

Parts List, Charging Chart, Wiring Diagrams

**PHN5 24 - 60 SERIES
1 Phase**

R-410A PACKAGE HEAT PUMP UNITS



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PHN5 24 - 60 PARTS LIST

KEY NO.	DESCRIPTION	FAST PARTS NO.	PHN524000K00A1	PHN536000K00A1	PHN548000K00A1	PHN560000K00A1
01	COMP ZPS20K4E-PFV-130	ZPS26K4EPFV130	1	*	*	*
01	COMP ZPS30K4E-PFV-130	ZPS30K4EPFV130	*	1	*	*
01	COMP ZPS40K4E-PFV-130	ZPS40K4EPFV130	*	*	1	*
01	COMP ZPS51K4E-PFV-130	ZPS51K4EPFV130	*	*	*	1
02	COIL ASY OUTDOOR 24 AL LF	1177362	1	*	*	*
02	COIL ASY OUTDOOR 36 AL LF	1177367	*	1	*	*
02	COIL ASY OUTDOOR 48 AL LF	1177368	*	*	1	*
02	COIL ASY OUTDOOR 60 AL LF	1177369	*	*	*	1
03	COIL ASY OUTDOOR 24 AL RT	1177366	1	*	*	*
03	COIL ASY OUTDOOR 36 AL RT	1177363	*	1	*	*
03	COIL ASY OUTDOOR 48 AL RT	1177364	*	*	1	*
03	COIL ASY OUTDOOR 60 AL RT	1177365	*	*	*	1
04	COIL ASY INDOOR 24	1177320	1	*	*	*
04	COIL ASY INDOOR 36	1177327	*	1	*	*
04	COIL ASY INDOOR 48	1177328	*	*	1	*
04	COIL ASY INDOOR 60	1177329	*	*	*	1
05	MTR BLW 1/230 1 600-1200	1177342	*	*	1	*
05	MTR BLW 1/230 1 600-1200	1177343	*	*	*	1
05	MTR BLW 1/230 1/2 600-1200	1177314	1	*	*	*
05	MTR BLW 1/230 3/4 600-1200	1177344	*	1	*	*
06	MTR CND 1/230 1/3 1100	1177345	*	*	*	1
06	MTR CND 1/230 1/4 900/1100	1177346	*	*	1	*
06	MTR CND 1/230 1/8 825	1175625	*	1	*	*
06	MTR CND 1/230 1/8 825/1	1173699	1	*	*	*
07	FAN C 22" 3B 1/2" 24 INT	1171220	1	*	*	*
07	FAN C 22" 3B 1/2" 28 INT	1171219	*	1	1	1
08	CAP RN RD 370V 45+10	1173702	*	*	1	*
08	CAP RN RD 370V 5+35	1172110	1	*	*	*
08	CAP RN RD 370V 5+40	1172147	*	1	*	*
08	CAP RN RD 370V 80+10	1173703	*	*	*	1
10	CONTACTOR 1P 25A 24V	1173689	1	1	*	*
10	CONTACTOR 1P 40A 24V	1173690	*	*	1	1
13	TRANS 200/230/460>24 75VA	1171496	1	1	1	1
14	WHEEL 11-10DD CCW	1177025	*	1	1	1
14	WHEEL DD 10X10 CW	1175970	1	*	*	*
16	DISTRIBUTOR 3 CIRCUIT R-410A	1174360	1	*	*	*
16	DISTRIBUTOR 4 CIRCUIT R-410A	1174359	*	1	*	*
16	DISTRIBUTOR 4 CIRCUIT R-410A	1174361	*	*	1	*
16	DISTRIBUTOR 6 CIRCUIT R-410A	1175220	*	*	*	1
18	VALVE REV W/COIL 24V	1172618	*	*	1	*
18	VALVE REV W/COIL 24V	1173708	1	1	*	*
18	VALVE REV W/COIL 24V	1173709	*	*	*	1
21	COIL REV VLV 24V	1172619	1	1	1	1
22	SENSOR DEFROST O65 C32	1173637	1	1	1	1

PHN5 24 - 60 PARTS LIST (continued)

KEY NO.	DESCRIPTION	FAST PARTS NO.	PHN524000K00A1	PHN536000K00A1	PHN548000K00A1	PHN560000K00A1
23	BOARD DEFROST	1174185	1	1	1	1
24	DISTRIBUTOR 2 CKT	1177711	*	2	1	*
25	PISTON CHATLEFF .035	1176172	*	2	*	*
25	PISTON CHATLEFF .038	1174858	*	*	1	*
26	DISTRIBUTOR 3 CKT	1177712	*	*	1	2
27	PISTON CHATLEFF .046	1173650	*	*	1	2
28	ACCUMULATOR	1172313	*	*	*	1
28	ACCUMULATOR	1172805	*	1	*	*
28	ACCUMULATOR 120 3/4 NH	1172018	1	*	*	*
28	ACCUMULATOR 216 7/8 5" DIA	1174938	*	*	1	*
32	MOUNTING KIT BLW MTR	1175958	1	*	*	*
32	MOUNTING KIT BLW MTR	1176088	*	1	1	1
37	PLUG COMPRESSOR	1177318	1	1	*	*
37	PLUG COMPRESSOR	1177353	*	*	1	1
38	HTR CC WP 40W 240V TCH196	1176105	1	1	1	1
39	SWITCH LOW PRESSURE	1174694	1	1	1	1
40	DRIER BIFLOW 06 CI 3/8 SWEAT	1172311	1	1	1	1
41	SWITCH HIGH PRESSURE	1174695	1	1	1	1
42	SWITCH PRESS COMP SOL	1174413	1	1	1	1
43	VALVE TXV 2 TON	1177317	1	*	*	*
43	VALVE TXV 3 TON	1176869	*	1	*	*
43	VALVE TXV 4 TON	1176870	*	*	1	*
43	VALVE TXV 5 TON	1176871	*	*	*	1
44	PLUG COMP SOLENOID COIL 51"LDS	1177316	1	1	1	1
45	CIRCUIT BOARD X-13 DUAL CAP	1177315	1	1	1	1
46	PISTON CHATLEFF .042	1173634	1	*	*	*
47	STRAINER	1171768	1	*	*	*
48	VALVE SOLENOID	1174447	1	*	*	1
AB	CLAMP CAPACITOR ROUND 2.0"D	1095021	1	*	*	*
AE	SCROLL	1176074	*	1	1	1
AE	SCROLL FAN	1176010	1	*	*	*
AF	PLATE ASY FAN	1176011	1	*	*	*
AF	PLATE ASY FAN SIDE	1176075	*	1	1	1
AH	PLATE FAN	1176012	1	*	*	*
AH	PLATE FAN BOTTOM	1176077	*	1	1	1
AJ	CLAMP CAPACITOR ROUND 2.0"D	1095021	*	1	*	*
AJ	CLAMP CAPACITOR ROUND 2.5"D	1064218	*	*	1	1
AK	GRILLE ASY 16"	1176017	1	*	*	*
AK	GRILLE ASY 18"	1177336	*	1	*	*
AK	GRILLE ASY 20"	1176106	*	*	1	*
AK	GRILLE ASY 24"	1177339	*	*	*	1
AL	GRILLE ASY 16"	1176018	1	*	*	*
AL	GRILLE ASY 18"	1177337	*	2	*	*
AL	GRILLE ASY 20"	1176107	*	*	2	*

PHN5 24 - 60 PARTS LIST (continued)

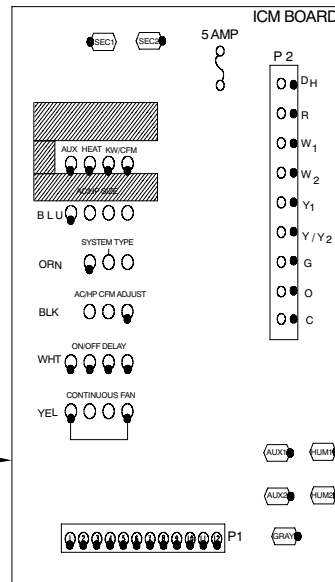
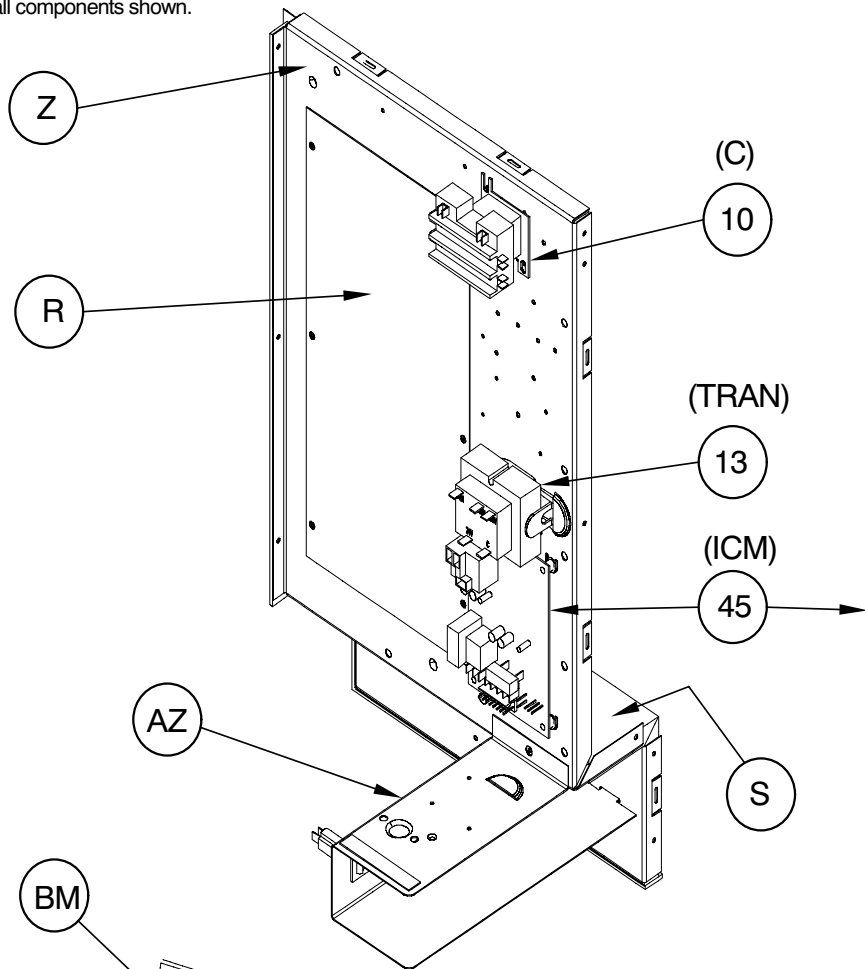
KEY NO.	DESCRIPTION	FAST PARTS NO.	PHN524000K00A1	PHN536000K00A1	PHN548000K00A1	PHN560000K00A1
AL	GRILLE ASY 24"	1177341	*	*	*	2
AM	GRILLE ASY 16"	1176019	1	*	*	*
AM	GRILLE ASY 18"	1177338	*	1	*	*
AM	GRILLE ASY 20"	1176108	*	*	1	*
AM	GRILLE ASY 24"	1177340	*	*	*	1
AN	GRILLE ASY 16"	1176020	1	*	*	*
AP	PANEL CORNER 16"	1176045	3	*	*	*
AP	PANEL CORNER 18" COND	1177347	*	2	*	*
AP	PANEL CORNER 20" COND	1176109	*	*	2	*
AP	PANEL CORNER 24" COND	1177350	*	*	*	2
AQ	BRACKET SUPPORT	1176023	4	*	*	*
AQ	BRACKET SUPPORT 16"	1176110	*	4	4	4
AR	PANEL CORNER 16" HEADER	1176046	1	*	*	*
AR	PANEL CORNER 18" HEADER	1177348	*	1	*	*
AR	PANEL CORNER 20" HEADER	1176111	*	*	1	*
AR	PANEL CORNER 24" HEADER	1177351	*	*	*	1
AS	PARTITION COIL EVAP	1176026	1	1	*	*
AS	PARTITION COIL EVAP	1176112	*	*	1	1
AZ	BARRIER 24V	1176144	1	*	*	*
AZ	BARRIER 24V 42-60	1176148	*	1	1	1
BA	PANEL CORNER 18" HEADER	1177349	*	1	*	*
BA	PANEL CORNER 20" HEADER	1176113	*	*	1	*
BA	PANEL CORNER 24" HEADER	1177352	*	*	*	1
BB	SUPPORT BLOWER	1176085	*	1	1	1
BC	PARTION COIL EVAP	1176783	1	*	*	*
BC	PARTITION COIL SUPPLY	1176084	*	1	1	1
BD	SUPPORT BLOWER	1176784	1	1	1	1
BE	SHEILD BASE PAN	1176086	*	1	1	1
BE	SHIELD BASEPAN	1176794	1	*	*	*
BF	INSULATION RETURN DUCT PANEL	1176087	*	1	1	1
BF	INSULATION RETURN DUCT PANEL	1176151	1	*	*	*
BG	COMPRESSOR MTG BOLT	1176731	4	4	4	4
BH	INSULATION COIL PARTITION	1176152	1	*	*	*
BH	INSULATION COIL PARTITION	1176153	*	1	1	1
BJ	INSULATION COIL PARTITION	1176785	1	*	*	*
BJ	INSULATION COIL PARTITION	1176786	*	1	1	1
BK	GROMMET	1176613	2	2	2	2
BL	PARTITION COIL EVAP	1176114	*	*	1	1
BM	BLOCKOFF PANEL UPPER	1177319	1	*	*	*
BM	BLOCKOFF PANEL UPPER	1177326	*	1	1	1
BN	BLOCKOFF PANEL LOWER	1177223	1	*	*	*
BN	BLOCKOFF PANEL LOWER	1177325	*	1	1	1
A	RACEWAY	1171428	1	1	1	1
B	INSULATION ASY TOP EVAP	1175988	1	*	*	*

PHN5 24 - 60 PARTS LIST (continued)

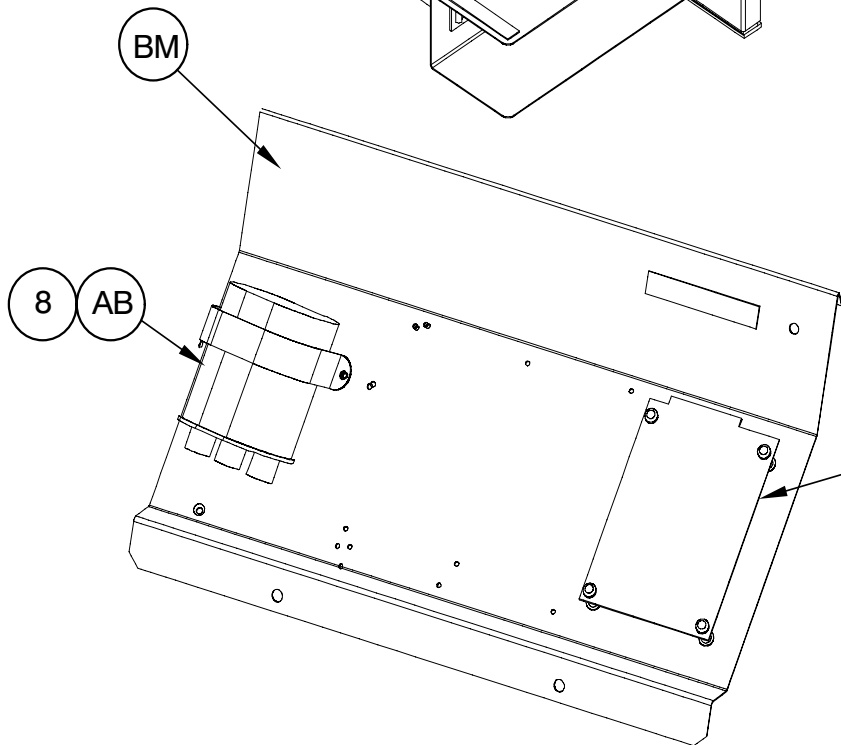
KEY NO.	DESCRIPTION	FAST PARTS NO.	PHN524000K00A1	PHN536000K00A1	PHN548000K00A1	PHN560000K00A1
B	INSULATION ASY TOP EVAP	1176083	*	1	1	1
C	BASE PAN ASY	1175989	1	*	*	*
C	BASE PAN ASY	1176061	*	1	1	1
D	DUCT COVER ASY	1175990	2	*	*	*
D	DUCT COVER ASY	1176062	*	2	2	2
E	TOP CONDENSER	1175991	1	*	*	*
E	TOP CONDENSER	1176063	*	1	1	1
F	PARTITION COIL	1175992	1	*	*	*
F	PARTITION COIL RETURN	1176064	*	1	1	1
G	PARTITION FAN	1175993	1	*	*	*
G	PARTITION FAN	1176065	*	1	1	1
H	PANEL REAR DUCT	1175994	1	*	*	*
H	PANEL REAR DUCT	1176066	*	1	1	1
J	PANEL COMP SIDE	1175995	1	*	*	*
J	PANEL COMP SIDE	1176067	*	1	1	1
K	PANEL ACCESS	1175996	1	*	*	*
K	PANEL ACCESS	1176068	*	1	1	1
L	INSULATION ACCESS PANEL	1175997	1	*	*	*
L	INSULATION ACCESS PANEL	1176069	*	1	1	1
M	INSULATION COMP PANEL	1176070	*	1	1	1
M	INSULATION PANEL COMP	1175998	1	*	*	*
N	GRILLE OUTLET	1171267	1	1	1	1
P	GROMMET COMPRESSOR 1.62"DIA	1171270	4	4	4	4
R	COVER HEATER OPENING	1176139	1	1	1	1
S	INSULATION CONTROL PLATE	1176140	1	1	1	1
X	PANEL SIDE POWER SUPPLY	1176141	1	*	*	*
X	PANEL SIDE POWER SUPPLY	1176145	*	1	1	1
Y	INSULATION PANEL SIDE	1176142	1	*	*	*
Y	INSULATION PANEL SIDE	1176146	*	1	1	1
Z	PLATE CONTROL	1176143	1	1	1	1
PARTS NOT SHOWN						
(HARNESS ASY CONT BOX	1177361	1	1	1	1

NOTE: This illustration is for reference only. Your unit may differ in appearance or may not include all components shown.

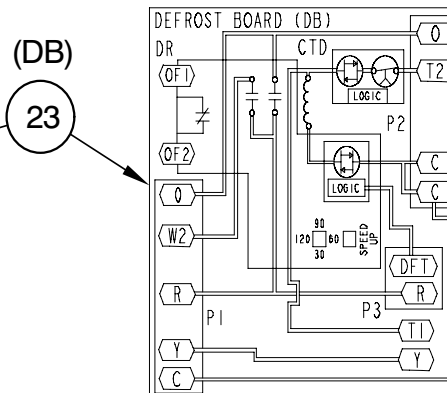
CONTROL BOX ASY



ICM BOARD

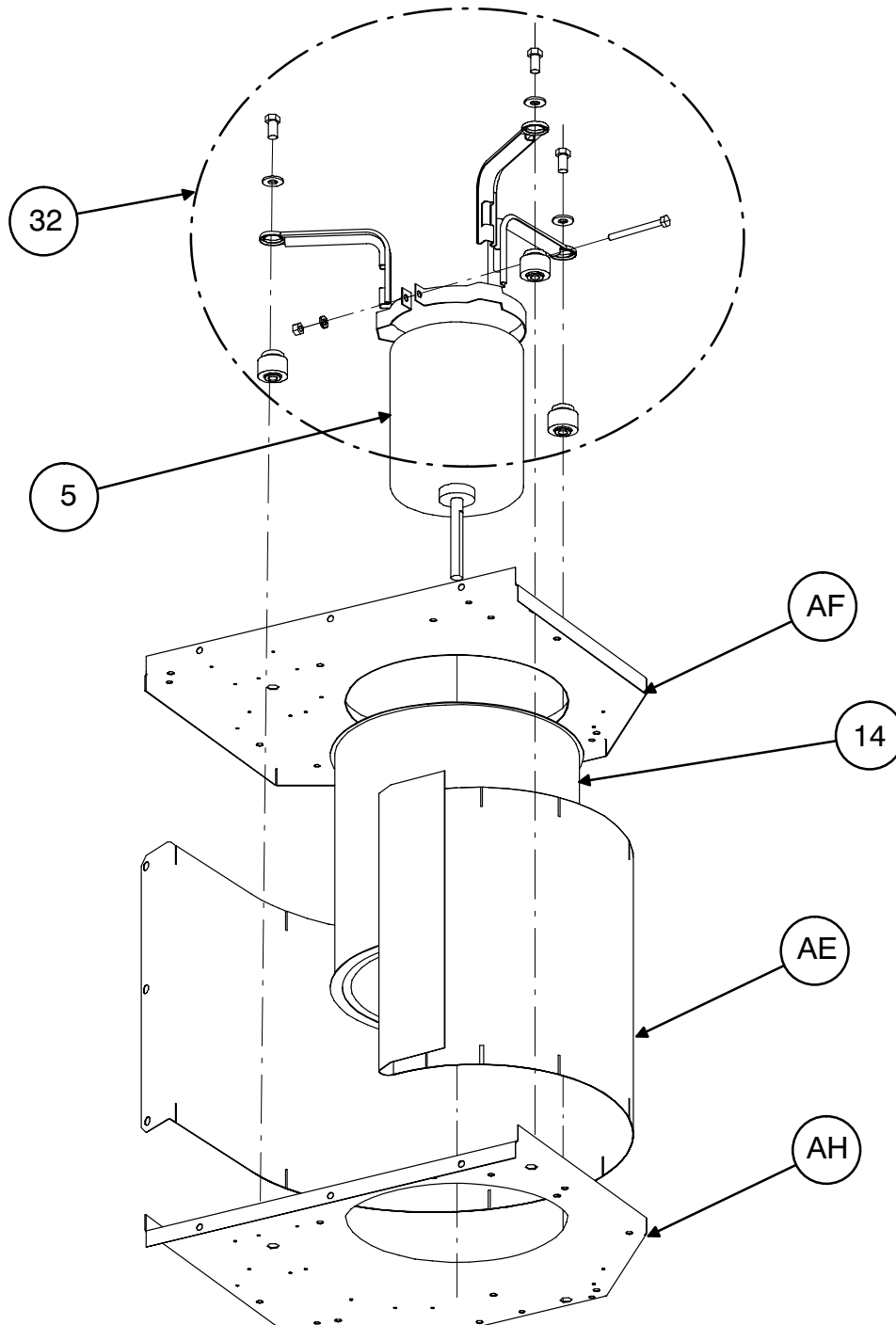


CONTROL PANEL ASY



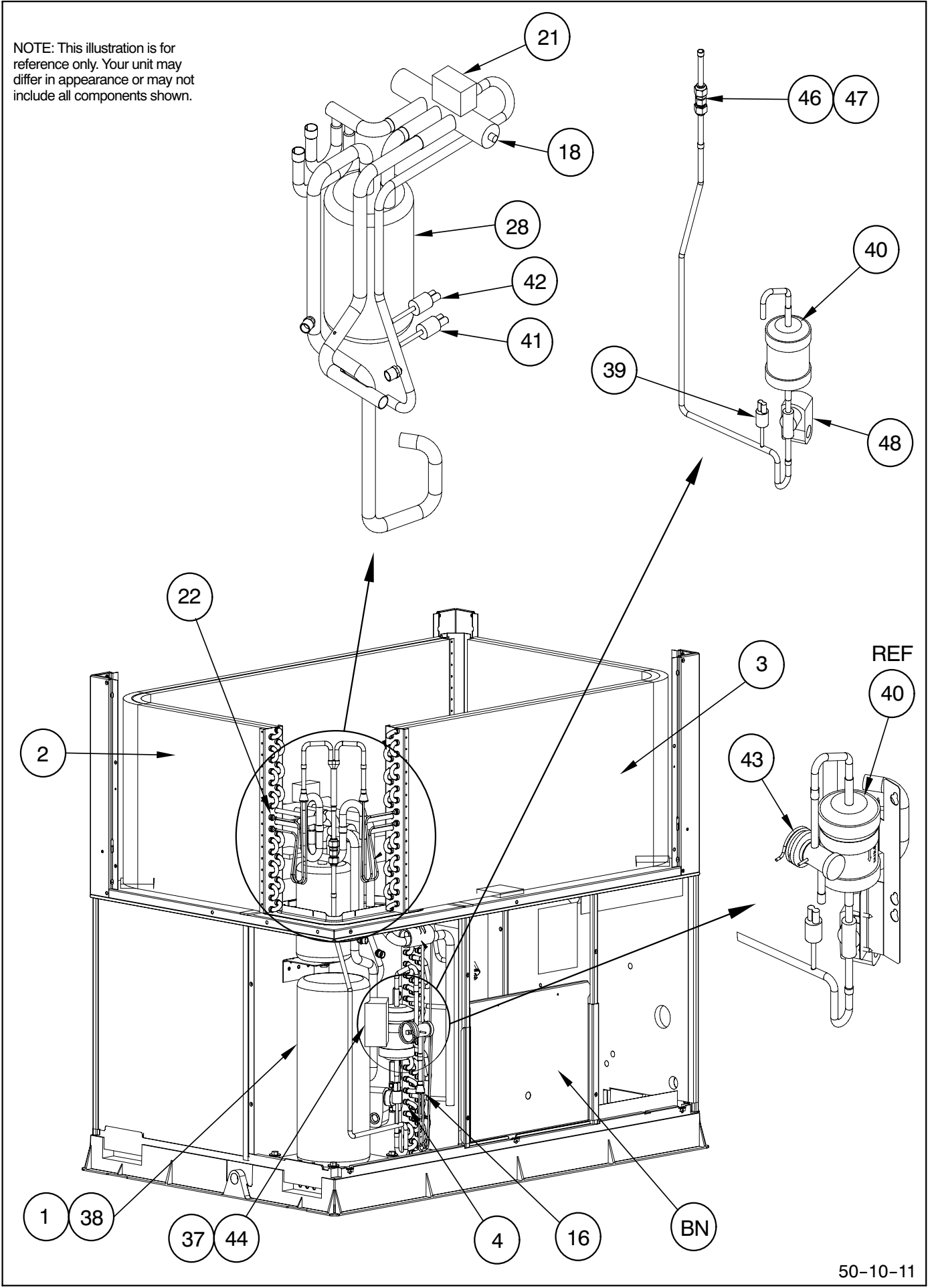
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BLOWER ASY



PHN5 24 & 36

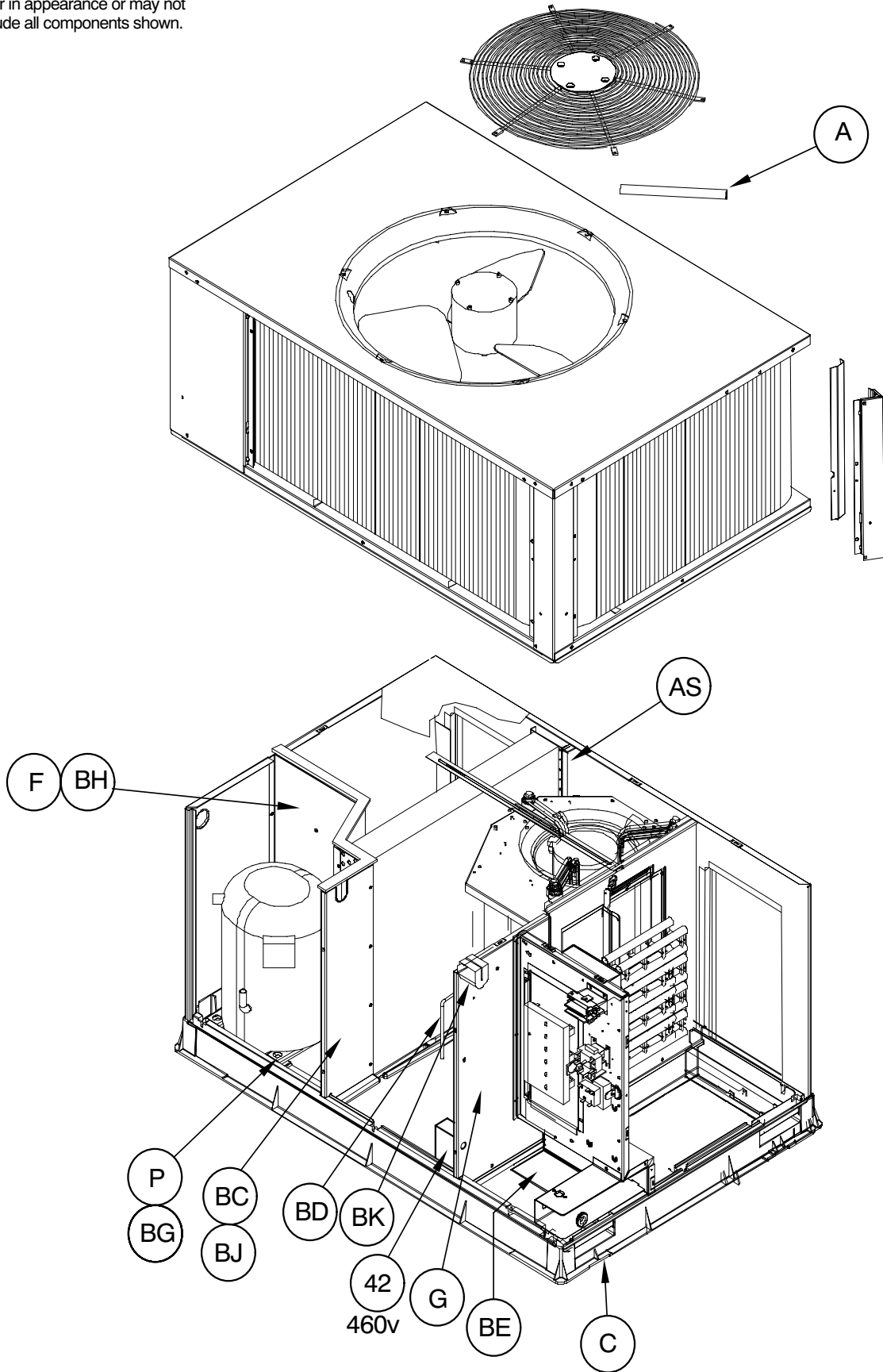
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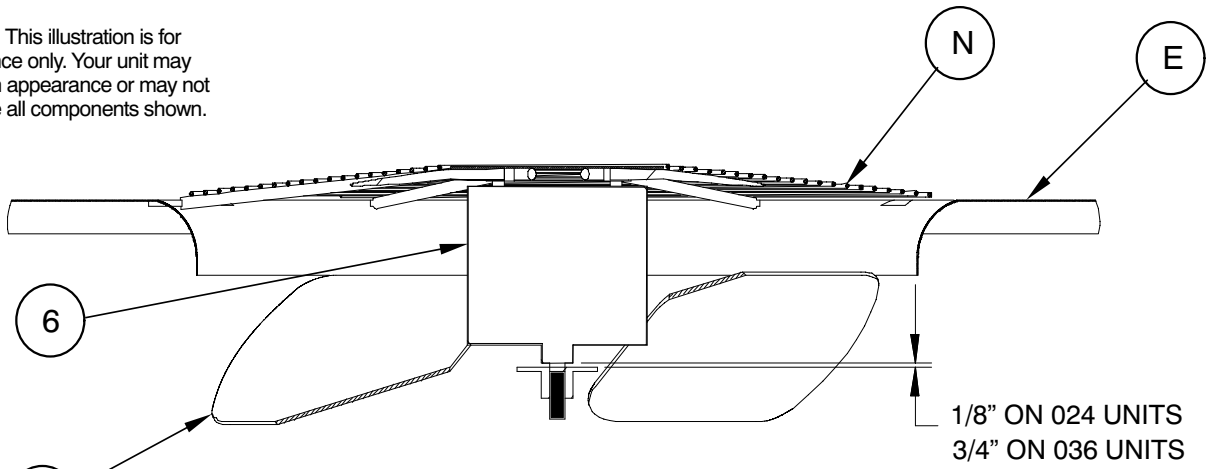
50-10-11

PHN5 24 & 36

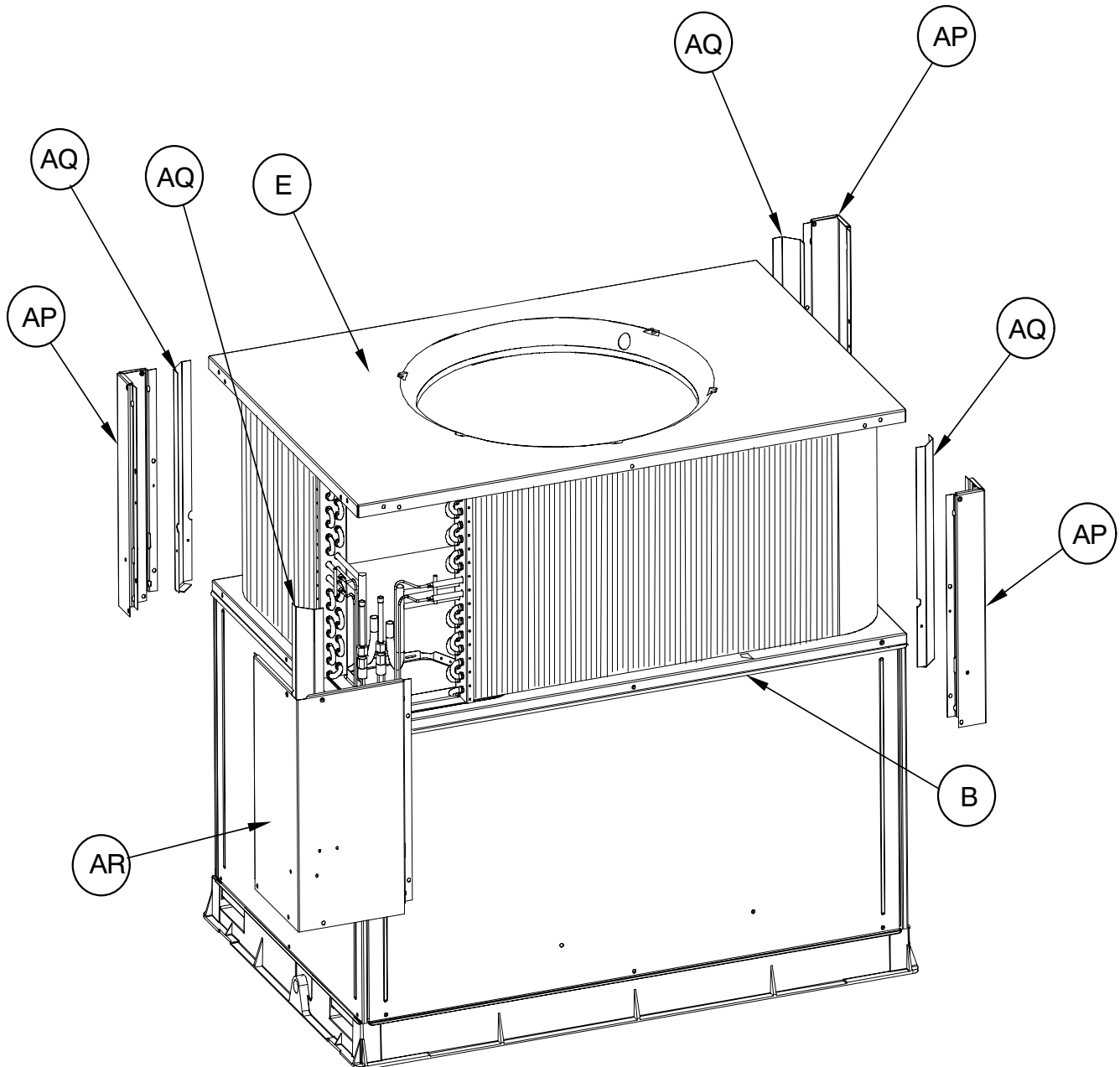
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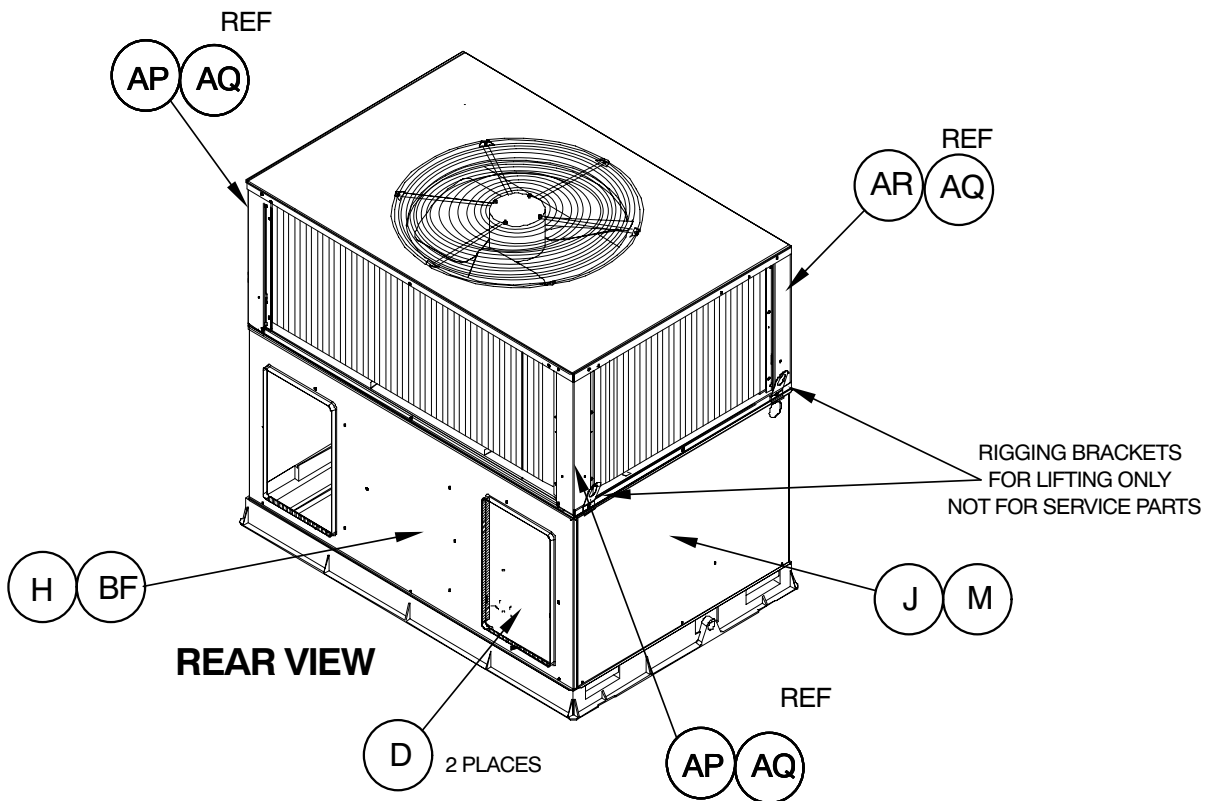
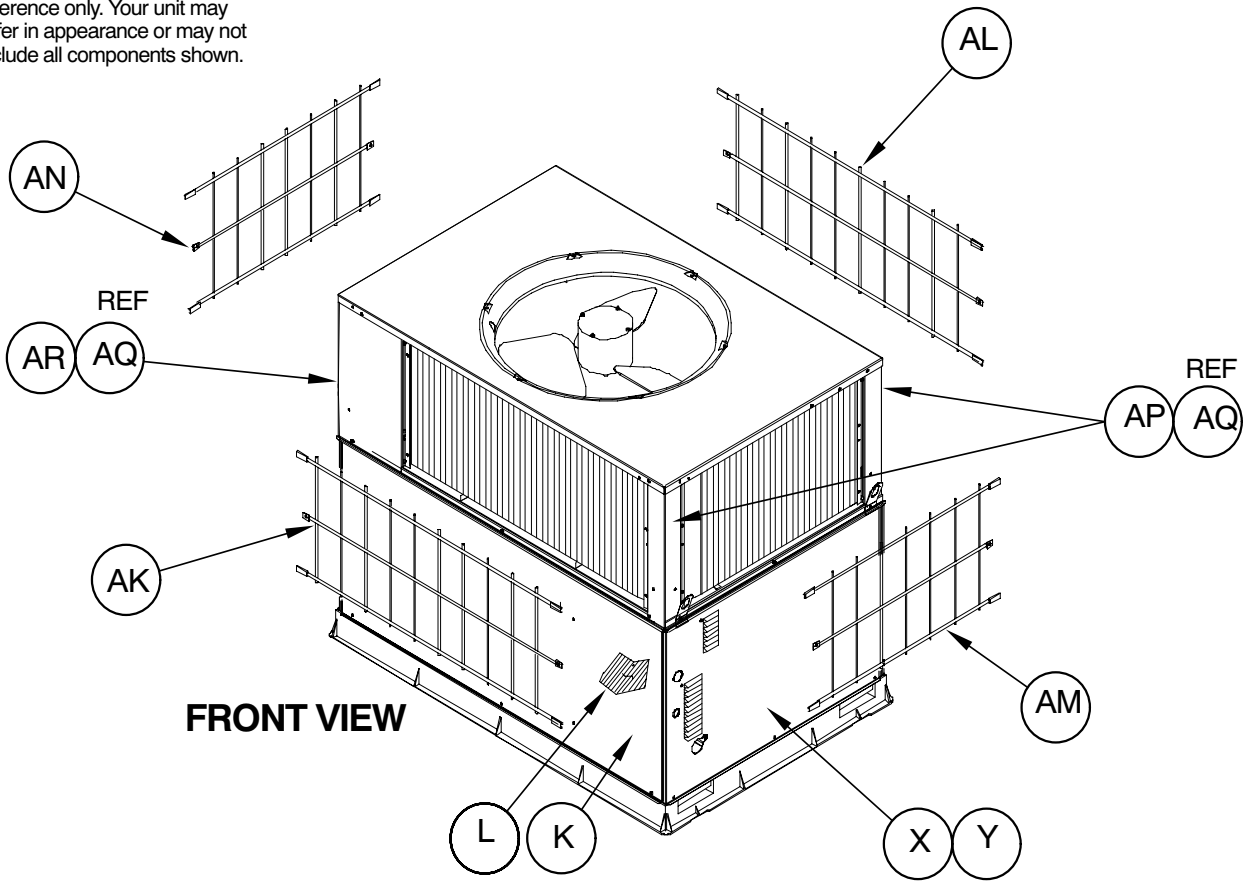


OUTDOOR MOTOR AND FAN GAP



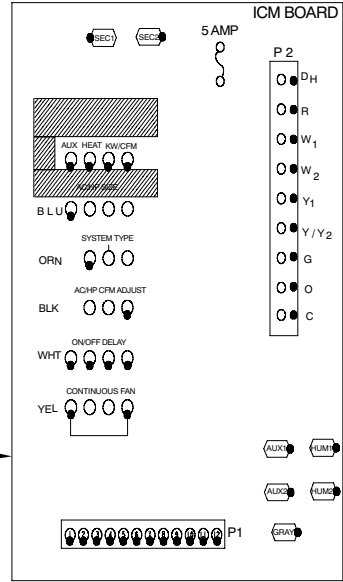
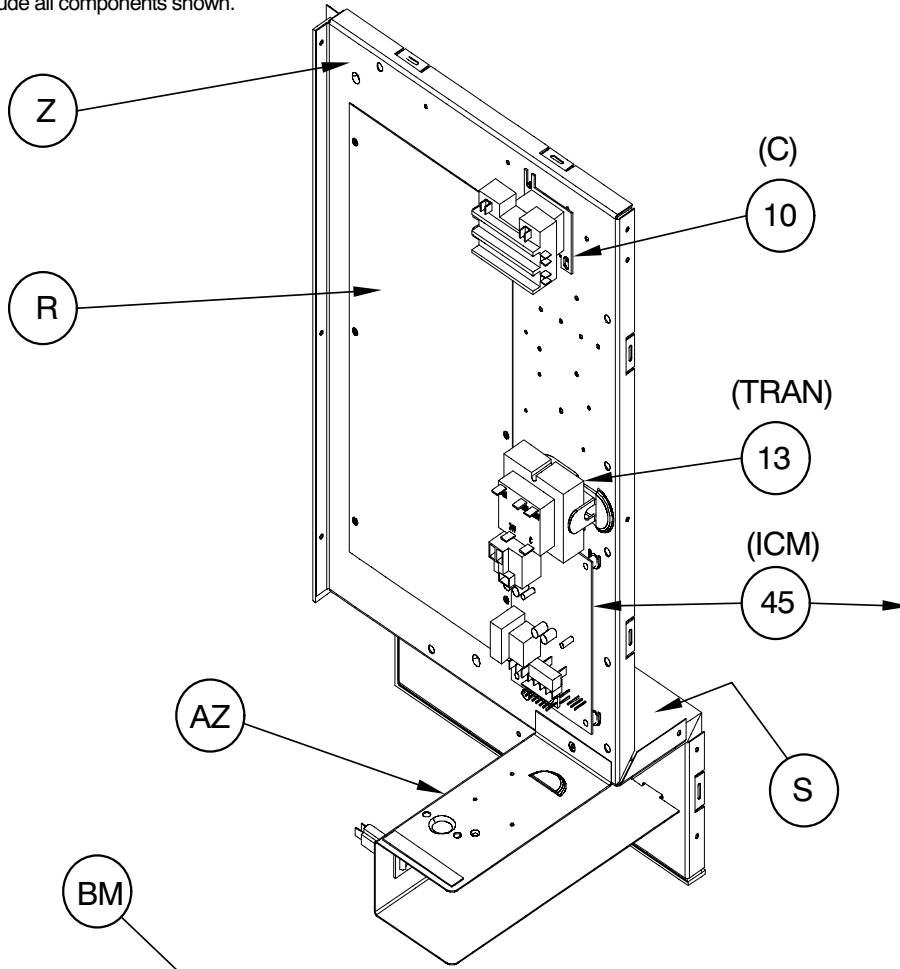
PHN5 24 & 36

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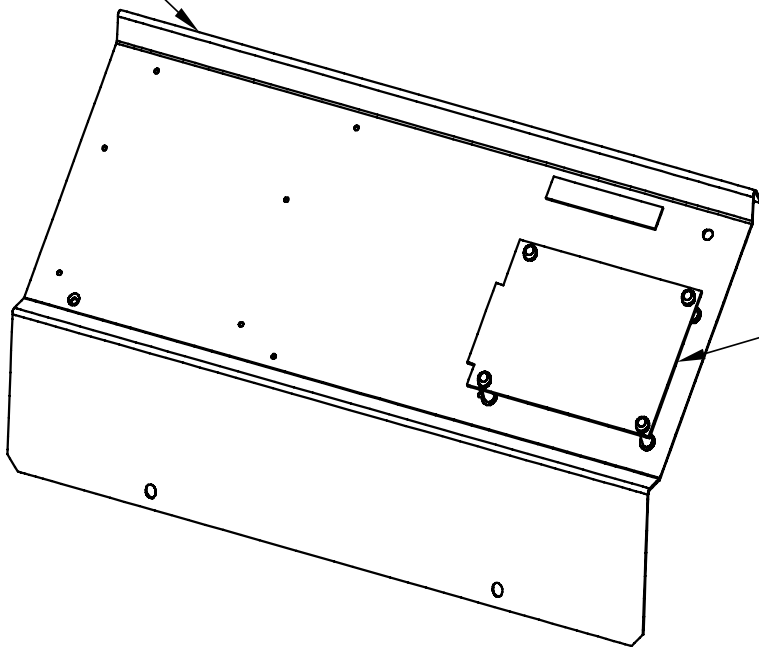


NOTE: This illustration is for reference only. Your unit may differ in appearance or may not include all components shown.

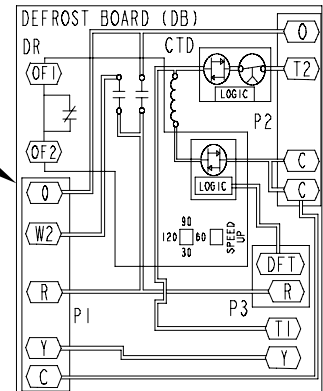
CONTROL BOX ASY



ICM BOARD

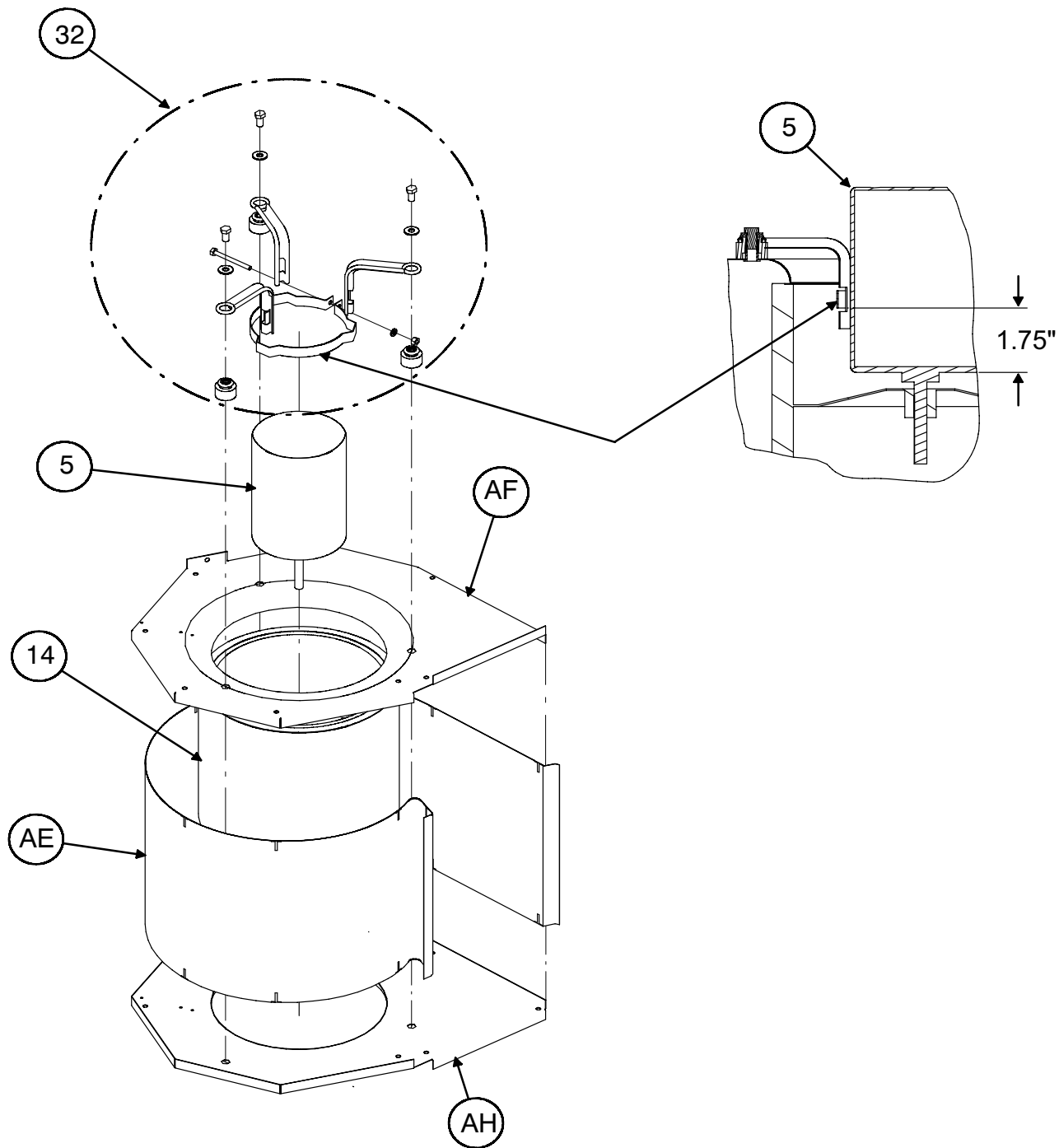


CONTROL PANEL ASY

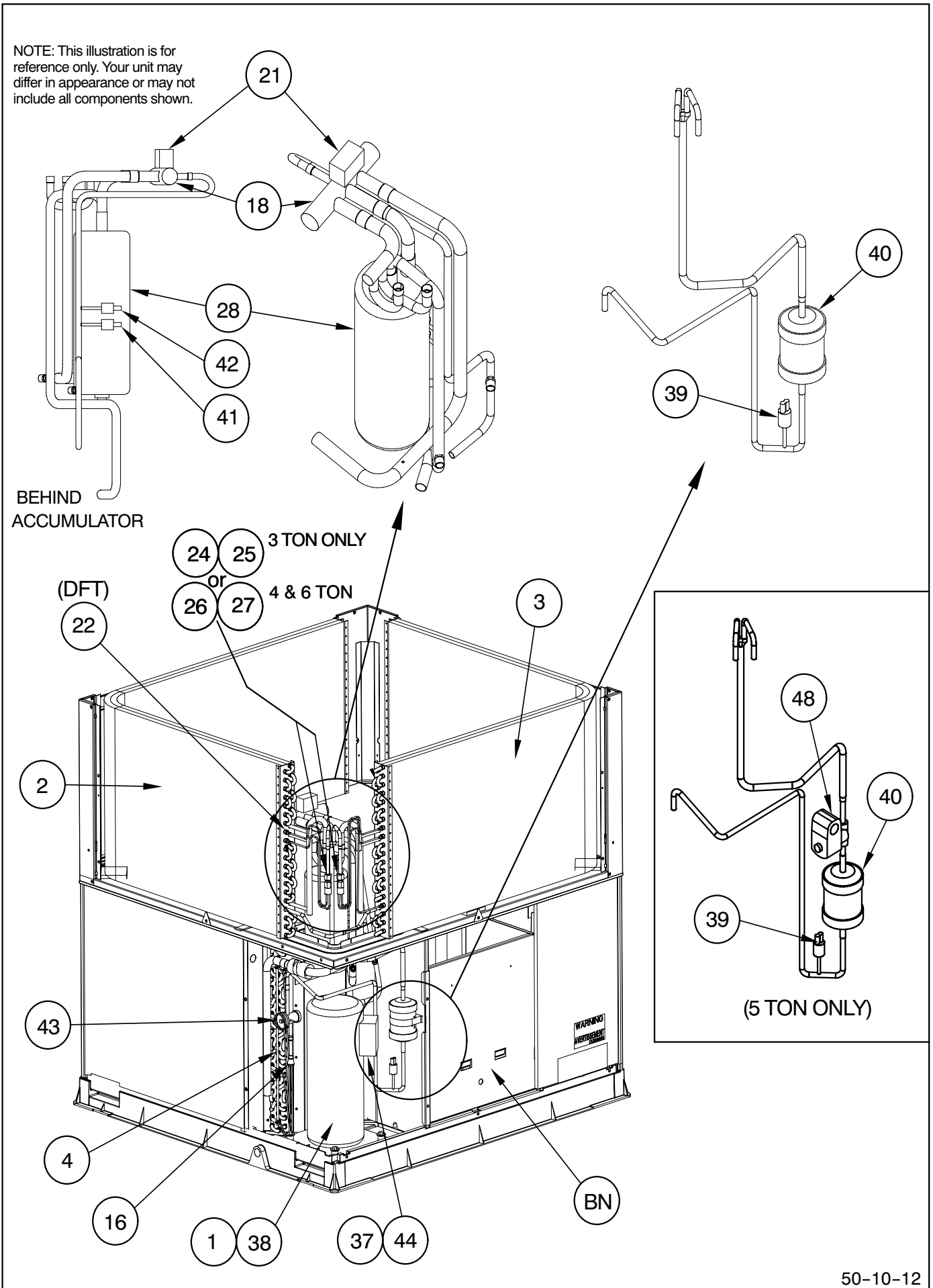


NOTE: This illustration is for reference only. Your unit may differ in appearance or may not include all components shown.

BLOWER ASY

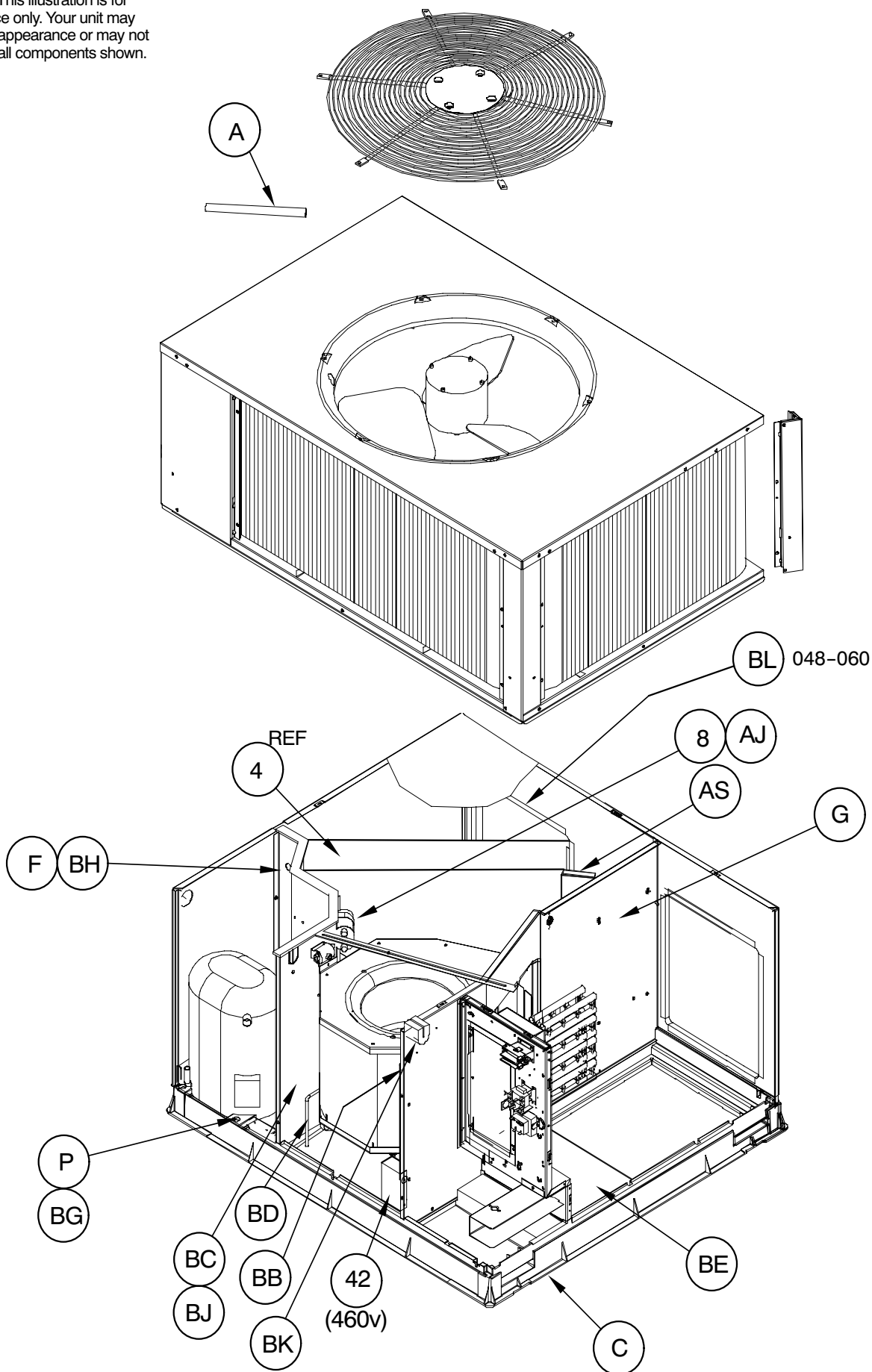


NOTE: This illustration is for reference only. Your unit may differ in appearance or may not include all components shown.



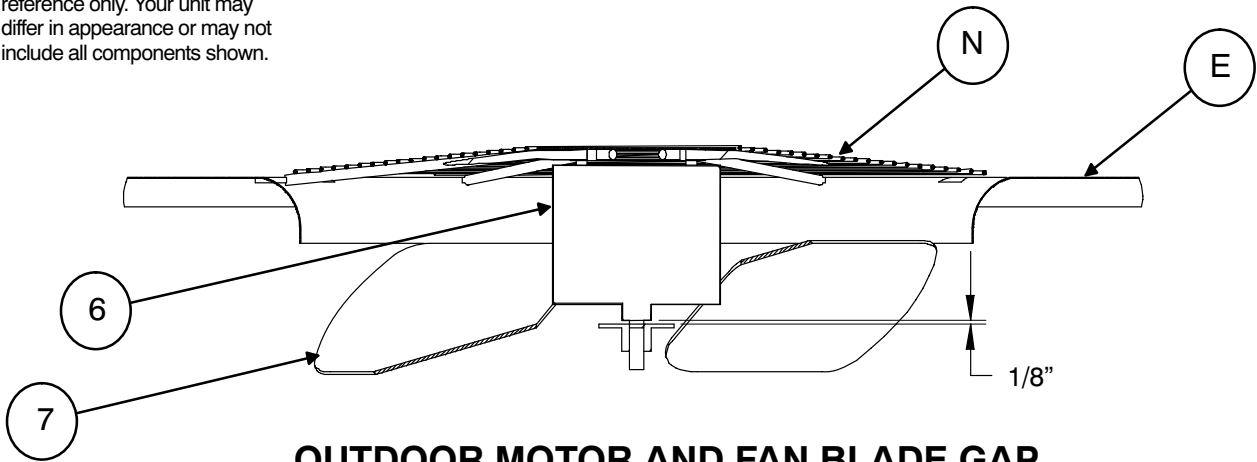
PAN5 48 & 60

NOTE: This illustration is for reference only. Your unit may differ in appearance or may not include all components shown.

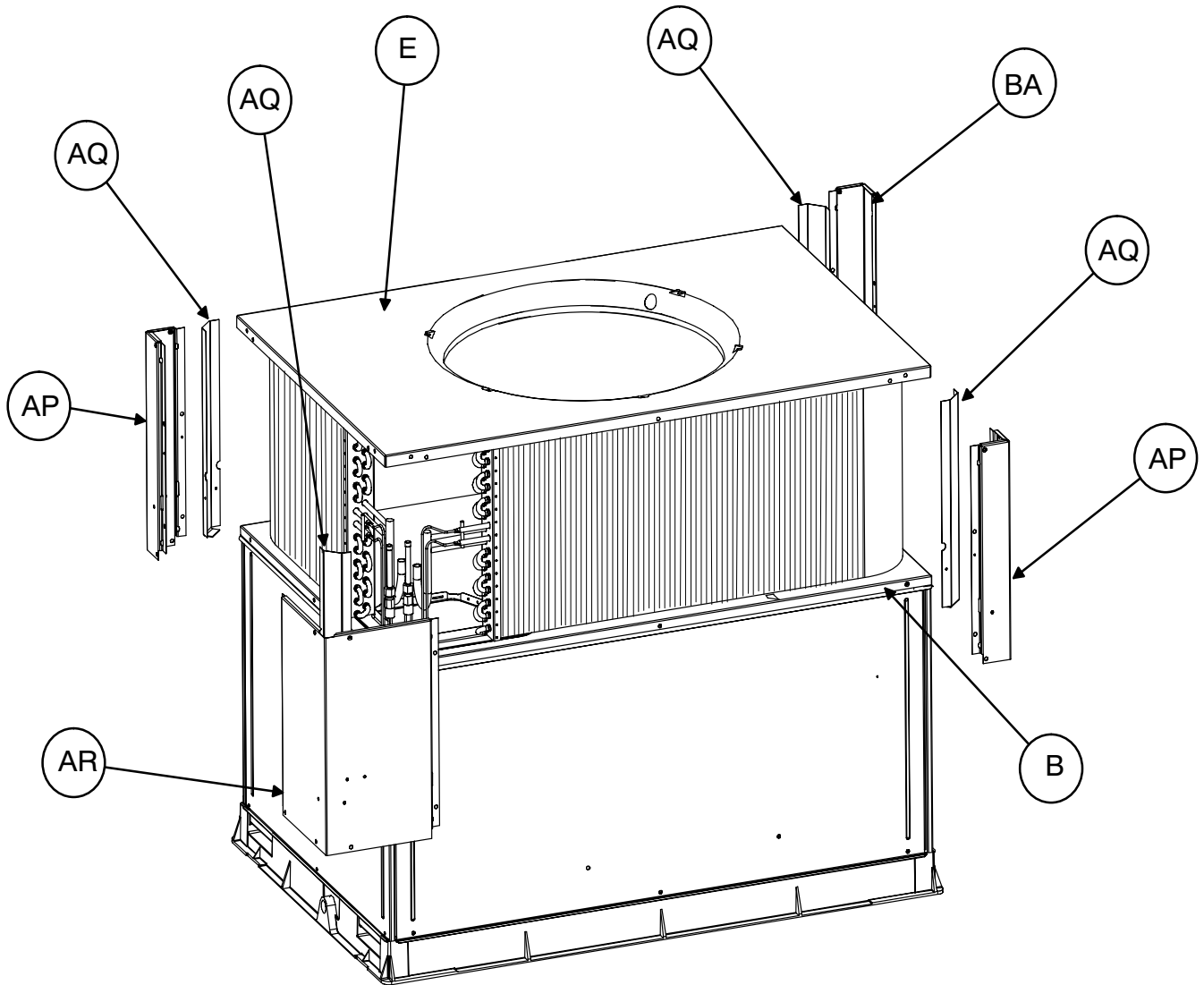


PHD013

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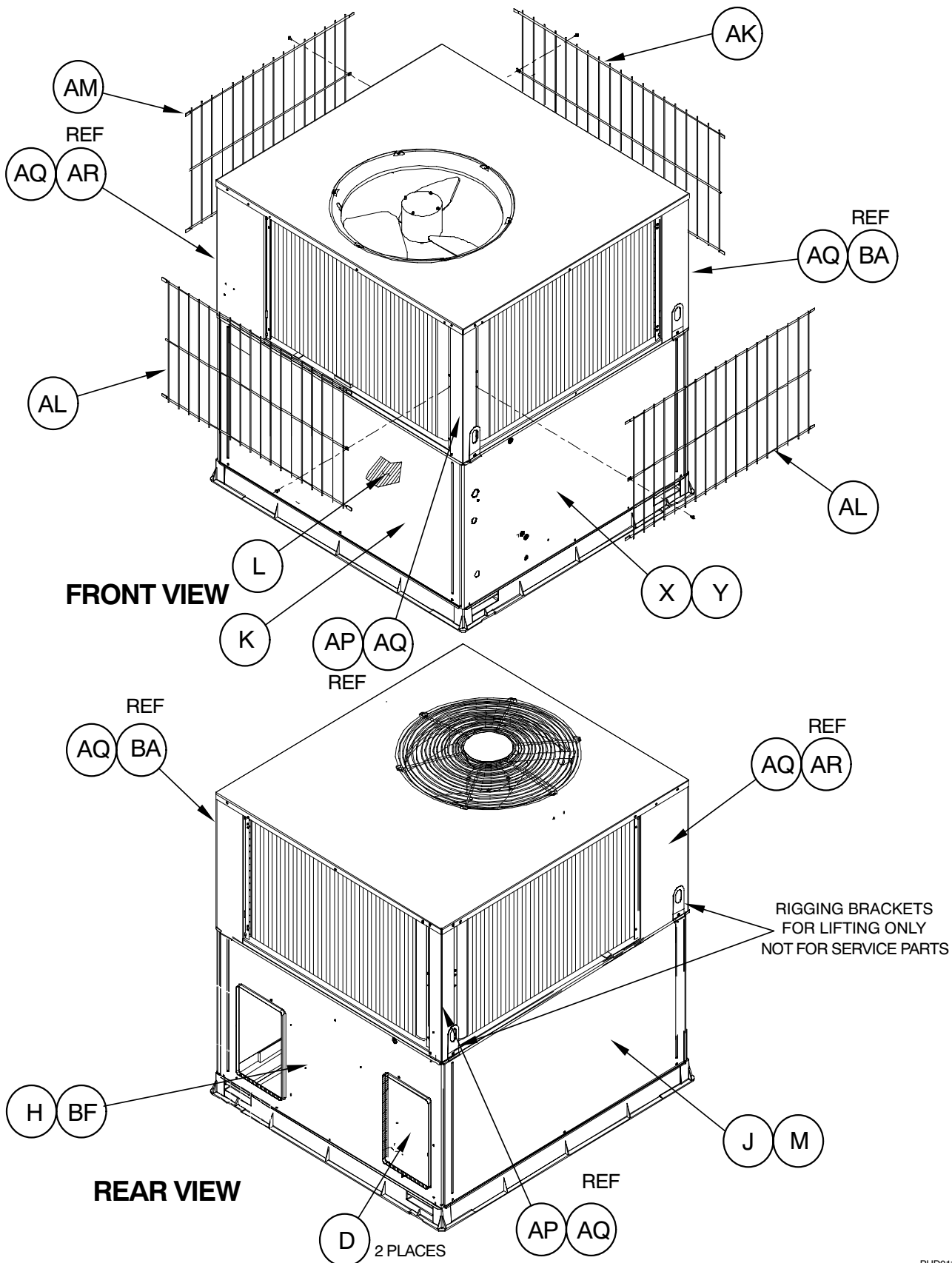


OUTDOOR MOTOR AND FAN BLADE GAP



PAN5 48 & 60

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PHD011

CHARGING CHART PHN5 24 – 60

Charging Procedure

- 1- Measure Discharge line pressure by attaching a gauge to the service port.
- 2- Measure the Liquid line temperature by attaching a temperature sensing device to it.
- 3- Insulate the temperature sensing device so that the Outdoor Ambient doesn't affect the reading.
- 4- Refer to the required Subcooling in the table based on the model size and the Outdoor Ambient temperature.
- 5- Interpolate if the Outdoor temperature lies in between the table values. Extrapolate if the temperature lies beyond the table range.
- 6- Find the Pressure Value corresponding to the the measured Pressure on the Compressor Discharge line.
- 7- Read across from the Pressure reading to obtain the Liquid line temperature for a required Subcooling.
- 8- Add Charge if the measured temperature is higher than the liquid line temperature value in the table.
- 9- Add Charge using the service connection on the Suction line of the Compressor.

Model Size	Required Subcooling ^{°F (°C)}				
	Outdoor Ambient Temperature				
	75 (24)	82 (28)	85 (29)	95 (35)	105 (41)
024	15.5 (8.6)	15.6 (8.7)	15.7 (8.7)	15.8 (8.8)	15.9 (8.9)
036	14 (7.7)	13.9 (7.7)	13.9 (7.7)	13.8 (7.7)	13.7 (7.6)
048	21 (11.6)	20.8 (11.5)	20.7 (11.5)	20.4 (11.3)	20.2 (11.2)
060	16.2 (9)	16.6 (9.2)	16.8 (9.3)	17.3 (9.6)	17.8 (9.9)

Required Liquid Line Temperature for a Specific Subcooling (R-410A)										
Pressure (psig)	Required Subcooling (°F)					Required Subcooling (°C)				
	5	10	15	25		Pressure (kPa)	3	6	8	14
174	56	51	46	36		1200	13	11	8	2
181	59	54	49	39		1248	15	12	9	4
188	61	56	51	41		1296	16	13	10	5
195	63	58	53	43		1344	17	14	12	6
202	65	60	55	45		1393	18	16	13	7
209	67	62	57	47		1441	20	17	14	9
216	69	64	59	49		1489	21	18	15	10
223	71	66	61	51		1537	22	19	16	11
230	73	68	63	53		1586	23	20	17	12
237	75	70	65	55		1634	24	21	19	13
244	77	72	67	57		1682	25	22	20	14
251	79	74	69	59		1730	26	23	21	15
259	81	76	71	61		1786	27	24	22	16
267	83	78	73	63		1841	28	26	23	17
275	85	80	75	65		1896	29	27	24	18
283	87	82	77	67		1951	31	28	25	19
291	89	84	79	69		2006	32	29	26	20
299	91	86	81	71		2061	33	30	27	22
308	93	88	83	73		2123	34	31	28	23
317	95	90	85	75		2185	35	32	29	24
326	97	92	87	77		2247	36	33	30	25
335	99	94	89	79		2309	37	34	31	26
344	101	96	91	81		2372	38	35	33	27
353	102	97	92	82		2434	39	36	34	28
363	104	99	94	84		2503	40	37	35	29
373	106	101	96	86		2571	41	39	36	30
383	108	103	98	88		2640	42	40	37	31
393	110	105	100	90		2709	43	41	38	32
403	112	107	102	92		2778	44	42	39	33
413	114	109	104	94		2847	45	43	40	34
423	116	111	106	96		2916	46	44	41	35
433	117	112	107	97		2985	47	45	42	36
443	119	114	109	99		3054	48	46	43	37
453	121	116	111	101		3123	49	47	44	38
463	122	117	112	102		3192	50	47	45	39
473	124	119	114	104		3261	51	48	46	40
483	126	121	116	106		3330	52	49	47	41
493	127	122	117	107		3399	53	50	47	42
503	129	124	119	109		3468	54	51	48	43
513	130	125	120	110		3537	55	52	49	44
523	132	127	122	112		3606	56	53	50	44
533	133	128	123	113		3675	56	54	51	45

CONNECTION WIRING DIAGRAM

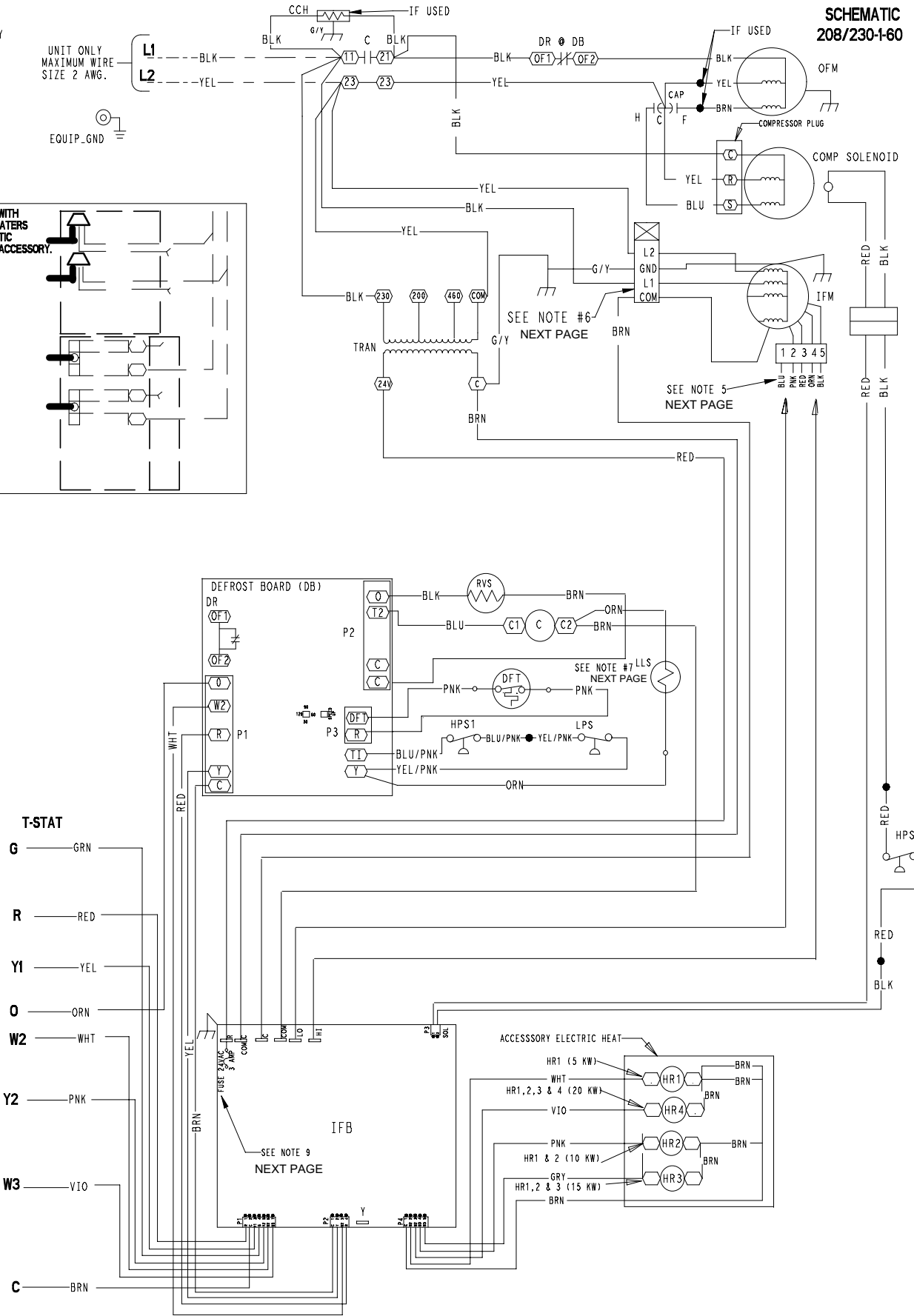
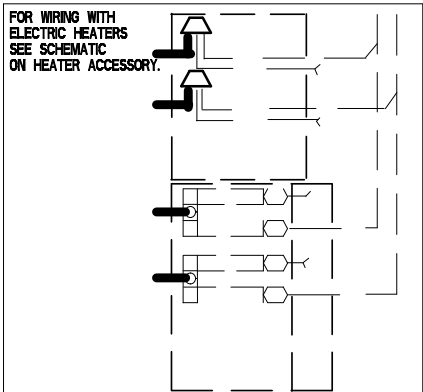
DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

**SCHEMATIC
208/230-1-60**

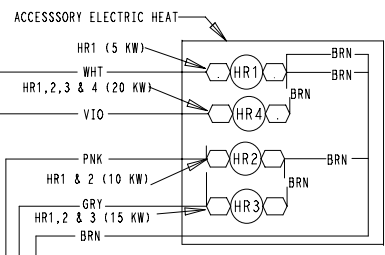
FIELD
SUPPLY
POWER

UNIT ONLY
MAXIMUM WIRE
SIZE 2 AWG.

EQUIP_GND



- T-STAT**
- G — GRN
 - R — RED
 - Y1 — YEL
 - O — ORN
 - W2 — WHT
 - Y2 — PNK
 - W3 — VIO
 - C — BRN



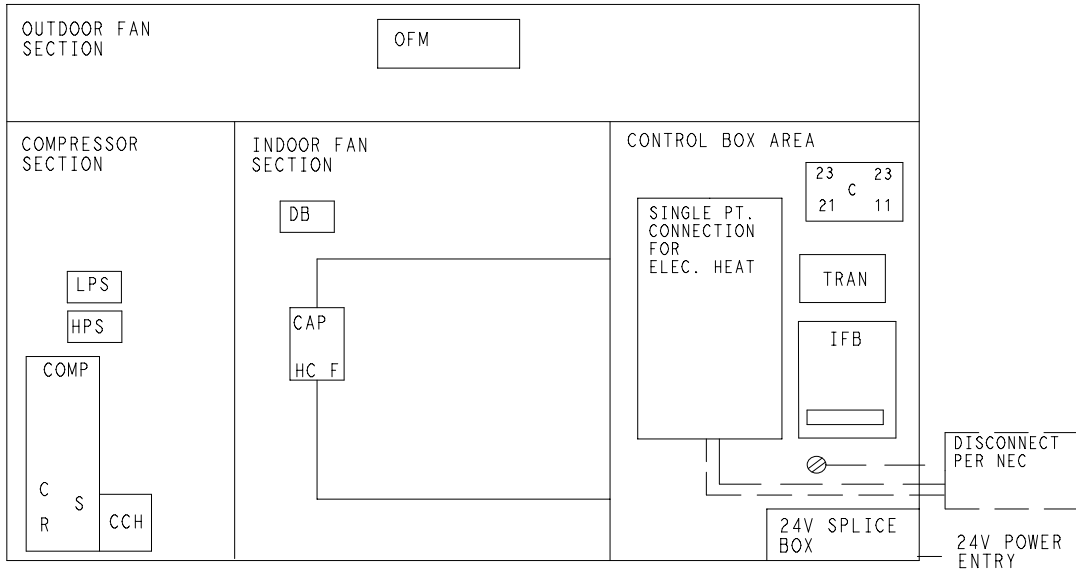
SEE NOTE 9
NEXT PAGE

SEE NOTE #6
NEXT PAGE

SEE NOTE 5
NEXT PAGE

SEE NOTE #7
NEXT PAGE

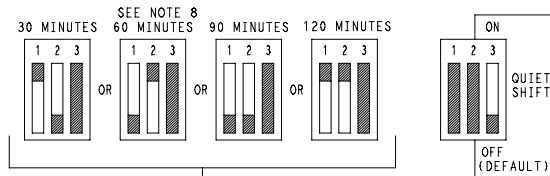
UNIT COMPONENT ARRANGEMENT



NOTES:

1. IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED, IT MUST BE REPLACED WITH TYPE 90 DEGREE C WIRE OR IT'S EQUIVALENT.
2. SEE PRICE PAGES FOR THERMOSTAT AND SUBBASES.
3. USE 75 DEGREE COPPER CONDUCTORS FOR FIELD INSTALLATION.
4. DEFROST TIMER TO BE SET AT 60 MIN.
5. SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT. INDOOR FAN PLUGS - "DO NOT DISCONNECT UNDER LOAD."
6. "DO NOT DISCONNECT PLUG UNDER LOAD."
7. USED ON 024 AND 060 UNITS ONLY.
8. SEE INSTALLATION INSTRUCTIONS FOR FACTORY SETTINGS.
9. THIS FUSE IS MANUFACTURED BY LITTLEFUSE, P/N 257003.

DIP SWITCH SETTINGS



LEGEND

- | | | | |
|-------|--|--------|--------------------------|
| △ | FIELD SPLICE | C | CONTACTOR |
| ○ | TERMINAL (MARKED) | CAP | CAPACITOR |
| ○ | TERMINAL (UNMARKED) | CB | CIRCUIT BREAKER |
| ○ | SPLICE | CCH | CRANK CASE HEATER |
| ○ | SPLICE (MARKED) | COMP | COMPRESSOR MOTOR |
| — | FACTORY WIRING | CTD | COMPRESSOR TIME DELAY |
| - - - | FIELD CONTROL WIRING | DB | DEFROST BOARD |
| - - - | FIELD POWER WIRING | DFT | DEFROST THERMOSTAT |
| - - - | ACCESSORY OR OPTIONAL WIRING | DR | DEFROST RELAY |
| - - - | | FCB | FAN CONTROL BOARD |
| - - - | | GND | GROUND |
| — | TO INDICATE COMMON POTENTIAL ONLY: NOT TO REPRESENT WIRING | HR | HEATER RELAY |
| | | IFB | INDOOR FAN BOARD |
| | | IFM | INDOOR FAN MOTOR |
| | | LLS | LIQUID LINE SOLENOID |
| | | LPS | LOW PRESSURE SWITCH |
| | | OFM | OUTDOOR FAN MOTOR |
| | | RVS | REVERSING VALVE SOLENOID |
| | | TRAN | TRANSFORMER |
| | | T-STAT | THERMOSTAT |

- FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)
 THE COMPRESSOR WILL SHUT OFF FOR 30 SEC. ON DEFROST INITIATION AND TERMINATION IN THE "QUIET SHIFT" ON POSITION
- SPEED UP JUMPERED TEST PINS (USE METAL OBJECT) FIELD SPEED-UP CYCLE
- 1) MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
 - 2) SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
 - 3) PERMANENT SHORT WILL BE IGNORED.
- DEFROST WILL TERMINATE IN 30 SEC. IF DFT OPEN.
 DEFROST WILL TERMINATE NORMALLY IF DFT IS CLOSED.

