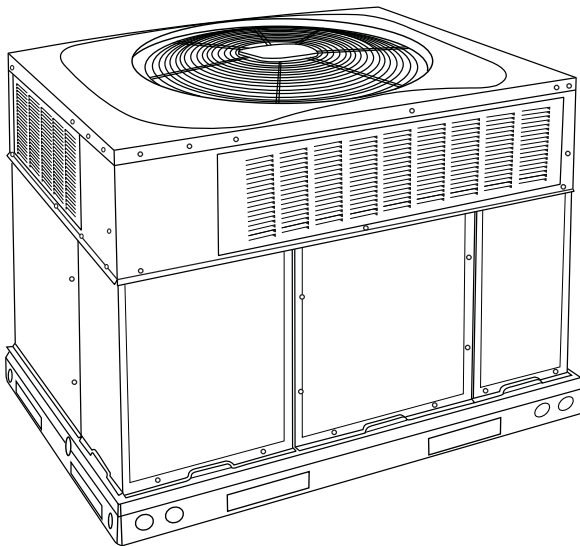


50VR-A, C
Performance™ 15 SEER 2-Stage Packaged Heat Pump
System with Puron® (R-410A) Refrigerant
Single and Three Phase
2 to 5 Nominal Tons (Sizes 24-60)



Product Data



A09033

Fig. 1 - Unit 50VR

Single-Packaged Products with Energy-Saving Features and Puron® refrigerant.

- 15.0-15.5 SEER / 12.0-12.5 EER at 95°F (35°C) OD
- 8.2 to 8.5 HSPF
- Factory-Installed TXV
- Multi-speed ECM Blower Motor - Standard
- Sound levels as low as 68dBA
- Two Stages of Cooling/Heating
- Dehumidification Feature - Standard
- Advanced Dehumidification Feature - Offered as a FIOP only
- Cabinet air leakage of 2.0% or less at .5 in. W.C. when tested in accordance with ASHRAE standard 193. (Low leak FIOP models only.)

FEATURES/BENEFITS

One-piece heat pump unit with optional electric heater, low sound levels, easy installation, low maintenance, and dependable performance.

Carrier's unique refrigerant designed to be environmentally balanced. Puron is an HFC refrigerant which does not contain chlorine that can harm the ozone layer. Puron refrigerant is in service in millions of systems proving highly reliable and is non-ozone depleting.

Easy Installation

Factory-assembled package is a compact, fully self-contained, electric cooling unit that is prewired, pre-piped, and pre-charged for minimum installation expense. These units are available in a variety of standard cooling sizes with voltage options to meet residential and light commercial requirements. Units are lightweight and install easily on a rooftop or at ground level. The

high tech composite base eliminates rust problems associated with ground level applications.

Innovative Unit Base Design

On the inside a high-tech composite material will not rust and incorporates a sloped drain pan which improves drainage and helps inhibit mold, algae and bacterial growth. On the outside metal base rails provide added stability as well as easier handling and rigging.

Convertible duct configuration

Unit is designed for use in either downflow or horizontal applications. Each unit is converted from horizontal to downflow and includes horizontal duct covers. Downflow operation is provided in the field to allow vertical ductwork connections. The basepan seals on the bottom openings to ensure a positive seal in the vertical airflow mode.

Efficient operation High-efficiency design offers SEER (Seasonal Energy Efficiency Ratios) of up to 15.5 and HSPF of up to 8.5. (See page 4.)

Durable, dependable components

Scroll Compressors have 2 stages of cooling/heating and are designed for high efficiency. Each compressor is hermetically sealed against contamination to help promote longer life and dependable operation. Each compressor also has vibration isolation to provide quieter operation. All compressors have internal high pressure and overcurrent protection.

Multi-speed ECM Blower Motor is standard on all 50VR.

Direct-drive PSC (Permanent Split Capacitor) condenser-fan motors are designed to help reduce energy consumption and provide for cooling operation down to 40°F (4.4°C) outdoor temperature. Motormaster® II low ambient kit is available as a field-installed accessory.

Thermostatic Expansion Valve - A hard shutoff, balance port TXV maintains a constant superheat at the evaporator exit (cooling cycle) resulting in higher overall system efficiency.

Refrigerant system is designed to provide dependability. Liquid filter driers are used to promote clean, unrestricted operation. Each unit leaves the factory with a full refrigerant charge. Refrigerant service connections make checking operating pressures easier.

High and Low Pressure Switches provide added reliability for the compressor.

Indoor and Outdoor coils are computer-designed for optimum heat transfer and efficiency. The indoor coil is fabricated from copper tube and aluminum fins and is located inside the unit for protection against damage. The outdoor coil is internally mounted on the top tier of the unit.

Low sound ratings ensure a quiet indoor and outdoor environment with sound ratings as low as 68dBA. (See Page 4.)

Easy to service cabinets provide easy 3 panel accessibility to serviceable components during maintenance and installation. The basepan with integrated drain pan provides easy ground level installation with a mounting pad. A nesting feature ensures a positive basepan to roof curb seal when the unit is roof mounted. A

convenient 3/4-in. (19.05 mm) wide perimeter flange makes frame mounting on a rooftop easy.

Dehumidification Feature - Standard

This unit has independent fan speeds for low stage cooling and high stage cooling. In addition, 208/230 VAC models have the field-selectable capability to run a dehumidification ('DHUM') speed on high stage cooling (as low as 320CFM per ton). Coupled with the improved dehumidification associated with low stage cooling, the DHUM speed allows for a complete dehumidification solution independent of cooling stage. The dehumidification control must open the control circuit on humidity rise above the dehumidification set point.

NOTE: The dehumidification feature on high stage cooling does not support use of an economizer.

Advanced Dehumidification Feature (FIOP)

Units with the Advanced Dehumidification FIOP feature independent normal and dehumidification fan speeds for low stage cooling and high stage cooling.

Standard horizontal metal duct covers with insulation come with the unit and cover the horizontal duct openings. These can be left in place if the units are converted to downflow.

Cabinets are constructed of heavyduty, phosphated, zinc-coated prepainted steel capable of withstanding 500 hours in salt spray. Interior surfaces of the evaporator/electric heater compartment are insulated with foil-faced insulation, which keeps the conditioned air from being affected by the outdoor ambient temperature and provides improved indoor air quality. (Conforms to American Society of Heating, Refrigeration and Air Conditioning Engineers No. 62P.) The sloped drain pan minimizes standing water in the drain. An external drain is provided.

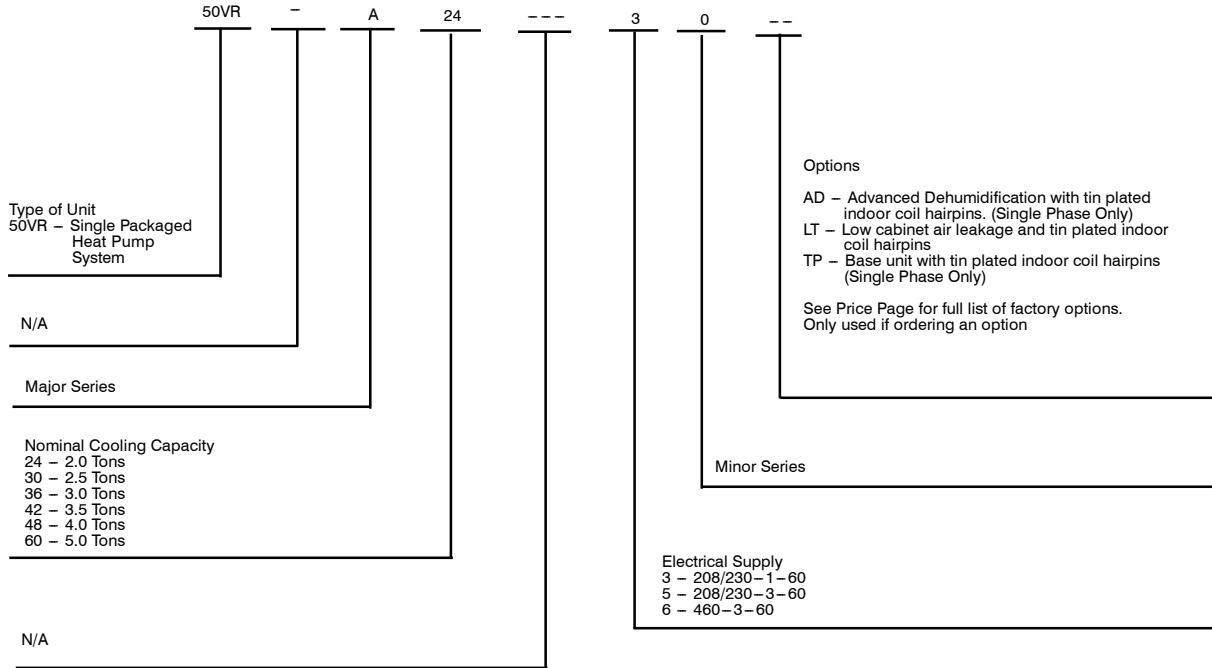
Short-Cycling protection for the compressor is incorporated into our defrost control board ensuring a five minute delay (+/-2 minutes) before restarting compressor after shutdown for any reason.

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50VR

MODEL NUMBER NOMENCLATURE



50VR



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.



AHRI* CAPACITIES

Cooling Capacities and Efficiencies

Unit Model 50VR-C	Nominal Tons	Standard CFM (High / Low Stage)	Net Cooling Capacities - Btuh (High Stage)	EER @A**	SEER†
24	2	855 / 675	22800	12.0	15.0
30	2-1/2	1000 / 775	29400	12.0	15.0

Unit Model 50VR-A	Nominal Tons	Standard CFM (High / Low Stage)	Net Cooling Capacities - Btuh (High Stage)	EER @A**	SEER†
36	3	1200 / 900	34000	12.0	15.0
42	3-1/2	1400 / 1050	42000	12.0	15.0
48	4	1600 / 1200	47500	12.5	15.5
60	5	1750 / 1400	57000	12.0	15.0

50VR

Heat Pump Heating Capacities and Efficiencies

Unit Model 50VR-C	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	Heating Cd
24	23,400	3.9	12200	2.3	8.2	0.25
30	30,000	3.7	16200	2.3	8.2	0.25

Unit Model 50VR-A	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	Heating Cd
36	34,000	3.7	17200	2.3	8.2	0.25
42	42,000	3.6	24000	2.5	8.2	0.25
48	47,000	3.7	26000	2.3	8.2	0.25
60	57,000	3.5	32400	2.4	8.5	0.25

LEGEND

dB—Sound Levels (decibels)
db—Dry Bulb
SEER—Seasonal Energy Efficiency Ratio
wb—Wet Bulb
COP—Coefficient of Performance
 * 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 wb (19.4°C) indoor entering—air temperature and 95°F db (35°C) outdoor entering—air temperature.
 2. Before purchasing this appliance, read important energy cost and efficiency information available from AHRI directory.org.

A-WEIGHTED SOUND POWER LEVEL (dBA)

Model 50VR-C	Sound Ratings (dBA)	TYPICAL OCTAVE BAND SPECTRUM(dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
24	68	77	65	65	63	57	52	48
30	69	70	66	67	65	58	56	54

Model 50VR-A	Sound Ratings (dBA)	TYPICAL OCTAVE BAND SPECTRUM(dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
36	73	64	63.5	68	68	65.5	60.5	52.5
42	71	64	62	65	66	63.5	59.5	52.5
48	74	59.5	65	70	67	64.5	60.5	52.5
60	73	68	63	66	66	65	59.5	52.5

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

PHYSICAL DATA

MODEL FAMILY	50VR-C			50VR-A		
UNIT SIZE	24	30	36	42	48	60
NOMINAL CAPACITY (ton)	2	2-1/2	3	3-1/2	4	5
SHIPPING WEIGHT lb.	347	393	420	466	462	511
SHIPPING WEIGHT (kg)	157	178	191	212	210	232
COMPRESSORS	Scroll					
Quantity	1					
REFRIGERANT (R-410A)						
Quantity lb	8.2	11.2	11.0	14.6	12.0	14.8
Quantity (kg)	3.7	5.1	5.0	6.6	5.4	6.7
REFRIGERANT METERING DEVICE	TXV, Indoor TXV					
ORIFICE						
ID (in.)	.032 (2)	.035 (1)	.038 (1)	.042 (2)	.042 (2)	.042 (2)
ID (mm)	0.81 (2)	.89 (1)	.97 (1)	1.07 (2)	1.07 (2)	1.07 (2)
OUTDOOR COIL						
Rows...Fins/in.	1...21	2...21	2...21	2...21	2...21	2...21
Face Area (sq ft)	18.8	18.8	13.6	19.4	17.5	23.3
OUTDOOR FAN						
Nominal Cfm	2100	2500	3000	3000	3300	3600
Diameter in.	24	24	26	26	26	26
Diameter (mm)	609.6	609.6	660.4	660.4	660.4	660.4
Motor Hp (Rpm)	1/12 (800)	1/8 (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	4...17
Face Area (sq ft)	3.7	3.7	4.7	4.7	5.7	5.7
INDOOR BLOWER						
Nominal Low Stage Cooling Airflow (Cfm)	675	775	900	1050	1200	1400
Nominal High Stage Cooling Airflow (Cfm)	855	1000	1200	1400	1600	1750
Size in.	10x10	10x10	11x10	11x10	11x10	11x10
Size (mm.)	254x254	254x254	279.4x254	279.4x254	279.4x254	279.4x254
Motor HP (RPM)	1/2 (1050)	1/2 (1050)	3/4 (1000)	3/4 (1075)	1.0 (1075)	1.0 (1075)
HIGH-PRESSURE SWITCH (psig) Cut-out Reset (Auto)	650 +/- 15 420 +/- 25					
LOW-PRESSURE SWITCH (psig) cut-out Reset (auto)	20 +/- 5 45 +/- 5					
RETURN-AIR FILTERS†‡						
Throwaway Size in.	20x20x1	20x24x1	24x30x1	24x36x1		
Throwaway Size (mm)	508x508x25	508x610x25	610x762x25	610x914x25		

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

‡ If using accessory filter rack refer to the filter rack installation instructions for correct filter sizes and quantity.

50VR

Electric Heat Pressure Drop Tables (IN. W.C.) Small Cabinet: 24-30

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

Large Cabinet: 36-60

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

OPTIONS AND ACCESSORIES

ITEM	DESCRIPTION	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Coil Options	Base unit with tin plated indoor coil hairpins	X	
Compressor Start Kit	Compressor Start Kit assists compressor start-up by providing additional starting torque on single phase units only.		X
Corporate Thermostats	Thermostats provide control for the system heating, cooling and dehumidification functions.		X
Crankcase Heater	Crankcase Heater provides anti-floodback protection for low-load cooling applications.		X*
Economizer	Vertical Economizer with Jade Honeywell W7220 Controller, Honeywell communicating actuator, and dry bulb sensor. (Contact MicroMetl Customer Service at 1-800-662-4822 to order.)		X
	Horizontal Economizer with Jade Honeywell W7220 Controller, Honeywell communicating actuator, and dry bulb sensor. (Contact MicroMetl Customer Service at 1-800-662-4822 to order.)		X
Electric Heaters	Electric Heat Supplement		X
Filter Rack	Filter Rack features easy installation, serviceability, and high-filtering performance for horizontal and vertical applications. Includes 1-in. filter.		X
Flat Roof Curb	14-in. (356 mm) Flat Roof Curb is available for roof mounted applications.		X
Low Ambient Kit	Low Ambient Kit (Motormaster II Control) allows the use of mechanical cooling down to outdoor temperatures as low as 0°F (-18° C) when properly installed.		X
Manual Outside Air Damper	Manual Outside Air Damper includes hood and filter rack with adjustable damper blade for up to 25% outdoor air.		X
Square-to-Round Duct Transition Kit	Square-to-Round Duct Transition Kit enable 24-48 size units to be fitted to 14 in (356 mm). round ductwork.		X
Time Guard II	Automatically prevents the compressor from restarting for at least 4 minutes and 45 seconds after shutdown of the compressor. Not required when a corporate programmable thermostat is applied or with a RTU-MP control.		X
Low Cabinet Air Leakage	Cabinet air leakage of 2.0% or less at .5 in. W.C. when tested in accordance with ASHRAE standard 193.	X	
Dual Point Electric Heaters	Allows you to power the electric heater and unit contactor separately by having two individual field power supply circuits connected respectively.		X
Advanced Dehumidification Package	Standard unit with tin plated indoor coil hairpins and a dedicated DEHUM features that enables owner controlled dehumidification.	X	

*Refer to Price Page for application detail.

Electric Heaters

CATALOG ORDERING NO.	NOMINAL CAPACITY (kW)	FUSE QTY	USED WITH SIZES					
			24	30	36	42	48	60
ELECTRIC HEATERS (208/230 — SINGLE PHASE — 60 Hz)								
CPHEATER052B00	5.0	-	X	X	X			
CPHEATER064B00	5.0	4	X	X	X	X	X	X
CPHEATER069B00	7.2	-	X					
CPHEATER070B00	7.2	4	X	X	X	X	X	X
CPHEATER050B00	10.0	4	X	X	X	X	X	X
CPHEATER066B00	15.0	6			X	X	X	X
CPHEATER133B00	15.0	4		X				
CPHEATER054B00	20.0	6				X	X	X
ELECTRIC HEATERS (208/230 — THREE PHASE — 60 Hz)								
CPHEATER055B00	5.0	-		X	X	X	X	X
CPHEATER056B00	10.0	-		X	X	X	X	
CPHEATER068B00	10.0	6			X	X	X	X
CPHEATER058B00	15.0	6		X	X	X	X	X
CPHEATER059B00	20.0	6				X	X	X
ELECTRIC HEATERS (460 — THREE PHASE — 60 Hz)								
CPHEATER061B00	10.0	-			X	X	X	X
CPHEATER062B00	15.0	-			X	X	X	X
CPHEATER063B00	20.0	-				X	X	X

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

X = Approved combinations.

Minimum Airflow for Safe Electric Heater Operation (CFM)

SIZE	24	30	36	42	48	60
Cfm	800	1000	1200	1400	1600	1750

UNIT DIMENSIONS - 50VR-C24-30

UNIT	ELECTRICAL CHARACTERISTICS	UNIT WT.		UNIT HEIGHT IN/MM		CENTER OF GRAVITY IN/MM					
		LB	KG	"A"	X	Y	Z				
50VR-C24---30*	208/230-1-60	338	153.3	51-3/4	1315	20-1/2	520.7	15-3/4	400.1	23.0	584.2
50VR-C30---30*	208/230-1-60	384	174.2	51-3/4	1315	20-1/2	520.7	15-3/4	400.1	23.0	584.2
50VR-C30---50*	208/230-3-60	384	174.2	51-3/4	1315	20-1/2	520.7	15-3/4	400.1	23.0	584.2

UNIT	VOLTAGE	CORNER WEIGHT LB/KG		
		"1"	"2"	"3"
50VR-C24---30*	208/230	47.3	21.5	60.8
50VR-C30---30*	208/230	53.8	24.4	69.1
50VR-C30---50*	208/230	53.8	24.4	69.1

NOTE: 1. ALL TABLE DATA RELEVANT FOR ALL FACTORY INSTALLED OPTIONS EXCEPT ECONOMIZER.
2. * - INDICATES ALL FOP CODES FOR THE MODELS LISTED.

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]
BOTTOM OF UNIT	0 [0.0]
ELECTRICAL PANEL	36 [914.4]

NEC. REQUIRED CLEARANCES

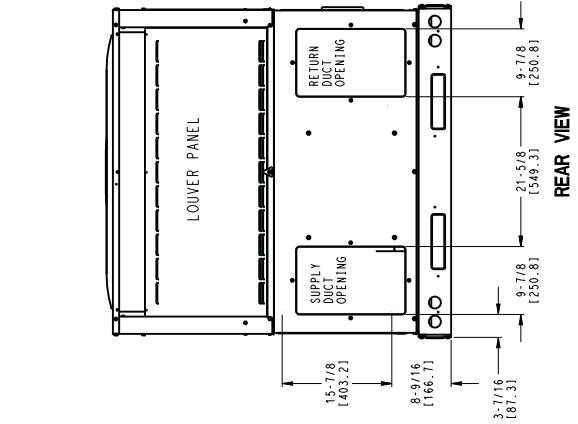
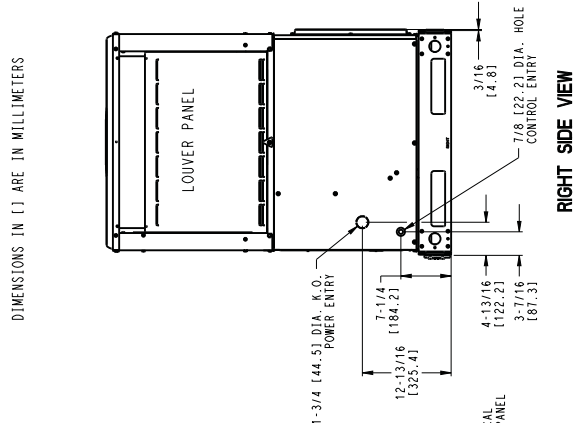
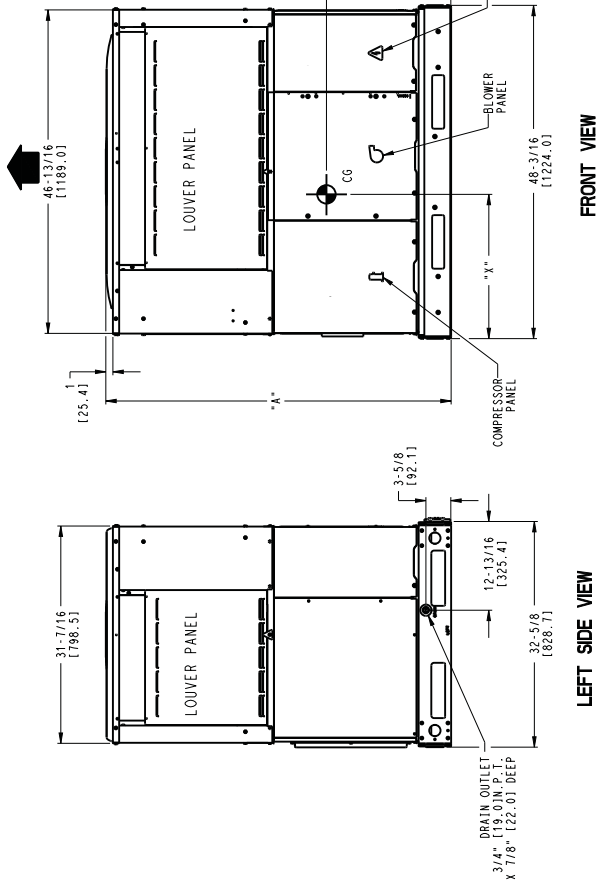
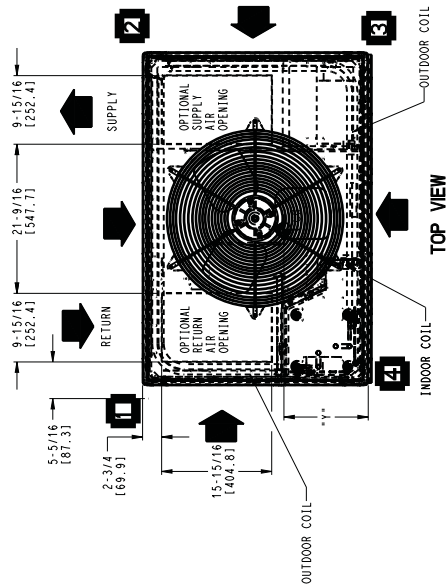
	INCHES (MM)
BETWEEN UNITS, POWER ENTRY SIDE	42 [1066.8]
UNIT AND UNGROUNDED SURFACES, POWER ENTRY SIDE	36 [914.0]
UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, POWER ENTRY SIDE	42 [1066.8]

REQUIRED CLEARANCE FOR OPERATION AND SERVICING

	INCHES (MM)
EVAP. COIL ACCESS SIDE	36 [914.0]
POWER ENTRY SIDE (EXCEPT FOR NEC REQUIREMENTS)	42 [1066.8]
UNIT TOP	48 [1219.2]
SIDE OPPOSITE DUCTS	36 [914.0]
DUCT PANEL	12 [304.8]

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

DIMENSIONS IN () ARE IN MILLIMETERS



50VR500267 A

50VR

50VR-A36-60 UNIT DIMENSIONS

50VR

UNIT	ELECTRICAL CHARACTERISTICS	UNIT WT.		UNIT HEIGHT IN/MM			CENTER OF GRAVITY IN/MM			
		LB	KG	"A"	X	Y	Z			
50VR-A36---(3/5/6/0)*	208/230-1, 208/230-3-60, 460-3	413	187.3	44-3/4	20-1/4	514.4	17-1/2	444.5	17-5/8	447.7
50VR-A42---(3/5/6/0)*	208/230-1, 208/230-3-60, 460-3	444	201.4	50-3/4	20-1/4	514.4	17-1/2	444.5	17-5/8	447.7
50VR-A48---(3/5/6/0)*	208/230-1, 208/230-3-60, 460-3	447	202.8	48-3/4	20-1/4	514.4	17-1/2	444.5	17-5/8	447.7
50VR-A60---(3/5/6/0)*	208/230-1, 208/230-3-60, 460-3	503	228.2	54-3/4	20-1/4	514.4	17-1/2	444.5	18	457.2

UNIT	VOLTAGE	CORNER WEIGHTS LB/KG			
		"1"	"2"	"3"	"4"
50VR-A36---(3/5/6/0)*	208/230/460	49.6	28.1	66.1	37.5
50VR-A42---(3/5/6/0)*	208/230/460	53.3	30.2	71.0	40.3
50VR-A48---(3/5/6/0)*	208/230/460	53.6	30.4	71.5	40.6
50VR-A60---(3/5/6/0)*	208/230/460	60.4	34.2	80.5	45.6

NOTE: 1. ALL TABLE DATA RELEVANT FOR ALL FACTORY INSTALLED OPTIONS EXCEPT ECONOMIZER.
 2. * - INDICATES ALL FIP CODES FOR THE MODELS LISTED.

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]
BOTTOM OF UNIT.....	0 [0.0]
ELECTRICAL PANEL.....	36 [914.4]

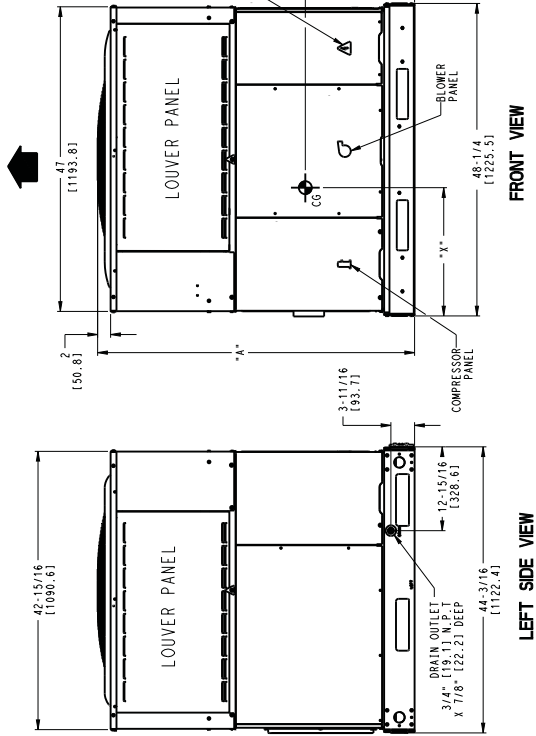
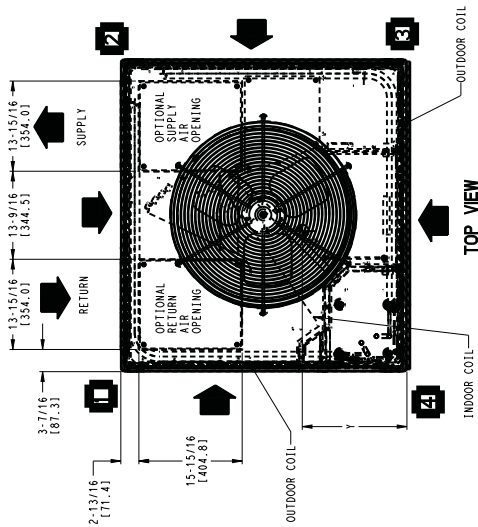
NEC. REQUIRED CLEARANCES.

	INCHES [MM]
BETWEEN UNITS, POWER ENTRY SIDE.....	42 [1066.8]
UNIT AND UNGROUND SURFACES, POWER ENTRY SIDE.....	36 [914.0]
UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUND SURFACES, POWER ENTRY SIDE.....	42 [1066.8]

REQUIRED CLEARANCE FOR OPERATION AND SERVICING

	INCHES [MM]
EVAP. COIL ACCESS SIDE.....	36 [914.0]
POWER ENTRY SIDE.....	42 [1066.8]
(EXCEPT FOR NEC REQUIREMENTS)	
UNIT TOP.....	48 [1219.2]
SIDE OPPOSITE DUCTS.....	36 [914.0]
DUCT PANEL.....	12 [304.8]

*MINIMUM DISTANCES: IF UNIT IS PLACED LESS THAN 12 [304.8] FROM WALL SYSTEM, THEN SYSTEM PERFORMANCE MAYBE COMPROMISED. DIMENSIONS IN [] ARE IN MM



FRONT VIEW

LEFT SIDE VIEW

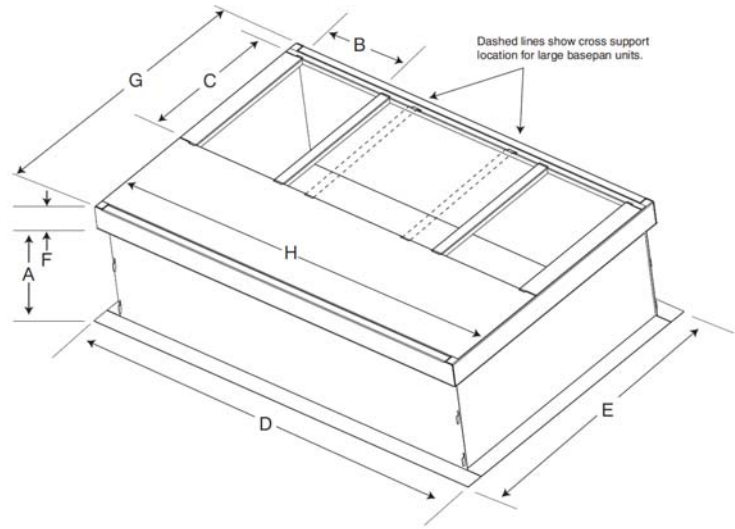
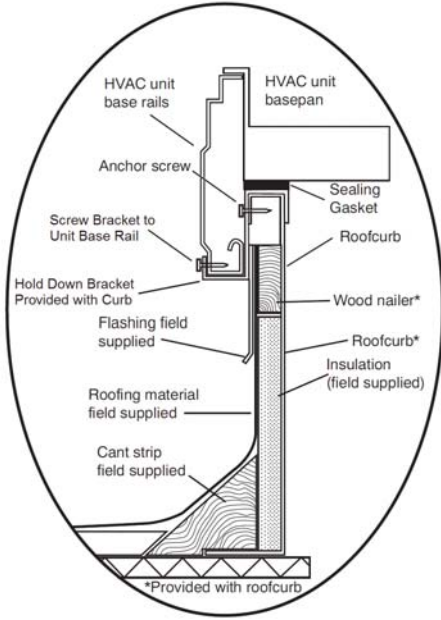
RIGHT SIDE VIEW

REAR VIEW

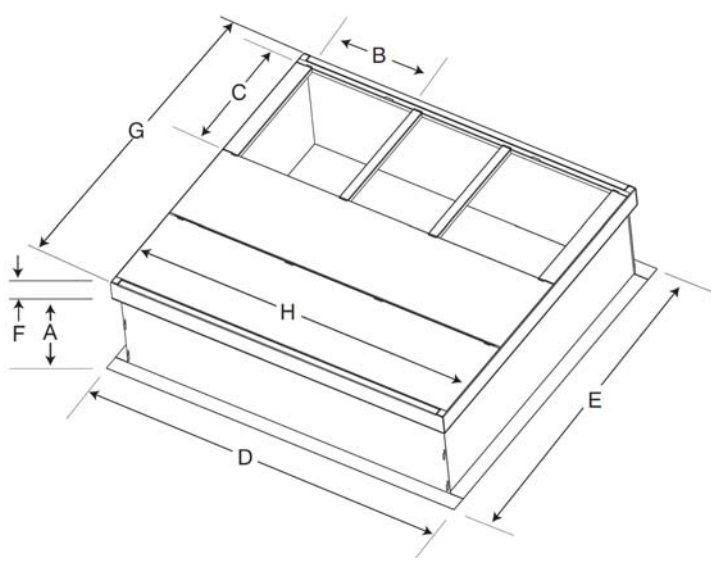
50VR500141 A

ROOF CURB ACCESSORY - 50VR--24-60

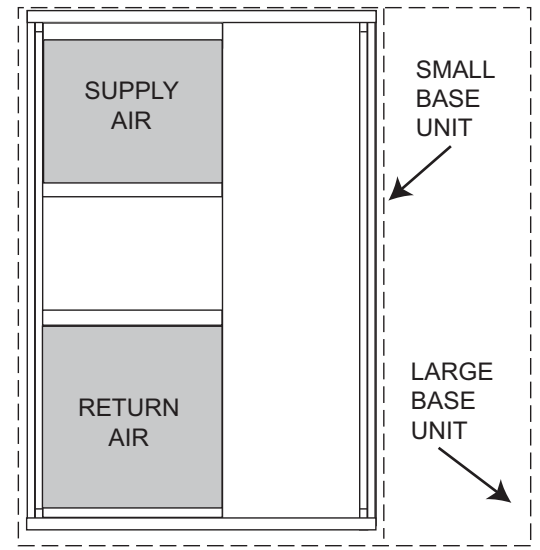
50VR



SMALL/COMMON CURB



LARGE CURB



UNIT PLACEMENT ON COMMON CURB

SMALL OR LARGE BASE UNIT

A180216

UNIT SIZE	CATALOG NUMBER	A IN. (mm)	B (small/common base) IN. (mm)*	B (large base) IN. (mm)*	C IN. (mm)	D IN. (mm)	E IN. (mm)	F IN. (mm)	G IN. (mm)	H IN. (mm)
Small or Large	CPRFCURB011B00	14 (356)	10 (254)	14 (356)	16 (406)	47.8 (1214)	32.4 (822)	2.7 (69)	30.6 (778)	46.1 (1170)
Large	CPRFCURB013B00	14 (356)	14 (356)				43.9 (1116)		42.2 (1072)	

* Part Number CPRCURB011B00 can be used on both small and large basepan units. The cross supports must be located based on whether the unit is a small basepan or a large basepan.

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

SELECTION PROCEDURE (WITH EXAMPLE)

1. Determine cooling and heating requirements at design conditions:

Given:

- Required Cooling Capacity (TC) 34,000 Btuh
- Sensible Heat Capacity (SHC) 24,000 Btuh
- Required Heating Capacity 12,500 Btuh
- Condenser Entering Air Temperature 95°F(35°C)
- Indoor-Air Temperature 80°F (26°C) edb
67°F (19°C) ewb
- Evaporator Air Quantity 1200 CFM
- External Static Pressure 0.20 IN. W.C.
- Electrical Characteristics 230-1-60

2. Select unit based on required cooling capacity.

Enter Net Cooling Capacities table at condenser entering temperature of 95°F (35°C), indoor air entering at 1200 cfm and 67°F (19°C) ewb (entering wet bulb). The unit will provide a total capacity of 34,200 Btuh and a SHC of 24,500 Btuh.

3. Select electric heat.

The required heating capacity is 15,000 Btuh.

Determine additional electric heat capacity in kW.

$$\frac{15,000 \text{ Btuh}}{3,414 \text{ Btuh/kW}} = 4.4 \text{ kW of heat required}$$

Enter the electric Heater Packages table for 208/240, single-phase, 50VR-A36 unit. The 5 kW heater at 240v most closely satisfies the heating required. To calculate kW at the 208v, multiply the heater kW by multiplication factor 0.75 found in the Wattage Multiplication Factors table.

$$5 \text{ kW} \times 0.75 = 3.75 \text{ kW}$$

$$3.75 \text{ kW} \times 3414 = 12802.50 \text{ Btuh}$$

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	0.000 IN. W.C.
Wet Coil Pressure Drop	<u>0.130 IN. W.C.</u>
Total Static Pressure	0.330 IN. W.C.

Enter the table for Wet Coil Air Delivery—horizontal discharge, 230. At 0.33 IN. W.C. ESP (external static pressure) and medium speed, the fan will deliver 1293 cfm. Adjusting for 208v, the motor delivers 114 cfm (deduct 10%).

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

024 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW
700	57 (13.8)	21.49	21.49	1.52	20.88	20.88	1.68	20.17	20.17	1.86	19.34	19.34	2.07	18.35	18.35	2.33	17.24	17.24	2.63
	62 (16.6)	22.16	20.20	1.53	21.34	19.92	1.69	20.42	19.56	1.87	19.39	19.31	2.07	18.38	18.38	2.33	17.27	17.27	2.63
	63* (17.2)	22.52	16.49	1.53	21.70	16.18	1.69	20.76	15.83	1.87	19.72	15.37	2.08	18.47	14.84	2.33	17.08	14.20	2.63
	67 (19.4)	24.17	17.07	1.55	23.27	16.75	1.71	22.26	16.40	1.89	21.16	15.98	2.10	19.94	15.50	2.35	18.54	14.96	2.65
	72 (22.2)	26.41	13.85	1.57	25.43	13.48	1.73	24.35	13.08	1.91	23.16	12.65	2.13	21.88	12.19	2.38	20.48	11.70	2.68
	57 (13.8)	22.87	22.87	1.55	22.18	22.18	1.71	21.38	21.38	1.90	20.49	20.49	2.11	19.46	19.46	2.36	18.29	18.29	2.66
	62 (16.6)	23.05	22.37	1.56	22.21	22.21	1.71	21.42	21.42	1.90	20.52	20.52	2.11	19.48	19.48	2.36	18.31	18.31	2.66
855	63* (17.2)	23.32	18.13	1.56	22.40	17.85	1.72	21.40	17.49	1.89	20.26	17.06	2.10	18.97	16.52	2.36	17.54	15.88	2.65
	67 (19.4)	25.01	18.82	1.57	24.02	18.52	1.73	22.93	18.17	1.91	21.73	17.78	2.13	20.43	17.31	2.38	18.99	16.76	2.67
	72 (22.2)	27.31	15.01	1.59	26.24	14.65	1.75	25.06	14.26	1.94	23.79	13.83	2.15	22.43	13.35	2.41	20.95	12.85	2.70
	57 (13.8)	23.27	23.27	1.56	22.55	22.55	1.72	21.73	21.73	1.91	20.81	20.81	2.12	19.76	19.76	2.37	18.58	18.58	2.67
	62 (16.6)	23.63	22.15	1.57	22.58	22.58	1.72	21.76	21.76	1.91	20.84	20.84	2.12	19.79	19.79	2.37	18.60	18.60	2.67
	63* (17.2)	23.53	18.66	1.57	22.59	18.38	1.72	21.56	18.02	1.90	20.41	17.59	2.11	19.10	17.05	2.36	17.67	16.41	2.66
	67 (19.4)	25.24	19.38	1.58	24.22	19.08	1.74	23.11	18.74	1.92	21.90	18.34	2.13	20.57	17.88	2.39	19.12	17.31	2.68
72 (22.2)	27.55	15.36	1.60	26.45	15.01	1.76	25.25	14.62	1.95	23.94	14.21	2.16	22.57	13.73	2.41	21.07	13.22	2.71	

See Legend and Notes on Page 35.



PERFORMANCE DATA (CONT)

024 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		-10 (-23.3)				0 (-17.8)				10 (-12.2)				20 (-6.7)			
		EDB	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh	Integ	Total Sys KW	Capacity MBtuh	Integ	Total Sys KW	Capacity MBtuh	Integ	Total Sys KW		
65 (18.3)	700			5.87	5.40											1.15	7.69
	855	5.92	5.45	1.15	7.75	6.65	1.29	10.63	9.76	1.42	13.35	12.10	1.51				
	900	5.93	5.45	1.15	7.76	6.66	1.30	10.64	9.77	1.42	13.37	12.12	1.51				
70 (21.1)	700	5.80	5.34	1.20	7.60	6.52	1.33	10.44	9.58	1.46	13.10	11.88	1.55				
	855	5.87	5.40	1.20	7.66	6.58	1.34	10.50	9.63	1.47	13.16	11.94	1.56				
	900	5.87	5.40	1.20	7.67	6.59	1.35	10.51	9.65	1.47	13.17	11.95	1.58				
75 (23.9)	700	5.72	5.26	1.26	7.50	6.44	1.39	10.29	9.44	1.51	12.92	11.72	1.61				
	855	5.80	5.33	1.26	7.56	6.50	1.40	10.35	9.50	1.52	12.99	11.77	1.63				
	900	5.80	5.34	1.26	7.58	6.50	1.40	10.36	9.51	1.52	12.99	11.78	1.63				

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		30 (-1.1)				40 (4.4)				50 (10)				60 (15.6)			
		EDB	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh	Integ	Total Sys KW	Capacity MBtuh	Integ	Total Sys KW	Capacity MBtuh	Integ	Total Sys KW		
65 (18.3)	700			16.97	14.87											1.70	20.83
	855	16.93	14.84	1.70	20.80	20.80	1.68	25.35	25.35	1.77	29.32	29.32	1.88				
	900	16.94	14.85	1.71	20.80	20.80	1.68	25.35	25.35	1.78	29.30	29.30	1.88				
70 (21.1)	700	16.64	14.58	1.75	20.58	20.58	1.76	25.26	25.26	1.85	29.34	29.34	1.97				
	855	16.72	14.65	1.76	20.65	20.65	1.75	25.21	25.21	1.85	29.22	29.22	1.97				
	900	16.73	14.66	1.76	20.65	20.65	1.75	25.20	25.20	1.85	29.21	29.21	1.97				
75 (23.9)	700	16.42	14.38	1.83	20.45	20.45	1.85	25.11	25.11	1.92	29.21	29.21	2.06				
	855	16.49	14.45	1.84	20.60	20.60	1.84	25.06	25.06	1.93	29.12	29.12	2.05				
	900	16.50	14.46	1.84	20.38	20.38	1.84	25.05	25.05	1.93	29.11	29.11	2.05				

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

024 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW
CFM	EWB	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	
	57 (13.8)	18.15	18.15	1.06	17.65	17.65	1.19	16.95	16.95	1.34	16.00	16.00	1.52	14.98	14.98	1.73	13.94	13.94	1.96
	62 (16.6)	18.61	17.42	1.05	17.93	17.21	1.19	17.04	16.87	1.34	16.03	16.03	1.52	15.00	15.00	1.73	13.97	13.97	1.96
525	63* (17.2)	18.94	14.19	1.05	18.25	13.94	1.19	17.37	13.55	1.34	16.17	13.01	1.52	14.86	12.45	1.73	13.54	11.90	1.96
	67 (19.4)	20.32	14.68	1.04	19.55	14.43	1.18	18.63	14.09	1.34	17.55	13.65	1.52	16.22	13.10	1.73	14.83	12.56	1.96
	72 (22.2)	22.23	11.87	1.03	21.38	11.56	1.18	20.38	11.19	1.34	19.27	10.78	1.52	18.06	10.35	1.73	16.65	9.85	1.96
	57 (13.8)	19.64	19.64	1.06	19.04	19.04	1.20	18.28	18.28	1.36	17.36	17.36	1.53	16.24	16.24	1.74	15.08	15.08	1.98
	62 (16.6)	19.85	18.78	1.06	19.07	19.07	1.20	18.31	18.31	1.36	17.38	17.38	1.53	16.27	16.27	1.74	15.11	15.11	1.98
675	63* (17.2)	19.76	16.08	1.06	18.98	15.87	1.20	18.01	15.55	1.36	16.80	15.03	1.53	15.42	14.43	1.74	14.05	13.83	1.97
	67 (19.4)	21.20	16.70	1.05	20.33	16.47	1.19	19.31	16.18	1.35	18.14	15.80	1.53	16.79	15.25	1.74	15.34	14.66	1.98
	72 (22.2)	23.17	13.18	1.04	22.22	12.89	1.19	21.11	12.54	1.35	19.91	12.14	1.53	18.61	11.69	1.74	17.16	11.19	1.98
	57 (13.8)	19.85	19.85	1.06	19.23	19.23	1.20	18.46	18.46	1.36	17.54	17.54	1.54	16.41	16.41	1.74	15.24	15.24	1.98
	62 (16.6)	20.11	18.71	1.06	19.26	19.26	1.20	18.49	18.49	1.36	17.56	17.56	1.54	16.44	16.44	1.74	15.26	15.26	1.98
700	63* (17.2)	19.86	16.40	1.06	19.07	16.18	1.20	18.09	15.87	1.36	16.88	15.35	1.54	15.49	14.74	1.74	14.13	14.11	1.98
	67 (19.4)	21.32	17.02	1.05	20.44	16.80	1.20	19.39	16.51	1.36	18.22	16.14	1.54	16.87	15.59	1.74	15.41	14.99	1.98
	72 (22.2)	23.29	13.38	1.04	22.33	13.09	1.19	21.20	12.75	1.35	19.98	12.36	1.54	18.68	11.91	1.75	17.21	11.41	1.98

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

024 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES ° F (° C)																				
		0 (-17.8)			10 (-12.2)			20 (-6.7)			30 (-1.1)			40 (4.4)			50 (10)			60 (15.6)		
		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW		Capacity MBtuh	Total Sys KW	
65 (18.3)	525	4.54	4.50	1.00	6.59	6.06	8.44	7.65	1.13	11.85	10.38	1.17	14.14	14.14	1.22	17.65	17.65	1.27	21.47	21.47	1.29	
	675	4.56	4.52	0.99	6.64	6.09	8.48	7.69	1.13	11.90	10.43	1.17	14.21	14.21	1.22	17.60	17.60	1.26	21.49	21.49	1.29	
	700	4.56	4.52	0.98	6.65	6.10	8.51	7.71	1.13	11.92	10.45	1.18	14.22	14.22	1.22	17.58	17.58	1.26	21.47	21.47	1.29	
70 (21.1)	525	4.52	4.48	1.07	6.52	5.99	8.31	7.53	1.19	11.65	10.20	1.22	13.90	13.90	1.26	17.35	17.35	1.32	21.24	21.24	1.33	
	675	4.56	4.52	1.05	6.59	6.06	8.38	7.60	1.18	11.71	10.26	1.22	13.96	13.96	1.27	17.37	17.37	1.31	21.28	21.28	1.34	
	700	4.58	4.54	1.05	6.62	6.07	8.40	7.62	1.19	11.73	10.28	1.23	13.98	13.98	1.27	17.37	17.37	1.31	21.22	21.22	1.34	
75 (23.9)	525	4.43	4.39	1.13	6.42	5.89	8.15	7.39	1.25	11.42	10.01	1.26	13.65	13.65	1.31	17.05	17.05	1.37	21.01	21.01	1.39	
	675	4.50	4.46	1.12	6.50	5.96	8.24	7.47	1.24	11.50	10.07	1.27	13.70	13.70	1.31	17.11	17.11	1.38	20.93	20.93	1.39	
	700	4.52	4.48	1.11	6.52	5.99	8.26	7.50	1.24	11.51	10.09	1.27	13.72	13.72	1.32	17.25	17.25	1.38	20.91	20.91	1.39	

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

030 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW
875	57 (13.9)	27.21	27.21	1.90	26.37	26.37	2.10	25.44	25.44	2.34	24.37	24.37	2.62	23.17	23.17	2.92	21.82	21.82	3.26
	62 (16.7)	28.23	25.45	1.92	27.09	25.02	2.11	25.89	24.50	2.35	24.58	23.88	2.62	23.21	23.21	2.92	21.86	21.86	3.26
	63* 17.2)	28.71	20.79	1.92	27.58	20.34	2.12	26.35	19.83	2.35	24.99	19.25	2.62	23.47	18.57	2.93	21.78	17.81	3.26
	67 (19.4)	30.91	21.57	1.95	29.69	21.12	2.14	28.37	20.62	2.38	26.94	20.05	2.65	25.35	19.42	2.96	23.60	18.72	3.29
	72 (13.9)	33.94	17.52	1.99	32.62	17.03	2.19	31.20	16.50	2.42	29.67	15.94	2.70	27.97	15.33	3.00	26.12	14.67	3.33
	57 (13.9)	28.45	28.45	1.95	27.55	27.55	2.14	26.54	26.54	2.38	25.40	25.40	2.66	24.13	24.13	2.97	22.71	22.71	3.30
	62 (16.7)	29.02	27.38	1.95	27.83	26.90	2.15	26.60	26.53	2.38	25.44	25.44	2.66	24.16	24.16	2.97	22.74	22.74	3.30
1000	63* 17.2)	29.44	22.19	1.96	28.24	21.73	2.15	26.93	21.21	2.39	25.49	20.61	2.66	23.90	19.93	2.96	22.15	19.17	3.29
	67 (19.4)	31.69	23.08	1.98	30.39	22.61	2.18	29.00	22.10	2.42	27.48	21.53	2.69	25.81	20.89	2.99	23.99	20.17	3.32
	72 (13.9)	34.81	18.55	2.03	33.40	18.03	2.22	31.90	17.49	2.46	30.27	16.91	2.73	28.50	16.28	3.04	26.55	15.60	3.37
	57 (13.9)	29.54	29.54	1.99	28.56	28.56	2.18	27.48	27.48	2.42	26.27	26.27	2.70	24.93	24.93	3.01	23.44	23.44	3.34
	62 (16.7)	29.72	29.10	1.99	28.61	28.61	2.18	27.52	27.52	2.42	26.31	26.31	2.70	24.96	24.96	3.01	23.47	23.47	3.34
	63* 17.2)	30.03	23.53	1.99	28.76	23.07	2.19	27.39	22.53	2.42	25.88	21.92	2.69	24.24	21.24	2.99	22.45	20.46	3.32
	67 (19.4)	32.34	24.51	2.02	30.95	24.05	2.22	29.49	23.52	2.45	27.91	22.94	2.72	26.16	22.29	3.03	24.30	21.55	3.36
72 (13.9)	35.47	19.51	2.07	33.98	19.01	2.26	32.41	18.44	2.50	30.72	17.85	2.77	28.87	17.21	3.07	26.86	16.52	3.40	

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

030 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		-10 (-23.3)				0 (-17.8)				10 (-12.2)				20 (-6.7)			
		EDB	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW		
65 (18.3)	875			6.87	6.32		1.51	8.94		8.23	1.65		14.03	12.87		1.83	18.81
	1000	6.94	6.39	1.54	9.00	8.28	1.67	14.09	12.94	1.85	18.88	17.12	2.01				
	1125	7.00	6.45	1.55	9.06	8.33	1.69	14.17	13.01	1.88	18.96	17.19	2.03				
70 (21.1)	875	6.73	6.19	1.57	8.81	8.10	1.71	13.85	12.72	1.89	18.60	16.86	2.05				
	1000	6.80	6.26	1.58	8.86	8.16	1.72	13.92	12.78	1.92	18.67	16.93	2.08				
	1125	6.87	6.32	1.60	8.92	8.21	1.75	14.00	12.84	1.93	18.75	17.00	2.11				
75 (23.9)	875	6.59	6.06	1.61	8.67	7.98	1.76	13.68	12.56	1.96	18.38	16.67	2.13				
	1000	6.67	6.14	1.62	8.74	8.04	1.78	13.75	12.62	1.97	18.46	16.74	2.15				
	1125	6.74	6.20	1.64	8.79	8.09	1.81	13.82	12.69	2.00	18.54	16.81	2.17				

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		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		
65 (18.3)	875			22.48	19.70		2.03	26.63		26.63	2.17		31.28	31.28		2.31	36.40
	1000	22.56	19.77	2.05	26.70	26.70	2.19	31.36	31.36	2.33	36.49	36.49	2.48				
	1125	22.64	19.83	2.08	26.77	26.77	2.21	31.44	31.44	2.35	36.58	36.58	2.50				
70 (21.1)	875	22.24	19.49	2.09	26.34	26.34	2.23	30.91	30.91	2.38	35.94	35.94	2.54				
	1000	22.32	19.56	2.12	26.41	26.41	2.26	30.97	30.97	2.38	35.99	35.99	2.51				
	1125	22.40	19.62	2.14	26.49	26.49	2.28	31.06	31.06	2.41	36.09	36.09	2.55				
75 (23.9)	875	22.00	19.28	2.17	26.05	26.05	2.31	30.52	30.52	2.44	35.44	35.44	2.58				
	1000	22.08	19.34	2.20	26.12	26.12	2.32	30.60	30.60	2.46	35.53	35.53	2.61				
	1125	22.15	19.41	2.21	26.20	26.20	2.34	30.67	30.67	2.47	35.59	35.59	2.60				

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

030 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																							
		75 (23.9)				85 (29.4)				95 (35)				105 (40.6)				115 (46.1)				125 (51.7)			
		Capacity MBtuh		Total Sys KW		Capacity MBtuh		Total Sys KW		Capacity MBtuh		Total Sys KW		Capacity MBtuh		Total Sys KW		Capacity MBtuh		Total Sys KW		Capacity MBtuh		Total Sys KW	
CFM	EWB	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens		
655	57 (13.8)	22.68	22.68	1.40	22.01	22.01	22.01	1.57	21.21	21.21	21.21	1.76	20.22	20.22	20.22	1.98	19.08	19.08	19.08	17.83	17.83	17.83	2.22	2.51	
	62 (16.6)	23.35	21.67	1.40	22.42	21.37	21.37	1.57	21.41	20.94	20.94	1.76	20.29	20.17	20.17	1.98	19.11	19.11	19.11	17.86	17.86	17.86	2.22	2.51	
	63* (17.2)	23.75	17.64	1.40	22.85	17.28	17.28	1.57	21.82	16.83	16.83	1.76	20.56	16.29	16.29	1.97	19.12	19.12	19.12	17.54	14.94	14.94	2.22	2.51	
	67 (19.4)	25.55	18.28	1.39	24.57	17.94	17.94	1.56	23.50	17.52	17.52	1.75	22.28	17.03	17.03	1.97	20.83	20.83	20.83	19.17	15.76	15.76	2.21	2.49	
	72 (22.2)	28.05	14.77	1.38	26.99	14.38	14.38	1.55	25.83	13.95	13.95	1.75	24.56	13.48	13.48	1.96	23.12	23.12	23.12	21.47	12.37	12.37	2.20	2.48	
775	57 (13.8)	23.95	23.95	1.42	23.20	23.20	23.20	1.59	22.35	22.35	22.35	1.78	21.33	21.33	21.33	2.00	20.14	20.14	20.14	18.79	18.79	18.79	2.24	2.52	
	62 (16.6)	24.15	23.69	1.42	23.24	23.24	23.24	1.59	22.39	22.39	22.39	1.78	21.36	21.36	21.36	2.00	20.17	20.17	20.17	18.82	18.82	18.82	2.24	2.52	
	63* (17.2)	24.46	19.16	1.42	23.47	18.83	18.83	1.59	22.36	18.41	18.41	1.78	21.07	17.85	17.85	2.00	19.58	19.58	19.58	17.93	16.46	16.46	2.25	2.53	
	67 (19.4)	26.31	19.90	1.41	25.25	19.58	19.58	1.58	24.08	19.20	19.20	1.77	22.78	18.73	18.73	1.99	21.29	21.29	21.29	19.59	17.42	17.42	2.24	2.51	
	72 (22.2)	28.86	15.87	1.41	27.73	15.47	15.47	1.58	26.50	15.02	15.02	1.77	25.14	14.54	14.54	1.98	23.62	23.62	23.62	21.89	13.40	13.40	2.23	2.50	
840	57 (13.8)	24.54	24.54	1.43	23.76	23.76	23.76	1.60	22.87	22.87	22.87	1.79	21.83	21.83	21.83	2.01	20.61	20.61	20.61	19.23	19.23	19.23	2.25	2.53	
	62 (16.6)	25.08	23.76	1.43	23.80	23.80	23.80	1.60	22.91	22.91	22.91	1.79	21.86	21.86	21.86	2.01	20.64	20.64	20.64	19.25	19.25	19.25	2.25	2.53	
	63* (17.2)	24.76	19.96	1.43	23.75	19.63	19.63	1.60	22.60	19.21	19.21	1.79	21.28	18.66	18.66	2.01	19.77	19.77	19.77	18.11	17.25	17.25	2.26	2.54	
	67 (19.4)	26.64	20.76	1.43	25.54	20.44	20.44	1.60	24.34	20.06	20.06	1.79	23.01	19.59	19.59	2.00	21.48	21.48	21.48	19.77	18.28	18.28	2.25	2.53	
	72 (22.2)	29.22	16.40	1.42	28.04	16.02	16.02	1.59	26.77	15.59	15.59	1.78	25.38	15.10	15.10	2.00	23.82	23.82	23.82	22.06	13.96	13.96	2.24	2.51	

See Legend and Notes on Page 35.



PERFORMANCE DATA (CONT)

030 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES ° F (° C)																				
		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	
65 (18.3)	655	5.49	5.05	1.47	8.07	7.41	1.51	11.41	10.35	1.55	13.66	11.97	1.62	18.53	18.53	1.69	22.40	22.40	1.73	27.08	27.08	1.75
	775	5.57	5.13	1.47	8.16	7.49	1.52	11.49	10.42	1.57	13.73	12.03	1.64	18.61	18.61	1.72	22.44	22.44	1.74	27.17	27.17	1.77
	840	5.61	5.16	1.48	8.20	7.53	1.53	11.53	10.46	1.58	13.77	12.07	1.65	18.65	18.65	1.73	22.48	22.48	1.75	27.21	27.21	1.79
70 (21.1)	655	5.39	4.96	1.52	7.94	7.29	1.57	11.24	10.19	1.62	13.48	11.80	1.68	18.28	18.28	1.76	22.07	22.07	1.78	26.74	26.74	1.81
	775	5.47	5.04	1.53	8.03	7.37	1.58	11.33	10.27	1.63	13.55	11.87	1.70	18.36	18.36	1.78	22.15	22.15	1.81	26.82	26.82	1.84
75 (23.9)	840	5.52	5.08	1.53	8.08	7.42	1.58	11.36	10.30	1.64	13.58	11.90	1.71	18.40	18.40	1.79	22.19	22.19	1.81	26.86	26.86	1.84
	655	5.28	4.86	1.58	7.82	7.18	1.64	11.07	10.04	1.68	13.28	11.64	1.75	18.03	18.03	1.84	21.78	21.78	1.85	26.40	26.40	1.88
	775	5.38	4.95	1.59	7.91	7.26	1.64	11.17	10.12	1.70	13.36	11.70	1.77	18.11	18.11	1.85	21.85	21.85	1.87	26.48	26.48	1.90
	840	5.42	4.99	1.59	7.96	7.30	1.65	11.21	10.16	1.71	13.39	11.73	1.79	18.14	18.14	1.86	21.89	21.89	1.88	26.52	26.52	1.91

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

036 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																		
		75 (23.9)			85 (29.4)			95 (35)			105 (40.9)			115 (46.1)			125 (51.7)			
		Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	Capacity MBtuh	Sens	Total Sys KW	
CFM	EWB	Total Capacity MBtuh	Sens	Total Sys KW	Total Capacity MBtuh	Sens	Total Sys KW	Total Capacity MBtuh	Sens	Total Sys KW	Total Capacity MBtuh	Sens	Total Sys KW	Total Capacity MBtuh	Sens	Total Sys KW	Total Capacity MBtuh	Sens	Total Sys KW	
1050	57 (13.9)	34.39	34.39	2.37	2.56	29.88	29.88	2.77	2.77	27.60	27.60	2.99	2.99	25.28	25.28	22.91	22.91	3.24	3.24	3.52
	62 (16.7)	35.59	31.08	2.38	2.57	30.42	29.04	2.77	2.77	27.85	27.91	2.99	2.99	25.32	25.32	22.94	22.94	3.24	3.24	3.52
	63* (17.2)	36.08	25.33	2.39	2.57	30.80	23.49	2.77	2.77	28.15	22.54	2.99	2.99	25.46	21.55	20.51	20.51	3.24	3.24	3.52
	67 (19.4)	38.94	26.37	2.41	2.60	33.23	24.49	2.80	2.80	30.37	23.50	3.02	3.02	27.47	22.48	21.42	21.42	3.26	3.26	3.54
	72 (13.9)	42.65	21.59	2.44	2.63	36.41	19.78	2.83	2.83	33.27	18.83	3.05	3.05	30.12	17.84	16.81	16.81	3.29	3.29	3.57
	57 (13.9)	35.97	35.97	2.42	2.60	31.18	31.18	2.81	2.81	28.75	28.75	3.03	3.03	26.29	26.29	23.78	23.78	3.28	3.28	3.56
	62 (16.7)	36.62	33.39	2.42	2.61	31.27	31.27	2.81	2.81	28.80	28.80	3.03	3.03	26.33	26.33	23.81	23.81	3.28	3.28	3.56
1200	63* (17.2)	37.03	27.00	2.42	2.61	31.52	25.09	2.81	2.81	28.76	24.10	3.03	3.03	25.98	23.06	21.97	21.97	3.28	3.28	3.55
	67 (19.4)	39.95	28.16	2.45	2.63	34.00	26.20	2.83	2.83	31.02	25.17	3.05	3.05	28.01	24.11	23.00	23.00	3.30	3.30	3.57
	72 (13.9)	43.73	22.73	2.48	2.67	37.23	20.84	2.87	2.87	33.97	19.86	3.09	3.09	30.70	18.84	17.78	17.78	3.33	3.33	3.60
	57 (13.9)	37.34	37.34	2.46	2.64	32.29	32.29	2.85	2.85	29.73	29.73	3.07	3.07	27.14	27.14	24.51	24.51	3.32	3.32	3.59
1350	62 (16.7)	37.64	35.05	2.46	2.65	32.34	32.34	2.85	2.85	29.78	29.78	3.07	3.07	27.18	27.18	24.54	24.54	3.32	3.32	3.59
	63* (17.2)	37.79	28.60	2.46	2.64	32.09	26.62	2.84	2.84	29.25	25.59	3.06	3.06	26.38	24.50	23.35	23.35	3.31	3.31	3.58
	67 (19.4)	40.75	29.88	2.49	2.67	34.61	27.85	2.87	2.87	31.53	26.79	3.09	3.09	28.45	25.67	24.49	24.49	3.33	3.33	3.60
	72 (13.9)	44.59	23.79	2.52	2.71	37.88	21.85	2.90	2.90	34.52	20.84	3.12	3.12	31.15	19.79	18.70	18.70	3.36	3.36	3.63

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

036 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)											
EDB °F (°C)	CFM	-10 (-23.3)			0 (-17.8)			10 (-12.2)			20 (-6.7)		
		Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW
65 (18.3)	1050	9.02	8.29	1.99	12.22	11.25	2.12	15.90	14.60	2.24	20.56	18.65	2.36
	1200	9.14	8.41	2.01	12.39	11.40	2.13	16.11	14.79	2.23	20.77	18.83	2.35
	1350	9.28	8.54	2.02	12.54	11.54	2.14	16.30	14.96	2.24	20.95	19.00	2.34
70 (21.1)	1050	8.61	7.92	2.09	11.81	10.87	2.22	15.47	14.20	2.34	19.83	17.99	2.46
	1200	8.76	8.06	2.10	12.00	11.04	2.23	15.69	14.41	2.34	20.46	18.55	2.46
	1350	8.90	8.19	2.12	12.16	11.19	2.24	15.89	14.58	2.34	20.64	18.72	2.45
75 (23.9)	1050	8.18	7.52	2.18	11.37	10.46	2.32	15.02	13.78	2.45	19.22	17.43	2.56
	1200	8.33	7.66	2.19	11.56	10.64	2.33	15.24	13.99	2.44	19.51	17.69	2.55
	1350	8.46	7.78	2.21	11.72	10.78	2.34	15.43	14.16	2.45	19.79	17.95	2.55

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)											
EDB °F (°C)	CFM	30 (-1.1)			40 (4.4)			50 (10)			60 (15.6)		
		Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW	Capacity MBtuh Total	Integ	Total Sys KW
65 (18.3)	1050	24.91	21.83	2.46	29.96	29.96	2.57	35.89	35.89	2.70	43.12	43.12	2.87
	1200	25.17	22.05	2.43	30.31	30.31	2.53	36.38	36.38	2.65	43.81	43.81	2.80
	1350	25.39	22.25	2.42	30.60	30.60	2.51	36.78	36.78	2.62	44.35	44.35	2.76
70 (21.1)	1050	24.58	21.54	2.58	29.54	29.54	2.69	35.33	35.33	2.82	42.44	42.44	2.99
	1200	24.83	21.75	2.55	29.88	29.88	2.65	35.81	35.81	2.77	43.10	43.10	2.92
	1350	25.05	21.95	2.53	30.16	30.16	2.62	36.19	36.19	2.73	43.60	43.60	2.88
75 (23.9)	1050	24.24	21.24	2.70	29.12	29.12	2.81	34.79	34.79	2.94	41.72	41.72	3.12
	1200	24.50	21.46	2.67	29.45	29.45	2.77	35.25	35.25	2.89	42.38	42.38	3.05
	1350	24.70	21.64	2.65	29.73	29.73	2.74	35.63	35.63	2.85	42.90	42.90	3.01

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

036 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens
CFM	EWB	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
785	57 (13.8)	24.53	24.53	1.58	23.23	23.23	1.75	21.88	21.88	1.94	20.46	20.46	2.15	18.94	18.94	2.39	17.33	17.33	2.66
	62 (16.6)	25.14	23.46	1.57	22.37	22.06	1.75	22.06	21.22	1.94	20.49	20.49	2.15	18.98	18.98	2.39	17.36	17.36	2.66
	63* (17.2)	25.47	18.96	1.57	18.03	22.29	1.75	17.10	17.10	1.94	20.59	16.15	2.15	18.79	15.18	2.39	16.90	14.19	2.66
	67 (19.4)	27.50	19.76	1.55	18.79	24.05	1.72	17.81	17.81	1.92	22.22	16.84	2.13	20.30	15.84	2.37	18.28	14.82	2.64
	72 (22.2)	30.11	15.99	1.52	15.09	26.37	1.70	14.21	14.21	1.89	24.39	13.28	2.11	22.32	12.36	2.35	20.13	11.42	2.62
	57 (13.8)	25.61	25.61	1.59	24.22	22.78	1.77	22.78	22.78	1.96	21.26	21.26	2.17	19.66	19.66	2.41	17.95	17.95	2.67
	62 (16.6)	25.85	25.13	1.59	24.29	22.82	1.77	22.82	22.82	1.96	21.30	21.30	2.17	19.69	19.69	2.41	17.98	17.98	2.67
900	63* (17.2)	26.08	20.23	1.59	19.26	22.75	1.77	18.29	18.29	1.96	20.98	17.30	2.17	19.12	16.28	2.41	17.17	15.23	2.68
	67 (19.4)	28.14	21.11	1.57	20.10	24.54	1.74	19.09	19.09	1.94	22.65	18.07	2.15	20.65	17.02	2.40	18.57	15.95	2.67
	72 (22.2)	30.81	16.82	1.54	15.89	26.90	1.72	14.98	14.98	1.91	24.84	14.02	2.13	22.69	13.07	2.37	20.43	12.11	2.64
	57 (13.8)	26.49	26.49	1.61	25.03	23.51	1.78	23.51	23.51	1.97	21.91	21.91	2.19	20.23	20.23	2.42	18.44	18.44	2.69
	62 (16.6)	26.53	26.53	1.61	25.07	23.54	1.78	23.54	23.54	1.97	21.95	21.95	2.18	20.26	20.26	2.42	18.47	18.47	2.69
1010	63* (17.2)	26.53	21.40	1.61	20.39	23.09	1.79	19.38	19.38	1.98	21.28	18.33	2.19	19.38	17.26	2.43	17.40	16.12	2.70
	67 (19.4)	28.64	22.35	1.59	21.33	24.92	1.76	20.27	20.27	1.96	22.96	19.18	2.17	20.93	18.08	2.42	18.80	16.93	2.69
	72 (22.2)	31.34	17.57	1.56	16.61	29.34	1.74	15.67	15.67	1.93	25.17	14.69	2.15	22.96	13.71	2.39	20.64	12.73	2.66

See Legend and Notes on Page 35.



PERFORMANCE DATA (CONT)

036 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																				
		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	
65 (18.3)	785	6.33	5.82	1.76	9.00	8.26	1.78	12.07	10.95	1.80	15.61	13.68	1.82	19.82	19.82	1.84	24.39	24.39	1.86	29.08	29.08	1.87
	900	6.46	5.95	1.77	9.17	8.41	1.78	12.30	11.15	1.80	15.89	13.92	1.80	20.50	20.50	1.83	24.73	24.73	1.83	29.54	29.54	1.82
	1010	6.60	6.07	1.79	9.34	8.57	1.80	12.50	11.33	1.80	16.13	14.13	1.80	20.74	20.74	1.82	25.01	25.01	1.80	29.90	29.90	1.79
70 (21.1)	785	5.88	5.41	1.84	8.54	7.84	1.86	11.62	10.54	1.88	15.14	13.27	1.90	19.18	19.18	1.93	24.04	24.04	1.96	28.64	28.64	1.97
	900	6.03	5.55	1.86	8.74	8.02	1.87	11.86	10.76	1.88	15.44	13.53	1.89	19.59	19.59	1.90	24.36	24.36	1.92	29.09	29.09	1.92
	1010	6.16	5.67	1.87	8.90	8.17	1.88	12.06	10.94	1.89	15.68	13.74	1.89	19.96	19.96	1.90	24.64	24.64	1.90	29.44	29.44	1.89
75 (23.9)	785	5.38	4.95	1.92	8.06	7.40	1.95	11.13	10.10	1.97	14.65	12.84	1.99	18.65	18.65	2.02	23.65	23.65	2.07	28.19	28.19	2.08
	900	5.53	5.09	1.94	8.25	7.58	1.96	11.38	10.32	1.97	14.94	13.09	1.98	19.03	19.03	2.00	23.99	23.99	2.02	28.63	28.63	2.02
	1010	5.66	5.21	1.96	8.41	7.72	1.97	11.58	10.50	1.98	15.19	13.31	1.98	19.33	19.33	1.99	24.27	24.27	2.00	28.98	28.98	1.99

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

042 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.9)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW
1225	57 (13.9)	42.15	2.91	39.67	3.15	3.43	37.10	3.43	34.44	3.74	31.67	3.74	34.44	3.74	31.67	3.74	31.67	28.80	4.46
	62 (16.7)	43.66	2.91	40.79	3.16	3.43	37.82	3.43	34.81	3.74	31.72	3.74	34.81	3.74	31.72	3.74	31.72	28.84	4.46
	63* (17.2)	44.22	2.92	41.29	3.16	3.44	38.26	3.44	35.13	3.75	31.92	3.75	35.13	3.75	31.92	3.75	31.92	28.64	4.46
	67 (19.4)	47.58	2.93	44.40	3.17	3.45	41.12	3.45	37.74	3.76	34.27	3.76	37.74	3.76	34.27	3.76	34.27	30.73	4.48
	72 (13.9)	51.88	2.94	48.39	3.19	3.48	44.80	3.48	41.12	3.79	37.36	3.79	41.12	3.79	37.36	3.79	37.36	33.50	4.50
	57 (13.9)	44.00	2.96	41.36	3.20	3.48	38.61	3.48	35.76	3.79	32.82	3.79	35.76	3.79	32.82	3.79	32.82	29.77	4.51
	62 (16.7)	44.86	2.96	41.88	3.20	3.48	38.84	3.48	35.83	3.79	32.87	3.79	35.83	3.79	32.87	3.79	32.87	29.81	4.51
1400	63* (17.2)	45.32	2.96	42.25	3.21	3.48	39.08	3.48	35.82	3.79	32.48	3.79	35.82	3.79	32.48	3.79	32.48	29.08	4.50
	67 (19.4)	48.76	2.97	45.44	3.22	3.50	42.00	3.50	38.47	3.81	34.87	3.81	38.47	3.81	34.87	3.81	34.87	31.20	4.52
	72 (13.9)	53.13	2.99	49.49	3.24	3.52	45.74	3.52	41.91	3.84	38.00	3.84	41.91	3.84	38.00	3.84	38.00	34.00	4.55
	57 (13.9)	45.59	3.00	42.79	3.25	3.53	39.89	3.53	36.89	3.84	33.78	3.84	36.89	3.84	33.78	3.84	33.78	30.57	4.56
1575	62 (16.7)	45.93	3.01	42.88	3.25	3.53	39.95	3.53	36.94	3.84	33.83	3.84	36.94	3.84	33.83	3.84	33.83	30.61	4.56
	63* (17.2)	46.20	3.01	43.02	3.25	3.53	39.73	3.53	36.36	3.84	32.93	3.84	36.36	3.84	32.93	3.84	32.93	29.42	4.55
	67 (19.4)	49.71	3.02	46.25	3.27	3.55	42.69	3.55	39.04	3.86	35.34	3.86	39.04	3.86	35.34	3.86	35.34	31.57	4.57
	72 (13.9)	54.13	3.04	50.36	3.29	3.57	46.48	3.57	42.52	3.88	38.49	3.88	42.52	3.88	38.49	3.88	38.49	34.37	4.59

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

042 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)											
EDB °F (°C)	CFM	-10 (-23.3)			0 (-17.8)			10 (-12.2)			20 (-6.7)		
		Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW
		Total	Integ	Total	Integ	Total	Integ	Total	Integ	Total	Integ	Total	Integ
65 (18.3)	1225	12.38	11.39	2.44	16.20	14.91	2.58	20.94	19.22	2.73	25.45	23.08	2.86
	1400	12.54	11.54	2.46	16.40	15.09	2.59	21.12	19.39	2.73	25.69	23.30	2.85
	1575	12.70	11.68	2.48	16.57	15.25	2.60	21.30	19.55	2.73	25.90	23.48	2.85
70 (21.1)	1225	12.00	11.04	2.55	15.81	14.55	2.69	20.66	18.96	2.85	25.14	22.80	2.98
	1400	12.18	11.21	2.56	16.02	14.74	2.69	20.87	19.15	2.84	25.38	23.02	2.97
	1575	12.34	11.36	2.58	16.21	14.92	2.71	21.05	19.32	2.85	25.59	23.21	2.97
75 (23.9)	1225	11.58	10.65	2.66	15.39	14.16	2.80	19.77	18.15	2.95	24.82	22.51	3.11
	1400	11.76	10.82	2.68	15.61	14.36	2.81	20.08	18.43	2.95	25.07	22.74	3.10
	1575	11.93	10.98	2.70	15.80	14.53	2.82	20.39	18.72	2.96	25.27	22.92	3.09

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)											
EDB °F (°C)	CFM	30 (-1.1)			40 (4.4)			50 (10)			60 (15.6)		
		Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW	Capacity MBtuh	Total Sys KW	Total Sys KW
		Total	Integ	Total	Integ	Total	Integ	Total	Integ	Total	Integ	Total	Integ
65 (18.3)	1225	30.72	26.92	3.00	36.92	36.92	3.17	44.40	44.40	3.38	53.33	53.33	3.66
	1400	31.04	27.20	2.98	37.35	37.35	3.14	44.96	44.96	3.33	53.96	53.96	3.59
	1575	31.32	27.44	2.97	37.71	37.71	3.12	45.36	45.36	3.32	53.92	53.92	3.58
70 (21.1)	1225	30.32	26.57	3.13	36.37	36.37	3.30	43.69	43.69	3.52	52.49	52.49	3.81
	1400	30.63	26.84	3.11	36.81	36.81	3.27	44.28	44.28	3.47	53.14	53.14	3.76
	1575	30.91	27.08	3.10	37.16	37.16	3.25	44.67	44.67	3.45	53.30	53.30	3.72
75 (23.9)	1225	29.92	26.21	3.27	35.85	35.85	3.45	43.00	43.00	3.67	51.60	51.60	3.96
	1400	30.23	26.49	3.24	36.26	36.26	3.40	43.56	43.56	3.61	52.28	52.28	3.91
	1575	30.49	26.72	3.23	36.61	36.61	3.38	43.98	43.98	3.59	52.60	52.60	3.87

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

042 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens
915	57 (13.8)	29.52	1.89	29.22	2.01	28.70	2.13	27.93	2.27	26.88	2.41	25.49	2.56	25.49	2.41	25.53	2.56	25.53	2.56
	62 (16.6)	30.35	1.89	29.81	2.00	29.02	2.13	28.00	2.27	26.92	2.41	25.53	2.56	25.53	2.41	25.53	2.56	25.53	2.56
	63* (17.2)	30.73	1.89	30.17	2.00	29.34	2.13	28.23	2.27	26.79	2.41	24.97	2.57	24.97	2.41	24.97	2.57	24.97	2.57
	67 (19.4)	33.18	1.86	32.56	1.98	31.66	2.10	30.47	2.24	28.92	2.38	26.99	2.54	26.99	2.38	26.99	2.54	26.99	2.54
	72 (22.2)	36.31	1.83	35.62	1.95	34.66	2.07	33.38	2.20	31.75	2.35	29.70	2.50	29.70	2.35	29.70	2.50	29.70	2.50
	57 (13.8)	30.80	1.92	30.44	2.03	29.85	2.15	29.01	2.29	27.86	2.43	26.37	2.57	26.37	2.43	26.37	2.57	26.37	2.57
	62 (16.6)	31.19	1.92	30.63	2.03	29.90	2.15	29.06	2.28	27.91	2.42	26.41	2.57	26.41	2.42	26.41	2.57	26.41	2.57
1050	63* (17.2)	31.46	1.91	30.84	2.03	29.94	2.15	28.76	2.29	27.23	2.44	25.34	2.59	25.34	2.44	25.34	2.59	25.34	2.59
	67 (19.4)	33.99	1.89	33.28	2.00	32.32	2.13	31.03	2.26	29.41	2.41	27.39	2.56	27.39	2.41	27.39	2.56	27.39	2.56
	72 (22.2)	37.17	1.86	36.41	1.97	35.37	2.09	34.01	2.23	32.28	2.37	30.12	2.52	30.12	2.37	30.12	2.52	30.12	2.52
	57 (13.8)	31.85	1.94	31.44	2.05	30.79	2.17	29.88	2.30	28.65	2.44	27.06	2.59	27.06	2.44	27.06	2.59	27.06	2.59
	62 (16.6)	31.93	1.94	31.49	2.05	30.84	2.17	29.92	2.30	28.69	2.44	27.10	2.58	27.10	2.44	27.10	2.58	27.10	2.58
	63* (17.2)	32.02	1.94	31.34	2.06	30.40	2.18	29.15	2.31	27.58	2.46	25.63	2.61	25.63	2.46	25.63	2.61	25.63	2.61
	67 (19.4)	34.59	1.92	33.84	2.03	32.80	2.15	31.47	2.29	29.77	2.43	27.69	2.58	27.69	2.43	27.69	2.58	27.69	2.58
72 (22.2)	37.82	1.89	37.00	2.00	35.90	2.12	34.47	2.25	32.66	2.39	30.42	2.54	30.42	2.39	30.42	2.54	30.42	2.54	

See Legend and Notes on Page 35.



PERFORMANCE DATA (CONT)

042 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES ° F (° C)																			
		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		
		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ
65 (18.3)	915	9.04	8.31	1.92	12.13	11.13	1.98	15.70	14.24	2.05	17.77	2.15	24.62	24.62	2.22	29.49	29.49	2.29	35.11	35.11	2.37
	1050	9.18	8.45	1.94	12.35	11.33	1.99	15.98	14.50	2.05	18.07	2.14	24.92	24.92	2.19	29.90	29.90	2.26	35.67	35.67	2.32
	1180	9.34	8.59	1.96	12.53	11.50	2.01	16.19	14.68	2.06	18.25	2.14	25.18	25.18	2.19	30.24	30.24	2.24	36.11	36.11	2.29
70 (21.1)	915	8.66	7.97	2.00	11.79	10.82	2.07	15.35	13.93	2.14	19.49	2.23	24.31	24.31	2.33	29.09	29.09	2.40	34.59	34.59	2.48
	1050	8.83	8.12	2.02	11.99	11.01	2.08	15.61	14.15	2.14	19.90	2.22	24.61	24.61	2.30	29.49	29.49	2.36	35.14	35.14	2.43
	1180	8.98	8.26	2.04	12.16	11.16	2.09	15.82	14.35	2.15	20.46	2.23	24.86	24.86	2.29	29.82	29.82	2.34	35.58	35.58	2.40
75 (23.9)	915	8.23	7.58	2.08	11.35	10.42	2.16	14.93	13.54	2.24	19.01	2.33	23.97	23.97	2.44	28.67	28.67	2.52	34.06	34.06	2.60
	1050	8.42	7.75	2.10	11.58	10.63	2.17	15.19	13.78	2.24	19.35	2.32	24.28	24.28	2.41	29.08	29.08	2.48	34.61	34.61	2.55
	1180	8.57	7.89	2.13	11.77	10.80	2.19	15.42	13.98	2.25	19.63	2.32	24.54	24.54	2.40	29.40	29.40	2.45	35.05	35.05	2.51

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

048 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens
1400	57 (13.9)	47.11	47.11	2.97	3.38	44.71	44.71	42.15	42.15	3.86	39.43	39.43	39.43	36.54	36.54	33.45	33.45	33.45	5.72
	62 (16.7)	48.61	43.41	2.98	3.39	41.86	41.86	40.20	42.79	3.87	39.69	38.37	38.37	36.59	36.59	33.49	33.49	33.49	5.72
	63* (17.2)	49.20	35.20	2.98	3.40	33.84	33.84	32.41	43.23	3.87	40.00	30.92	30.92	36.61	29.37	33.04	27.72	27.72	5.72
	67 (19.4)	53.05	36.63	3.01	3.42	49.87	35.20	33.72	46.54	3.90	43.04	32.17	32.17	39.37	30.57	35.55	28.88	28.88	5.74
	72 (13.9)	57.95	29.84	3.04	3.45	54.46	28.46	27.03	50.80	3.93	46.99	25.54	25.54	42.99	24.00	38.80	22.38	22.38	5.77
	57 (13.9)	49.16	49.16	3.03	3.45	46.58	46.58	43.82	43.82	3.93	40.91	40.91	40.91	37.82	37.82	34.53	34.53	34.53	5.79
	62 (16.7)	49.94	46.53	3.04	3.45	47.00	44.81	43.92	43.92	3.93	40.98	40.98	40.98	37.87	37.87	34.58	34.58	34.58	5.79
1600	63* (17.2)	50.40	37.46	3.04	3.46	47.35	36.04	34.55	44.12	3.93	40.73	33.00	33.00	37.20	31.37	33.51	29.60	29.60	5.78
	67 (19.4)	54.35	39.05	3.07	3.48	51.01	37.55	36.00	47.50	3.96	43.83	34.41	34.41	40.01	32.71	36.01	30.93	30.93	5.80
	72 (13.9)	59.33	31.33	3.10	3.51	55.66	29.89	28.40	51.82	3.99	47.83	26.86	26.86	43.65	25.25	39.30	23.58	23.58	5.83
	57 (13.9)	50.93	50.93	3.10	3.51	48.17	48.17	45.25	45.25	4.00	42.16	42.16	42.16	38.88	38.88	35.42	35.42	35.42	5.85
	62 (16.7)	51.07	51.07	3.10	3.51	48.26	48.26	45.32	45.32	4.00	42.22	42.22	42.22	38.94	38.94	35.46	35.46	35.46	5.85
	63* (17.2)	51.36	39.62	3.10	3.51	48.17	38.15	36.60	44.83	3.99	41.31	34.98	34.98	37.65	33.24	33.86	31.35	31.35	5.84
	67 (19.4)	55.37	41.38	3.12	3.54	51.89	39.81	38.21	48.24	4.02	44.44	36.52	36.52	40.49	34.75	36.37	32.81	32.81	5.86
72 (13.9)	60.42	32.73	3.15	3.57	56.58	31.25	29.71	52.59	4.05	48.47	28.11	28.11	44.14	26.45	39.66	24.72	24.72	5.89	

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

048 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		-10 (-23.3)				0 (-17.8)				10 (-12.2)				20 (-6.7)			
		EDB °F (°C)	CFM	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						
65 (18.3)	1400	14.53	13.37	2.55	19.50	17.94	2.69	25.15	23.08	2.87	30.02	27.23	3.03				
	1600	14.79	13.60	2.58	19.77	18.19	2.71	25.42	23.33	2.87	30.34	27.51	3.02				
	1800	15.01	13.81	2.62	20.02	18.42	2.74	25.66	23.55	2.89	30.62	27.77	3.03				
70 (21.1)	1400	14.00	12.88	2.66	18.97	17.46	2.81	24.76	22.73	3.00	29.67	26.91	3.17				
	1600	14.26	13.12	2.69	19.26	17.72	2.83	25.08	23.02	3.00	29.97	27.18	3.16				
	1800	14.49	13.33	2.72	19.53	17.97	2.86	25.33	23.25	3.02	30.26	27.44	3.17				
75 (23.9)	1400	13.37	12.30	2.76	18.38	16.92	2.93	23.58	21.65	3.11	29.28	26.56	3.32				
	1600	13.63	12.54	2.80	18.68	17.19	2.95	23.94	21.97	3.12	29.61	26.85	3.31				
	1800	13.87	12.76	2.83	18.95	17.43	2.98	24.26	22.27	3.14	29.88	27.10	3.32				

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		30 (-1.1)				40 (4.4)				50 (10)				60 (15.6)			
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW		
Total	Integ			Total	Integ		Total	Integ		Total	Integ						
65 (18.3)	1400	35.53	31.13	3.21	41.86	41.86	3.43	49.38	49.38	3.69	57.39	57.39	3.97				
	1600	35.92	31.48	3.20	42.35	42.35	3.40	49.83	49.83	3.62	56.49	56.49	3.90				
	1800	36.26	31.77	3.20	42.74	42.74	3.40	49.29	49.29	3.61	55.21	55.21	3.87				
70 (21.1)	1400	35.05	30.71	3.36	41.24	41.24	3.58	48.65	48.65	3.85	56.80	56.80	4.15				
	1600	35.46	31.07	3.34	41.74	41.74	3.55	49.26	49.26	3.80	56.11	56.11	4.07				
	1800	35.80	31.37	3.34	42.14	42.14	3.55	49.00	49.00	3.77	55.02	55.02	4.04				
75 (23.9)	1400	34.59	30.31	3.52	40.64	40.64	3.75	47.91	47.91	4.03	56.18	56.18	4.33				
	1600	34.97	30.64	3.50	41.13	41.13	3.71	48.49	48.49	3.98	55.71	55.71	4.26				
	1800	35.31	30.94	3.50	41.53	41.53	3.70	48.62	48.62	3.94	54.73	54.73	4.23				

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

048 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.6)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens
CFM	EWB	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
1050	57 (13.8)	33.27	33.27	2.13	32.91	32.91	2.29	32.31	32.31	2.44	31.43	31.43	2.61	30.20	30.20	2.77	28.53	28.53	2.94
	62 (16.6)	34.14	31.57	2.12	31.34	33.49	2.28	32.60	30.95	2.44	31.48	31.48	2.61	30.25	30.25	2.77	28.57	28.57	2.94
	63* (17.2)	34.56	25.44	2.12	33.88	25.18	2.28	32.92	24.83	2.44	31.64	24.39	2.61	29.96	23.82	2.78	27.79	23.09	2.95
	67 (19.4)	37.33	26.48	2.10	36.59	26.21	2.26	35.55	25.84	2.42	34.17	25.38	2.59	32.36	24.80	2.76	30.02	24.05	2.93
	72 (22.2)	40.83	21.39	2.07	40.03	21.00	2.23	38.91	20.52	2.40	37.44	19.93	2.57	35.50	19.21	2.74	33.03	18.36	2.91
	57 (13.8)	34.64	34.64	2.17	34.21	34.21	2.32	33.54	33.54	2.48	32.56	32.56	2.64	31.21	31.21	2.80	29.39	29.39	2.97
	62 (16.6)	35.04	33.73	2.16	34.34	34.34	2.32	33.59	33.59	2.48	32.61	32.61	2.64	31.26	31.26	2.80	29.43	29.43	2.97
1200	63* (17.2)	35.33	27.01	2.16	34.58	26.78	2.32	33.54	26.45	2.48	32.17	26.02	2.64	30.39	25.43	2.81	28.12	24.64	2.98
	67 (19.4)	38.18	28.17	2.14	37.34	27.92	2.30	36.22	27.58	2.46	34.73	27.11	2.62	32.82	26.52	2.79	30.37	25.73	2.96
	72 (22.2)	41.74	22.41	2.11	40.84	22.01	2.27	39.64	21.52	2.43	38.06	20.93	2.60	36.01	20.21	2.77	33.40	19.33	2.94
	57 (13.8)	35.51	35.51	2.19	35.04	35.04	2.35	34.31	34.31	2.50	33.27	33.27	2.66	31.84	31.84	2.83	29.92	29.92	2.99
	62 (16.6)	35.63	35.63	2.19	35.10	35.10	2.35	34.37	34.37	2.50	33.32	33.32	2.66	31.88	31.88	2.82	29.95	29.95	2.99
	63* (17.2)	35.78	28.12	2.19	34.98	27.92	2.35	33.90	27.57	2.51	32.48	27.13	2.67	30.64	26.54	2.84	28.32	25.67	3.00
	67 (19.4)	38.66	29.36	2.17	37.79	29.14	2.33	36.60	28.77	2.49	35.06	28.32	2.65	33.08	27.71	2.82	30.57	26.86	2.99
72 (22.2)	42.26	23.11	2.14	41.32	22.71	2.30	40.06	22.22	2.46	38.41	21.62	2.63	36.28	20.89	2.80	33.60	20.03	2.97	

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

048 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)																				
		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			
		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ		Total	Integ	
65 (18.3)	1050	11.11	10.22	2.08	14.97	13.74	2.18	19.32	17.52	2.28	24.76	21.69	2.40	29.74	29.74	2.50	35.43	35.43	2.60	41.98	41.98	2.72
	1200	11.33	10.43	2.10	15.24	13.98	2.19	19.64	17.81	2.29	25.09	21.98	2.39	30.12	30.12	2.47	35.92	35.92	2.56	42.67	42.67	2.66
	1310	11.50	10.58	2.12	15.42	14.15	2.21	19.86	18.01	2.30	25.30	22.17	2.40	30.37	30.37	2.47	36.23	36.23	2.55	43.10	43.10	2.64
70 (21.1)	1050	10.58	9.73	2.18	14.45	13.26	2.29	18.80	17.05	2.39	23.87	20.91	2.51	29.36	29.36	2.63	34.95	34.95	2.74	41.35	41.35	2.86
	1200	10.82	9.96	2.21	14.75	13.53	2.30	19.14	17.36	2.40	24.71	21.66	2.52	29.73	29.73	2.60	35.44	35.44	2.70	42.01	42.01	2.80
	1310	10.99	10.11	2.23	14.94	13.71	2.32	19.37	17.56	2.41	24.94	21.85	2.52	29.99	29.99	2.60	35.74	35.74	2.68	42.43	42.43	2.78
75 (23.9)	1050	9.98	9.18	2.28	13.89	12.74	2.39	18.25	16.55	2.51	23.17	20.30	2.63	28.97	28.97	2.77	34.46	34.46	2.88	40.76	40.76	3.01
	1200	10.23	9.42	2.31	14.18	13.01	2.41	18.59	16.86	2.52	23.59	20.67	2.62	29.34	29.34	2.74	34.94	34.94	2.84	41.38	41.38	2.95
	1310	10.39	9.56	2.33	14.37	13.19	2.43	18.82	17.06	2.53	23.90	20.94	2.63	29.58	29.58	2.73	35.25	35.25	2.82	41.77	41.77	2.92

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

060 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.7)		
		Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens	Capacity MBtuh	Total Sys KW	Sens
CFM	EWB	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
1750	57 (13.9)	57.44	3.93	54.77	4.30	51.93	4.72	48.86	48.86	5.20	45.50	5.74	41.82	41.82	6.35	38.69	38.69	7.92	7.92
	62 (16.7)	58.92	3.94	55.72	4.30	52.40	4.72	48.95	48.95	5.20	45.56	5.74	41.87	41.87	6.35	38.69	38.69	7.92	7.92
	63* (17.2)	59.72	3.95	56.43	4.31	53.00	4.72	49.26	37.88	5.20	45.27	5.74	40.98	40.98	6.33	38.69	38.69	7.92	7.92
	67 (19.4)	64.33	3.96	60.76	4.33	57.00	4.75	52.98	39.51	5.23	48.64	5.78	44.00	44.00	6.38	38.69	38.69	7.92	7.92
	72 (13.9)	70.52	3.98	66.58	4.35	62.44	4.78	58.02	31.15	5.27	53.26	5.82	48.13	48.13	6.43	38.69	38.69	7.92	7.92
	57 (13.9)	59.81	4.03	56.94	4.40	53.87	4.82	50.58	50.58	5.30	46.95	5.84	43.01	43.01	6.45	38.69	38.69	7.92	7.92
	62 (16.7)	60.44	4.04	57.14	4.40	53.98	4.82	50.65	50.65	5.30	47.02	5.85	43.07	43.07	6.45	38.69	38.69	7.92	7.92
2000	63* (17.2)	60.98	4.04	57.52	4.40	53.86	4.82	50.02	40.45	5.29	45.85	5.83	41.42	41.42	6.43	38.69	38.69	7.92	7.92
	67 (19.4)	65.66	4.06	61.92	4.42	57.95	4.84	53.76	42.29	5.33	49.23	5.87	44.43	44.43	6.47	38.69	38.69	7.92	7.92
	72 (13.9)	71.93	4.07	67.84	4.44	63.49	4.87	58.87	32.81	5.36	53.87	5.91	48.56	48.56	6.52	38.69	38.69	7.92	7.92
	57 (13.9)	61.83	4.13	58.77	4.49	55.50	4.91	51.98	51.98	5.40	48.14	5.94	43.96	43.96	6.55	38.69	38.69	7.92	7.92
	62 (16.7)	61.94	4.13	58.88	4.49	55.59	4.91	52.06	52.06	5.40	48.20	5.95	44.01	44.01	6.55	38.69	38.69	7.92	7.92
	63* (17.2)	61.94	4.13	58.35	4.49	54.57	4.91	50.55	42.88	5.39	46.29	5.92	41.76	41.76	6.52	38.69	38.69	7.92	7.92
	67 (19.4)	66.67	4.15	62.78	4.51	58.68	4.93	54.31	44.93	5.42	49.66	5.96	44.75	44.75	6.56	38.69	38.69	7.92	7.92
72 (13.9)	73.03	4.16	68.77	4.53	64.27	4.96	59.45	34.41	5.45	54.27	6.00	48.82	48.82	6.61	38.69	38.69	7.92	7.92	

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

060 High Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		-10 (-23.3)				0 (-17.8)				10 (-12.2)				20 (-6.7)			
		EDB °F (°C)	CFM	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						
65 (18.3)	1750	17.80	16.38	3.09	23.12	21.27	3.24	29.49	27.07	3.45	35.51	32.20	3.66				
	2000	18.09	16.65	3.14	23.46	21.58	3.29	29.85	27.39	3.49	35.90	32.56	3.68				
	2250	18.38	16.91	3.20	23.78	21.88	3.34	30.14	27.67	3.53	36.27	32.89	3.72				
70 (21.1)	1750	17.37	15.98	3.23	22.62	20.81	3.39	29.17	26.77	3.61	35.11	31.84	3.82				
	2000	17.67	16.26	3.28	22.97	21.14	3.43	29.52	27.09	3.64	35.49	32.18	3.84				
	2250	17.95	16.52	3.34	23.30	21.44	3.48	29.84	27.39	3.68	35.85	32.51	3.88				
75 (23.9)	1750	16.92	15.57	3.38	22.13	20.37	3.54	28.05	25.74	3.73	34.74	31.51	3.98				
	2000	17.23	15.85	3.43	22.48	20.68	3.58	28.55	26.21	3.77	35.11	31.85	4.00				
	2250	17.51	16.11	3.49	22.80	20.98	3.63	29.46	27.04	3.84	35.45	32.15	4.04				

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C)															
		30 (-1.1)				40 (4.4)				50 (10)				60 (15.6)			
		EDB °F (°C)	CFM	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW	Capacity MBtuh		Total Sys KW		
Total	Integ			Total	Integ		Total	Integ		Total	Integ						
65 (18.3)	1750	42.61	37.33	3.90	50.89	50.89	4.17	60.88	60.88	4.50	72.89	72.89	4.89				
	2000	43.12	37.78	3.91	51.52	51.52	4.17	61.59	61.59	4.49	73.28	73.28	4.86				
	2250	43.57	38.18	3.94	52.05	52.05	4.20	62.16	62.16	4.52	73.30	73.30	4.89				
70 (21.1)	1750	42.05	36.84	4.06	50.17	50.17	4.34	59.99	59.99	4.68	71.93	71.93	5.11				
	2000	42.55	37.28	4.07	50.79	50.79	4.34	60.73	60.73	4.67	72.49	72.49	5.06				
	2250	42.99	37.67	4.10	51.31	51.31	4.37	61.29	61.29	4.70	72.59	72.59	5.08				
75 (23.9)	1750	41.51	36.37	4.23	49.47	49.47	4.52	59.13	59.13	4.87	70.88	70.88	5.33				
	2000	41.99	36.79	4.24	50.07	50.07	4.52	59.86	59.86	4.86	71.62	71.62	5.28				
	2250	42.42	37.16	4.27	50.58	50.58	4.54	60.44	60.44	4.88	71.82	71.82	5.29				

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

060 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES ° F (° C)																	
		75 (23.9)		85 (29.4)		95 (35)		105 (40.6)		115 (46.1)		125 (51.7)							
CFM	EWB	Capacity MBtuh		Capacity MBtuh		Capacity MBtuh		Capacity MBtuh		Capacity MBtuh		Capacity MBtuh							
		Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens	Total	Sens						
		Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW	Total Sys KW						
1200	57 (13.8)	40.13	40.13	2.50	39.38	39.38	2.95	38.39	38.39	3.46	37.11	37.11	4.05	35.44	35.44	4.74	33.29	33.29	5.53
	62 (16.6)	41.27	37.88	2.49	40.14	37.00	2.94	38.78	35.99	3.46	37.18	37.18	4.05	35.49	35.49	4.74	33.34	33.34	5.53
	63* (17.2)	41.89	30.79	2.49	40.71	29.98	2.94	39.27	29.11	3.45	37.48	28.13	4.05	35.23	27.02	4.74	32.48	25.74	5.54
	67 (19.4)	45.24	32.06	2.46	43.95	31.22	2.91	42.39	30.32	3.43	40.45	29.33	4.02	38.06	28.21	4.72	35.12	26.94	5.52
	72 (22.2)	49.70	26.10	2.42	48.29	25.23	2.87	46.59	24.29	3.39	44.50	23.26	3.99	41.93	22.13	4.68	38.79	20.87	5.48
	57 (13.8)	42.19	42.19	2.53	41.32	41.32	2.98	40.21	40.21	3.49	38.78	38.78	4.09	36.94	36.94	4.78	34.60	34.60	5.57
	62 (16.6)	42.61	41.01	2.53	41.43	41.43	2.98	40.30	40.30	3.49	38.84	38.84	4.09	36.98	36.98	4.78	34.64	34.64	5.57
1400	63* (17.2)	43.05	33.17	2.53	41.75	32.33	2.98	40.19	31.42	3.49	38.27	30.40	4.09	35.91	29.23	4.79	33.04	27.85	5.59
	67 (19.4)	46.48	34.60	2.50	45.07	33.74	2.95	43.37	32.81	3.47	41.30	31.77	4.07	38.76	30.60	4.76	35.69	29.24	5.56
	72 (22.2)	51.04	27.68	2.46	49.50	26.79	2.91	47.65	25.81	3.43	45.42	24.76	4.03	42.66	23.59	4.73	39.35	22.29	5.53
	57 (13.8)	43.47	43.47	2.55	42.52	42.52	3.00	41.32	41.32	3.52	39.79	39.79	4.11	37.84	37.84	4.81	35.38	35.38	5.60
	62 (16.6)	43.55	43.55	2.55	42.59	42.59	3.00	41.38	41.38	3.52	39.85	39.85	4.11	37.88	37.88	4.80	35.41	35.41	5.60
1545	63* (17.2)	43.71	34.82	2.55	42.35	33.95	3.01	40.72	33.01	3.53	38.74	31.95	4.13	36.29	30.73	4.82	33.36	29.25	5.62
	67 (19.4)	47.19	36.38	2.52	45.70	35.50	2.98	43.93	34.53	3.50	41.78	33.45	4.10	39.16	32.22	4.79	36.02	30.77	5.60
	72 (22.2)	51.81	28.77	2.48	50.18	27.86	2.94	48.25	26.87	3.46	45.91	25.79	4.06	43.06	24.60	4.76	39.63	23.29	5.56

See Legend and Notes on Page 35.

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PERFORMANCE DATA (CONT)

060 Low Heat

INDOOR AIR		OUTDOOR COIL ENTERING AIR TEMPERATURES ° F (° C)																				
		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	
65 (18.3)	1200	13.75	12.65	2.74	18.28	16.78	2.81	23.27	21.10	2.88	29.47	25.83	2.99	34.90	34.90	3.04	40.90	40.90	3.11	47.80	47.80	3.19
	1400	14.02	12.90	2.76	18.61	17.08	2.81	23.65	21.45	2.87	29.87	26.17	2.95	35.33	35.33	2.98	41.47	41.47	3.03	48.64	48.64	3.09
	1545	14.20	13.07	2.77	18.83	17.29	2.82	23.92	21.69	2.87	30.11	26.38	2.94	35.61	35.61	2.96	41.82	41.82	2.99	49.14	49.14	3.04
70 (21.1)	1200	13.07	12.02	2.88	17.65	16.20	2.96	22.63	20.53	3.03	28.19	24.70	3.11	34.46	34.46	3.21	40.36	40.36	3.28	47.09	47.09	3.37
	1400	13.34	12.27	2.90	17.97	16.49	2.96	23.03	20.88	3.02	28.69	25.14	3.08	34.88	34.88	3.15	40.92	40.92	3.20	47.90	47.90	3.26
	1545	13.52	12.44	2.92	18.18	16.69	2.97	23.29	21.12	3.02	29.10	25.50	3.07	35.15	35.15	3.12	41.27	41.27	3.16	48.38	48.38	3.21
75 (23.9)	1200	12.34	11.35	3.02	16.96	15.56	3.10	21.96	19.92	3.18	27.47	24.07	3.27	34.00	34.00	3.39	39.82	39.82	3.46	46.37	46.37	3.55
	1400	12.59	11.59	3.04	17.28	15.86	3.11	22.36	20.28	3.17	27.95	24.49	3.23	34.45	34.45	3.33	40.38	40.38	3.38	47.15	47.15	3.44
	1545	12.78	11.76	3.06	17.50	16.06	3.12	22.62	20.52	3.17	28.27	24.77	3.22	34.71	34.71	3.30	40.72	40.72	3.34	47.63	47.63	3.39

See Legend and Notes on Page 35.

PERFORMANCE DATA (CONT)

* At 75°F (24°C) entering dry bulb – Tennessee Valley Authority (TVA) rating conditions; all others at 80°F (27°C) dry bulb.

LEGEND

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

COOLING NOTES:

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

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

$$t_{lwb} = \frac{\text{Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil } (h_{lwb})}{h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}}$$

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

4. The SHC is based on 805 F (26.6°C) edb temperature of air entering evaporator coil. Below 80°F (26.6°C) edb, subtract (corr factor x cfm) from SHC. Above 80° F (26.6°C) edb, add (corr factor x cfm) to SHC.

Correction Factor = $1.10 \times (1 + \text{BF}) \times (\text{edb} - 80)$.

5. Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it.

Multiplication Factors

HEATER KW RATING		VOLTAGE DISTRIBUTION V/3/60	MULTIPLICATION FACTOR
240		200	0.69
		208	0.75
		230	0.92
		240	1.00

Dry Coil Air Delivery* - Horizontal and Downflow Discharge - Unit 50VR-(A,C)24-60 Without Advanced Dehumidification (AD) FIOP 208/230 VAC Models

UNIT	MOTOR SPEED	WIRE COLOR		EXTERNAL STATIC PRESSURE (IN. W.C.)															
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0						
C24	Low ¹	Blue	CFM	777	692	583	465	318	---	---	---	---	---	---	---	---	---	---	
			BHP	0.09	0.10	0.10	0.11	0.12	---	---	---	---	---	---	---	---	---	---	---
	Med-Low	Pink	CFM	877	779	698	598	519	410	---	---	---	---	---	---	---	---	---	---
			BHP	0.12	0.12	0.13	0.14	0.15	0.15	---	---	---	---	---	---	---	---	---	---
	Medium ²	Red	CFM	904	841	769	705	628	522	372	---	---	---	---	---	---	---	---	---
			BHP	0.16	0.17	0.17	0.18	0.19	0.19	0.20	---	---	---	---	---	---	---	---	---
	Med-High	Orange	CFM	1229	1171	1105	1049	980	913	838	775	679	516	---	---	---	---	---	---
			BHP	0.28	0.30	0.30	0.31	0.32	0.33	0.33	0.34	0.34	0.34	0.33	---	---	---	---	---
	High	Black	CFM	1291	1206	1142	1081	1017	951	888	823	753	668	---	---	---	---	---	---
			BHP	0.31	0.32	0.33	0.34	0.34	0.35	0.35	0.36	0.36	0.37	0.37	---	---	---	---	---
	Low	Blue	CFM	777	692	583	465	318	---	---	---	---	---	---	---	---	---	---	---
			BHP	0.09	0.10	0.10	0.11	0.12	---	---	---	---	---	---	---	---	---	---	---
Med-Low ¹	Pink	CFM	831	765	670	586	466	299	---	---	---	---	---	---	---	---	---	---	
		BHP	0.11	0.12	0.12	0.13	0.13	0.14	---	---	---	---	---	---	---	---	---	---	
Medium ²	Red	CFM	1139	1069	1012	937	870	786	724	626	512	381	---	---	---	---	---	---	
		BHP	0.22	0.23	0.24	0.24	0.25	0.26	0.26	0.26	0.27	0.27	0.28	---	---	---	---	---	
Med-High	Orange	CFM	1229	1171	1105	1049	980	913	838	775	679	516	---	---	---	---	---	---	
		BHP	0.28	0.30	0.30	0.31	0.32	0.33	0.33	0.34	0.34	0.34	0.33	---	---	---	---	---	
High	Black	CFM	1531	1460	1382	1301	1209	1114	1003	890	764	629	---	---	---	---	---	---	
		BHP	0.53	0.52	0.50	0.48	0.46	0.44	0.44	0.42	0.40	0.37	0.35	---	---	---	---	---	
Low	Blue	CFM	1097	971	823	747	669	636	558	513	456	412	---	---	---	---	---	---	
		BHP	0.12	0.11	0.10	0.11	0.12	0.13	0.13	0.13	0.14	0.15	0.16	---	---	---	---	---	
Med-Low ¹	Pink	CFM	934	864	810	745	698	649	571	525	486	428	---	---	---	---	---	---	
		BHP	0.10	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.15	0.16	0.17	---	---	---	---	---	
Medium ²	Red	CFM	1251	1198	1149	1104	1066	1017	970	932	892	839	---	---	---	---	---	---	
		BHP	0.19	0.21	0.21	0.23	0.24	0.25	0.26	0.26	0.27	0.28	0.29	---	---	---	---	---	
Med-High	Orange	CFM	1451	1415	1372	1327	1287	1249	1212	1168	1130	1094	---	---	---	---	---	---	
		BHP	0.29	0.30	0.31	0.32	0.32	0.35	0.35	0.36	0.37	0.38	0.39	---	---	---	---	---	
High	Black	CFM	1466	1423	1384	1343	1308	1263	1219	1183	1145	1106	---	---	---	---	---	---	
		BHP	0.30	0.31	0.33	0.34	0.35	0.36	0.36	0.37	0.38	0.40	0.41	---	---	---	---	---	

Dry Coil Air Delivery* - Horizontal and Downflow Discharge (CONT) - Unit 50VR-(A,C)24-60 Without Advanced Dehumidification (AD) FIOP 208/230 VAC Model

UNIT	MOTOR SPEED	WIRE COLOR	EXTERNAL STATIC PRESSURE (IN. W.C.)									
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
A42	Low	CFM	1097	971	823	747	669	636	558	513	456	412
		BHP	0.12	0.11	0.10	0.11	0.12	0.13	0.13	0.14	0.15	0.16
	Med-Low ¹	CFM	1076	1026	972	918	872	827	771	714	666	611
		BHP	0.13	0.14	0.15	0.15	0.17	0.18	0.18	0.20	0.21	0.22
	Medium	CFM	1251	1198	1149	1104	1066	1017	970	932	892	839
		BHP	0.19	0.21	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.29
	Med-High ²	CFM	1451	1415	1372	1327	1287	1249	1212	1168	1130	1094
		BHP	0.29	0.30	0.31	0.32	0.32	0.35	0.36	0.37	0.38	0.39
	High	CFM	1633	1590	1552	1518	1483	1444	1406	1372	1340	1303
		BHP	0.41	0.43	0.44	0.45	0.47	0.48	0.49	0.50	0.51	0.53
A48	Low ¹	CFM	1271	1229	1177	1121	1066	1027	974	942	887	839
		BHP	0.19	0.20	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.29
	Med-Low	CFM	1340	1299	1240	1191	1139	1091	1050	1001	952	895
		BHP	0.22	0.23	0.24	0.25	0.26	0.28	0.29	0.30	0.31	0.32
	Medium ²	CFM	1686	1650	1617	1576	1544	1503	1468	1433	1393	1356
		BHP	0.42	0.44	0.45	0.46	0.48	0.49	0.51	0.52	0.53	0.55
	Med-High	CFM	1854	1837	1781	1784	1720	1698	1655	1625	1578	1532
		BHP	0.56	0.57	0.60	0.59	0.62	0.63	0.64	0.66	0.67	0.67
	High	CFM	1934	1900	1855	1815	1778	1737	1695	1656	1606	1528
		BHP	0.59	0.61	0.62	0.64	0.65	0.67	0.68	0.70	0.70	0.68
Low	CFM	1182	1137	1102	1053	1012	966	920	868	830	783	
	BHP	0.21	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.30	0.31	
Med-Low ¹	CFM	1454	1405	1364	1316	1281	1234	1198	1147	1105	1056	
	BHP	0.34	0.35	0.36	0.37	0.38	0.40	0.41	0.42	0.43	0.45	
Medium ²	CFM	1818	1770	1731	1693	1657	1621	1579	1546	1505	1436	
	BHP	0.56	0.57	0.59	0.60	0.62	0.63	0.64	0.66	0.67	0.66	
Med-High	CFM	1881	1849	1818	1793	1763	1729	1679	1610	1523	1479	
	BHP	0.67	0.69	0.70	0.71	0.72	0.73	0.73	0.71	0.68	0.65	
High	CFM	2138	2084	2025	1967	1893	1829	1754	1678	1591	1475	
	BHP	0.98	0.95	0.93	0.90	0.86	0.84	0.80	0.76	0.74	0.68	

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

¹ Factory-shipped low stage cooling speed.

² Factory-shipped high stage cooling speed.

Note: Ductwork field-supplied air filter pressure drop and wet coil pressure drop to obtain external static pressure available for ducting.

Shaded areas indicate acceptable Dehum. Speeds (Dehum. Mode is High Stage Only, 208/230 VAC Models Only).

Dry Coil Air Delivery* - Horizontal and Downflow Discharge - Unit 50VR-(A,C)24-60 With Advanced Dehumidification (AD) FLOP 208/230 VAC Model

UNIT SIZE	CFM ADJUST PIN SELECT	LO PIN			NOM PIN			HI PIN			
		0.0 - 0.39	0.4 - 0.69	0.7 - 1.0	0.0 - 0.39	0.4 - 0.69	0.7 - 1.0	0.0 - 0.39	0.4 - 0.69	0.7 - 1.0	
C24	HIGH STAGE	COOLING	770	795	790	855	885	875	940	975	965
	LOW STAGE	COOLING WITH DEHUMIDIFY	610	615	570	675	685	635	745	755	700
C30	HIGH STAGE	COOLING	610	610	570	675	680	635	745	750	700
	LOW STAGE	COOLING WITH DEHUMIDIFY	475	470	360	530	520	401	585	570	440
A36	HIGH STAGE	COOLING	905	935	935	1005	1040	1040	1105	1145	1145
	LOW STAGE	COOLING WITH DEHUMIDIFY	715	740	725	795	820	803	875	900	885
A42	HIGH STAGE	COOLING	715	740	730	795	820	810	875	900	890
	LOW STAGE	COOLING WITH DEHUMIDIFY	555	555	485	615	615	540	675	675	595
A48	HIGH STAGE	COOLING	1060	1100	1095	1175	1220	1215	1295	1340	1335
	LOW STAGE	COOLING WITH DEHUMIDIFY	845	880	875	940	975	970	1035	1075	1065
A60	HIGH STAGE	COOLING	835	850	845	930	945	940	1025	1040	1035
	LOW STAGE	COOLING WITH DEHUMIDIFY	675	685	670	750	760	745	825	835	820
A42	HIGH STAGE	COOLING	1240	1265	1275	1375	1405	1414	1515	1545	1555
	LOW STAGE	COOLING WITH DEHUMIDIFY	1010	1040	1015	1120	1155	1125	1230	1270	1240
A48	HIGH STAGE	COOLING	970	975	965	1075	1085	1070	1185	1195	1175
	LOW STAGE	COOLING WITH DEHUMIDIFY	785	790	790	870	880	875	955	970	965
A60	HIGH STAGE	COOLING	1445	1450	1445	1605	1610	1605	1765	1770	1765
	LOW STAGE	COOLING WITH DEHUMIDIFY	1155	1170	1255	1285	1300	1395	1415	1430	1535
A42	HIGH STAGE	COOLING	1095	1105	1095	1215	1225	1215	1335	1350	1335
	LOW STAGE	COOLING WITH DEHUMIDIFY	880	890	875	975	990	970	1075	1090	1065
A48	HIGH STAGE	COOLING	1565	1570	1555	1740	1745	1725	1915	1920	1900
	LOW STAGE	COOLING WITH DEHUMIDIFY	1270	1280	1280	1410	1424	1420	1550	1565	1560
A60	HIGH STAGE	COOLING	1250	1265	1260	1390	1405	1400	1530	1545	1540
	LOW STAGE	COOLING WITH DEHUMIDIFY	1015	1015	1015	1125	1130	1125	1240	1245	1240

NOTE: Field – supplied air filter, and wet coil pressure drop will minimally affect air delivery values. Continuous Fan CFM is 50% of High Stage Cooling Airflow.

Dry Coil Air Delivery* - Horizontal and Downflow Discharge - Unit 50VR-A36-60 Without Advanced Dehumidification (AD) F1OP 460VAC Models

UNIT	MOTOR SPEED	WIRE COLOR	CFM	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	
A36	Low ¹	Blue	CFM	934	864	810	745	698	649	571	525	486	428	
			BHP	0.10	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.17	
	Med-Low	Pink	CFM	1076	1026	972	918	872	827	771	714	666	611	
			BHP	0.13	0.14	0.15	0.15	0.17	0.18	0.18	0.20	0.21	0.22	
	Medium	Red	CFM	1213	1169	1110	1065	1016	964	923	878	820	777	
			BHP	0.16	0.17	0.17	0.19	0.20	0.21	0.22	0.23	0.24	0.25	
	Med-High ²	Orange	CFM	1251	1198	1149	1104	1066	1017	970	932	892	839	
			BHP	0.19	0.21	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.29	
	High	Black	CFM	1451	1415	1372	1327	1287	1249	1212	1168	1130	1094	
			BHP	0.29	0.30	0.31	0.32	0.35	0.35	0.36	0.37	0.38	0.39	
	A42	Low ¹	Blue	CFM	1076	1026	972	918	872	827	771	714	666	611
				BHP	0.13	0.14	0.15	0.15	0.17	0.18	0.18	0.20	0.21	0.22
Med-Low		Pink	CFM	1213	1169	1110	1065	1016	964	923	878	820	777	
			BHP	0.16	0.17	0.17	0.19	0.20	0.21	0.22	0.23	0.24	0.25	
Medium		Red	CFM	1251	1198	1149	1104	1066	1017	970	932	892	839	
			BHP	0.19	0.21	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.29	
Med-High ²		Orange	CFM	1451	1415	1372	1327	1287	1249	1212	1168	1130	1094	
			BHP	0.29	0.30	0.31	0.32	0.35	0.35	0.36	0.37	0.38	0.39	
A48		High	Black	CFM	1633	1590	1552	1518	1483	1444	1406	1372	1340	1303
				BHP	0.41	0.43	0.44	0.45	0.47	0.48	0.49	0.50	0.51	0.53
		Low ¹	Blue	CFM	1271	1229	1177	1121	1066	1027	974	942	887	839
				BHP	0.19	0.20	0.21	0.23	0.24	0.25	0.26	0.27	0.28	0.29
	Med-Low	Pink	CFM	1340	1299	1240	1191	1139	1091	1050	1001	952	895	
			BHP	0.22	0.23	0.24	0.25	0.26	0.28	0.29	0.30	0.31	0.32	
	Medium ²	Red	CFM	1686	1650	1617	1576	1544	1503	1468	1433	1393	1356	
			BHP	0.42	0.44	0.45	0.46	0.48	0.49	0.51	0.52	0.53	0.55	
	Med-High	Orange	CFM	1854	1837	1781	1784	1720	1698	1655	1625	1578	1532	
			BHP	0.56	0.57	0.60	0.59	0.62	0.63	0.64	0.66	0.67	0.67	
	High	Black	CFM	2131	2088	2065	2013	1982	1941	1888	1860	1785	1751	
			BHP	0.72	0.74	0.75	0.77	0.79	0.80	0.81	0.81	0.81	0.79	

50VR

Dry Coil Air Delivery* - Horizontal and Downflow Discharge - Unit 50VR-A36-60 Without Advanced Dehumidification (AD) F1OP 460VAC Models

UNIT	MOTOR SPEED	WIRE COLOR	EXTERNAL STATIC PRESSURE (IN. W.C.)															
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0						
A60	Low	Blue	CFM	1415	1384	1340	1314	1270	1236	1192	1159	1116	1076					
			BHP	0.32	0.34	0.35	0.36	0.37	0.39	0.41	0.42	0.44						
	Med-Low ¹	Pink	CFM	1454	1405	1364	1316	1281	1234	1198	1147	1105	1056					
			BHP	0.34	0.35	0.36	0.37	0.38	0.40	0.41	0.42	0.43	0.45					
	Medium ²	Red	CFM	1818	1770	1731	1693	1657	1621	1579	1546	1505	1436					
			BHP	0.56	0.57	0.59	0.60	0.62	0.63	0.64	0.66	0.67	0.66					
	Med-High	Orange	CFM	1881	1849	1818	1793	1763	1729	1679	1610	1523	1479					
			BHP	0.67	0.69	0.70	0.71	0.72	0.73	0.73	0.71	0.68	0.65					
	High	Black	CFM	2138	2084	2025	1967	1893	1829	1754	1678	1591	1475					
			BHP	0.98	0.95	0.93	0.90	0.86	0.84	0.80	0.76	0.74	0.68					

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

1 Factory—shipped low stage cooling speed.

2 Factory—shipped high stage cooling speed.

Note: Duct field—supplied air filter pressure drop and wet coil pressure drop to obtain external static pressure available for ducting.

Table 1 – 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	0.05	0.06	0.08	0.10	0.11	0.13	0.14	0.16	-	-	-	-	-	-	-	-
	2.5																	
1200-1800 CFM 16x24x1+14x24x1 (406x610x25+356x610x25)	3.0,	-	-	-	-	-	-	0.07	0.08	0.09	0.09	0.10	0.11	0.12	-	-	-	-
	3.5																	
1500-2200 CFM 16x24x1+18x24x1 (406x610x25+457x610x25)	4.0	-	-	-	-	-	-	-	-	-	0.04	0.06	0.08	0.10	0.11	0.13	0.14	0.15
	5.0																	

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

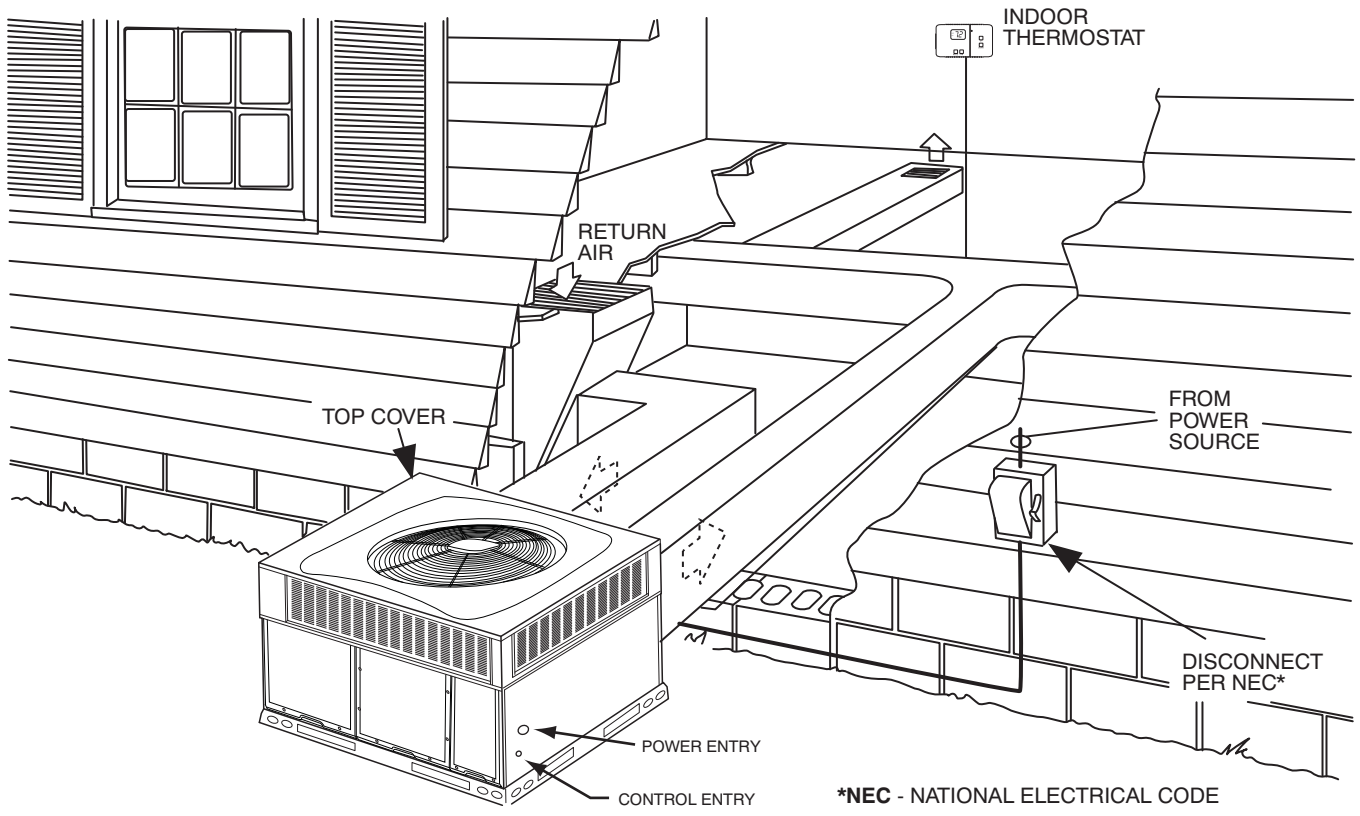
UNIT SIZE	STANDARD CFM (SCFM)																	
	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	
24	0.03	0.04	0.05	0.06	0.07													
30				0.06	0.07	0.07	0.08	0.09										
36				0.06	0.07	0.08	0.09	0.10	0.11									
42					0.07	0.08	0.09	0.10	0.11	0.11	0.12	0.12						
48							0.03	0.04	0.08	0.08	0.10	0.11	0.14	0.15	0.16			
60									0.08	0.08	0.10	0.11	0.14	0.15	0.16	0.16		

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
600-1400CFM 12x20x1+12x20x1 (305x508x25+305x508x25)	2.0, 2.5	-	-	0.09	0.14	0.16	0.18	0.25	0.28	0.3	-	-	-	-	-	-	-	-
1200-1800 CFM 16x24x1+14x24x1 (406x610x25+356x610x25)	3.0, 3.5	-	-	-	-	-	-	0.10	0.11	0.12	0.13	0.14	0.16	0.16	-	-	-	-
1500-2200 CFM 16x24x1+18x24x1 (406x610x25+457x610x25)	4.0 5.0	-	-	-	-	-	-	-	-	-	0.15	0.17	0.18	0.20	0.21	0.22	0.23	0.23

TYPICAL PIPING AND WIRING

50VR



APPLICATION DATA

Condensate trap — A 2-in. (50.8 mm) condensate trap must be field supplied.

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

To convert a unit to downflow discharge — Units are equipped with factory-installed inserts in the downflow openings. Removal of the inserts is similar to removing an electrical knock-out.

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.

Minimum ambient cooling operation temperature — All standard units have a minimum ambient operating temperature of 40°F (4°C). With accessory low ambient temperature kit, units can operate at temperatures down to 0°F (-17°C).

50VR ELECTRICAL DATA WITHOUT ADVANCED DEHUMIDIFICATION (AD) FIOP

50VR

UNIT	NOMINAL	VOLTAGE RANGE		COMPRESSOR		OFM	IFM	ELECTRIC HEAT		POWER SUPPLY	
		MIN	MAX	RLA	LRA	FLA	FLA	NOMINAL kW	FLA	MCA	MOCP
C24	208/230-1-60	197	253	11.7	58.3	0.6	4.1	-/-	-/-	19.3	30
								3.8/5	18.1/20.8	42/45.3	45/50
								5.4/7.2	25.9/30	51.7/56.8	60/60
								7.5/10	36.1/41.7	64.5/71.5	70/80
C30	208/230-1-60	197	253	13.4	73.0	0.9	4.1	-/-	-/-	21.8	30
								3.8/5	18.1/20.8	44.4/47.8	45/50
								5.4/7.2	25.9/30	54.1/59.3	60/60
								7.5/10	36.1/41.7	66.9/73.9	70/80
C30	208/230-3-60	197	253	9.0	58.0	0.9	4.1	-/-	-/-	16.3	20
								3.8/5	10.4/12	29.3/31.3	30/35
								7.5/10	20.8/24.1	42.3/46.4	45/50
								11.3/15	31.2/36.1	55.3/61.4	60/70
A36	208/230-1-60	197	253	15.3	83.0	1.2	6.0	-/-	-/-	26.3	40
								3.8/5	18.1/20.8	49/52.3	50/60
								5.4/7.2	25.9/30	58.7/63.8	60/70
								7.5/10	36.1/41.7	71.5/78.5	80/80
A36	208/230-3-60	197	253	11.6	73.0	1.2	6.0	-/-	-/-	21.7	30
								3.8/5	10.4/12	34.7/36.7	35/40
								7.5/10	20.8/24.1	47.7/51.8	50/60
								11.3/15	31.2/36.1	60.7/66.8	70/70
A36	460-3-60	414	506	5.7	38.0	0.53	3.2	-/-	-/-	10.8	15
								10	12	25.9	30
								15	18	33.4	35
								-/-	-/-	32.7	45
A42	208/230-1-60	197	253	20.4	96.0	1.2	6.0	3.8/5	18.1/20.8	55.3/58.7	60/60
								5.4/7.2	25.9/30	65.1/70.2	70/80
								7.5/10	36.1/41.7	77.8/84.8	80/90
								11.3/15	54.2/62.5	100.5/110.8	110/125
								15/20	72.2/83.3	123/136.8	125/150
A42	208/230-3-60	197	253	14.2	88.0	1.2	6.0	-/-	-/-	25	35
								3.8/5	10.4/12	38/40	40/40
								7.5/10	20.8/24.1	51/55.1	60/60
								11.3/15	31.2/36.1	64/70.1	70/80
								15/20	41.4/47.9	76.7/84.8	80/90
A42	460-3-60	414	506	6.4	44.0	0.53	3.2	-/-	-/-	11.7	15
								10	12	26.7	30
								15	18	34.2	35
								20	24.1	41.9	45
A48	208/230-1-60	197	253	21.2	104.0	1.2	7.6	-/-	-/-	35.3	50
								3.8/5	18.1/20.8	57.9/61.3	60/70
								5.4/7.2	25.9/30	67.7/72.8	70/80
								7.5/10	36.1/41.7	80.4/87.4	90/90
								11.3/15	54.2/62.5	103.1/113.4	110/125
A48	208/230-3-60	197	253	14.0	83.1	1.2	7.6	15/20	72.2/83.3	125.6/139.4	150/150
								-/-	-/-	26.3	40
								3.8/5	10.4/12	39.3/41.3	40/45
								7.5/10	20.8/24.1	52.3/56.4	60/60
								11.3/15	31.2/36.1	65.3/71.4	70/80
A48	460-3-60	414	506	6.4	41.0	0.53	4.0	15/20	41.4/47.9	78.1/86.2	80/90
								-/-	-/-	12.5	15
								10	12	27.5	30
								15	18	35	35
								20	24.1	42.7	45

**50VR ELECTRICAL DATA WITHOUT ADVANCED DEHUMIDIFICATION (AD) FIOP
(CONT)**

UNIT	NOMINAL	VOLTAGE RANGE		COMPRESSOR		OFM	IFM	ELECTRIC HEAT		POWER SUPPLY	
		MIN	MAX	RLA	LRA	FLA	FLA	NOMINAL kW	FLA	MCA	MOCP
A60	208/230-1-60	197	253	28.8	152.9	1.2	7.6	-/-	-/-	44.8	60
								3.8/5	18.1/20.8	67.4/70.8	70/80
								5.4/7.2	25.9/30	77.2/82.3	80/90
								7.5/10	36.1/41.7	89.9/96.9	90/100
								11.3/15	54.2/62.5	112.6/122.9	125/125
A60	208/230-3-60	197	253	16.2	110.0	1.2	7.6	15/20	72.2/83.3	135.1/148.9	150/150
								-/-	-/-	29.1	40
								3.8/5	10.4/12	42.1/44.1	45/45
								7.5/10	20.8/24.1	55.1/59.2	60/60
								11.3/15	31.2/36.1	68.1/74.2	70/80
A60	460-3-60	414	506	7.6	52.0	0.53	4.0	15/20	41.4/47.9	80.8/88.9	90/90
								-/-	-/-	14	20
								10	12	29	30
								15	18	36.5	40
								20	24.1	44.2	45

50VR

50VR ELECTRICAL DATA WITH ADVANCED DEHUMIDIFICATION (AD) FIOP

UNIT	NOMINAL	VOLTAGE RANGE		COMPRESSOR		OFM	IFM	ELECTRIC HEAT		POWER SUPPLY	
		MIN	MAX	RLA	LRA	FLA	FLA	NOMINAL kW	FLA	MCA	MOCP
C24 ---30AD	208/230-1-60	197	253	11.7	58.3	0.6	7.7	-/-	-/-	19.5	30
								3.8/5	18.1/20.8	42/45.5	45/50
								5.4/7.2	25.9/30	51.9/57	60/60
								7.5/10	36.1/41.7	64.7/71.7	70/80
C30 ---30AD	208/230-1-60	197	253	13.4	73	0.9	7.7	-/-	-/-	22	30
								3.8/5	18.1/20.8	44.6/48	45/50
								5.4/7.2	25.9/30	54.3/59.5	60/60
								7.5/10	36.1/41.7	67.1/74.1	70/80
A36 ---30AD	208/230-1-60	197	253	15.3	83	1.2	9.6	11.3/15	54.2/62.5	89.7/100.1	90/110
								-/-	-/-	27.1	40
								3.8/5	18.1/20.8	49.8/53.1	50/60
								5.4/7.2	25.9/30	59.5/64.6	60/70
A42 ---30AD	208/230-1-60	197	253	20.4	96	1.2	9.6	7.5/10	36.1/41.7	72.3/79.3	80/80
								11.3/15	54.2/62.5	94.9/105.3	100/110
								-/-	-/-	33.5	45
								3.8/5	18.1/20.8	56.1/59.5	60/60
								5.4/7.2	25.9/30	65.9/71	70/80
A48 ---30AD	208/230-1-60	197	253	21.2	104	1.2	12.8	7.5/10	36.1/41.7	78.6/85.6	80/90
								11.3/15	54.2/62.5	101.3/111.6	110/125
								15/20	72.2/83.3	123.8/137.6	125/150
								-/-	-/-	36.8	50
								3.8/5	18.1/20.8	59.4/62.8	60/70
A60 ---30AD	208/230-1-60	197	253	28.8	152.9	1.2	12.8	5.4/7.2	25.9/30	69.2/74.3	70/80
								7.5/10	36.1/41.7	81.9/88.9	90/90
								11.3/15	54.2/62.5	104.6/114.9	110/125
								15/20	72.2/83.3	127.1/140.9	150/150
								-/-	-/-	46.3	60

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

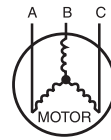
NOTES:

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

% Voltage imbalance

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

EXAMPLE: Supply voltage is 230-3-60.



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

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

Determine maximum deviation from average voltage.

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

Maximum deviation is 2 v.

Determine percent of voltage imbalance

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

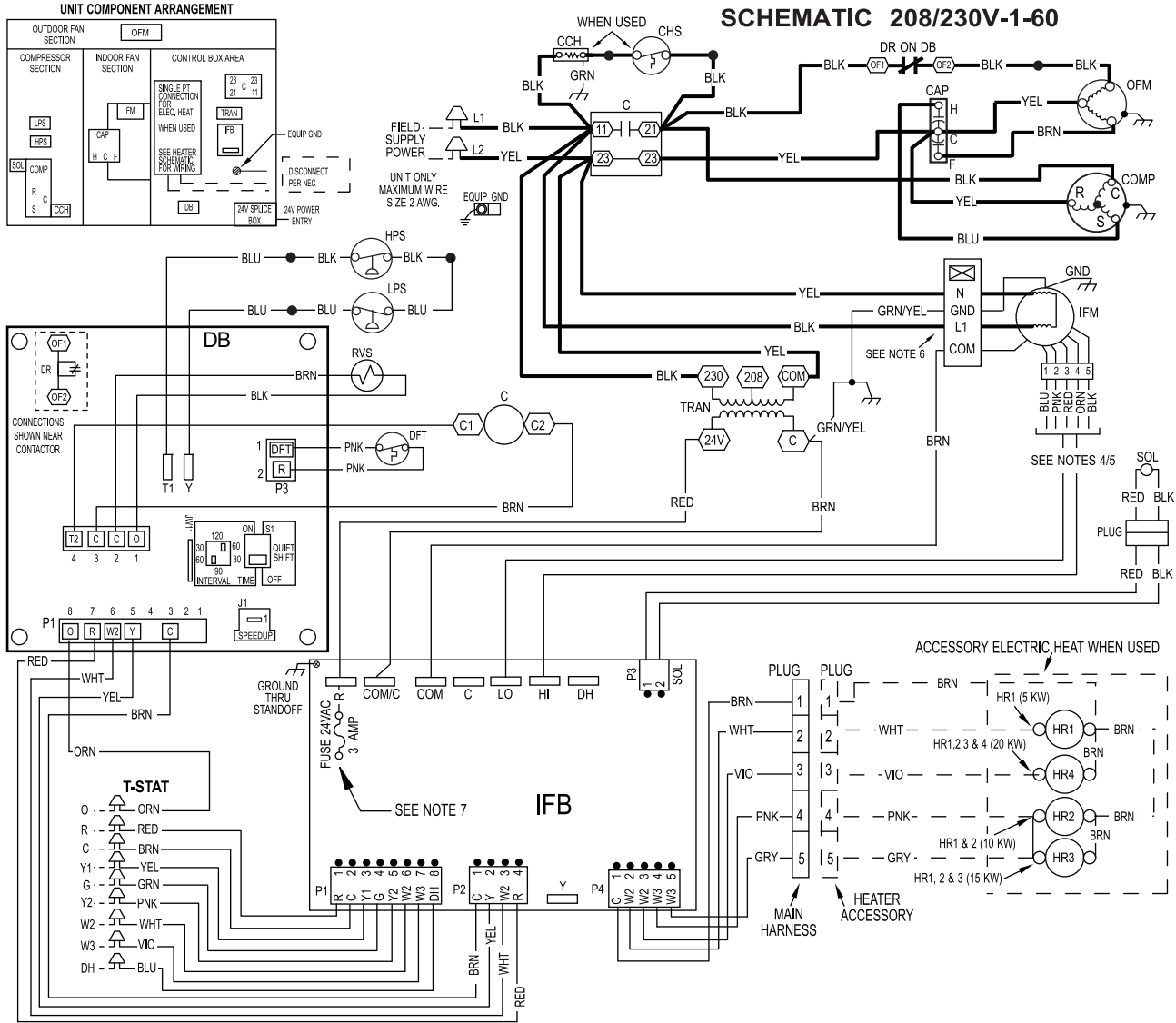
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

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

A06564

CONNECTION WIRING DIAGRAM WITHOUT ADVANCED DEHUMIDIFICATION (AD) FIOP 208/230-1-60

CONNECTION WIRING DIAGRAM
DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING



50VR

NOTES:

1. IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED IT MUST BE REPLACED WITH THE SAME OR ITS EQUIVALENT.
2. SEE PRE SALE LITERATURE FOR THERMOSTATS.
3. USE 75 DEGREES C COPPER CONDUCTORS FOR FIELD INSTALLATION.
4. REFER TO INSTALLATION INSTRUCTIONS FOR CORRECT SPEED SELECTION FOR IFM.
5. RELOCATION OF SPEED TAPS MAY BE REQUIRED WHEN USING FIELD INSTALLED ELECTRIC HEATERS. CONSULT INSTALLATION INSTRUCTIONS TO DETERMINE CORRECT SPEED TAP SETTING.
6. 'DO NOT DISCONNECT PLUG UNDER LOAD'.
7. THIS FUSE IS MANUFACTURED BY LITTLE FUSE, P/N 287003.

LEGEND

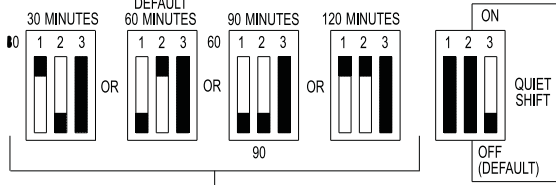
	FIELD SPLICE	C	CONTACTOR	IFM	INDOOR FAN MOTOR
	TERMINAL (MARKED)	CAP	CAPACITOR	LPS	LOW PRESSURE SWITCH
	TERMINAL (UNMARKED)	CCH	CRANKCASE HEATER	OFM	OUTDOOR FAN MOTOR
	SPLICE	CHS	CRANKCASE HEATER SWITCH	RVS	REVERSING VALVE
	SPLICE (MARKED)	COMP	COMPRESSOR MOTOR	COMP	COMPRESSOR SOLENOID
	FACTORY LO VOLTAGE	CTD	COMPRESSOR TIME DELAY	TRAN	TRANSFORMER
	FIELD CONTROL WIRING	DH	DEHUM	T-STAT	THERMOSTAT
	FIELD POWER WIRING	DB	DEFROST BOARD		
	ACCESSORY OR OPTIONAL WIRING	DFT	DEFROST TEMPERATURE SWITCH		
	FACTORY HI VOLTAGE	DR	DEFROST RELAY		
		GND	GROUND		
		HPS	HIGH PRESSURE SWITCH		
		HR	HEATER RELAY		
		IFB	INDOOR FAN BOARD		

LADDER WIRING DIAGRAM WITHOUT ADVANCED DEHUMIDIFICATION (AD) FIOP 208/230-1-60 (CONT)

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

DIP SWITCH SETTINGS



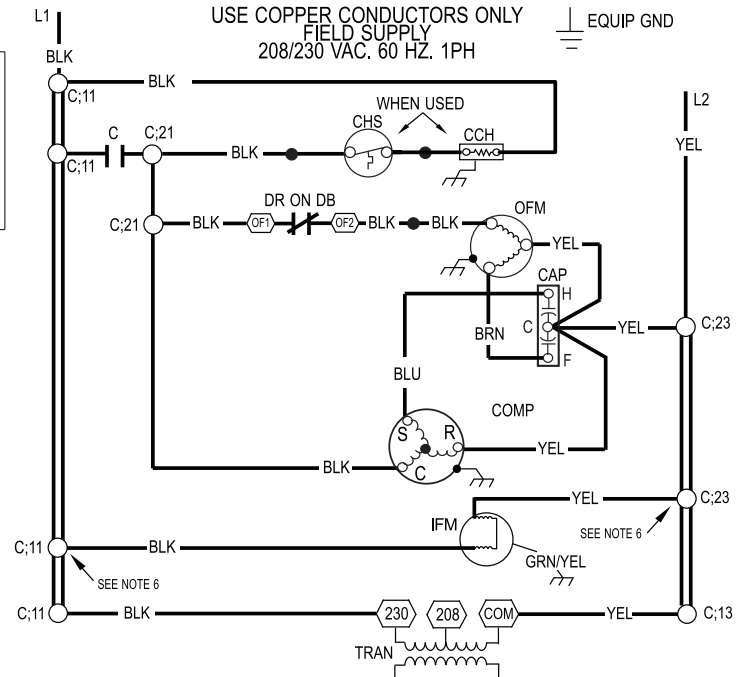
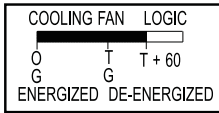
FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)

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

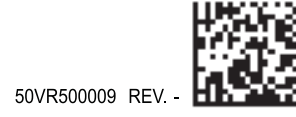
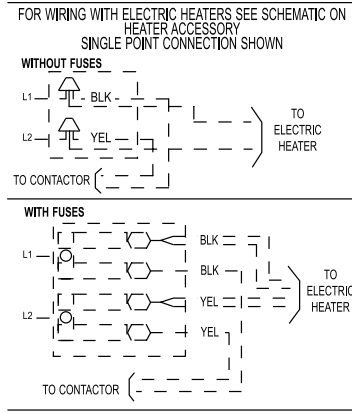
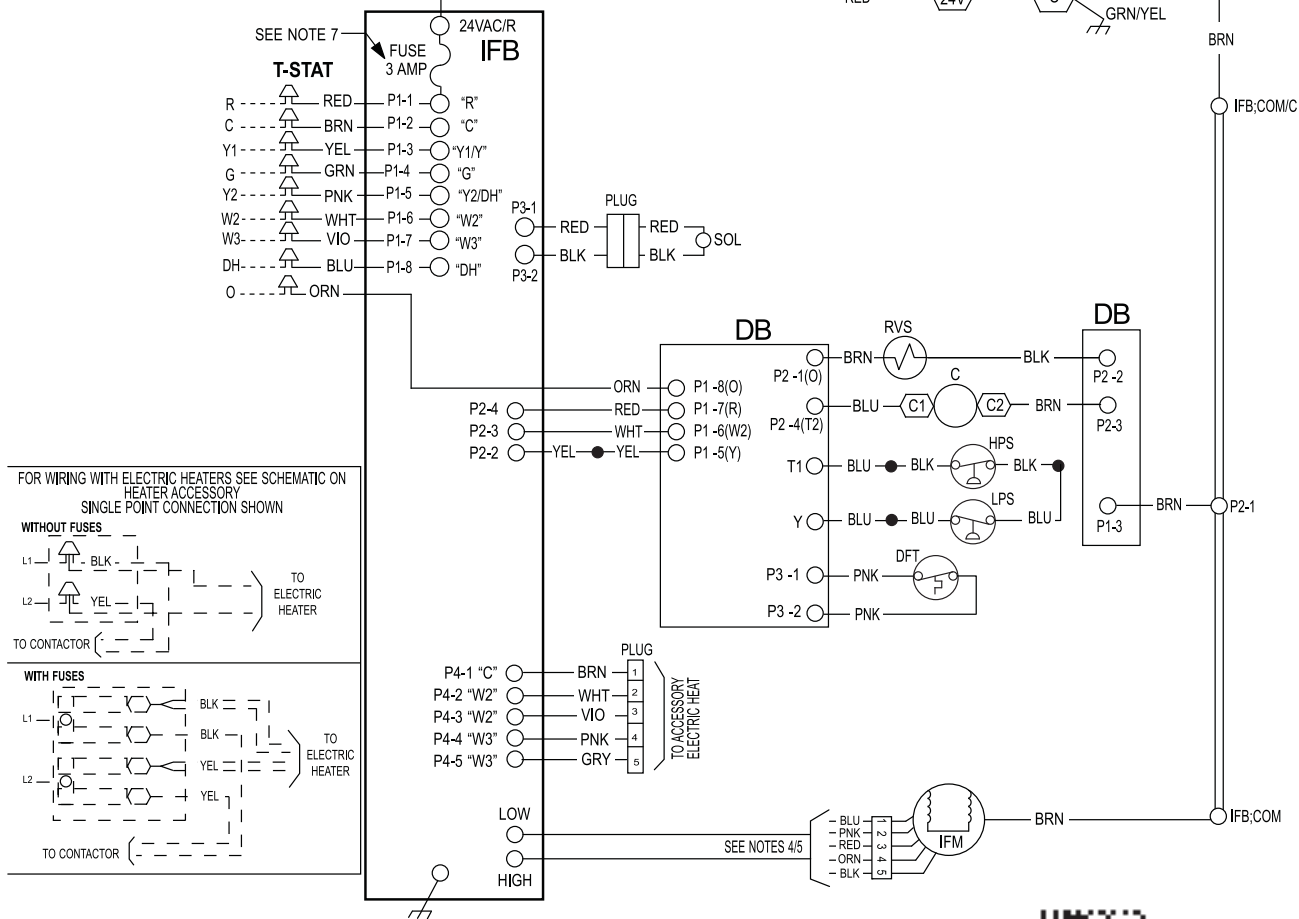
- MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
- SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
- PERMANENT SHORT WILL BE IGNORED.

DEFROST WILL TERMINATE IN 30 SEC. IF DFT OPEN.
 DEFROST WILL TERMINATE NORMALLY IF DFT IS CLOSED.

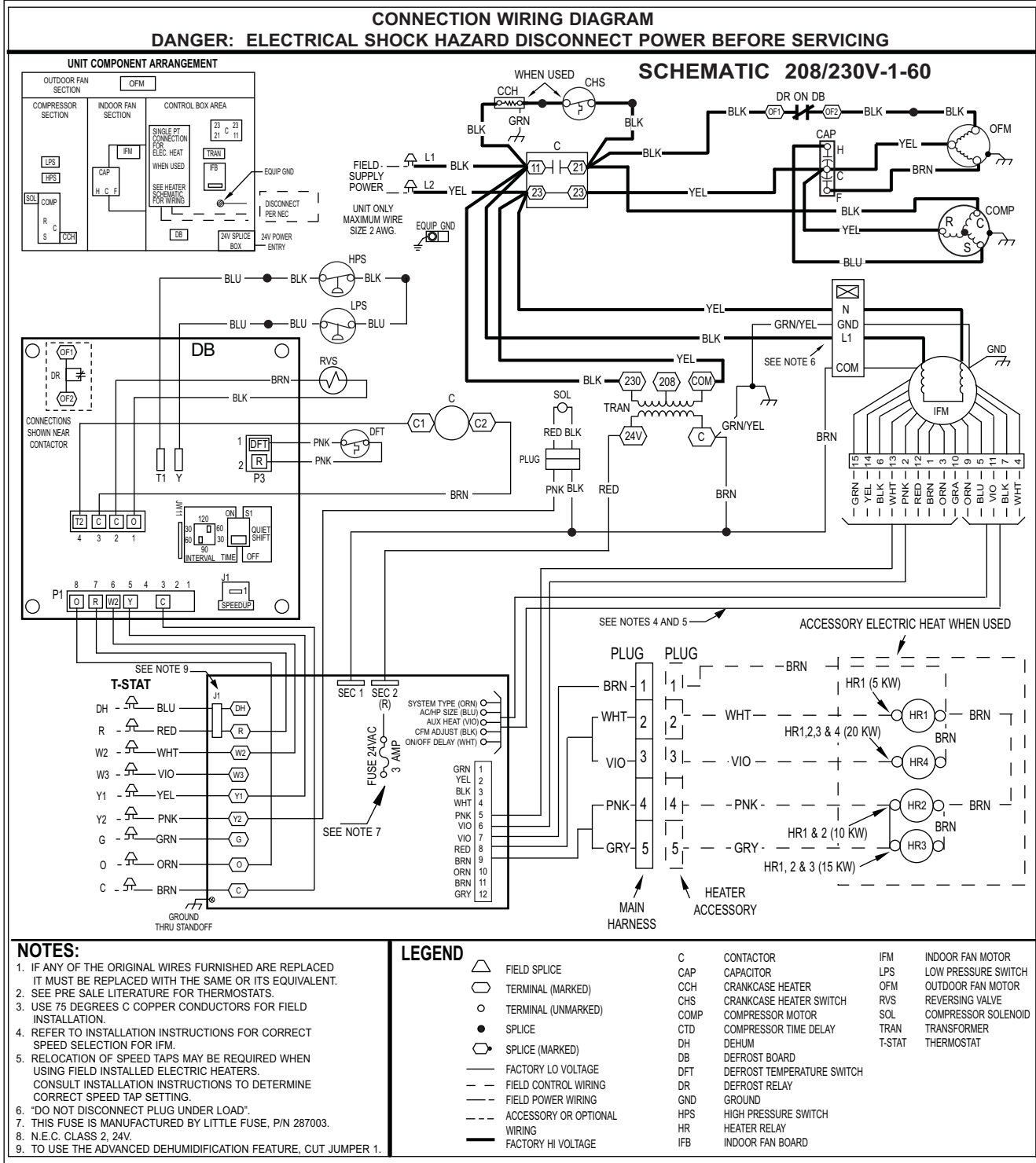
THE COMPRESSOR WILL SHUT OFF FOR 30 SEC. ON DEFROST INITIATION AND TERMINATION IN THE "QUIET SHIFT" ON POSITION.



50VR



CONNECTION WIRING DIAGRAM WITH ADVANCED DEHUMIDIFICATION (AD) FIOP 208/230-1-60



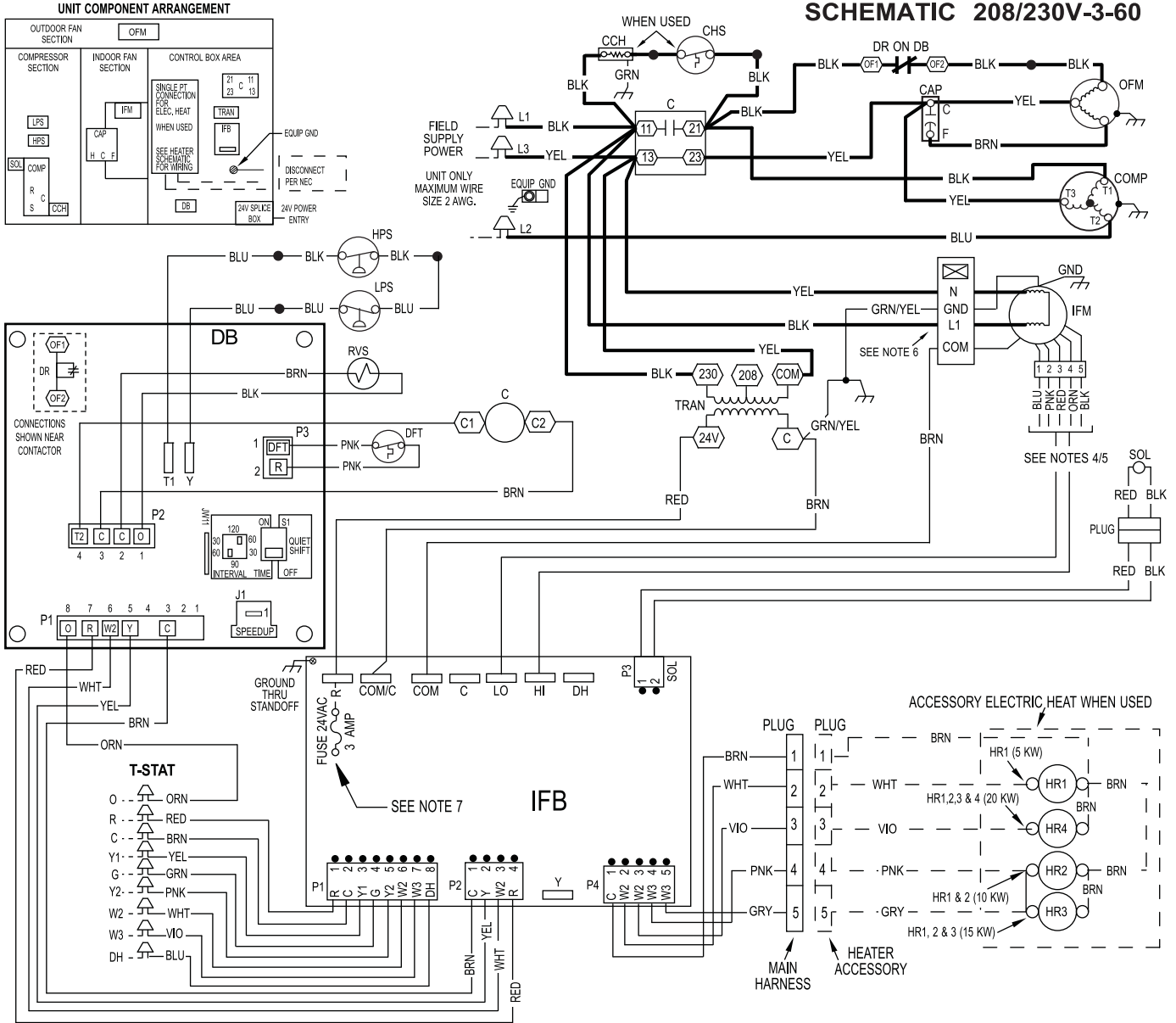
50VR

CONNECTION WIRING DIAGRAM 208/230-3-60

CONNECTION WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

SCHEMATIC 208/230V-3-60



NOTES:

1. IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED IT MUST BE REPLACED WITH THE SAME OR ITS EQUIVALENT.
2. SEE PRE SALE LITERATURE FOR THERMOSTATS.
3. USE 75 DEGREES C COPPER CONDUCTORS FOR FIELD INSTALLATION.
4. REFER TO INSTALLATION INSTRUCTIONS FOR CORRECT SPEED SELECTION FOR IFM.
5. RELOCATION OF SPEED TAPS MAY BE REQUIRED WHEN USING FIELD INSTALLED ELECTRIC HEATERS. CONSULT INSTALLATION INSTRUCTIONS TO DETERMINE CORRECT SPEED TAP SETTING.
6. "DO NOT DISCONNECT PLUG UNDER LOAD".
7. THIS FUSE IS MANUFACTURED BY LITTLE FUSE, P/N 287003.

LEGEND

	FIELD SPLICE	C	CONTACTOR	IFM	INDOOR FAN MOTOR
	TERMINAL (MARKED)	CAP	CAPACITOR	LPS	LOW PRESSURE SWITCH
	TERMINAL (UNMARKED)	CCH	CRANKCASE HEATER	OFM	OUTDOOR FAN MOTOR
	SPLICE	CHS	CRANKCASE HEATER SWITCH	RVS	REVERSING VALVE
	SPLICE (MARKED)	COMP	COMPRESSOR MOTOR	SOL	COMPRESSOR SOLENOID
	FACTORY LO VOLTAGE	CTD	COMPRESSOR TIME DELAY	TRAN	TRANSFORMER
	FIELD CONTROL WIRING	DH	DEHUM	T-STAT	THERMOSTAT
	FIELD POWER WIRING	DB	DEFROST BOARD		
	ACCESSORY OR OPTIONAL WIRING	DFT	DEFROST TEMPERATURE SWITCH		
	FACTORY HI VOLTAGE	DR	DEFROST RELAY		
		GND	GROUND		
		HPS	HIGH PRESSURE SWITCH		
		HR	HEATER RELAY		
		IFB	INDOOR FAN BOARD		

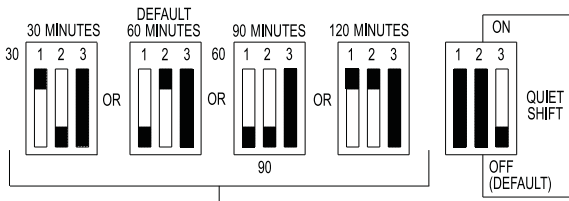
A13146

LADDER WIRING DIAGRAM 208/230-3-60 (CONT)

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

DIP SWITCH SETTINGS



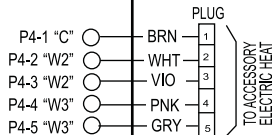
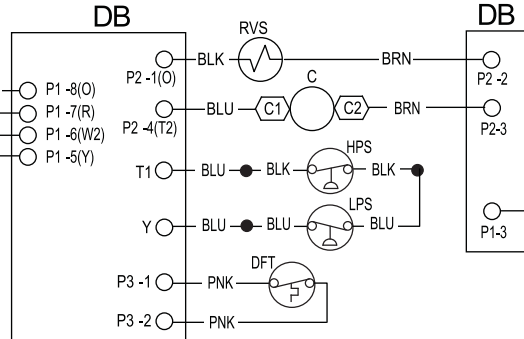
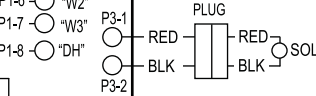
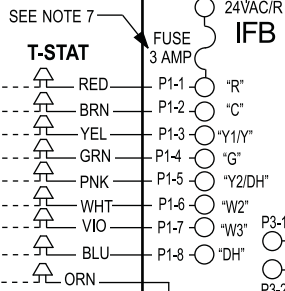
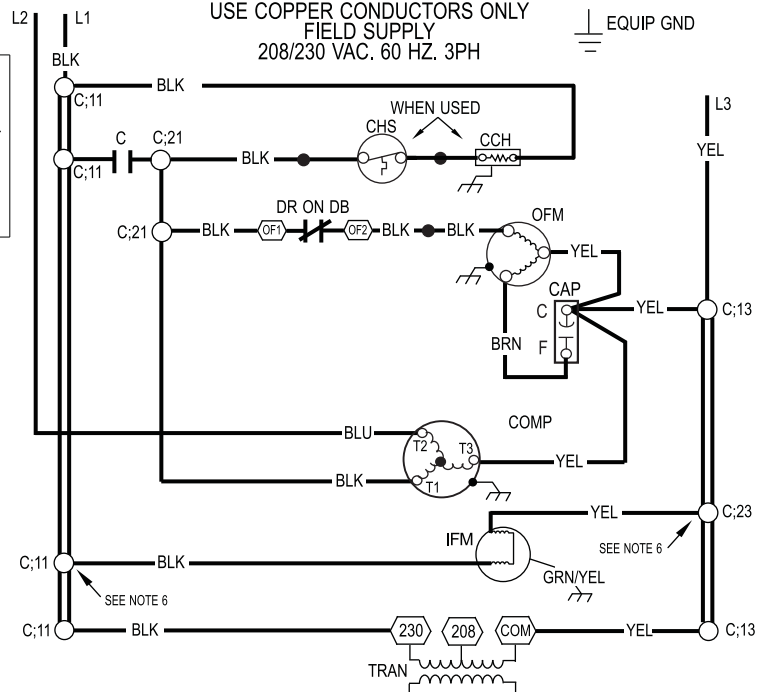
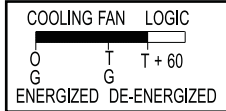
FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)

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

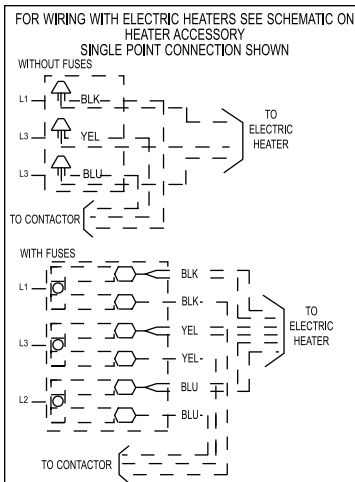
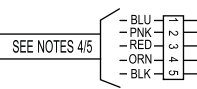
- MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
- SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
- PERMANENT SHORT WILL BE IGNORED.

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.



LOW
HIGH



50VR500010 REV. -

50VR500010 REV. -

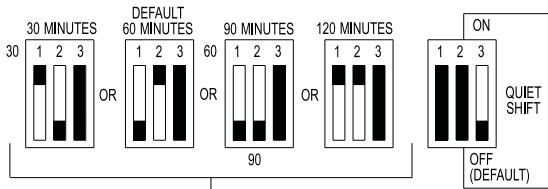


LADDER WIRING DIAGRAM 460-3-60 (CONT)

LADDER WIRING DIAGRAM

DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

DIP SWITCH SETTINGS



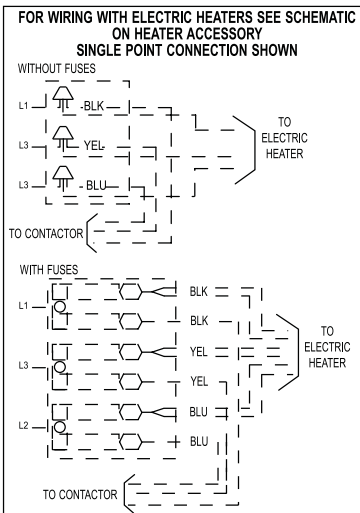
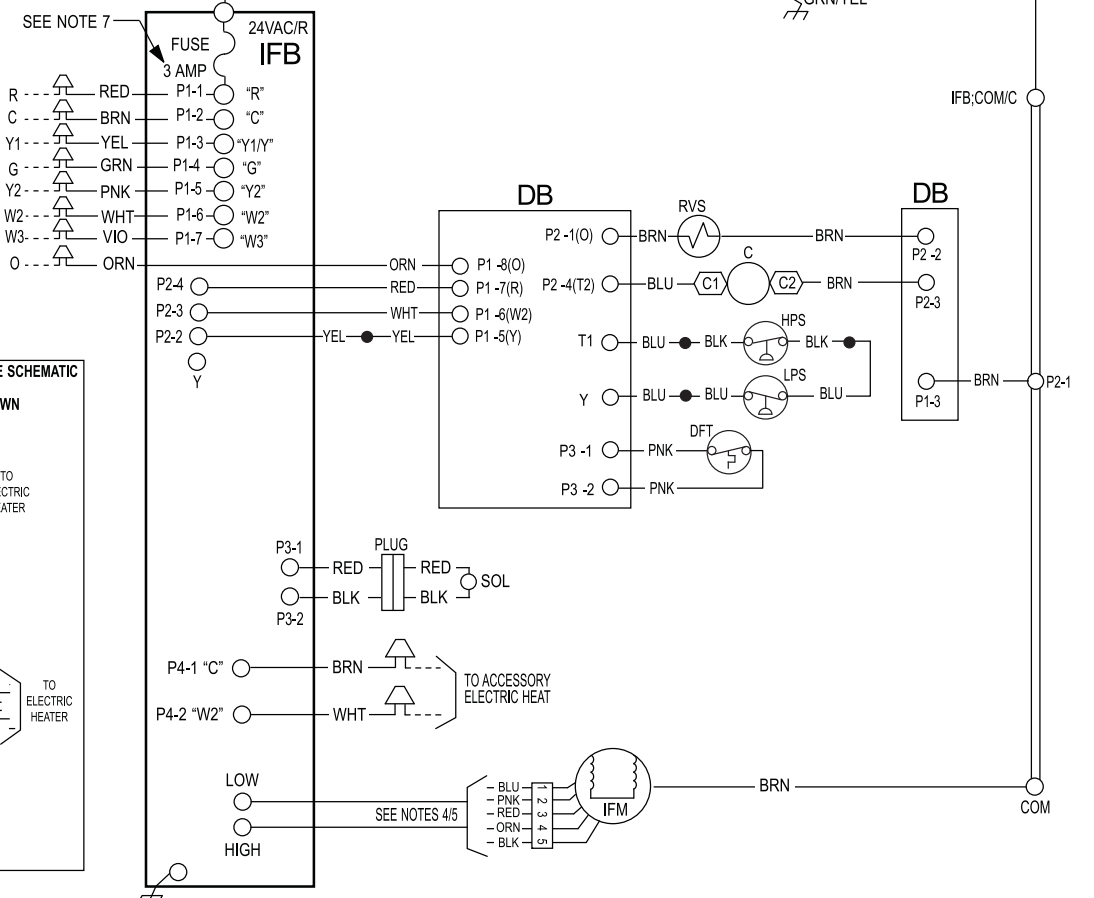
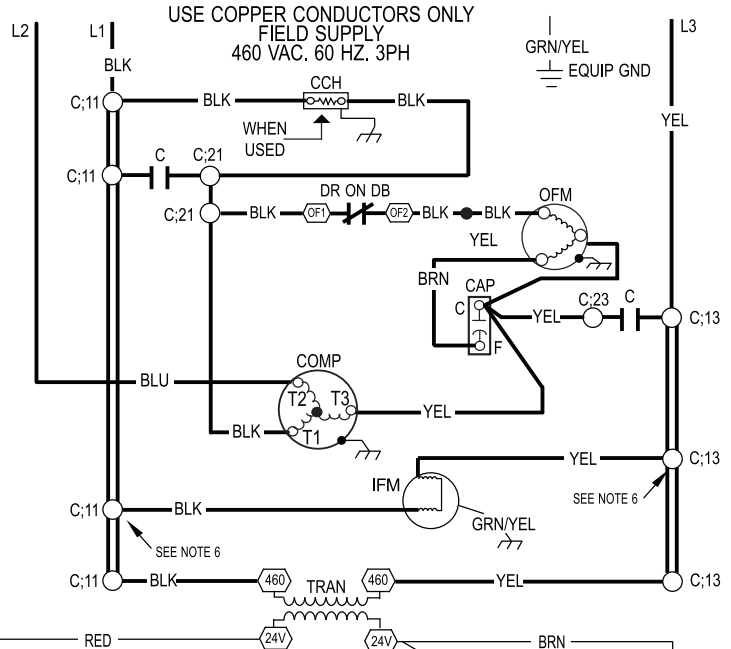
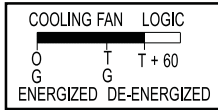
FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES)

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

- MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
- SHORT FOR 5+ SEC. AND RELEASE FOR FORCED DEFROST.
- PERMANENT SHORT WILL BE IGNORED.

DEFROST WILL TERMINATE IN 30 SEC. IF DFT OPEN.
DEFROST WILL TERMINATE NORMALLY IF DFT IS CLOSED.

THE COMPRESSOR WILL SHUT OFF FOR 30 SEC. ON DEFROST INITIATION AND TERMINATION IN THE "QUIET SHIFT" ON POSITION.



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CONTROLS

SEQUENCE OF OPERATION

a. Continuous Fan

- (1.) Thermostat closes circuit R to G energizing the blower motor for continuous fan. The indoor fan is energized on low speed.

b. Cooling Mode

- (1.) Low Stage: Thermostat closes R to G, R to Y1, and R to O. The compressor and indoor fan are energized on low speed. The outdoor fan is also energized
- (2.) High Stage: Thermostat closes R to G, R to Y1, R to Y2, and R to O. The compressor and indoor fan are energized on high speed. The outdoor fan is also energized.

c. Electric Heating Mode

- (1.) Thermostat closes circuit R to W2 or W3, and R to G. There are no on or off delays.

d. Heat Pump Heating

- (1.) Low Stage: Thermostat closes R to G, R to Y1. The compressor and indoor fan are energized on low speed. The outdoor fan is also energized
- (2.) High Stage: Thermostat closes R to G, R to Y1, R to Y2. The compressor and indoor fan are energized on high speed. The outdoor fan is also energized.

e. Heat Pump Heating with Auxiliary Heat

- (1.) Thermostat closes circuits R to G, R to Y and R to W/W1 or W2. The compressor, indoor and outdoor fans are energized, as well as the electric heat relays.

f. Defrost Mode

The defrost mode is automatically energized by the defrost board during heating mode. The defrost board energizes “O” (reversing valve) and “W2” (electric heat). It also de-energizes the outdoor fan. When defrost is complete, unit will return to heating mode. If room thermostat is satisfied during defrost, unit will shut down and restart in defrost on next call for heat.

GUIDE SPECIFICATIONS

Packaged Air Conditioner System Constant Volume Application HVAC Guide Specifications

Size Range: **2 to 5 Tons, Nominal Cooling**

SYSTEM DESCRIPTION

Outdoor rooftop mounted or ground mounted, electric cooling unit utilizing a hermetic 2-stage scroll compressor for cooling duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings. Condenser 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.**
- B. Unit shall be designed in accordance with UL Standard 1995.**
- C. Unit shall be manufactured in a facility registered to ISO 9001 manufacturing quality standard.**
- D. Unit shall be UL listed and c-UL certified as a total package for safety requirements.**
- E. Roof curb shall be designed to conform to NRCA Standards.**
- F. Insulation and adhesives shall meet NFPA 90A requirements for flame spread and smoke generation.**
- G. Cabinet insulation shall meet ASHRAE Standard 62P.**

DELIVERY, STORAGE AND HANDLING

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

Part 2 — Products

EQUIPMENT

A. General:

Factory-assembled, single-piece, heating and cooling unit. Contained within the enclosure shall be all factory wiring, piping, controls, refrigerant charge with R-410A refrigerant, 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 with-standing 500 hours in 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. Evaporator fan compartment top surface shall be insulated with a minimum 1/2-in. (12.7 mm) thick, flexible fiberglass insulation, coated on the air side and retained by adhesive and mechanical means. The evaporator 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.

C. Fans:

1. The evaporator fan shall be a multi-speed ECM Blower 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. 2-Stage scroll compressor shall be standard on all units.

E. Coils:

Evaporator and condenser 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 Components:

Refrigerant expansion device shall be of the TXV (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. Compressors shall incorporate a solid-state compressor protector that provides reset capability.

I. Operating Characteristics:

1. Unit shall be capable of starting and running at 125°F (51°C) ambient outdoor temperature per maximum load criteria of AHRI Standard 210.
2. Compressor with standard controls shall be capable of operation down to 40°F (4°C) ambient outdoor temperature.
3. Units shall be provided with fan time delay to prevent cold air delivery before the heat exchanger warms up.
4. Unit shall be provided with 90-second fan time delay after the thermostat is satisfied.

J. Electrical Requirements:

All unit power wiring shall enter the unit cabinet at a single location.

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.

L. Special Options/Kits Available:

1. Coil Options:
 - Base unit with tin plated indoor coil hairpins.
2. Compressor Start Kit (single phase units only):
 - Shall provide additional starting torque for single-phase compressors.
3. Corporate Thermostat:
 - To provide for one-stage heating and cooling in addition manual or automatic changeover and indoor fan control.
4. Crankcase Heater Kit:
 - Shall provide anti-floodback protection for low-load cooling applications.
5. Economizer for 2-stage operation:
 - (Horizontal and Vertical with Jade Honeywell W7220 controller, Honeywell communicating actuator, and dry bulb sensor. (Contact MicroMetl Customer Service at 1-800-662-4822 to order.)

NOTE: The dehumidification feature on high stage cooling does not support use of an economizer.

GUIDE SPECIFICATIONS (CONT)

- 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. Electric Heaters:
- a. Electric heater shall be available as a field-installed option.
 - b. Heater elements shall be open wire type, adequately supported and insulated with ceramic bushings.
 - c. Electric heater packages must provide single point power connection capability.
7. Filter Rack Option or Kit:
Shall provide filter mounting for downflow applications. Offered as an accessory.
8. Flat Roof Curb Kit:
Curbs shall have seal strip and a wood nailer for flashing and shall be installed per manufacturer's instructions.
9. Low Ambient Package Kit:
Shall consist of a solid-state control and condenser coil temperature sensor for controlling condenser-fan motor operation, which shall allow unit to operate down to 0°F (-17.7°C) outdoor ambient temperature when properly installed.
10. Manual Outdoor Air Damper Kit:
Package shall consist of damper, birdscreen, and rainhood which can be preset to admit outdoor air for year-round ventilation.
11. Square-To-Round Duct Transitions Kit (24-48 size):
Shall have the ability to convert the supply and return openings from rectangular to round.
12. Cabinet air leakage of 2.0% or less at .5 in. W.C. when tested in accordance with ASHRAE standard 193. Available as a factory installed option.
13. Dual Point Electric Heaters Kit
Allows you to power the electric heater and unit contactor separately by having two individual field power supply circuits connected respectively.
14. Advanced Dehumidification Package
Standard unit with a dedicated DEHUM features that enables owner controlled dehumidification. Additionally, this package comes with tin plated indoor coil hairpins. Available as a factory installed option.

