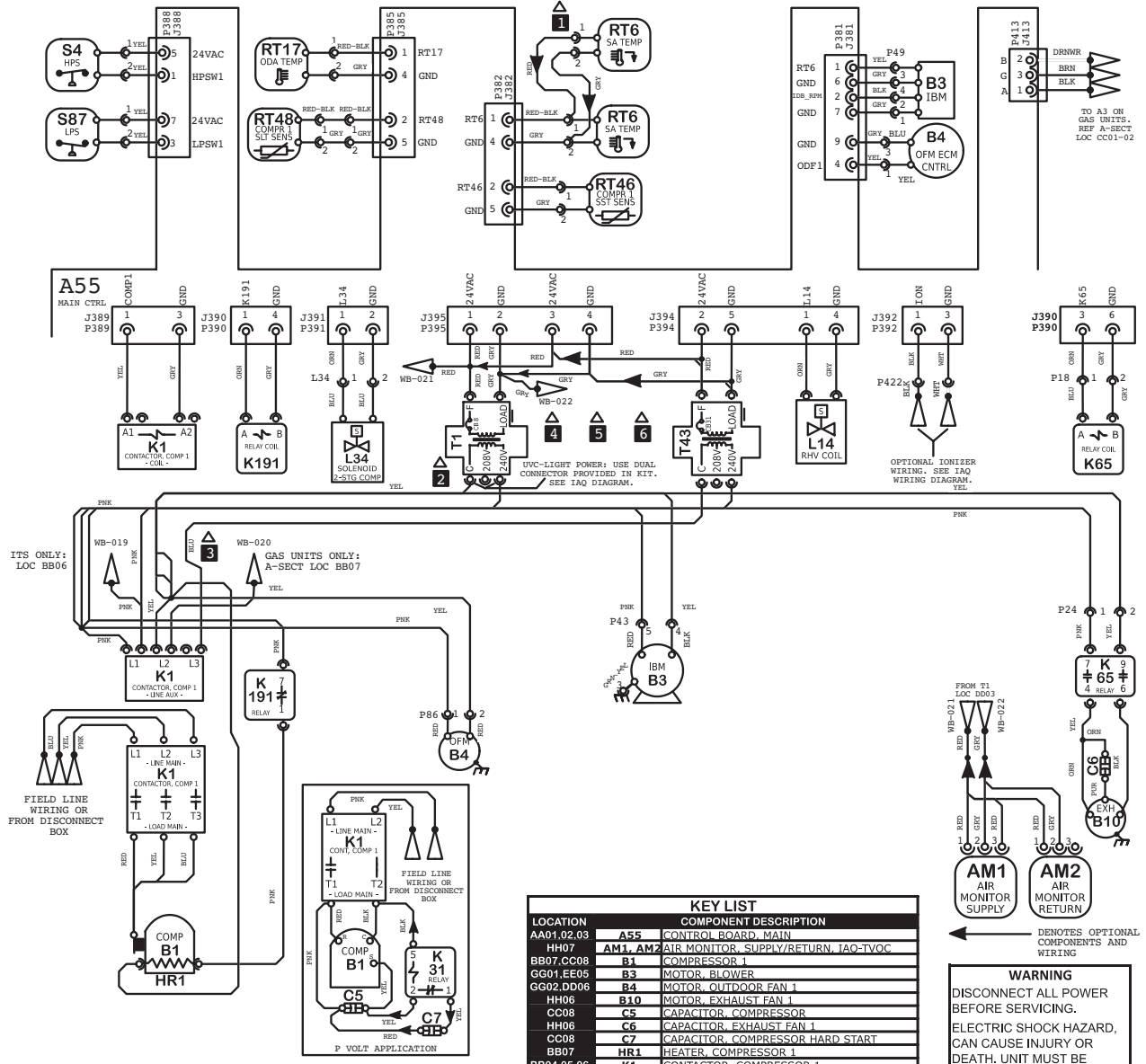
Model: LGT, LCT 036H - 072H Y VOLT  
 COOLING - EBM BLOWER WITHOUT HIGHER SCCR  
 Voltage: 208-240V/3~/60Hz (Y)  
 Supersedes N/A Form No: 538188-01 Rev: 0



← DENOTES OPTIONAL COMPONENTS AND WIRING

**WARNING**  
 DISCONNECT ALL POWER BEFORE SERVICING.  
 ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
 FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
 IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

### 036H / 072H P, Y VOLT WITHOUT SCCR



ITS ONLY:  
LOC BB06

GAS UNITS ONLY:  
A-SECT LOC BB07

OPTIONAL TONIZER  
WIRING. SEE IAQ  
WIRING DIAGRAM.

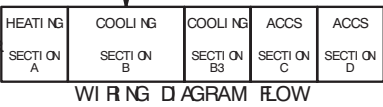
LOCATION	COMPONENT DESCRIPTION
AA01.02.03	A55 CONTROL BOARD, MAIN
HH07	AM1, AM2 AIR MONITOR, SUPPLY/RETURN, IAQ-TVOC
BB07, CC08	B1 COMPRESSOR 1
GG01, EE05	B3 MOTOR, BLOWER
GG02, DD06	B4 MOTOR, OUTDOOR FAN 1
HH06	B10 MOTOR, EXHAUST FAN 1
CC08	C5 CAPACITOR, COMPRESSOR
HH08	C6 CAPACITOR, EXHAUST FAN 1
CC08	C7 CAPACITOR, COMPRESSOR HARD START
BB07	HR1 HEATER, COMPRESSOR 1
BB04.05.06	K1 CONTACTOR, COMPRESSOR 1
DD08	K31 RELAY, HARD START KIT
HH04.05	K65 RELAY, EXHAUST FAN 1
BB04.05	K191 RELAY, CRANKCASE HEATER 1
FF04	L14 VALVE, SOLENOID, REHEAT COIL 1
CC04	L34 VALVE, SOLENOID, 2 STG COMPRESSOR
EE01	RT6 SENSOR, A55 DISCHARGE (IMC)
CC01	RT17 SENSOR, OUTSIDE AIR TEMP
EE02	RT46 SENSOR, SAT. LIQUID TEMP., COMP 1
CC02	RT48 SENSOR, SAT. LIQUID TEMP., COMP 1
AA01	S4 LIMIT, HI PRESS., SWITCH, COMP 1
AA01	S87 SWITCH, LOW PRESS., COMP 1
DD04	T1 TRANSFORMER, CONTROL
EE04	T43 TRANSFORMER, REHEAT

NOTES	
1	RT6 REMOTE MOUNT WIRING
2	MOVE WIRES FROM 240 TO 208 TAP ON TRANSFORMER FOR 208 VOLT APPLICATIONS
3	P-VOLT UNITS - CONNECT T43-C TO K1-L2
4	W/O HUMIDITROL, W/O PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2, 3, 4
5	PHASE DETECTION - T1 CONNECTED TO J/P395-1, 2. T43 CONNECTED TO J/P395-3, 4
6	HUMIDITROL - T1 CONNECTED TO J/P395-1, 2. T43 CONNECTED TO J/P395-3, 4 & J/P394-2, 5. L14 CONNECTED TO J/P394-1, 4

← DENOTES OPTIONAL COMPONENTS AND WIRING

**WARNING**  
DISCONNECT ALL POWER BEFORE SERVICING.  
ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.  
FOR USE WITH COPPER CONDUCTORS ONLY. REFER TO UNIT RATING PLATE FOR MINIMUM CIRCUIT AMPACITY AND MAXIMUM OVERCURRENT PROTECTION SIZE.  
IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING AND INSULATION THICKNESS.

Model: LGT, LCT 036H - 072H P, Y VOLT  
COOLING - ECM BLOWER WITHOUT HIGHER SCCR  
Voltage: 208-240V/1~/60Hz (P), 208-240V/3~/60Hz (Y)  
Supersedes: N/A Form No: 538184-01 Rev: 0



## Cooling Sequence of Operation

### Power:

- 1 - Line voltage energizes transformer T1. T1 provides 24VAC power to the A55 Unit Controller. A55 provides 24VAC to the unit cooling, heating and blower controls.
- 2 - Line voltage provides voltage to compressor crankcase heater relay K191-1 N.C. contacts, compressor contactor K1, blower motor B3, and outdoor fan motor B4 (on G volt units line voltage is supplied to two fuses F27, transformer T4, blower motor B3, and outdoor fan motor B4).

### Blower Operation:

- 3 - The A55 Unit Controller receives a demand from thermostat terminal G. A55 energizes blower motor B3 via programmed motor settings. Motor settings are field-adjustable.

### First Stage Cooling

- 4 - A55 Unit Controller receives Y1 and G cooling demand.
- 5 - After A55 proves n.c. low pressure switch S87, n.c. SST, and n.c. high pressure switch S4, reversing valve (L1), compressor contactor K1 and Blower B3 are energized.
- 6 - N.O. contacts K1-1 close energizing the compressor B1.
- 7 - SLT prove below 62°F. A55 energized outdoor fan motor B4 to modulate. If above 65°F, outdoor fan motor B4 will be set to low speed.

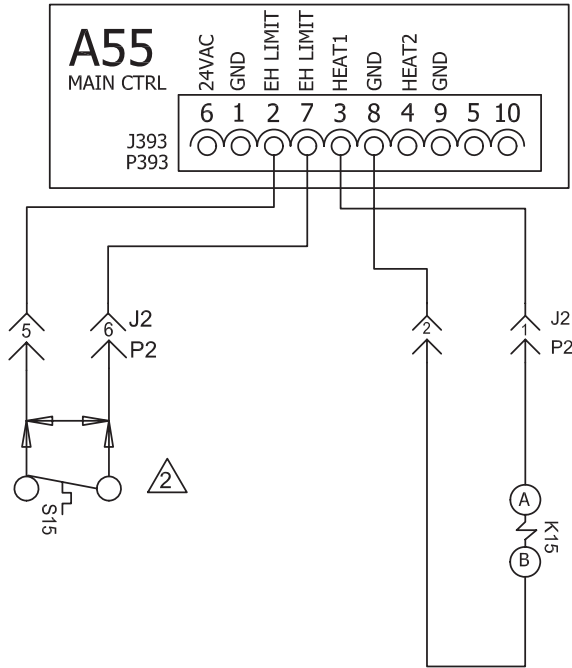
### Second Stage Cooling

- 8 - A55 received a Y2 and G cooling demand and energizes blower B3 on high speed.
- 9 - A55 Energizes compressor solenoid L34, switching compressor to high speed.

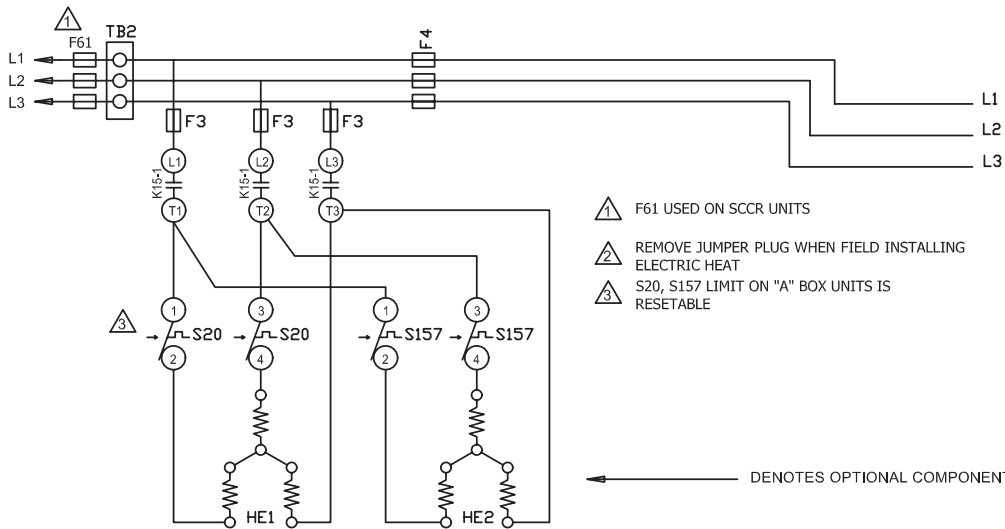
### Power Exhaust Fan Operation

- 10 - A55 receives a position feedback signal from the economizer damper motor and energizes exhaust fan relay K65 with 24VAC at 50% outside air damper open (adjustable).
- 11 - N.O. contact K65-1 & 2 close, energizing exhaust fan motor B10.

# E1EH 7.5, 15, 22.5 - 30 - G, J VOLT



DESCRIPTION	
KEY	DESCRIPTION
A55	PANEL, MAIN
F3	FUSE, ELECTRIC HEAT
F4	FUSE, UNIT
F61	FUSE, UNIT - SCCR
HE -1	ELEMENT, ELECTRIC HEAT 1
J2	JACK, ELECTRIC HEAT
K15,-1	CONTACTOR, ELECTRIC HEAT 1
P2	PLUG, ELECTRIC HEAT
P393	PLUG, ELECTRIC HEAT CONTROL
S15	SWITCH, LIMIT PRIMARY ELECTRIC HEAT
S20	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 1
S157	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 2
TB2	TERMINAL STRIP, UNIT



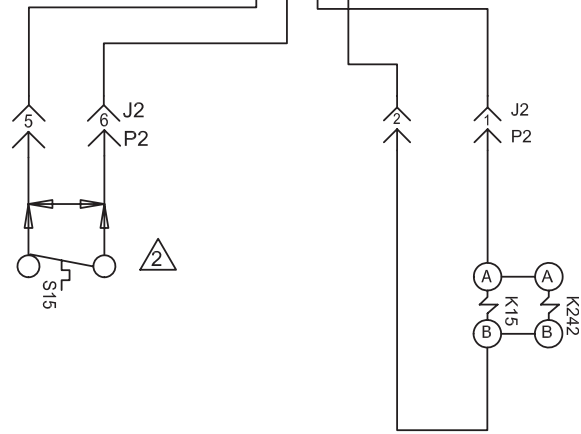
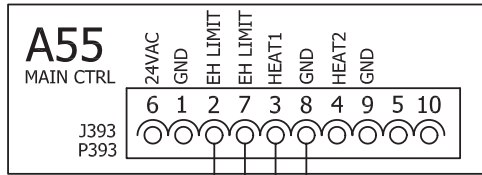
072	060	036-048	KW	HE1	HE2
			7.5	7.5	
			15	15	
			22.5	15	7.5
			30	15	15

- ⚠ F61 USED ON SCCR UNITS
  - ⚠ REMOVE JUMPER PLUG WHEN FIELD INSTALLING ELECTRIC HEAT
  - ⚠ S20, S157 LIMIT ON "A" BOX UNITS IS RESETTABLE
- ← DENOTES OPTIONAL COMPONENTS

2020/10	WIRING DIAGRAM	10/20
538117-01		
HEATING		
ELECTRIC HEAT E1EH - 7.5, 15, 22.5, 30 - G, J		
SECTION A		REV 0
Supersedes	New Form No. 538117-01	
© 2010	Lennox Commercial	

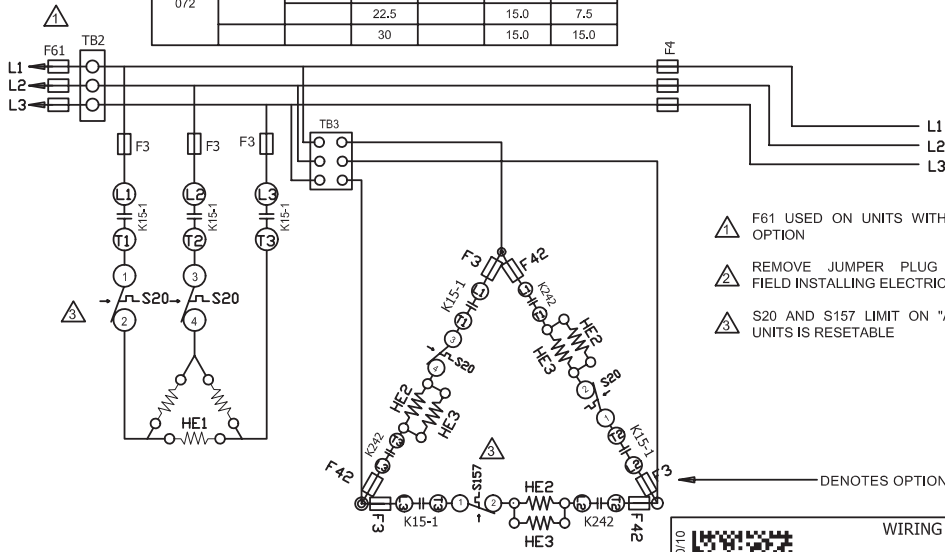


# E1EH 7.5, 15, 22.5 - 30 - Y VOLTAGE



DESCRIPTION	
KEY	DESCRIPTION
A55	PANEL, MAIN
F3	FUSE, ELECTRIC HEAT
F4	FUSE, UNIT
F61	FUSE, SCCR OPTION UNIT
HE -1	ELEMENT, ELECTRIC HEAT 1
HE -2	ELEMENT, ELECTRIC HEAT 2
HE -3	ELEMENT, ELECTRIC HEAT 3
K15-1	CONTACTOR, ELECTRIC HEAT 1
K242	CONTACTOR, ELECTRIC HEAT 1
P2	PLUG, ELECTRIC HEAT
P393	PLUG, ELECTRIC HEAT CONTROL
S15	SWITCH, LIMIT PRIMARY ELECTRIC HEAT
S20	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 1
S157	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 2
TB2	TERMINAL STRIP, UNIT

			KW	HE1	HE2	HE3
072	060	036	7.5	7.5		
		-048	15	15.0		
			22.5		15.0	7.5
			30		15.0	15.0

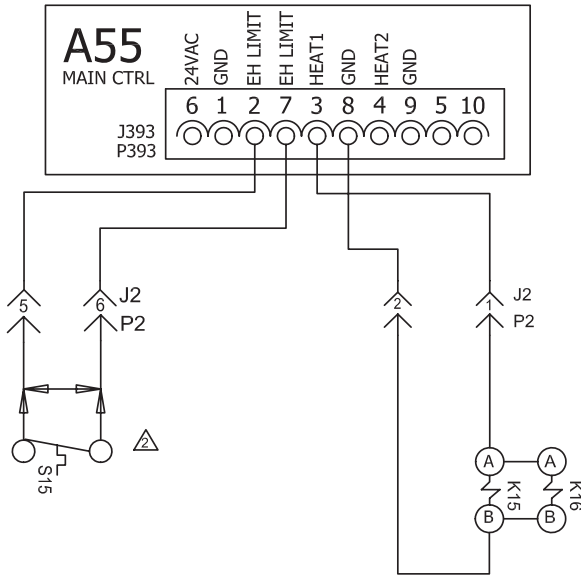


- ⚠ F61 USED ON UNITS WITH SCCR OPTION
- ⚠ REMOVE JUMPER PLUG WHEN FIELD INSTALLING ELECTRIC HEAT
- ⚠ S20 AND S157 LIMIT ON "A" BOX UNITS IS RESETTABLE

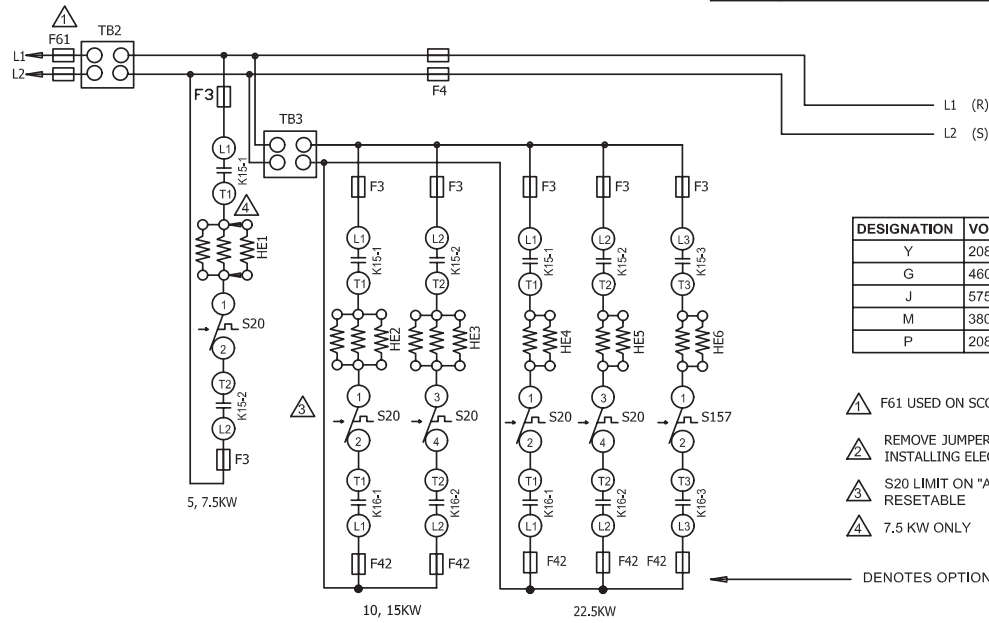
→ DENOTES OPTIONAL COMPONENTS

WIRING DIAGRAM		10/20
538116-01		
HEATING		
ELECTRIC HEAT E1EH - 7.5, 15, 22.5, 30 - Y		
SECTION A		REV 0
Supersedes	New Form No. 538116-01	

# E1EH 5, 7.5, 10, 15, 22.5 - P VOLTAGE



DESCRIPTION	
KEY	DESCRIPTION
A55	PANEL, MAIN
F3	FUSE, ELECTRIC HEAT
F4	FUSE, UNIT
F61	FUSE, UNIT - SCCR
HE -1	ELEMENT, ELECTRIC HEAT 1
HE -2	ELEMENT, ELECTRIC HEAT 2
HE -3	ELEMENT, ELECTRIC HEAT 3
HE -4	ELEMENT, ELECTRIC HEAT 4
HE -5	ELEMENT, ELECTRIC HEAT 5
HE -6	ELEMENT, ELECTRIC HEAT 6
J2	JACK, ELECTRIC HEAT
J265C	JACK, CONTACTOR RELAY
J266A	JACK, HEATING CONTROL STG 1
J271A,B	JACK, HEATING SENSORS STG 1
K15,-1	CONTACTOR, ELECTRIC HEAT 1
K16,-1	CONTACTOR, ELECTRIC HEAT 2
P2	PLUG, ELECTRIC HEAT
P7	PLUG, ELECTRIC HEAT SUB-BASE KIT
P265	PLUG, CONTACTOR RELAY
P266	PLUG, HEATING CONTROL
P271	PLUG, HEATING SENSORS STG 1
S15	SWITCH, LIMIT PRIMARY ELECTRIC HEAT
S20	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 1
S157	SWITCH, LIMIT SECONDARY ELECTRIC HEAT 2
TB2	TERMINAL STRIP, UNIT



DESIGNATION	VOLTAGE
Y	208-230/60/3
G	460/60/3
J	575/60/3
M	380-420/50/3
P	208-230/60/1

- ⚠ F61 USED ON SCCR UNITS ONLY
- ⚡ REMOVE JUMPER PLUG WHEN FIELD INSTALLING ELECTRIC HEAT
- ⚡ S20 LIMIT ON "A" BOX UNITS IS RESETABLE
- ⚡ 7.5 KW ONLY

← DENOTES OPTIONAL COMPONENTS

KW	HE1	HE2	HE3	HE4	HE5	HE6
5.0	5.0					
10.0		5.0	5.0			
7.5	7.5					
15		7.5	7.5			
22.5				7.5	7.5	7.5

2022/04	WIRING DIAGRAM	04/22
538246-01		
HEATING		
ELECTRIC HEAT FOR LCT,LHT		
E1EH - 5, 7.5, 10, 15, 22.5 - P		
SECTION A		REV 0
Supersedes	New Form No.	
	538246-01	

## Sequence of Operation -E1EH 7.5, 15, 22.5 - G, J Voltage

### HEATING ELEMENTS:

1 - Terminal Strip TB2 is energized when the unit disconnect closes. TB2 supplies line voltage to electric heat elements HE1 and HE2. Elements are protected by fuse F3.

### FIRST STAGE HEAT:

2 - Heating demand initiates at W1 in thermostat.  
3 - 24VAC is routed to the A55 Unit Controller (*A55 routes power to the A38 if equipped*) After A55 proves N.C. primary limit S15, the electric heat contactor K15 is energized. A55 energizes the blower and economizer.

4 - *7.5kW, 15kW units* - N.O. contacts K15-1 close energizing HE1.  
*22.5kW units* - N.O. contacts K15-1 close energizing HE1 and HE2.

### END OF FIRST STAGE HEAT:

5 - Heating demand is satisfied. Terminal W1 in the thermostat is de-energized.  
6 - Electric heat contactor K15 is de-energized.  
7 - *7.5kW, 15kW units* - N.O. contacts K15-1 open de-energizing HE1.  
*22.5kW units* - N.O. contacts K15-1 open de-energizing HE1 and HE2.

## Sequence of Operation -E1EH 7.5, 15, 22.5 - Y Voltage

### HEATING ELEMENTS:

1 - Terminal Strip TB2 is energized when the unit disconnect closes. TB2 supplies line voltage to electric heat elements HE1 and TB3. TB3 supplies line voltage to HE2 and HE3. Elements are protected by fuses F3 and or F42.

### FIRST STAGE HEAT:

2 - Heating demand initiates at W1 in thermostat.  
3 - 24VAC is routed to the A55 Unit Controller (*A55 routes power to the A38 if equipped*). After A55 proves N.C. primary limit S15, the electric heat contactor K15 is energized. A55 energizes the blower and economizer.  
4 - *7.5kW and 15kW units* - N.O. contacts K15-1 close energizing HE1.  
*22.5kW units* - N.O. contacts K242-1 close energizing HE2 and HE3.

### END OF FIRST STAGE HEAT:

5 - Heating demand is satisfied. Terminal W1 in the thermostat is de-energized.  
6 - Electric heat contactor K15 is de-energized.  
7 - *7.5kW, 15kW units* - N.O. contacts K15-1 open de-energizing HE1.  
*22.5kW units* - N.O. contacts K242-1 open de-energizing HE2 and HE3.

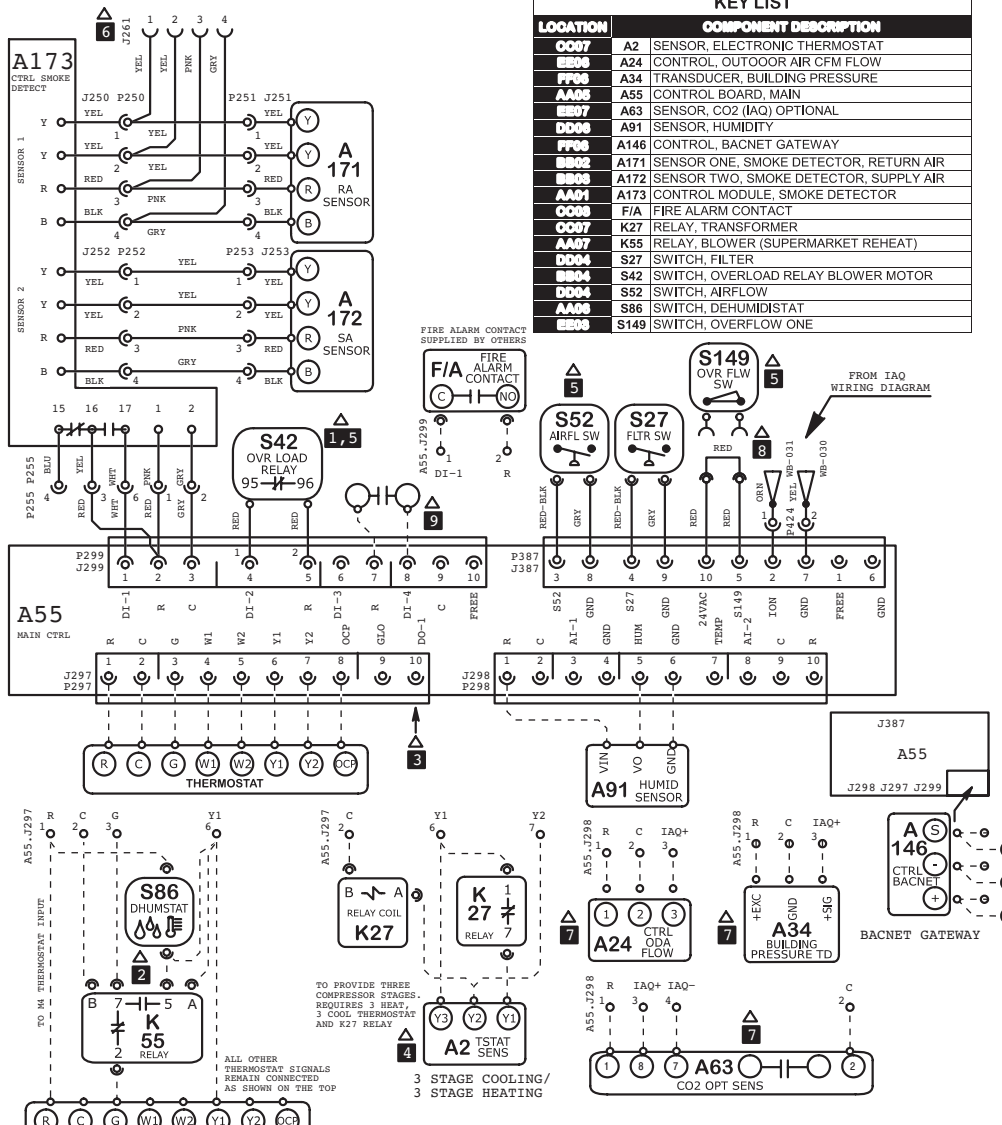
**Optional factory-installed SCR (A38) All Voltages** Control A38 will provide small amounts of power to the electric heat elements to efficiently maintain warm duct air temperatures when there is no heating demand. The SCR maintains duct air temperature based on input from a field-provided and installed thermostat (A104) and duct sensor (RT20). SCR is located in the compressor section on the left wall. Use only with a thermostat or specified DDC control system.

Use the instructions provided with the thermostat to set DIP switches as follows: S1 On, S2 Off, S3 Off. Use the instructions provided with the duct sensor to install sensor away from electric element radiant heat and in a location where discharge air is a mixed average temperature.

Once power is supplied to unit, zero SCR as follows:

- 1- Adjust thermostat (A104) to minimum position.
- 2- Use a small screwdriver to slowly turn the ZERO potentiometer on the SCR until the LED turns solid red.
- 3- Very slowly adjust the potentiometer the opposite direction until the LED turns off.

# ELECTRONIC OR ELECTROMECHANICAL THERMOSTAT



LOCATION	COMPONENT DESCRIPTION
0007	A2 SENSOR, ELECTRONIC THERMOSTAT
0008	A24 CONTROL, OUTDOOR AIR CFM FLOW
0009	A34 TRANSDUCER, BUILDING PRESSURE
AA05	A55 CONTROL BOARD, MAIN
0007	A63 SENSOR, CO2 (IAQ) OPTIONAL
DD06	A91 SENSOR, HUMIDITY
FF06	A146 CONTROL, BACNET GATEWAY
0008	A171 SENSOR ONE, SMOKE DETECTOR, RETURN AIR
0009	A172 SENSOR TWO, SMOKE DETECTOR, SUPPLY AIR
AA01	A173 CONTROL MODULE, SMOKE DETECTOR
0008	F/A FIRE ALARM CONTACT
0007	K27 RELAY, TRANSFORMER
AA07	K55 RELAY, BLOWER (SUPERMARKET REHEAT)
DD04	S27 SWITCH, FILTER
0004	S42 SWITCH, OVERLOAD RELAY BLOWER MOTOR
DD04	S52 SWITCH, AIRFLOW
AA06	S86 SWITCH, DEHUMIDISTAT
0008	S149 SWITCH, OVERFLOW ONE

- NOTES**
- 1 FOR MOTORS WITH S42 EXTERNAL OVERLOAD LESS INVERTER, SEE INVERTER WITH BY PASS FOR S42 HOOK UP
  - 2 USE S86 DEHUMIDISTAT AND K55 FOR OPTIONAL SUPERMARKET REHEAT SCHEME. PRODIGY PARAMETERS NEED TO BE MODIFIED UNDER THE SETTINGS MENU OR VIA UC SOFTWARE FOR SIMULTANEOUS HEATING AND COOLING
  - 3 P297-10 (SR) IS SERVICE RELAY OUTPUT (24VAC) IF USED CONNECT TO AN INDICATOR LIGHT
  - 4 THERMOSTAT HOOKUP FOR PROGRAMMABLE CONFIGURATION OF THE BOARD (A55)
  - 5 PRODIGY SETTINGS MUST BE MODIFIED WHEN S42, S52, S149 ARE INSTALLED
  - 6 CONNECT P252 OF A172 SENSOR TO J261 ON SUPPLY AIR SMOKE DETECTOR ONLY
  - 7 FROM A63, A34 & A24, ONLY ONE CAN BE USED AT A TIME
  - 8 REMOVE JUMPER TO INSTALL S149
  - 9 EXTERNAL HUMIDITROL CONTACTS

TO PROVIDE SUPERMARKET REHEAT SCHEME USE S86 DEHUMIDISTAT AND K55

**SUPERMARKET REHEAT**

← DENOTES OPTIONAL COMPONENTS AND WIRING

--- CLASS 2 FIELD WIRING

ALL OTHER THERMOSTAT SIGNALS REMAIN CONNECTED AS SHOWN ON THE TOP

TO PROVIDE THREE COMPRESSOR STAGES, REQUIRES 3 HEAT, 3 COOL THERMOSTAT AND K27 RELAY

3 STAGE COOLING/  
3 STAGE HEATING

Model: LC, LG, LH, LD Series RTU  
Thermostat

Voltage: All Voltages

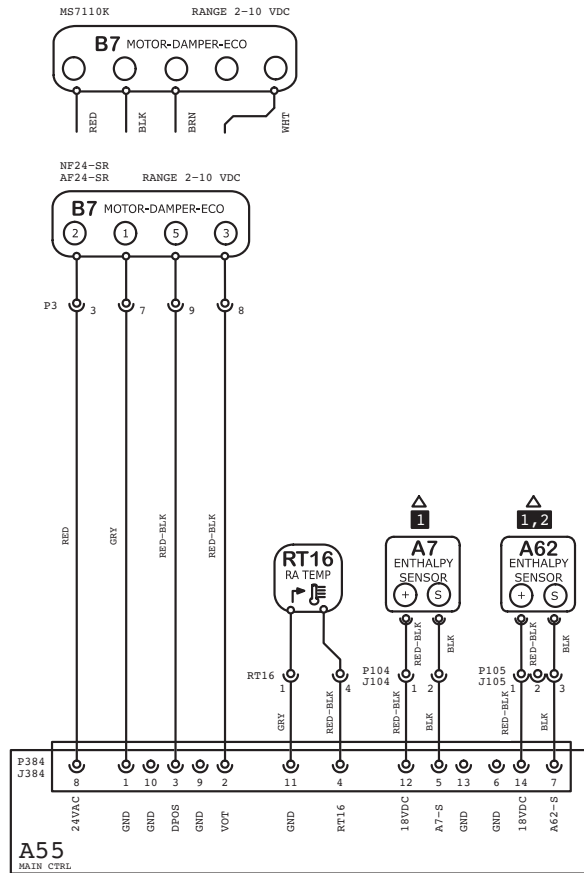
Supersedes: N/A Form No: 538078-01 Rev: 1

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HEATING	COOLING	COOLING	ACCS	ACCS
SECTION A	SECTION B	SECTION B3	SECTION C	SECTION D
A	B	B3	C	D

**WIRING DIAGRAM FLOW**

# ECONOMIZER



NOTES	
1	A7 AND A62 NOT USED FOR SENSIBLE TEMPERATURE CONTROL
2	FOR UNIT DIFFERENTIAL ENTHALPY CONTROL, ADD A62 RETURN AIR ENTHALPY SENSOR

KEY LIST		
LOCATION		COMPONENT DESCRIPTION
CC06	A7	SENSOR, SOLID STATE ENTHALPY
AA06	A55	CONTROL BOARD, MAIN
DD06	A62	SENSOR, ENTHALPY INDOOR
BB02	B7	MOTOR, DAMPER ECONOMIZER
CC06	RT16	SENSOR, RETURN AIR TEMP

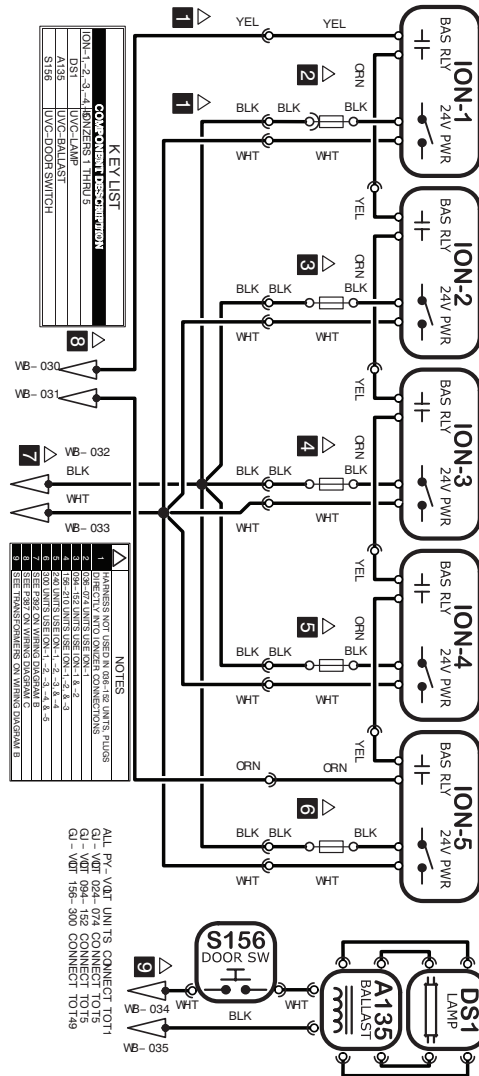
Model: LC, LG, LH, LD Series RTU  
Economizer & Motorized OAD  
Voltage: All Voltages  
Supersedes: N/A

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HTG SEC A	CLG SEC B	CLG SEC B3	ACCS SEC C	ACCS SEC D
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 W I R I N G D I A G R A M F L O W

# IAQ



**KEY LIST**

ION-1, 2, 3, 4	IONIZERS THRU 5
ION-1	ION-1
ION-2	ION-2
ION-3	ION-3
ION-4	ION-4
ION-5	ION-5
A135	UVC BALLAST
S156	UVC DOOR SWITCH

**NOTES**

1	TERMINALS FOR THE IONIZERS MUST BE DIRECTLY INTO UNDER CONNECTIONS
2	SEE 214 WIRING DIAGRAM FOR ION-1 & 2
3	SEE 214 WIRING DIAGRAM FOR ION-3 & 4
4	SEE 214 WIRING DIAGRAM FOR ION-5
5	SEE 214 WIRING DIAGRAM FOR ION-1 & 2
6	SEE 214 WIRING DIAGRAM FOR ION-3 & 4
7	SEE 214 WIRING DIAGRAM FOR ION-5
8	SEE 214 WIRING DIAGRAM FOR ION-1 & 2
9	SEE 214 WIRING DIAGRAM FOR ION-3 & 4
10	SEE 214 WIRING DIAGRAM FOR ION-5

ALL PY - VOLT UNITS CONNECT TO T1  
 G1 - VOLT 024- 074 CONNECT TO T15  
 G1 - VOLT 094- 152 CONNECT TO T15  
 G1 - VOLT 196- 300 CONNECT TO T149

MDL: IAQ WIRING DIAGRAM  
 IONIZERS & UVC

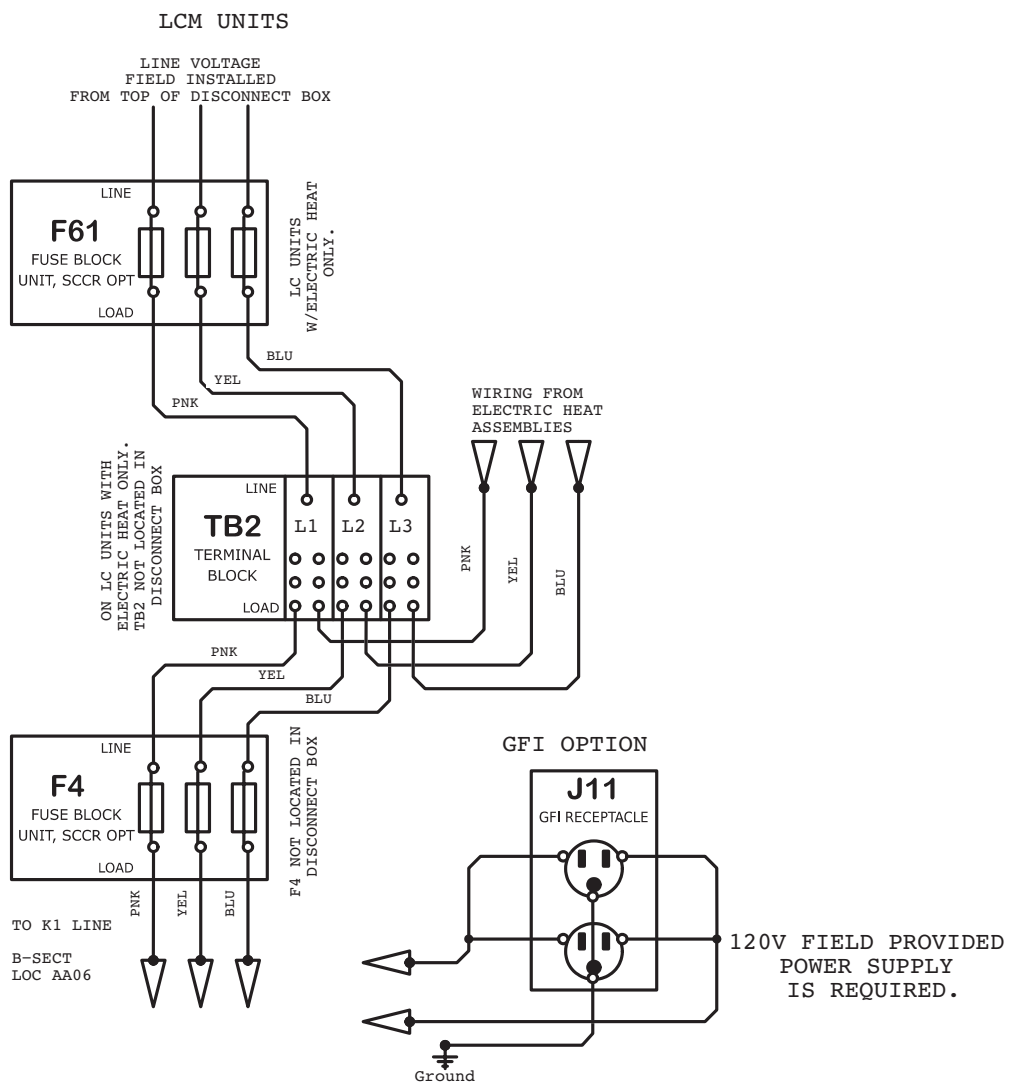
VOLT: Y, G, J VOLT  
 SUPSDS: N/A

Rev: 0  
 NO: 538151-03



Rev 0

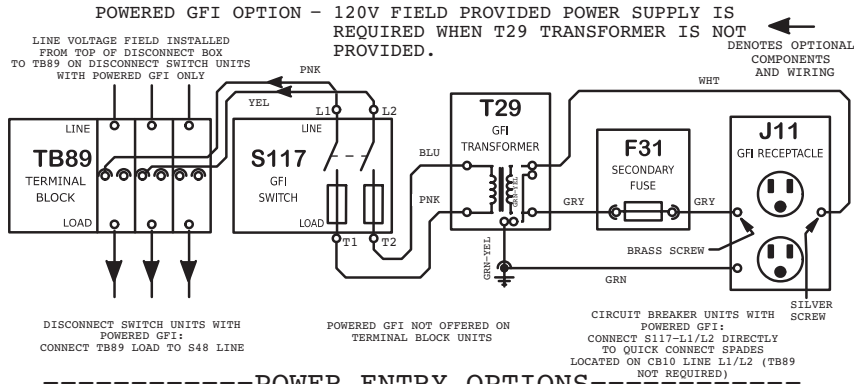
# POWER ENTRY WITH SCCR



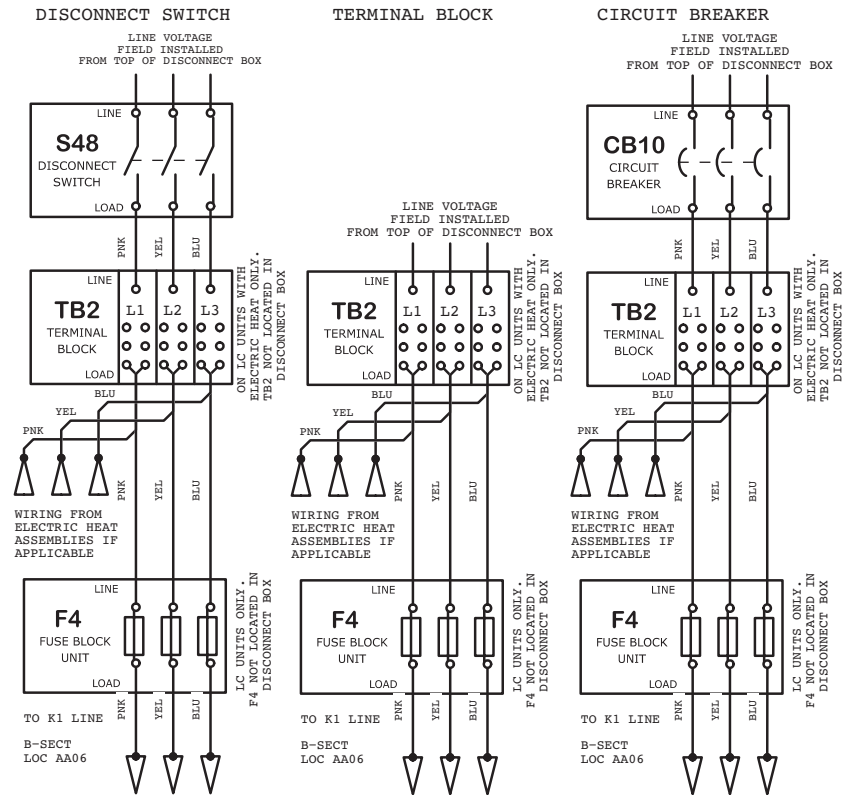
Model: LC, LH Series RTU WITH SCCR  
 Power Entry Options 024 - 074  
 Voltage: All Voltages  
 Supersedes: N/A Form No: 538111-0 Rev: 1



# POWER ENTRY NON-SCCR



## -----POWER ENTRY OPTIONS-----



Model: LCT, LGT, LHT, LDT Series RTU  
 Power Entry Options 024-074  
 Voltage: All Voltages  
 Supersedes: XXXXXX-XX Form No: 538234-01 Rev: 0