



13 SEER, 7.7 HSPF, PACKAGE HEAT PUMP, 2.5 to 5 TONS

208/230-3-60, 460-3-60



REFRIGERATION CIRCUIT

- Environmentally sound R-410A refrigerant
- Copper tube/aluminum fin condenser and evaporator coils
- Scroll compressor standard on all models
- Short-cycling protection for the compressor is built into the defrost control board
- Dehumidification mode (airflow reduction) on all models

EASY TO INSTALL AND SERVICE

- Installs easily on a rooftop or at ground level
- Easy three-panel accessibility for maintenance and installation
- Easily converts to down discharge applications
- Combination electric heating and cooling

BUILT TO LAST

- 2" spacing wire grilles standard on all models
- High efficiency ECM indoor blower motor on all models
- Pre-painted steel cabinet
- Vertical condenser fan discharge
- Full perimeter steel base rails
- High and low pressure switches provide added reliability for the compressor

LIMITED WARRANTY*

- 5 year compressor limited warranty
- 1 year parts limited warranty

* See warranty certificate for complete details and restrictions.



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

UNIT PERFORMANCE DATA							
Model Number	COOLING			HEATING		Unit Dimensions Height x Width x Depth in (mm)	Operating Weight lbs (kg)
	Capacity BTU/h	SEER	EER	Capacity BTU/h	HSPF		
PHD330000H000C	29,000	13.5	11.5	29,000	7.7	42 ¹ / ₈ x48 ³ / ₁₆ x32 ⁵ / ₈ (1070x1224x829)	332 (150)
PHD336000^000C	35,000	13.5	11.5	35,000	7.7	42 ¹ / ₈ x48 ³ / ₁₆ x32 ⁵ / ₈ (1070x1224x829)	336 (152)
PHD342000^000C	40,000	13.2	11.5	40,000	7.7	44 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1137x1225x1122)	411 (186)
PHD348000^000C	47,000	13.5	11.5	46,500	7.7	44 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1137x1225x1122)	429 (194)
PHD360000^000C	57,000	13.5	11.5	57,000	7.7	48 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1238x1225x1122)	454 (206)

^ H = 208/230 V, L = 460 V

MODEL NOMENCLATURE											
MODEL SERIES	1	2	3	4	5,6	7,8,9	10	11,12	13	14	15
	P	H	D	3	36	000	H	00	0	C	1
P = Package											
H = Heat Pump											
D = Standard											
3 = 13											
4 = 14											
30 = 30,000 BTUH = 2.5 Tons											
36 = 36,000 BTUH = 3 Tons											
42 = 42,000 BTUH = 3.5 Tons											
48 = 48,000 BTUH = 4 Tons											
60 = 60,000 BTUH = 5 Tons											
NOMINAL COOLING CAPACITY											
000 = no factory heat											
NOMINAL HEATING BTUH (input)											
H = 208/230-3-60											
L = 460-3-60											
VOLTAGE											
00 = No options											
FACTORY INSTALLED OPTIONS											
0 = Standard											
FEATURE CODE											
Sales Model Digit											
Engineering Digit											

AHRI* CAPACITIES

COOLING CAPACITIES AND EFFICIENCIES

UNIT PHD3	NOMINAL TONS	STANDARD CFM	COOLING CAPACITIES (Btuh)	EER**	SEER†
30	2-1/2	1000	29,000	11.5	13.5
36	3	1200	35,000	11.5	13.5
42	3-1/2	1400	40,000	11.5	13.2
48	4	1600	47,000	11.5	13.5
60	5	1850	57,000	11.5	13.5

Heat Pump Heating Capacities and Efficiencies

UNIT PHD3	HEATING CAPACITY (Btuh) @ 47°F (8.3°C)	COP @ 47°F (8.3°C)	HEATING CAPACITY (Btuh) @ 17°F (-8.3°C)	COP @ 17°F (-8.3°C)	HSPF†
30	29,000	3.5	15,900	2.2	7.7
36	35,000	3.4	20,400	2.3	7.7
42	40,000	3.4	22,000	2.2	7.7
48	46,500	3.6	26,200	2.3	7.7
60	57,000	3.5	31,000	2.3	7.7

LEGEND

dB—Sound Levels (decibels)

db—Dry Bulb

SEER—Seasonal Energy Efficiency Ratio

wb—Wet Bulb

COP—Coefficient of Performance

HSPF—Heating Season Performance Factor

* Air Conditioning, Heating & Refrigeration Institute.

**At "A" conditions—80°F (26.7°C) indoor db/67°F (19.4°C) indoor wb & 95°F (35°C) outdoor db.

† Rated in accordance with U.S. Government DOE Department of Energy) test procedures and/or AHRI Standards 210/240.

Notes:

1. Ratings are net values, reflecting the effects of circulating fan heat.

Ratings are based on:

Cooling Standard: 80°F (26.7°C) db, 67°F (19.4°C) wb indoor entering—air temperature and 95°F (35°C) db outdoor entering—air temperature.

2. Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

PHYSICAL DATA – UNIT PHD3

UNIT SIZE	30	36	42	48	60
NOMINAL CAPACITY (ton)	2.5	3	3.5	4	5
SHIPPING WEIGHT† (lb)	340	343	419	429	454
(kg)	154	156	190	195	206
COMPRESSOR QUANTITY	1				
TYPE	SCROLL COMPRESSOR				
REFRIGERANT	R-410A				
Refrigerant (R-410A) Quantity (lb)	10.2	7.9	10.0	9.6	12.3
Quantity (kg)	4.6	3.6	4.5	4.4	5.6
METERING DEVICE ID	TXV				
ORIFICE OD (in.) (mm)	0.035 (2) .89	0.037 (2) .94	0.038 (Left OD Coil) 0.040 (Right OD Coil) .97/1.02	0.046 (2) 1.2	0.052 (2) 1.3
OUTDOOR COIL Rows... Fins/in. face area (sq. ft.)	2...21 11.9	2...21 11.9	2...21 13.6	2...21 13.6	2...21 17.5
OUTDOOR FAN Nominal Airflow (CFM) Diameter Motor HP (RPM)	2700 24 1/5 (810)	2700 24 1/5 (810)	3100 26 1/5 (810)	3100 26 1/5 (810)	3500 26 1/5 (810)
INDOOR COIL Rows... Fins/in. face area (sq. ft.)	3...17 3.7	3...17 3.7	3...17 4.7	3...17 4.7	3...17 5.7
INDOOR BLOWER Nominal Cooling Airflow (CFM) Size (in.) (mm) Motor (HP)	1000 10x10 254x254 1/2	1200 11x10 279x254 3/4	1400 11x10 279x254 3/4	1600 11x10 279x254 1.0	1800 11x10 279x254 1.0
HIGH-PRESSURE SWITCH (psig) Cutout Reset (Auto)	650±15 420±25				
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (Liquid Line) (psig) Cutout Reset (Auto)	20±5 45±10 20±5 45±10				
RETURN-AIR FILTERS*† throwaway (in.) (mm)	20x24x1 508x610x25	24x30x1 610x762x25		24x36x1 610x914x25	

*Required filter sizes shown are based on the larger of the AHRI (Air Conditioning Heating and Refrigeration Institute) rated cooling airflow or the heating airflow velocity of 300 ft/minute for throwaway type or 450 ft/minute for high-capacity type. Air filter pressure drop for non-standard filters must not exceed 0.08 IN. W.C.

† If using accessory filter rack refer to the filter rack installation instructions for correct filter size and quantity.

‡ For 460 volt units, add 14 lb (6.4 kg) to the weight.

A-Weighted Sound Power Level (dBA)

MODEL PHD3	STANDARD RATING (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
30	76	60.5	67.5	72.0	70.0	67.0	61.0	51.5
36	77	63.0	68.0	73.0	71.0	67.0	62.0	55.0
42	78	65.0	68.5	74.5	72.5	69.5	64.5	56.5
48	78	62.0	68.5	74.0	72.5	70.0	64.0	56.0
60	76	63.0	66.5	69.5	71.0	66.0	65.0	59.0

NOTE: Tested in accordance with AHRI Standard 270-1995 (not listed in AHRI).

OPTIONS AND ACCESSORIES

ITEM	DESCRIPTION	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Coil Options	Base unit with tin plated indoor coil hairpins	X	
Corporate Thermostats	Thermostats provide control for the system heating and cooling functions.		X
Crankcase Heater	Crankcase Heater provides anti-floodback protection for low-load cooling applications.		X*
Economizer	Horizontal Economizer with solid state controls and barometric relief dampers includes filter racks and provide outdoor air during cooling and reduce compressor operation.		X
	Vertical Economizer with solid state controls and barometric relief dampers includes filter racks and provide outdoor air during cooling and reduce compressor operation.	X	X
Electric Heaters	Electric Heat Supplement		X
Filter Rack	Filter Rack features easy installation, serviceability, and high-filtering performance for vertical applications. Includes 1-in. filter.	X	X
Flat Roof Curb	14-in. (356 mm) Flat Roof Curb is available for roof mounted applications.		X
Low Ambient Kit	Low Ambient Kit (Motormaster II Control) allows the use of mechanical cooling down to outdoor temperatures as low as 0°F (-18°C) when properly installed.		X
Louver Metal Outdoor Coil Grilles	Louver Metal Outdoor Coil Grilles provides hail and vandalism protection.		X
Manual Outside Air Damper	Manual Outside Air Damper includes hood and filter rack with adjustable damper blade for up to 25% outdoor air.		X
Square-to-Round Duct Transition Kit	Square-to-Round Duct Transition Kit enable 24-48 size units to be fitted to 14 in. (356 mm) round ductwork.		X
Time Guard II	Automatically prevents the compressor from restarting for at least 4 minutes and 45 seconds after shutdown of the compressor. Not required when a corporate programmable thermostat is applied or with a RTU-MP control.		X

*Refer to Price Page for application detail.

ELECTRIC HEATERS

ORDERING NO.	NOMINAL CAPACITY (kW @ 240 or 480 VOLTS)	USED WITH SIZES				
		30	36	42	48	60
208/230 - THREE PHASE - 60 HZ						
CPHEATER055A00	5.0	X	X	X	X	X
CPHEATER056A00	10.0	X	X	X	X	
CPHEATER068A00	10.0	X	X	X	X	X
CPHEATER058A00	15.0	X	X	X	X	X
CPHEATER059A01	20.0			X	X	X
460 - THREE PHASE - 60 HZ						
CPHEATER060A00	5.0		X	X	X	X
CPHEATER061A00	10.0		X	X	X	X
CPHEATER062A00	15.0		X	X	X	X
CPHEATER063A00	20.0			X	X	X

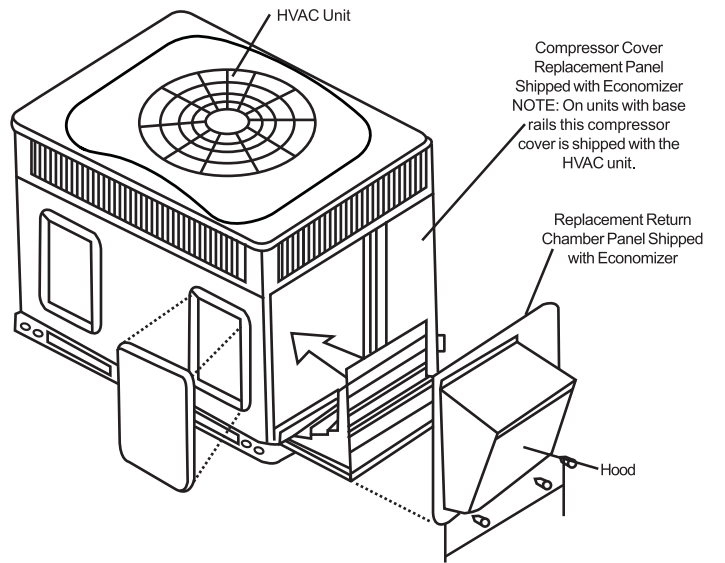
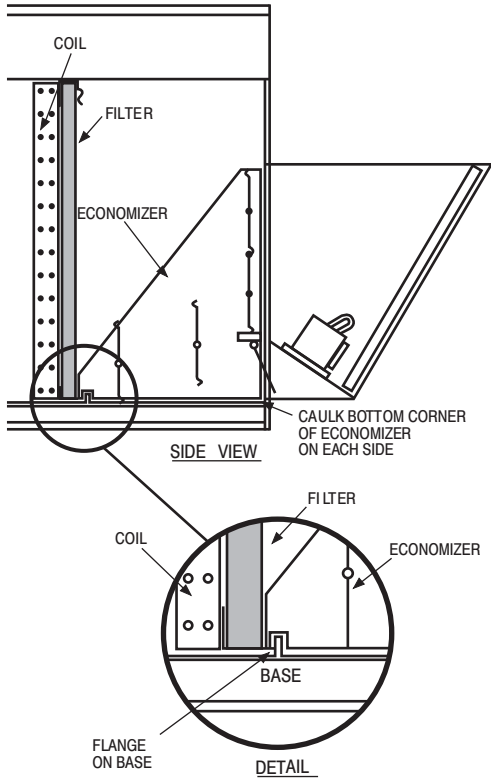
NOTE: Electric heaters are rated at 240v. Refer to Multiplication Factors table for other voltages.

X = Approved combination

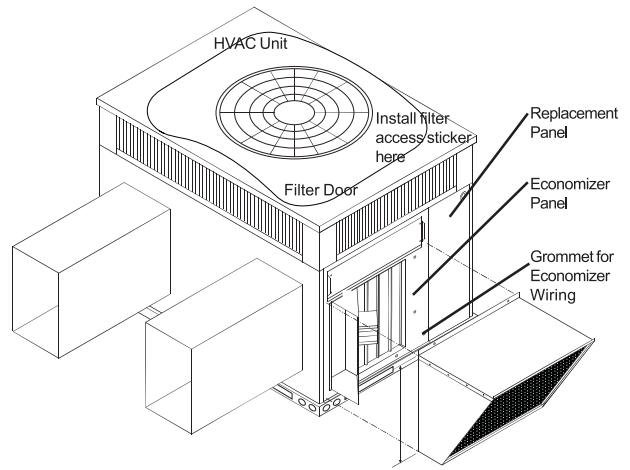
Minimum Airflow for Reliable Electric Heater Operation (CFM)

SIZE	30	36	42	48	60
AIRFLOW (CFM)	1025	1250	1400	1710	1800

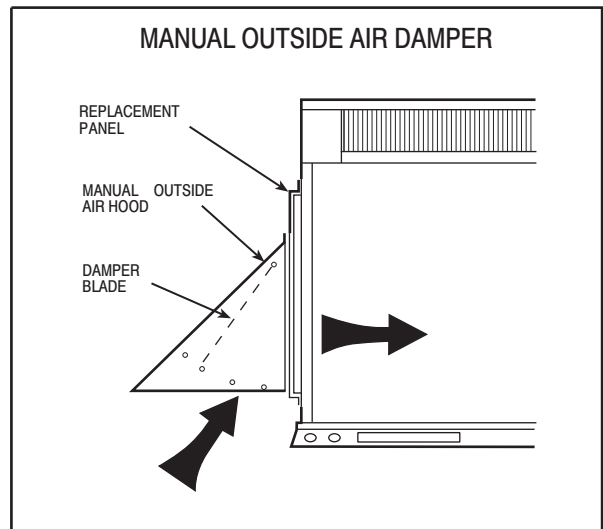
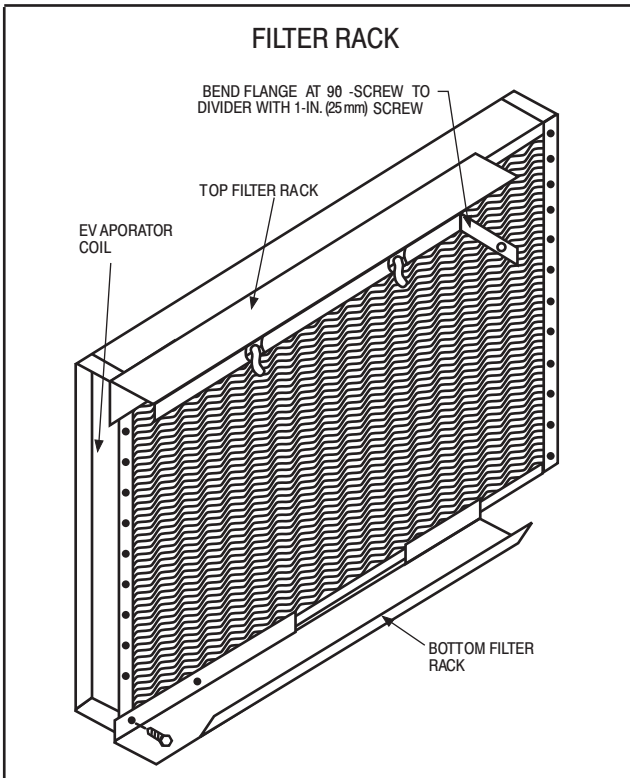
ECONOMIZER



Vertical Economizer



Horizontal Economizer



A09375

UNIT DIMENSIONS - PHD330-36

UNIT	ELECTRICAL CHARACTERISTICS	UNIT WT.		UNIT HEIGHT		CENTER OF GRAVITY IN/MM					
		LB	KG	"A"	"A"	X	Y	Z	Z		
30	208/230-3-60	332	150.7	42-1/8	1070	19-3/4	501.7	14-3/4	374.7	16	406.4
36	208/230-3-60	336	152.3	42-1/8	1070	19-3/4	501.7	14-3/4	374.7	16	406.4
36	460-3-60	350	158.6	42-1/8	1070	19-3/4	501.7	14-3/4	374.7	16	406.4

UNITS	VOLTAGE	CORNER WEIGHT	
		LB/ING	"A"
30	208/230	68.5	30.2
36	208/230	67.2	30.3
36	460	67.2	30.3

NOTE: ALL TABLE DATA RELEVANT FOR ALL FACTORY INSTALLED OPTIONS EXCEPT ECONOMIZER

REQUIRED CLEARANCES TO COMBUSTIBLE MATL.

TOP OF UNIT..... 2 [50.8] INCHES [MM]

DUCT SIDE OF UNIT..... 2 [50.8]

SIDE OPPOSITE DUCTS..... 14 [355.6]

BOTTOM OF UNIT..... 6 [152.4]

ELECTRICAL PANEL..... 36 [914.4]

NEC REQUIRED CLEARANCES.

BETWEEN UNITS, POWER ENTRY SIDE..... 36 [914.4] INCHES [MM]

UNIT AND UNGROUNDED SURFACES, POWER ENTRY SIDE..... 36 [914.4]

UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, POWER ENTRY SIDE..... 42 [1066.8]

REQUIRED CLEARANCE FOR OPERATION AND SERVICING

EVAP. COIL ACCESS SIDE..... 36 [914.4] INCHES [MM]

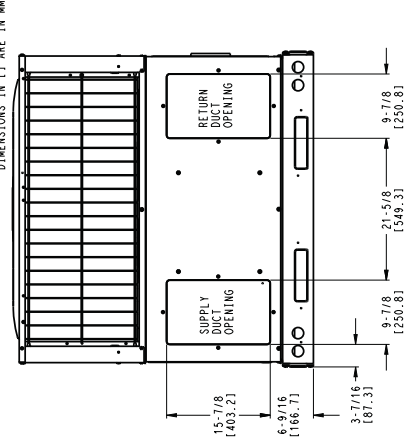
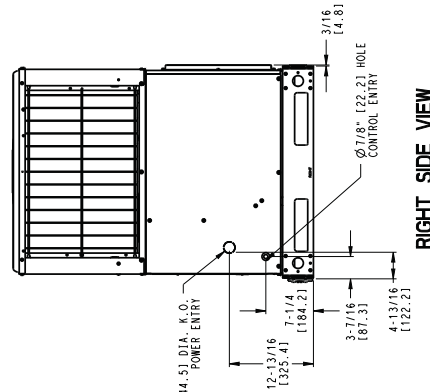
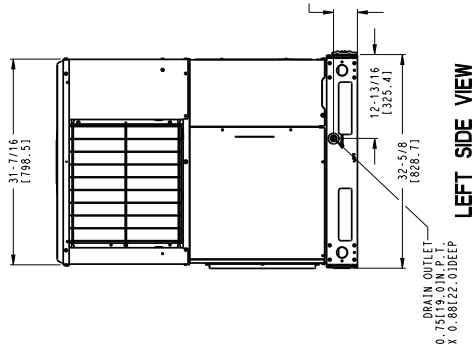
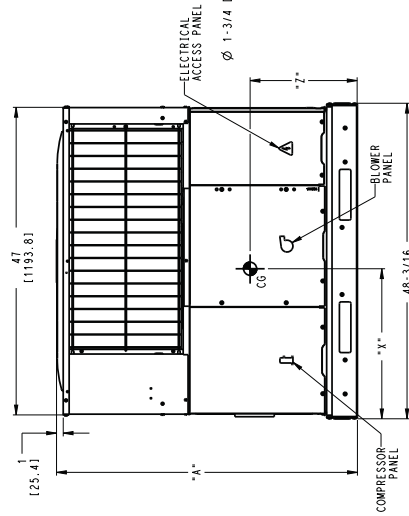
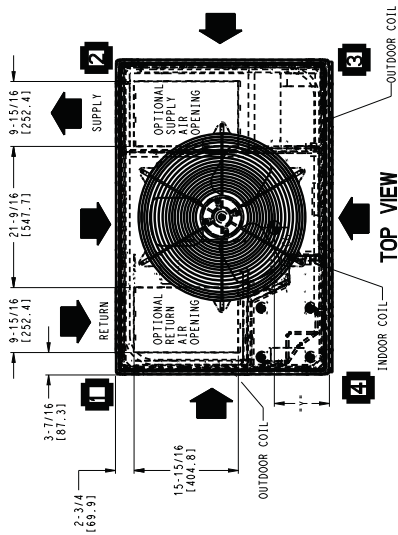
POWER ENTRY SIDE (POWER FOR REC. REQUIREMENTS)..... 42 [1066.8]

UNIT TOP..... 48 [1219.2]

SIDE OPPOSITE DUCTS..... 36 [914.4]

DUCT PANEL..... 12 [304.8]

•MINIMUM DISTANCES: IF UNIT IS PLACED LESS THAN 12 [304.8] FROM WALL SYSTEM, THEN SYSTEM PERFORMANCE MAYBE COMPROMISED.



REV B
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UNIT DIMENSIONS - PHD342-60

UNIT	ELECTRICAL CHARACTERISTICS	UNIT WT.		UNIT HEIGHT IN/MM		CENTER OF GRAVITY IN/MM					
		LB.	KG	"A"	"B"	X	Y	Z			
42	208/230-3-60	411	186.3	44-3/4	1137	19-1/2	495.3	16-1/2	419.1	17	431.8
42	460-3-60	425	192.7	44-3/4	1137	19-1/2	495.3	16-1/2	419.1	17	431.8
48	208/230-3-60	429	194.7	44-3/4	1137	19-1/2	495.3	16-1/2	419.1	17	431.8
48	460-3-60	443	201.1	44-3/4	1137	19-1/2	495.3	16-1/2	419.1	17	431.8
60	208/230-3-60	454	206.0	48-3/4	1238	19-1/2	495.3	16-1/2	419.1	18	451.2
60	460-3-60	468	212.4	48-3/4	1238	19-1/2	495.3	16-1/2	419.1	18	451.2

UNITS	CORNER WEIGHT LB/KG			
	"1"	"2"	"3"	"4"
42	208/230 82.1	37.3	65.7	29.8
42	460 82.1	37.3	65.7	29.8
48	208/230 85.8	39.0	68.1	31.2
48	460 85.8	39.0	68.1	31.2
60	208/230 90.8	41.2	72.7	33.0
60	460 90.8	41.2	72.7	33.0

REQUIRED CLEARANCES TO COMBUSTIBLE MATL.

TOP OF UNIT.....	14 [355.6]
DOOR SIDE OF UNIT.....	2 [50.8]
SIDE OPPOSITE DOORS.....	14 [355.6]
BOTTOM OF UNIT.....	0 [0.0]
ELECTRICAL PANEL.....	36 [914.4]

NEC REQUIRED CLEARANCES

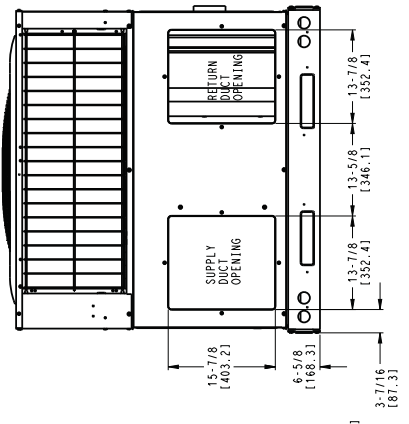
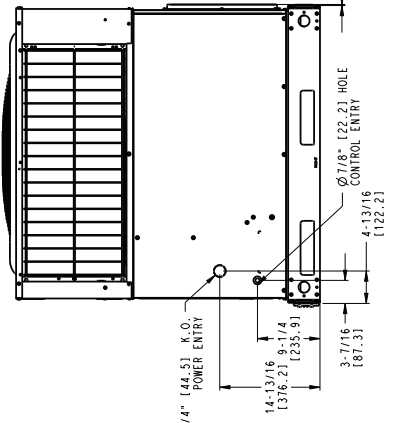
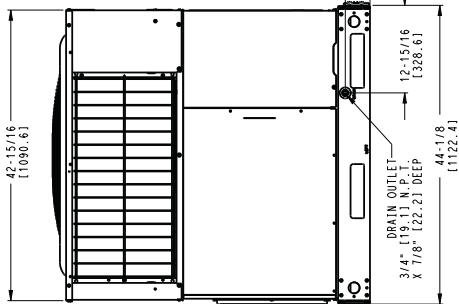
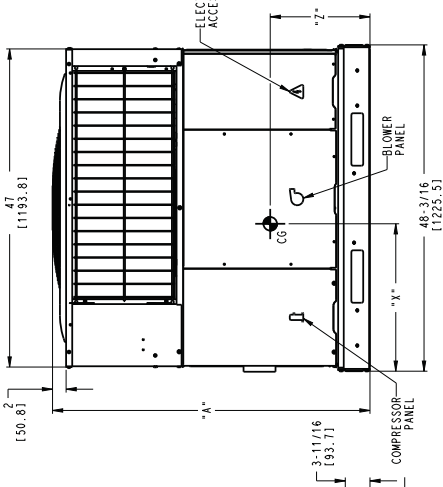
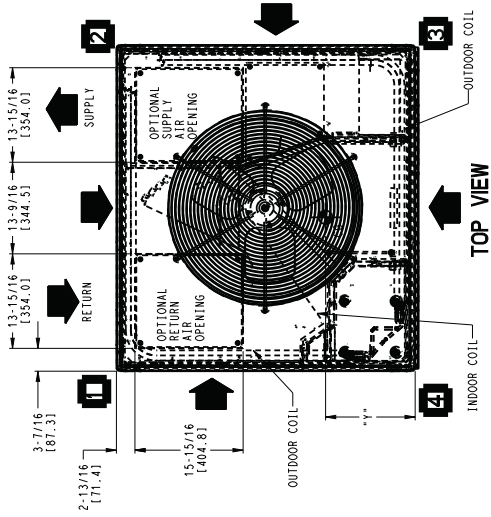
BETWEEN UNITS, POWER ENTRY SIDE.....	INCHES [MM]
UNIT AND UNGROUND SURFACES, POWER ENTRY SIDE.....	36 [914.4]
UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUND SURFACES, POWER ENTRY SIDE.....	42 [1066.8]

REQUIRED CLEARANCE FOR OPERATION AND SERVICING

EVAP. COIL ACCESS SIDE.....	INCHES [MM]
POWER ENTRY SIDE.....	36 [914.4]
(EXCEPT FOR NEC REQUIREMENTS)	42 [1066.8]
SIDE OPPOSITE DOORS.....	48 [1219.2]
DUCT PANEL.....	36 [914.4]
DUCT PANEL.....	12 [304.8]

*MINIMUM DISTANCES: IF UNIT IS PLACED LESS THAN 12 [304.8] FROM WALL SYSTEM, THEN SYSTEM PERFORMANCE MAY BE COMPROMISED.

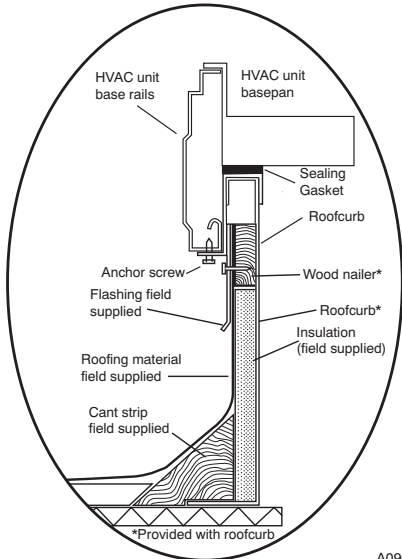
DIMENSIONS IN () ARE IN MM



NOTE: ALL TABLE DATA RELEVANT FOR ALL FACTORY INSTALLED OPTIONS EXCEPT ECONOMIZER

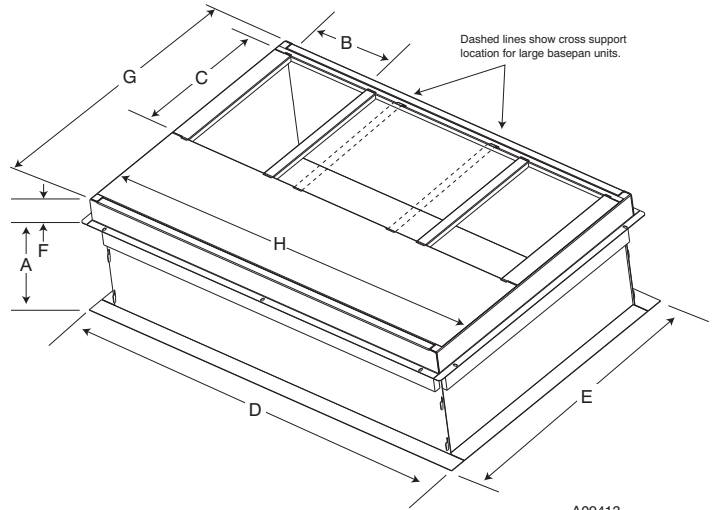
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ROOF CURB ACCESSORY DIMENSIONS



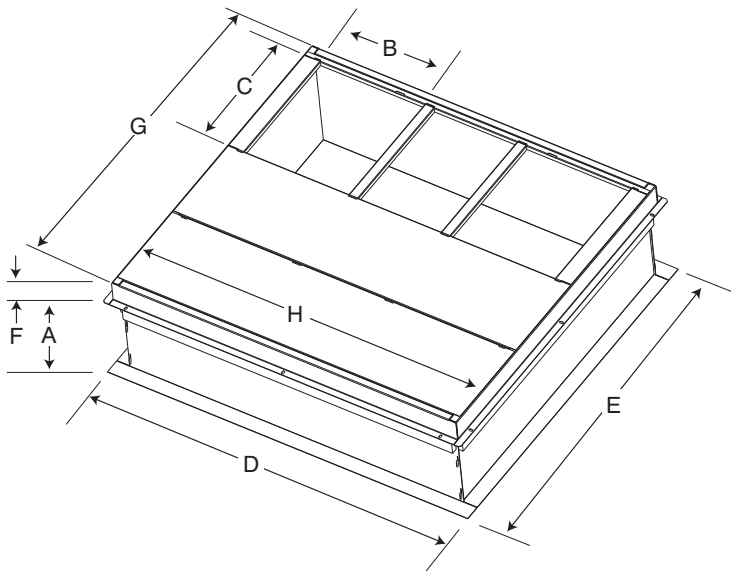
ROOF CURB DETAIL

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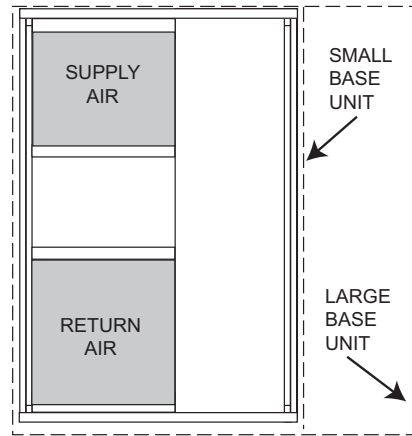
SMALL/COMMON CURB

A09413



LARGE CURB

A09415



UNIT PLACEMENT ON COMMON CURB

A09094

SMALL OR LARGE BASE UNIT

A09414

UNIT SIZE	CATALOG NUMBER	A IN. (mm)	B (small/common base) IN. (mm)*	B (large base) IN. (mm)*	C IN. (mm)	D IN. (mm)	E IN. (mm)	F IN. (mm)	G IN. (mm)	H IN. (mm)
Small or Large	CPRFCURB011A00	14 (356)	10 (254)	14 (356)	16 (406)	47.8 (1214)	32.4 (822)	2.7 (69)	30.6 (778)	46.1 (1170)
Large	CPRFCURB013A00	14 (356)	14 (356)				43.9 (1116)			

* Part Number CPRFCURB011A00 can be used on both small and large basepan units. The cross supports must be located based on whether the unit is a small basepan or a large basepan.

NOTES:

1. Roof curb must be set up for unit being installed.
2. Seal strip must be applied, as required, to unit being installed.
3. Roof curb is made of 16-gauge steel.
4. Attach ductwork to curb (flanges of duct rest on curb).
5. Insulated panels: 1-in. (25.4 mm) thick fiberglass 1 lb. density.

SELECTION PROCEDURE (WITH EXAMPLE)

1. Determine cooling and heating requirements at design conditions:

Given:

Required Cooling Capacity (TC)	34,500 Btuh
Sensible Heat Capacity (SHC)	26,000 Btuh
Required Heating Capacity	60,000 Btuh
Condenser Entering Air Temperature	95°F (35°C)
Indoor–Air Temperature	80°F (27°C) edb 67°F (19°C) ewb
Evaporator Air Quantity	1200 CFM
External Static Pressure	0.200 IN.W.C.
Electrical Characteristics	208–3–60

2. Select unit based on required cooling capacity.

Enter Net Cooling Capacities table at condenser entering temperature of 95°F (35°C). Unit 036 at 1200 cfm and 67°F (19°C) ewb (entering wet bulb) will provide a total capacity of 35,000 Btuh and a SHC of 26,200 Btuh. Calculate SHC correction, if required, using Note 4 under Cooling Capacities tables.

3. Select heating capacity of unit to provide design condition requirement.

In the Heating Capacities and Efficiencies table, note that the 36 size unit will deliver 35,000 BTUH at the ARI high temp rating point. To achieve 60,000 BTUH, accessory electric heat will be required. Use the Balance Point Worksheet to plot the load line with the unit capacity. The difference between the load line and unit capacity at the design heating temperature is the amount of electric heat that will be required.

4. Determine fan speed and power requirements at design conditions.

Before entering the air delivery tables, calculate the total static pressure required. From the given example, the Wet Coil Pressure Drop Table, and the Filter Pressure Drop Table:

External Static Pressure	0.200 IN. W.C.
Filter	0.130 IN. W.C.
Wet Coil Pressure Drop	<u>0.18</u> IN. W.C.
Total Static Pressure	0.51 IN. W.C.

Enter the table for Dry Coil Air Delivery— At 0.50 IN. W.C. ESP (external static pressure) and MEDIUM speed the motor delivers 1209 cfm.

5. Select unit that corresponds to power source available.

The Electrical Data Table shows that the unit is designed to operate at 208–3–60.

PERFORMANCE DATA

30 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		CFM / BF	EWB °F (°C)	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	
Total	Sens			Total	Sens		Total	Sens		Total	Sens		Total	Sens					
875 / 0.13	57 (13.9)	27.44	27.44	2.00	26.40	26.40	2.22	25.31	25.31	2.47	24.13	24.13	2.75	22.83	22.83	3.07	21.42	21.42	3.44
	62 (16.7)	28.39	25.49	2.00	27.09	24.83	2.22	25.75	24.11	2.47	24.34	23.30	2.75	22.88	22.88	3.07	21.45	21.45	3.44
	63* (17.2)	28.86	20.79	2.00	27.53	20.17	2.22	26.13	19.52	2.47	24.63	18.84	2.75	23.00	18.09	3.07	21.25	17.29	3.44
	67 (19.4)	31.27	21.73	2.02	29.83	21.10	2.24	28.33	20.46	2.49	26.73	19.77	2.76	25.00	19.04	3.08	23.14	18.24	3.45
	72 (13.9)	34.57	17.68	2.04	32.97	17.10	2.26	31.32	16.50	2.51	29.56	15.87	2.79	27.68	15.20	3.10	25.66	14.44	3.46
1000 / 0.17	57 (13.9)	28.78	28.78	2.04	27.67	27.67	2.26	26.49	26.49	2.50	25.23	25.23	2.78	23.84	23.84	3.11	22.33	22.33	3.47
	62 (16.7)	29.25	27.45	2.04	27.91	26.71	2.26	26.55	26.55	2.50	25.27	25.27	2.79	23.88	23.88	3.11	22.37	22.37	3.47
	63* (17.2)	29.64	22.24	2.04	28.24	21.59	2.26	26.76	20.92	2.51	25.20	20.20	2.78	23.51	19.42	3.10	21.69	18.56	3.47
	67 (19.4)	32.09	23.29	2.05	30.58	22.64	2.28	29.00	21.96	2.52	27.32	21.25	2.80	25.54	20.48	3.12	23.60	19.64	3.48
	72 (13.9)	35.47	18.74	2.08	33.78	18.14	2.30	32.02	17.52	2.55	30.20	16.83	2.82	28.25	16.11	3.14	26.14	15.32	3.49
1125 / 0.21	57 (13.9)	29.95	29.95	2.07	28.75	28.75	2.29	27.50	27.50	2.54	26.15	26.15	2.82	24.69	24.69	3.14	23.10	23.10	3.51
	62 (16.7)	30.03	30.03	2.07	28.81	28.81	2.30	27.55	27.55	2.54	26.20	26.20	2.82	24.73	24.73	3.14	23.14	23.14	3.51
	63* (17.2)	30.27	23.63	2.07	28.80	22.96	2.29	27.27	22.26	2.54	25.65	21.50	2.82	23.91	20.68	3.14	22.05	19.77	3.50
	67 (19.4)	32.74	24.80	2.09	31.17	24.11	2.31	29.54	23.41	2.56	27.80	22.67	2.83	25.95	21.86	3.15	23.97	20.96	3.51
	72 (13.9)	36.13	19.76	2.11	34.40	19.10	2.34	32.60	18.43	2.58	30.70	17.73	2.86	28.69	16.98	3.17	26.51	16.17	3.53

*At 75°F (23.9 °C) entering dry bulb—Tennessee Valley Authority [TVA] rating conditions; all others at 80°F (26.7 °C) entering dry bulb. See Legend and Notes.

30 Heating Extended Performance Table – 10–60 (–23.3–15.6 °C)

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		–10 (–23.3)			0 (–17.8)			10 (–12.2)			20 (–6.7)			30 (–1.1)			40 (4.4)			50 (10)			60 (15.6)		
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW				
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ					
65	875	8.58	7.89	1.91	11.60	10.87	1.98	14.83	13.61	2.04	18.37	16.66	2.12	22.35	19.58	2.21	26.08	26.08	2.29	30.29	30.29	2.39	35.28	35.28	2.52
	1000	8.75	8.05	1.92	11.81	10.87	1.99	15.07	13.83	2.05	18.71	16.97	2.11	22.60	19.80	2.19	26.39	26.39	2.26	30.70	30.70	2.35	35.83	35.83	2.47
	1125	8.92	8.20	1.95	11.99	11.04	2.00	15.28	14.02	2.06	19.32	17.52	2.12	22.81	19.98	2.18	26.65	26.65	2.24	31.04	31.04	2.32	36.29	36.29	2.43
70	875	8.06	7.42	1.98	11.12	10.23	2.06	14.37	13.19	2.13	17.90	16.23	2.21	22.07	19.33	2.31	25.74	25.74	2.40	29.87	29.87	2.50	34.73	34.73	2.64
	1000	8.24	7.58	2.00	11.33	10.42	2.07	14.82	13.42	2.14	18.19	16.49	2.20	22.30	19.54	2.29	26.03	26.03	2.36	30.27	30.27	2.46	35.27	35.27	2.58
	1125	8.40	7.73	2.02	11.51	10.59	2.09	14.83	13.61	2.15	18.43	16.71	2.21	22.51	19.72	2.28	26.29	26.29	2.35	30.57	30.57	2.43	35.70	35.70	2.54
75	875	7.50	6.90	2.06	10.60	9.76	2.15	13.88	12.74	2.22	17.41	15.79	2.31	21.72	19.03	2.42	25.38	25.38	2.51	29.46	29.46	2.62	34.18	34.18	2.75
	1000	7.68	7.06	2.08	10.81	9.95	2.16	14.13	12.97	2.23	17.69	16.05	2.30	21.99	19.27	2.40	25.68	25.68	2.48	29.83	29.83	2.57	34.70	34.70	2.69
	1125	7.84	7.21	2.11	11.00	10.12	2.18	14.34	13.16	2.24	17.94	16.27	2.30	22.21	19.46	2.39	25.93	25.93	2.46	30.13	30.13	2.54	35.14	35.14	2.66

PERFORMANCE DATA (CONT)

36 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		CFM / BF	EWB °F (°C)	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	
Total	Sens			Total	Sens		Total	Sens		Total	Sens		Total	Sens					
1050 / 0.12	57 (13.9)	33.59	33.59	2.41	32.25	32.25	2.67	30.82	30.82	2.96	29.24	29.24	3.28	27.50	27.50	3.66	25.58	25.58	4.08
	62 (16.7)	34.77	30.70	2.42	33.10	29.87	2.67	31.33	28.94	2.96	29.46	27.90	3.29	27.56	27.56	3.66	25.62	25.62	4.08
	63* (17.2)	35.34	25.01	2.42	33.64	24.23	2.68	31.81	23.40	2.96	29.83	22.52	3.29	27.67	21.55	3.66	25.33	20.50	4.08
	67 (19.4)	38.13	26.06	2.44	36.31	25.28	2.70	34.33	24.46	2.99	32.20	23.57	3.31	29.86	22.59	3.68	27.36	21.54	4.10
	72 (13.9)	41.96	21.04	2.47	39.94	20.31	2.74	37.75	19.54	3.03	35.39	18.70	3.35	32.82	17.81	3.71	30.05	16.85	4.12
1200 / 0.18	57 (13.9)	35.11	35.11	2.47	33.69	33.69	2.73	32.14	32.14	3.02	30.45	30.45	3.34	28.57	28.57	3.71	26.49	26.49	4.14
	62 (16.7)	35.71	33.01	2.47	33.97	32.07	2.73	32.20	32.20	3.02	30.50	30.50	3.34	28.61	28.61	3.71	26.53	26.53	4.14
	63* (17.2)	36.21	26.69	2.47	34.40	25.89	2.73	32.47	25.03	3.02	30.40	24.10	3.34	28.14	23.09	3.71	25.72	21.97	4.13
	67 (19.4)	38.99	27.86	2.50	37.07	27.06	2.76	35.00	26.20	3.04	32.76	25.27	3.37	30.32	24.25	3.73	27.71	23.14	4.15
	72 (13.9)	42.86	22.23	2.53	40.74	21.48	2.79	38.42	20.68	3.08	35.93	19.82	3.40	33.26	18.85	3.76	30.40	17.82	4.17
1350 / 0.24	57 (13.9)	36.41	36.41	2.52	34.89	34.89	2.78	33.23	33.23	3.07	31.42	31.42	3.40	29.41	29.41	3.77	27.22	27.22	4.19
	62 (16.7)	36.54	36.49	2.53	34.95	34.95	2.79	33.28	33.28	3.07	31.47	31.47	3.40	29.45	29.45	3.77	27.25	27.25	4.19
	63* (17.2)	36.85	28.29	2.53	34.96	27.46	2.78	32.97	26.58	3.07	30.82	25.61	3.39	28.48	24.53	3.76	26.00	23.34	4.18
	67 (19.4)	39.63	29.59	2.55	37.64	28.75	2.81	35.49	27.86	3.10	33.16	26.89	3.42	30.65	25.82	3.78	27.98	24.63	4.20
	72 (13.9)	43.50	23.36	2.58	41.27	22.59	2.85	38.89	21.74	3.13	36.32	20.81	3.45	33.56	19.82	3.82	30.62	18.76	4.22

*At 75°F (23.9 °C) entering dry bulb—Tennessee Valley Authority (TVA) rating conditions; all others at 80°F (26.7 °C) entering dry bulb. See Legend and Notes.

36 Heating Extended Performance Table –10–60 (–23.3–15.6 °C)

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		–10 (–23.3)			0 (–17.8)			10 (–12.2)			20 (–6.7)			30 (–1.1)			40 (4.4)			50 (10)			60 (15.6)		
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW				
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ								
65	1050	12.15	11.18	2.30	14.08	2.39	19.19	17.61	2.49	22.68	20.57	2.58	26.68	23.38	2.68	31.28	2.80	36.70	36.70	2.96	42.99	42.99	3.16		
	1200	12.38	11.39	2.32	14.32	2.40	19.41	17.82	2.50	22.96	20.82	2.58	27.01	23.66	2.67	31.68	2.78	37.20	37.20	2.94	43.06	43.06	3.12		
	1350	12.59	11.58	2.35	14.53	2.43	19.62	18.01	2.52	23.19	21.03	2.59	27.29	23.91	2.67	32.01	2.78	37.51	37.51	2.93	42.82	42.82	3.10		
70	1050	11.71	10.77	2.41	14.88	2.50	18.76	17.22	2.61	22.39	20.31	2.70	26.32	23.06	2.80	30.81	3.03	36.14	36.14	3.09	42.42	42.42	3.31		
	1200	11.94	10.99	2.44	15.13	2.52	19.13	17.55	2.62	22.65	20.54	2.70	26.63	23.34	2.79	31.21	2.91	36.62	36.62	3.06	42.62	42.62	3.25		
	1350	12.15	11.18	2.47	15.37	2.54	19.35	17.76	2.64	22.88	20.75	2.71	26.91	23.58	2.80	31.54	2.91	37.00	37.00	3.06	42.49	42.49	3.24		
75	1050	11.23	10.33	2.53	14.42	2.62	18.01	16.53	2.72	22.09	20.03	2.84	25.96	22.75	2.94	30.36	3.06	35.58	35.58	3.23	41.77	41.77	3.46		
	1200	11.46	10.55	2.56	14.68	2.64	18.31	16.81	2.73	22.36	20.27	2.83	26.27	23.02	2.92	30.74	3.04	36.04	36.04	3.19	42.15	42.15	3.40		
	1350	11.67	10.74	2.59	14.91	2.67	18.61	17.08	2.75	22.59	20.48	2.84	26.53	23.24	2.93	31.07	3.03	36.43	36.43	3.19	42.11	42.11	3.38		

PERFORMANCE DATA (CONT)

42 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
CFM / BF	EWB °F (°C)	75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW
		Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens
	57 (13.9)	38.29	38.29	2.70	36.78	36.78	3.00	35.17	35.17	3.35	33.43	33.43	3.76	31.55	31.55	4.23	29.53	29.53	4.78
	62 (16.7)	39.60	35.26	2.71	37.74	34.27	3.01	35.79	33.19	3.36	33.74	32.00	3.76	31.62	31.62	4.24	29.58	29.58	4.78
1225 / 0.14	63* (17.2)	40.17	28.70	2.72	38.23	27.80	3.02	36.20	26.84	3.37	34.04	25.81	3.77	31.75	24.73	4.24	29.30	23.57	4.77
	67 (19.4)	43.43	29.99	2.76	41.34	29.07	3.07	39.13	28.10	3.42	36.80	27.07	3.83	34.33	25.98	4.30	31.69	24.82	4.85
	72 (13.9)	47.71	24.52	2.83	45.36	23.64	3.14	42.91	22.69	3.50	40.34	21.70	3.91	37.63	20.65	4.40	34.75	19.54	4.95
	57 (13.9)	40.11	40.11	2.76	38.48	38.48	3.06	36.73	36.73	3.42	34.85	34.85	3.83	32.83	32.83	4.31	30.65	30.65	4.86
	62 (16.7)	40.77	37.93	2.77	38.83	36.81	3.07	36.82	36.82	3.42	34.91	34.91	3.83	32.88	32.88	4.31	30.69	30.69	4.86
1400 / 0.17	63* (17.2)	41.23	30.65	2.77	39.19	29.70	3.07	37.04	28.70	3.42	34.77	27.63	3.83	32.38	26.48	4.29	29.83	25.25	4.83
	67(19.4)	44.54	32.09	2.82	42.33	31.12	3.12	40.00	30.10	3.48	37.55	29.02	3.89	34.97	27.89	4.37	32.23	26.64	4.91
	72 (13.9)	48.87	25.87	2.89	46.39	24.92	3.20	43.82	23.93	3.56	41.13	22.89	3.98	38.30	21.80	4.46	35.30	20.64	5.02
	57 (13.9)	41.67	41.67	2.82	39.92	39.92	3.13	38.04	38.04	3.48	36.04	36.04	3.90	33.89	33.89	4.38	31.57	31.57	4.93
	62 (16.7)	41.78	41.78	2.82	40.00	40.00	3.13	38.10	38.10	3.49	36.09	36.09	3.90	33.94	33.94	4.38	31.61	31.61	4.94
1575 / 0.19	63* (17.2)	42.07	32.53	2.83	39.93	31.53	3.13	37.70	30.48	3.48	35.35	29.35	3.88	32.87	28.13	4.35	30.26	26.81	4.89
	67 (19.4)	45.42	34.11	2.87	43.10	33.11	3.18	40.66	32.04	3.53	38.14	30.89	3.95	35.47	29.68	4.43	32.65	28.36	4.97
	72 (13.9)	49.79	27.12	2.95	47.20	26.14	3.26	44.53	25.11	3.62	41.74	24.03	4.04	38.81	22.90	4.53	35.71	21.70	5.08

*At 75°F (23.9 °C) entering dry bulb—Tennessee Valley Authority [TVA] rating conditions; all others at 80°F (26.7 °C) entering dry bulb. See Legend and Notes.

42 Heating Extended Performance Table –10–60 (–23.3–15.6 °C)

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
EDB °F (°C)	CFM	–10 (–23.3)			0 (–17.8)			10 (–12.2)			20 (–6.7)			30 (–1.1)			40 (4.4)			50 (10)			60 (15.6)		
		Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW
		Total	Integ	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	
65	1225	13.54	12.46	2.47	17.47	16.08	2.63	21.96	20.15	2.78	25.98	23.56	2.88	30.54	26.76	2.98	35.78	35.78	3.11	42.01	42.01	3.30	48.77	48.77	3.53
	1400	13.72	12.62	2.48	17.68	16.26	2.64	22.14	20.32	2.77	26.21	23.77	2.86	30.85	27.03	2.95	36.18	36.18	3.07	42.43	42.43	3.24	48.15	48.15	3.46
	1575	13.88	12.77	2.50	17.85	16.43	2.65	22.30	20.47	2.78	26.41	23.95	2.86	31.10	27.25	2.95	36.50	36.50	3.07	42.12	42.12	3.22	47.19	47.19	3.42
70	1225	13.21	12.15	2.61	17.11	15.75	2.77	21.74	19.96	2.92	25.70	23.30	3.02	30.15	26.42	3.12	35.27	35.27	3.25	41.37	41.37	3.44	48.32	48.32	3.70
	1400	13.40	12.33	2.62	17.33	15.95	2.78	21.94	20.14	2.91	25.93	23.52	3.00	30.45	26.68	3.10	35.67	35.67	3.22	41.86	41.86	3.40	47.84	47.84	3.62
	1575	13.57	12.48	2.64	17.52	16.12	2.79	22.13	20.31	2.92	26.14	23.71	3.00	30.72	26.91	3.09	35.97	35.97	3.21	41.84	41.84	3.37	47.03	47.03	3.59
75	1225	12.79	11.77	2.75	16.70	15.37	2.91	21.03	19.31	3.05	25.41	23.05	3.17	29.76	26.07	3.27	34.76	34.76	3.41	40.75	40.75	3.61	47.80	47.80	3.89
	1400	12.99	11.95	2.76	16.93	15.58	2.92	21.59	19.82	3.05	25.64	23.25	3.15	30.06	26.34	3.24	35.15	35.15	3.37	41.24	41.24	3.56	47.49	47.49	3.80
	1575	13.17	12.12	2.79	17.13	15.76	2.93	21.86	20.07	3.06	25.85	23.44	3.15	30.31	26.56	3.23	35.46	35.46	3.35	41.48	41.48	3.53	46.79	46.79	3.76

PERFORMANCE DATA (CONT)

48 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		CFM / BF	EWB °F (°C)	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	
Total	Sens			Total	Sens		Total	Sens		Total	Sens		Total	Sens					
1400 / 0.15	57 (13.9)	45.56	41.32	3.20	43.64	43.64	3.58	41.62	41.62	3.98	39.47	39.47	4.41	37.15	37.15	4.90	34.64	34.64	5.46
	62 (16.7)	47.12	41.32	3.21	44.75	40.06	3.59	42.33	38.74	3.99	39.81	37.27	4.42	37.23	37.23	4.91	34.69	34.69	5.46
	63* (17.2)	47.82	33.66	3.21	45.36	32.52	3.59	42.84	31.34	3.99	40.19	30.11	4.42	37.38	28.81	4.91	34.39	27.41	5.46
	67 (19.4)	51.57	35.10	3.22	48.88	33.93	3.62	46.13	32.74	4.02	43.25	31.49	4.46	40.21	30.17	4.95	36.94	28.75	5.49
	72 (13.9)	56.55	28.57	3.23	53.52	27.50	3.64	50.45	26.34	4.06	47.26	25.12	4.51	43.85	23.83	4.99	40.27	22.48	5.53
	57 (13.9)	47.60	47.60	3.26	45.50	45.50	3.65	43.31	43.31	4.05	40.98	40.98	4.49	38.48	38.48	4.98	35.76	35.76	5.53
1600 / 0.18	62 (16.7)	48.40	44.34	3.26	45.91	42.93	3.65	43.41	43.41	4.05	41.04	41.04	4.49	38.53	38.53	4.98	35.81	35.81	5.53
	63* (17.2)	48.97	35.87	3.27	46.36	34.67	3.65	43.69	33.44	4.05	40.92	32.15	4.49	37.98	30.76	4.97	34.88	29.27	5.52
	67 (19.4)	52.75	37.49	3.27	49.90	36.26	3.68	47.00	35.00	4.09	43.98	33.69	4.52	40.79	32.28	5.01	37.41	30.77	5.55
	72 (13.9)	57.75	30.14	3.28	54.58	28.93	3.70	51.36	27.71	4.13	48.01	26.44	4.57	44.45	25.09	5.06	40.74	23.69	5.59
	57 (13.9)	49.32	49.32	3.32	47.06	47.06	3.71	44.71	44.71	4.12	42.23	42.23	4.56	39.55	39.55	5.05	36.65	36.65	5.59
	62 (16.7)	49.55	49.16	3.32	47.14	47.14	3.71	44.77	44.77	4.12	42.28	42.28	4.56	39.60	39.60	5.05	36.70	36.70	5.59
1800 / 0.21	63* (17.2)	49.85	38.00	3.32	47.12	36.74	3.71	44.35	35.44	4.11	41.47	34.07	4.55	38.44	32.60	5.03	35.24	30.98	5.57
	67 (19.4)	53.64	39.78	3.32	50.67	38.49	3.73	47.66	37.17	4.15	44.52	35.78	4.59	41.22	34.28	5.07	37.75	32.65	5.60
	72 (13.9)	58.69	31.53	3.33	55.39	30.29	3.76	52.04	29.02	4.18	48.54	27.70	4.63	44.88	26.31	5.12	41.06	24.85	5.65

*At 75°F (23.9 °C) entering dry bulb—Tennessee Valley Authority [TVA] rating conditions; all others at 80°F (26.7 °C) entering dry bulb. See Legend and Notes.

48 Heating Extended Performance Table – 10–60 (–23.3–15.6 °C)

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		–10 (–23.3)			0 (–17.8)			10 (–12.2)			20 (–6.7)			30 (–1.1)			40 (4.4)			50 (10)			60 (15.6)		
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW				
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ								
65 (18.3)	1400	15.76	14.50	2.95	20.36	18.74	3.07	25.22	23.15	3.20	31.05	28.16	3.36	36.22	31.73	3.50	41.94	41.94	3.65	48.55	48.55	3.83	56.41	56.41	4.05
	1600	16.01	14.73	2.98	20.64	18.99	3.09	25.55	23.46	3.21	31.36	28.44	3.35	36.59	32.06	3.48	42.42	42.42	3.61	49.17	49.17	3.77	57.12	57.12	3.95
	1800	16.24	14.94	3.02	20.90	19.23	3.12	25.85	23.73	3.23	31.63	28.69	3.37	36.92	32.35	3.48	42.84	42.84	3.60	49.72	49.72	3.74	57.48	57.48	3.90
70 (21.1)	1400	15.26	14.04	3.08	19.85	18.27	3.20	24.68	22.65	3.33	30.13	27.32	3.48	35.80	31.37	3.65	41.40	41.40	3.81	47.87	47.87	4.00	55.58	55.58	4.24
	1600	15.52	14.28	3.11	20.14	18.53	3.22	25.04	22.98	3.34	30.99	28.11	3.50	36.16	31.68	3.63	41.87	41.87	3.78	48.48	48.48	3.94	56.38	56.38	4.15
	1800	15.76	14.50	3.15	20.41	18.78	3.25	25.33	23.25	3.36	31.28	28.37	3.51	36.49	31.97	3.63	42.28	42.28	3.76	49.01	49.01	3.91	56.82	56.82	4.09
75 (23.9)	1400	14.68	13.51	3.22	19.29	17.74	3.34	24.12	22.14	3.47	29.94	26.61	3.63	35.38	31.00	3.82	40.85	40.85	3.98	47.21	47.21	4.18	54.77	54.77	4.43
	1600	14.95	13.76	3.25	19.59	18.03	3.36	24.47	22.46	3.48	29.76	26.99	3.62	35.73	31.31	3.79	41.31	41.31	3.94	47.80	47.80	4.12	55.56	55.56	4.35
	1800	15.19	13.98	3.29	19.85	18.27	3.39	24.78	22.74	3.51	30.19	27.38	3.63	36.07	31.60	3.79	41.72	41.72	3.93	48.30	48.30	4.09	56.12	56.12	4.28

PERFORMANCE DATA (CONT)

60 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		CFM / BF	EWB °F (°C)	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	
Total	Sens			Total	Sens		Total	Sens		Total	Sens		Total	Sens					
1750 / 0.19	57 (13.9)	56.42	58.00	3.97	54.09	54.09	4.39	4.86	48.89	48.89	5.40	45.87	45.87	6.01	42.60	42.60	6.70		
	62 (16.7)	51.82	58.78	3.99	50.34	50.34	4.40	4.87	49.10	48.72	5.40	45.94	45.94	6.01	42.66	42.66	6.70		
	63* (17.2)	42.05	58.78	4.00	40.69	40.69	4.41	4.88	49.45	37.72	5.41	45.84	36.06	6.01	42.01	34.26	6.89		
	67 (19.4)	43.86	63.34	4.05	42.48	42.48	4.47	4.94	53.14	39.45	5.46	49.23	37.77	6.06	45.09	35.96	6.74		
	72 (13.9)	35.42	69.39	4.13	34.15	34.15	4.55	5.02	57.99	31.19	5.54	53.69	29.56	6.13	49.14	27.85	6.80		
1850 / 0.20	57 (13.9)	56.94	58.33	3.99	54.57	54.57	4.41	4.88	49.27	49.27	5.42	46.23	46.23	6.03	42.88	42.88	6.72		
	62 (16.7)	52.61	59.07	4.01	51.08	51.08	4.42	4.89	49.36	49.36	5.42	46.30	46.30	6.03	42.94	42.94	6.72		
	63* (17.2)	42.62	63.63	4.02	41.24	41.24	4.43	4.90	49.63	38.25	5.42	45.98	36.56	6.03	42.13	34.74	6.71		
	67 (19.4)	44.47	69.68	4.08	43.08	43.08	4.49	4.96	53.31	40.02	5.48	49.37	38.31	6.08	45.20	36.48	6.75		
	72 (13.9)	35.83	71.73	4.15	34.51	34.51	4.57	5.04	58.17	31.52	5.56	53.84	29.88	6.15	49.25	28.16	6.82		
2250 / 0.27	57 (13.9)	60.87	60.95	4.19	58.14	58.14	4.61	5.08	52.05	52.05	5.82	48.61	48.61	6.22	44.88	44.88	6.90		
	62 (16.7)	60.95	61.07	4.19	58.23	58.23	4.61	5.08	52.12	52.12	5.82	48.67	48.67	6.22	44.93	44.93	6.90		
	63* (17.2)	47.50	65.61	4.19	47.50	47.50	4.61	5.07	50.81	42.69	5.60	46.95	40.79	6.19	42.89	38.69	6.87		
	67 (19.4)	49.74	71.73	4.25	48.23	48.23	4.67	5.13	54.47	44.84	5.66	50.28	42.93	6.25	45.90	40.82	6.92		
	72 (13.9)	39.07	77.82	4.33	37.60	37.60	4.75	5.21	59.34	34.41	5.74	54.72	32.87	6.32	49.88	30.83	6.98		

*At 75°F (23.9 °C) entering dry bulb—Tennessee Valley Authority [TVA] rating conditions; all others at 80°F (26.7 °C) entering dry bulb. See Legend and Notes.

60 Heating Extended Performance Table – 10–60 (–23.3–15.6 °C)

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																							
		–10 (–23.3)			0 (–17.8)			10 (–12.2)			20 (–6.7)			30 (–1.1)			40 (4.4)			50 (10)			60 (15.6)		
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW				
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ								
65	1750	19.26	17.72	3.62	24.88	22.89	3.77	30.79	28.26	3.91	37.20	33.74	4.06	44.98	39.41	4.26	51.96	4.43	60.02	4.64	69.62	69.62	4.91		
	1800	19.34	17.79	3.63	24.98	22.98	3.78	30.90	28.37	3.92	37.33	33.85	4.07	45.09	39.50	4.26	52.09	4.42	60.19	4.62	69.84	69.84	4.89		
	2250	20.06	18.45	3.75	25.74	23.69	3.88	31.75	29.14	4.00	38.31	34.75	4.12	45.93	40.25	4.28	53.12	4.41	61.48	4.58	71.51	71.51	4.81		
70	1750	19.37	16.90	3.77	24.01	22.09	3.82	30.00	27.54	4.08	36.36	32.98	4.24	44.47	38.96	4.46	51.32	4.63	59.22	4.85	68.63	68.63	5.12		
	1800	18.45	16.97	3.78	24.11	22.18	3.83	30.11	27.64	4.09	36.49	33.09	4.24	44.58	39.06	4.45	51.43	4.63	59.39	4.83	68.85	68.85	5.10		
	2250	19.15	17.62	3.90	24.92	22.93	4.04	30.96	28.41	4.17	37.44	33.95	4.30	45.42	39.80	4.47	52.45	4.61	60.65	4.79	70.47	70.47	5.02		
75	1750	17.44	16.04	3.93	23.12	21.27	4.09	29.18	26.78	4.26	35.57	32.26	4.43	43.08	37.74	4.63	50.66	4.85	58.44	5.07	67.67	67.67	5.35		
	1800	17.52	16.12	3.94	23.22	21.36	4.10	29.28	26.88	4.27	35.70	32.37	4.43	43.34	37.97	4.64	50.78	4.84	58.60	5.05	67.87	67.87	5.33		
	2250	18.19	16.73	4.06	23.99	22.07	4.21	30.13	27.65	4.35	36.62	33.21	4.48	44.87	39.31	4.68	51.79	4.82	59.83	5.00	69.45	69.45	5.24		

LEGEND

- Bypass Factor
- Entering Dry—Bulb
- Entering Wet—Bulb
- Total Unit Power Input
- Sensible Heat Capacity (1000 Btu/h)
- Total Capacity (1000 Btu/h) (net)
- Relative Humidity

COOLING NOTES:

1. Ratings are net; they account for the effects of the evaporator—fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. The following formulas may be used:

$$t_{\text{db}} = t_{\text{edb}} - \frac{\text{Sensible capacity (Btu/h)}}{1.10 \times \text{cfm}}$$

$$t_{\text{wb}} = \frac{\text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (} t_{\text{hwb}} \text{)}}{4.5 \times \text{cfm}} - \frac{\text{total capacity (Btu/h)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering evaporator coil

4. The SHC is based on 80°F (26.7°C) edb temperature of air entering evaporator coil. Below 80°F (26.7°C) edb, subtract (corr factor x cfm) from SHC. Above 80°F (26.7°C) edb, add (corr factor x cfm) to SHC. Correction Factor = $1.10 \times (1 + \text{BF}) \times (\text{edb} + 80)$.
5. Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it.
4. The SHC is based on 80°F (26.7°C) edb temperature of air entering evaporator coil. Below 80°F (26.7°C) edb, subtract (corr factor x cfm) from SHC. Above 80°F (26.7°C) edb, add (corr factor x cfm) to SHC. Correction Factor = $1.10 \times (1 + \text{BF}) \times (\text{edb} - 80)$.
5. Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it.

PERFORMANCE DATA (CONT) Multiplication Factors

HEATER KW RATING		VOLTAGE DISTRIBUTION					MULTIPLICATION FACTOR				
240		200	208	230	240	460	0.69	0.75	0.92	1.00	0.92
480											

Dry Coil Air Delivery* – Horizontal – Unit PHD330-60

UNIT	MOTOR SPEED	WIRE COLOR	EXTERNAL STATIC PRESSURE (IN. W.C.)											
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9			
PHD330	Low	Blue	CFM	741	638	547	415	---	---	---	---	---	---	---
	Med-Low	Pink	CFM	973	887	823	733	665	538	451	---	---	---	---
	Medium	Red	CFM	1088	1023	954	881	800	723	658	563	461	---	---
	Med-High ¹	Orange	CFM	1140	1064	996	915	840	758	687	564	480	---	---
	High	Black	CFM	1202	1140	1082	1015	961	881	810	732	631	---	---
PHD336	Low	Blue	CFM	1234	1168	1093	1021	961	894	825	759	687	---	---
	Med-Low	Pink	CFM	1290	1223	1154	1090	1027	977	894	828	762	---	---
	Medium ¹	Red	CFM	1354	1290	1226	1158	1102	1046	981	918	843	---	---
	Med-High	Orange	CFM	1606	1546	1489	1430	1371	1316	1258	1208	1140	---	---
	High	Black	CFM	1630	1580	1517	1463	1407	1339	1277	1210	1131	---	---
PHD342	Low	Blue	CFM	1295	1234	1182	1126	1075	1016	955	898	857	---	---
	Med-Low	Pink	CFM	1345	1282	1235	1194	1140	1095	1027	974	921	---	---
	Medium	Red	CFM	1505	1452	1413	1358	1323	1282	1234	1169	1130	---	---
	Med-High ¹	Orange	CFM	1545	1492	1449	1411	1362	1313	1278	1231	1188	---	---
	High	Black	CFM	1705	1643	1607	1568	1518	1483	1448	1404	1360	---	---
PHD348	Low	Blue	CFM	1402	1351	1311	1263	1224	1172	1136	1080	1041	---	---
	Med-Low	Pink	CFM	1457	1404	1367	1318	1284	1233	1197	1144	1104	---	---
	Medium ¹	Red	CFM	1736	1695	1642	1601	1553	1512	1465	1427	1381	---	---
	Med-High	Orange	CFM	2149	2111	2062	2026	1980	1945	1905	1864	1793	---	---
	High	Black	CFM	2344	2306	2259	2203	2141	2070	1991	1902	1803	---	---
PHD360	Low	Blue	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027	---	---
	Med-Low	Pink	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1349	---	---
	Medium ¹	Red	CFM	1927	1893	1858	1824	1791	1759	1720	1689	1640	---	---
	Med-High	Orange	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1785	---	---
	High	Black	CFM	2461	2409	2339	2286	2192	2140	2062	1968	1874	---	---

* Air delivery values are without air filter and are for dry coil (See Wet Coil Pressure Drop Table).

¹ Factory-shipped cooling speed

NOTE: Deduct field-supplied air filter pressure drop and wet coil pressure drop to obtain external static pressure available for ducting. Shaded areas indicate speed/static combinations that are not permitted for dehumidification speed.

NOTE: Deduct 10% for 208 volt operation.

Dry Coil Air Delivery – Downflow Discharge

UNIT	MOTOR SPEED	WIRE COLOR	EXTERNAL STATIC PRESSURE (IN. W.C.)													
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.0				
PHD330	Low	CFM	756	669	548	457	---	---	---	---	---	---	---	---	---	---
		WATTS	84	90	96	106	---	---	---	---	---	---	---	---	---	---
		BHP	0.09	0.10	0.10	0.11	---	---	---	---	---	---	---	---	---	---
	MedLow	CFM	1002	928	842	733	660	560	450	---	---	---	---	---	---	---
		WATTS	144	155	161	173	185	192	203	---	---	---	---	---	---	---
		BHP	0.15	0.17	0.17	0.19	0.20	0.21	0.22	---	---	---	---	---	---	---
	Medium	CFM	1110	1025	967	879	814	706	611	509	---	---	---	---	---	---
		WATTS	188	195	205	211	223	236	243	255	---	---	---	---	---	---
		BHP	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.27	---	---	---	---	---	---
	MedHigh ¹	CFM	1160	1091	1004	945	866	804	699	615	496	---	---	---	---	---
		WATTS	213	225	232	243	249	261	273	285	291	---	---	---	---	---
		BHP	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.31	0.31	---	---	---	---	---
	High	CFM	1240	1173	1110	1031	966	902	821	726	626	---	---	---	---	---
WATTS		254	266	274	284	295	302	315	327	331	---	---	---	---	---	
BHP		0.27	0.29	0.29	0.30	0.32	0.32	0.34	0.35	0.35	---	---	---	---	---	
PHD336	Low	CFM	1277	1215	1147	1094	1045	992	932	874	826	757	---	---	---	---
		WATTS	285	289	299	305	314	319	328	335	347	352	---	---	---	---
		BHP	0.31	0.31	0.32	0.33	0.34	0.34	0.35	0.36	0.37	0.38	---	---	---	---
	MedLow	CFM	1312	1260	1203	1153	1095	1050	995	943	889	829	---	---	---	---
		WATTS	314	324	329	340	344	355	361	372	382	387	---	---	---	---
		BHP	0.34	0.35	0.35	0.36	0.37	0.38	0.39	0.40	0.41	0.42	---	---	---	---
	Medium ¹	CFM	1381	1326	1269	1212	1161	1121	1070	1019	974	912	---	---	---	---
		WATTS	358	365	375	383	391	395	406	418	424	434	---	---	---	---
		BHP	0.38	0.39	0.40	0.41	0.42	0.42	0.44	0.45	0.45	0.47	---	---	---	---
	MedHigh	CFM	1631	1579	1525	1477	1423	1372	1336	1284	1233	1166	---	---	---	---
		WATTS	567	576	581	592	598	609	617	619	613	598	---	---	---	---
		BHP	0.61	0.62	0.62	0.63	0.64	0.65	0.66	0.66	0.66	0.64	---	---	---	---
	High	CFM	1681	1633	1575	1526	1478	1415	1366	1312	1249	1159	---	---	---	---
WATTS		618	626	636	644	652	653	649	642	627	602	---	---	---	---	
BHP		0.66	0.67	0.68	0.69	0.70	0.70	0.70	0.69	0.67	0.65	---	---	---	---	
PHD342	Low	CFM	1365	1324	1284	1233	1181	1127	1084	1039	984	939	---	---	---	---
		WATTS	177	189	201	210	222	236	248	261	269	281	---	---	---	---
		BHP	0.19	0.20	0.22	0.23	0.24	0.25	0.27	0.28	0.29	0.30	---	---	---	---
	MedLow	CFM	1425	1384	1339	1301	1254	1199	1151	1104	1065	1015	---	---	---	---
		WATTS	197	210	223	235	248	257	271	284	296	305	---	---	---	---
		BHP	0.21	0.23	0.24	0.25	0.27	0.28	0.29	0.30	0.32	0.33	---	---	---	---
	Medium	CFM	1582	1549	1509	1469	1433	1392	1346	1300	1249	1213	---	---	---	---
		WATTS	267	280	294	308	322	336	344	359	374	387	---	---	---	---
		BHP	0.29	0.30	0.32	0.33	0.35	0.36	0.37	0.38	0.40	0.42	---	---	---	---
	MedHigh ¹	CFM	1623	1586	1553	1511	1470	1433	1393	1350	1309	1261	---	---	---	---
		WATTS	285	299	312	324	335	349	363	378	393	407	---	---	---	---
		BHP	0.31	0.32	0.33	0.35	0.36	0.37	0.39	0.41	0.42	0.44	---	---	---	---
	High	CFM	1775	1736	1696	1660	1622	1588	1557	1516	1472	1426	---	---	---	---
WATTS		371	386	401	410	424	439	453	468	483	497	---	---	---	---	
BHP		0.40	0.41	0.43	0.44	0.45	0.47	0.49	0.50	0.52	0.53	---	---	---	---	

Specifications subject to change without notice.

Dry Coil Air Delivery – Downflow Discharge

UNIT	MOTOR SPEED	WIRE COLOR	EXTERNAL STATIC PRESSURE (IN. W.C.)										
			0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.0	
PHD348	Low	Blue	CFM	1503	1457	1423	1374	1330	1287	1241	1199	1153	1111
			WATTS	225	233	246	254	269	282	292	307	314	329
			BHP	0.24	0.25	0.26	0.27	0.29	0.30	0.31	0.33	0.34	0.35
	MedLow	Pink	CFM	1556	1508	1461	1432	1388	1346	1302	1256	1221	1168
			WATTS	244	261	268	281	290	305	319	330	345	353
			BHP	0.26	0.28	0.29	0.30	0.31	0.33	0.34	0.35	0.37	0.38
	Medium ¹	Red	CFM	1861	1822	1786	1758	1716	1688	1660	1619	1583	1539
			WATTS	400	417	426	441	452	467	482	492	507	519
			BHP	0.43	0.45	0.46	0.47	0.48	0.50	0.52	0.53	0.54	0.56
	MedHigh	Orange	CFM	2319	2291	2255	2230	2193	2166	2118	2057	1992	1887
WATTS			758	769	787	799	808	823	822	805	780	737	
BHP			0.81	0.82	0.84	0.86	0.87	0.88	0.88	0.86	0.84	0.79	
High	Black	CFM	2532	2487	2444	2391	2330	2259	2179	2111	2033	1949	
		WATTS	1014	1022	1015	994	965	935	898	858	823	786	
		BHP	1.09	1.10	1.09	1.07	1.03	1.00	0.96	0.92	0.88	0.84	
PHD360	Low	Blue	CFM	1479	1436	1387	1346	1298	1253	1206	1160	1114	1061
			WATTS	224	239	247	262	270	284	300	307	319	330
			BHP	0.24	0.26	0.26	0.28	0.29	0.30	0.32	0.33	0.34	0.35
	MedLow	Pink	CFM	1841	1796	1761	1724	1690	1651	1616	1578	1527	1478
			WATTS	425	434	453	460	476	485	501	508	525	542
			BHP	0.46	0.47	0.49	0.49	0.51	0.52	0.54	0.54	0.56	0.58
	Medium ¹	Red	CFM	2045	2009	1970	1933	1905	1868	1829	1802	1751	1683
			WATTS	569	579	597	607	623	639	648	665	674	663
			BHP	0.61	0.62	0.64	0.65	0.67	0.69	0.69	0.71	0.72	0.71
	MedHigh	Orange	CFM	2178	2148	2105	2073	2036	2002	1967	1919	1845	1751
WATTS			674	691	703	717	733	743	758	754	734	701	
BHP			0.72	0.74	0.75	0.77	0.79	0.80	0.81	0.81	0.79	0.75	
High	Black	CFM	2480	2432	2375	2322	2236	2161	2085	2006	1917	1808	
		WATTS	1029	1012	995	975	941	908	869	836	796	751	
		BHP	1.10	1.09	1.07	1.05	1.01	0.97	0.93	0.90	0.85	0.81	

*Air delivery values are without air filter and are for dry coil (See Wet Coil Pressure Drop table).

¹ Factory-shipped cooling speed

NOTE: Ductwork-supplied air filter pressure drop and wet coil pressure drop to obtain external static pressure available for ducting. Shaded areas indicate speed/static combinations that are not permitted.

Wet Coil Pressure Drop (IN. W.C.)

Unit Size	Standard CFM (SCFM)																	
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
30				0.05	0.06	0.07	0.08	0.11										
36				0.06	0.06	0.09	0.10	0.11	0.14									
42					0.05	0.05	0.06	0.07	0.08	0.08	0.09	0.09	0.11					
48							0.04	0.06	0.09	0.10	0.10	0.11	0.12	0.13	0.14			
60								0.06	0.09	0.10	0.10	0.07	0.08	0.09	0.10	0.12	0.13	0.13

Economizer with 1-in. Filter Pressure Drop (IN. W.C.)

Filter Size in. (mm)	Cooling Tons	Standard CFM (SCFM)																
		600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
600-1400 CFM 12x20x1+12x20x1 (305x508x25+305x508x25)	2.5,	-	-	0.09	0.14	0.16	0.18	0.25	0.28	0.3	-	-	-	-	-	-	-	-
	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1200-1800 CFM 16x24x1+14x24x1 (406x610x25+356x610x25)	3.5,	-	-	-	-	-	-	0.10	0.11	0.12	0.13	0.14	0.16	-	-	-	-	
	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1500-2200 CFM 16x24x1+18x24x1 (406x610x25+457x610x25)	5.0	-	-	-	-	-	-	-	-	-	0.15	0.17	0.18	0.20	0.21	0.22	0.23	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Filter Pressure Drop Table (IN. W.C.)

Filter Size in. (mm)	Cooling Tons	Standard CFM (SCFM)															
		600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
600-1400 CFM 12x20x1+12x20x1 (305x508x25+305x508x25)	2.5,	0.03	0.05	0.06	0.08	0.10	0.11	0.13	0.14	0.16	-	-	-	-	-	-	-
	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1200-1800 CFM 16x24x1+14x24x1 (406x610x25+356x610x25)	3.5,	-	-	-	-	-	-	0.07	0.08	0.09	0.09	0.10	0.11	0.12	-	-	-
	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1500-2200 CFM 16x24x1+18x24x1 (406x610x25+457x610x25)	5.0	-	-	-	-	-	-	-	-	-	0.04	0.06	0.08	0.10	0.11	0.13	0.15
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Electric Heat Pressure Drop Table (IN. W.C.)

Small Cabinet: 30-36

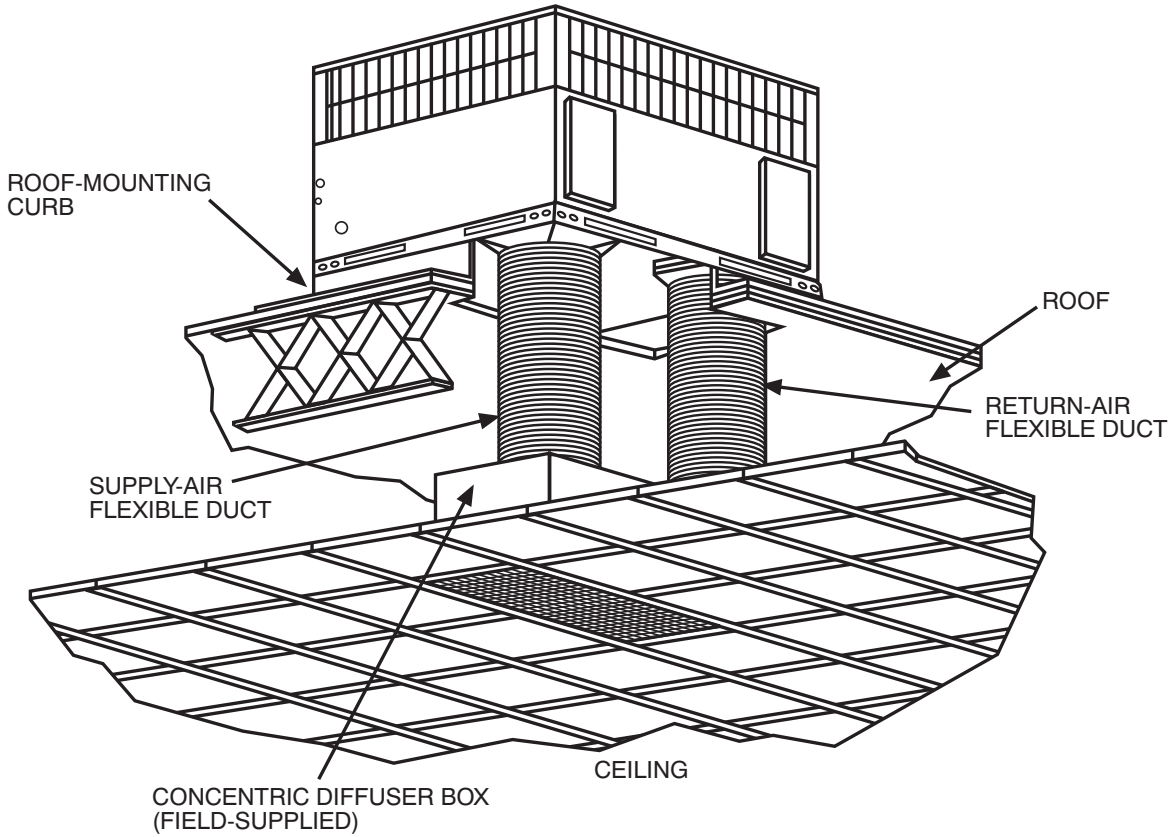
	STANDARD CFM (SCFM)												
	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	
5kw	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.07	
7.5 kw	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.05	0.07	0.08	0.09	
10 kw	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.06	0.07	0.09	0.10	0.11	
15 kw	0.00	0.00	0.00	0.02	0.04	0.06	0.08	0.10	0.12	0.14	0.16	0.18	
20 kw	0.00	0.00	0.02	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	

Electric Heat Pressure Drop Table (IN. W.C.)

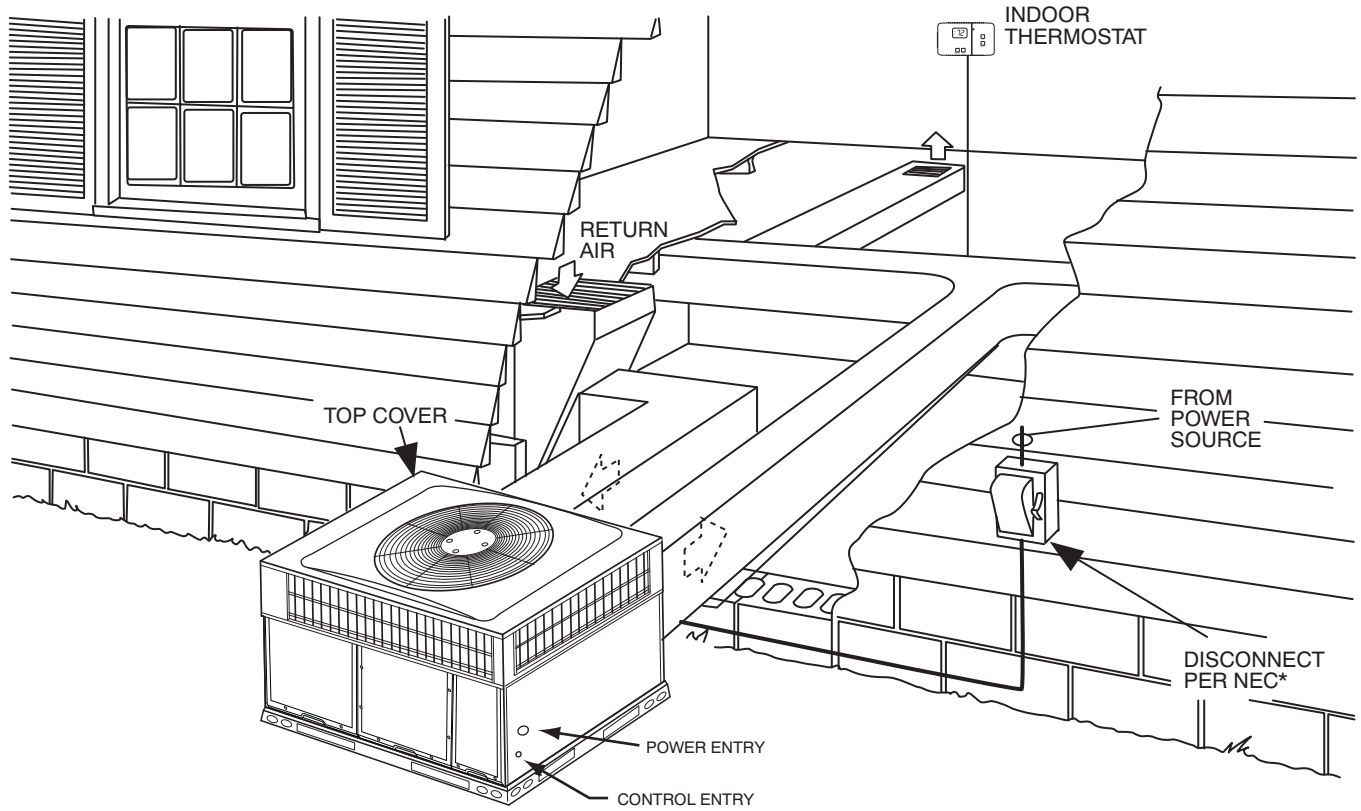
Large Cabinet 42-60

	STANDARD CFM (SCFM)														
	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
5kw	0.00	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
7.5 kw	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
10 kw	0.00	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
15 kw	0.00	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
20 kw	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.16

TYPICAL PIPING AND WIRING



A09230



*NEC - National Electrical Code

A09240

APPLICATION DATA

Condensate trap — A 2-in. (51 mm) condensate trap must be field supplied.

Ductwork — Secure downflow discharge ductwork to roof curb. For horizontal discharge applications, attach ductwork to unit with flanges.

To convert a unit to downflow discharge — Units are equipped with factory-installed inserts in the downflow openings. Removal of the inserts is similar to removing an electrical knock-out. Units installed in horizontal discharge orientation do not require duct covers.

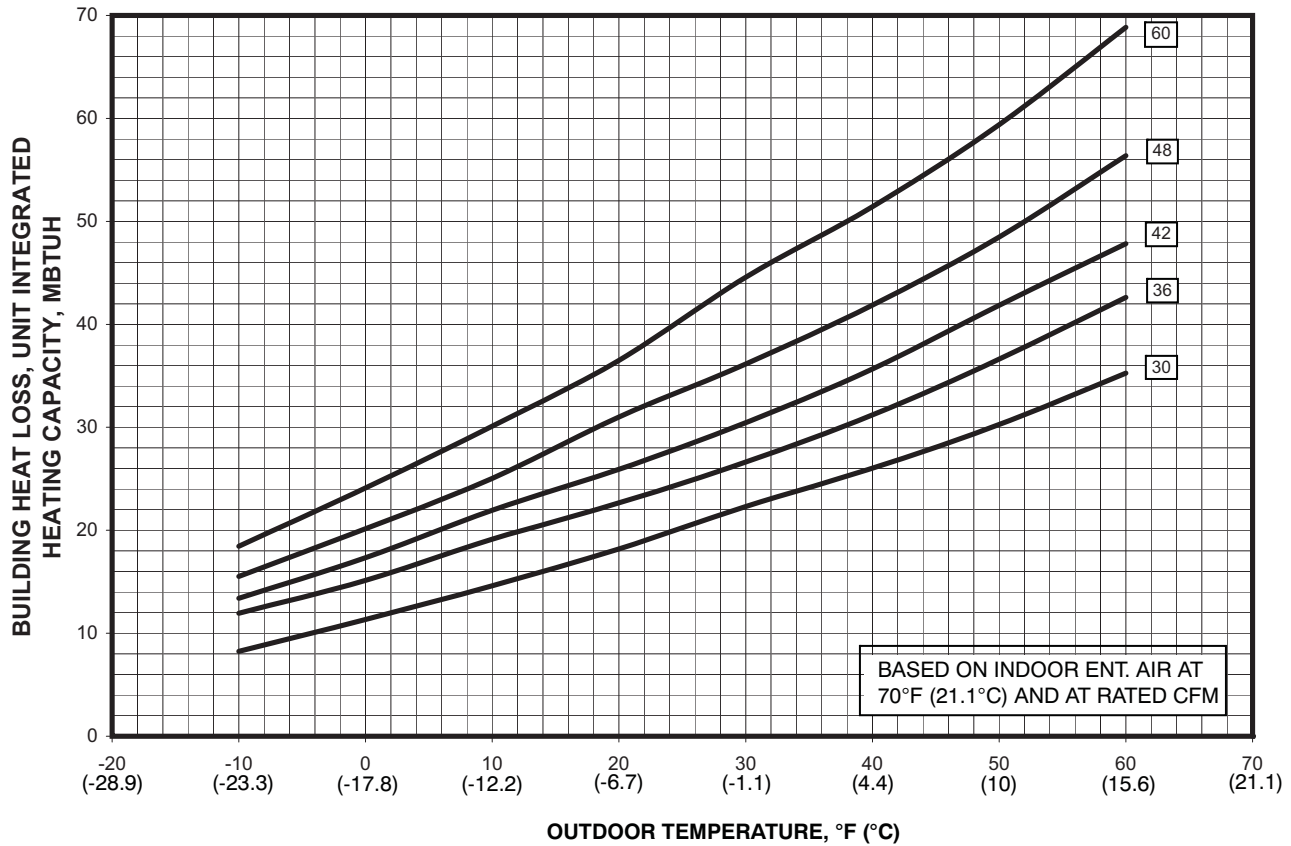
Maximum cooling airflow — To minimize the possibility of condensate blow-off from the evaporator, airflow through the units should not exceed 450 cfm per ton.

Minimum cooling airflow — Minimum cooling airflow is 350 cfm per ton in cooling mode. Airflow can be lower in certain modes when humidity removal is an issue.

Minimum ambient cooling operation temperature — All standard units have a minimum ambient cooling operating temperature of 40°F (4.4°C). With accessory low ambient temperature kit, units can operate at temperatures down to 0°F (17.8°C).

Maximum operating outdoor air temperature for cooling is 125°F (51.7°C).

BALANCE POINT WORKSHEET



A150695

ELECTRICAL DATA

UNIT	NOMINAL V-PH-HZ	VOLTAGE RANGE		COMPRESSOR			OFM	IFM	ELECTRIC HEAT		POWER SUPPLY	
		MIN	MAX	RLA	LRA	MCC	FLA	FLA	NOMINAL kW	FLA	MCA	MOCP
PHD330	208/230-3-60	197	253	10.9	58	13.9	1.2	4.1	-/-	-/-	18.9	25
									3.8/5	10.4/12	31.9/33.9	35/35
									7.5/10	20.8/24.1	44.9/49.1	45/50
									11.3/15	31.2/36.1	57.9/64.1	60/70
PHD336	208/230-3-60	197	253	13	73	16.3	1.2	6.0	-/-	-/-	23.5	30
									3.8/5	10.4/12	36.5/38.5	40/40
									7.5/10	20.8/24.1	49.5/53.6	50/60
									11.3/15	31.2/36.1	62.5/68.6	70/70
PHD336	460-3-60	414	506	6	38	9.0	0.5	3.0	-/-	-/-	11	15
									3.8/5	6	18.5/18.5	20
									7.5/10	12	26/26	30
									11.3/15	18	33.5/33.5	35
PHD342	208/230-3-60	197	253	13.5	88	21.1	1.2	6.0	-/-	-/-	24.1	35
									3.8/5	10.4/12	37.1/39.1	40/40
									7.5/10	20.8/24.1	50.1/54.2	60/60
									11.3/15	31.2/36.1	63.1/69.2	70/70
PHD342	460-3-60	414	506	6.2	44	9.3	0.5	3.0	-/-	-/-	11.3	15
									3.8/5	6	18.8/18.8	20
									7.5/10	12	26.3/26.3	30
									11.3/15	18	33.8/33.8	35
PHD348	208/230-3-60	197	253	14.8	83.1	21.4	1.2	7.6	-/-	-/-	27.3	40
									3.8/5	10.4/12	40.3/42.3	45/45
									7.5/10	20.8/24.1	53.3/57.4	60/60
									11.3/15	31.2/36.1	66.3/72.4	70/80
PHD348	460-3-60	414	506	6.5	41	9.7	0.5	3.8	-/-	-/-	12.4	15
									3.8/5	6	19.9/19.9	20
									7.5/10	12	27.4/27.4	30
									11.3/15	18	34.9/34.9	35
PHD360	208/230-3-60	197	253	18.4	110	24.9	1.2	7.6	-/-	-/-	31.8	45
									3.8/5	10.4/12	44.8/46.8	45/50
									7.5/10	20.8/24.1	57.8/61.9	60/70
									11.3/15	31.2/36.1	70.8/76.9	80/80
PHD360	460-3-60	414	506	8	52	12.1	0.5	3.8	-/-	-/-	14.3	20
									3.8/5	6	21.8/21.8	25
									7.5/10	12	29.3/29.3	30
									11.3/15	18	36.8/36.8	40
									15/20	24.1	44.4/44.4	45

See Legend and Notes below.

ELECTRICAL DATA (CONT)

LEGEND

- FLA -- Full Load Amps
- LRA -- Locked Rotor Amps
- MCA -- Minimum Circuit Amps
- MOCP -- Maximum Overcurrent Protection
- RLA -- Rated Load Amps

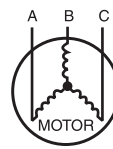
NOTES:

1. In compliance with NEC (National Electrical Code) requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be Power Supply fuse or circuit breaker.
2. Minimum wire size is based on 60 C copper wire. If other than 60 C wire is used, or if length exceeds wire length in table, determine size from NEC.
3. Unbalanced 3-Phase Supply Voltage
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance

% Voltage imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 230-3-60.



- AB = 228 v
- BC = 231 v
- AC = 227 v

$$\begin{aligned} \text{Average Voltage} &= \frac{228 + 231 + 227}{3} \\ &= \frac{686}{3} \\ &= 229 \end{aligned}$$

Determine maximum deviation from average voltage.

- (AB) 229 - 228 = 1 v
- (BC) 231 - 229 = 2 v
- (AC) 229 - 227 = 2 v

Maximum deviation is 2 v.

Determine percent of voltage imbalance

$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{2}{229} \\ &= 0.8\% \end{aligned}$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

A06564

CONNECTION WIRING SCHEMATICS - 208/230-3-60

CONNECTION WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

SCHEMATIC
208/230-3-60

NOTES:

- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED, THEY MUST BE REPLACED WITH THE SAME WIRE OR ITS EQUIVALENT.
- SEE PRICE PAGES FOR THERMOSTATS.
- USE 75 DEG. COPPER CONDUCTORS FOR FIELD INSTALLATION.
- SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT. INDOOR FAN MOTOR PLUGS - "DO NOT DISCONNECT UNDER LOAD"
- THIS FUSE IS MANUFACTURED BY LITTEL FUSE, P/N 251003.
- REMOVE YELLOW SPlice WIRE WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED AND CONNECT TO RELAY R1 AS SHOWN.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, CONNECT THE YELLOW AND BLACK WIRES TO RELAY R AS SHOWN. RELAY KIT REQUIRED WITH ECONOMIZER AND HEAT PUMP/DUAL FUEL UNITS.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, INSTALL WIRES AS SHOWN ONTO THE COILS OF RELAY R AND RELAY R1.
- DEHUM FEATURE CANNOT BE USED WHEN ECONOMIZER IS INSTALLED. UNIT FACTORY-SHIPED IN STD MODE.

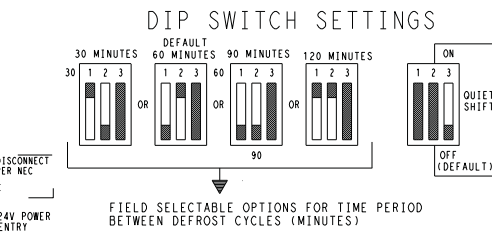
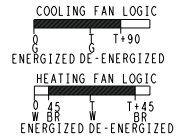
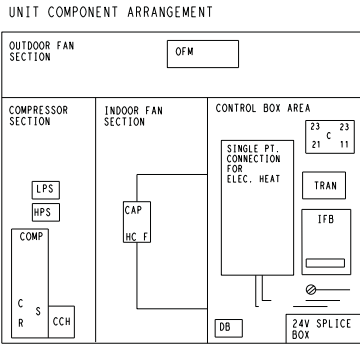
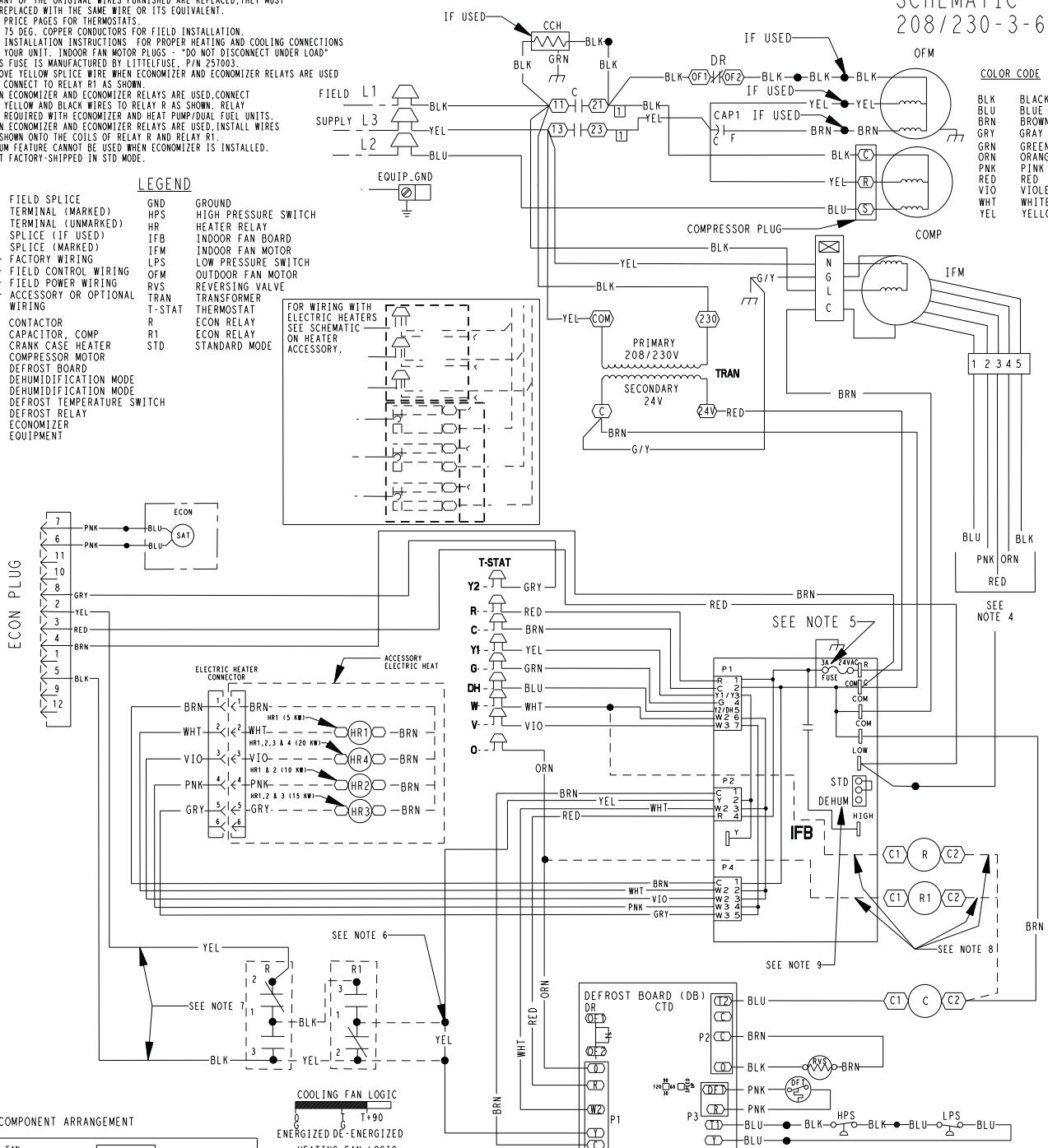
COLOR CODE

- BLK BLACK
- BLU BLUE
- BRN BROWN
- GRY GRAY
- GRN GREEN
- ORN ORANGE
- PNK PINK
- RED RED
- VIO VIOLET
- WHT WHITE
- YEL YELLOW

LEGEND

- △ FIELD SPlice
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- SPlice (IF USED)
- SPlice (MARKED)
- FACTORY WIRING
- - - FIELD CONTROL WIRING
- - - FIELD POWER WIRING
- - - ACCESSORY OR OPTIONAL WIRING
- C CONTACTOR
- CAP 1 CAPACITOR, COMP
- DB DEFROST BOARD
- DH DEHUMIDIFICATION MODE
- DEHUM DEHUMIDIFICATION MODE
- DFT DEFROST TEMPERATURE SWITCH
- DR DEFROST RELAY
- ECON ECONOMIZER
- EQUIP EQUIPMENT
- GND GROUND
- HPS HIGH PRESSURE SWITCH
- HR HEATER RELAY
- IFB INDOOR FAN BOARD
- IFM INDOOR FAN MOTOR
- LPS LOW PRESSURE SWITCH
- OFM OUTDOOR FAN MOTOR
- RVS REVERSING VALVE
- TRAN TRANSFORMER
- T-STAT THERMOSTAT
- R ECON RELAY
- R1 ECON RELAY
- STD STANDARD MODE

FOR WIRING WITH ELECTRIC HEATERS SEE SCHEMATIC ON HEATER ACCESSORY.

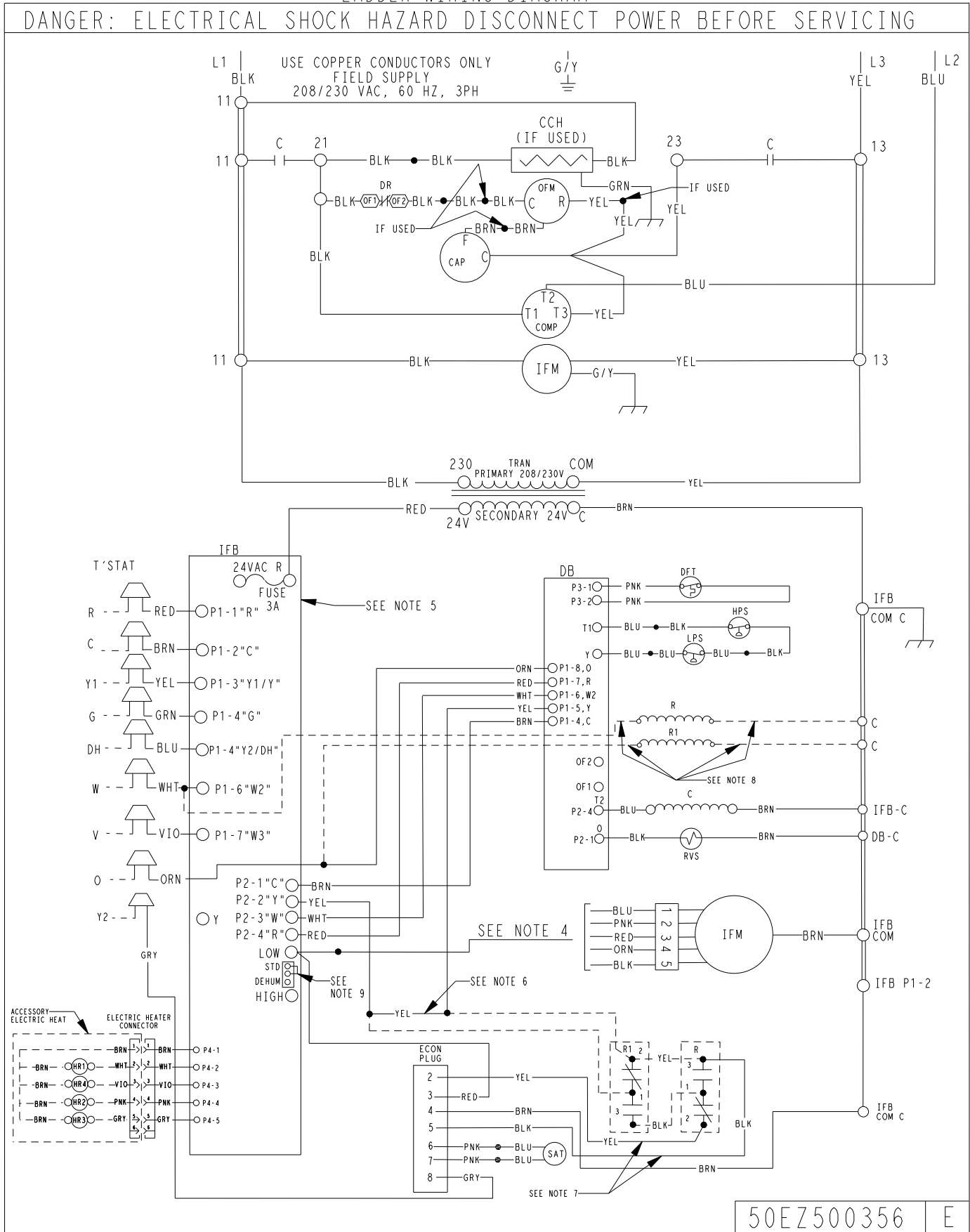


- SPEED UP** **JUMPERED TEST PINS (USE METAL OBJECT) FIELD SPEED-UP CYCLE**
- MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
 - SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
 - PERMANENT SHORT WILL BE IGNORED.
- DEFROST WILL TERMINATE IN 30 SEC. IF DFT OPEN. DEFROST WILL TERMINATE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

LADDER WIRING SCHEMATICS - 208/230-3-60

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING



A11005

CONNECTION WIRING DIAGRAM 460-3-60

CONNECTION WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

SCHEMATIC
460-3-60

NOTES:

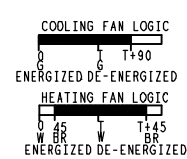
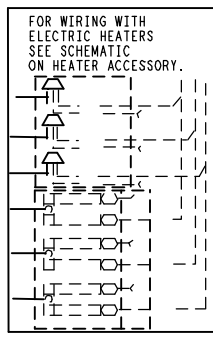
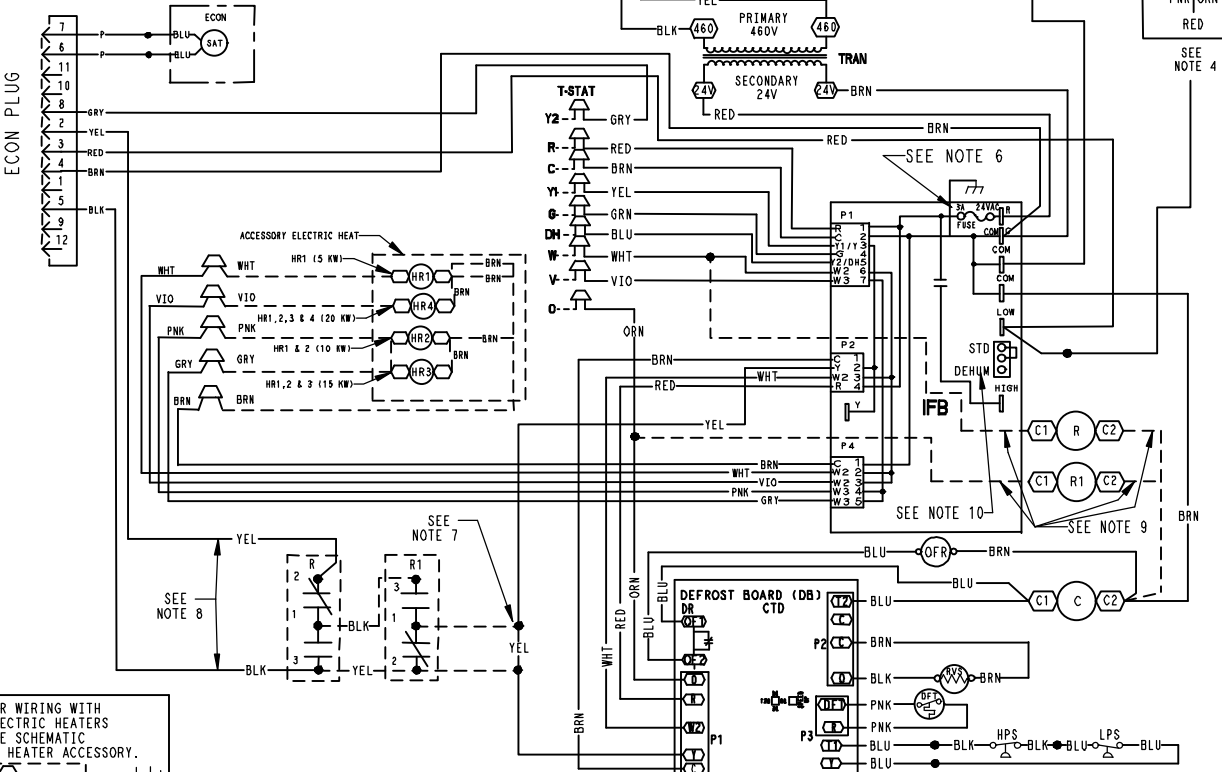
- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED, THEY MUST BE REPLACED WITH THE SAME WIRE OR ITS EQUIVALENT.
- SEE PRICE PAGES FOR THERMOSTATS.
- USE 75 DEG. COPPER CONDUCTORS FOR FIELD INSTALLATION.
- SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT. INDOOR FAN MOTOR PLUGS - "DO NOT DISCONNECT UNDER LOAD"
- THESE FUSES ARE MANUFACTURED BY COOPER BUSSMANN, P/N FNO-R-5.
- THIS FUSE IS MANUFACTURED BY LITTELFUSE, P/N 257003.
- REMOVE YELLOW SPLICE WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED AND CONNECT TO RELAY R1 AS SHOWN.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, CONNECT THE YELLOW AND BLACK WIRES TO RELAY "R" AS SHOWN. RELAY KIT REQUIRED WITH ECONOMIZER AND HEAT PUMP/DUAL FUEL UNITS.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, INSTALL WIRES AS SHOWN ONTO THE COILS OF RELAY R AND RELAY R1.
- DEHUM FEATURE CANNOT BE USED WHEN ECONOMIZER IS INSTALLED. UNIT FACTORY-SHIPPED IN STD MODE.

COLOR CODE

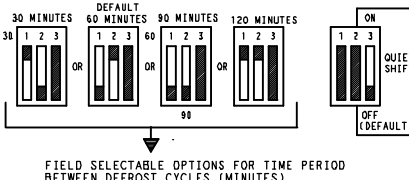
BLK	BLACK
BLU	BLUE
BRN	BROWN
GRY	GRAY
GRN	GREEN
ORN	ORANGE
PNK	PINK
RED	RED
VIO	VIOLET
WHT	WHITE
YEL	YELLOW

LEGEND

△	FIELD SPLICE	DH	DEHUMIDIFICATION MODE
○	TERMINAL (MARKED)	DR	DEFROST RELAY
○	TERMINAL (UNMARKED)	ECON	ECONOMIZER
○	SPLICE	EQUIP	EQUIPMENT
○	SPLICE (MARKED)	FU	FUSE
---	FACTORY WIRING	GND	GROUND
---	FIELD CONTROL WIRING	HPS	HIGH PRESSURE SWITCH
---	FIELD POWER WIRING	HR	HEATER RELAY
---	ACCESSORY OR OPTIONAL WIRING	IFB	INDOOR FAN BOARD
AT	AUTO TRANSFORMER	IFM	INDOOR FAN MOTOR
	460V - 230V	LPS	LOW PRESSURE SWITCH
C	CONTACTOR	OFM	OUTDOOR FAN MOTOR
CAP 1	CAPACITOR, COMP	OFR	OUTDOOR FAN RELAY
CCH	CRANK CASE HEATER	RVS	REVERSING VALVE
COMP	COMPRESSOR MOTOR	TRAN	TRANSFORMER
DB	DEFROST BOARD	T-STAT	THERMOSTAT
DFT	DEFROST TEMPERATURE SWITCH	R	ECON RELAY
		R1	ECON RELAY
		STD	STANDARD MODE



DIP SWITCH SETTINGS



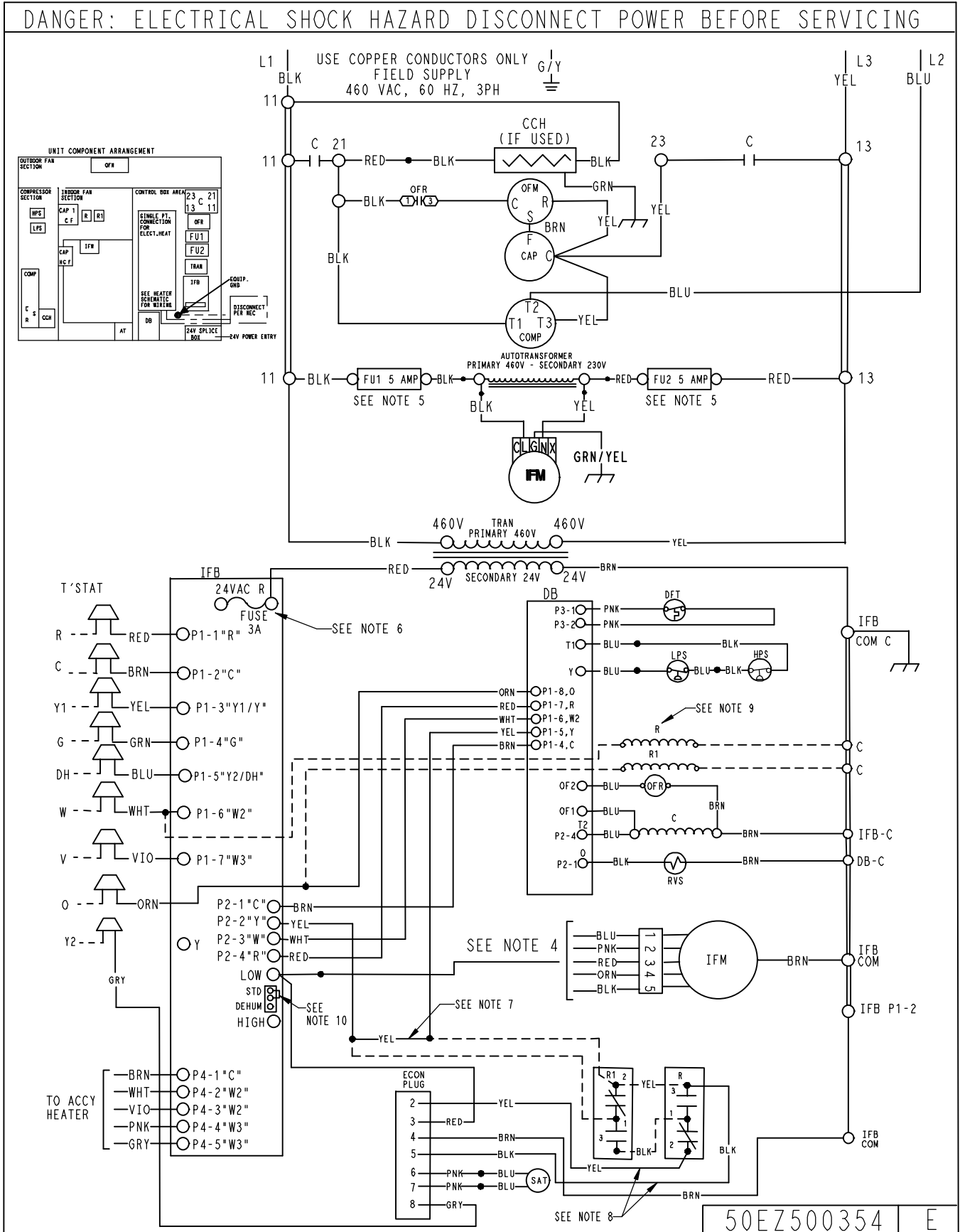
SPEED UP JUMPED TEST PINS (USE METAL OBJECT) FIELD SPEED-UP CYCLE

- MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
 - SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
 - PERMANENT SHORT WILL BE IGNORED.
- DEFROST WILL TERMINATE IN 30 SEC. IF DFT OPEN. DEFROST WILL TERMINATE NORMALLY IF DFT IS CLOSED.
- THE COMPRESSOR WILL SHUT OFF FOR 30 SEC. ON DEFROST INITIATION AND TERMINATION IN THE "QUIET SHIFT" ON POSITION

LADDER WIRING DIAGRAM 460-3-60

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING



CONTROLS

Operating sequence

When power is supplied to unit, the transformer (TRAN) is energized.

On units with crankcase heater, heater is also energized.

Cooling — With the thermostat in the cooling position, the thermostat makes circuit “R” to “O”. This energizes the reversing valve solenoid (RVS) and places the unit in standby condition for cooling.

As the space temperature rises, the thermostat closes circuit “R” to “Y”. A circuit is made to contactor (C), starting the compressor (COMP) and outdoor-fan motor (OFM). Circuit “R” to “G” is made at the same time and starts the indoor-fan motor (IFM).

When the thermostat is satisfied, contacts open, deenergizing C. The COMP and OFM stop, and the IFM stops after the preselected time delay.

On the loss of the thermostat call for cooling, 24 V is removed from both the “Y1/Y” and “G” terminals (provided the fan switch is in the “AUTO” position) de-energizing the compressor contactor and opening the contacts supplying power to compressor/OFM. After a 90-second delay, the IFM shuts off. If the thermostat fan selector switch is in the “ON” position, the IFM will run continuously.

Heating — On a call for heat, thermostat makes circuits “R” to “Y” and “R” to “G”.

A circuit is made to C, starting COMP and OFM. Circuit “R” to “G” also is completed, energizing IFR and starting IFM after the selected time delay.

Should room temperature continue to fall, circuit “R” to “W” is made through second-stage thermostat. If optional electric heat package is used, a relay is energized, bringing on first bank of supplemental electric heat. When thermostat is satisfied, contacts open, deenergizing contactor and relay; motors and heaters deenergize.

Defrost — Defrost board (DB) is a time and temperature control, which includes a field-selectable time period (dip switch 1 and 2 on the board) between checks for defrost (30, 60, 90, or 120 minutes). Electronic timer and defrost cycle start only when contactor is energized and defrost thermostat (DFT) is closed.

The defrost board is also equipped with a third dip switch for selecting Quiet Shift operation. The Quiet Shift operation turns compressor off at defrost initiation and termination. Unit is factory shipped with quiet shift turned off.

Defrost mode is identical to cooling mode, except outdoor fan motor stops and a bank of optional electric heat turns on to warm air supplying the conditioned space.

NOTE:

1. Compressor time delay occurs through the defrost control board.
2. Defrost control board has built in 5 minute compressor delay; once the compressor has started and then stopped, it cannot be restarted again until 5 minutes have elapsed.

GUIDE SPECIFICATIONS

Packaged Heat Pumps

HVAC Guide Specifications

Size Range: 2 1/2 to 5 Tons, Nominal Cooling

Carrier Model Number: PHD3

Part 1—General

SYSTEM DESCRIPTION

Outdoor, packaged, air-to-air heat pump unit utilizing a hermetic scroll compressor for cooling duty and optional electric heating. Unit shall discharge supply air vertically or horizontally as shown on contract drawings. Outdoor fan/coil section shall have a draw-thru design with vertical discharge for minimum sound levels.

QUALITY ASSURANCE

- A. Unit shall be rated in accordance with AHRI Standards 210/240 and 270-1995.
- B. Unit shall be designed in accordance with UL Standard 1995.
- C. Unit shall be manufactured in a facility registered to ISO 9001 manufacturing quality standard.
- D. Unit shall be UL listed and c-UL certified as a total package for safety requirements.
- E. Roof curb shall be designed to conform to NRCA Standards.
- F. Insulation and adhesives shall meet NFPA 90A requirements for flame spread and smoke generation.
- G. Cabinet insulation shall meet ASHRAE Standard 62P.

DELIVERY, STORAGE AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

EQUIPMENT

A. General:

Factory-assembled, single-piece, heat pump unit. Contained within the enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-410A), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of phosphated, zinc-coated, pre-painted steel capable of withstanding 500 hours of salt spray.
2. Normal service shall be through a single removable cabinet panel.
3. The unit shall be constructed on a rust proof unit base that has an externally trapped, integrated sloped drain.
4. Indoor fan compartment top surface shall be insulated with a minimum 1/2-in. (12.7 mm) thick, flexible fiberglass insulation, coated on the air side and retained by adhesive and mechanical means. The indoor wall sections will be insulated with a minimum semi-rigid, foil-faced board capable of being wiped

clean. Aluminum foil-faced fiberglass insulation shall be used in the entire indoor air cavity section.

5. Unit shall have a field-supplied condensate trap.
 6. Metal Insulated Duct Covers for side discharge will be standard on all sizes.
 7. Unit insulation conforms to ASHRAE 62P.
- #### C. Fans:
1. The indoor fan shall be 5-speed, direct-drive, as shown on equipment drawings.
 2. Fan wheel shall be made from steel and shall be double-inlet type with forward-curved blades with corrosion resistant finish. Fan wheel shall be dynamically balanced.
 3. Outdoor fan shall be direct-drive, propeller-type with aluminum blades riveted to corrosion resistant steel spiders, be dynamically balanced, and discharge air vertically.
- #### D. Compressor:
1. Fully hermetic compressors with factory-installed vibration isolation.
 2. Scroll compressors shall be standard on all units.
 3. Compressor Protection:
Defrost control shall protect compressor by preventing "short cycling."
- #### E. Coils:
- Indoor and outdoor coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed. Tube sheet openings shall be belled to prevent tube wear.
- #### F. Refrigerant Metering Device:
- Refrigerant metering device shall be thermostatic expansion valve for cooling, and fixed orifice for heating.
- #### G. Filters:
- Filter section shall consist of field-installed, throwaway, 1-in. (25 mm) – thick fiberglass filters of commercially available sizes.
- #### H. Controls and Safeties:
1. Unit controls shall be complete with a self-contained, low-voltage control circuit.
 2. Units shall incorporate an internal compressor protector that provides reset capability.
- #### I. Operating Characteristics:
1. Unit shall be capable of starting and running at 125°F (51.7°C) ambient outdoor temperature.
 2. Compressor with standard controls shall be capable of operation down to 40°F (4.4°C) ambient outdoor temperature in cooling mode.
 3. Unit shall be provided with 60-second fan time delay after the thermostat is satisfied.
- #### J. Electrical Requirements:
- All unit power wiring shall enter the unit cabinet at a single location.

GUIDE SPECIFICATIONS (CONT)

K. Motors:

1. Compressor motors shall be of the refrigerant-cooled type with line-break thermal and current overload protection.
2. All fan motors shall have permanently lubricated bearings, and inherent, automatic reset, thermal overload protection.
3. Condenser fan motor shall be totally enclosed.
4. Evaporator Fan Motor to be ECM Motor.
5. Condenser fan motor shall be totally enclosed.

L. Special Features Available:

1. Coil Options:

Base unit with tin plated indoor coil hairpins.

2. Thermostat:

To provide for two-stage heating and one-stage cooling in addition manual or automatic changeover and indoor fan control.

3. Crankcase Heater:

Shall provide anti-floodback protection for lowload cooling applications.

4. Economizer:

(Horizontal – Field installed accessory)

(Vertical – Field installed accessory or factory installed option)

- a. Economizer controls capable of providing free cooling using outside air.
- b. Equipped with low leakage dampers not to exceed 3% leakage, at 1.0 in. W.C. pressure differential.
- c. Spring return motor shuts off outdoor damper on power failure.

5. Electric Heaters:

- a. Electric heater shall be available as a field installed option.
- b. Heater elements shall be open wire type, adequately supported and insulated with ceramic bushings.

- c. Electric heater packages must provide single point power connection capability.

6. Filter Rack Kit:

Shall provide filter mounting for downflow applications. Offered as an accessory or as a factory installed option.

7. Flat Roof Curb:

Curbs shall have seal strip and a wood nailer for flashing and shall be installed per manufacturer's instructions.

8. Low Ambient Package:

Shall consist of a solid-state control and outdoor coil temperature sensor for controlling outdoor-fan motor operation, which shall allow unit to operate down to 0°F (-17.7°C) outdoor ambient temperature.

9. Louvered Grille:

Wire grille shall be standard on all units. Louvered grille shall be available as a field-installed option to provide hail guard and vandalism protection.

10. Manual Outdoor Air Damper:

Package shall consist of damper, birdscreen, and rainhood which can be preset to admit outdoor air for year-round ventilation.

11. Square-To-Round Duct Transitions (30-48 size):

Shall have the ability to convert the supply and return openings from rectangular to round.

12. Time Guard II

Automatically prevents the compressor from restarting for at least 4 minutes and 45 seconds after shutdown of the compressor. Not required when a corporate programmable thermostat is applied or with a RTU-MP control.

13. Dual Point Electric Heaters

Allows you to power the electric heater and unit contactor separately by having two individual field power supply circuits connected respectively.

PHD3 ACCESSORIES

ROOF CURBS

Model Number	Description	Use With Model Size
CPRFCURB011A00	Roof Curb, 14" High	30 – 60
CPRFCURB013A00	Roof Curb, 14" High	42 – 60

Note: CPRFCURB011A00 can be used with 42–60 size units with some overhang.

ADAPTER CURBS*

CPADCURB001A00	Adapter Curb for use with NPRFCURB006A00 & NPRFCURB007A00	30 – 36
CPADCURB002A00	Adapter Curb for use with NPRFCURB008A00 & NPRFCURB009A00	42 – 60

* Can also be used when replacing other manufacturer's older generation units that contain a composite base without a metal base rail.

CONCENTRIC ADAPTERS – (Use with curb only)

NPCONADP001A00	For 18" round duct (use with curb, CPRFCURB011A00)	Small Curb
NPCONADP002A00	For 18" round duct (use with curb, CPRFCURB013A00)	Large Curb

CONCENTRIC DIFFUSERS – (Ceiling or under roof)

AXB020CSA*	Step Down Diffuser – Fits 2' x 4' Ceiling Grid (16" round collars for flex conn.)	30 – 42
AXB020CFA*	Flush Mount Diffuser – Fits 2' x 4' Ceiling Grid (16" round collars for flex conn.)	30 – 42
AXB030CSA	Step Down Diffuser – Fits 2' x 4' Ceiling Grid (18" round collars for flex conn.)	30 – 60
AXB030CFA	Flush Mount Diffuser – Fits 2' x 4' Ceiling Grid (18" round collars for flex conn.)	30 – 60

* A field supplied 18" to 16" round reducer required when used with NP concentric adaptor

ECONOMIZERS

Model Number	Description	Use With Model Size
CPECOMZR007B00	Dedicated Vertical Economizer – Internal with solid state controller, gear driven, fully modulating damper, spring return actuator, up to 50% barometric relief, supply and dry bulb outdoor air sensors. Includes filter rack with 1" filters*.	30 – 36
CPECOMZR008A00		42 – 48
CPECOMZR009A00		60
CPECOMZR010A00	Dedicated Horizontal Economizer – Internal with solid state controller, fully modulating damper, spring return actuator, supply and dry bulb outdoor air sensor, and low ambient compressor lockout switch included. Includes filter rack with 1-inch filters*.	30 – 36
CPECOMZR011A00		42 – 48
CPECOMZR012A00		60
CPRLYKIT001A00	Economizer Relay Kit for Heat Pumps	ALL
AXB078ENT	Outdoor Enthalpy Control	ALL

* Outdoor enthalpy available as field installed accessory; Filter rack and 1" filter, same as CPFILTRK kit

MANUAL FRESH AIR DAMPERS

Model Number	Description	Use With Model Size
CPMANDPR007A00	Manual Outside Air Damper – (Includes filter rack and 1" filter, same as CPFILTRK kit)	30 – 36
CPMANDPR008A00		42 – 48
CPMANDPR009A00		60

INTERNAL FILTER RACK and FILTER (shipped with 1" filters)

Model Number	Description	Use With Model Size
CPFILTRK007A00	Internal Filter Rack	30 – 36
CPFILTRK008A00		42 – 48
CPFILTRK009A00		60

LOW AMBIENT, ANTI-CYCLE TIMER

Model Number	Description	Use With Model Size
CPLOWAMB001A00	Low ambient Control – enables cooling system to operate down to 0 Deg. F by cycling condenser fan on and off	ALL
NRTIMEGD001A00	5 minute anti-cycle timer (Note: many thermostats have inherent anti-cycle timer logic)	ALL

CRANKCASE HEATER – BELLY BAND TYPE

NPCRKHTR008A00	240V Crankcase Heater (included with 30 size models)	36
NPCRKHTR004A00	240V Crankcase Heater (included with 42 and 60 size models)	48
NPCRKHTR009A00	460V Crankcase Heater (included with 42 size models)	36
NPCRKHTR005A00	460V Crankcase Heater (included with 60 size models)	48

PHD3 ACCESSORIES (continued)

HAIL GUARD / COIL PROTECTION

Model Number	Description	Use With Model Size
NAPA00501GR	3/8" spacing dense wire grilles	30, 36
NAPA00601GR	3/8" spacing dense wire grilles	42, 48
NAPA01001GR	3/8" spacing dense wire grilles	60

ELECTRIC HEATERS

208/240V

Model Number	NOMINAL CAPACITY (kW)	FUSED	# FUSES	STAGES	Use With
CPHEATER055A00	3.8 / 5.0	NO	0	1	ALL
CPHEATER056A00	7.5 / 10.0	NO	0	2	30 – 48
CPHEATER068A00	7.5 / 10.0	YES	6	2	ALL
CPHEATER058A00	11.3 / 15.0	YES	6	2	ALL
CPHEATER059A01	15.0 / 20.0	YES	6	2	42 – 60

460V

CPHEATER060A00	5.0	NO	0	1	ALL
CPHEATER061A00	10.0	NO	0	2	ALL
CPHEATER062A00	15.0	NO	0	2	ALL
CPHEATER063A00	20.0	NO	0	2	42 – 60

DUCT TRANSITIONS

Model Number	Description	Use With Model Size
NPDUCFLG002A00	Square to 14" Round (1 set of 2, use with horizontal duct flanges only)	30 – 48