

Technical Information

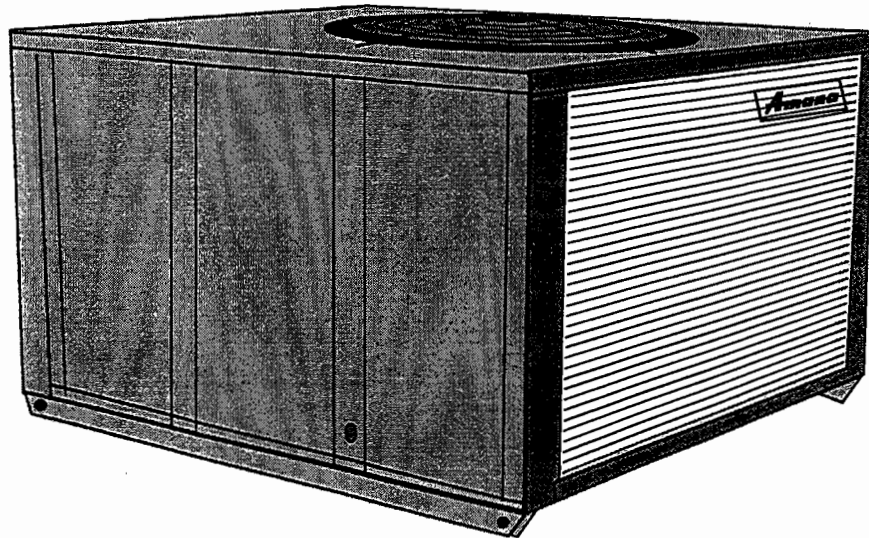
PHB*D/E PACKAGE HEAT PUMP UNITS

- Refer to Service Manual RS6300003 for installation, operation, and troubleshooting information.
- All safety information must be followed as provided in the Service Manual.
- Refer to the appropriate Parts Catalog for part number information.

Model and Manufacturing numbers listed in this manual.

<u>MODEL</u>	<u>MN</u>
PHB24C02D	P1214401C
PHB30C02D	P1214402C
PHB36C02D	P1214403C
PHB42C02D	P1214404C

PHB24C02E	P1204501C
PHB36C02E	P1204503C
PHB30C02E	P1204502C
PHB24C02E	P1220101C
PHB30C02E	P1220102C
PHB36C02E	P1220103C
PHB48C02E	P1220105C
PHB42C02E	P1220104C
PHB60C02E	P1220106C
PHB30CC2E	P1228102C
PHB36CC2E	P1228103C
PHB24CC2E	P1228101C



This manual is to be used by qualified HVAC technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

Amana
Heating • Air Conditioning

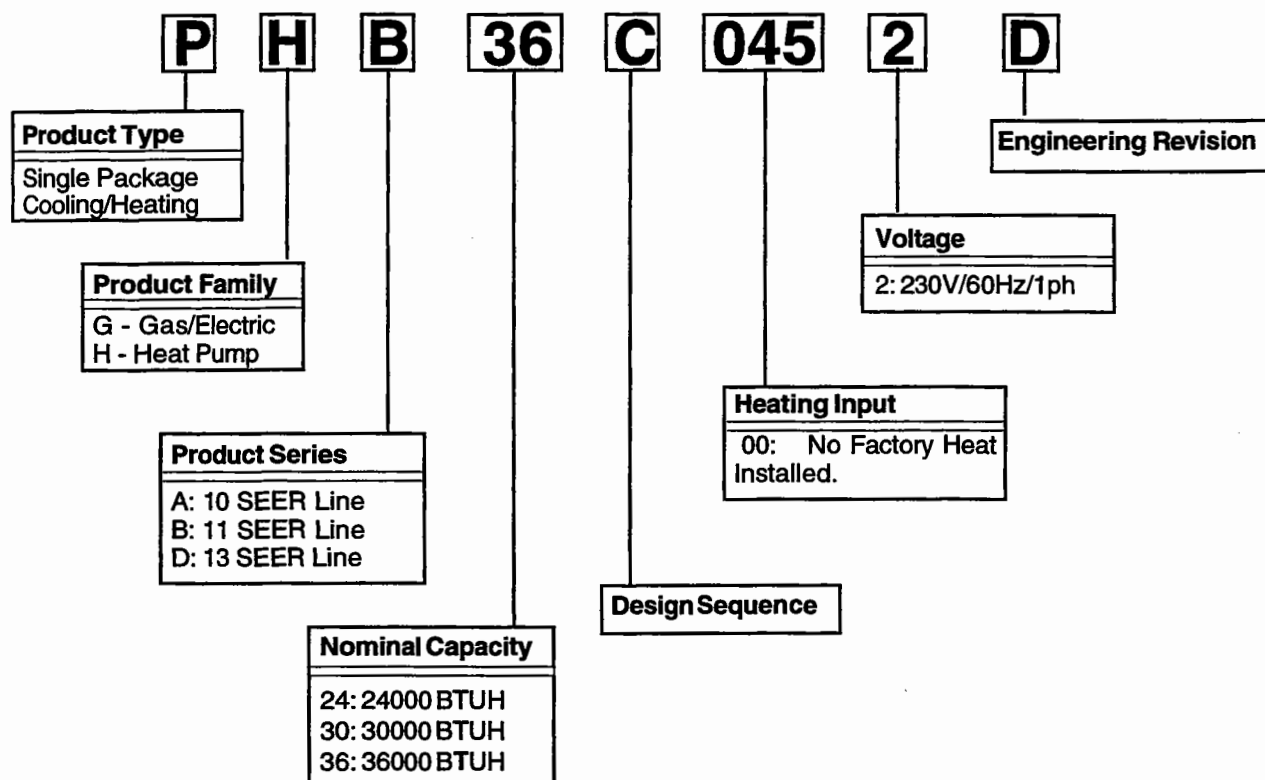
BUILT BETTER THAN IT HAS TO BE

RT6331002
March 2000

IMPORTANT INFORMATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. At which time engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.



WARNING

IF REPAIRS ARE ATTEMPTED BY UNQUALIFIED PERSONS, DANGEROUS CONDITIONS (SUCH AS EXPOSURE TO ELECTRICAL SHOCK) MAY RESULT. THIS MAY CAUSE SERIOUS INJURY OR DEATH.



CAUTION

AMANA WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SERVICE OR SERVICE PROCEDURES. IF YOU PERFORM SERVICE ON YOUR OWN PRODUCT, YOU ASSUME RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE WHICH MAY RESULT.

PRODUCT DESIGN

Amana PHD Package Gas Units are designed for outdoor installations only in either residential or light commercial applications.

The connecting ductwork (Supply and Return) can be connected for either horizontal or vertical airflow. 140,000 BTU gas package units are not recommended for vertical airflow applications. In the vertical application a matching Roof Curb is recommended.

A return air filter must be installed behind the return air grille(s) or provision must be made for a filter in an accessible location within the return air duct. The minimum filter area should not be less than those sizes listed in the Specification Section. Under no circumstances should the unit be operated without return air filters.

A 3/4" pipe is provided for removal of condensate water from the indoor coil. In order to provide proper condensate flow, a drain trap is built into the unit. (Do not reduce the drain line size).

Refrigerant flow control is achieved by use of restrictor orifices or thermostatic expansion valves (TXV).

Package Heat Pump models use a combination of restrictor orifices and thermostatic expansion valves for refrigerant flow control.

Some heat pump models also have a suction line accumulator installed between the reversing valve and the compressor. The object of the accumulator is to:

1. Provide a liquid refrigerant storage vessel during prolonged system off cycles.
2. Store excess liquid refrigerant not needed by the system while running.
3. Return to the compressor at a controlled rate oil and saturated vapor.
4. Retain stored excess refrigerant during a sudden system pressure fluctuation such as seen in defrost cycles.

The single phase units use permanent split capacitors (PSC) design compressors. Starting components are therefore not required. A low MFD run capacitor assists the compressor to start and remains in the circuit during operation.

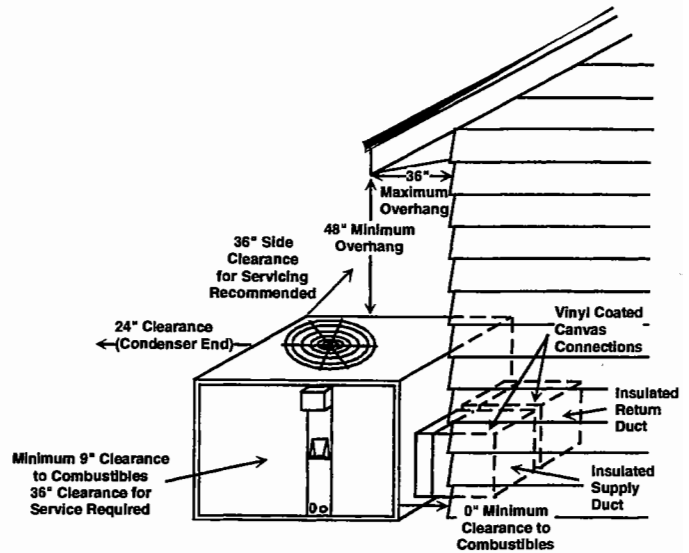
The outdoor fan and indoor blower motors are single phase capacitor type motors.

Air for condensing (cooling cycle) or evaporation (heating cycle) is drawn through the outdoor coil by a propeller fan, and is discharged vertically out the top of the unit. The outdoor coil is designed for .0 static. No additional restriction (ductwork) shall be applied.

Conditioned air is drawn through the filter(s), field installed, across the coil and back into the conditioned space by the indoor blower.

Package Heat Pump indoor sections are designed to accept optional components such as auxiliary electric heaters and circuit breakers. Provisions for these components have been made at time of manufacture.

Location and Clearances



In installations where the unit is installed above ground level and not serviceable from the ground (Example: Roof Top installations) the installer must provide service platform for service person with rails or guards in accordance with local codes or ordinances or in their absence with the latest edition of the Universal Mechanical Code Section 305.

NOTE: Unit can also use roof curb (and platform for leveling, where necessary) to utilize bottom discharge.

WARNING

TO PREVENT POSSIBLE PROPERTY DAMAGE, THE UNIT SHOULD REMAIN IN AN UPRIGHT POSITION DURING ALL RIGGING AND MOVING OPERATIONS. TO FACILITATE LIFTING AND MOVING IF A CRANE IS USED, PLACE THE UNIT IN AN ADEQUATE CABLE SLIDE.

IMPORTANT: If using bottom discharge with roof curb, ductwork should be attached to the curb prior to installing the unit.

Refer to Roof curb Installation Instructions for proper curb installation. Curbing must be installed in compliance with the National Roofing Contractors Association Manual.

4

PACKAGE GAS SPECIFICATIONS

		PHB24C02D	PHB30C02D	PHB36C02D
COOLING CAPACITY	COOLING CAPACITY, BTUH	22,000	28,000	34,000
	SEER	11.05	11.05	11.05
HEATING RATING	47°/43°F	20,600	26,900	31,100
	35°/33°F	14,800	18,200	22,000
	17°/15°F	10,600	13,300	16,000
	HSPF	6.8	6.8	6.8
UNIT ELECTRICAL SPECIFICATION	VOLTAGE (NAMEPLATE)	208/230-60-1	208/230-60-1	208/230-60-1
	UNIT AMPS (TOTAL)	14.8	17.5	20.0
	MIN CIRCUIT AMPACITY	17.6	21.0	24.0
	MAX OVERCURRENT PROTECTION	25	30	35
COMPRESSOR	TYPE	Recip	Recip	Recip
	OPTIONAL SOUND BLANKET KIT	CSB04A	CSB04A	CSB04A
	RATED LOAD AMPS	10.9	13.6	16.1
	LOCKED ROTOR AMPS	56.0	76.0	82.0
CONDENSER FAN MOTOR	HORSEPOWER	1/5	1/5	1/5
	RPM	825	825	825
	FULL LOAD AMPS	1.3	1.3	1.3
	LOCKED ROTOR AMPS	2.0	2.0	2.0
CONDENSER FAN	BLADE DIAMETER / NUMBER	26 / 4	26 / 4	26 / 4
	CFM	2200	2200	2200
CONDENSER COIL	FACE AREA	10.2	10.2	10.2
	NUMBER OF ROWS	1	1	1
	FINS PER INCH	20	20	20
EVAPORATOR BLOWER MOTOR	HORSEPOWER - # OF SPEEDS	1/3 - 4	1/3 - 4	1/3 - 4
	FULL LOAD AMPS	2.6	2.6	2.6
	LOCKED ROTOR AMPS	4.2	4.2	4.2
	MOTOR SPEED TAP - COOLING	LOW	MED-LOW	MED-HIGH
	RPM / AMPS	790	840	960
EVAPORATOR BLOWER	DIAMETER X WIDTH	10 X 8	10 X 8	10 X 8
	RATED SCFM COOLING	810	1020	1170
	MAX EXTERNAL STATIC PRESS	.5"wc	.5"wc	.5"wc
EVAPORATOR COIL	FACE AREA	3.2	3.2	3.2
	NUMBER OF ROWS	3	3	4
	FINS PER INCH	16	16	16
	FILTER SIZE - SQ. FT.	3	3.4	4
	DRAIN SIZE	3/4 IN	3/4 IN	3/4 IN
GENERAL INFORMATION	EXPANSION DEVICE	ORIFICE	ORIFICE	ORIFICE
	REFRIGERANT CHARGE R-22	78.oz	75.oz	76.oz
	POWER SUPPLY ENTRANCE SIZE	3/4 1-1/4	3/4 1-1/4	3/4 1-1/4
	LOW VOLTAGE ENTRANCE SIZE	3/4"	3/4"	3/4"
	SHIPPING WEIGHT LBS.	306	318	327
	OPERATING WEIGHT LBS.	295	307	316

* Manufacturing numbers P12202_C, P12203_C, P12222_C, and P12223_C were equipped with 22" fan blades.

** **IMPORTANT:** While this data is presented as a guide, it is important to electrically connect the unit and properly size wires and fuses/circuit breakers in accordance with the National Electrical Code and/or all local codes.

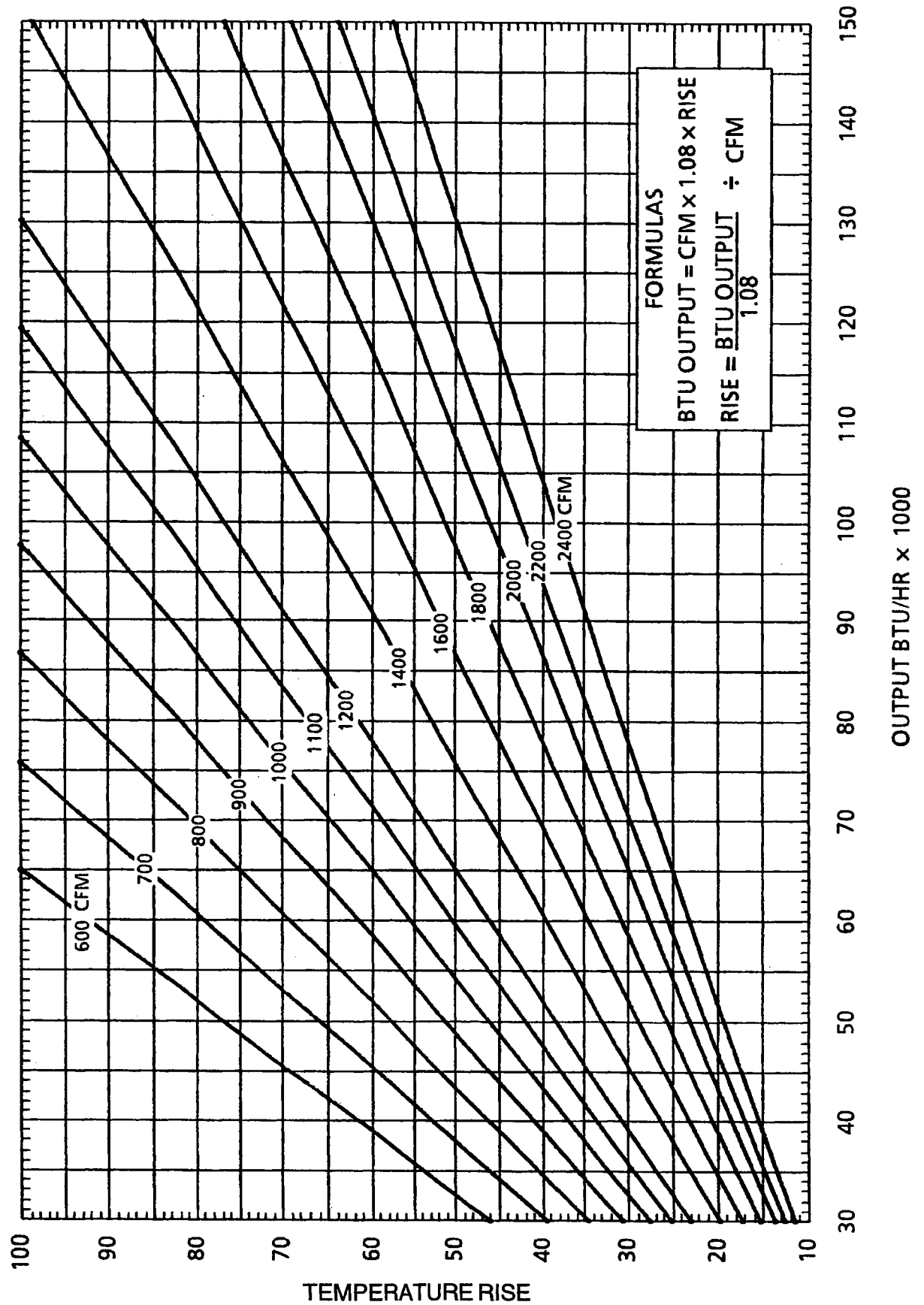
BLOWER PERFORMANCE DATA

Dry Coil Data

PHB 24, 30, 36C02D								
Unit Static (In. W.C.)	Fan Speed							
	Low		Med		Med-High		High	
	CFM	Watts	CFM	Watts	CFM	Watts	CFM	Watts
0.1	840	230	1010	295	1230	385	1660	550
0.2	820	225	990	287	1205	372	1600	530
0.3	800	220	970	280	1180	360	1540	510
0.4	770	210	940	270	1150	345	1480	485
0.5	735	200	905	260	1110	330	1420	460
0.6	700	185	850	250	1060	305	1350	435
0.7	660	170	790	235	1005	290	1280	410
0.8	605	155	700	220	905	275	1205	390

BLOWER PERFORMANCE DATA

BTU OUTPUT vs TEMPERATURE RISE CHART



COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: PHB24C02D

IDB* Airflow		Outdoor Ambient Temperature																							
		65				75				85				95				105				115			
		Entering Indoor Wet Bulb Temperature																							
910	MBh	21.6	22.3	24.5	-	21.1	21.8	23.9	-	20.6	21.3	23.3	-	20.1	20.8	22.8	-	19.1	19.7	21.6	-	17.6	18.3	20.0	-
	S/T	0.72	0.60	0.42	-	0.75	0.63	0.43	-	0.77	0.64	0.44	-	0.79	0.66	0.46	-	0.82	0.69	0.48	-	0.83	0.69	0.48	-
	Delta T	16	14	10	-	16	14	10	-	16	14	10	-	16	14	11	-	16	14	10	-	15	13	10	-
	KW	1.74	1.78	1.83	-	1.87	1.91	1.97	-	1.98	2.02	2.09	-	2.08	2.12	2.19	-	2.17	2.21	2.28	-	2.24	2.29	2.36	-
	AMPS	7.4	7.6	7.8	-	7.9	8.1	8.3	-	8.5	8.7	8.9	-	9.0	9.2	9.4	-	9.5	9.7	9.9	-	10.0	10.2	10.5	-
	HI PR	147	158	167	-	165	177	187	-	187	202	213	-	213	230	243	-	240	258	273	-	265	285	301	-
810	LO PR	62	66	72	-	66	70	76	-	68	73	79	-	72	76	83	-	75	80	87	-	78	83	90	-
	MBh	20.9	21.7	23.8	-	20.4	21.2	23.2	-	20.0	20.7	22.7	-	19.5	20.2	22.1	-	18.5	19.2	21.0	-	17.1	17.8	19.5	-
	S/T	0.69	0.58	0.40	-	0.71	0.60	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.79	0.66	0.45	-	0.79	0.66	0.46	-
	Delta T	16	14	11	-	17	14	11	-	17	14	11	-	17	14	11	-	16	14	11	-	15	13	10	-
	KW	1.73	1.76	1.82	-	1.86	1.89	1.95	-	1.97	2.01	2.07	-	2.06	2.11	2.17	-	2.15	2.19	2.26	-	2.22	2.27	2.34	-
	AMPS	7.4	7.5	7.7	-	7.8	8.0	8.2	-	8.4	8.6	8.8	-	8.9	9.1	9.3	-	9.4	9.6	9.9	-	9.9	10.1	10.4	-
710	HI PR	145	156	165	-	163	176	185	-	186	200	211	-	211	227	240	-	238	256	270	-	263	283	298	-
	LO PR	61	65	71	-	65	69	75	-	67	72	78	-	71	75	82	-	74	79	86	-	77	82	89	-
	MBh	19.3	20.0	21.9	-	18.9	19.6	21.4	-	18.4	19.1	20.9	-	18.0	18.6	20.4	-	17.1	17.7	19.4	-	15.8	16.4	18.0	-
	S/T	0.67	0.56	0.38	-	0.69	0.58	0.40	-	0.71	0.59	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.76	0.64	0.44	-
	Delta T	17	14	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	14	11	-	16	14	10	-
	KW	1.69	1.72	1.78	-	1.81	1.85	1.91	-	1.92	1.96	2.02	-	2.02	2.06	2.12	-	2.10	2.14	2.21	-	2.17	2.21	2.28	-
70	AMPS	7.2	7.3	7.5	-	7.7	7.8	8.0	-	8.2	8.4	8.6	-	8.7	8.9	9.1	-	9.2	9.4	9.6	-	9.6	9.8	10.1	-
	HI PR	141	152	160	-	158	170	180	-	180	194	204	-	205	221	233	-	231	248	262	-	255	274	289	-
	LO PR	60	63	69	-	63	67	73	-	65	70	76	-	69	73	80	-	72	77	84	-	75	79	87	-

		Outdoor Ambient Temperature												Cooling Operation											
		65				75				85				95				105				115			
IDB*	Airflow	Entering Indoor Wet Bulb Temperature												Cooling Operation											
910	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	
	MBh	21.9	22.6	24.4	26.2	21.4	22.0	23.9	25.6	20.9	21.5	23.3	25.0	20.4	21.0	22.7	24.4	19.4	19.9	21.6	23.2	17.9	18.5	20.0	21.5
	S/T	0.82	0.74	0.56	0.36	0.85	0.76	0.58	0.37	0.87	0.78	0.59	0.38	0.90	0.81	0.61	0.39	0.94	0.84	0.63	0.41	0.94	0.84	0.64	0.41
	Delta T	18	17	14	9	18	17	14	10	18	17	14	10	19	17	14	10	18	17	14	10	17	16	13	9
	KW	1.76	1.79	1.84	1.90	1.88	1.92	1.98	2.04	2.00	2.04	2.10	2.17	2.10	2.14	2.21	2.28	2.18	2.23	2.30	2.38	2.26	2.30	2.38	2.46
	AMPS	7.5	7.6	7.8	8.1	8.0	8.1	8.4	8.6	8.5	8.7	9.0	9.3	9.0	9.2	9.5	9.8	9.5	9.7	10.0	10.4	10.0	10.3	10.6	10.9
810	148	160	169	176	166	179	189	197	189	204 <td>215</td> <td>224</td> <td>216</td> <td>232</td> <td>245</td> <td>256</td> <td>243</td> <td>261</td> <td>276</td> <td>287</td> <td>268</td> <td>288</td> <td>305</td> <td>318</td>	215	224	216	232	245	256	243	261	276	287	268	288	305	318	
	LO PR	63	67	73	78	66	70	77	82	69	73	80	85	72	77	84	89	76	81	88	94	78	83	91	97
	MBh	21.3	21.9	23.7	25.5	20.8	21.4	23.2	24.9	20.3	20.9	22.6	24.3	19.8	20.4	22.1	23.7	18.8	19.4	21.0	22.5	17.4	17.9	19.4	20.8
	S/T	0.78	0.70	0.53	0.34	0.81	0.73	0.55	0.35	0.83	0.75	0.56	0.36	0.86	0.77	0.58	0.37	0.89	0.80	0.60	0.39	0.90	0.81	0.61	0.39
	Delta T	19	17	14	10	19	18	14	10	19	18	14	10	19	18	15	10	19	18	14	10	18	16	13	9
	KW	1.74	1.78	1.83	1.89	1.87	1.91	1.97	2.03	1.98	2.02	2.09	2.15	2.08	2.12	2.19	2.26	2.17	2.21	2.28	2.36	2.24	2.29	2.36	2.44
710	AMPS <td>7.4</td> <td>7.6</td> <td>7.8</td> <td>8.0</td> <td>7.9</td> <td>8.1</td> <td>8.3</td> <td>8.5</td> <td>8.5</td> <td>8.7</td> <td>8.9</td> <td>9.2</td> <td>9.0</td> <td>9.2</td> <td>9.4</td> <td>9.7</td> <td>9.5</td> <td>9.7</td> <td>10.0</td> <td>10.3</td> <td>10.0</td> <td>10.2</td> <td>10.5</td> <td>10.8</td>	7.4	7.6	7.8	8.0	7.9	8.1	8.3	8.5	8.5	8.7	8.9	9.2	9.0	9.2	9.4	9.7	9.5	9.7	10.0	10.3	10.0	10.2	10.5	10.8
	HI PR <td>147</td> <td>158</td> <td>167</td> <td>174</td> <td>165</td> <td>177</td> <td>187</td> <td>195</td> <td>187</td> <td>202</td> <td>213</td> <td>222</td> <td>213</td> <td>230</td> <td>243</td> <td>253</td> <td>240</td> <td>258</td> <td>273</td> <td>285</td> <td>265</td> <td>286</td> <td>301</td> <td>314</td>	147	158	167	174	165	177	187	195	187	202	213	222	213	230	243	253	240	258	273	285	265	286	301	314
	LO PR	62	66	72	77	66	70	76	81	68	73	79	84	72	76	83	89	75	80	87	93	78	83	90	96
	MBh	19.6	20.2	21.9	23.5	19.2	19.8	21.4	23.0	18.7	19.3	20.9	22.4	18.3	18.8	20.4	21.9	17.4	17.9	19.3	20.8	16.1	16.6	17.9	19.2
	S/T	0.76	0.68	0.51	0.33	0.78	0.70	0.53	0.34	0.80	0.72	0.54	0.35	0.83	0.74	0.56	0.36	0.86	0.77	0.58	0.37	0.87	0.78	0.59	0.38
	Delta T	19	18	15	10	19	18	15	10	19	18	15	10	20	18	15	10	19	18	15	10	18	17	14	9
710	KW <td>1.70</td> <td>1.74</td> <td>1.79</td> <td>1.84</td> <td>1.83</td> <td>1.86</td> <td>1.92</td> <td>1.98</td> <td>1.94</td> <td>1.98</td> <td>2.04</td> <td>2.10</td> <td>2.03</td> <td>2.07</td> <td>2.14</td> <td>2.21</td> <td>2.11</td> <td>2.16</td> <td>2.23</td> <td>2.30</td> <td>2.18</td> <td>2.23</td> <td>2.30</td> <td>2.38</td>	1.70	1.74	1.79	1.84	1.83	1.86	1.92	1.98	1.94	1.98	2.04	2.10	2.03	2.07	2.14	2.21	2.11	2.16	2.23	2.30	2.18	2.23	2.30	2.38
	AMPS <td>7.2</td> <td>7.4</td> <td>7.6</td> <td>7.8</td> <td>7.7</td> <td>7.9</td> <td>8.1</td> <td>8.4</td> <td>8.3</td> <td>8.4</td> <td>8.7</td> <td>9.0</td> <td>8.8</td> <td>8.9</td> <td>9.2</td> <td>9.5</td> <td>9.2</td> <td>9.4</td> <td>9.7</td> <td>10.0</td> <td>9.7</td> <td>9.9</td> <td>10.2</td> <td>10.6</td>	7.2	7.4	7.6	7.8	7.7	7.9	8.1	8.4	8.3	8.4	8.7	9.0	8.8	8.9	9.2	9.5	9.2	9.4	9.7	10.0	9.7	9.9	10.2	10.6
	HI PR <td>142</td> <td>153</td> <td>162</td> <td>169</td> <td>160</td> <td>172</td> <td>182</td> <td>189</td> <td>182</td> <td>196</td> <td>207</td> <td>215</td> <td>207</td> <td>223</td> <td>235</td> <td>245</td> <td>233</td> <td>251</td> <td>265</td> <td>276</td> <td>257</td> <td>277</td> <td>292</td> <td>305</td>	142	153	162	169	160	172	182	189	182	196	207	215	207	223	235	245	233	251	265	276	257	277	292	305
	LO PR	60	64	70	74	64	68	74	79	66	70	77	82	69	74	81	86	73	77	85	90	75	80	87	93

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

COOLING OPERATION

MODEL: PHB24C02D

		Outdoor Ambient Temperature																							
		65				75				85				95				105				115			
IDB*	Airflow	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71
910	MBh	22.3	22.8	24.4	26.0	21.8	22.3	23.8	25.4	21.3	21.7	23.2	24.8	20.8	21.2	22.7	24.2	19.7	20.1	21.5	23.0	18.3	18.7	19.9	21.3
	ST	0.90	0.85	0.69	0.51	0.93	0.88	0.71	0.53	0.96	0.90	0.73	0.55	1.00	0.93	0.75	0.56	1.00	0.96	0.78	0.59	1.00	0.97	0.79	0.59
	Delta T	20	19	17	14	21	20	17	14	21	20	17	14	21	20	17	14	20	20	17	14	18	18	16	13
	KW	1.77	1.80	1.86	1.92	1.90	1.94	2.00	2.06	2.01	2.06	2.12	2.19	2.11	2.16	2.23	2.30	2.20	2.25	2.32	2.40	2.27	2.32	2.40	2.48
	AMPS	7.5	7.7	7.9	8.1	8.0	8.2	8.4	8.7	8.6	8.8	9.0	9.3	9.1	9.3	9.6	9.9	9.6	9.8	10.1	10.5	10.1	10.3	10.6	11.0
	HI PR	150	161	170	178	168	181	191	199	191	206	217	227	218	234	247	258	245	264	278	290	271	291	308	321
810	LO PR	63	67	74	78	67	71	78	83	70	74	81	86	73	78	85	90	77	81	89	95	79	84	92	98
	MBh	21.7	22.1	23.7	25.3	21.2	21.6	23.1	24.7	20.7	21.1	22.6	24.1	20.2	20.6	22.0	23.5	19.1	19.6	20.9	22.3	17.7	18.1	19.4	20.7
	ST	0.86	0.81	0.66	0.49	0.89	0.84	0.68	0.51	0.91	0.86	0.70	0.52	0.94	0.88	0.72	0.54	0.98	0.92	0.75	0.56	0.99	0.93	0.75	0.56
	Delta T	21	20	18	14	21	21	18	14	21	21	18	14	22	21	18	14	21	20	18	14	20	19	17	13
	KW	1.76	1.79	1.85	1.90	1.88	1.92	1.98	2.04	2.00	2.04	2.10	2.17	2.10	2.14	2.21	2.28	2.18	2.23	2.30	2.38	2.26	2.31	2.38	2.46
	AMPS	7.5	7.6	7.8	8.1	8.0	8.1	8.4	8.6	8.5	8.7	9.0	9.3	9.0	9.2	9.5	9.8	9.5	9.7	10.0	10.4	10.0	10.3	10.6	10.9
710	HI PR	148	160	169	176	166	179	189	197	189	204	215	224	216	232	245	256	243	261	276	287	268	288	305	318
	LO PR	63	67	73	78	66	70	77	82	69	73	80	85	72	77	84	89	76	81	88	94	78	83	91	97
	MBh	20.0	20.4	21.8	23.3	19.5	20.0	21.3	22.8	19.1	19.5	20.8	22.2	18.6	19.0	20.3	21.7	17.7	18.1	19.3	20.6	16.4	16.7	17.9	19.1
	ST	0.83	0.78	0.63	0.47	0.86	0.81	0.66	0.49	0.88	0.83	0.67	0.50	0.91	0.85	0.69	0.52	0.94	0.89	0.72	0.54	0.95	0.89	0.73	0.54
	Delta T	21	21	18	14	22	21	18	14	22	21	18	14	22	21	18	15	22	21	18	14	20	19	17	13
	KW	1.72	1.75	1.80	1.86	1.84	1.88	1.94	2.00	1.95	1.99	2.05	2.12	2.05	2.09	2.16	2.23	2.13	2.18	2.24	2.32	2.20	2.25	2.32	2.40
85	AMPS	7.3	7.4	7.6	7.9	7.8	7.9	8.2	8.4	8.3	8.5	8.8	9.0	8.8	9.0	9.3	9.6	9.3	9.5	9.8	10.1	9.8	10.0	10.3	10.6
	HI PR	144	155	164	171	161	174	183	191	184	198	209	218	209	225	238	248	235	253	267	279	260	280	295	308
	LO PR	61	65	71	75	64	68	75	79	67	71	78	83	70	75	81	87	74	78	85	91	76	81	88	94
	MBh	22.7	23.1	24.2	25.9	22.2	22.6	23.7	25.3	21.6	22.1	23.1	24.7	21.1	21.5	22.5	24.1	20.1	20.5	21.4	22.9	18.6	18.9	19.8	21.2
	ST	0.95	0.91	0.82	0.67	0.98	0.95	0.85	0.69	1.00	0.97	0.87	0.71	1.00	1.00	0.90	0.73	1.00	1.00	0.94	0.76	1.00	1.00	0.94	0.77
	Delta T	22	21	20	17	22	22	20	18	22	22	20	18	21	22	21	18	20	21	20	18	19	19	19	16
910	KW	1.78	1.82	1.87	1.93	1.91	1.95	2.01	2.08	2.03	2.07	2.14	2.21	2.13	2.18	2.25	2.32	2.22	2.27	2.34	2.41	2.29	2.34	2.42	2.50
	AMPS	7.6	7.7	7.9	8.2	8.1	8.3	8.5	8.8	8.7	8.9	9.1	9.4	9.2	9.4	9.7	10.0	9.7	9.9	10.2	10.5	10.2	10.4	10.7	11.1
	HI PR	151	163	172	179	170	183	193	201	193	208	219	229	220	237	250	261	247	266	281	293	273	294	311	324
	LO PR	64	68	74	79	68	72	78	84	70	75	82	87	74	78	86	91	77	82	90	96	80	85	93	99
	MBh	22.0	22.5	23.5	25.1	21.5	21.9	23.0	24.5	21.0	21.4	22.4	23.9	20.5	20.9	21.9	23.4	19.5	19.9	20.8	22.2	18.0	18.4	19.3	20.6
	ST	0.90	0.87	0.79	0.64	0.93	0.90	0.81	0.66	0.96	0.92	0.83	0.68	0.99	0.95	0.86	0.70	1.00	0.99	0.89	0.73	1.00	1.00	0.90	0.73
810	Delta T	23	22	21	18	23	22	21	18	23	22	21	18	23	23	21	19	22	22	21	18	20	21	20	17
	KW	1.77	1.80	1.86	1.92	1.90	1.94	2.00	2.06	2.01	2.06	2.12	2.19	2.11	2.16	2.23	2.30	2.20	2.25	2.32	2.40	2.27	2.32	2.40	2.48
	AMPS	7.5	7.7	7.9	8.1	8.0	8.2	8.4	8.7	8.6	8.8	9.0	9.3	9.1	9.3	9.6	9.9	9.6	9.8	10.1	10.5	10.1	10.3	10.6	11.0
	HI PR	150	161	170	178	168	181	191	199	191	206	217	227	218	234	247	258	245	264	278	290	271	291	308	321
	LO PR	63	67	74	78	67	71	78	83	70	74	81	86	73	78	85	90	77	81	89	95	79	84	92	98
	MBh	20.3	20.7	21.7	23.2	19.9	20.3	21.2	22.6	19.4	19.8	20.7	22.1	18.9	19.3	20.2	21.6	18.0	18.3	19.2	20.5	16.7	17.0	17.8	19.0
710	ST	0.87	0.84	0.76	0.61	0.90	0.87	0.78	0.64	0.92	0.89	0.80	0.65	0.95	0.92	0.83	0.67	0.99	0.95	0.86	0.70	1.00	0.96	0.87	0.71
	Delta T	23	23	21	18	23	23	22	19	23	23	22	19	23	23	22	19	23	23	21	19	22	21	20	17
	KW	1.73	1.76	1.82	1.87	1.85	1.89	1.95	2.01	1.97	2.01	2.07	2.13	2.06	2.11	2.17	2.24	2.15	2.19	2.26	2.34	2.22	2.27	2.34	2.42
	AMPS	7.4	7.5	7.7	7.9	7.8	8.0	8.2	8.5	8.4	8.6	8.8	9.1	8.9	9.1	9.3	9.7	9.4	9.6	9.9	10.2	9.9	10.1	10.4	10.7
	HI PR	145	156	165	172	163	175	185	193	185	200	211	220	211	227	240	250	238	256	270	282	263	283	298	311
	LO PR	61	65	71	76	65	69	75	80	67	72	78	83	71	75	82	88	74	79	86	92	77	82	89	95

* Entering Indoor Dry Bulb Temperature

NOTE: Shaded area is ARI Rating Conditions

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: PHB30C02D

		Outdoor Ambient Temperature												Cooling Operation												
		65				75				85				95				105				115				
IDB*	Airflow	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	59	63	67	71	
70	1120	MBh	26.9	27.9	30.6	-	26.3	27.2	29.8	-	25.7	26.6	29.1	-	25.0	25.9	28.4	-	23.8	24.6	27.0	-	22.0	22.8	25.0	-
		S/T	0.70	0.59	0.41	-	0.73	0.61	0.42	-	0.75	0.62	0.43	-	0.77	0.64	0.45	-	0.80	0.67	0.46	-	0.81	0.67	0.47	-
		Delta T	16	13	10	-	16	14	10	-	16	14	10	-	16	14	10	-	16	14	10	-	15	13	10	-
		KW	2.27	2.32	2.39	-	2.44	2.50	2.58	-	2.60	2.65	2.74	-	2.73	2.79	2.88	-	2.84	2.91	3.00	-	2.94	3.01	3.11	-
		AMPS	10.0	10.3	10.5	-	10.8	11.0	11.3	-	11.6	11.8	12.2	-	12.3	12.5	12.9	-	13.0	13.3	13.7	-	13.7	14.0	14.4	-
		HI PR	154	166	175	-	173	186	197	-	197	212	224	-	224	241	255	-	252	271	286	-	278	300	316	-
	LO PR	60	64	70	-	64	68	74	-	66	70	77	-	69	74	81	-	73	77	84	-	75	80	87	-	
70	1020	MBh	26.6	27.6	30.3	-	26.0	27.0	29.5	-	25.4	26.3	28.8	-	24.8	25.7	28.1	-	23.5	24.4	26.7	-	21.8	22.6	24.8	-
		S/T	0.69	0.58	0.40	-	0.71	0.60	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.79	0.66	0.45	-	0.79	0.66	0.46	-
		Delta T	17	14	11	-	17	15	11	-	17	15	11	-	17	15	11	-	17	14	11	-	16	13	10	-
		KW	2.27	2.31	2.39	-	2.44	2.49	2.57	-	2.59	2.65	2.73	-	2.72	2.78	2.87	-	2.84	2.90	2.99	-	2.93	3.00	3.10	-
		AMPS	10.0	10.2	10.5	-	10.7	11.0	11.3	-	11.5	11.8	12.1	-	12.2	12.5	12.9	-	12.9	13.2	13.6	-	13.6	13.9	14.4	-
		HI PR	154	165	175	-	172	186	196	-	196	211	223	-	223	240	254	-	251	270	286	-	278	299	315	-
	LO PR	60	64	70	-	63	67	74	-	66	70	77	-	69	74	80	-	73	77	84	-	75	80	87	-	
920		MBh	26.2	27.2	29.8	-	25.6	26.6	29.1	-	25.0	25.9	28.4	-	24.4	25.3	27.7	-	23.2	24.0	26.3	-	21.5	22.3	24.4	-
		S/T	0.67	0.56	0.38	-	0.69	0.58	0.40	-	0.71	0.59	0.41	-	0.73	0.61	0.42	-	0.76	0.63	0.44	-	0.76	0.64	0.44	-
		Delta T	17	15	11	-	18	15	12	-	18	15	12	-	18	15	12	-	18	15	12	-	16	14	11	-
		KW	2.24	2.28	2.35	-	2.41	2.46	2.53	-	2.55	2.61	2.69	-	2.69	2.74	2.83	-	2.80	2.86	2.95	-	2.89	2.96	3.05	-
		AMPS	9.9	10.1	10.4	-	10.6	10.8	11.1	-	11.4	11.6	12.0	-	12.1	12.3	12.7	-	12.8	13.0	13.4	-	13.4	13.7	14.2	-
		HI PR	151	163	172	-	170	182	193	-	193	207	219	-	220	236	250	-	247	266	281	-	273	294	310	-
	LO PR	59	63	68	-	62	66	72	-	65	69	75	-	68	72	79	-	71	76	83	-	74	78	86	-	

NOTE: Shaded area is ACCA (TVA) conditions

* Entering Indoor Dry Bulb Temperature

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: PHB30C02D

COOLING OPERATION

		Outdoor Ambient Temperature												105												115																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		65						75						85						95						105						115																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		Entering Indoor Wet Bulb Temperature												105												115																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
IDB*	Airflow	59	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123	127	131	135	139	143	147	151	155	159	163	167	171	175	179	183	187	191	195	199	203	207	211	215	219	223	227	231	235	239	243	247	251	255	259	263	267	271	275	279	283	287	291	295	299	303	307	311	315	319	323	327	331	335	339	343	347	351	355	359	363	367	371	375	379	383	387	391	395	399	403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463	467	471	475	479	483	487	491	495	499	503	507	511	515	519	523	527	531	535	539	543	547	551	555	559	563	567	571	575	579	583	587	591	595	599	603	607	611	615	619	623	627	631	635	639	643	647	651	655	659	663	667	671	675	679	683	687	691	695	699	703	707	711	715	719	723	727	731	735	739	743	747	751	755	759	763	767	771	775	779	783	787	791	795	799	803	807	811	815	819	823	827	831	835	839	843	847	851	855	859	863	867	871	875	879	883	887	891	895	899	903	907	911	915	919	923	927	931	935	939	943	947	951	955	959	963	967	971	975	979	983	987	991	995	999	1003	1007	1011	1015	1019	1023	1027	1031	1035	1039	1043	1047	1051	1055	1059	1063	1067	1071	1075	1079	1083	1087	1091	1095	1099	1103	1107	1111	1115	1119	1123	1127	1131	1135	1139	1143	1147	1151	1155	1159	1163	1167	1171	1175	1179	1183	1187	1191	1195	1199	1203	1207	1211	1215	1219	1223	1227	1231	1235	1239	1243	1247	1251	1255	1259	1263	1267	1271	1275	1279	1283	1287	1291	1295	1299	1303	1307	1311	1315	1319	1323	1327	1331	1335	1339	1343	1347	1351	1355	1359	1363	1367	1371	1375	1379	1383	1387	1391	1395	1399	1403	1407	1411	1415	1419	1423	1427	1431	1435	1439	1443	1447	1451	1455	1459	1463	1467	1471	1475	1479	1483	1487	1491	1495	1499	1503	1507	1511	1515	1519	1523	1527	1531	1535	1539	1543	1547	1551	1555	1559	1563	1567	1571	1575	1579	1583	1587	1591	1595	1599	1603	1607	1611	1615	1619	1623	1627	1631	1635	1639	1643	1647	1651	1655	1659	1663	1667	1671	1675	1679	1683	1687	1691	1695	1699	1703	1707	1711	1715	1719	1723	1727	1731	1735	1739	1743	1747	1751	1755	1759	1763	1767	1771	1775	1779	1783	1787	1791	1795	1799	1803	1807	1811	1815	1819	1823	1827	1831	1835	1839	1843	1847	1851	1855	1859	1863	1867	1871	1875	1879	1883	1887	1891	1895	1899	1903	1907	1911	1915	1919	1923	1927	1931	1935	1939	1943	1947	1951	1955	1959	1963	1967	1971	1975	1979	1983	1987	1991	1995	1999	2003	2007	2011	2015	2019	2023	2027	2031	2035	2039	2043	2047	2051	2055	2059	2063	2067	2071	2075	2079	2083	2087	2091	2095	2099	2103	2107	2111	2115	2119	2123	2127	2131	2135	2139	2143	2147	2151	2155	2159	2163	2167	2171	2175	2179	2183	2187	2191	2195	2199	2203	2207	2211	2215	2219	2223	2227	2231	2235	2239	2243	2247	2251	2255	2259	2263	2267	2271	2275	2279	2283	2287	2291	2295	2299	2303	2307	2311	2315	2319	2323	2327	2331	2335	2339	2343	2347	2351	2355	2359	2363	2367	2371	2375	2379	2383	2387	2391	2395	2399	2403	2407	2411	2415	2419	2423	2427	2431	2435	2439	2443	2447	2451	2455	2459	2463	2467	2471	2475	2479	2483	2487	2491	2495	2499	2503	2507	2511	2515	2519	2523	2527	2531	2535	2539	2543	2547	2551	2555	2559	2563	2567	2571	2575	2579	2583	2587	2591	2595	2599	2603	2607	2611	2615	2619	2623	2627	2631	2635	2639	2643	2647	2651	2655	2659	2663	2667	2671	2675	2679	2683	2687	2691	2695	2699	2703	2707	2711	2715	2719	2723	2727	2731	2735	2739	2743	2747	2751	2755	2759	2763	2767	2771	2775	2779	2783	2787	2791	2795	2799	2803	2807	2811	2815	2819	2823	2827	2831	2835	2839	2843	2847	2851	2855	2859	2863	2867	2871	2875	2879	2883	2887	2891	2895	2899	2903	2907	2911	2915	2919	2923	2927	2931	2935	2939	2943	2947	2951	2955	2959	2963	2967	2971	2975	2979	2983	2987	2991	2995	2999	3003	3007	3011	3015	3019	3023	3027	3031	3035	3039	3043	3047	3051	3055	3059	3063	3067	3071	3075	3079	3083	3087	3091	3095	3099	3103	3107	3111	3115	3119	3123	3127	3131	3135	3139	3143	3147	3151	3155	3159	3163	3167	3171	3175	3179	3183	3187	3191	3195	3199	3203	3207	3211	3215	3219	3223	3227	3231	3235	3239	3243	3247	3251	3255	3259	3263	3267	3271	3275	3279	3283	3287	3291	3295	3299	3303	3307	3311	3315	3319	3323	3327	3331	3335	3339	3343	3347	3351	3355	3359	3363	3367	3371	3375	3379	3383	3387	3391	3395	3399	3403	3407	3411	3415	3419	3423	3427	3431	3435	3439	3443	3447	3451	3455	3459	3463	3467	3471	3475	3479	3483	3487	3491	3495	3499	3503	3507	3511	3515	3519	3523	3527	3531	3535	3539	3543	3547	3551	3555	3559	3563	3567	3571	3575	3579	3583	3587	3591	3595	3599	3603	3607	3611	3615	3619	3623	3627	3631	3635	3639	3643	3647	3651	3655	3659	3663	3667	3671	3675	3679	3683	3687	3691	3695	3699	3703	3707	3711	3715	3719	3723	3727	3731	3735	3739	3743	3747	3751	3755	3759	3763	3767	3771	3775	3779	3783	3787	3791	3795	3799	3803	3807	3811	3815	3819	3823	3827	3831	3835	3839	3843	3847	3851	3855	3859	3863	3867	3871	3875	3879	3883	3887	3891	3895	3899	3903	3907	3911	3915	3919	3923	3927	3931	3935	3939	3943	3947	3951	3955	3959	3963	3967	3971	3975	3979	3983	3987	3991	3995	3999	4003	4007	4011	4015	4019	4023	4027	4031	4035	4039	4043	4047	4051	4055	4059	4063	4067	4071	4075	4079	4083	4087	4091	4095	4099	4103	4107	4111	4115	4119	4123	4127	4131	4135	4139	4143	4147	4151	4155	4159	4163	4167	4171	4175	4179	4183	4187	4191	4195	4199	4203	4207	4211	4215	4219	4223	4227	4231	4235	4239	4243	4247	4251	4255	4259	4263	4267	4271	4275	4279	4283	4287	4291	4295	4299	4303	4307	4311	4315	4319	4323	4327	4331	4335	4339	4343	4347	4351	4355	4359	4363	4367	4371	4375	4379	4383	4387	4391	4395	4399	4403	4407	4411	4415	4419	4423	4427	4431	4435	4439	4443	4447	4451	4455	4459	4463	4467	4471	4475	4479	4483	4487	4491	4495	4499	4503	4507	4511	4515	4519	4523	4527	4531	4535	4539	4543	4547	4551	4555	4559	4563	4567	4571	4575	4579	4583	4587	4591	4595	4599	4603	4607	4611	4615	4619	4623	4627	4631	4635	4639	4643	4647	4651	4655	4659	4663	4667	4671	4675	4679	4683	4687	4691	4695	4699	4703	4707	4711	4715	4719	4723	4727	4731	4735	4739	4743	4747	4751	4755	4759	4763	4767	4771	4775	4779	4783	4787	4791	4795	4799	4803	4807	4811	4815	4819	4823	4827	4831	4835	4839	4843	4847	4851	4855	4859	4863	4867	4871	4875	4879	4883	4887	4891	4895	4899	4903	4907	4911	4915	4919	4923	4927	4931	4935	4939	4943	4947	4951	4955	4959	4963	4967	4971	4975	4979	4983	4987	4991	4995	4999	5003	5007	5011	5015	5019	5023	5027	5031	5035	5039	5043	5047	5051	5055	5059	5063	5067	5071	5075	5079	5083	5087	5091	5095	5099	5103	5107	5111	5115	5119	5123	5127	5131	5135	5139	5143	5147	5151	5155	5159	5163	5167	5171	5175	5179	5183	5187	5191	5195	5199	5203	5207	5211	5215	5219	5223	5227	5231	5235	5239	5243

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

COOLING OPERATION

MODEL: PHB36C02D

IDB*	Airflow	Outdoor Ambient Temperature												Entering Indoor Wet Bulb Temperature												105												115																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		65						75						85						95						105						115																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		59	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123	127	131	135	139	143	147	151	155	159	163	167	171	175	179	183	187	191	195	199	203	207	211	215	219	223	227	231	235	239	243	247	251	255	259	263	267	271	275	279	283	287	291	295	299	303	307	311	315	319	323	327	331	335	339	343	347	351	355	359	363	367	371	375	379	383	387	391	395	399	403	407	411	415	419	423	427	431	435	439	443	447	451	455	459	463	467	471	475	479	483	487	491	495	499	503	507	511	515	519	523	527	531	535	539	543	547	551	555	559	563	567	571	575	579	583	587	591	595	599	603	607	611	615	619	623	627	631	635	639	643	647	651	655	659	663	667	671	675	679	683	687	691	695	699	703	707	711	715	719	723	727	731	735	739	743	747	751	755	759	763	767	771	775	779	783	787	791	795	799	803	807	811	815	819	823	827	831	835	839	843	847	851	855	859	863	867	871	875	879	883	887	891	895	899	903	907	911	915	919	923	927	931	935	939	943	947	951	955	959	963	967	971	975	979	983	987	991	995	999	1003	1007	1011	1015	1019	1023	1027	1031	1035	1039	1043	1047	1051	1055	1059	1063	1067	1071	1075	1079	1083	1087	1091	1095	1099	1103	1107	1111	1115	1119	1123	1127	1131	1135	1139	1143	1147	1151	1155	1159	1163	1167	1171	1175	1179	1183	1187	1191	1195	1199	1203	1207	1211	1215	1219	1223	1227	1231	1235	1239	1243	1247	1251	1255	1259	1263	1267	1271	1275	1279	1283	1287	1291	1295	1299	1303	1307	1311	1315	1319	1323	1327	1331	1335	1339	1343	1347	1351	1355	1359	1363	1367	1371	1375	1379	1383	1387	1391	1395	1399	1403	1407	1411	1415	1419	1423	1427	1431	1435	1439	1443	1447	1451	1455	1459	1463	1467	1471	1475	1479	1483	1487	1491	1495	1499	1503	1507	1511	1515	1519	1523	1527	1531	1535	1539	1543	1547	1551	1555	1559	1563	1567	1571	1575	1579	1583	1587	1591	1595	1599	1603	1607	1611	1615	1619	1623	1627	1631	1635	1639	1643	1647	1651	1655	1659	1663	1667	1671	1675	1679	1683	1687	1691	1695	1699	1703	1707	1711	1715	1719	1723	1727	1731	1735	1739	1743	1747	1751	1755	1759	1763	1767	1771	1775	1779	1783	1787	1791	1795	1799	1803	1807	1811	1815	1819	1823	1827	1831	1835	1839	1843	1847	1851	1855	1859	1863	1867	1871	1875	1879	1883	1887	1891	1895	1899	1903	1907	1911	1915	1919	1923	1927	1931	1935	1939	1943	1947	1951	1955	1959	1963	1967	1971	1975	1979	1983	1987	1991	1995	1999	2003	2007	2011	2015	2019	2023	2027	2031	2035	2039	2043	2047	2051	2055	2059	2063	2067	2071	2075	2079	2083	2087	2091	2095	2099	2103	2107	2111	2115	2119	2123	2127	2131	2135	2139	2143	2147	2151	2155	2159	2163	2167	2171	2175	2179	2183	2187	2191	2195	2199	2203	2207	2211	2215	2219	2223	2227	2231	2235	2239	2243	2247	2251	2255	2259	2263	2267	2271	2275	2279	2283	2287	2291	2295	2299	2303	2307	2311	2315	2319	2323	2327	2331	2335	2339	2343	2347	2351	2355	2359	2363	2367	2371	2375	2379	2383	2387	2391	2395	2399	2403	2407	2411	2415	2419	2423	2427	2431	2435	2439	2443	2447	2451	2455	2459	2463	2467	2471	2475	2479	2483	2487	2491	2495	2499	2503	2507	2511	2515	2519	2523	2527	2531	2535	2539	2543	2547	2551	2555	2559	2563	2567	2571	2575	2579	2583	2587	2591	2595	2599	2603	2607	2611	2615	2619	2623	2627	2631	2635	2639	2643	2647	2651	2655	2659	2663	2667	2671	2675	2679	2683	2687	2691	2695	2699	2703	2707	2711	2715	2719	2723	2727	2731	2735	2739	2743	2747	2751	2755	2759	2763	2767	2771	2775	2779	2783	2787	2791	2795	2799	2803	2807	2811	2815	2819	2823	2827	2831	2835	2839	2843	2847	2851	2855	2859	2863	2867	2871	2875	2879	2883	2887	2891	2895	2899	2903	2907	2911	2915	2919	2923	2927	2931	2935	2939	2943	2947	2951	2955	2959	2963	2967	2971	2975	2979	2983	2987	2991	2995	2999	3003	3007	3011	3015	3019	3023	3027	3031	3035	3039	3043	3047	3051	3055	3059	3063	3067	3071	3075	3079	3083	3087	3091	3095	3099	3103	3107	3111	3115	3119	3123	3127	3131	3135	3139	3143	3147	3151	3155	3159	3163	3167	3171	3175	3179	3183	3187	3191	3195	3199	3203	3207	3211	3215	3219	3223	3227	3231	3235	3239	3243	3247	3251	3255	3259	3263	3267	3271	3275	3279	3283	3287	3291	3295	3299	3303	3307	3311	3315	3319	3323	3327	3331	3335	3339	3343	3347	3351	3355	3359	3363	3367	3371	3375	3379	3383	3387	3391	3395	3399	3403	3407	3411	3415	3419	3423	3427	3431	3435	3439	3443	3447	3451	3455	3459	3463	3467	3471	3475	3479	3483	3487	3491	3495	3499	3503	3507	3511	3515	3519	3523	3527	3531	3535	3539	3543	3547	3551	3555	3559	3563	3567	3571	3575	3579	3583	3587	3591	3595	3599	3603	3607	3611	3615	3619	3623	3627	3631	3635	3639	3643	3647	3651	3655	3659	3663	3667	3671	3675	3679	3683	3687	3691	3695	3699	3703	3707	3711	3715	3719	3723	3727	3731	3735	3739	3743	3747	3751	3755	3759	3763	3767	3771	3775	3779	3783	3787	3791	3795	3799	3803	3807	3811	3815	3819	3823	3827	3831	3835	3839	3843	3847	3851	3855	3859	3863	3867	3871	3875	3879	3883	3887	3891	3895	3899	3903	3907	3911	3915	3919	3923	3927	3931	3935	3939	3943	3947	3951	3955	3959	3963	3967	3971	3975	3979	3983	3987	3991	3995	3999	4003	4007	4011	4015	4019	4023	4027	4031	4035	4039	4043	4047	4051	4055	4059	4063	4067	4071	4075	4079	4083	4087	4091	4095	4099	4103	4107	4111	4115	4119	4123	4127	4131	4135	4139	4143	4147	4151	4155	4159	4163	4167	4171	4175	4179	4183	4187	4191	4195	4199	4203	4207	4211	4215	4219	4223	4227	4231	4235	4239	4243	4247	4251	4255	4259	4263	4267	4271	4275	4279	4283	4287	4291	4295	4299	4303	4307	4311	4315	4319	4323	4327	4331	4335	4339	4343	4347	4351	4355	4359	4363	4367	4371	4375	4379	4383	4387	4391	4395	4399	4403	4407	4411	4415	4419	4423	4427	4431	4435	4439	4443	4447	4451	4455	4459	4463	4467	4471	4475	4479	4483	4487	4491	4495	4499	4503	4507	4511	4515	4519	4523	4527	4531	4535	4539	4543	4547	4551	4555	4559	4563	4567	4571	4575	4579	4583	4587	4591	4595	4599	4603	4607	4611	4615	4619	4623	4627	4631	4635	4639	4643	4647	4651	4655	4659	4663	4667	4671	4675	4679	4683	4687	4691	4695	4699	4703	4707	4711	4715	4719	4723	4727	4731	4735	4739	4743	4747	4751	4755	4759	4763	4767	4771	4775	4779	4783	4787	4791	4795	4799	4803	4807	4811	4815	4819	4823	4827	4831	4835	4839	4843	4847	4851	4855	4859	4863	4867	4871	4875	4879	4883	4887	4891	4895	4899	4903	4907	4911	4915	4919	4923	4927	4931	4935	4939	4943	4947	4951	4955	4959	4963	4967	4971	4975	4979	4983	4987	4991	4995	4999	5003	5007	5011	5015	5019	5023	5027	5031	5035	5039	5043	5047	5051	5055	5059	5063	5067	5071	5075	5079	5083	5087	5091	5095	5099	5103	5107	5111	5115	5119	5123	5127	5131	5135	5139	5143	5147	5151	5155	5159	5163	5167	5171	5175	5179	5183	5187	5191	5195	5199	5203	5207	5211	5215	5219	5223	5227	5231	5235	5239	5243	5247	5251	5255	5259	5263	5267	5271	5275	5279	5283	5287	5291	5295	5299	5303	5307	5311	5315	5319	5323	5327	5331	5335	5339	5343	5347	5351	5355	5359

COOLING PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

EXPANDED PERFORMANCE DATA

MODEL: PHB36C02D

		Outdoor Ambient Temperature												115											
		65												105											
		75												95											
		59												65											
IDB*	Airflow	59	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123	127	131	135	139	143	147	151
80	MBh	33.8	34.6	36.9	39.5	33.0	33.7	36.1	38.5	32.2	32.9	35.2	37.6	31.5	32.1	34.3	36.7	39.1	41.5	43.9	46.3	48.7	51.1	53.5	55.9
	S/T	0.91	0.86	0.70	0.52	0.95	0.89	0.72	0.54	0.97	0.91	0.74	0.55	1.00	0.94	0.76	0.57	1.00	0.98	0.79	0.59	1.00	0.98	0.80	0.60
	Delta T	22	21	19	15	23	22	19	15	23	22	19	15	23	22	19	15	22	22	19	15	20	20	18	14
	KW	2.91	2.97	3.06	3.16	3.13	3.20	3.30	3.41	3.33	3.40	3.51	3.63	3.50	3.58	3.70	3.82	3.95	4.08	4.21	4.34	4.47	4.60	4.73	4.86
	AMPS	12.5	12.8	13.1	13.6	13.4	13.7	14.1	14.6	14.4	14.8	15.2	15.7	15.3	15.7	16.1	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.7
	LO PR	64	69	75	80	68	72	79	84	71	75	82	87	74	79	86	92	98	104	110	116	122	128	134	140
1170	MBh	33.5	34.2	36.6	39.1	32.7	33.4	35.7	38.2	31.9	32.6	34.9	37.3	31.1	31.8	34.0	36.3	38.6	40.9	43.2	45.5	47.8	50.1	52.4	54.7
	S/T	0.90	0.84	0.68	0.51	0.93	0.87	0.71	0.53	0.95	0.89	0.73	0.54	0.98	0.92	0.75	0.56	1.00	0.96	0.78	0.58	1.00	0.96	0.78	0.59
	Delta T	24	23	20	16	24	23	20	16	24	23	20	16	24	23	20	16	23	23	20	16	22	21	18	15
	KW	2.90	2.96	3.06	3.15	3.12	3.19	3.29	3.40	3.32	3.39	3.50	3.62	3.49	3.57	3.69	3.81	3.94	4.06	4.18	4.30	4.42	4.54	4.66	4.78
	AMPS	12.5	12.7	13.1	13.5	13.4	13.7	14.1	14.5	14.4	14.7	15.2	15.7	15.3	15.6	16.1	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.7
	LO PR	64	68	75	79	68	72	79	84	70	75	82	87	74	79	86	92	98	104	110	116	122	128	134	140
1070	MBh	33.0	33.7	36.0	38.5	32.2	32.9	35.2	37.6	31.4	32.1	34.3	36.7	30.7	31.3	33.5	35.8	38.1	40.4	42.7	45.0	47.3	49.6	51.9	54.2
	S/T	0.86	0.81	0.66	0.49	0.90	0.84	0.68	0.51	0.92	0.86	0.70	0.52	0.95	0.89	0.72	0.54	0.98	0.92	0.75	0.56	1.00	0.99	0.83	0.67
	Delta T	24	23	20	16	25	24	21	16	25	24	21	17	25	24	21	17	25	24	21	16	23	22	19	15
	KW	2.86	2.92	3.01	3.11	3.08	3.15	3.25	3.35	3.27	3.35	3.45	3.57	3.45	3.52	3.64	3.76	3.88	4.00	4.12	4.24	4.36	4.48	4.60	4.72
	AMPS	12.3	12.6	12.9	13.4	13.2	13.5	13.9	14.3	14.2	14.5	14.9	15.4	15.1	15.4	15.9	16.4	16.9	17.4	17.9	18.4	18.9	19.4	19.9	20.4
	LO PR	170	183	193	201	190	205	216	226	216	233	246	257	247	265	280	292	304	316	328	340	352	364	376	388

		Outdoor Ambient Temperature												115											
		65												105											
		75												95											
		59												65											
IDB*	Airflow	59	63	67	71	75	79	83	87	91	95	99	103	107	111	115	119	123	127	131	135	139	143	147	151
1270	MBh	34.4	35.1	36.7	39.2	33.6	34.3	35.9	38.3	32.8	33.4	35.0	37.4	32.0	32.6	34.2	36.5	38.8	41.1	43.4	45.7	48.0	50.3	52.6	54.9
	S/T	0.96	0.92	0.83	0.68	0.99	0.96	0.86	0.70	1.00	0.98	0.89	0.72	1.00	1.00	0.91	0.74	1.00	1.00	0.95	0.77	1.00	1.00	0.96	0.78
	Delta T	24	23	22	19	24	24	22	19	24	24	22	19	23	24	23	20	22	22	22	19	20	21	21	18
	KW	2.93	2.99	3.09	3.19	3.16	3.22	3.33	3.44	3.36	3.43	3.54	3.66	3.53	3.61	3.73	3.86	3.98	4.10	4.22	4.34	4.46	4.58	4.70	4.82
	AMPS	12.6	12.9	13.3	13.7	13.5	13.8	14.2	14.7	14.6	14.9	15.3	15.8	15.5	15.8	16.3	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.3	20.8
	LO PR	175	188	199	207	196	211	223	232	223	240	253	264	254	273	289	301	313	325	337	349	361	373	385	397
1170	MBh	34.1	34.7	36.4	38.8	33.3	33.9	35.5	37.9	32.5	33.1	34.7	37.0	31.7	32.3	33.8	36.1	38.4	40.7	43.0	45.3	47.6	49.9	52.2	54.5
	S/T	0.94	0.91	0.82	0.66	0.97	0.94	0.85	0.69	1.00	0.96	0.87	0.71	1.00	0.99	0.90	0.73	1.00	1.00	0.93	0.76	1.00	1.00	0.94	0.76
	Delta T	25	25	23	20	25	25	24	20	25	25	24	20	25	25	24	21	24	24	24	20	22	22	22	19
	KW	2.92	2.99	3.08	3.18	3.15	3.22	3.32	3.43	3.35	3.42	3.53	3.65	3.52	3.60	3.72	3.85	3.97	4.09	4.21	4.33	4.45	4.57	4.69	4.81
	AMPS	12.6	12.8	13.2	13.7	13.5	13.8	14.2	14.7	14.5	14.8	15.3	15.8	15.4	15.8	16.2	16.8	17.3	17.8	18.3	18.8	19.3	19.8	20.3	20.8
	LO PR	174	188	198	207	196	210	222	232	222	239	253	264	253	273	288	300	312	324	336	348	360	372	384	396
1070	MBh	33.6	34.2	35.8	38.2	32.8	33.4	35.0	37.3	32.0	32.6	34.2	36.4	31.2	31.8	33.3	35.6	37.9	40.2	42.5	44.8	47.1	49.4	51.7	54.0
	S/T	0.91	0.87	0.79	0.64	0.94	0.91	0.82	0.66	0.96	0.93	0.84	0.68	0.99	0.96	0.87	0.70	1.00	1.00	0.90	0.73	1.00	1.00	0.91	0.73
	Delta T	26	26	24	21	26	26	25	21	26	26	25	21	27	26	25	21	25	26	24	21	24	24	23	20
	KW	2.88	2.94	3.04	3.14	3.11	3.17	3.27	3.38	3.30	3.37	3.48	3.60	3.47	3.55	3.67	3.79	3.91	4.03	4.15	4.27	4.39	4.51	4.63	4.75
	AMPS	12.4	12.7	13.0	13.5	13.3	13.6	14.0	14.4	14.3	14.6	15.1	15.6	15.2	15.5	16.0	16.6	17.1	17.6	18.1	18.6	19.1	19.6	20.1	20.6
	LO PR	171	184	195	203	192	207	218	228	219	235	248	259	249	268	283	295	307	318	329	340	351	362	373	384

* Entering Indoor Dry Bulb Temperature

NOTE: Shaded area is ARI Rating Conditions

HEATING PERFORMANCE DATA

PHB24C02D																	
	Outdoor Ambient Temperature (° F)																
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5 -10
ΔT	30	28	26	25	24	23	21	20	15	14	13	12	12	10	9	8	7 6
Amps	11.5	10.8	10.1	9.6	9.3	9.1	8.7	8.3	8.0	7.7	7.4	7.2	7.2	6.9	6.5	6.2	5.8 5.3
HI PR	281	270	259	248	242	237	228	219	210	200	192	188	184	177	171	164	158 152
LO PR	81	75	70	65	61	59	54	48	43	39	34	32	31	26	22	19	16 13

PHB30C02D																	
	Outdoor Ambient Temperature (° F)																
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5 -10
ΔT	31	29	27	26	24	24	22	20	15	14	13	12	12	10	9	8	7 6
Amps	14.2	13.2	12.4	11.8	11.4	11.2	10.6	10.2	9.8	9.4	9.0	8.8	8.7	8.4	7.9	7.5	7.0 6.5
HI PR	253	243	233	223	218	214	206	197	189	181	173	169	166	160	154	147	142 137
LO PR	74	69	65	59	56	54	50	44	40	36	31	29	28	24	20	17	15 12

PHB36C02D																	
	Outdoor Ambient Temperature (° F)																
	65	60	55	50	47	45	40	35	30	25	20	17	15	10	5	0	-5 -10
ΔT	31	29	28	26	25	24	22	20	16	15	13	13	12	11	10	8	7 6
Amps	15.9	14.9	14.0	13.3	12.9	12.6	12.0	11.5	11.1	10.6	10.2	10.0	9.9	9.5	9.0	8.5	8.0 7.4
HI PR	227	217	209	200	195	191	184	176	169	161	155	151	149	143	137	132	127 123
LO PR	69	64	60	55	52	50	46	41	37	33	29	27	26	22	19	16	14 11

PERFORMANCE TEST

All data based upon listed indoor dry bulb temperature. .00 inches external static pressure on coil of outdoor section. Indoor air cubic feet per minute (CFM) as listed in the Performance Data Sheets:

If conditions vary from this, results will change as follows:

1. As indoor dry bulb temperatures increase, a slight increase will occur in indoor air temperature drop (ΔT). Low and high side pressures and power will not change.
2. As indoor CFM decreases, a slight increase will occur in indoor temperature drop (ΔT). A slight decrease will occur in low and high side pressures and power.

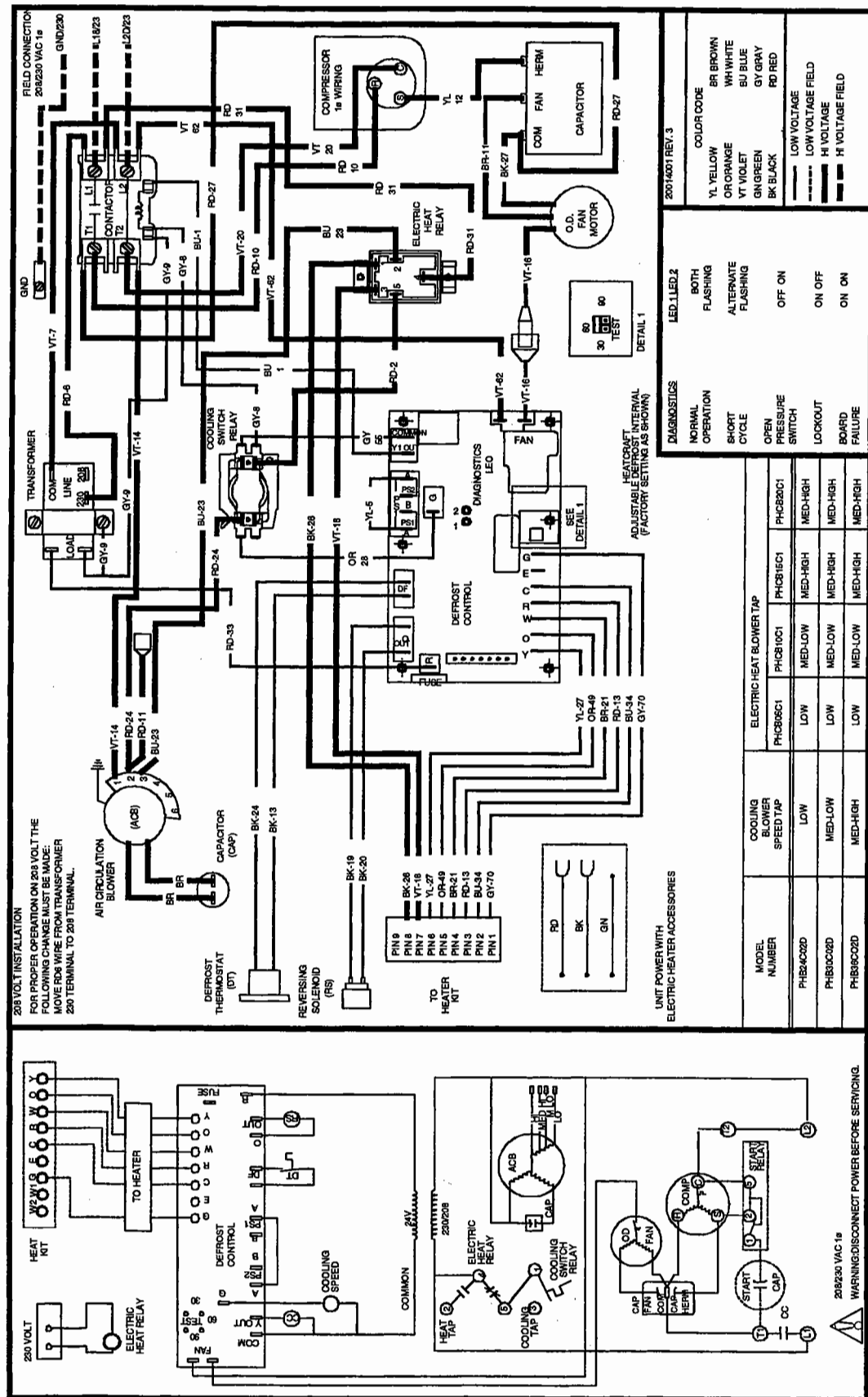
A properly operating unit should be within plus or minus **3 degrees** of the typical (ΔT) value shown.

A properly operating unit should be within plus or minus **7 PSIG** of the **head pressure** shown.

A properly operating unit should be within plus or minus **3 PSIG** of the **suction pressure** shown.

A properly operating unit should be within plus or minus **3 Amps** of the typical value shown.

WIRING DIAGRAMS

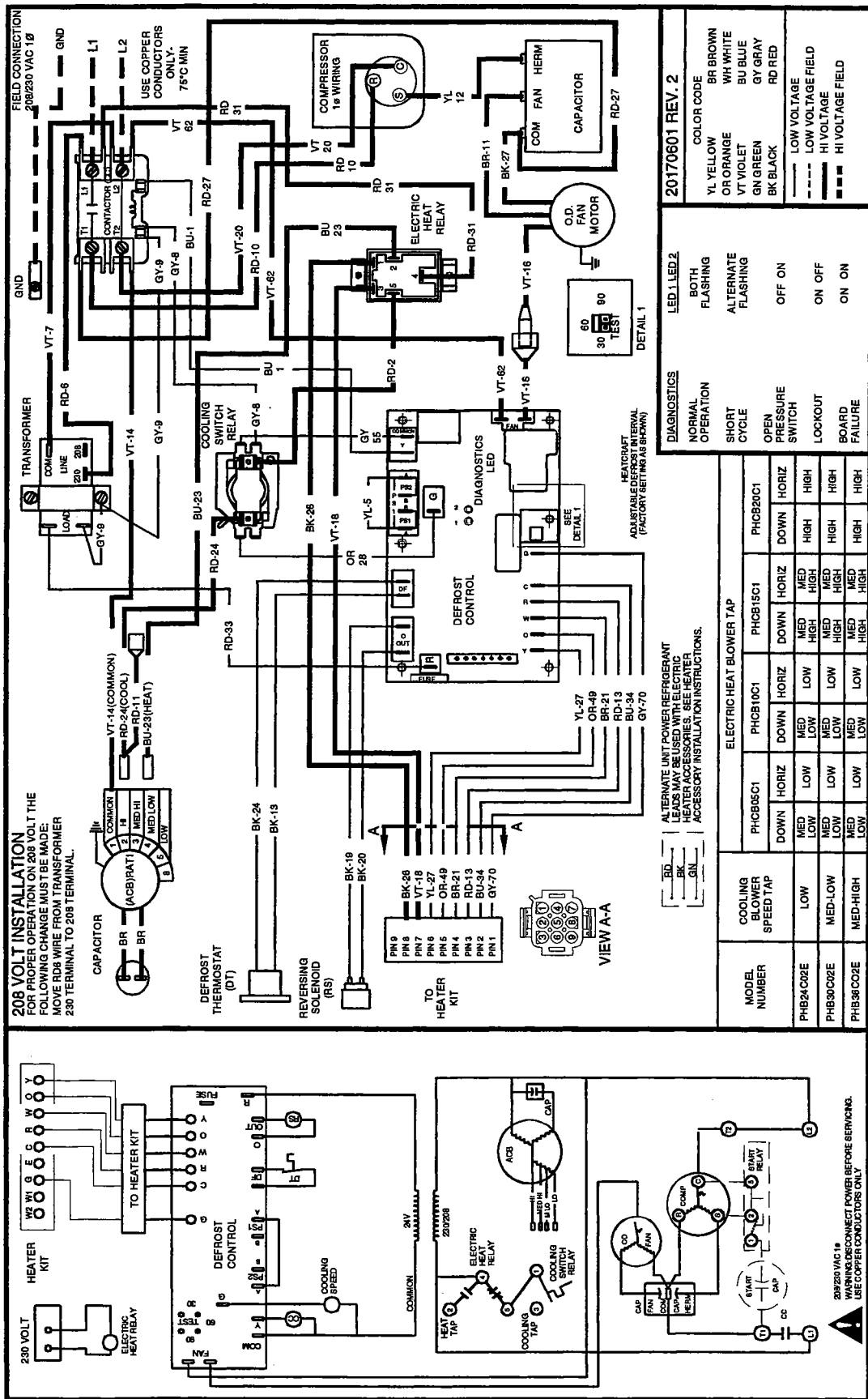


PHB24, 30, 36C02D

WARNING

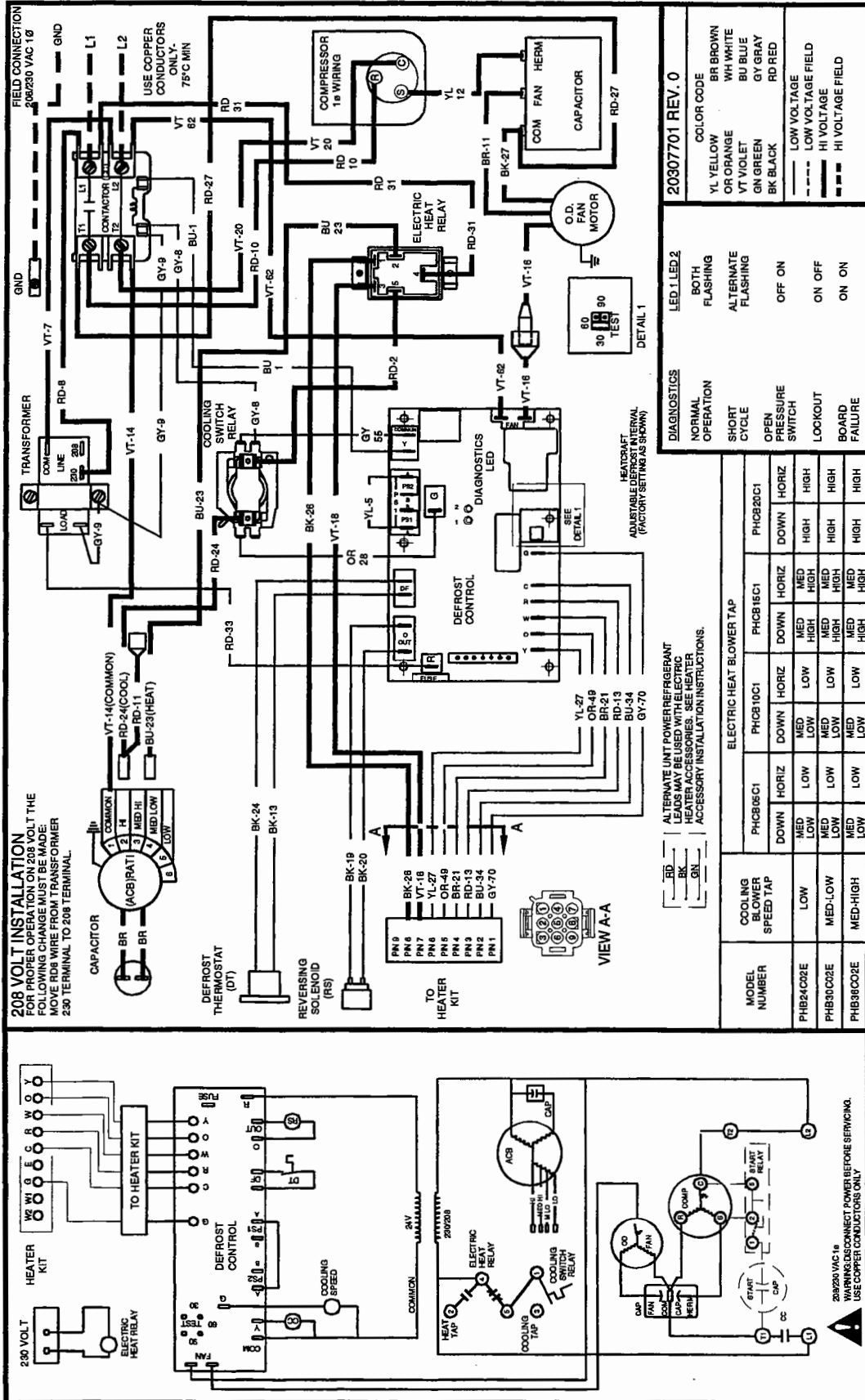
TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WIRING DIAGRAMS



PHB24, 30, 36C02E (Defrost Board setting at 60 minutes)

WIRING DIAGRAMS

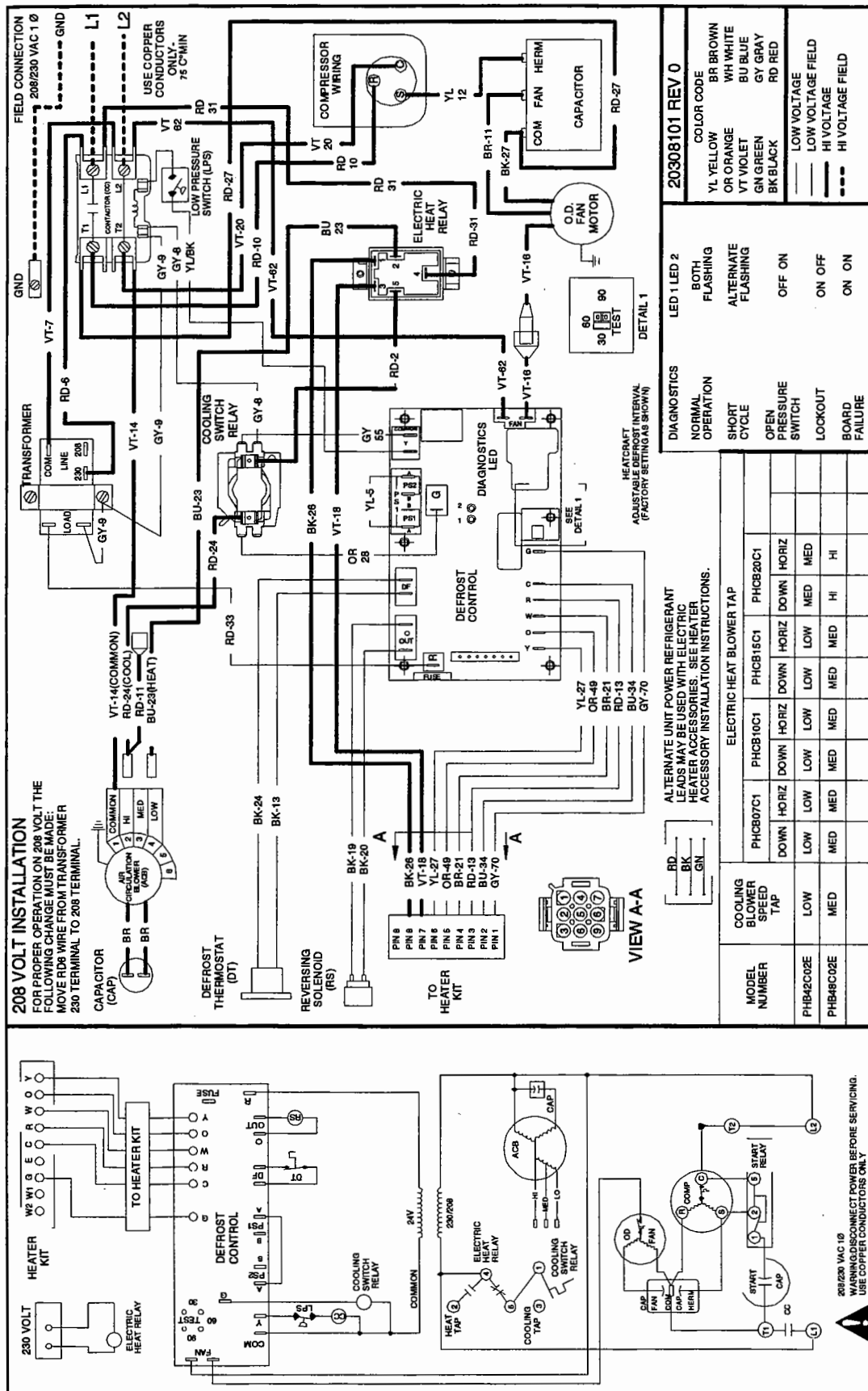


PHB24, 30, 36C02E (Defrost Board setting at 30 minutes)

WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WIRING DIAGRAMS

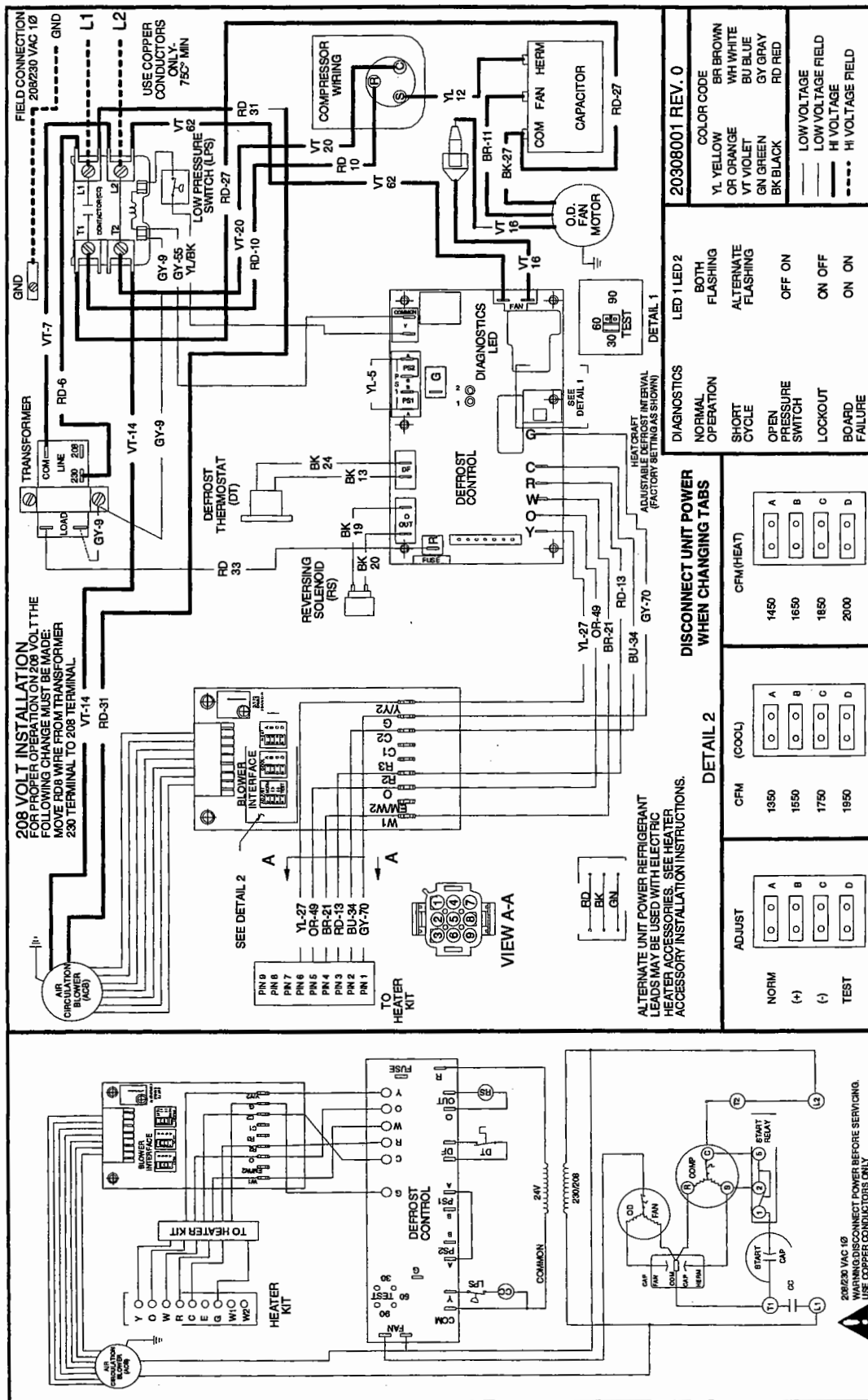


PHB42, 48C02E (Defrost Board setting at 30 minutes)

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WARNING

WIRING DIAGRAMS



PHB60C02E (Defrost Board setting at 30 minutes)

WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

