



PDD4, PDS4

Product Specifications

Up to 14.5 SEER PACKAGE DUAL FUEL HEAT PUMP, 2 to 5 TONS

208/230-1-60, Single Phase

208/230-3-60, Three Phase

REFRIGERATION CIRCUIT

- Environmentally sound R-410A refrigerant
- Scroll compressor standard on all models
- Copper tube/aluminum fin condenser and evaporator coils
- 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 gas heating, heat pump heating, and electric cooling
- Low NOx units available

BUILT TO LAST

- Hail guard (3/8" spacing) wire grilles standard on PDS4 single phase models (2" spacing wire grilles on PDD4 single phase and 3-phase models)
- Induced-draft combustion and venting
- Pre-painted steel cabinet
- Aluminized steel tubular heat exchanger on PDD4 models, Stainless Steel tubular heat exchanger on PDS4 models
- Direct spark ignition
- High efficiency ECM indoor blower motor on all models
- Vertical condenser fan discharge
- Full perimeter steel base rails
- High and low pressure switches provide added reliability for the compressor
- PDS4 single phase models come with tin-coated copper evaporator coil standard

LIMITED WARRANTY*

1 Phase PDS4 "D" Models

- 3 year No Hassle Replacement™ limited warranty
- 10 year parts limited warranty (including compressor and coils) and lifetime heat exchanger limited warranty with timely registration
- 5 year parts limited warranty and 20 year heat exchanger limited warranty if not registered within 90 days of original installation

1 Phase PDD4 "D" Models

- 15 year heat exchanger limited warranty
- 10 year parts limited warranty (including compressor and coils) with timely registration
- 5 year parts limited warranty if not registered within 90 days of original installation.

3 Phase PDS4, PDD4 "D" Models

- 10 year heat exchanger 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

Aluminized Steel Heat Exchanger	Stainless Steel Heat Exchanger	COOLING			HEAT PUMP HEATING		GAS HEATING			Unit Dimensions Height x Width x Depth in (mm)	Operating Weight lbs (kg)
		Capacity BTU/h	SEER	EER	Capacity BTU/h	HSPF	Input BTU/h	Efficiency AFUE %			
								1Ø	3Ø		
PDD424040†00*D	PDS424040‡G**D	23,000	14.2	12.0	23,000	8.0	40,000	81.0	80.0	44 ¹ / ₈ x48 ³ / ₁₆ x32 ⁵ / ₈ (1121x1224x829)	368 (167)
PDD424060†00*D	PDS424060‡G**D	23,000	14.2	12.0	23,000	8.0	60,000	81.0	80.0		368 (167)
PDD430040†00*D	PDS430040‡G**D	28,600	14.2	12.0	29,600	8.0	40,000	81.0	80.0		360 (163)
PDD430060†00*D	PDS430060‡G**D	28,600	14.2	12.0	29,600	8.0	60,000	81.0	80.0	44 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1137x1224x1122)	360 (163)
PDD436060†00*D	PDS436060‡G**D	35,800	14.5	12.0	35,800	8.0	60,000	81.0	78.5		440 (200)
PDD436090†00*D	PDS436090‡G**D	35,800	14.5	12.0	35,800	8.0	90,000	81.0	80.4		440 (200)
PDD442060†00*D	PDS442060‡G**D	40,500	14.5	12.0	41,500	8.0	60,000	81.0	78.5	48 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1238x1224x1122)	486 (220)
PDD442090†00*D	PDS442090‡G**D	40,500	14.5	12.0	41,500	8.0	90,000	81.0	80.4		486 (220)
PDD448090†00*D	PDS448090‡G**D	46,500	14.5	12.0	45,500	8.0	90,000	81.0	80.4		506 (230)
PDD448115†00*D	PDS448115‡G**D	46,500	14.5	12.0	45,500	8.0	115,000	81.0	80.3	54 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1391x1224x1122)	506 (230)
PDD448130K00*D	PDS448130KG**D	46,500	14.5	12.0	45,500	8.0	127,000	81.0	-		506 (230)
PDD448130H00*D	PDS448130HG**D	46,500	14.5	12.0	45,500	8.0	130,000	-	78.9		506 (230)
PDD460090†00*D	PDS460090‡G**D	57,000	14.5	12.0	59,000	8.0	90,000	81.0	80.4	54 ³ / ₄ x48 ³ / ₁₆ x44 ¹ / ₈ (1391x1224x1122)	540 (245)
PDD460115†00*D	PDS460115‡G**D	57,000	14.5	12.0	59,000	8.0	115,000	81.0	80.3		540 (245)
PDD460130K00*D	PDS460130KG**D	57,000	14.5	12.0	59,000	8.0	127,000	81.0	-		540 (245)
PDD460130H00*D	PDS460130HG**D	57,000	14.5	12.0	59,000	8.0	130,000	-	78.9	540 (245)	

^ - P = Tin Coated Copper Evap Main Tubes (single phase only), S = Standard Copper Evaporator Main Tubes (3-phase only)

* - 0 = Standard, 1 = Low NOx

‡ - K = 208/230-1-60, H = 208/230-3-60

MODEL NOMENCLATURE											
MODEL SERIES	1	2	3	4	5,6	7,8,9	10	11,12	13	14	15
	P	D	D	4	36	090	K	00	0	C	1
P = Package A = Air Conditioner H = Heat Pump G = Gas/Electric D = Dual Fuel TYPE											
D = Standard S = Mainline w/ SS HX TIER											
3 = 13 4 = 14 5 = 15 SEER											
24 = 24,000 BTUH = 2 Tons 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 040 = 40,000 BTU/hr 060 = 60,000 BTU/hr 090 = 90,000 BTU/hr 115 = 115,000 BTU/hr 130 = 127,000 or 130,000 BTU/hr NOMINAL HEATING BTUH (input)											
K = 208/230-1-60 H = 208/230-3-60 VOLTAGE											
00 = No options GP = Tin Plated Evap Main Tubes plus Stainless Steel Heat Exchanger (single phase) GS = Standard Evap Main Tubes plus Stainless Steel Heat Exchanger (3-phase) FACTORY INSTALLED OPTIONS											
0 = Standard 1 = Low NOx FEATURE CODE											
Sales Model Digit											
Engineering Digit											

AHRI* CAPACITIES

COOLING CAPACITIES AND EFFICIENCIES

UNIT SIZE	NOMINAL TONS	STANDARD CFM	COOLING CAPACITY	EER	SEER
24	2	800	23000	12.0	14.2
30	2.5	1000	28600	12.0	14.2
36	3	1200	35800	12.0	14.5
42	3.5	1400	40500	12.0	14.5
48	4	1600	46500	12.0	14.5
60	5	1750	57000	12.0	14.5

Heat Pump Heating Capacities and Efficiencies

UNIT SIZE	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
24	23000	3.5	11400	2.2	8.0
30	29600	3.5	15400	2.1	8.0
36	35800	3.5	19800	2.4	8.0
42	41500	3.4	23000	2.3	8.0
48	45500	3.4	26000	2.4	8.0
60	59000	3.5	32000	2.4	8.0

See LEGEND on next page.

LEGEND

dBA—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.

GAS HEATING CAPACITIES AND EFFICIENCIES, SINGLE PHASE MODELS

UNIT SIZE	HEATING INPUT (Btuh)	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE RANGE F (C)	AFUE (%)
24040 30040	40,000	33,000	25–55 (14–31)	81.0
24060 30060 36060 42060	60,000	49,000	25–55 (13.9–30.6)	
36090 42090 48090 60090	90,000	74,000	35–65 (19.4–36.1)	
48115 60115	115,000	94,000	30–60 (16.7–33.3)	
48130 60130	127,000	104,000	35–65 (19.4–36.1)	

LEGEND

AFUE—Annual Fuel Utilization Efficiency

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

GAS HEATING CAPACITIES AND EFFICIENCIES, THREE PHASE MODELS

UNIT SIZE	HEATING INPUT (Btuh)	OUTPUT CAPACITY (Btuh)	TEMPERATURE RISE RANGE F (C)	AFUE (%)
24040 30040	40,000	32,000	30–60 (16.7–33.3)	80.0
24060 30060 36060 42060	60,000	48,000 48,000 47,000 47,000	25–55 (13.9–30.6)	80.0 80.0 78.5 78.5
36090 42090 48090 60090	90,000	73,000	35–65 (19.4–36.1)	80.4
48115 60115	115,000	93,000	30–60 (16.7–33.3)	80.3
48130 60130	130,000	103,000	35–65 (19.4–36.1)	78.9

LEGEND

AFUE—Annual Fuel Utilization Efficiency

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

PHYSICAL DATA

Unit Size	24040	24060	30040	30060	36060	36090
Nominal Capacity – ton	2	2	2.5	2.5	3	3
Shipping Weight (lb)	354	354	346	346	426	426
(kg)	161	161	157	157	193	193
Compressor / Quantity	Scroll / 1					
Refrigerant	R-410A					
Refrigerant Quantity (lb)	11.1	11.1	10.3	10.3	9.9	9.9
Quantity (kg)	5.0	5.0	4.7	4.7	4.5	4.5
Refrigerant Metering Device	Indoor TXV, Outdoor Dual Accuraters					
Orifice OD (in)	0.032 (2)	0.032 (2)	0.037 (2)	0.037 (2)	0.038 (2)	0.038 (2)
(mm)	0.81 (2)	0.81 (2)	0.94 (2)	0.94 (2)	0.97 (2)	0.97 (2)
Outdoor Coil						
Rows... Fins/in,	2...21	2...21	2...21	2...21	2...21	2...21
face area (sq. ft.)	13.6	13.6	13.6	13.6	13.6	13.6
Outdoor Fan						
Nominal Airflow (cfm)	2500	2500	2700	2700	3100	3100
Diameter (in.)	24	24	24	24	26	26
Diameter (mm)	610	610	610	610	660	660
Motor hp (rpm)	1/10 (810)	1/10 (810)	1/5 (810)	1/5 (810)	1/5 (810)	1/5 (810)
Indoor Coil						
Rows... Fins/in,	3...17	3...17	3...17	3...17	3...17	3...17
face area (sq. ft.)	3.7	3.7	3.7	3.7	4.7	4.7
Indoor Blower						
Nominal Airflow (cfm)	800	800	1000	1000	1200	1200
Size (in.)	10 x 10	10 x 10	10 x 10	10 x 10	11 x 10	11 x 10
Size (mm)	254 x 254	254 x 254	254 x 254	254 x 254	279 x 254	279 x 254
Motor hp	1/2	1/2	1/2	1/2	3/4	3/4
Furnace Section*						
Burner Orifice						
1–Phase Natural Gas Qty...Drill Size	2...44	3...44	2...44	3...44	3...44	3...38
1–Phase Propane Gas Qty...Drill Size	2...55	3...55	2...55	3...55	3...55	3...53
3–Phase Natural Gas Qty...Drill Size	2...44	2...38	2...44	2...38	2...38	3...38
3–Phase Propane Gas Qty...Drill Size	2...55	2...53	2...55	2...53	2...53	3...53
High Pressure Switch (psig)	650 +/- 15					
Cutout	420 +/- 25					
Reset (Auto)						
Loss-of-Charge/Low Pressure Switch (psig)	20 +/- 5					
Cutout	45 +/- 10					
Reset (Auto)						
Return Air Filters†‡						
disposable (in)	20x20x1		20x24x1		24x30x1	
(mm)	508x508x25		508x610x25		610x762x25	

*Based on altitude of 0 to 2000 ft (0–610 m).

†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 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 filter rack installation instructions for correct filter size and quantity.

PHYSICAL DATA (CONT)

Unit Size	42060	42090	48090	48115	48130	60090	60115	60130
Nominal Capacity – ton	3.5	3.5	4	4	4	5	5	5
Shipping Weight (lb) (kg)	472 214	472 214	460 209	460 209	460 209	506 230	506 230	506 230
Compressor / Quantity	Scroll / 1							
Refrigerant	R-410A							
Refrigerant Quantity (lb) Quantity (kg)	11.3 5.1	11.3 5.1	12.5 5.7	12.5 5.7	12.5 5.7	15.2 6.9	15.2 6.9	15.2 6.9
Refrigerant Metering Device	Indoor TXV, Outdoor Dual Accuraters							
Orifice OD (in) (mm)	0.040 (2) 1.02 (2)	0.040 (2) 1.02 (2)	0.040 (2) 1.02 (2)	0.040 (2) 1.02 (2)	0.040 (2) 1.02 (2)	0.049 (2) 1.24 (2)	0.049 (2) 1.24 (2)	0.049 (2) 1.24 (2)
Outdoor Coil Rows... Fins/in, face area (sq. ft.)	2...21 17.5	2...21 17.5	2...21 17.5	2...21 17.5	2...21 17.5	2...21 23.3	2...21 23.3	2...21 23.3
Outdoor Fan Nominal Airflow (cfm) Diameter (in.) Diameter (mm) Motor hp Motor (rpm)	3100 26 660 1/5 (810)	3100 26 660 1/5 (810)	3100 26 660 1/5 (810)	3100 26 660 1/5 (810)	3100 26 660 1/5 (810)	3500 26 660 1/4 (810)	3500 26 660 1/4 (810)	3500 26 660 1/4 (810)
Indoor Coil Rows... Fins/in, face area (sq. ft.)	3...17 4.7	3...17 4.7	3...17 5.6	3...17 5.6	3...17 5.6	3...17 5.6	3...17 5.6	3...17 5.6
Indoor Blower Nominal Airflow (cfm) Size (in.) Size (mm) Motor hp	1400 11 x 10 279 x 254 3/4	1400 11 x 10 279 x 254 3/4	1600 11 x 10 279 x 254 1	1600 11 x 10 279 x 254 1	1600 11 x 10 279 x 254 1	1750 11 x 10 279 x 254 1	1750 11 x 10 279 x 254 1	1750 11 x 10 279 x 254 1
Furnace Section* Burner Orifice 1 Phase Natural Gas Qty...Drill Size 1 Phase Propane Gas Qty...Drill Size 3 Phase Natural Gas Qty...Drill Size 3 Phase Propane Gas Qty...Drill Size	3...44 3...55 2...38 2...53	3...38 3...53 3...38 3...53	3...38 3...53 3...38 3...53	3...33 3...51 3...33 3...51	3...31 3...49 3...31 3...49	3...38 3...53 3...38 3...53	3...33 3...51 3...33 3...51	3...31 3...49 3...31 3...49
High Pressure Switch (psig) Cutout Reset (Auto)	650 +/- 15 420 +/- 25							
Loss-of-Charge/Low Pressure Switch (psig) Cutout Reset (Auto)	20 +/- 5 45 +/- 10							
Return Air Filters†‡ disposable (in) (mm)	24x30x1 610x762x25			24x36x1 610x914x25				

*Based on altitude of 0 to 2000 ft (0–610 m).

†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 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 filter rack installation instructions for correct filter size and quantity.

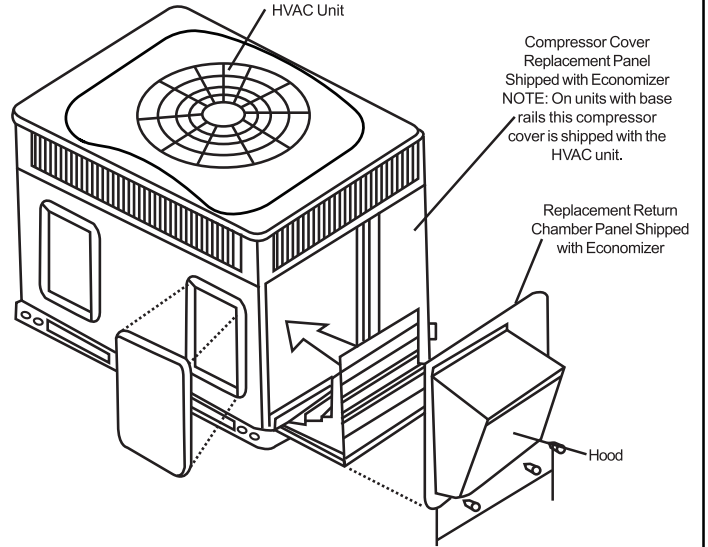
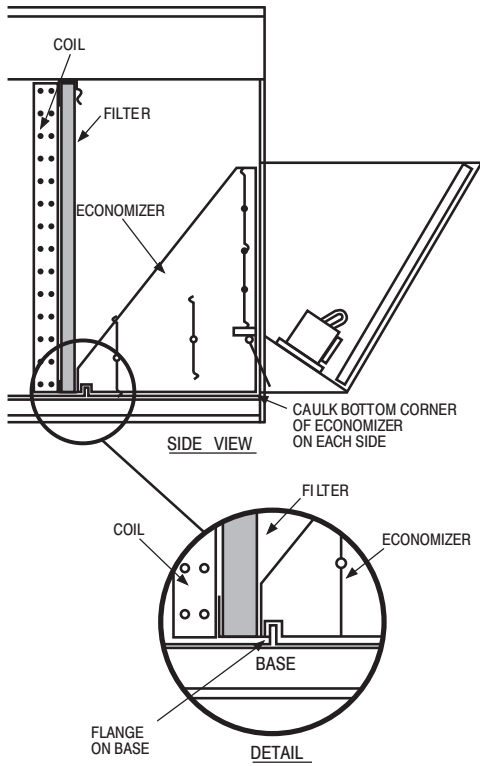
A-Weighted Sound Power Level (dBA)

UNIT SIZE	Standard Rating (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
24	74	63.5	64.5	69	69.5	65	59.5	50
30	75	63.5	66	71	69.5	66.5	61	54
36	74	64	66	68	68	66.5	60.5	52
42	73	63.5	63.5	66.5	67	64.5	60	52.5
48	74	68.5	65	67	67.5	65	60.5	53
60	75	68	64.5	68.5	69	65.5	62	58

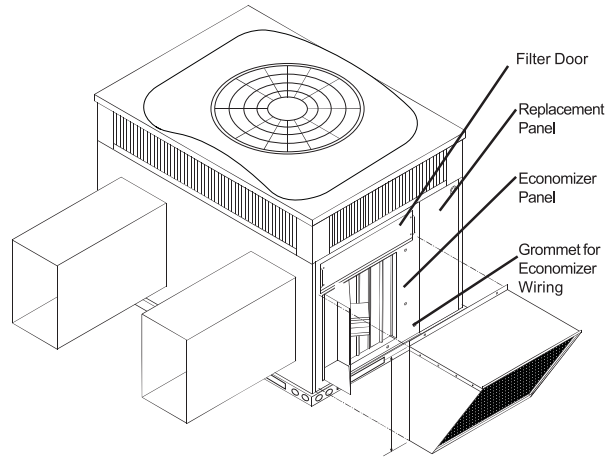
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OPTIONS AND ACCESSORIES

ECONOMIZER

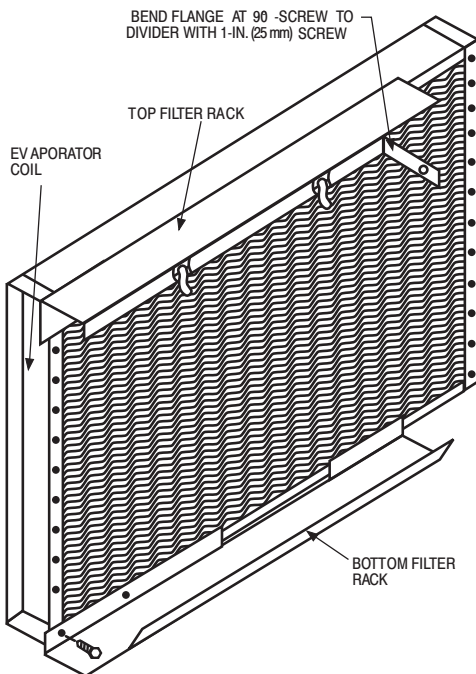


Vertical Economizer

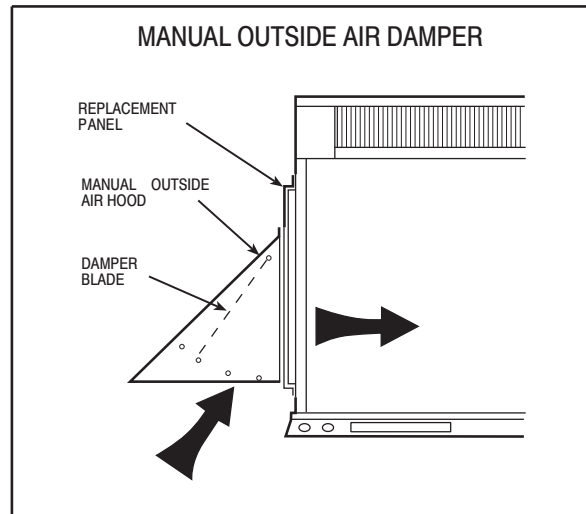


Horizontal Economizer

FILTER RACK



MANUAL OUTSIDE AIR DAMPER



UNIT DIMENSIONS - 24-30

UNIT	ELECTRICAL CHARACTERISTICS		UNIT WT.		UNIT HEIGHT IN/MM		CENTER OF GRAVITY IN/MM				
	LB	KG	"A"	"A"	X	Y	Z				
PD/D/S1424/040/060/K100/GP/GS10/1101	208/230-1-60	368	167	44-1/8	1121	22-3/4	578	15-1/2	384	16-1/4	387
PD/D/S1430/040/060/K100/GP/GS10/1101	208/230-1, 208/230-3-60	360	163	44-1/8	1121	22-3/4	578	15-1/2	384	16-1/4	387

UNITS	VOLTAGE		CORNER WEIGHT LB/KG						
	"1"	"2"	"3"	"4"					
PD/D/S1424/040/060/K100/GP/GS10/1101	208/230	94	42	83	38	90	41	101	46
PD/D/S1430/040/060/K100/GP/GS10/1101	208/230	92	42	81	37	88	40	99	45

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

REQUIRED CLEARANCES TO COMBUSTIBLE MATL.

	INCHES (MM)
TOP OF UNIT.....	14 (355.6)
DUCT SIDE OF UNIT.....	2 (50.8)
SIDE OPPOSITE DUCTS.....	14 (355.6)
DUCT OPPOSITE DUCTS.....	12 (304.8)
PLUE PANEL.....	36 (914.4)

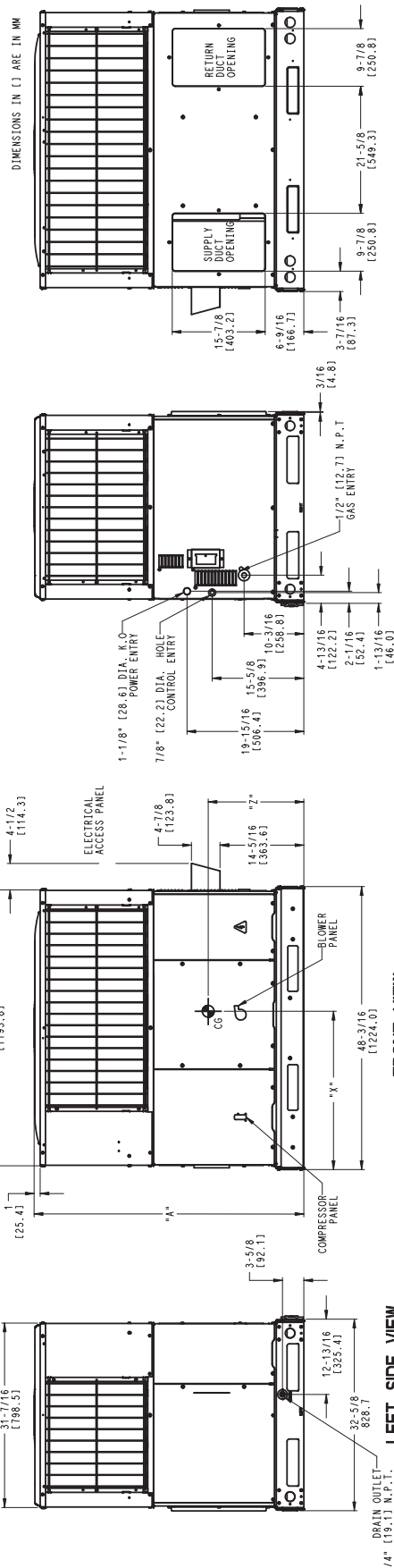
NEC REQUIRED CLEARANCES.

	INCHES (MM)
BETWEEN UNITS, POWER ENTRY SIDE.....	42 (1066.8)
UNIT AND UNGROUND 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

	INCHES (MM)
EVAP. COIL ACCESS SIDE.....	36 (914.4)
POWER ENTRY SIDE.....	42 (1066.8)
DUCT TOP FOR NEC REQUIREMENTS.....	48 (1219.2)
DUCT 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
50CY502857

UNIT DIMENSIONS - 36-60

UNIT	ELECTRICAL CHARACTERISTICS		UNIT WT.		UNIT HEIGHT IN/MM			CENTER OF GRAVITY IN/MM				
	208/230-1, 208/230-3-60	208/230-1, 208/230-3-60	LB	KG	"A"	X	Y	Z				
PRD/S1436/080/090/1K/H/100/0P/6S/10/1/01	208/230-1, 208/230-3-60	208/230-1, 208/230-3-60	440	200	44-3/4	1137	22-3/4	578	18	457	17-1/8	435
PRD/S1442/080/090/1K/H/100/0P/6S/10/1/01	208/230-1, 208/230-3-60	208/230-1, 208/230-3-60	486	220	48-3/4	1238	22-3/4	578	18	457	17-5/8	435
PRD/S1448/090/115/130/1K/H/100/0P/6S/10/1/01	208/230-1, 208/230-3-60	208/230-1, 208/230-3-60	506	230	48-3/4	1238	22-3/4	578	18	457	17-5/8	435
PRD/S1460/090/115/130/1K/H/100/0P/6S/10/1/01	208/230-1, 208/230-3-60	208/230-1, 208/230-3-60	540	245	54-3/4	1391	22-3/4	578	18	457	17-3/4	435

UNITS	CORNER WEIGHT LB/KG		
	"1"	"2"	"3"
PRD/S1436/080/090/1K/H/100/0P/6S/10/1/01	96	85	38
PRD/S1442/080/090/1K/H/100/0P/6S/10/1/01	106	48	94
PRD/S1448/090/115/130/1K/H/100/0P/6S/10/1/01	110	50	98
PRD/S1460/090/115/130/1K/H/100/0P/6S/10/1/01	117	53	104

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

REQUIRED CLEARANCES TO COMBUSTIBLE MATL.

TOP OF UNIT..... 14 (355.8)
 DUCT SIDE OF UNIT..... 14 (355.8)
 SIDE OPPOSITE DUCTS..... 14 (355.8)
 BOTTOM OF UNIT..... 1/2 (12.7)
 FLUE PANEL..... 36 (914.4)

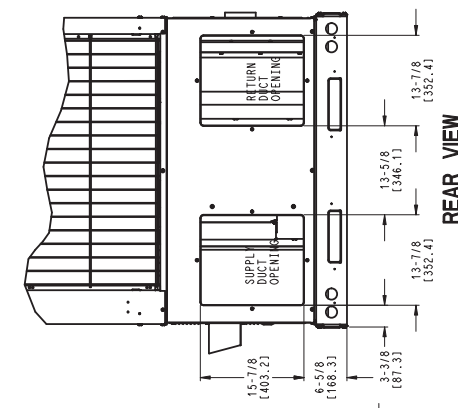
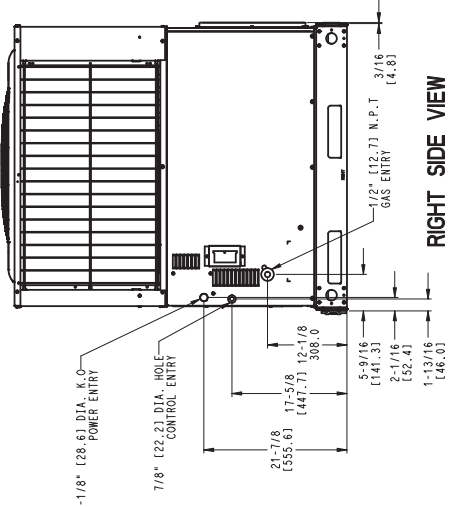
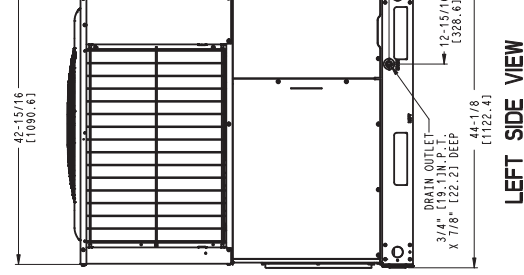
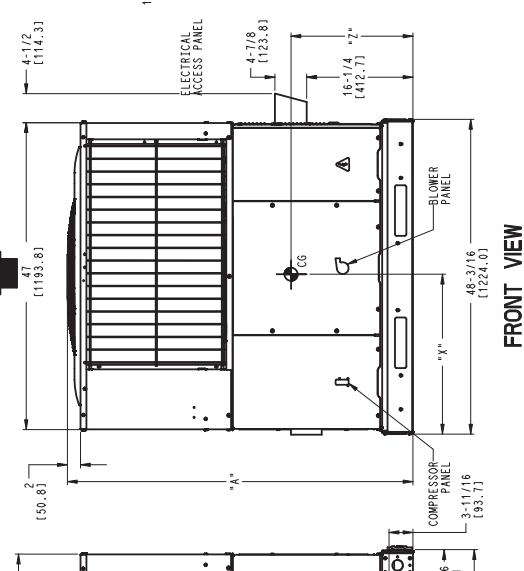
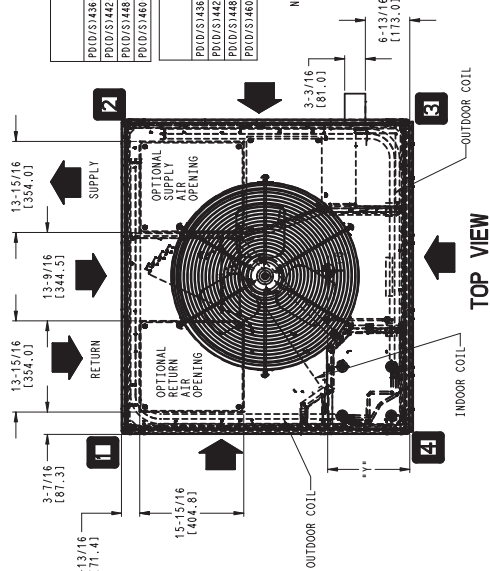
NEC REQUIRED CLEARANCES

BETWEEN UNITS, POWER ENTRY SIDE..... 42 (1066.8)
 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

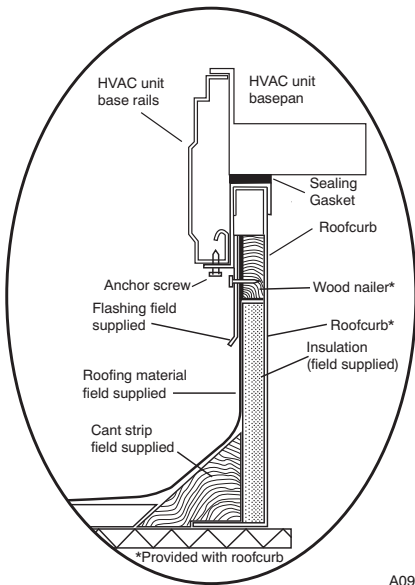
EVAP. COIL ACCESS SIDE..... 36 (914.4)
 EXPOSED COIL ACCESS SIDE..... 36 (914.4)
 UNIT TOP..... 48 (1219.2)
 DUCT SIDE OPPOSITE DUCTS..... 36 (914.4)
 FLUE PANEL..... 16 (406.4)

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



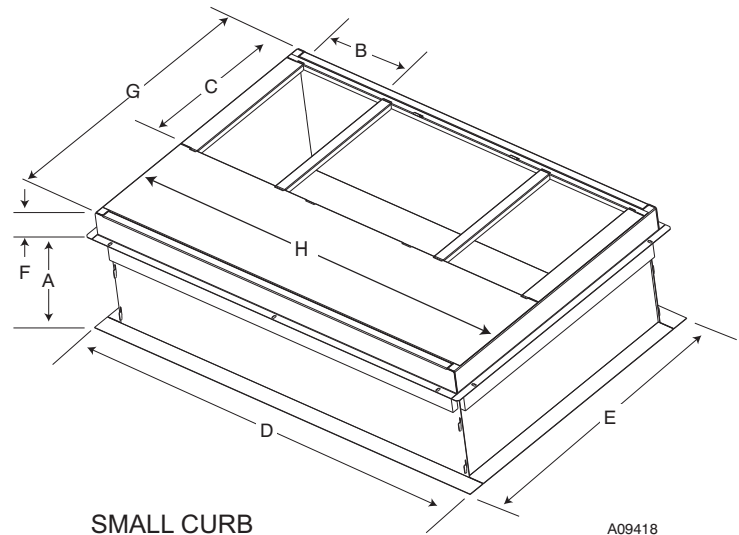
REV 50CY502858 B

ACCESSORY DIMENSIONS



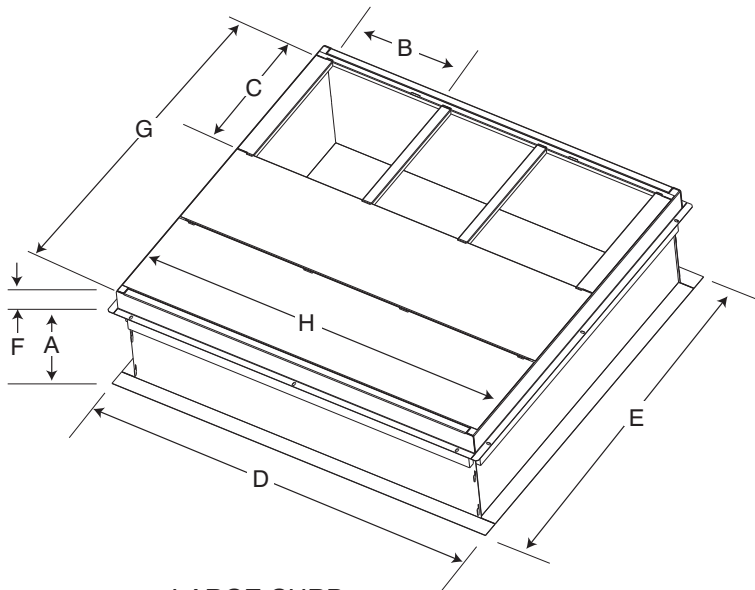
ROOF CURB DETAIL

A09090



SMALL CURB

A09418



LARGE CURB

A09415

A09419

UNIT SIZE	CATALOG NUMBER	A IN. (mm)	B IN. (mm)*	C IN. (mm)	D IN. (mm)	E IN. (mm)	F IN. (mm)	G IN. (mm)	H IN. (mm)
Small	CPRFCURB010A00	11 (279)	10 (254)	16 (406)	47.8 (1214)	32.4 (822)	2.7 (69)	30.6 (778)	46.1 (1170)
	CPRFCURB011A00	14 (356)							
Large	CPRFCURB012A00	11 (279)	14 (356)	16 (406)	47.8 (1214)	43.9 (1116)	2.7 (69)	42.2 (1072)	46.1 (1170)
	CPRFCURB013A00	14 (356)							

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.

IMPORTANT: Do not install large base pan dual fuel units onto the small base pan (common curb). The center of gravity on a large base pan dual fuel unit could overhang the curb causing an unsafe condition. Before installing any large base pan unit onto the common curb, check the "Y" distance in the product literature dimensional drawing to ensure that "Y" is greater than 14 in. (356 mm). Do not install any large base pan unit onto the common curb with a "Y" dimension (center of gravity) less than 14 in. (356 mm).

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 208–1–60

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 35,800 Btuh and a SHC of 26,950 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 unit 36090 will provide 74,000 Btuh with an input of 90,000 Btuh.

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>0.180 IN. W.C.</u>
Total Static Pressure	0.510 IN. W.C.

Enter the table for Dry Coil Air Delivery—horizontal and downflow Discharge. At 0.5 ESP (external static pressure), in cooling the fan will deliver 1079 cfm with the MED speed tap selected. To achieve 1200 CFM a higher speed tap is required.

5. Select unit that corresponds to power source available.

The Electrical Data Table shows that the unit is designed to operate at 208–1–60.

PERFORMANCE DATA

24 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB	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					
700	57 (13.9)	21.90	21.90	1.50	21.04	21.04	1.68	20.11	20.11	1.88	19.10	19.10	2.10	18.03	18.03	2.35	16.87	16.87	2.64
	62 (16.7)	22.70	20.36	1.50	21.63	19.79	1.68	20.49	19.17	1.88	19.30	18.47	2.10	18.08	18.08	2.35	16.90	16.90	2.64
	63 (17.2)	23.06	16.63	1.50	21.94	16.09	1.68	20.75	15.53	1.88	19.50	14.94	2.11	18.17	14.31	2.36	16.75	13.64	2.64
	67 (19.4)	24.96	17.37	1.50	23.75	16.83	1.69	22.46	16.26	1.89	21.12	15.67	2.12	19.68	15.04	2.37	18.16	14.37	2.65
	72 (22.2)	27.48	14.25	1.51	26.12	13.75	1.70	24.71	13.19	1.91	23.23	12.61	2.14	21.65	12.00	2.39	19.99	11.36	2.67
	57 (13.9)	22.97	22.97	1.52	22.03	22.03	1.70	21.03	21.03	1.90	19.95	19.95	2.13	18.79	18.79	2.38	17.55	17.55	2.66
	62 (16.7)	23.39	21.91	1.52	22.27	21.26	1.70	21.10	21.08	1.90	19.98	19.98	2.13	18.82	18.82	2.38	17.58	17.58	2.66
800	63 (17.2)	23.69	17.76	1.52	22.51	17.20	1.70	21.26	16.61	1.91	19.94	15.99	2.13	18.56	15.33	2.38	17.09	14.61	2.66
	67 (19.4)	25.63	18.59	1.52	24.34	18.02	1.71	23.00	17.43	1.92	21.58	16.80	2.14	20.09	16.14	2.39	18.51	15.43	2.67
	72 (22.2)	28.18	15.05	1.53	26.77	14.50	1.73	25.28	13.93	1.93	23.72	13.32	2.16	22.08	12.68	2.41	20.35	12.02	2.69
	57 (13.9)	23.89	23.89	1.54	22.88	22.88	1.72	21.81	21.81	1.93	20.66	20.66	2.15	19.43	19.43	2.40	18.11	18.11	2.69
	62 (16.7)	24.03	23.26	1.54	22.92	22.92	1.72	21.85	21.85	1.93	20.69	20.69	2.15	19.46	19.46	2.40	18.14	18.14	2.69
	63 (17.2)	24.20	18.85	1.54	22.96	18.26	1.72	21.66	17.84	1.93	20.30	16.99	2.15	18.86	16.29	2.40	17.35	15.52	2.68
	67 (19.4)	26.16	19.77	1.54	24.82	19.18	1.73	23.42	18.55	1.94	21.95	17.89	2.16	20.41	17.19	2.41	18.78	16.43	2.69
72 (22.2)	28.76	15.79	1.55	27.27	15.22	1.75	25.73	14.82	1.95	24.11	14.00	2.18	22.41	13.34	2.43	20.62	12.64	2.71	

*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.

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

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES deg F (deg 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	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	Capacity MBtuh		Total Sys kW	
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		
65 (18.3)	700	7.13	6.56	1.48	9.45	8.70	1.55	12.07	11.08	1.62	14.83	13.45	1.68	17.57	15.40	1.74	20.64	20.64	1.81	24.12	24.12	1.90	28.24	28.24	2.03
	800	7.23	6.65	1.49	9.58	8.81	1.55	12.45	11.43	1.62	14.96	13.57	1.67	17.75	15.55	1.72	20.87	20.87	1.78	24.44	24.44	1.86	28.65	28.65	1.98
	900	7.32	6.74	1.50	9.68	8.91	1.56	12.55	11.52	1.61	15.09	13.68	1.66	17.90	15.68	1.71	21.07	21.07	1.76	24.69	24.69	1.84	28.85	28.85	1.95
70 (21.1)	700	6.86	6.31	1.55	9.18	8.45	1.62	11.73	10.77	1.69	14.64	13.28	1.76	17.32	15.17	1.83	20.33	20.33	1.90	23.72	23.72	1.99	27.75	27.75	2.12
	800	6.97	6.41	1.55	9.31	8.57	1.62	11.89	10.92	1.68	14.77	13.40	1.75	17.50	15.33	1.80	20.57	20.57	1.87	24.04	24.04	1.95	28.17	28.17	2.07
	900	7.06	6.50	1.56	9.42	8.67	1.62	12.03	11.04	1.68	14.90	13.51	1.74	17.65	15.47	1.79	20.76	20.76	1.85	24.29	24.29	1.93	28.44	28.44	2.04
75 (23.9)	700	6.56	6.03	1.62	8.88	8.17	1.69	11.42	10.48	1.76	14.43	13.09	1.85	17.06	14.95	1.91	20.03	20.03	1.96	23.35	23.35	2.09	27.26	27.26	2.22
	800	6.67	6.13	1.62	9.02	8.30	1.69	11.57	10.62	1.75	14.57	13.22	1.83	17.24	15.11	1.89	20.26	20.26	1.96	23.65	23.65	2.04	27.67	27.67	2.17
	900	6.76	6.22	1.63	9.13	8.40	1.70	11.71	10.75	1.75	14.69	13.32	1.82	17.40	15.24	1.87	20.45	20.45	1.94	23.89	23.89	2.02	27.96	27.96	2.14

PERFORMANCE DATA (CONT)

30 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB	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	57 (13.9)		27.14	1.89	26.11	2.10	25.02	23.84	2.59	22.53	2.89	21.09	21.09	2.89	21.09	21.09	3.23		
	62 (16.7)		28.06	1.90	24.93	2.10	25.43	24.02	2.59	22.57	2.89	21.13	21.13	2.89	21.13	21.13	3.23		
	63 (17.2)		28.55	1.90	20.23	2.10	25.81	19.58	2.59	22.68	2.89	20.91	17.30	2.89	20.91	17.30	3.23		
	67 (19.4)		30.91	1.91	21.79	2.12	27.96	20.50	2.61	24.61	2.90	22.72	18.24	2.90	22.72	18.24	3.24		
	72 (22.2)		34.14	1.93	17.72	2.14	30.88	16.51	2.63	27.19	2.92	25.11	14.39	2.92	25.11	14.39	3.25		
	57 (13.9)		28.46	1.93	27.34	2.14	26.16	24.89	2.63	23.49	2.92	21.96	21.96	2.92	21.96	21.96	3.26		
	62 (16.7)		28.88	1.93	27.56	2.14	26.22	24.94	2.63	23.53	2.92	21.99	21.99	2.92	21.99	21.99	3.26		
1000	63 (17.2)		29.30	1.93	22.31	2.14	26.41	20.97	2.63	23.15	2.92	21.31	18.57	2.92	21.31	18.57	3.26		
	67 (19.4)		31.70	1.95	23.35	2.15	28.60	22.00	2.64	25.10	2.93	23.14	19.62	2.93	23.14	19.62	3.27		
	72 (22.2)		35.00	1.97	18.77	2.18	31.53	17.52	2.66	27.70	2.95	25.53	15.25	2.95	25.53	15.25	3.28		
	57 (13.9)		29.59	1.97	28.40	2.17	27.13	25.78	2.66	24.30	2.96	22.67	22.67	2.96	22.67	22.67	3.30		
	62 (16.7)		29.65	1.97	28.45	2.17	27.18	25.83	2.66	24.34	2.96	22.71	22.71	2.96	22.71	22.71	3.30		
	63 (17.2)		29.89	1.97	23.02	2.17	26.89	22.31	2.66	23.52	2.95	21.64	19.77	2.95	21.64	19.77	3.29		
	67 (19.4)		32.31	1.98	24.86	2.19	29.08	23.46	2.67	25.48	2.97	23.46	20.93	2.97	23.46	20.93	3.30		
72 (22.2)		35.63	2.01	19.78	2.21	32.06	18.43	2.70	28.08	2.99	25.85	16.08	2.99	25.85	16.08	3.31			

*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 deg F (deg 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	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	Capacity MBtuh		Total Sys kW	
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		
65 (18.3)	875	9.56	8.79	1.94	12.51	11.51	2.01	16.03	14.71	2.09	19.18	17.39	2.16	22.61	19.91	2.23	26.50	26.50	2.32	31.02	31.02	2.44	36.42	36.42	2.60
	1000	9.74	8.96	1.96	12.71	11.70	2.02	16.27	14.93	2.09	19.37	17.57	2.15	22.86	20.03	2.22	26.81	26.81	2.30	31.42	31.42	2.41	36.91	36.91	2.56
	1125	9.89	9.10	1.98	12.89	11.86	2.04	16.43	15.08	2.10	19.55	17.73	2.15	23.07	20.21	2.21	27.06	27.06	2.29	31.72	31.72	2.39	37.19	37.19	2.54
70 (21.1)	875	9.13	8.40	2.02	12.12	11.15	2.10	15.35	14.09	2.17	18.92	17.16	2.26	22.31	19.55	2.34	26.15	26.15	2.43	30.55	30.55	2.55	35.85	35.85	2.71
	1000	9.31	8.57	2.04	12.32	11.34	2.11	15.60	14.31	2.17	19.13	17.35	2.25	22.56	19.77	2.32	26.45	26.45	2.40	30.95	30.95	2.51	36.34	36.34	2.67
	1125	9.47	8.72	2.06	12.50	11.51	2.12	15.85	14.55	2.18	19.31	17.51	2.25	22.77	19.95	2.31	26.70	26.70	2.39	31.25	31.25	2.50	36.67	36.67	2.66
75 (23.9)	875	8.67	7.98	2.11	11.69	10.76	2.19	14.93	13.70	2.27	18.68	16.94	2.37	22.01	19.29	2.45	25.79	25.79	2.54	30.10	30.10	2.67	35.28	35.28	2.83
	1000	8.85	8.14	2.12	11.90	10.95	2.20	15.16	13.92	2.27	18.88	17.12	2.36	22.25	19.50	2.43	26.09	26.09	2.51	30.49	30.49	2.63	35.76	35.76	2.78
	1125	9.01	8.29	2.15	12.08	11.12	2.21	15.36	14.10	2.28	19.05	17.27	2.36	22.46	19.68	2.42	26.33	26.33	2.50	30.79	30.79	2.61	36.10	36.10	2.77

PERFORMANCE DATA (CONT)

36 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB	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	57 (13.9)		33.80	33.80	2.35	32.51	31.13	2.92	29.64	29.64	3.26	28.00	28.00	3.65	26.21	26.21	4.10		
	62 (16.7)		35.12	31.40	2.36	30.56	29.63	2.92	30.03	28.60	3.26	28.11	28.06	3.65	26.26	26.26	4.10		
	63 (17.2)		35.63	25.64	2.36	33.98	24.84	2.63	30.35	23.10	3.26	28.32	22.12	3.65	26.12	21.07	4.10		
	67 (19.4)		38.56	26.79	2.38	36.80	25.98	2.65	32.93	24.26	3.28	30.76	23.29	3.67	28.43	22.24	4.11		
	72 (22.2)		42.38	22.02	2.40	40.45	21.27	2.68	36.23	19.60	3.31	33.88	18.68	3.70	31.34	17.68	4.14		
	57 (13.9)		35.46	35.46	2.39	34.08	34.08	2.66	30.99	30.99	3.30	29.24	29.24	3.69	27.32	27.32	4.13		
	62 (16.7)		36.21	33.75	2.39	34.54	32.85	2.66	31.05	31.05	3.30	29.29	29.29	3.69	27.37	27.37	4.13		
1200	63 (17.2)		36.62	27.38	2.39	34.89	26.53	2.66	31.08	24.72	3.30	28.96	23.70	3.68	26.68	22.59	4.13		
	67 (19.4)		39.61	28.66	2.41	37.76	27.82	2.69	33.70	26.01	3.32	31.44	25.00	3.71	29.01	23.90	4.15		
	72 (22.2)		43.49	23.23	2.44	41.47	22.43	2.72	37.05	20.70	3.35	34.60	19.74	3.74	31.95	18.70	4.17		
	57 (13.9)		36.89	36.89	2.43	35.42	35.42	2.70	32.14	32.14	3.34	30.28	30.28	3.72	28.26	28.26	4.17		
	62 (16.7)		37.18	35.89	2.43	35.49	35.49	2.70	32.19	32.19	3.34	30.33	30.33	3.72	28.31	28.31	4.17		
	63 (17.2)		37.42	29.04	2.43	35.62	28.17	2.70	31.67	26.28	3.33	29.48	25.20	3.72	27.14	24.02	4.16		
	67 (19.4)		40.44	30.46	2.45	38.52	29.60	2.72	34.31	27.70	3.36	31.98	26.64	3.74	29.48	25.47	4.18		
72 (22.2)		44.37	24.36	2.48	42.29	23.54	2.75	37.69	21.74	3.39	35.15	20.74	3.77	32.42	19.67	4.21			

*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 deg F (deg 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	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	Capacity MBtuh		Total Sys kW	
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		
65 (18.3)	1050	12.06	11.10	2.28	15.34	14.11	2.37	19.31	17.73	2.48	22.99	20.85	2.57	27.20	23.83	2.67	32.01	27.9	2.79	37.62	37.62	2.96	44.15	44.15	3.17
	1200	12.24	11.26	2.28	15.55	14.31	2.37	19.49	17.89	2.46	23.21	21.05	2.54	27.49	24.09	2.63	32.36	27.5	2.75	38.06	38.06	2.92	43.75	43.75	3.10
	1350	12.40	11.41	2.29	15.73	14.47	2.37	19.66	18.05	2.46	23.40	21.22	2.53	27.72	24.29	2.62	32.62	27.3	2.73	38.08	38.08	2.88	42.98	42.98	3.07
70 (21.1)	1050	11.60	10.67	2.40	14.89	13.70	2.49	19.02	17.45	2.61	22.66	20.55	2.69	26.81	23.49	2.80	31.55	27.02	2.93	37.02	37.02	3.10	43.57	43.57	3.32
	1200	11.79	10.84	2.40	15.10	13.89	2.49	19.22	17.64	2.59	22.88	20.75	2.67	27.09	23.74	2.76	31.91	27.47	2.88	37.47	37.47	3.05	43.39	43.39	3.24
	1350	11.95	10.99	2.41	15.28	14.06	2.49	19.39	17.80	2.59	23.08	20.93	2.66	27.33	23.94	2.74	32.17	27.33	2.86	37.72	37.72	3.02	42.75	42.75	3.21
75 (23.9)	1050	11.10	10.21	2.52	14.41	13.26	2.62	18.18	16.69	2.72	22.35	20.27	2.83	26.42	23.15	2.94	31.08	26.44	3.07	36.44	36.44	3.24	42.87	42.87	3.48
	1200	11.29	10.38	2.53	14.62	13.46	2.62	18.52	17.00	2.71	22.56	20.46	2.81	26.70	23.40	2.90	31.43	26.70	3.02	36.87	36.87	3.18	42.98	42.98	3.39
	1350	11.45	10.53	2.54	14.81	13.62	2.62	18.95	17.40	2.71	22.75	20.64	2.79	26.93	23.60	2.88	31.71	26.93	2.99	37.19	37.19	3.17	42.46	42.46	3.36

PERFORMANCE DATA (CONT)

42 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB	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		
1225	57 (13.9)		38.52	36.98	2.93	35.30	33.49	3.66	31.53	29.35	4.11	29.35	29.35	4.64					
	62 (16.7)		40.25	36.38	2.95	36.38	34.25	3.67	31.99	29.51	4.12	29.51	29.51	4.64					
	63 (17.2)		40.42	29.59	2.66	38.51	28.53	2.95	36.47	27.40	3.28	31.96	24.88	4.12	29.43	23.45	4.64		
	67 (19.4)		43.85	31.00	2.69	41.76	29.93	2.98	39.56	28.79	3.32	37.21	27.56	3.71	31.95	24.78	4.70		
	72 (22.2)		47.65	25.61	2.73	45.34	24.58	3.02	42.92	23.50	3.37	40.32	22.34	3.77	34.58	19.76	4.76		
	57 (13.9)		40.25	40.25	2.70	38.58	38.58	2.99	36.77	36.77	3.33	34.83	34.83	3.72	30.39	30.39	4.71		
	62 (16.7)		41.40	39.06	2.71	39.43	37.83	3.00	37.36	36.48	3.33	35.17	34.96	3.73	30.43	30.43	4.71		
1400	63 (17.2)		41.51	31.29	2.71	39.49	30.16	3.00	37.35	28.97	3.33	35.07	27.69	3.72	29.99	24.80	4.70		
	67 (19.4)		45.01	32.87	2.74	42.81	31.72	3.04	40.50	30.50	3.37	38.03	29.20	3.77	32.54	26.26	4.76		
	72 (22.2)		48.85	26.74	2.78	46.43	25.66	3.08	43.87	24.51	3.42	41.16	23.30	3.83	35.16	20.59	4.82		
	57 (13.9)		41.72	41.72	2.75	39.93	39.93	3.05	38.01	38.01	3.39	35.94	35.94	3.78	31.24	31.24	4.77		
	62 (16.7)		42.39	41.37	2.76	40.36	39.99	3.05	38.18	38.18	3.39	36.02	36.02	3.78	31.28	31.28	4.77		
	63 (17.2)		42.38	32.88	2.76	40.28	31.70	3.05	38.04	30.44	3.38	35.68	29.10	3.77	30.42	26.06	4.75		
	67 (19.4)		45.94	34.61	2.79	43.65	33.40	3.09	41.24	32.12	3.43	38.67	30.74	3.83	32.99	27.66	4.81		
72 (22.2)		49.80	27.78	2.84	47.28	26.65	3.14	44.62	25.45	3.48	41.80	24.18	3.88	35.62	21.35	4.88			

*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 deg F (deg 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	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	Capacity MBtuh		Total Sys kW	
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		
65 (18.3)	1225	13.77	12.67	2.42	17.68	16.26	2.58	21.89	20.09	2.72	25.94	23.53	2.83	30.55	26.77	2.94	35.85	35.85	3.08	42.16	42.16	3.29	48.46	48.46	3.55
	1400	13.95	12.83	2.44	17.89	16.46	2.59	22.07	20.26	2.72	26.18	23.74	2.82	30.86	27.04	2.92	36.22	36.22	3.06	42.20	42.20	3.24	47.82	47.82	3.50
	1575	14.11	12.98	2.46	18.12	16.68	2.61	22.25	20.42	2.73	26.38	23.93	2.82	31.11	27.26	2.92	36.53	36.53	3.07	41.84	41.84	3.24	47.22	47.22	3.49
70 (21.1)	1225	13.46	12.38	2.56	17.32	15.93	2.72	21.69	19.91	2.86	25.65	23.48	2.96	30.15	26.42	3.08	35.34	35.34	3.22	41.53	41.53	3.44	48.06	48.06	3.71
	1400	13.65	12.56	2.57	17.54	16.14	2.72	21.88	20.08	2.86	25.89	23.48	2.95	30.46	26.69	3.06	35.70	35.70	3.19	41.84	41.84	3.39	47.53	47.53	3.67
	1575	13.82	12.72	2.59	17.73	16.32	2.74	22.04	20.23	2.86	26.11	23.68	2.95	30.72	26.91	3.05	36.01	36.01	3.20	41.57	41.57	3.39	46.99	46.99	3.65
75 (23.9)	1225	13.07	12.03	2.69	16.92	15.57	2.85	21.46	19.70	3.00	25.36	23.00	3.11	29.77	26.09	3.22	34.82	34.82	3.37	40.89	40.89	3.60	47.64	47.64	3.89
	1400	13.27	12.21	2.71	17.15	15.78	2.86	21.67	19.89	3.00	25.60	23.21	3.09	30.06	26.34	3.20	35.19	35.19	3.34	41.34	41.34	3.56	47.18	47.18	3.84
	1575	13.45	12.38	2.73	17.36	15.97	2.88	21.83	20.04	3.01	25.80	23.40	3.09	30.32	26.56	3.19	35.47	35.47	3.34	41.27	41.27	3.54	46.71	46.71	3.83

PERFORMANCE DATA (CONT)

48 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
CFM	EWB	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	
1400	57 (13.9)	44.75	44.75	3.06	42.98	42.98	3.39	41.06	41.06	3.77	39.00	39.00	4.20	36.79	36.79	4.67	34.42	34.42	5.18
	62 (16.7)	46.12	41.54	3.07	43.97	40.35	3.40	41.69	39.04	3.78	39.29	37.55	4.20	36.86	36.86	4.67	34.48	34.48	5.18
	63 (17.2)	46.70	33.68	3.07	44.47	32.60	3.41	42.08	31.45	3.78	39.54	30.23	4.20	36.87	29.94	4.67	34.05	27.58	5.18
	67 (19.4)	50.55	35.24	3.10	48.13	34.15	3.43	45.54	32.98	3.81	42.81	31.75	4.23	39.93	30.45	4.70	36.89	29.07	5.21
	72 (22.2)	55.52	28.74	3.13	52.82	27.67	3.47	49.97	26.55	3.84	46.97	25.36	4.26	43.81	24.12	4.73	40.47	22.80	5.24
	57 (13.9)	46.77	46.77	3.13	44.87	44.87	3.47	42.79	42.79	3.85	40.57	40.57	4.27	38.20	38.20	4.74	35.66	35.66	5.25
	62 (16.7)	47.44	44.50	3.14	45.22	43.17	3.47	42.89	42.89	3.85	40.63	40.63	4.27	38.26	38.26	4.74	35.71	35.71	5.25
1600	63 (17.2)	47.85	35.90	3.14	45.50	34.77	3.47	42.99	33.55	3.85	40.33	32.27	4.27	37.54	30.91	4.73	34.62	29.45	5.24
	67 (19.4)	51.78	37.65	3.17	49.22	36.50	3.50	46.50	35.26	3.88	43.64	33.97	4.30	40.64	32.61	4.76	37.48	31.13	5.27
	72 (22.2)	56.88	30.24	3.20	53.99	29.12	3.53	51.00	27.94	3.91	47.86	26.71	4.33	44.56	25.40	4.80	41.08	24.03	5.30
	57 (13.9)	48.51	48.51	3.20	46.46	46.46	3.54	44.24	44.24	3.92	41.88	41.88	4.34	39.36	39.36	4.81	36.67	36.67	5.32
	62 (16.7)	48.63	48.63	3.20	46.54	46.54	3.54	44.31	44.31	3.92	41.95	41.95	4.34	39.42	39.42	4.81	36.72	36.72	5.32
	63 (17.2)	48.76	38.03	3.20	46.31	36.85	3.54	43.69	35.57	3.91	40.94	34.21	4.33	38.07	32.76	4.80	35.07	31.19	5.30
	67 (19.4)	52.73	39.96	3.23	50.06	38.75	3.56	47.24	37.47	3.94	44.28	36.10	4.36	41.18	34.64	4.83	37.93	33.06	5.33
72 (22.2)	57.85	31.65	3.26	54.90	30.49	3.60	51.79	29.26	3.97	48.53	27.98	4.39	45.11	26.62	4.86	41.53	25.19	5.36	

*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 deg F (deg 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	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	Capacity MBtuh		Total Sys kW	Capacity MBtuh		Total Sys kW
		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ	
65 (18.3)	1400	15.24	14.02	3.00	20.15	18.54	3.09	25.29	23.21	3.21	29.94	27.15	3.32	35.20	30.84	3.45	41.16	41.16	3.62	48.10	48.10	3.83	54.59	54.59	4.07
	1600	15.50	14.26	3.04	20.44	18.80	3.12	25.55	23.45	3.23	30.25	27.43	3.33	35.57	31.17	3.45	41.64	41.64	3.63	47.73	47.73	3.81	53.60	53.60	4.04
	1800	15.74	14.48	3.09	20.70	19.05	3.16	25.78	23.66	3.26	30.52	27.68	3.35	35.88	31.43	3.47	41.86	41.86	3.63	47.20	47.20	3.82	52.65	52.65	4.03
70 (21.1)	1400	14.75	13.57	3.12	19.66	18.09	3.22	25.02	22.96	3.36	29.80	26.84	3.47	34.73	30.43	3.61	40.57	40.57	3.79	47.52	47.52	4.02	54.22	54.22	4.26
	1600	15.01	13.81	3.16	19.94	18.34	3.25	25.26	23.19	3.37	29.91	27.12	3.48	35.11	30.76	3.61	41.02	41.02	3.78	47.42	47.42	3.98	53.38	53.38	4.23
	1800	15.27	14.04	3.21	20.24	18.62	3.29	25.51	23.41	3.40	30.18	27.37	3.50	35.42	31.04	3.63	41.43	41.43	3.80	46.98	46.98	3.99	52.55	52.55	4.22
75 (23.9)	1400	14.22	13.08	3.25	19.13	17.60	3.36	24.68	22.65	3.51	29.23	26.51	3.64	34.26	30.02	3.78	39.96	39.96	3.96	46.79	46.79	4.21	53.79	53.79	4.46
	1600	14.48	13.32	3.29	19.44	17.89	3.39	24.97	22.92	3.53	29.54	26.79	3.64	34.63	30.34	3.78	40.40	40.40	3.95	47.06	47.06	4.16	53.09	53.09	4.42
	1800	14.73	13.55	3.34	19.71	18.14	3.43	25.22	23.15	3.56	29.82	27.04	3.66	34.95	30.62	3.79	40.82	40.82	3.98	46.70	46.70	4.17	52.35	52.35	4.42

PERFORMANCE DATA (CONT)

60 Cooling Extended Performance Table

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES deg F (deg C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		CFM	EWB	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	57 (13.9)	56.58	56.58	3.82	54.25	54.25	4.23	51.74	51.74	4.69	49.03	49.03	5.20	46.02	46.02	5.80	42.74	42.74	6.47
	62 (16.7)	58.15	51.34	3.84	56.29	49.87	4.24	52.31	48.23	4.69	49.14	49.14	5.21	46.10	46.10	5.80	42.80	42.80	6.47
	63 (17.2)	58.96	41.68	3.85	56.05	40.35	4.25	52.93	38.94	4.70	49.57	49.57	5.21	45.96	45.96	5.79	42.09	34.04	6.46
	67 (19.4)	63.58	43.48	3.90	60.40	42.13	4.30	57.00	40.70	4.75	53.35	39.18	5.26	49.42	37.52	5.84	45.21	35.73	6.50
	72 (22.2)	69.81	35.09	3.96	66.25	33.84	4.37	62.44	32.52	4.82	58.39	31.04	5.33	54.03	29.43	5.90	49.34	27.71	6.55
	57 (13.9)	59.07	59.07	3.93	56.53	56.53	4.33	53.81	53.81	4.79	50.87	50.87	5.31	47.61	47.61	5.89	44.07	44.07	6.56
	62 (16.7)	59.71	55.08	3.93	56.79	56.35	4.34	53.90	53.90	4.79	50.94	50.94	5.31	47.68	47.68	5.90	44.13	44.13	6.56
2000	63 (17.2)	60.33	44.49	3.94	57.22	43.10	4.34	53.93	41.62	4.79	50.41	40.03	5.30	46.64	38.29	5.88	42.63	36.38	6.54
	67 (19.4)	64.95	46.50	3.99	61.60	45.09	4.39	58.02	43.59	4.84	54.20	41.98	5.35	50.08	40.22	5.93	45.71	38.29	6.58
	72 (22.2)	71.19	37.15	4.06	67.47	35.74	4.46	63.50	34.29	4.91	59.27	32.74	5.42	54.69	31.06	5.99	49.83	29.27	6.63
	57 (13.9)	61.14	61.14	4.03	58.43	58.43	4.43	55.52	55.52	4.89	52.36	52.36	5.40	48.89	48.89	5.99	45.23	45.23	6.65
	62 (16.7)	61.25	61.25	4.03	58.52	58.52	4.43	55.60	55.60	4.89	52.43	52.43	5.40	48.95	48.95	5.99	45.28	45.28	6.65
	63 (17.2)	61.37	47.18	4.03	58.11	45.72	4.43	54.89	44.17	4.88	51.04	42.48	5.38	47.15	40.61	5.96	43.03	38.53	6.62
	67 (19.4)	65.96	49.40	4.08	62.50	47.93	4.48	58.79	46.35	4.93	54.82	44.65	5.44	50.57	42.76	6.01	46.07	40.65	6.66
72 (22.2)	72.28	38.89	4.15	68.41	37.47	4.55	64.28	35.97	5.00	59.88	34.37	5.51	55.14	32.63	6.08	50.13	30.78	6.71	

*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 deg F (deg 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	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	Capacity MBtuh		Total Sys kW	
Total	Integ			Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		
65 (18.3)	1750	21.10	19.41	3.70	26.76	24.62	3.86	32.87	30.17	4.02	39.65	35.96	4.20	46.23	40.51	4.36	53.69	45.5	62.45	48.0	72.83	72.83	5.13		
	2000	21.50	19.78	3.75	27.19	25.02	3.90	33.42	30.68	4.05	40.05	36.32	4.20	46.75	40.96	4.35	54.33	45.2	63.26	47.5	73.85	73.85	5.06		
	2250	21.87	20.12	3.81	27.58	25.37	3.95	34.54	31.70	4.11	40.41	36.65	4.23	47.21	41.37	4.36	54.88	45.2	63.92	47.4	74.66	74.66	5.04		
70 (21.1)	1750	20.30	18.67	3.85	26.01	23.93	4.02	32.15	29.51	4.19	39.25	35.59	4.39	45.69	40.03	4.56	52.98	47.6	61.58	5.02	71.76	71.76	5.35		
	2000	20.71	19.05	3.90	26.46	24.34	4.06	32.62	29.94	4.22	39.63	35.94	4.39	46.19	40.47	4.55	53.62	47.3	62.37	4.96	72.76	72.76	5.27		
	2250	21.08	19.39	3.96	26.85	24.71	4.11	33.01	30.30	4.25	40.01	36.29	4.42	46.63	40.86	4.56	54.16	47.3	63.03	4.95	73.56	73.56	5.26		
75 (23.9)	1750	19.43	17.88	4.01	25.22	23.21	4.19	31.39	28.81	4.38	38.81	35.20	4.60	45.13	39.54	4.78	52.29	49.8	60.72	5.24	70.71	70.71	5.58		
	2000	19.85	18.26	4.06	25.67	23.62	4.23	31.88	29.26	4.40	39.22	35.57	4.60	45.64	39.99	4.76	52.90	50.4	61.50	5.18	71.69	71.69	5.50		
	2250	20.22	18.61	4.12	26.07	23.98	4.28	32.31	29.65	4.44	39.61	35.92	4.62	46.08	40.37	4.77	53.44	51.6	62.15	5.16	72.44	72.44	5.47		

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

- BF Bypass Factor
 - edb Entering Dry-Bulb
 - Ewb Entering Wet-Bulb
 - kW Total Unit Power Input
 - SHC Sensible Heat Capacity (1000 Btuh)
 - TC Total Capacity (1000 Btuh) (net)
 - rh Relative Humidity
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:

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

$$t_{wb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (} t_{hwb} \text{)}$$

$$h_{wb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

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 x (1 + BF) x (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)

Natural Gas Orifice Sizes and Manifold Pressure, Single Phase Models

Nameplate Input (Btu/hr)		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A.*				
		0 to 2000 (0–610 m)	2001 to 3000* (611 to 914 m)	3001 to 4000 (915 to 1219 m)	4001 to 5000 (1220 to 1524 m)	5001 to 6000 (1524 to 1829 m)
40000	Orifice No. (Qty)	44 (2)	45 (2)†	48 (2)†	48 (2)†	48 (2)†
	Manifold Press. (in. W.C.)	3.2	3.2	3.8	3.5	3.2
60000	Orifice No. (Qty)	44 (3)	45 (3)†	48 (3)†	48 (3)†	48 (3)†
	Manifold Press. (in. W.C.)	3.2	3.2	3.8	3.5	3.2
90000	Orifice No. (Qty)	38 (3)	41 (3)†	41 (3)†	42 (3)†	42 (3)†
	Manifold Press. (in. W.C.)	3.6	3.8	3.4	3.4	3.2
115000	Orifice No. (Qty)	33 (3)	36 (3)†	36 (3)†	36 (3)†	38 (3)†
	Manifold Press. (in. W.C.)	3.8	3.8	3.6	3.3	3.6
127000	Orifice No. (Qty)	31 (3)	31 (3)	33 (3)†	33 (3)†	34 (3)†
	Manifold Press. (in. W.C.)	3.7	3.2	3.5	3.2	3.2

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft, use U.S.A. column 2001 to 3000 ft.

Note: Orifice sizes and manifold pressure settings are based on natural gas with a heating value of 1025 Btu/ft³ and a specific gravity of .6.

† Orifices available through your distributor.

Natural Gas Orifice Sizes and Manifold Pressure, Three Phase Models

Nameplate Input (Btu/hr)		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A.*				
		0 to 2000 (0–610 m)	2001 to 3000* (611 to 914 m)	3001 to 4000 (915 to 1219 m)	4001 to 5000 (1220 to 1524 m)	5001 to 6000 (1524 to 1829 m)
40000	Orifice No. (Qty)	44 (2)	45 (2)†	48 (2)†	48 (2)†	48 (2)†
	Manifold Press. (in. W.C.)	3.2	3.2	3.8	3.5	3.2
60000	Orifice No. (Qty)	38 (2)	41 (2)†	41 (2)†	42 (2)†	42 (2)†
	Manifold Press. (in. W.C.)	3.6	3.8	3.4	3.4	3.2
90000	Orifice No. (Qty)	38 (3)	41 (3)†	41 (3)†	42 (3)†	42 (3)†
	Manifold Press. (in. W.C.)	3.6	3.8	3.4	3.4	3.2
115000	Orifice No. (Qty)	33 (3)	36 (3)†	36 (3)†	36 (3)†	38 (3)†
	Manifold Press. (in. W.C.)	3.8	3.8	3.6	3.3	3.6
130000	Orifice No. (Qty)	31 (3)	31 (3)	33 (3)†	33 (3)†	34 (3)†
	Manifold Press. (in. W.C.)	3.8	3.2	3.7	3.4	3.3

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft, use U.S.A. column 2001 to 3000 ft.

Note: Orifice sizes and manifold pressure settings are based on natural gas with a heating value of 1025 Btu/ft³ and a specific gravity of .6.

† Orifices available through your distributor.

Propane Gas Orifice Sizes and Manifold Pressure, Single Phase Models

Nameplate Input (Btu/hr)		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A.*				
		0 to 2000 (0–610 m)	2001 to 3000* (611 to 914 m)	3001 to 4000 (915 to 1219 m)	4001 to 5000 (1220 to 1524 m)	5001 to 6000 (1524 to 1829 m)
40000	Orifice No. (Qty)	55 (2)	56 (2)	56 (2)	56 (2)	56 (2)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	10.7
60000	Orifice No. (Qty)	55 (3)	56 (3)	56 (3)	56 (3)	56 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	10.7
90000	Orifice No. (Qty)	53 (3)	54 (3)	54 (3)	54 (3)	54 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	11.0
115000	Orifice No. (Qty)	51 (3)	52 (3)	52 (3)	53 (3)	53 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	10.6	11.0	11.0
127000	Orifice No. (Qty)	49 (3)	50 (3)	51 (3)	52 (3)	52 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	11.0

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610–1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

† Use Kit No. NPLPCONV013C00 (0–2000 ft [0–610 m] above sea level). Use Kit No. NPLPCONV014C00 (2001–6000 ft [611–1829 m] above sea level).

Propane Gas Orifice Sizes and Manifold Pressure, Three Phase Models

Nameplate Input (Btu/hr)		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A.*				
		0 to 2000 (0-610 m)	2001 to 3000* (611 to 914 m)	3001 to 4000 (915 to 1219 m)	4001 to 5000 (1220 to 1524 m)	5001 to 6000 (1524 to 1829 m)
40000	Orifice No. (Qty)	55 (2)	56 (2)	56 (2)	56 (2)	56 (2)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	10.7
60000	Orifice No. (Qty)	53 (2)	54 (2)	54 (2)	54 (2)	54 (2)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	11.0
90000	Orifice No. (Qty)	53 (3)	54 (3)	54 (3)	54 (3)	54 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	11.0
115000	Orifice No. (Qty)	51 (3)	52 (3)	52 (3)	53 (3)	53 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	10.6	11.0	11.0
130000	Orifice No. (Qty)	49 (3)	50 (3)	51 (3)	52 (3)	52 (3)
	Manifold Press. (IN. W.C.)	10.0	11.0	11.0	11.0	11.0

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610-1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

†Use Kit No. NPLPCONV013*00 (0-2000 ft [0-610 m] above sea level). Use Kit No. NPLPCONV014*00 (2001-6000 ft [611-1829 m] above sea level).

High Altitude Compensation, Propane Gas, Single Phase Models

Nameplate Input (Btu/hr)	Rated Heating Input (Btu/hr), Propane Gas at Installation Altitude Above Sea Level, U.S.A.*				
	0 to 2000 ft (0-610 m)	2001 to 3000 ft* (611 to 914 m)	3001 to 4000 ft (915 to 1219 m)	4001 to 5000 ft (1220 to 1524 m)	5001 to 6000 ft (1524 to 1829 m)
40000	38000	31700	31700	31700	31200
60000	57000	47500	47500	47500	46900
90000	79000	68900	68900	68600	68600
115000	103000	100400	98900	83000	83000
127000	116000	115500	111800	101300	100400

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610-1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

High Altitude Compensation, Propane Gas, Three Phase Models

Nameplate Input (Btu/hr)	Rated Heating Input (Btu/hr), Propane Gas at Installation Altitude Above Sea Level, U.S.A.*				
	0 to 2000 ft (0-610 m)	2001 to 3000 ft* (611 to 914 m)	3001 to 4000 ft (915 to 1219 m)	4001 to 5000 ft (1220 to 1524 m)	5001 to 6000 ft (1524 to 1829 m)
40000	38000	31700	31700	31700	31200
60000	53000	45900	45900	45800	45800
90000	79000	68900	68900	68600	68600
115000	103000	100400	98900	83000	83000
130000	116000	115500	111800	101300	100400

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610-1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

High Altitude Compensation, Natural Gas, Single Phase Models

Nameplate Input (Btu/hr)	Rated Heating Input (Btu/hr), Natural Gas at Installation Altitude Above Sea Level, U.S.A.*				
	0 to 2000 ft (0-610 m)	2001 to 3000 ft* (611 to 914 m)	3001 to 4000 ft (915 to 1219 m)	4001 to 5000 ft (1220 to 1524 m)	5001 to 6000 ft (1524 to 1829 m)
40000	40000	36000	34400	32800	31200
60000	60000	54000	51600	49200	46800
90000	90000	81000	77400	73800	70200
115000	115000	103500	98900	94300	89700
127000	127000	143000	109200	104100	99100

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above Sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610-1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

High Altitude Compensation, Natural Gas, Three Phase Models

Nameplate Input (Btu/hr)	Rated Heating Input (Btu/hr), Natural Gas at Installation Altitude Above Sea Level, U.S.A.*				
	0 to 2000 ft (0-610 m)	2001 to 3000 ft* (611 to 914 m)	3001 to 4000 ft (915 to 1219 m)	4001 to 5000 ft (1220 to 1524 m)	5001 to 6000 ft (1524 to 1829 m)
40000	40000	36000	34400	32800	31200
60000	60000	54000	51600	49200	46800
90000	90000	81000	77400	73800	70200
115000	115000	103500	98900	94300	89700
130000	130000	117000	111800	106600	101400

*In the U.S.A., the input rating for altitudes above 2000 ft (610m) must be reduced by 4% for each 1000 ft (305 m) above Sea level.

In Canada, the input rating for altitudes from 2001 to 4500 ft (611 to 1372 m) above sea level must be derated by 10% by an authorized gas conversion station or dealer.

For Canadian Installations from 2000 to 4500 ft (610-1372 m), use U.S.A. column 2001 to 3000 ft (611 to 914 m).

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1–Phase

Unit Size	Heating Rise Range °F (°C)	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	1			
24040		Low ¹	Blue	CFM	774	700	623	546	439	339	---	---	---	---	---	---	
				BHP	0.12	0.13	0.13	0.14	0.14	0.15	---	---	---	---	---	---	
				Heat Rise (°F)	39	43	48	55	NA	NA	NA	NA	NA	NA	NA	NA	
		Med-Low ³	Pink	CFM	804	734	659	574	482	387	---	---	---	---	---	---	---
				BHP	0.13	0.14	0.14	0.15	0.15	0.16	---	---	---	---	---	---	
				Heat Rise (°F)	37	41	45	52	NA	NA	NA	NA	NA	NA	NA	NA	
	Medium ²	Red	CFM	842	787	715	641	556	461	382	---	---	---	---	---	---	
			BHP	0.15	0.16	0.16	0.17	0.17	0.18	0.19	---	---	---	---	---		
			Heat Rise (°F)	36	38	42	47	54	NA	NA	NA	NA	NA	NA	NA		
	24060	25 - 55 (14 - 31)	Med-High	Orange	CFM	920	868	803	738	654	570	491	404	---	---	---	
					BHP	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.23	---	---	---	
					Heat Rise (°F)	33	35	37	41	46	53	NA	NA	NA	NA	NA	
High			Black	CFM	1125	1075	1019	956	891	825	760	695	594	491	---		
				BHP	0.30	0.31	0.32	0.32	0.33	0.34	0.34	0.35	0.35	0.35	0.34		
				Heat Rise (°F)	27	28	29	31	34	36	39	43	50	NA	NA		
24060	25 - 55 (14 - 31)	Low ³	Blue	CFM	774	700	623	546	439	339	---	---	---	---	---		
				BHP	0.12	0.13	0.13	0.14	0.14	0.15	---	---	---	---	---		
				Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		Med-Low	Pink	CFM	804	734	659	574	482	387	---	---	---	---	---		
				BHP	0.13	0.14	0.14	0.15	0.15	0.16	---	---	---	---	---		
				Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Medium ²	Red	CFM	842	787	715	641	556	461	382	---	---	---	---				
		BHP	0.15	0.16	0.16	0.17	0.17	0.18	0.19	---	---	---	---				
		Heat Rise (°F)	53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
24060	25 - 55 (14 - 31)	Med-High	Orange	CFM	920	868	803	738	654	570	491	404	---				
				BHP	0.18	0.19	0.19	0.20	0.21	0.21	0.22	0.23	---	---			
				Heat Rise (°F)	49	52	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		High ¹	Black	CFM	1125	1075	1019	956	891	825	760	695	594	491			
				BHP	0.30	0.31	0.32	0.32	0.33	0.34	0.34	0.35	0.35	0.35	0.34		
				Heat Rise (°F)	40	42	44	47	51	55	NA	NA	NA	NA	NA		

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1-Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	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	1						
30040		Low ¹	Blue	CFM	774	700	623	546	439	339	---	---	---	---	---	---	---	---	
				BHP	0.12	0.13	0.13	0.14	0.14	0.15	---	---	---	---	---	---	---	---	---
		Heat Rise (°F)	39	43	48	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Heat Rise (°C)	21	24	27	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	25 - 55 (14 - 31)	Med-Low ³	Pink	CFM	906	843	771	707	624	548	451	340	---	---	---	---	---	---	
				BHP	0.18	0.18	0.19	0.20	0.20	0.21	0.21	0.22	---	---	---	---	---	---	
		Heat Rise (°F)	33	36	39	42	48	55	NA	NA	NA	NA	NA	NA	NA	NA	NA		
		Heat Rise (°C)	18	20	22	24	27	30	NA	NA	NA	NA	NA	NA	NA	NA	NA		
	Medium	Red	CFM	1008	942	872	804	734	647	546	451	399	---	---	---	---	---		
			BHP	0.22	0.23	0.24	0.24	0.24	0.26	0.26	0.27	0.27	0.27	---	---	---	---		
		Heat Rise (°F)	30	32	34	37	41	46	55	NA	NA	NA	NA	NA	NA	NA	NA		
		Heat Rise (°C)	17	18	19	21	23	26	30	NA	NA	NA	NA	NA	NA	NA	NA		
Med-High ²	Orange	CFM	1047	997	931	875	804	737	676	584	494	---	---	---	---	---			
		BHP	0.25	0.26	0.26	0.27	0.28	0.28	0.28	0.29	0.30	0.30	---	---	---	---			
	Heat Rise (°F)	29	30	32	34	37	41	46	55	NA	NA	NA	NA	NA	NA	NA			
	Heat Rise (°C)	16	17	18	19	21	23	26	30	NA	NA	NA	NA	NA	NA	NA			
30060		High	Black	CFM	1125	1075	1019	956	891	825	760	695	594	491	---	---	---		
				BHP	0.30	0.31	0.32	0.32	0.33	0.34	0.34	0.35	0.35	0.35	0.34	---	---		
		Heat Rise (°F)	27	28	29	31	34	36	39	43	50	50	NA	NA	NA	NA			
		Heat Rise (°C)	15	15	16	17	19	20	22	24	28	28	NA	NA	NA	NA			
	25 - 55 (14 - 31)	Med-Low	Pink	CFM	774	700	623	546	439	339	---	---	---	---	---	---	---		
				BHP	0.12	0.13	0.13	0.14	0.14	0.15	---	---	---	---	---	---			
		Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		Heat Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
	Medium	Red	CFM	906	843	771	707	624	548	451	340	---	---	---	---	---			
			BHP	0.18	0.18	0.19	0.20	0.20	0.21	0.21	0.22	---	---	---	---				
		Heat Rise (°F)	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		Heat Rise (°C)	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
Med-High ²	Orange	CFM	1008	942	872	804	734	647	546	451	399	---	---	---	---				
		BHP	0.22	0.23	0.24	0.24	0.24	0.26	0.26	0.27	0.27	0.27	---	---					
	Heat Rise (°F)	45	48	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
	Heat Rise (°C)	25	27	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
High ¹	Black	CFM	1047	997	931	875	804	737	676	584	494	---	---	---	---				
		BHP	0.25	0.26	0.26	0.27	0.28	0.28	0.28	0.29	0.30	0.30	---	---					
	Heat Rise (°F)	43	45	48	51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				
	Heat Rise (°C)	24	25	27	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1-Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	Motor Speed	Wire Color	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	
36060	Blue	Low ³	CFM	1113	1069	1018	964	914	868	820	778	739	686	
			BHP	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.26	
			Heat Rise (°F)	40	42	44	47	49	52	55	NA	NA	NA	NA
		Med-Low ¹	CFM	1205	1167	1120	1064	1016	975	930	886	848	811	811
			BHP	0.19	0.21	0.22	0.23	0.24	0.25	0.27	0.27	0.29	0.29	0.30
			Heat Rise (°F)	37	39	40	42	44	46	48	51	53	55	55
	Red	Medium ²	CFM	1251	1216	1171	1128	1079	1031	992	949	913	870	870
			BHP	0.22	0.23	0.24	0.25	0.27	0.27	0.27	0.29	0.30	0.31	0.33
			Heat Rise (°F)	36	37	38	40	42	44	45	47	49	52	52
		Med-High	CFM	1442	1407	1372	1326	1284	1245	1205	1160	1121	1085	1085
			BHP	0.31	0.33	0.34	0.35	0.36	0.38	0.38	0.40	0.41	0.42	0.42
			Heat Rise (°F)	17	18	18	19	19	20	21	22	22	23	23
36090	Black	High	CFM	1581	1545	1509	1475	1443	1401	1357	1318	1279	1247	1247
			BHP	0.39	0.41	0.43	0.44	0.46	0.47	0.49	0.49	0.51	0.52	0.52
			Heat Rise (°F)	28	29	30	31	31	32	33	34	35	36	36
		Med-Low	CFM	1113	1069	1018	964	914	868	820	778	739	686	686
			BHP	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.26	0.26
			Heat Rise (°F)	61	63	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Pink	Med-Low	CFM	1205	1167	1120	1064	1016	975	930	886	848	811	811
			BHP	0.19	0.21	0.22	0.23	0.24	0.25	0.27	0.27	0.29	0.29	0.30
			Heat Rise (°F)	56	58	61	64	64	64	64	64	64	64	64
		Med-High ¹	CFM	1442	1407	1372	1326	1284	1245	1205	1160	1121	1085	1085
			BHP	0.31	0.33	0.34	0.35	0.36	0.38	0.38	0.40	0.41	0.42	0.42
			Heat Rise (°F)	47	48	49	51	53	55	56	59	61	63	63
Black	High	CFM	1581	1545	1509	1475	1443	1401	1357	1318	1279	1247	1247	
		BHP	0.39	0.41	0.43	0.44	0.46	0.47	0.49	0.49	0.51	0.52	0.52	
		Heat Rise (°F)	43	44	45	46	47	48	48	50	52	53	54	

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1-Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	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	1		
42060		Low ³	Blue	CFM	1113	1069	1018	964	914	868	820	778	739	686	
				BHP	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.26	
				Heat Rise (°F)	40	42	44	47	49	52	55	NA	NA	NA	
				Heat Rise (°C)	22	23	25	26	27	29	30	NA	NA	NA	
	Med-Low ¹	Pink			CFM	1205	1167	1120	1064	1016	975	930	886	848	811
					BHP	0.19	0.21	0.22	0.23	0.24	0.25	0.27	0.27	0.29	0.30
					Heat Rise (°F)	37	39	40	42	44	46	48	51	53	55
					Heat Rise (°C)	21	21	22	23	25	26	27	28	29	31
	Medium ²	Red			CFM	1442	1407	1372	1326	1284	1245	1205	1160	1121	1085
					BHP	0.31	0.33	0.34	0.35	0.36	0.38	0.39	0.40	0.41	0.42
					Heat Rise (°F)	31	32	33	34	35	36	37	39	40	41
					Heat Rise (°C)	17	18	18	19	19	20	21	22	22	23
Med-High	Orange			CFM	1510	1458	1433	1390	1358	1311	1267	1227	1189	1151	
				BHP	0.34	0.36	0.37	0.39	0.40	0.42	0.43	0.44	0.45	0.46	
				Heat Rise (°F)	30	31	31	32	33	34	36	37	38	39	
				Heat Rise (°C)	17	17	17	18	18	19	20	20	21	22	
42090		High	Black	CFM	1581	1545	1509	1475	1443	1401	1357	1318	1279	1247	
				BHP	0.39	0.41	0.43	0.44	0.46	0.47	0.49	0.49	0.51	0.52	
				Heat Rise (°F)	28	29	30	31	31	32	33	34	35	36	
				Heat Rise (°C)	16	16	17	17	17	18	18	19	20	20	
	Low ³	Blue			CFM	1113	1069	1018	964	914	868	820	778	739	686
					BHP	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.24	0.25	0.26
					Heat Rise (°F)	61	63	NA	NA	NA	NA	NA	NA	NA	NA
					Heat Rise (°C)	34	35	NA	NA	NA	NA	NA	NA	NA	NA
	Med-Low	Pink			CFM	1205	1167	1120	1064	1016	975	930	886	848	811
					BHP	0.19	0.21	0.22	0.23	0.24	0.25	0.27	0.27	0.29	0.30
					Heat Rise (°F)	56	58	61	64	NA	NA	NA	NA	NA	NA
					Heat Rise (°C)	31	32	34	35	NA	NA	NA	NA	NA	NA
Medium ²	Red			CFM	1442	1407	1372	1326	1284	1245	1205	1160	1121	1085	
				BHP	0.31	0.33	0.34	0.35	0.36	0.38	0.39	0.40	0.41	0.42	
				Heat Rise (°F)	47	48	49	51	53	55	56	59	61	63	
				Heat Rise (°C)	26	27	27	28	29	30	31	33	34	35	
Med-High ¹	Orange			CFM	1510	1458	1433	1390	1358	1311	1267	1227	1189	1151	
				BHP	0.34	0.36	0.37	0.39	0.40	0.42	0.43	0.44	0.45	0.46	
				Heat Rise (°F)	45	47	47	49	50	52	54	55	57	59	
				Heat Rise (°C)	25	26	26	27	28	29	30	31	32	33	
High	Black			CFM	1581	1545	1509	1475	1443	1401	1357	1318	1279	1247	
				BHP	0.39	0.41	0.43	0.44	0.46	0.47	0.49	0.49	0.51	0.52	
				Heat Rise (°F)	43	44	45	46	47	48	50	52	53	54	
				Heat Rise (°C)	24	24	25	26	26	27	28	29	29	30	

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1-Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	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	1		
48090		Low ¹	Blue	CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919	
				BHP	0.26	0.27	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37	
				Heat Rise (°F)	51	53	55	57	59	62	64	NA	NA	NA	NA
				Heat Rise (°C)	28	30	31	32	33	34	36	NA	NA	NA	NA
	Med-Low ²	Pink	Med-Low ²	Pink	CFM	1618	1586	1546	1511	1477	1429	1397	1354	1321	1280
					BHP	0.44	0.45	0.48	0.49	0.50	0.51	0.52	0.53	0.55	0.56
					Heat Rise (°F)	42	43	44	45	46	48	49	50	51	53
					Heat Rise (°C)	23	24	24	25	26	26	27	28	29	29
	35 - 65 (19 - 36)	Red	Medium ³	Red	CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454
					BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72	0.68
					Heat Rise (°F)	NA	NA	36	37	38	38	40	42	44	47
					Heat Rise (°C)	NA	NA	20	21	21	21	22	23	25	26
Orange	Orange	Med-High	Orange	CFM	1972	1946	1917	1880	1844	1786	1716	1635	1559	1456	
				BHP	0.76	0.78	0.79	0.80	0.81	0.79	0.77	0.73	0.70	0.66	
				Heat Rise (°F)	NA	35	35	36	37	38	40	42	44	47	
				Heat Rise (°C)	NA	19	20	20	20	21	22	23	24	26	
48115		High	Black	CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473	
				BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75	0.70	
				Heat Rise (°F)	NA	NA	NA	NA	35	37	38	41	43	46	
				Heat Rise (°C)	NA	NA	NA	NA	19	20	21	23	24	26	
	Low ³	Blue	Low ³	Blue	CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919
					BHP	0.26	0.27	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37
					Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
					Heat Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Med-Low ²	Pink	Med-Low ²	Pink	CFM	1618	1586	1546	1511	1477	1429	1397	1354	1321	1280
					BHP	0.44	0.45	0.48	0.49	0.50	0.51	0.52	0.53	0.55	0.56
					Heat Rise (°F)	54	55	56	57	59	NA	NA	NA	NA	NA
					Heat Rise (°C)	30	30	31	32	33	NA	NA	NA	NA	NA
30 - 60 (17 - 33)	Red	Medium ¹	Red	CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454	
				BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72	0.68	
				Heat Rise (°F)	45	45	46	47	48	49	51	54	56	60	
				Heat Rise (°C)	25	25	26	26	27	27	28	30	31	33	
Med-High	Orange	Med-High	Orange	CFM	1972	1946	1917	1880	1844	1786	1716	1635	1559	1456	
				BHP	0.76	0.78	0.79	0.80	0.81	0.79	0.77	0.73	0.70	0.66	
				Heat Rise (°F)	44	45	45	46	47	49	51	53	56	60	
				Heat Rise (°C)	24	25	25	26	26	27	28	29	31	33	
High	Black	High	Black	CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473	
				BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75	0.70	
				Heat Rise (°F)	39	40	42	43	45	47	49	52	55	59	
				Heat Rise (°C)	22	22	23	24	25	26	27	29	31	33	

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1-Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	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	1		
48130		Low ³	Blue	CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919	
				BHP	0.26	0.27	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37	
				Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heat Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Med-Low ²	Pink	CFM	1618	1586	1546	1511	1477	1429	1397	1354	1321	1280		
			BHP	0.44	0.45	0.48	0.49	0.50	0.51	0.52	0.53	0.55	0.56		
			Heat Rise (°F)	59	61	62	64	65	NA	NA	NA	NA	NA		
			Heat Rise (°C)	33	34	35	35	36	NA	NA	NA	NA	NA		
	Medium ¹	Red	CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454		
			BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72	0.68		
			Heat Rise (°F)	50	50	51	52	53	54	57	59	63	NA		
			Heat Rise (°C)	28	28	29	29	30	30	31	33	35	NA		
Med-High	Orange	CFM	1972	1946	1917	1880	1844	1786	1716	1635	1559	1456			
		BHP	0.76	0.78	0.79	0.80	0.81	0.79	0.77	0.73	0.70	0.66			
		Heat Rise (°F)	49	49	50	51	52	54	56	59	62	NA			
		Heat Rise (°C)	27	27	28	28	29	30	31	33	34	NA			
		High	Black	CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473	
				BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75	0.70	
				Heat Rise (°F)	44	45	46	48	50	52	54	57	61	65	
				Heat Rise (°C)	24	25	26	27	28	29	30	32	34	36	
				CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919	
				BHP	0.26	0.27	0.29	0.30	0.31	0.32	0.33	0.34	0.36	0.37	
60090		Low ³	Blue	Heat Rise (°F)	51	53	55	57	59	62	64	68	NA	NA	
				Heat Rise (°C)	28	30	31	32	33	34	36	38	NA	NA	
				CFM	1475	1436	1399	1351	1317	1270	1236	1188	1152	1105	
				BHP	0.35	0.36	0.37	0.38	0.40	0.41	0.42	0.43	0.45	0.45	
	Med-Low ¹	Pink	Heat Rise (°F)	46	47	49	50	52	53	55	57	59	61		
			Heat Rise (°C)	26	26	27	28	29	30	31	32	33	34		
			CFM	1736	1710	1668	1630	1600	1557	1522	1479	1450	1406		
			BHP	0.53	0.54	0.55	0.58	0.59	0.60	0.62	0.63	0.64	0.65		
	Medium ²	Red	Heat Rise (°F)	NA	NA	41	42	42	44	45	46	47	48		
			Heat Rise (°C)	NA	NA	23	23	24	24	25	25	26	27		
			CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454		
			BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72	0.68		
Med-High	Orange	Heat Rise (°F)	NA	NA	NA	37	38	38	40	42	44	47			
		Heat Rise (°C)	NA	NA	NA	21	21	21	22	23	25	26			
		CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473			
		BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75	0.70			
High	Black	Heat Rise (°F)	NA	NA	NA	NA	NA	37	38	41	43	46			
		Heat Rise (°C)	NA	NA	NA	NA	NA	20	21	23	24	26			

Dry Coil Air Delivery* – Horizontal and Downflow Discharge 24–60 230VAC 1–Phase (Cont)

Unit Size	Heating Rise Range °F (°C)	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	1	
60115	30 - 60 (17 - 33)	Low ³	Blue	CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919
				BHP	0.26	0.27	0.29	0.30	0.31	0.33	0.34	0.36	0.37	
				Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heat Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Med-Low	Pink	CFM	1475	1436	1399	1351	1317	1270	1236	1188	1152	1105
				BHP	0.35	0.36	0.37	0.38	0.40	0.42	0.43	0.45	0.46	
				Heat Rise (°F)	59	60	NA	NA	NA	NA	NA	NA	NA	NA
				Heat Rise (°C)	33	34	NA	NA	NA	NA	NA	NA	NA	NA
		Medium ²	Red	CFM	1736	1710	1668	1630	1600	1557	1522	1479	1450	1406
				BHP	0.53	0.54	0.55	0.58	0.59	0.62	0.63	0.64	0.65	
				Heat Rise (°F)	50	51	52	53	54	57	59	60	61	
				Heat Rise (°C)	28	28	29	30	30	31	32	33	33	
Med-High ¹	Orange	CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454		
		BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72			
		Heat Rise (°F)	45	45	46	47	48	49	51	54	56			
		Heat Rise (°C)	25	25	26	26	27	28	30	31	33			
High	Black	CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473		
		BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75			
		Heat Rise (°F)	39	40	42	43	45	47	49	52	55			
		Heat Rise (°C)	22	22	23	24	25	26	27	29	31			
60130	35 - 65 (19 - 36)	Low ³	Blue	CFM	1330	1277	1232	1191	1147	1103	1060	1004	963	919
				BHP	0.26	0.27	0.29	0.30	0.31	0.32	0.33	0.34	0.36	
				Heat Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heat Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Med-Low	Pink	CFM	1475	1436	1399	1351	1317	1270	1236	1188	1152	1105
				BHP	0.35	0.36	0.37	0.38	0.40	0.42	0.43	0.45	0.46	
				Heat Rise (°F)	65	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heat Rise (°C)	36	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Medium ²	Red	CFM	1736	1710	1668	1630	1600	1557	1522	1479	1450	1406
				BHP	0.53	0.54	0.55	0.58	0.59	0.62	0.63	0.64	0.65	
				Heat Rise (°F)	55	56	58	59	60	63	65	66	67	
				Heat Rise (°C)	31	31	32	33	33	34	35	36	36	
Med-High ¹	Orange	CFM	1935	1909	1867	1836	1808	1766	1696	1619	1535	1454		
		BHP	0.71	0.73	0.74	0.76	0.78	0.79	0.77	0.75	0.72			
		Heat Rise (°F)	50	50	51	52	53	54	57	59	63			
		Heat Rise (°C)	28	28	29	29	30	30	31	33	35			
High	Black	CFM	2205	2150	2078	2011	1941	1852	1779	1672	1572	1473		
		BHP	1.04	1.02	0.99	0.95	0.92	0.87	0.85	0.79	0.75			
		Heat Rise (°F)	44	45	46	48	50	52	54	57	61			
		Heat Rise (°C)	24	25	26	27	28	29	30	32	34			

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

¹ Factory-shipped heating speed

² Factory-shipped cooling speed

"NA" = Not allowed for heating 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.

Dry Coil Air Delivery CFM* – Downflow Discharge – 3 Phase Only (Cont)

Unit	Heating Rise Range	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	1.0											
30040	30 - 60°F (17 - 33°C)	Low	Blue	CFM	756	669	548	457	---	---	---	---	---	---	---	---	---	---						
				WATTS	84	90	96	106	---	---	---	---	---	---	---	---	---	---	---	---				
				BHP	0.09	0.10	0.10	0.11	---	---	---	---	---	---	---	---	---	---	---	---	---			
				Heating Rise (°F)	40	45	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
				Heating Rise (°C)	22	25	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				CFM	1002	928	842	733	660	560	450	---	---	---	---	---	---	---	---	---	---	---	---	
		Med-Low ¹	Pink	WATTS	144	155	161	173	185	192	203	---	---	---	---	---	---	---	---	---	---	---		
				BHP	0.15	0.17	0.17	0.19	0.20	0.21	0.22	---	---	---	---	---	---	---	---	---	---	---	---	
				Heating Rise (°F)	30	33	36	41	46	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	17	18	20	23	25	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				CFM	1110	1025	967	879	814	706	611	509	461	---	---	---	---	---	---	---	---	---	---	---
				WATTS	188	195	205	211	223	236	243	255	243	---	---	---	---	---	---	---	---	---	---	---
30060	25 - 55°F (14 - 31°C)	Medium	Red	BHP	0.20	0.21	0.22	0.23	0.24	0.25	0.26	---	---	---	---	---	---	---	---	---	---			
				Heating Rise (°F)	NA	NA	31	34	37	43	49	59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	17	19	21	24	27	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				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	---	---	---	---	---	---	---	---	---	---	---
		Med-High ²	Orange	Heating Rise (°F)	NA	NA	30	32	35	38	43	49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	17	18	19	21	24	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				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	---	---	---	---	---	---	---	---	---	---	---
				Heating Rise (°F)	NA	NA	NA	NA	31	34	37	42	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
30060	25 - 55°F (14 - 31°C)	Med-Low	Pink	Heating Rise (°C)	NA	NA	NA	NA	17	19	19	20	23	27	NA	NA	NA	NA	NA	NA	NA			
				CFM	756	669	548	457	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
				WATTS	84	90	96	106	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
				BHP	0.09	0.10	0.10	0.11	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Medium	Red	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	---	---	---	---	---	---	---	---	---	---	---	---	---
				Heating Rise (°F)	40	43	46	51	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	22	24	26	28	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				CFM	1160	1091	1004	945	866	804	699	615	496	---	---	---	---	---	---	---	---	---	---	---
Med-High ²	Orange	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	---	---	---	---	---	---	---	---	---	---	---		
		Heating Rise (°F)	38	41	44	47	51	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		Heating Rise (°C)	21	23	25	26	29	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		CFM	1240	1173	1110	1031	966	902	821	726	626	---	---	---	---	---	---	---	---	---	---	---		
		WATTS	254	266	274	284	295	302	315	327	331	---	---	---	---	---	---	---	---	---	---	---		
High ¹	Black	BHP	0.27	0.29	0.29	0.30	0.32	0.32	0.34	0.35	0.35	---	---	---	---	---	---	---	---	---	---			
		Heating Rise (°F)	36	38	40	43	46	49	54	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		Heating Rise (°C)	20	21	NA	NA	26	27	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			

Dry Coil Air Delivery CFM* – Downflow Discharge – 3 Phase Only (Cont)

Unit	Heating Rise Range	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	1.0											
36060	25 - 55°F (14 - 31°C)	Low	Blue	CFM	1307	1249	1192	1138	1084	1038	987	934	886	840										
				WATTS	158	160	173	180	193	205	218	230	237	249										
				BHP	0.17	0.17	0.19	0.19	0.21	0.22	0.23	0.25	0.25	0.25	0.25	0.25	0.27							
				Heating Rise (°F)	34	36	37	39	41	43	45	48	50	53										
				Heating Rise (°C)	19	20	21	22	23	24	25	26	28	29										
				CFM	1365	1324	1284	1233	1181	1127	1084	1039	984	939										
		Med-Low ¹	Pink	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										
				Heating Rise (°F)	33	34	35	36	38	39	41	43	45	47										
				Heating Rise (°C)	18	19	19	20	21	22	23	24	25	26										
				CFM	1425	1384	1339	1301	1254	1199	1151	1104	1065	1015										
				WATTS	197	210	223	235	248	257	271	284	296	305										
36090	35 - 65°F (19 - 36°C)	Medium ²	Red	BHP	0.21	0.23	0.24	0.25	0.27	0.28	0.29	0.30	0.32	0.33										
				Heating Rise (°F)	31	32	33	34	35	37	39	40	42	44										
				Heating Rise (°C)	17	18	18	19	20	21	21	22	23	24										
				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										
		Med-High	Orange	Heating Rise (°F)	28	29	29	30	31	32	33	34	36	37										
				Heating Rise (°C)	16	16	16	17	17	18	18	19	20	20										
				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										
				Heating Rise (°F)	25	26	26	27	27	28	29	29	30	31										
36090	35 - 65°F (19 - 36°C)	High	Black	Heating Rise (°C)	14	14	15	15	15	16	16	16	17	17										
				CFM	1307	1249	1192	1138	1084	1038	987	934	886	840										
				WATTS	158	160	173	180	193	205	218	230	237	249										
				BHP	0.17	0.17	0.19	0.19	0.21	0.22	0.23	0.25	0.25	0.27										
				Heating Rise (°F)	52	54	57	60	63	NA	NA	NA	NA	NA										
				Heating Rise (°C)	29	30	32	33	35	NA	NA	NA	NA	NA										
		Med-Low	Pink	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										
				Heating Rise (°F)	50	51	53	55	58	60	63	65	NA	NA										
				Heating Rise (°C)	28	29	29	31	32	34	35	36	NA	NA										
				CFM	1425	1384	1339	1301	1254	1199	1151	1104	1065	1015										
Medium ²	Red	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												
		Heating Rise (°F)	48	49	51	52	54	57	59	62	64	NA												
		Heating Rise (°C)	27	27	28	29	30	32	33	34	35	NA												
		CFM	1582	1549	1509	1469	1433	1392	1346	1300	1249	1213												
		WATTS	267	280	294	308	322	336	344	359	374	387												
Med-High ¹	Orange	BHP	0.29	0.30	0.32	0.33	0.35	0.36	0.37	0.38	0.40	0.42												
		Heating Rise (°F)	43	44	45	46	47	49	51	52	54	56												
		Heating Rise (°C)	24	24	25	26	26	27	28	29	30	31												
		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												
High	Black	Heating Rise (°F)	38	39	40	41	42	43	44	45	46	48												
		Heating Rise (°C)	21	22	22	23	23	24	24	25	26	26												

Dry Coil Air Delivery CFM* – Downflow Discharge – 3 Phase Only (Cont)

Unit	Heating Rise Range	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	1.0			
48090	35 - 65°F (19 - 36°C)	Low	Blue	CFM	1491	1445	1403	1358	1306	1261	1199	1169	1122	1069		
				WATTS	232	239	254	262	278	293	303	316	323	335		
				BHP	0.25	0.26	0.27	0.28	0.30	0.31	0.32	0.34	0.35	0.36		
				Heating Rise (°F)	46	47	48	50	52	54	57	58	61	64		
				Heating Rise (°C)	25	26	27	28	29	30	32	32	34	35		
				CFM	1479	1436	1387	1346	1298	1253	1206	1160	1114	1061		
		Med-Low ¹	Pink	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		
				Heating Rise (°F)	46	47	49	51	52	54	56	59	61	64		
				Heating Rise (°C)	26	26	27	28	29	30	31	33	34	36		
				CFM	1813	1785	1745	1709	1663	1632	1592	1548	1506	1450		
				WATTS	411	427	435	451	462	478	489	504	518	529		
48115	30 - 60°F (17 - 33°C)	Medium ²	Red	BHP	0.44	0.46	0.47	0.48	0.50	0.51	0.52	0.54	0.56	0.57		
				Heating Rise (°F)	38	38	39	40	41	42	43	44	45	47		
				Heating Rise (°C)	21	21	22	22	23	23	24	24	25	26		
				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		
		Med-High	Orange	Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	37	39
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	20	22
				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		
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	38	
48115	30 - 60°F (17 - 33°C)	High	Black	Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	21	
				CFM	1491	1445	1403	1358	1306	1261	1199	1169	1122	1069		
				WATTS	232	239	254	262	278	293	303	316	323	335		
				BHP	0.25	0.26	0.27	0.28	0.30	0.31	0.32	0.34	0.35	0.36		
				Heating Rise (°F)	58	60	NA	NA	NA	NA	NA	NA	NA	NA		
				Heating Rise (°C)	32	33	NA	NA	NA	NA	NA	NA	NA	NA		
		Med-Low	Pink	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		
				Heating Rise (°F)	59	NA	NA	NA	NA	NA	NA	NA	NA	NA		
				Heating Rise (°C)	33	NA	NA	NA	NA	NA	NA	NA	NA	NA		
				CFM	1813	1785	1745	1709	1663	1632	1592	1548	1506	1450		
Medium ²	Red	WATTS	411	427	435	451	462	478	489	504	518	529				
		BHP	0.44	0.46	0.47	0.48	0.50	0.51	0.52	0.54	0.56	0.57				
		Heating Rise (°F)	48	49	50	51	52	53	55	56	58	60				
		Heating Rise (°C)	27	27	28	28	29	30	30	31	32	33				
		CFM	2178	2148	2105	2073	2036	2002	1967	1919	1845	1751				
		WATTS	674	691	703	717	733	743	758	754	734	701				
Med-High ¹	Orange	BHP	0.72	0.74	0.75	0.77	0.79	0.80	0.81	0.81	0.79	0.75				
		Heating Rise (°F)	40	40	41	42	43	43	44	45	47	50				
		Heating Rise (°C)	22	22	23	23	24	24	25	25	26	28				
		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				
High	Black	Heating Rise (°F)	35	36	37	37	39	40	42	43	45	48				
		Heating Rise (°C)	19	20	20	21	22	22	23	24	25	27				

Dry Coil Air Delivery CFM* – Downflow Discharge – 3 Phase Only (Cont)

Unit	Heating Rise Range	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	1.0											
48130	35 - 65°F (19 - 36°C)	Low	Blue	CFM	1491	1445	1403	1358	1306	1261	1199	1169	1122	1069										
				WATTS	232	239	254	262	278	293	303	316	323	335										
				BHP	0.26	0.26	0.27	0.28	0.30	0.31	0.32	0.34	0.35	0.36										
				Heating Rise (°F)	65	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				CFM	1479	1436	1387	1346	1298	1253	1206	1160	1114	1061										
		Med-Low	Pink	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										
				Heating Rise (°F)	65	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				CFM	1813	1785	1745	1709	1663	1632	1592	1548	1506	1450										
				WATTS	411	427	435	451	462	478	489	504	518	529										
60090	35 - 65°F (19 - 36°C)	Medium ²	Red	BHP	0.44	0.46	0.47	0.48	0.50	0.51	0.52	0.54	0.56	0.57										
				Heating Rise (°F)	53	54	55	56	58	59	60	62	64	NA										
				Heating Rise (°C)	30	30	31	31	32	33	34	35	36	NA										
				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	0.81	0.79	0.75									
		Med-High ¹	Orange	Heating Rise (°F)	44	45	46	46	47	48	49	50	52	55										
				Heating Rise (°C)	25	25	25	26	26	27	27	28	29	31										
				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										
				Heating Rise (°F)	39	40	41	41	43	45	46	48	50	53										
60090	35 - 65°F (19 - 36°C)	Low ¹	Blue	Heating Rise (°C)	22	22	23	23	24	25	26	27	28	30										
				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										
				Heating Rise (°F)	46	47	49	51	52	54	56	59	61	64										
				Heating Rise (°C)	26	26	27	28	29	30	31	33	34	36										
		Med-Low	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										
				Heating Rise (°F)	37	38	39	39	40	41	42	43	45	46										
				Heating Rise (°C)	21	21	21	22	22	23	23	24	25	26										
				CFM	1944	1913	1872	1838	1801	1771	1731	1698	1655	1613										
Medium ²	Red	WATTS	486	501	511	529	537	554	565	578	595	603												
		BHP	0.52	0.54	0.55	0.57	0.58	0.59	0.61	0.62	0.64	0.65												
		Heating Rise (°F)	35	36	36	37	38	38	39	40	41	42												
		Heating Rise (°C)	19	20	20	21	21	21	22	22	23	23												
		CFM	2178	2148	2105	2073	2036	2002	1967	1919	1845	1751												
		WATTS	674	691	703	717	733	743	758	754	734	701												
Med-High	Orange	BHP	0.72	0.74	0.75	0.77	0.79	0.80	0.81	0.81	0.79	0.75												
		Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
		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												
High	Black	Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					

Dry Coil Air Delivery CFM* – Downflow Discharge – 3 Phase Only (Cont)

Unit	Heating Rise Range	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	1.0							
60115	30 - 60°F (17 - 33°C)	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						
				Heating Rise (°F)	59	NA	NA	NA	NA	NA	NA	NA	NA	NA						
		Heating Rise (°C)	33	NA	NA	NA	NA	NA	NA	NA	NA	NA								
		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								
		Heating Rise (°F)	47	48	49	50	51	53	54	55	57	59								
		Heating Rise (°C)	26	27	27	28	29	29	30	31	32	33								
		CFM	1944	1913	1872	1838	1801	1771	1731	1698	1655	1613								
		WATTS	486	501	511	529	537	554	565	578	595	603								
BHP	0.52	0.54	0.55	0.57	0.58	0.59	0.61	0.62	0.64	0.65										
Heating Rise (°F)	45	45	46	47	48	49	50	51	53	54										
Heating Rise (°C)	25	25	26	26	27	27	28	28	29	30										
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										
Heating Rise (°F)	40	40	41	42	43	43	44	45	47	50										
Heating Rise (°C)	22	22	23	23	24	24	25	25	26	28										
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										
Heating Rise (°F)	35	36	37	37	39	40	42	43	45	48										
Heating Rise (°C)	19	20	20	21	22	22	23	24	25	27										
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										
Heating Rise (°F)	65	NA	NA	NA	NA	NA	NA	NA	NA	NA										
Heating Rise (°C)	36	NA	NA	NA	NA	NA	NA	NA	NA	NA										
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										
Heating Rise (°F)	52	54	55	56	57	58	60	61	63	65										
Heating Rise (°C)	29	30	30	31	32	32	33	34	35	36										
CFM	1944	1913	1872	1838	1801	1771	1731	1698	1655	1613										
WATTS	486	501	511	529	537	554	565	578	595	603										
BHP	0.52	0.54	0.55	0.57	0.58	0.59	0.61	0.62	0.64	0.65										
Heating Rise (°F)	50	50	51	52	53	54	56	57	58	60										
Heating Rise (°C)	28	28	29	29	30	30	31	32	32	33										
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										
Heating Rise (°F)	44	45	46	46	47	48	49	50	52	55										
Heating Rise (°C)	25	25	25	26	26	27	27	28	29	31										
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										
Heating Rise (°F)	39	40	41	41	43	45	46	48	50	53										
Heating Rise (°C)	22	22	23	23	24	25	26	27	28	30										

See notes on page 24.

Dry Coil Air Delivery CFM* – Horizontal Discharge 3–Phase

Unit	Heating Rise Range	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				
24040	30 – 60°F (17 – 33°C)	Low	Blue		CFM	754	650	536	429	---	---	---	---	---	---	---	
					Heating Rise (°F)	40	46	56	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	22	26	31	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–Low	Pink		CFM	851	777	675	591	475	---	---	---	---	---	---	---
					Heating Rise (°F)	36	39	45	51	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	20	22	25	28	NA	NA	NA	NA	NA	NA	NA	
		Medium ²	Red		CFM	941	851	774	684	576	479	---	---	---	---	---	---
					Heating Rise (°F)	32	36	39	44	52	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	18	20	22	25	29	NA	NA	NA	NA	NA	NA	
		Med–High ¹	Orange		CFM	1009	917	840	759	667	577	447	---	---	---	---	---
					Heating Rise (°F)	30	33	36	40	45	52	NA	NA	NA	NA	NA	
					Heating Rise (°C)	17	18	20	22	25	29	NA	NA	NA	NA	NA	
		High	Black		CFM	1241	1167	1111	1036	969	881	731	640	---	---	---	---
Heating Rise (°F)	NA				NA	NA	NA	31	34	37	41	47	---	---	---		
Heating Rise (°C)	NA				NA	NA	NA	17	19	21	23	26	---	---	---		
24060	25 – 55°F (14 – 31°C)	Low	Blue		CFM	754	650	536	429	---	---	---	---	---	---		
					Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–Low	Pink		CFM	851	777	675	591	475	---	---	---	---	---	---	
					Heating Rise (°F)	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Medium ²	Red		CFM	941	851	774	684	576	479	---	---	---	---	---	
					Heating Rise (°F)	47	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	26	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–High	Orange		CFM	1009	917	840	759	667	577	447	---	---	---	---	
					Heating Rise (°F)	44	48	53	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	24	27	29	NA	NA	NA	NA	NA	NA	NA	NA	
		High ¹	Black		CFM	1241	1167	1111	1036	969	881	731	640	---	---	---	
Heating Rise (°F)	36				38	40	43	46	50	54	NA	NA	NA	NA			
Heating Rise (°C)	20				21	22	24	25	28	30	NA	NA	NA	NA			
30040	30 – 60°F (17 – 33°C)	Low	Blue		CFM	741	638	547	415	---	---	---	---	---	---		
					Heating Rise (°F)	41	47	55	NA	NA	NA	NA	NA	NA	NA	NA	
					Heating Rise (°C)	23	26	31	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–Low ¹	Pink		CFM	973	887	823	733	665	538	451	---	---	---	---	
					Heating Rise (°F)	31	34	37	41	45	56	NA	NA	NA	NA	NA	
					Heating Rise (°C)	17	19	20	23	25	31	NA	NA	NA	NA	NA	
		Medium	Red		CFM	1088	1023	954	881	800	723	658	563	461	---	---	
					Heating Rise (°F)	28	30	32	34	38	42	46	54	NA	NA	NA	
					Heating Rise (°C)	15	16	18	19	21	23	26	30	NA	NA	NA	
		Med–High ²	Orange		CFM	1140	1064	996	915	840	758	687	564	480	---	---	
					Heating Rise (°F)	NA	NA	30	33	36	40	44	54	NA	NA	NA	
					Heating Rise (°C)	NA	NA	17	18	20	22	24	30	NA	NA	NA	
		High	Black		CFM	1202	1140	1082	1015	961	881	732	631	---	---		
Heating Rise (°F)	NA				NA	NA	30	31	34	37	41	48	---	---			
Heating Rise (°C)	NA				NA	NA	17	17	19	21	23	27	---	---			

Dry Coil Air Delivery CFM* – Horizontal Discharge 3-Phase (Cont)

Unit	Heating Rise Range	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				
30060	25 – 55°F (14 – 31°C)	Low	Blue	CFM	741	638	547	415	---	---	---	---	---	---	---	
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Med-Low	Pink	CFM	973	887	823	733	665	538	451	---	---	---	---	---
				Heating Rise (°F)	46	50	54	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	25	28	30	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Medium	Red	CFM	1088	1023	954	881	800	723	658	563	461	---	---	---
				Heating Rise (°F)	41	43	47	50	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	23	24	26	28	NA	NA	NA	NA	NA	NA	NA	NA
		Med-High ²	Orange	CFM	1140	1064	996	915	840	768	687	564	480	---	---	---
				Heating Rise (°F)	39	42	45	49	53	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	22	23	25	27	29	NA	NA	NA	NA	NA	NA	NA
High ¹	Black	CFM	1202	1140	1082	1015	961	881	810	732	631	---	---	---		
		Heating Rise (°F)	37	39	41	44	46	50	55	NA	NA	NA	NA	NA		
		Heating Rise (°C)	21	22	23	24	26	28	30	30	NA	NA	NA	NA		
Low	Blue	CFM	1176	1121	1079	1019	974	920	877	826	754	---	---	---		
		Heating Rise (°F)	38	40	41	44	46	48	51	54	NA	NA	NA	NA		
		Heating Rise (°C)	21	22	23	24	25	27	28	30	30	NA	NA	NA		
36060	25 – 55°F (14 – 31°C)	Med-Low ¹	Pink	CFM	1295	1234	1182	1126	1075	1016	955	898	857	---	---	
				Heating Rise (°F)	34	36	38	39	41	44	47	49	52	---	---	
				Heating Rise (°C)	19	20	21	22	23	24	26	27	29	---	---	
		Medium ²	Red	CFM	1345	1282	1235	1194	1140	1095	1027	974	921	---	---	
				Heating Rise (°F)	33	35	36	37	39	41	43	46	48	---	---	
				Heating Rise (°C)	18	19	20	21	22	23	24	25	27	---	---	
		Med-High	Orange	CFM	1505	1452	1413	1358	1323	1282	1234	1169	1130	---	---	
				Heating Rise (°F)	30	31	31	33	34	35	36	38	39	---	---	
				Heating Rise (°C)	16	17	17	18	19	19	20	21	22	---	---	
		High	Black	CFM	1705	1643	1607	1568	1518	1483	1448	1404	1360	---	---	
				Heating Rise (°F)	26	27	28	28	29	30	31	32	33	---	---	
				Heating Rise (°C)	14	15	15	16	16	17	17	18	18	---	---	
36090	35 – 65°F (19 – 36°C)	Low	Blue	CFM	1176	1121	1079	1019	974	920	877	826	754	---	---	
				Heating Rise (°F)	58	61	63	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	32	34	35	NA	NA	NA	NA	NA	NA	NA	NA	
		Med-Low	Pink	CFM	1295	1234	1182	1126	1075	1016	955	898	857	---	---	
				Heating Rise (°F)	53	55	58	60	63	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	29	31	32	34	35	NA	NA	NA	NA	NA	NA	
		Medium ²	Red	CFM	1345	1282	1235	1194	1140	1095	1027	974	921	---	---	
				Heating Rise (°F)	51	53	55	57	60	62	NA	NA	NA	NA	NA	
				Heating Rise (°C)	28	29	31	32	33	35	NA	NA	NA	NA	NA	
		Med-High ¹	Orange	CFM	1505	1452	1413	1358	1323	1282	1234	1169	1130	---	---	
				Heating Rise (°F)	45	47	48	50	51	53	55	58	60	---	---	
				Heating Rise (°C)	25	26	26	28	29	29	31	32	33	---	---	
High	Black	CFM	1705	1643	1607	1568	1518	1483	1448	1404	1360	---	---			
		Heating Rise (°F)	40	41	42	43	45	46	47	48	50	---	---			
		Heating Rise (°C)	22	23	24	24	25	25	26	27	28	---	---			

Dry Coil Air Delivery CFM* – Horizontal Discharge 3–Phase (Cont)

Unit	Heating Rise Range	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																				
42060	25 – 55°F (14 – 31°C)	Low ¹	Blue	CFM	1295	1234	1182	1126	1075	1016	955	898	857	Heating Rise (°F)	34	36	38	39	41	44	47	49	52									
				Heating Rise (°C)	19	20	21	22	23	24	26	27	29		CFM	1345	1282	1235	1194	1140	1095	1027	974	921								
				Heating Rise (°F)	33	35	36	37	39	41	43	46	48			Heating Rise (°C)	18	19	20	21	22	23	24	25	27							
		Med–Low	Pink	CFM	1505	1452	1413	1358	1282	1234	1169	1130	Heating Rise (°F)	30	31	31	33	34	35	36	38	39	CFM	1545	1492	1449	1411	1362	1313	1278	1231	1188
				Heating Rise (°C)	16	17	17	18	19	19	20	21		22	23	24	25	27	CFM	1705	1643	1607		1568	1483	1448	1404	1360				
				Heating Rise (°F)	26	27	28	28	29	30	31	32		33	34	35	36	38		39	Heating Rise (°C)	14		15	15	16	17	17	18	18		
		High	Black	CFM	1295	1234	1182	1126	1075	1016	955	898	Heating Rise (°F)	53	55	58	60	63	66	69	73	77	CFM	1345	1282	1235	1194	1140	1095	1027	974	921
				Heating Rise (°C)	29	31	32	34	35	37	39	42		45	48	51	55	58	60	63	66	69		73								
				Heating Rise (°F)	25	26	27	28	29	29	29	29		29	29	29	29	29	29	29	29	29		29								
		Low	Blue	CFM	1545	1492	1449	1411	1362	1313	1278	1231	Heating Rise (°F)	44	46	47	48	50	52	54	56	58	CFM	1430	1374	1327	1267	1223	1176	1127	1061	1016
				Heating Rise (°C)	22	23	24	24	25	25	25	25		25	25	25	25	25	25	25	25	25		25								
				Heating Rise (°F)	22	23	24	24	24	24	24	24		24	24	24	24	24	24	24	24	24		24								
Med–High ²	Orange	CFM	1705	1643	1607	1568	1518	1483	1448	1404	Heating Rise (°F)	40	41	42	43	45	46	47	48	48	CFM	1430	1374	1327	1267	1223	1176	1127	1061	1016		
		Heating Rise (°C)	22	23	24	24	25	25	25	25		25	25	25	25	25	25	25	25	25		25										
		Heating Rise (°F)	22	23	24	24	24	24	24	24		24	24	24	24	24	24	24	24	24		24										
High	Black	CFM	1445	1389	1341	1281	1236	1189	1139	1072	Heating Rise (°F)	26	27	28	30	31	32	34	36	36	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027		
		Heating Rise (°C)	16	17	18	19	19	20	21	22		23	24	26	27	29	31	32	34	36		36										
		Heating Rise (°F)	16	17	18	19	19	20	21	22		23	24	26	27	29	31	32	34	36		36										
Med–Low ¹	Pink	CFM	1678	1635	1602	1558	1513	1474	1438	1404	Heating Rise (°F)	41	42	42	44	45	46	47	48	48	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1349		
		Heating Rise (°C)	23	23	24	24	25	25	26	26		26	26	26	26	26	26	26	26	26		26										
		Heating Rise (°F)	23	23	24	24	25	25	26	26		26	26	26	26	26	26	26	26	26		26										
Medium ²	Red	CFM	2131	2088	2065	2013	1982	1941	1888	1860	Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1785		
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA										
		Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA										
Med–High	Orange	CFM	2461	2409	2339	2286	2192	2140	2062	1968	Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	CFM	2461	2409	2339	2286	2192	2140	2062	1968	1874		
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA										
		Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA										
High	Black	CFM	NA	NA	NA	NA	NA	NA	NA	NA	Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	CFM	NA	NA	NA	NA	NA	NA	NA	NA	20		
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA									
		Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	NA									

Dry Coil Air Delivery CFM* – Horizontal Discharge 3-Phase (Cont)

Unit	Heating Rise Range	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				
48115	30 – 60°F (17 – 33°C)	Low	Blue	CFM	1430	1374	1327	1267	1223	1176	1127	1061	1016	971	926	
				Heating Rise (°F)	61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Med–Low	Pink	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027	982	937	892
				Heating Rise (°F)	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Medium ²	Red	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1369	1334	1299	1264
				Heating Rise (°F)	52	53	54	56	57	59	60	61	62	63	64	65
				Heating Rise (°C)	29	30	30	31	32	33	34	34	35	35	36	36
		Med–High ¹	Orange	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1829	1798	1767	1736
				Heating Rise (°F)	41	42	42	43	44	45	46	47	48	49	50	51
				Heating Rise (°C)	23	23	24	24	24	25	26	26	27	27	28	28
High	Black	CFM	2461	2409	2339	2286	2192	2140	2062	1988	1914	1840	1766	1692		
		Heating Rise (°F)	35	36	37	38	40	41	42	44	44	46	46	48		
		Heating Rise (°C)	20	20	21	21	22	22	23	23	25	25	26	26		
48130	35 – 65°F (19 – 36°C)	Low	Blue	CFM	1430	1374	1327	1267	1223	1176	1127	1061	1016	971	926	
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–Low	Pink	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027	982	937	
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Medium ²	Red	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1369	1334	1299	
				Heating Rise (°F)	57	59	60	62	64	65	66	67	68	69	70	
				Heating Rise (°C)	32	33	33	34	35	36	36	37	37	38	38	
		Med–High ¹	Orange	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1829	1798	1767	
				Heating Rise (°F)	45	46	47	48	49	50	51	52	53	54	55	
				Heating Rise (°C)	25	26	26	27	27	28	28	29	29	30	30	
High	Black	CFM	2461	2409	2339	2286	2192	2140	2062	1988	1914	1840	1766			
		Heating Rise (°F)	39	40	41	42	44	45	47	47	49	49	51			
		Heating Rise (°C)	22	22	23	23	24	25	26	26	27	27	29			
60090	35 – 65°F (19 – 36°C)	Low ¹	Blue	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027	982		
				Heating Rise (°F)	47	49	51	53	55	57	60	63	66	69		
				Heating Rise (°C)	26	27	28	29	31	32	33	35	36	38		
		Med–Low	Pink	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1369	1334	1299	
				Heating Rise (°F)	41	42	42	44	45	46	47	48	49	50	51	
				Heating Rise (°C)	23	23	24	24	25	26	26	27	27	28	28	
		Medium ²	Red	CFM	1962	1915	1880	1843	1794	1753	1711	1675	1638	1602	1566	
				Heating Rise (°F)	35	36	36	37	38	39	40	41	42	43	44	
				Heating Rise (°C)	19	20	20	20	21	22	22	23	23	24	24	
		Med–High	Orange	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1829	1798	1767	
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
High	Black	CFM	2461	2409	2339	2286	2192	2140	2062	1988	1914	1840	1766			
		Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
		Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			

Dry Coil Air Delivery CFM* – Horizontal Discharge 3–Phase (Cont)

Unit	Heating Rise Range	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		
60115	30 – 60°F (17 – 33°C)	Low	Blue	CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027		
				Heating Rise (°F)	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				Heating Rise (°C)	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
				CFM	1678	1635	1602	1558	1513	1474	1438	1404	1349		
				Heating Rise (°F)	52	50	54	56	57	59	60	NA	NA	NA	NA
				Heating Rise (°C)	29	30	30	31	32	33	34	NA	NA	NA	NA
		Medium ²	Red	CFM	1962	1915	1880	1843	1794	1753	1711	1675	1628		
				Heating Rise (°F)	44	45	46	47	48	50	51	52	53		
				Heating Rise (°C)	25	25	26	26	27	28	28	29	30		
				CFM	2131	2088	2065	2013	1982	1941	1888	1860	1785		
				Heating Rise (°F)	41	42	42	43	44	45	46	47	49		
				Heating Rise (°C)	23	23	24	24	24	25	26	26	27		
60130	35 – 65°F (19 – 36°C)	High	Black	CFM	2461	2409	2339	2286	2192	2140	2062	1968	1874		
				Heating Rise (°F)	35	36	37	38	40	41	42	44	46		
				Heating Rise (°C)	20	20	21	21	22	23	23	25	26		
				CFM	1445	1389	1341	1281	1236	1189	1139	1072	1027		
				Heating Rise (°F)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				Heating Rise (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		Med–Low	Pink	CFM	1678	1635	1602	1558	1513	1474	1438	1404	1349		
				Heating Rise (°F)	57	59	60	62	64	65	NA	NA	NA	NA	
				Heating Rise (°C)	32	33	33	34	35	36	NA	NA	NA	NA	
				CFM	1962	1915	1880	1843	1794	1753	1711	1675	1628		
				Heating Rise (°F)	49	50	51	52	54	55	56	57	59		
				Heating Rise (°C)	27	28	28	29	30	31	31	32	33		
Med–High ¹	Orange	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1785				
		Heating Rise (°F)	45	46	47	48	49	50	51	52	54				
		Heating Rise (°C)	25	26	26	27	27	28	28	29	30				
		CFM	2461	2409	2339	2286	2192	2140	2062	1968	1874				
		Heating Rise (°F)	39	40	41	42	44	45	47	49	51				
		Heating Rise (°C)	22	22	23	23	24	25	26	27	29				

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

1 Factory–shipped gas heating speed

2 Factory–shipped heat pump speed

NA – Not allowed for gas heating speed

Note: Duct 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.

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	2200
600-1400 CFM 12x20x1 + 12x20x1 (305x508x25 + 305x508x25)	2.0,	0.03	0.04	0.05	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	-	-	-	-	-	-
	2.5,																	
	3.0																	
1200-1800 CFM 16x24x1 + 14x24x1 (406x610x25 + 356x610x25)	3.5,	-	-	-	-	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.12	-	-
	4.0																	
1500-2200 CFM 16x24x1 + 18x24x1 (406x610x25 + 457x356x25)	5.0	-	-	-	-	-	-	-	-	-	-	0.04	0.06	0.08	0.10	0.11	0.13	0.15

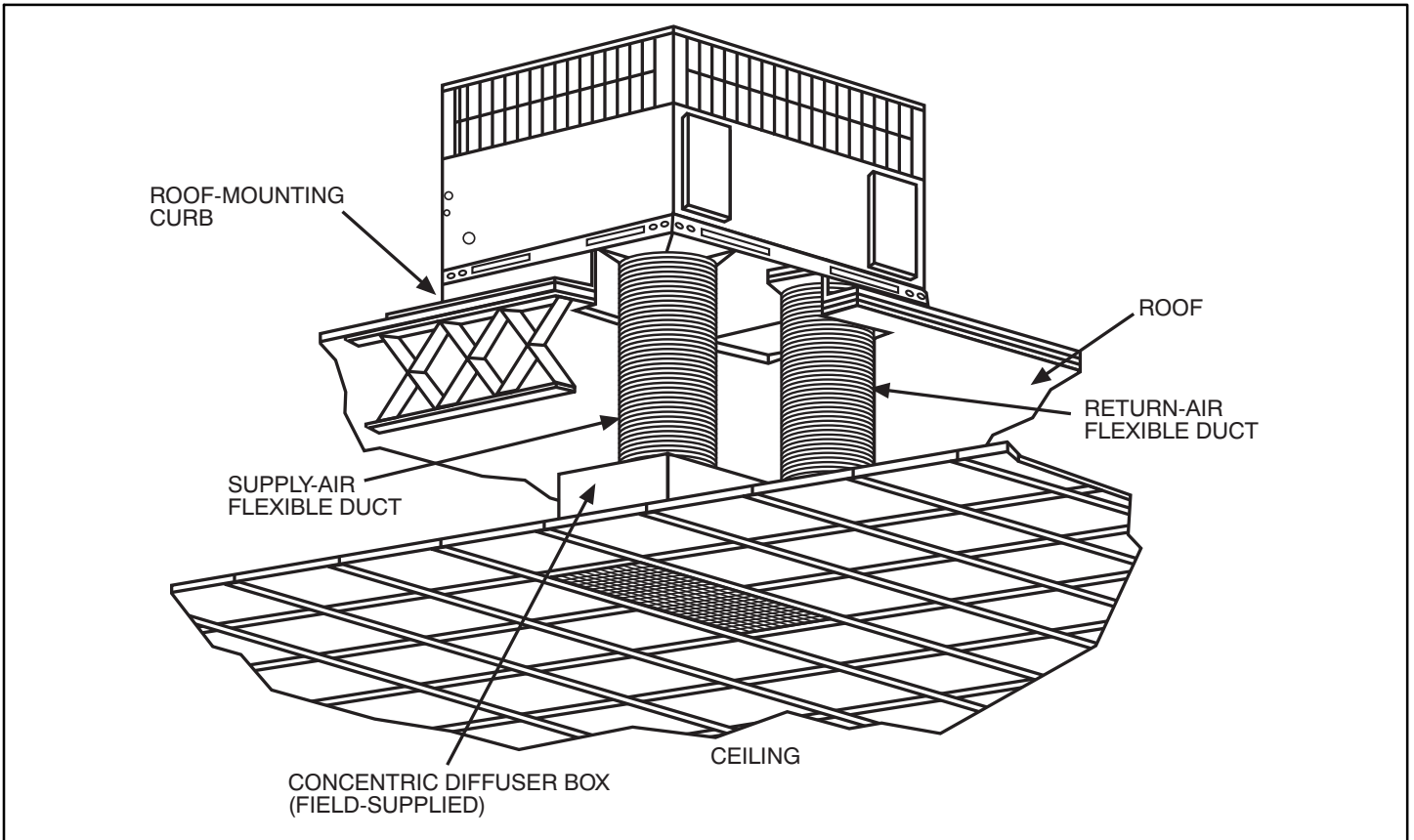
Wet Coil Pressure Drop (IN. W.C.)

UNIT SIZE	STANDARD CFM (SCFM)																
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
24	0.03	0.04	0.04	0.05	0.06												
30		0.05	0.06	0.06	0.07	0.08	0.11										
36		0.06	0.06	0.06	0.09	0.10	0.11	0.14									
42			0.05	0.05	0.05	0.06	0.07	0.08	0.08	0.08	0.09	0.09	0.11				
48					0.04	0.06	0.06	0.09	0.10	0.10	0.10	0.11	0.12	0.13	0.14		
60							0.06	0.06	0.09	0.06	0.07	0.01	0.08	0.09	0.10	0.12	0.13

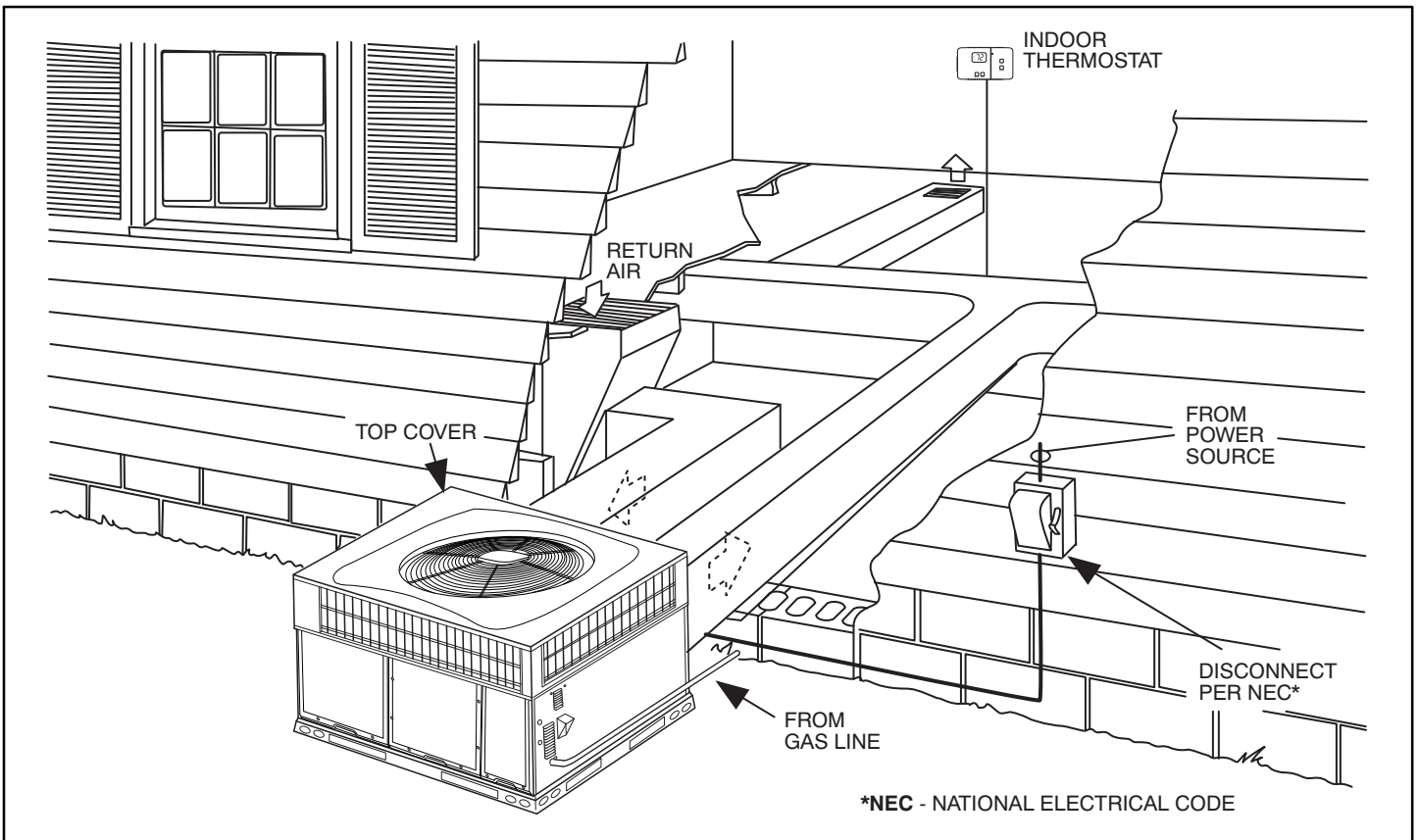
Economizer with 1-in. Filter Pressure Drop (IN. W.C.)

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)	2.0,	-	-	0.08	0.09	0.10	0.11	0.11	0.11	0.13	0.14	-	-	-	-	-	-	-
	2.5,																	
	3.0																	
1200-1800 CFM 16x24x1 + 14x24x1 (406x610x25 + 356x610x25)	3.5,	-	-	-	-	-	0.09	0.09	0.09	0.10	0.12	0.13	0.15	0.17	0.19	0.21	-	-
	4.0																	
1500-2200 CFM 16x24x1 + 18x24x1 (406x610x25 + 457x356x25)	5.0	-	-	-	-	-	-	-	-	-	-	0.15	0.17	0.18	0.20	0.21	0.22	0.23

TYPICAL PIPING AND WIRING



A09230



A09231

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 down-flow openings. Removal of the inserts is similar to removing an electrical knock-out. The unit is factory equipped with duct covers to seal the horizontal discharge openings in the unit. Units installed in horizontal discharge orientation do not require duct covers.

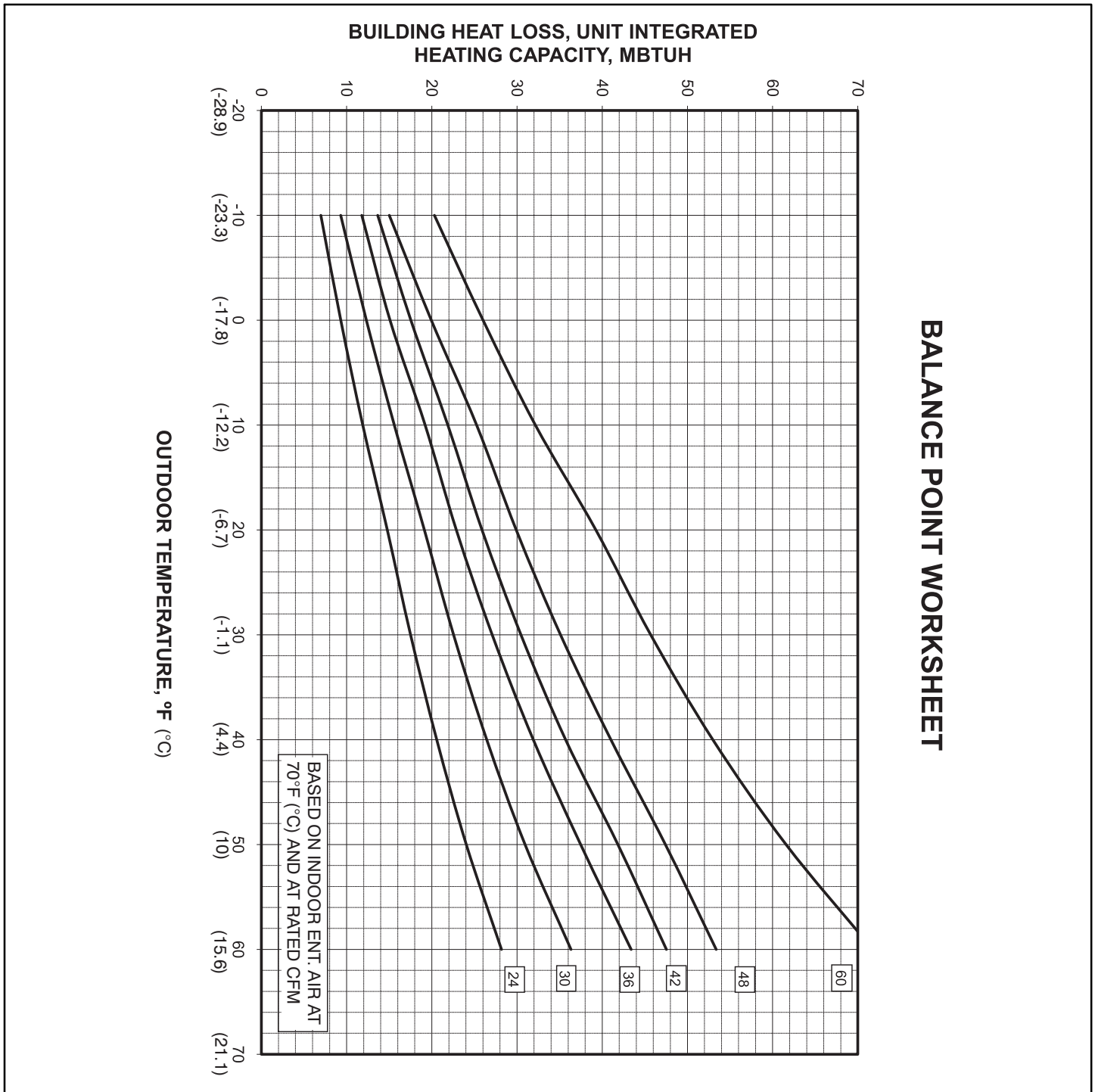
Maximum cooling airflow — To minimize the possibility of condensate blow-off from the evaporator, airflow through the units should not exceed 450 cfm per ton.

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



A09601

ELECTRICAL DATA

MODEL	NOMINAL V-PH-HZ	VOLTAGE RANGE		COMPRESSOR		OFM	IFM	IDM	POWER SUPPLY	
		MIN	MAX	RLA	LRA	FLA	FLA	FLA	MCA	MOCP
24040	208/230-1-60	187	253	13.5	58.3	0.7	4.1	0.65	21.7	30
24060				13.5	58.3	0.7	4.1	0.65	21.7	30
30040				14.1	73	1.2	4.1	0.65	22.9	35
30060				14.1	73	1.2	4.1	0.65	22.9	35
36060				17.1	79	1.2	6	0.65	28.6	40
36090				17.1	79	1.2	6	0.65	28.6	40
42060				20.6	112	1.2	6	0.65	33.0	50
42090				20.6	112	1.2	6	0.65	33.0	50
48090				20.6	109	1.2	7.6	0.65	34.6	50
48115				20.6	109	1.2	7.6	0.65	34.6	50
48130				20.6	109	1.2	7.6	0.75	34.6	50
60090				26.4	134	1.2	7.6	0.65	41.8	60
60115				26.4	134	1.2	7.6	0.65	41.8	60
60130				26.4	134	1.2	7.6	0.75	41.8	60
30040				208/230-3-60	187	253	9	58	1.2	4.1
30060	9	58	1.2				4.1	1.65	16.6	25
36060	11.5	88	1.2				6	1.65	21.6	30
36090	11.5	88	1.2				6	0.65	21.6	30
42060	13.5	88	1.2				6	1.65	24.1	35
42090	13.5	88	1.2				6	0.65	24.1	35
48090	16	83	1.2				7.6	0.65	28.8	40
48115	16	83	1.2				7.6	1.65	28.8	40
48130	16	83	1.2				7.6	0.52	28.8	40
60090	19.9	110	1.2				7.6	0.65	33.7	50
60115	19.9	110	1.2				7.6	1.65	33.7	50
60130	19.9	110	1.2				7.6	0.52	33.7	50

LEGEND

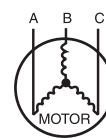
- FLA - Full Load Amps
- IDM - Inducer Motor
- IFM - Indoor Fan Motor
- LRA - Locked Rotor Amps
- MCA - Minimum Circuit Amps
- MOCP - Maximum Over Current Protection
- OFM - Outdoor Fan Motor
- RLA - Rated Load Amps

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

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

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.

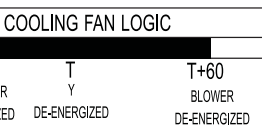
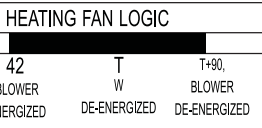
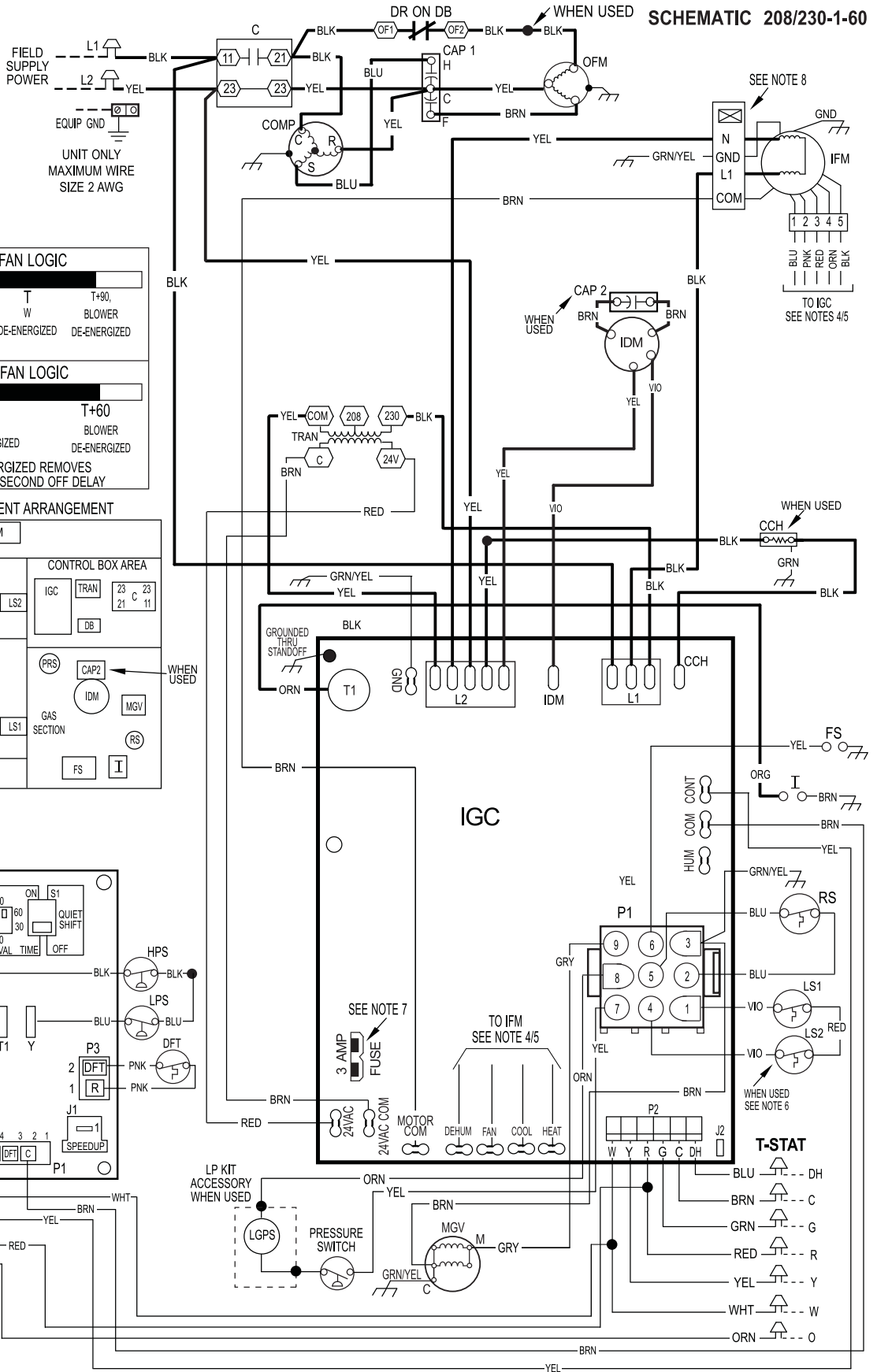
A06564

TYPICAL CONNECTION WIRING SCHEMATIC - 208/230-1-60

CONNECTION WIRING DIAGRAM

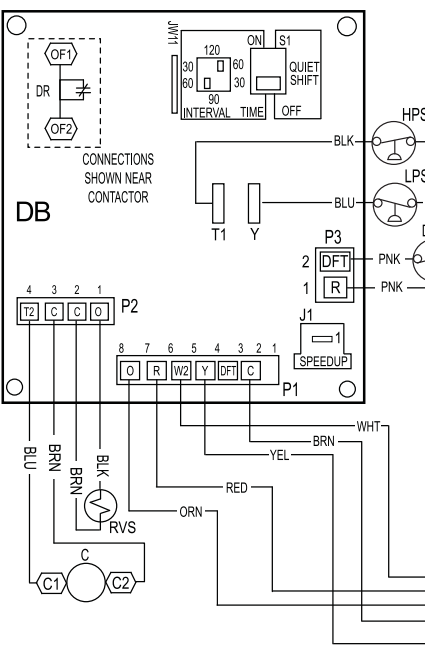
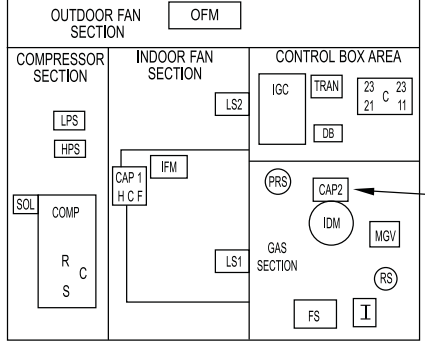
DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

SCHEMATIC 208/230-1-60



NOTE: IF Y2 DE-ENERGIZED REMOVES CALL FOR COOLING, Ø SECOND OFF DELAY

10 UNIT COMPONENT ARRANGEMENT



TYPICAL LADDER WIRING SCHEMATIC – 208/230–1–60

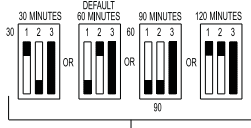
LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

LEGEND

△	FIELD SPLICE	DFT	DEFROST TEMPERATURE SWITCH
○	TERMINAL (MARKED)	DR	DEFROST BOARD RELAY EQUIPMENT
○	TERMINAL (UNMARKED)	FS	FLAME SENSOR
●	SPLICE	GND	GROUND
○	SPLICE (MARKED)	HPS	HIGH PRESSURE SWITCH
—	FACTORY LO VOLTAGE	IDM	INDUCED DRAFT MOTOR
---	FIELD CONTROL WIRING	IDR	INDUCER RELAY
---	FIELD POWER WIRING	IFM	INDOOR FAN MOTOR
---	ACCESSORY OR OPTIONAL WIRING	IGC	INTEGRATED GAS UNIT CONTROLLER
---	FACTORY HI VOLTAGE CONTACTOR	LGPS	LOW GAS PRESSURE SWITCH (WHEN USED)
C	CONTACTOR	LPS	LOW PRESSURE SWITCH
CAP1	CAPACITOR, COMP	LS1	PRIMARY LIMIT SWITCH
CAP2	CAPACITOR, INDUCER	LS2	SECONDARY LIMIT SWITCH
CCH	CRANKCASE HEATER	MGV	MAIN GAS VALVE
COMP	COMPRESSOR MOTOR	OFM	OUTDOOR FAN MOTOR
DB	DEFROST BOARD	OT	QUADRUPLE TERMINAL
		RS	ROLLOUT SWITCH
		TRAN	TRANSFORMER
		T-STAT	THERMOSTAT

DIP SWITCH SETTINGS



FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)

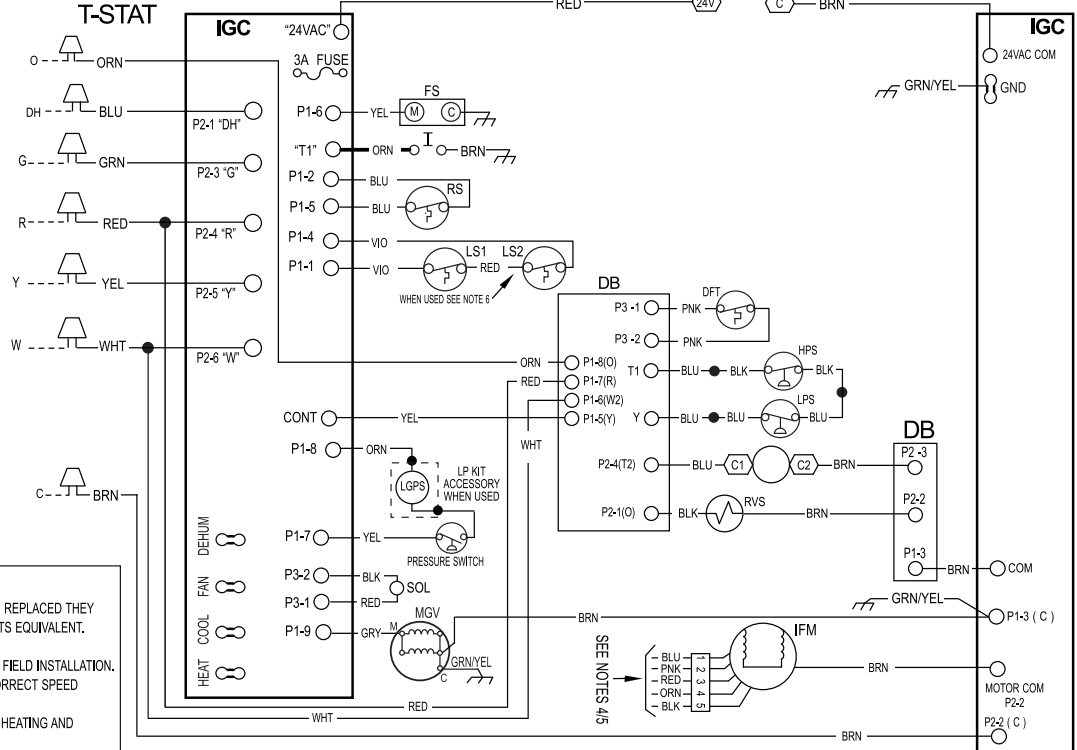
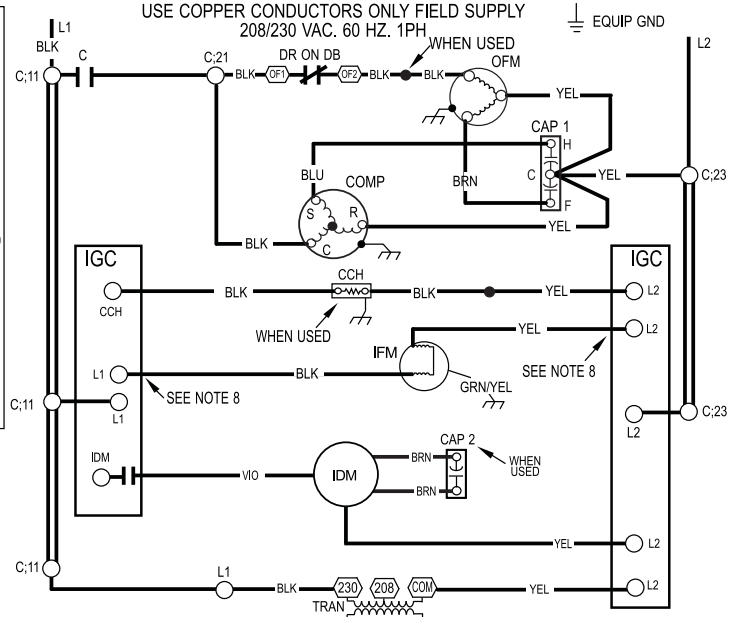
SPEED UP JUMPED TEST PINS (USE METAL OBJECT) FIELD SPEED-UP CYCLE

- 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.

USE COPPER CONDUCTORS ONLY FIELD SUPPLY
208/230 VAC. 60 HZ. 1PH



NOTES:

- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED THEY MUST BE REPLACED WITH THE SAME WIRE OR ITS EQUIVALENT.
- SEE PRE-SALE LITERATURE FOR THERMOSTATS.
- USE 75 DEGREES C COPPER CONDUCTORS FOR FIELD INSTALLATION.
- REFER TO INSTALLATION INSTRUCTIONS FOR CORRECT SPEED SELECTION FOR IFM.
- SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT.
- ON SOME MODELS LS1 AND LS2 ARE WIRED IN SERIES. ON OTHER MODELS ONLY LS1 IS USED.
- THIS FUSE IS MANUFACTURED BY LITTLE FUSE, P/N 257003.
- DO NOT DISCONNECT PLUG UNDER LOAD.
- N.E.C. CLASS 2, 24V.

48VT500091 REV. -



TYPICAL CONNECTION WIRING SCHEMATIC - 208/230-3-60

CONNECTION WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

**SCHEMATIC
208/230-3-60**

NOTES:

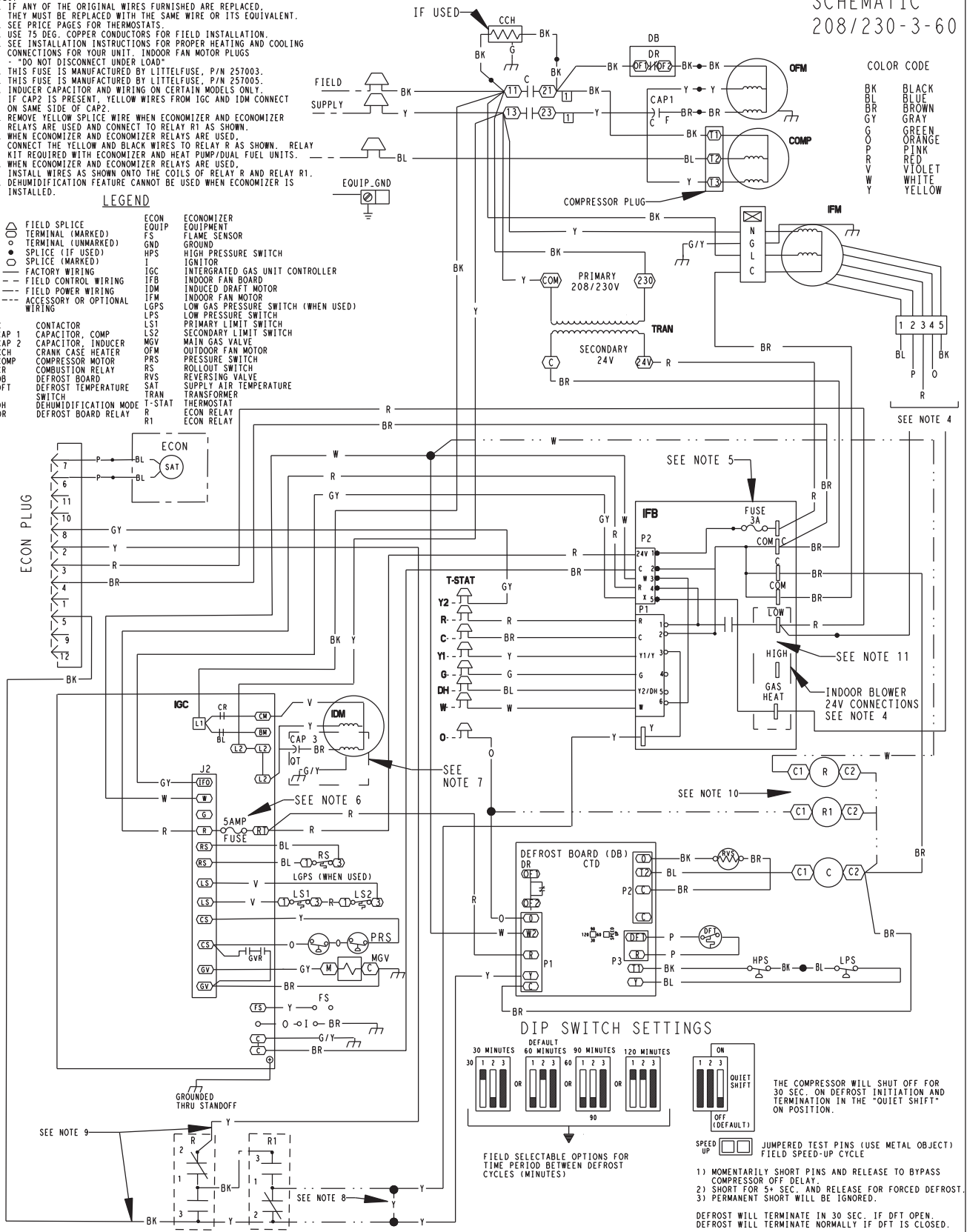
1. IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED, THEY MUST BE REPLACED WITH THE SAME WIRE OR ITS EQUIVALENT.
2. SEE PRICE PAGES FOR THERMOSTATS.
3. USE 75 DEG. COPPER CONDUCTORS FOR FIELD INSTALLATION.
4. SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT, INDOOR FAN MOTOR PLUGS - *DO NOT DISCONNECT UNDER LOAD*
5. THIS FUSE IS MANUFACTURED BY LITTELFUSE, P/N 257003.
6. THIS FUSE IS MANUFACTURED BY LITTELFUSE, P/N 257005.
7. INDUCER CAPACITOR AND WIRING ON CERTAIN MODELS ONLY. IF CAP2 IS PRESENT, YELLOW WIRES FROM IGC AND IDM CONNECT ON SAME SIDE OF CAP2.
8. REMOVE YELLOW SPLICE WIRE WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED AND CONNECT TO RELAY R1 AS SHOWN.
9. 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.
10. WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, INSTALL WIRES AS SHOWN ON THE COILS OF RELAY R AND RELAY R1.
11. DEHUMIDIFICATION FEATURE CANNOT BE USED WHEN ECONOMIZER IS INSTALLED.

LEGEND

- | | | | |
|---|--------------------------------|---|-------------------------------------|
| ○ | FIELD SPLICE TERMINAL (MARKED) | ○ | ECONOMIZER EQUIPMENT |
| ○ | SPLICE (IF USED) | ○ | FLAME SENSOR |
| ○ | SPLICE (MARKED) | ○ | GROUND |
| ○ | FACTORY WIRING | ○ | HIGH PRESSURE SWITCH |
| ○ | FIELD CONTROL WIRING | ○ | IGNITOR |
| ○ | FIELD POWER WIRING | ○ | INTERGRATED GAS UNIT CONTROLLER |
| ○ | ACCESSORY OR OPTIONAL WIRING | ○ | INDOOR FAN BOARD |
| ○ | | ○ | INDUCED DRAFT MOTOR |
| ○ | | ○ | INDOOR FAN MOTOR |
| ○ | | ○ | LOW GAS PRESSURE SWITCH (WHEN USED) |
| ○ | | ○ | LOW PRESSURE SWITCH |
| ○ | | ○ | PRIMARY LIMIT SWITCH |
| ○ | | ○ | SECONDARY LIMIT SWITCH |
| ○ | | ○ | MAIN GAS VALVE |
| ○ | | ○ | OUTDOOR FAN MOTOR |
| ○ | | ○ | PRESSURE SWITCH |
| ○ | | ○ | ROLLOUT SWITCH |
| ○ | | ○ | REVERSING VALVE |
| ○ | | ○ | SUPPLY AIR TEMPERATURE SWITCH |
| ○ | | ○ | TRANSFORMER |
| ○ | | ○ | T-STAT |
| ○ | | ○ | ECON RELAY |
| ○ | | ○ | ECON RELAY |

COLOR CODE

- BK BLACK
- BL BLUE
- BR BROWN
- GY GRAY
- GR GREEN
- OR ORANGE
- PK PINK
- RD RED
- VT VIOLET
- WH WHITE
- YL YELLOW

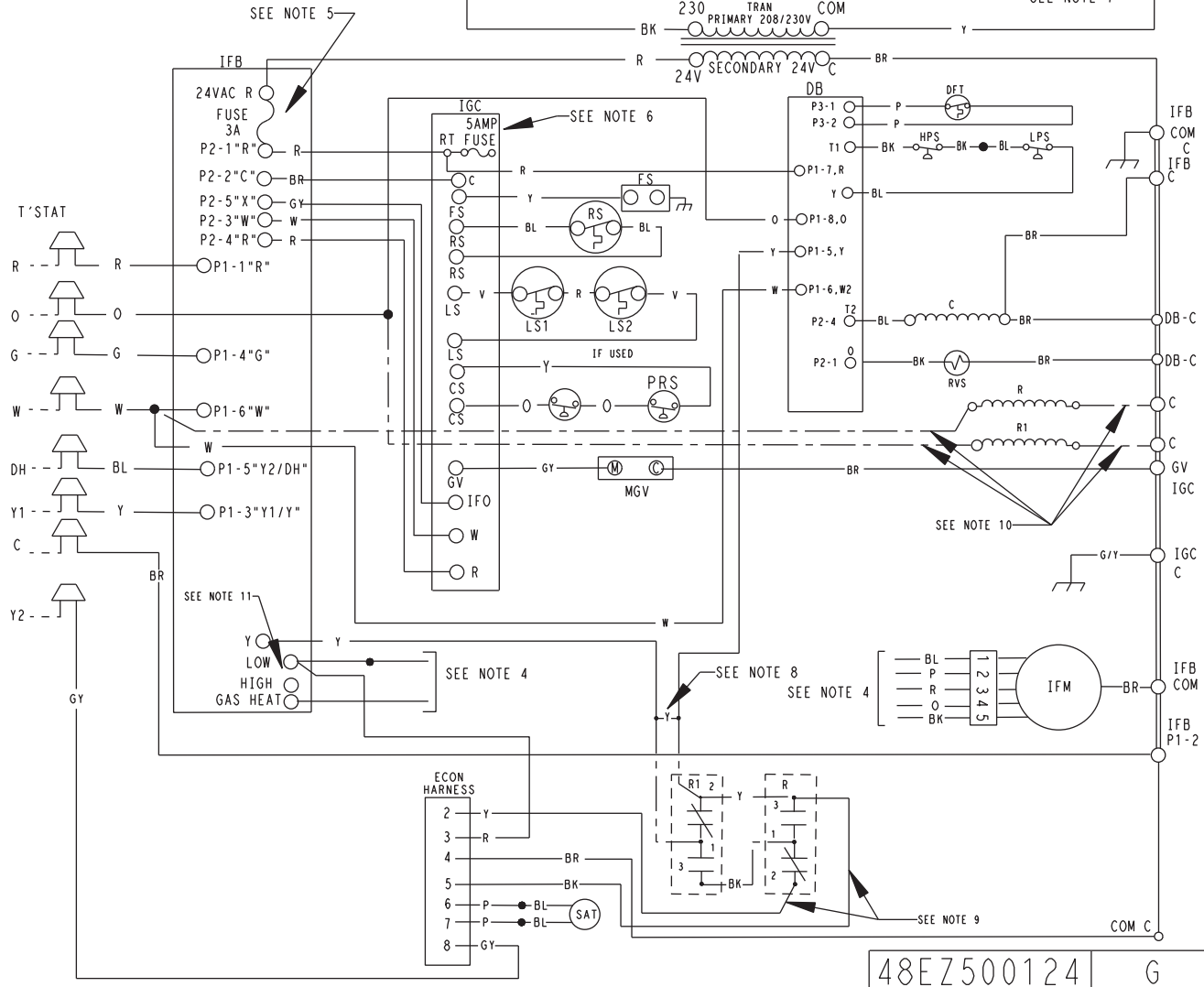
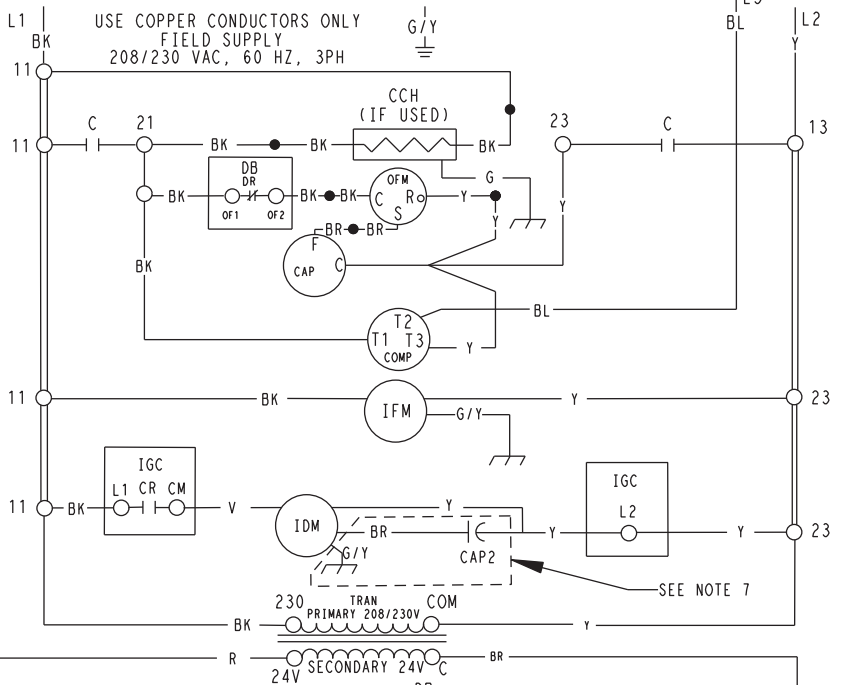
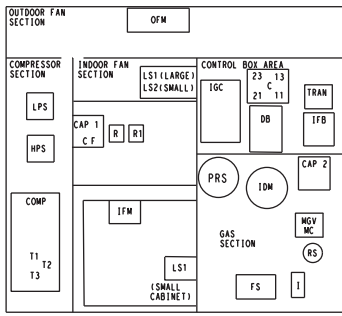


TYPICAL LADDER WIRING SCHEMATIC – 208/230–3–60

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

3Ø UNIT COMPONENT ARRANGEMENT



48EZ500124 G

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 subbase 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 “Y1/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).

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 60-second delay (1 phase models) or 90 second delay (3 phase models), the IFM shuts off. If the thermostat fan selector switch is in the “ON” position, the IFM will run continuously.

Heating (Single Phase Models)

On a call for heating, terminal W of the thermostat is energized, starting the induced-draft motor for a 5 second pre-purge. When the pressure switch senses that the induced-draft motor is moving sufficient combustion air, the burner sequence begins. This function is controlled by the integrated gas unit controller (IGC). The indoor (evaporator) fan motor is energized 30 seconds after flame is established. When the thermostat is satisfied and W is de-energized, the burners stop firing and the indoor (evaporator) fan motor shuts off after a 90 second time-off delay. Please note that the IGC has the capability to automatically reduce the indoor fan motor on delay and increase the indoor fan motor off delay in the event of high duct static and/or a partially-clogged filter.

Heating (3-Phase Models)

On a call for heating, terminal W of the thermostat is energized, starting the induced-draft motor. When the pressure switch senses that the induced-draft motor is moving sufficient combustion air, the burner sequence begins. This function is performed by the integrated gas unit controller (IGC). The indoor (evaporator) fan motor is energized 45 sec after flame is established. When the thermostat is satisfied and W is de-energized, the burners stop firing and the indoor (evaporator) fan motor shuts off after a 45-sec time-off delay. Please note that the IGC has the capability to automatically reduce the indoor fan motor on delay and increase the indoor fan motor off delay in the event of high duct static and/or partially-clogged filter.

Heat Pump Heating — On a call for heat, thermostat makes circuits “R” to “Y1/Y” and “R” to “G”.

A circuit is made to C, starting COMP and OFM. Circuit “R” to “G” is also completed, starting IFM.

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 gas heat turns on to warm air supplying the conditioned space. After defrost cycle, gas heat stays on to meet the demand cycle.

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 Dual Fuel Units

HVAC Guide Specifications

Size Range: **2 to 5 Tons, Nominal Cooling
40,000 to 127,000 Btuh,
Nominal Heating Input**

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 and ANSI Z21.47.
- 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. (13 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 evaporator fan motor shall be a ECM Motor.
 2. Fan wheel shall be made from steel, be double-inlet type with forward curved blades with corrosion resistant finish. Fan wheel shall be dynamically balanced.
 3. Condenser 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 (single phase), 90-second fan time delay (three phase) after the thermostat is satisfied.
- J. Electrical Requirements:**
- All unit power wiring shall enter the unit cabinet at a single location.
- 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.
- L. Compressor Protection:**
- Solid-state control shall protect compressor by preventing "short cycling."
- M. Low NOx:**
- Shall provide NOx reduction to values below 40 nanograms/joule to meet California's and other localities' emission requirements as shipped from factory.
- N. Special Features Available:**
1. Coil Options
Base unit with tin plated indoor coil hairpins available as a factory installed option.
2. Compressor Start Kit
Shall provide additional starting torque for single-phase compressors.
 3. Thermostat:
To provide for dual fuel two stage heating and one stage cooling in addition manual or automatic changeover and indoor fan control.
 4. Crankcase Heater:
Shall provide anti-floodback protection for lowload cooling applications.
 5. 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.
 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. Flue Discharge Deflector
Directs flue gas exhaust 90 degrees upward from current discharge.
 9. Heat Exchanger
Stainless Steel Heat Exchanger available as a factory installed option.
 10. High Altitude Propane conversion Kit
Shall consist of all required hardware to convert to propane gas heat operation at 2001 to 6000 ft (611 to 1829 m) above sea level.
 11. 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.
 12. Manual Outdoor Air Damper:
Package shall consist of damper, birdscreen, and rainhood which can be preset to admit outdoor air for year-round ventilation.
 13. Natural-to-Propane Conversion Kit:
Shall be complete with all required hardware to convert to propane gas operation at standard altitude (0 to 2000 ft [0-610 m] above sea level).
 14. Propane-to-Natural Conversion Kit:
Shall be complete with all hardware to convert to natural gas at standard altitude (0 to 2000 ft [0 to 610 m] above sea level).
 15. Square-To-Round Duct Transitions (24-48 models):
Shall have the ability to convert the supply and return openings from rectangular to round.

PDD/S4 ACCESSORIES

ROOF CURBS		
Model Number	Description	Use With Model Size
CPRFCURB010A00	Roof Curb, 11" High	24 – 30
CPRFCURB011A00	Roof Curb, 14" High	24 – 30
CPRFCURB012A00	Roof Curb, 11" High	36 – 60
CPRFCURB013A00	Roof Curb, 14" High	36 – 60

ADAPTER CURBS*		
Model Number	Description	Use With Model Size
CPADCURB001A00	Adapter curb for use with NPRFCURB006A00 & NPRFCURB007A00	24 – 30
CPADCURB002A00	Adapter curb for use with NPRFCURB008A00 & NPRFCURB009A00	36 – 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)		
Model Number	Description	Use With Model Size
NPCONADP001A00	For 18" round duct (use with curbs CPRFCURB010A00, CPRFCURB011A00)	Small Curb
NPCONADP002A00	For 18" round duct (use with curbs CPRFCURB012A00, CPRFCURB013A00)	Large Curb

ECONOMIZERS		
Model Number	Description	Use With Model Size
CPECOMZR007A00	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*.	24 – 30
CPECOMZR008A00		36 – 42
CPECOMZR009A00		48 – 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*.	24 – 30
CPECOMZR011A00		36 – 42
CPECOMZR012A00		48 – 60
CPRLYKIT001A00	Economizer relay for heat pumps	36 – 60
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)	24 – 30
CPMANDPR008A00		36 – 42
CPMANDPR009A00		48 – 60

INTERNAL FILTER RACK and FILTER (shipped with 1" filters)		
Model Number	Description	Use With Model Size
CPFILTRK007A00	Internal Filter Rack	24 – 30
CPFILTRK008A00		36 – 42
CPFILTRK009A00		48 – 60

LOW AMBIENT, ANTI-CYCLE TIMER, COMPRESSOR START ASSIST		
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	Five Minute Compressor Delay	ALL
NPHSTART002A00	PTC Compressor Start Assist Kit (single phase only)	ALL

*Relay 1184479 is required with this Low Ambient Control when used in heat pump application.

GAS CONVERSION KITS		
Model Number	Description	Use With Model Size
NPLPCONV013C00	Natural Gas to Propane Conversion Kit (0 – 2000')	ALL
NPLPCONV014C00	Natural Gas to Propane Conversion Kit (2001' – 6000')	
NPNGCONV004C00	Propane to Natural Gas Conversion Kit (0 – 2000')	

FLUE DISCHARGE DEFLECTOR		
Model Number	Description	Heat Input (BTU/h)
CPFLUEDS001A00	Directs flue gas exhaust 90 degrees upward from current discharge. Designed to allow tighter distances between unit and combustible surfaces. 24 inch Height. AGA certified.	40,000 – 130,000

HAIL GUARD / COIL PROTECTION (Factory installed on PDS models)		
Model Number	Description	Use With Model Size
NAPA00701GR	3/8" spacing dense wire grilles	24 – 30
NAPA00601GR	3/8" spacing dense wire grilles	36
NAPA01001GR	3/8" spacing dense wire grilles	42 – 48
NAPA01301GR	3/8" spacing dense wire grilles	60

DUCT TRANSITIONS		
Model Number	Description	Use With Model Size
NPDUCFLG002A00	Square to Round (1 set of 2, use with horizontal duct flanges only)	24 – 48