

**50XL-A**  
**Infinity® 15 SEER Single-Packaged Air Conditioner**  
**System with Puron® (R-410A) Refrigerant**  
**Single Phase**  
**2-5 Nominal Tons (Sizes 24-60)**



## Product Data

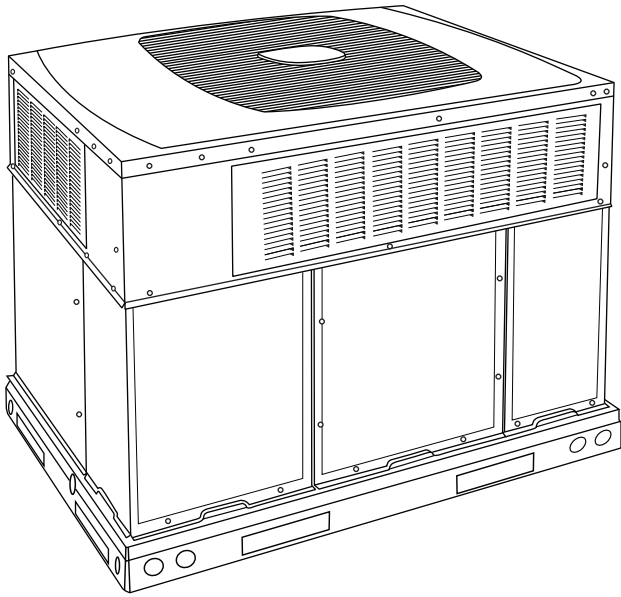


Fig. 1 - Unit 50XL-A

A09032

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

- Up to 15.5 SEER
- Up to 12.0 EER
- Low Sound Levels
- Full featured ECM Motor
- Factory-Installed TXV
- Two Stage Cooling

### FEATURES/BENEFITS

One-piece cooling unit with optional electric heater, low installation cost, dependable performance and easy maintenance.

#### Efficient operation

**High-efficiency design** with SEERs (Seasonal Energy Efficiency Ratio) of up to 15.5.

**Puron® Environmentally-Sound Refrigerant** is Carrier's unique refrigerant designed to help protect the environment. 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, environmentally sound performance.

**IdealHumidity™ Technology featuring Infinity control and Variable-Speed Blower motor** and two stages of cooling that provide greater comfort, humidity control, and energy efficiency.

**Variable-Speed Blower motors** provide better comfort and energy efficiency. Economical constant fan which provides improved indoor air quality and more even temperatures from room to room; and reduced indoor noise due to lower air velocity.

In addition, you'll realize improved installation flexibility with 3 different airflow choices for best overall comfort.

#### 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.

#### Easy installation

**Factory-assembled package** is a compact, fully self-contained, electric cooling unit that is pre-wired, pre-piped, and pre-charged for minimum installation expense. 50XL-A units are available in a variety of standard capacity ranges. Units install easily on a rooftop or at ground level.

#### Durable, dependable components

**Compressors** have two stages of cooling and are designed for high efficiency. Each compressor is hermetically sealed against contamination to help promote longer life and dependable operation. Vibration isolation provides quiet operation. Compressors have internal high-pressure and overcurrent protection.

#### 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.

**Full featured ECM Motor** is standard on all 50XL-A models.

**Direct-drive, PSC (Permanent Split Capacitor) condenser fan motors** are designed to help reduce energy consumption and provide for cooling operation down to 55°F (12.7°C) outdoor temperature. Low-ambient cooling is available below 55°F (12.7°C) when low-ambient cooling is enabled in the User Interface (UI). Motormaster® II low-ambient kit is not required.

**Infinity User Interface** designed to work as a system with Carrier's single-packaged product.

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

**Indoor and outdoor coils** are computer designed for optimum heat transfer and cooling 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.

**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.

**High- and Low-Pressure Switches** give added safety and reliability to the compressor.

**Low sound ratings** ensure a quiet indoor and outdoor environment with sound ratings as low as 75 dBA. (See page 3.)

**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 mm) wide perimeter flange makes frame mounting on a rooftop easy.

**Louvered grille** provides hail and vandalism protection for the coil.

**Cabinets** are constructed of heavy-duty, phosphated, zinc-coated, pre-painted steel capable of withstanding 500 hrs of salt spray. Interior surfaces of the evaporator and electric heater compartments are insulated with cleanable semi-rigid insulation board, 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 unit, which is provided with an external drain.

**Short-cycling protection** for the compressor is incorporated into our Infinity heat pump/air conditioner dual capacity control board ensuring a five-minute delay before restarting compressor after shutdown for any reason.

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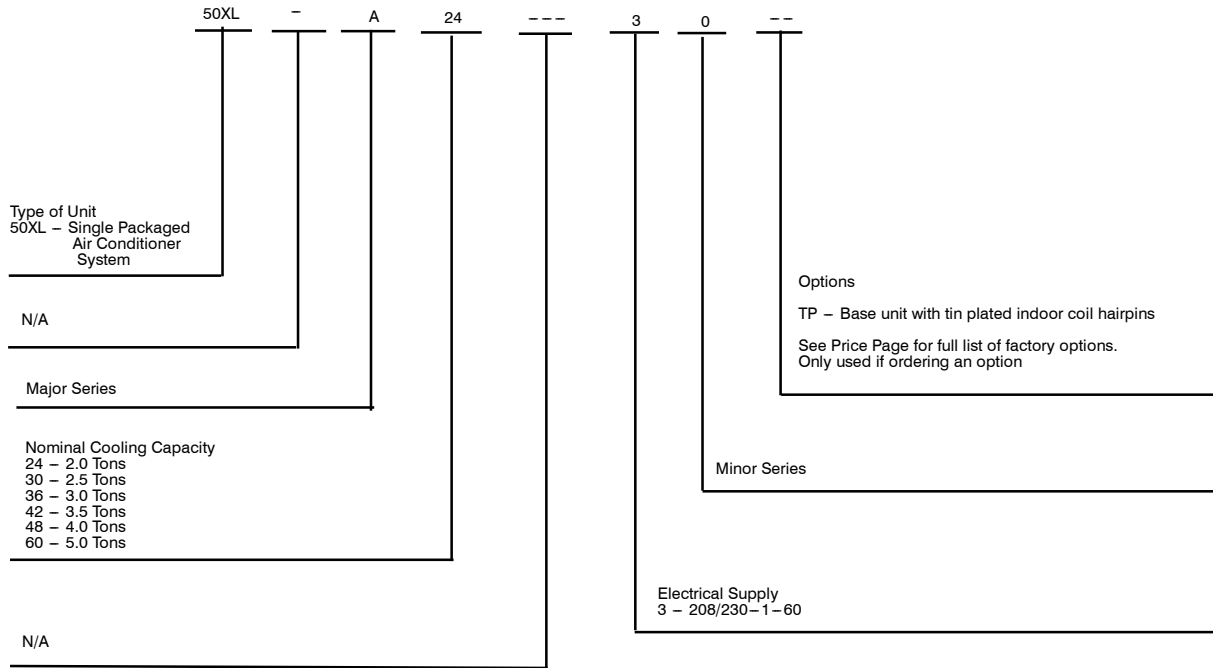
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# MODEL NUMBER NOMENCLATURE



**50XL--A**

## AHRI\* CAPACITIES

### Cooling Capacities, Efficiencies

Unit 50XL-A	Nominal Tons	Standard CFM (High / Low Stage)	Net Cooling Capacities - Btuh (High / Low Stage)	EER @A**	SEER†
24	2	800 / 600	22,600 / 17,600	11.4	15.5
30	2-1/2	1000 / 700	28,600 / 21,400	11.6	15.0
36	3	1200 / 850	34,600 / 24,400	12	15.0
42	3-1/2	1400 / 975	40,500 / 29,000	11.6	15.0
48	4	1600 / 1100	46,000 / 33,400	11	15.0
60	5	1750 / 1200	57,000 / 40,500	11	14.5

\* Air Conditioning, Heating & Refrigeration Institute.

\*\* "A" conditions—80°F (26.6°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 210/240–2008.

**Notes:**

1. Ratings are net values, reflecting the effects of circulating fan heat. Ratings are based on: Cooling Standard: 80°F (26.6°C) db, 67°F (19.4°C) wb indoor entering –air temperature and 95°F (35°C) db outdoor entering–air temperature.
2. Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

**LEGEND**

**dba**—Sound Levels (decibels)

**db**—Dry Bulb

**SEER**—Seasonal Energy Efficiency Ratio

**wb**—Wet Bulb

# PHYSICAL DATA

UNIT SIZE	24	30	36	42	48	60
<b>NOMINAL CAPACITY ton</b>	2	2-1/2	3	3-1/2	4	5
<b>SHIPPING WEIGHT lb</b>	393	398	484	506	512	563
(kg)	178	181	220	230	232	255
<b>COMPRESSOR</b>	Two-Stage Scroll					
<b>REFRIGERANT: PURON (R-410A) Quantity lb</b>	10.1	11.3	9.5	13.8	15.3	15.8
(kg)	(4.6)	(5.1)	(4.3)	(6.3)	(6.9)	(7.2)
<b>REFRIGERANT METERING DEVICE</b>	TXV					
Size	2 Ton	3 Ton	3 Ton	4 Ton	4 Ton	5 Ton
<b>OUTDOOR COIL</b>						
Rows...Fins/in.	2...21	2...21	2...21	2...21	2...21	2...21
Face Area (sq. ft.)	13.6	15.3	17.5	19.4	19.4	23.3
<b>OUTDOOR FAN</b>						
Nominal Cfm	2700	2700	2800	2800	3300	3300
Diameter	22	22	22	22	22	22
Motor HP (RPM)	1/8 (825)	1/8 (825)	1/8 (825)	1/8 (825)	1/4 (1100)	1/3 (1110)
<b>INDOOR COIL</b>						
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
<b>INDOOR FAN</b>						
<b>Nominal Airflow (Cfm)</b>	Variable based on Comfort Settings (see User Interface instructions for more information).					
Comfort	700	875	1050	1225	1400	1750
Efficiency	800	1000	1200	1400	1600	2000
Max	10x10	10x10	11x10	11x10	11x10	11x10
Size in. (mm)	(254x254)	(254x254)	(279x254)	(279x254)	(279x254)	(279x254)
Motor HP (RPM)	1/2	1/2	3/4	3/4	3/4	1
<b>HIGH-PRESSURE SWITCH (psig)</b>	Cutout 670 ± 10					
Reset (Auto)	470 ± 25					
<b>HIGH-PRESSURE SWITCH 2 (psig)</b>	(Compressor Solenoid)					
Cutout	565 ± 15					
Reset (Auto)	455 ± 15					
<b>LOSS-OF-CHARGE/LOW-PRESSURE SWITCH</b>	(Liquid Line) (psig)					
Cutout	23 ± 5					
Reset (Auto)	55 ± 5					
<b>RETURN-AIR FILTERS</b> Throwaway in.*	20x24x1	24x30x1	24x36x1			
(mm)	(508x610x25)	(610x762x25)	(610x914x25)			

\*Recommended filter sizes for field-installed air filter grilles mounted on the wall or ceiling of the conditioned structure. 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 (91.4 m) /minute for throwaway type or 450 ft (137 m) /minute for high-capacity type. Air filter pressure drop for non-standard filters must not exceed 0.08 in. wc.

## A-Weighted Sound Power Level (dBA)

MODEL 50XL-A	Sound Ratings (dBA)	Typical Octave Band Spectrum (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
24	75	58.8	63.5	67.2	66.9	63.7	58.3	50.0
30	75	58.8	63.5	67.2	66.9	63.7	58.3	50.0
36	75	63.7	63.3	66.8	66.5	64.2	60.3	53.0
42	75	62.8	62.8	67.8	67.4	63.7	57.7	50.8
48	78	69.9	69.9	71.3	73.4	70.0	66.3	60.1
60	78	67.6	67.6	71.8	75.5	71.0	68.1	59.9

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

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## OPTIONS AND ACCESSORIES

ITEM	DESCRIPTION	FACTORY INSTALLED OPTION	FIELD INSTALLED ACCESSORY
Coil Options	Base unit with tin plated indoor coil hairpins	X	
Corporate Thermostats	Thermostats provide control for the system heating and cooling functions.		X
Electric Heaters	Electric Heat Supplement		X
Filter Rack	Filter Rack features easy installation, serviceability, and high-filtering performance for vertical applications. Includes 1-in. filter.		X
Flat Roof Curbs	Flat Roof Curbs in both 11-in (279 mm) and 14-in. (356 mm) sizes are available for roof mounted applications.		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
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

### Electric Heaters

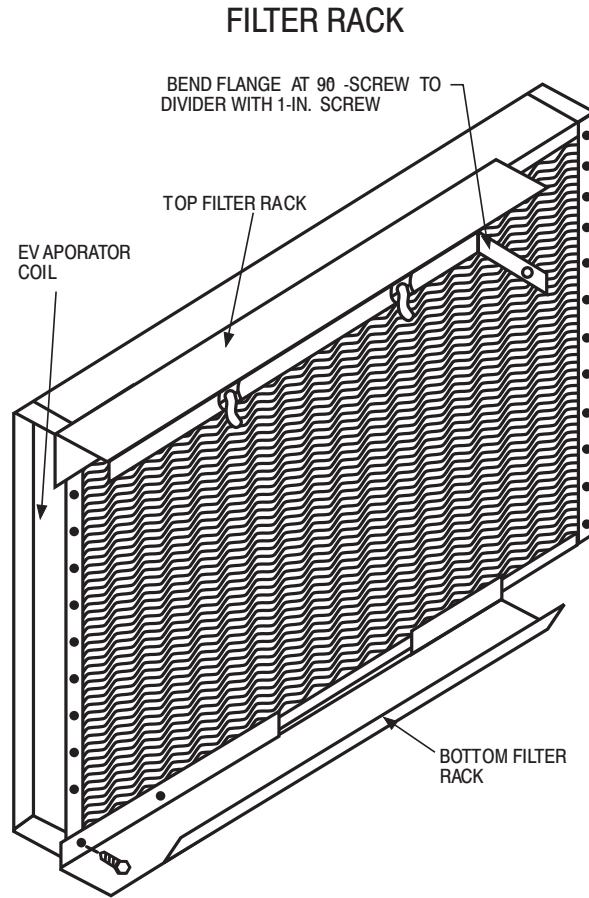
Ordering Number	Nominal Capacity (kW)	Used With Sizes							
		Fused	Stages	24	30	36	42	48	60
<b>208/240 SINGLE PHASE 60 Hz</b>									
CPHEATER080A00	3.8 / 5.0	NO	1	X	X	X	X	X	X
CPHEATER081A00	3.8 / 5.0	YES	1	X	X	X	X	X	X
CPHEATER082A00	5.4 / 7.2	NO	2	X	X	X	X	X	X
CPHEATER083A00	5.4 / 7.2	YES	2	X	X	X	X	X	X
CPHEATER084A00	7.5 / 10.0	NO	2	X	X				
CPHEATER085A00	7.5 / 10.0	YES	2	X	X	X	X	X	X
CPHEATER086A00	11.3 / 15.0	YES	2		X				
CPHEATER087A00	11.3 / 15.0	YES	2		X	X	X	X	X
CPHEATER089A00	15.0 / 20.0	YES	2				X	X	X

**NOTE**

Electric heaters are rated at 240v. Refer to Multiplication Factors table for other voltages.  
X = Approved combination

# FILTER RACK

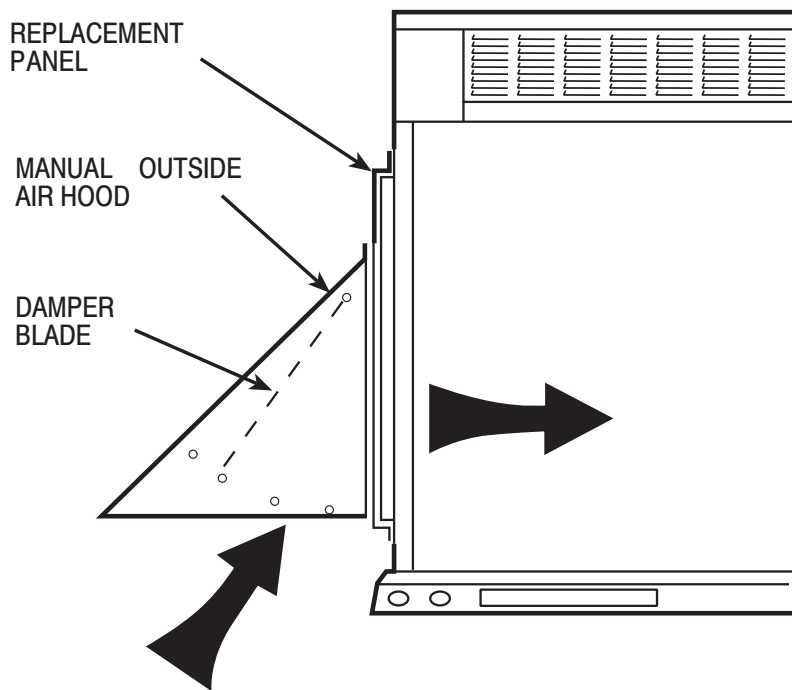
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# MANUAL OUTSIDE AIR DAMPER

## MANUAL OUTSIDE AIR DAMPER



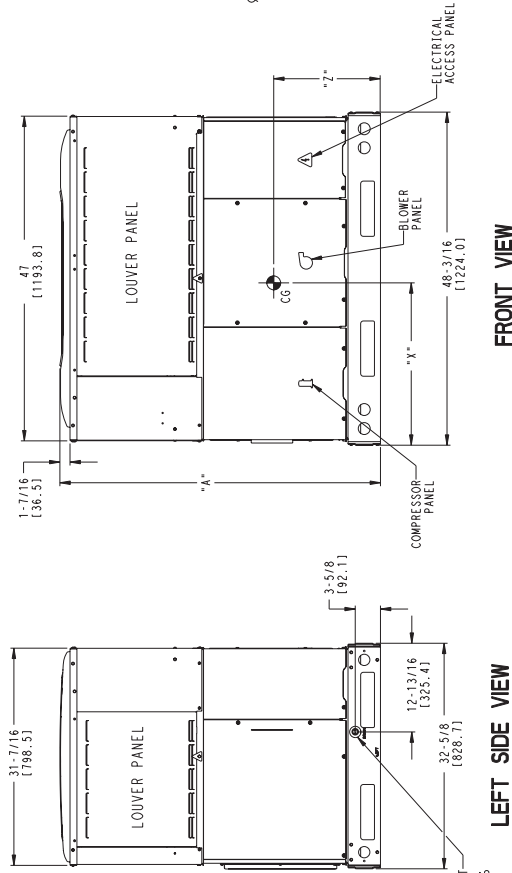
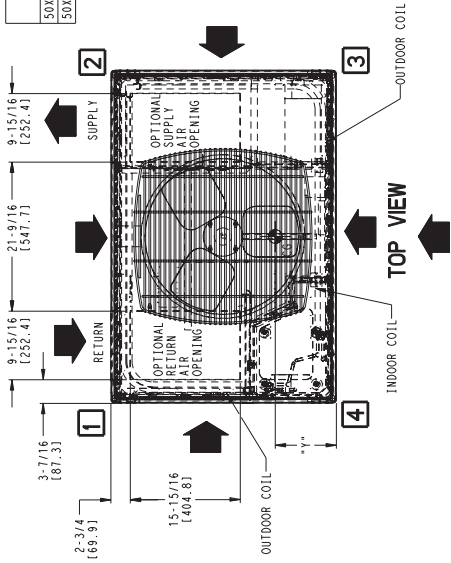
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# UNIT DIMENSIONS - 50XL-A24-30

UNIT	ELECTRICAL CHARACTERISTICS		UNIT WT.		UNIT HEIGHT		CENTER OF GRAVITY					
	208/230-1-60	208/230-1-60	LB.	KG.	"A"	Y	X	Z				
50XL-A24--30	208/230-1-60	208/230-1-60	386	175.0	44-3/4	1136.7	20-1/2	520.7	15-3/4	400.1	16-5/8	422.3
50XL-A30--30	208/230-1-60	208/230-1-60	391	177.2	46-3/4	1187.5	20-1/2	520.7	15-3/4	400.1	16-5/8	441.3

UNITS	VOLTAGE		CORNER WEIGHT						
	"1"	"2"	LB/KG	"4"					
50XL-A24--30	208/230	71.2	35.0	81.7	28.0	92.6	42.0	154.3	70.1
50XL-A30--30	208/230	76.2	35.5	82.5	28.4	93.8	42.6	156.3	71.0

- REQUIRED CLEARANCES TO COMBUSTIBLE MATL.**
- INCHES (MM)
- TOP OF UNIT.....1 (25.4)
  - 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 GROUNDED SURFACES, POWER ENTRY SIDE.....42 (1066.8)
- REQUIRED CLEARANCE FOR OPERATION AND SERVICING**
- INCHES (MM)
- EVAP. COIL ACCESS SIDE.....36 (914.0)
  - UNIT TOP (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 MAY BE COMPROMISED.
- DIMENSIONS IN ( ) ARE IN MM



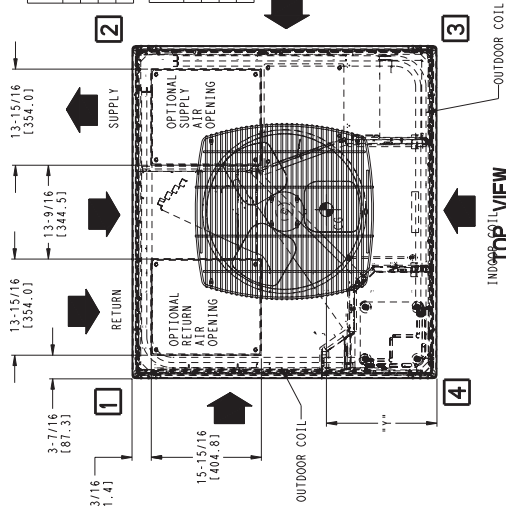
3/4 (19.1) W.P.T.  
X 7/8 (222.2) DEEP

REV	3.0
50XL500028	

**50XL--A**

# UNIT DIMENSIONS - 50XL-A36-60

50XL--A



UNIT	ELECTRICAL CHARACTERISTICS		UNIT WT.		UNIT HEIGHT		CENTER OF GRAVITY IN/MM			
	208/230-1-60	208/230-1-60	LB	KG	"A"	"A"	X	Y	Z	
50XL-A36--30	208/230-1-60	208/230-1-60	475	215.6	48-3/4	1238.3	20-1/4	514.4	17-1/2	444.5
50XL-A42--30	208/230-1-60	208/230-1-60	491	225.5	50-3/4	1289.1	20-1/4	514.4	17-1/2	444.5
50XL-A48--30	208/230-1-60	208/230-1-60	503	228.3	50-3/4	1289.1	20-1/4	514.4	17-1/2	444.5
50XL-A60--30	208/230-1-60	208/230-1-60	554	251.4	54-3/4	1390.7	20-1/4	514.4	17-1/2	444.5

**REQUIRED CLEARANCES TO COMBUSTIBLE MATL.**

UNITS	VOLTAGE	"1"	"2"	"3"	"4"
50XL-A36--30	208/230	95.0	43.2	76.0	34.5
50XL-A42--30	208/230	99.4	45.1	79.6	36.1
50XL-A48--30	208/230	100.6	45.7	80.5	36.6
50XL-A60--30	208/230	110.8	50.3	88.7	40.3

INCHES (MM)

TOP OF UNIT.....42 (1066.8)

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:**

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**

EVAP. COIL ACCESS SIDE.....36 (914.0)

MINIMUM CLEARANCE TO UNITS (EXCEPT FOR NEC REQUIREMENTS).....42 (1066.8)

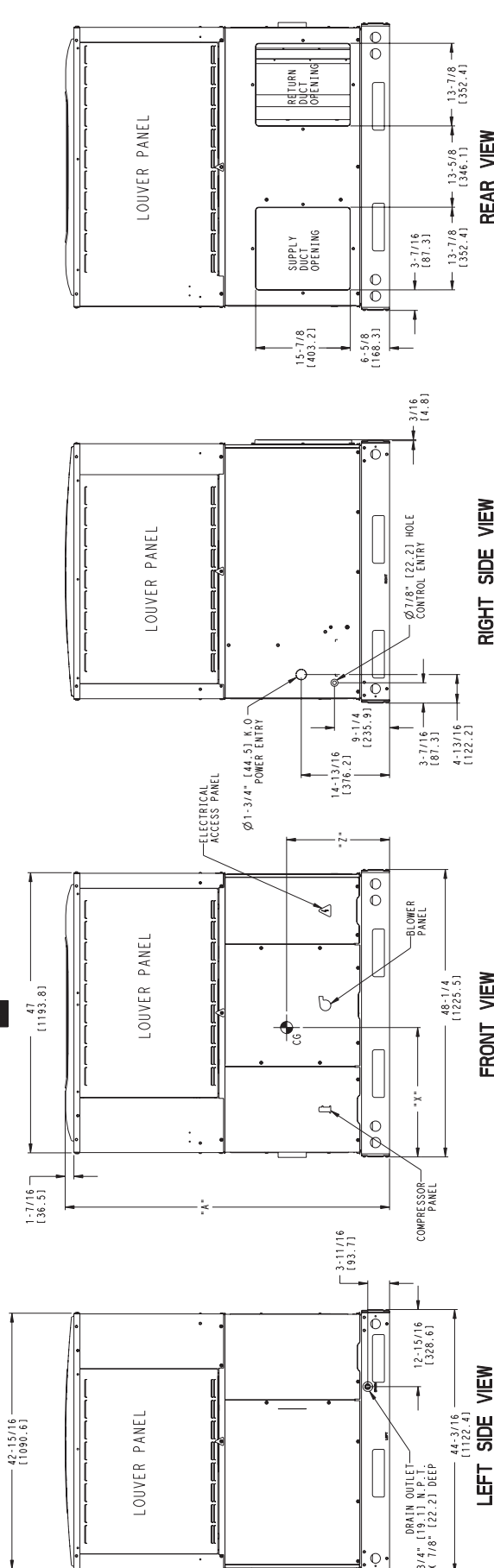
UNIT TOP.....48 (1219.2)

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 MAY BE COMPROMISED.

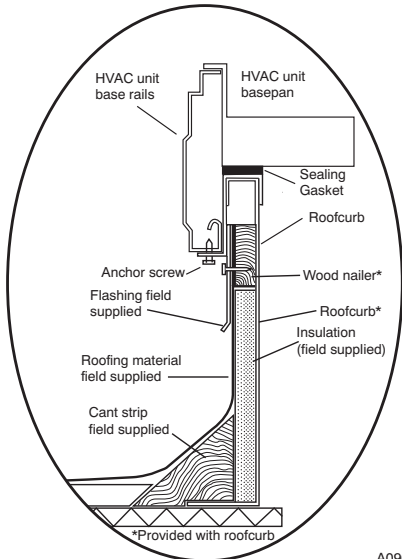
DIMENSIONS IN ( ) ARE IN MM



50XL500029 REV 3.0

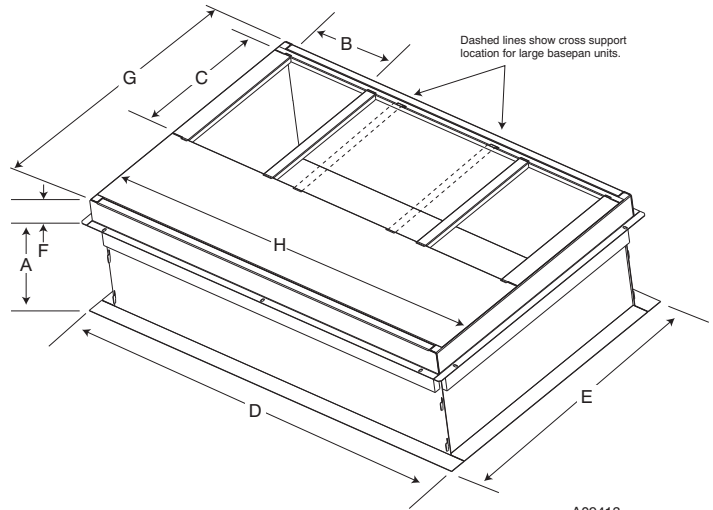


# ACCESSORY DIMENSIONS



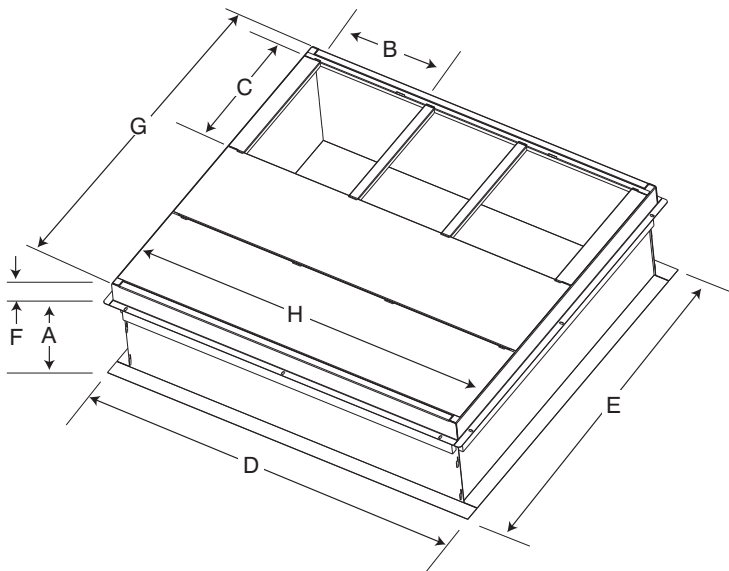
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ROOF CURB DETAIL



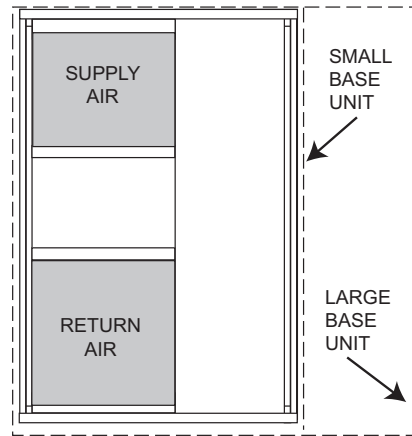
SMALL/COMMON CURB

A09413



LARGE CURB

A09415



UNIT PLACEMENT ON COMMON CURB

A09094

SMALL OR LARGE BASE UNIT

A09414

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

\* Part Numbers CPRFCURB010A00 and CPRFCURB011A00 can be used on both small and large basepan units. The cross supports must be located based on whether the unit is a small basepan or a large basepan.

NOTES:

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

50XL--A

## SELECTION PROCEDURE

### Determine cooling and heating requirements at design conditions:

Given:

REQUIRED COOLING CAPACITY (TC) . . . . . 34,500 BTUH  
SENSIBLE HEAT CAPACITY (SHC) . . . . . 24,000 BTUH  
REQUIRED HEATING CAPACITY (SHC) . . . . . 15,000 BTUH  
CONDENSER ENTERING AIR TEMPERATURE 95°F (35°C)  
INDOOR-AIR TEMPERATURE . . . 80°F (26.6°C) EDB, 67°F (19.4°C) EWB  
EVAPORATOR AIR QUANTITY . . . . . 1200 CFM  
ELECTRICAL CHARACTERISTICS . . . . . 230-1-60

### Select unit based on required cooling capacity

Enter Net Cooling Capacities table at condenser entering temperature of 95°F (35°C). The 36 unit at 1200 cfm and 67°F (19.4°C) ewb (entering wet bulb) will provide a total capacity of 34,600 Btuh and a SHC of 24,220 Btuh. Calculate SHC correction, if required, using Note 4 under Cooling Capacities tables.

### Select electric heat

The required heating capacity is 15,000 Btuh.  
Determine additional electric heat capacity in kW.

$$\frac{15,000 \text{ Btuh}}{3414 \text{ Btuh/kW}} = 4.4 \text{ kW of heat required}$$

Enter the Electric Heater table on page 5 for 208/230v, single-phase unit. The 5-kW heater at 240v most closely satisfies the heating required. To calculate kW at 230v, multiply the heater kW by multiplication factor 0.92 found in the Multiplication Factors table on page 17.

$$5 \text{ kW} \times 0.92 = 4.6 \text{ kW}$$

$$4.6 \text{ kW} \times 3414 \text{ Btuh/kW} = 15,704 \text{ Btuh (Total unit heating capacity)}$$

### Select unit that corresponds to power source available

The Electrical Data table shows that the unit is designed to operate at 208/230-1-60.

50XL--A

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

## 50XL-A24 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
700	57 (13.9)	21.77	21.77	1.61	20.88	20.88	1.79	19.95	19.95	2.00	18.94	18.94	2.23	17.86	17.86	2.48	16.66	16.66	2.77
	62 (16.7)	22.40	18.69	1.61	21.29	18.21	1.80	20.13	17.70	2.00	18.95	18.95	2.23	17.86	17.86	2.48	16.66	16.66	2.77
	63* (17.2)	22.85	15.18	1.62	21.71	14.70	1.80	20.52	14.21	2.01	19.25	13.70	2.23	17.90	13.16	2.48	16.42	12.58	2.77
	67 (19.4)	24.66	15.72	1.64	23.44	15.24	1.83	22.15	14.75	2.03	20.79	14.24	2.26	19.34	13.70	2.51	17.74	13.12	2.79
	72 (22.2)	27.16	12.75	1.67	25.83	12.28	1.86	24.42	11.80	2.06	22.94	11.29	2.29	21.33	10.76	2.54	19.57	10.18	2.83
800	57 (13.9)	22.76	22.76	1.64	21.81	21.81	1.82	20.81	20.81	2.03	19.74	19.74	2.26	18.58	18.58	2.51	17.29	17.29	2.80
	62 (16.7)	22.97	20.16	1.64	21.84	21.76	1.82	20.81	20.81	2.03	19.74	19.74	2.26	18.58	18.58	2.51	17.29	17.29	2.80
	63* (17.2)	23.39	16.20	1.64	22.19	15.71	1.83	20.94	15.21	2.03	19.62	14.69	2.26	18.22	14.14	2.51	16.69	13.54	2.79
	67 (19.4)	25.22	16.81	1.67	23.94	16.32	1.85	22.60	15.82	2.05	21.18	15.30	2.28	19.67	14.74	2.53	18.01	14.14	2.82
	72 (22.2)	27.77	13.43	1.70	26.37	12.96	1.88	24.90	12.48	2.09	23.35	11.95	2.31	21.66	11.41	2.57	20.60	11.05	2.57

## 50XL-A24 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
525	57 (13.9)	16.65	16.65	1.05	15.95	15.95	1.20	15.21	15.21	1.37	14.40	14.40	1.57	13.52	13.52	1.80	12.55	12.55	2.07
	62 (16.7)	17.20	14.47	1.06	16.29	14.07	1.21	15.34	13.65	1.37	14.40	14.40	1.57	13.52	13.52	1.80	12.55	12.55	2.07
	63* (17.2)	17.61	11.75	1.06	16.69	11.36	1.21	15.70	10.96	1.38	14.64	10.53	1.57	13.50	10.07	1.80	12.27	9.58	2.06
	67 (19.4)	19.23	12.26	1.08	18.23	11.87	1.22	17.18	11.47	1.39	16.05	11.03	1.58	14.83	10.58	1.81	13.50	10.09	2.07
	72 (22.2)	21.48	10.05	1.09	20.41	9.66	1.24	19.26	9.26	1.41	18.02	8.84	1.60	16.69	8.39	1.83	15.24	7.90	2.09
600	57 (13.9)	17.52	17.52	1.08	16.77	16.77	1.23	15.96	15.96	1.39	15.10	15.10	1.59	14.15	14.15	1.82	13.11	13.11	2.09
	62 (16.7)	17.71	15.66	1.08	16.78	16.75	1.23	15.96	15.96	1.39	15.10	15.10	1.59	14.15	14.15	1.82	13.12	13.12	2.09
	63* (17.2)	18.10	12.58	1.08	17.12	12.18	1.23	16.09	11.76	1.39	14.98	11.32	1.59	13.80	10.85	1.81	12.51	10.95	2.08
	67 (19.4)	19.75	13.14	1.09	18.71	12.74	1.24	17.60	12.32	1.41	16.41	11.88	1.60	15.14	11.41	1.83	13.76	10.91	2.09
	72 (22.2)	22.06	10.61	1.11	20.93	10.21	1.26	19.72	9.80	1.43	18.41	9.36	1.62	17.03	8.91	1.85	15.51	8.41	2.11

See page 17 for cooling notes.

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

## 50XL-A30 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)
875	57 (13.9)	27.90	2.05	26.73	2.27	25.47	25.47	2.52	24.09	24.09	2.79	22.56	22.56	3.10	20.81	20.81	3.44		
	62 (16.7)	28.72	2.06	27.25	2.28	25.70	22.53	2.52	24.09	24.09	2.79	22.56	22.56	3.10	20.81	20.81	3.44		
	63* (17.2)	29.28	2.07	27.78	2.29	26.18	18.07	2.53	24.46	17.38	2.80	22.58	16.64	3.10	20.50	15.82	3.43		
	67 (19.4)	31.48	2.10	29.85	2.32	28.11	18.70	2.56	26.23	18.00	2.83	24.19	17.25	3.13	21.92	16.42	3.47		
	72 (22.2)	34.49	2.14	32.69	2.36	30.77	14.85	2.61	28.70	14.15	2.88	26.43	13.40	3.18	26.31	13.36	3.19		
1000	57 (13.9)	29.10	2.09	27.84	2.32	26.48	26.48	2.56	25.00	25.00	2.84	23.34	23.34	3.15	21.47	21.47	3.49		
	62 (16.7)	29.40	2.10	27.90	2.32	26.48	26.48	2.56	25.00	25.00	2.84	23.34	23.34	3.15	21.47	21.47	3.49		
	63* (17.2)	29.91	2.10	28.33	2.32	26.66	19.31	2.57	24.86	18.60	2.83	22.90	17.84	3.13	20.75	17.00	3.47		
	67 (19.4)	32.13	2.14	30.42	2.36	28.60	20.02	2.60	26.64	19.30	2.87	24.51	18.53	3.17	22.47	16.98	3.51		
	72 (22.2)	35.18	2.18	33.29	2.40	31.27	15.65	2.65	29.11	14.94	2.92	26.76	14.18	3.22	24.19	13.36	3.55		

## 50XL-A30 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)	Capacity MBtuh	Total System KW	EWB °F (°C)
615	57 (13.9)	20.32	1.29	19.50	1.48	18.60	18.60	1.70	17.60	17.60	1.95	16.20	16.20	2.21	15.23	15.23	2.58		
	62 (16.7)	21.08	1.30	20.01	1.49	18.86	16.67	1.70	17.62	17.58	1.95	16.49	16.49	2.24	15.23	15.23	2.58		
	63* (17.2)	21.55	1.30	20.47	1.49	19.28	13.44	1.70	17.99	12.90	1.95	16.58	12.33	2.24	15.02	11.71	2.58		
	67 (19.4)	23.40	1.32	22.22	1.51	20.93	13.99	1.72	19.51	13.44	1.97	17.97	12.85	2.26	16.26	12.24	2.60		
	72 (22.2)	25.95	1.35	24.65	1.53	23.20	11.28	1.75	21.63	10.73	2.00	19.91	10.14	2.28	18.01	9.51	2.62		
700	57 (13.9)	21.32	1.31	20.44	1.50	19.46	19.46	1.72	18.38	18.38	1.97	17.17	17.17	2.26	15.82	15.82	2.60		
	62 (16.7)	21.67	1.31	20.56	1.50	19.46	19.46	1.72	18.38	18.38	1.97	17.17	17.17	2.26	15.82	15.82	2.60		
	63* (17.2)	22.13	1.32	20.98	1.51	19.74	14.38	1.72	18.38	13.83	1.97	16.90	13.24	2.26	15.28	12.60	2.60		
	67 (19.4)	24.00	1.34	22.76	1.53	21.40	14.98	1.74	19.91	14.42	1.99	18.29	13.82	2.28	16.52	13.17	2.61		
	72 (22.2)	26.61	1.36	25.22	1.55	23.71	11.90	1.76	22.06	11.34	2.01	20.25	10.74	2.30	18.28	10.09	2.63		

See page 17 for cooling notes.

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

50XL-A36 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																			
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)				
		Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens		
1050	EWB °F (°C)	33.64	2.28	32.32	2.53	30.90	2.81	29.36	2.81	29.36	2.81	29.36	3.11	27.65	2.81	27.65	3.11	25.71	2.81	25.71	3.84
	CFM	34.47	2.29	32.83	2.54	31.11	2.81	29.36	2.81	29.36	2.81	29.36	3.11	27.65	2.81	27.65	3.11	25.71	2.81	25.71	3.84
	63* (17.2)	35.12	2.29	33.44	2.54	31.65	2.81	29.73	2.81	29.73	2.81	29.73	3.12	27.64	2.81	27.64	3.12	25.33	2.81	25.33	3.83
	67 (19.4)	37.76	2.32	35.94	2.57	34.00	2.84	31.91	2.84	31.91	2.84	31.91	3.15	29.65	2.84	29.65	3.15	27.14	2.84	27.14	3.87
	72 (22.2)	42.16	2.37	40.12	2.62	37.93	2.90	35.58	2.90	35.58	2.90	35.58	3.20	33.02	2.90	33.02	3.20	30.21	2.90	30.21	3.92
1200	EWB °F (°C)	35.06	2.32	33.64	2.58	32.12	2.85	30.46	2.85	30.46	2.85	30.46	3.16	28.63	2.85	28.63	3.16	26.56	2.85	26.56	3.89
	CFM	35.29	2.33	33.64	2.58	32.12	2.85	30.46	2.85	30.46	2.85	30.46	3.16	28.63	2.85	28.63	3.16	26.56	2.85	26.56	3.89
	63* (17.2)	35.86	2.33	34.09	2.58	32.22	2.85	30.23	2.85	30.23	2.85	30.23	3.15	28.05	2.85	28.05	3.15	25.66	2.85	25.66	3.87
	67 (19.4)	38.52	2.36	36.62	2.61	34.60	2.88	32.43	2.88	32.43	2.88	32.43	3.19	30.06	2.88	30.06	3.19	27.47	2.88	27.47	3.90
	72 (22.2)	42.99	2.41	40.85	2.66	38.57	2.93	36.13	2.93	36.13	2.93	36.13	3.24	33.48	2.93	33.48	3.24	30.56	2.93	30.56	3.96

50XL-A36 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																			
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)				
		Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens	Capacity MBtuh	Total System KW	Sens		
745	EWB °F (°C)	23.27	1.46	22.34	1.65	21.31	1.87	20.19	2.12	20.19	2.12	20.19	2.41	18.95	2.12	18.95	2.41	17.58	2.12	17.58	2.76
	CFM	23.91	1.46	22.70	1.65	21.41	1.87	20.19	2.12	20.19	2.12	20.19	2.41	18.95	2.12	18.95	2.41	17.58	2.12	17.58	2.76
	63* (17.2)	24.46	1.47	23.21	1.66	21.87	1.87	20.42	2.12	20.42	2.12	20.42	2.41	18.85	2.12	18.85	2.41	17.14	2.12	17.14	2.75
	67 (19.4)	26.63	1.48	25.29	1.67	23.85	1.89	22.28	2.14	22.28	2.14	22.28	2.43	20.58	2.14	20.58	2.43	18.72	2.14	18.72	2.77
	72 (22.2)	29.67	1.51	28.20	1.70	26.61	1.91	24.89	2.16	24.89	2.16	24.89	2.45	23.01	2.16	23.01	2.45	20.96	2.16	20.96	2.79
850	EWB °F (°C)	24.45	1.48	23.43	1.67	22.33	1.89	21.11	2.14	21.11	2.14	21.11	2.44	19.80	2.14	19.80	2.44	18.32	2.14	18.32	2.78
	CFM	24.61	1.48	23.43	1.67	22.33	1.89	21.11	2.14	21.11	2.14	21.11	2.44	19.80	2.14	19.80	2.44	18.32	2.14	18.32	2.78
	63* (17.2)	25.11	1.49	23.80	1.68	22.39	1.89	20.88	2.14	20.88	2.14	20.88	2.43	19.24	2.14	19.24	2.43	17.46	2.14	17.46	2.77
	67 (19.4)	27.33	1.50	25.92	1.69	24.40	1.91	22.76	2.15	22.76	2.15	22.76	2.44	20.99	2.15	20.99	2.44	19.06	2.15	19.06	2.78
	72 (22.2)	30.44	1.53	28.89	1.71	27.21	1.93	25.40	2.17	25.40	2.17	25.40	2.46	23.45	2.17	23.45	2.46	21.30	2.17	21.30	2.80

See page 17 for cooling notes.

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

## 50XL-A42 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
CFM	EWB °F (°C)	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW
		Total	Sens		Total	Sens		Total	Sens		Total	Sens		Total	Sens		Total	Sens	
1225	57 (13.9)	40.34	40.34	2.76	38.56	38.56	3.03	36.60	36.60	3.32	35.21	35.21	3.58	32.79	32.79	3.93	29.04	29.04	4.37
	62 (16.7)	41.24	37.05	2.77	39.06	36.02	3.04	36.71	36.39	3.33	35.21	35.21	3.57	32.79	32.79	3.93	29.04	29.04	4.37
	63* (17.2)	42.00	29.94	2.78	39.74	28.96	3.05	37.29	27.90	3.34	35.56	27.16	3.58	32.52	25.89	3.92	28.29	24.13	4.35
	67 (19.4)	45.04	30.93	2.84	42.59	29.93	3.10	39.90	28.85	3.39	38.03	28.11	3.63	34.81	26.85	3.98	30.12	25.04	4.40
	72 (22.2)	49.21	24.77	2.91	46.48	23.77	3.17	43.50	22.69	3.46	44.33	22.99	3.52	41.24	21.88	3.87	32.75	18.96	4.47
1400	57 (13.9)	41.96	41.96	2.82	40.04	40.04	3.10	37.92	37.92	3.39	36.46	36.46	3.64	33.86	33.86	4.00	29.82	29.82	4.43
	62 (16.7)	42.17	39.80	2.83	40.04	40.04	3.10	37.92	37.92	3.39	36.46	36.46	3.64	33.86	33.86	4.00	29.82	29.82	4.43
	63* (17.2)	42.81	31.90	2.84	40.45	30.89	3.10	37.88	29.81	3.39	36.05	29.03	3.63	31.99	27.35	4.03	28.59	25.92	4.40
	67 (19.4)	45.87	33.01	2.89	43.30	31.98	3.15	40.50	30.88	3.44	38.65	30.16	3.69	35.36	28.88	4.03	30.38	26.96	4.45
	72 (22.2)	50.09	26.04	2.96	47.23	25.02	3.23	44.13	23.92	3.51	45.09	24.26	3.58	41.83	23.12	3.93	32.98	20.13	4.51

## 50XL-A42 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
CFM	EWB °F (°C)	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW	Capacity MBtuh		Total System KW
		Total	Sens		Total	Sens		Total	Sens		Total	Sens		Total	Sens		Total	Sens	
855	57 (13.9)	28.20	28.20	1.89	27.00	27.00	2.11	25.67	25.67	2.35	24.16	24.16	2.63	22.43	22.43	2.94	20.50	20.50	3.29
	62 (16.7)	28.99	24.09	1.89	27.46	23.43	2.11	26.46	22.99	2.31	24.16	24.16	2.63	22.43	22.43	2.94	20.48	20.48	3.29
	63* (17.2)	29.61	19.56	1.89	28.04	18.92	2.11	26.32	18.23	2.35	24.41	17.47	2.63	22.29	16.64	2.95	19.93	15.73	3.30
	67 (19.4)	32.05	20.31	1.89	30.33	19.65	2.11	28.43	18.94	2.35	26.33	18.16	2.62	23.99	17.30	2.92	21.52	16.42	3.28
	72 (22.2)	35.41	16.51	1.89	33.47	15.84	2.10	31.36	15.12	2.34	31.76	15.26	2.28	26.40	13.49	2.90	24.07	12.74	3.25
975	57 (13.9)	29.53	29.53	1.90	28.23	28.23	2.12	26.78	26.78	2.36	25.14	25.14	2.64	23.27	23.27	2.95	21.29	21.29	3.29
	62 (16.7)	29.77	25.99	1.90	28.23	28.23	2.12	26.78	26.78	2.36	25.14	25.14	2.64	23.27	23.27	2.95	21.29	21.29	3.29
	63* (17.2)	30.34	20.89	1.90	28.69	20.23	2.12	26.88	19.52	2.37	24.87	18.73	2.64	22.66	17.88	2.96	20.20	16.93	3.31
	67 (19.4)	32.81	21.71	1.91	31.00	21.04	2.12	29.00	20.30	2.36	28.00	19.93	2.59	24.36	18.62	2.93	21.97	17.76	3.29
	72 (22.2)	36.21	17.40	1.91	34.17	16.72	2.12	31.95	16.00	2.35	31.03	15.68	2.58	30.23	15.42	2.60	24.42	13.57	3.26

See page 17 for cooling notes.

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

## 50XL-A48 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
1400	57 (13.9)	44.39	44.39	3.40	42.70	42.70	3.71	40.87	40.87	4.05	38.88	38.88	4.43	36.67	36.67	4.84	34.16	34.16	5.30
	62 (16.7)	45.43	38.20	3.41	43.33	37.29	3.72	41.11	36.31	4.05	38.87	38.87	4.43	36.67	36.67	4.84	35.30	35.30	4.84
	63* (17.2)	46.29	30.85	3.42	44.11	29.95	3.73	41.79	29.00	4.06	39.28	28.00	4.43	36.54	26.91	4.84	33.51	25.73	5.29
	67 (19.4)	50.04	32.01	3.46	47.71	31.11	3.77	45.21	30.16	4.11	42.50	29.14	4.48	41.00	28.60	4.43	36.24	26.85	5.34
	72 (22.2)	55.24	25.88	3.53	52.68	24.98	3.84	49.93	24.04	4.18	46.96	23.04	4.55	45.43	22.53	4.52	40.04	20.75	5.41
1600	57 (13.9)	46.32	46.32	3.48	44.10	44.10	3.79	42.54	42.54	4.13	40.41	40.41	4.51	38.04	38.04	4.92	36.62	36.62	4.93
	62 (16.7)	46.57	41.09	3.48	44.43	44.43	3.79	42.54	42.54	4.13	41.40	41.40	4.51	38.04	38.04	4.92	36.61	36.61	4.93
	63* (17.2)	47.25	32.81	3.49	44.97	31.89	3.80	42.55	30.92	4.13	39.95	29.90	4.50	37.11	28.80	4.91	33.97	27.59	5.36
	67 (19.4)	51.07	34.10	3.53	48.62	33.18	3.84	46.00	32.20	4.18	43.19	31.17	4.55	40.12	30.06	4.96	38.36	29.43	4.97
	72 (22.2)	56.36	27.17	3.60	53.67	26.25	3.91	50.80	25.29	4.25	47.69	24.26	4.62	44.30	23.15	5.03	42.55	22.59	5.06

## 50XL-A48 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
965	57 (13.9)	31.49	31.49	2.22	30.30	30.30	2.49	29.02	29.02	2.78	27.63	27.63	3.12	26.10	26.10	3.51	24.40	24.40	3.96
	62 (16.7)	32.49	27.41	2.21	30.96	26.74	2.48	29.34	26.03	2.78	27.64	27.57	3.12	26.10	26.10	3.51	24.40	24.40	3.97
	63* (17.2)	33.19	22.28	2.21	31.62	21.62	2.48	29.95	20.92	2.78	28.14	20.18	3.12	26.19	19.39	3.52	24.04	18.53	3.97
	67 (19.4)	36.14	23.21	2.21	34.45	22.54	2.47	32.65	21.84	2.77	30.72	21.10	3.10	28.62	20.30	3.49	26.31	19.44	3.94
	72 (22.2)	40.19	19.02	2.21	38.34	18.36	2.46	36.37	17.67	2.75	34.25	16.93	3.08	31.95	16.14	3.46	29.40	15.29	3.90
1100	57 (13.9)	33.04	33.04	2.24	31.76	31.76	2.50	30.39	30.39	2.80	28.90	28.90	3.13	27.27	27.27	3.52	25.45	25.45	3.97
	62 (16.7)	33.42	29.57	2.23	31.85	28.86	2.50	30.39	30.39	2.80	28.90	28.90	3.13	27.27	27.27	3.52	25.45	25.45	3.97
	63* (17.2)	34.05	23.76	2.23	32.40	23.08	2.50	30.64	22.37	2.80	28.77	21.61	3.14	26.73	20.81	3.53	24.50	19.92	3.99
	67 (19.4)	37.06	24.78	2.23	35.29	24.10	2.49	33.40	23.38	2.78	31.39	22.62	3.12	29.20	21.81	3.51	26.79	20.93	3.95
	72 (22.2)	41.21	20.03	2.23	39.26	19.35	2.48	37.19	18.64	2.77	34.96	17.88	3.10	32.54	17.07	3.48	29.89	16.19	3.92

See page 17 for cooling notes.

# PERFORMANCE DATA-STANDARD ECM INDOOR MOTOR

Cooling Extended Performance Table

## 50XL-A60 High Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
2000	57 (13.9)	58.24	4.41	55.10	4.84	54.80	4.69	52.40	5.23	46.70	46.70	6.40	42.90	42.90	7.02				
	62 (16.7)	58.46	4.42	55.79	4.84	55.36	4.69	52.73	5.23	46.94	46.94	6.40	43.20	43.20	7.02				
	63* (17.2)	59.23	4.42	56.27	4.85	55.68	4.69	52.48	5.22	45.80	37.74	6.37	41.56	36.02	6.97				
	67 (19.4)	63.56	4.50	60.35	4.92	56.88	4.24	56.62	5.33	48.97	39.21	6.44	44.37	37.49	7.05				
	72 (22.2)	69.55	35.33	4.59	66.01	5.02	62.20	32.73	5.48	58.07	31.30	5.99	48.46	28.03	7.15				
	57 (13.9)	56.01	4.29	53.76	4.72	51.30	5.19	50.80	5.08	45.20	45.20	6.27	41.70	41.70	6.89				
	62 (16.7)	57.19	4.31	54.45	4.73	51.51	48.01	5.19	50.93	47.74	5.08	45.50	45.50	6.27	41.99	6.89			
1750	63* (17.2)	58.18	4.32	55.35	4.74	52.28	38.20	5.20	51.66	37.95	5.10	45.27	35.27	6.26	41.16	6.87			
	67 (19.4)	62.48	4.39	59.41	4.81	57.00	39.90	5.18	55.71	39.39	5.21	48.47	36.58	6.34	44.00	6.94			
	72 (22.2)	68.41	33.69	4.48	65.01	32.46	4.91	57.37	29.72	5.88	52.97	28.19	6.44	48.09	26.53	7.04			

## 50XL-A60 Low Cool

EVAPORATOR AIR		CONDENSER ENTERING AIR TEMPERATURES °F (°C)																	
		75 (23.8)			85 (29.4)			95 (35)			105 (40.5)			115 (46.1)			125 (51.6)		
		CFM	EWB °F (°C)	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW	Capacity MBtuh	Total System KW		
1200	57 (13.9)	39.88	2.70	38.34	3.04	36.64	3.43	34.74	3.87	31.90	31.90	4.37	29.70	29.70	4.94				
	62 (16.7)	40.94	2.69	39.01	3.04	36.90	3.43	34.90	3.87	32.60	32.60	4.37	30.16	30.16	4.94				
	63* (17.2)	41.76	2.69	39.78	3.04	37.61	27.34	3.42	35.23	26.33	3.87	25.22	24.04	4.96					
	67 (19.4)	45.04	2.68	42.87	3.02	40.50	28.35	3.40	37.91	27.31	3.84	26.21	25.00	4.90					
	72 (22.2)	49.59	24.40	2.68	47.18	23.52	44.52	22.56	3.38	41.68	21.55	3.80	20.43	19.21	4.84				
	57 (13.9)	41.69	2.72	40.00	3.07	37.90	37.90	3.45	35.45	35.45	3.89	33.62	33.62	4.38	30.90	4.95			
	62 (16.7)	41.98	2.72	40.02	3.07	38.18	38.18	3.45	36.13	36.13	3.89	33.82	33.82	4.38	31.19	4.95			
1370	63* (17.2)	42.72	2.72	40.63	3.07	38.35	29.24	3.45	35.86	28.21	3.89	27.09	25.87	4.98					
	67 (19.4)	46.03	2.72	43.75	3.05	41.27	30.36	3.43	38.55	29.32	3.86	28.18	26.93	4.92					
	72 (22.2)	50.62	25.68	2.71	48.09	24.78	3.41	42.32	22.77	3.83	21.64	20.40	4.86						

See page 17 for cooling notes.



## PERFORMANCE DATA (CONT)

### LEGEND

BF— Bypass Factor  
 edb— Entering Dry-Bulb  
 Ewb— Entering Wet-Bulb  
 kW — Total Unit Power Input  
 ldb— Leaving Dry-Bulb  
 lwb— Leaving Wet-Bulb  
 SHC— Sensible Heat Capacity (1000 Btuh)  
 TC — Total Capacity (1000 Btuh) (net)  
 \*At 75°F (23.8°C) entering dry bulb (Tennessee Valley Authority [TVA] rating conditions); all other at 80°F (26.6°C) entering dry bulb.

### 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:

Example: 15.0 kW (at 240v) heater on 208v  
 = 15.0 (.75 mult factor)  
 = 11.25 capacity at 208v

### Sensible capacity (Btuh)

$$1.10 \times \text{cfm}$$

$$t_{ldb} = t_{edb} -$$

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

### total capacity (Btuh)

$$h_{lwb} = \frac{h_{ewb}}{4.5 \times \text{cfm}}$$

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

4. The SHC is based on 80°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	.69
	208	.75
	230	.92
	240	1.00

## Wet/Dry Coil Air Delivery - Low Stage

208/230 VOLT											
UNIT SIZE	SYSTEM SETTING	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
24	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	525	525	525	525	525	525	525	525	525	525
	MAX	600	600	600	600	600	600	600	600	600	600
30	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	613	613	613	613	613	613	613	613	613	613
	MAX	700	700	700	700	700	700	700	700	700	700
36	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	743	743	743	743	743	743	743	743	743	743
	MAX	850	850	850	850	850	850	850	850	850	850
42	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	853	853	853	853	853	853	853	853	853	853
	MAX	975	975	975	975	975	975	975	975	975	975
48	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	963	963	963	963	963	963	963	963	963	963
	MAX	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
60	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
	MAX	1372	1372	1372	1372	1372	1372	1372	1372	1372	1372

50XL--A

## Wet/Dry Coil Air Delivery - High Stage

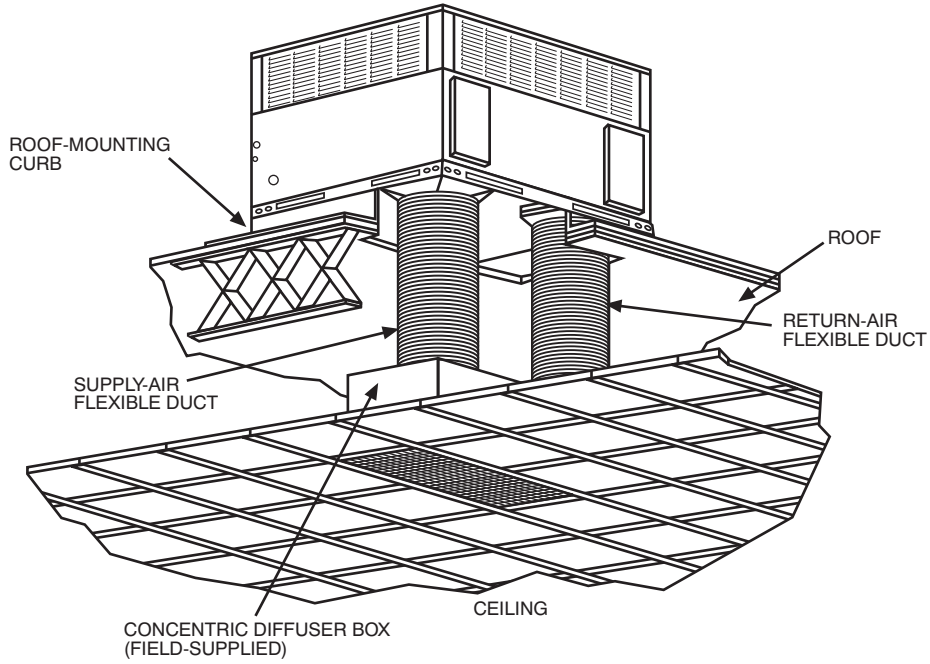
208/230 VOLT											
UNIT SIZE	SYSTEM SETTING	EXTERNAL STATIC PRESSURE (IN. W.C.)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
24	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	700	700	700	700	700	700	700	700	700	700
	MAX	800	800	800	800	800	800	800	800	800	800
30	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	875	875	875	875	875	875	875	875	875	875
	MAX	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
36	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
	MAX	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
42	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	1225	1225	1225	1225	1225	1225	1225	1225	1225	1225
	MAX	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
48	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	1400	1400	1400	1400	1400	1400	1400	1400	1400	1400
	MAX	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
60	COMFORT (Default)	Variable based on Comfort Settings									
	EFFICIENCY	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
	MAX	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000

Air delivery values are based on operating voltage of 230v. Filter and electric heater will not change air delivery values.

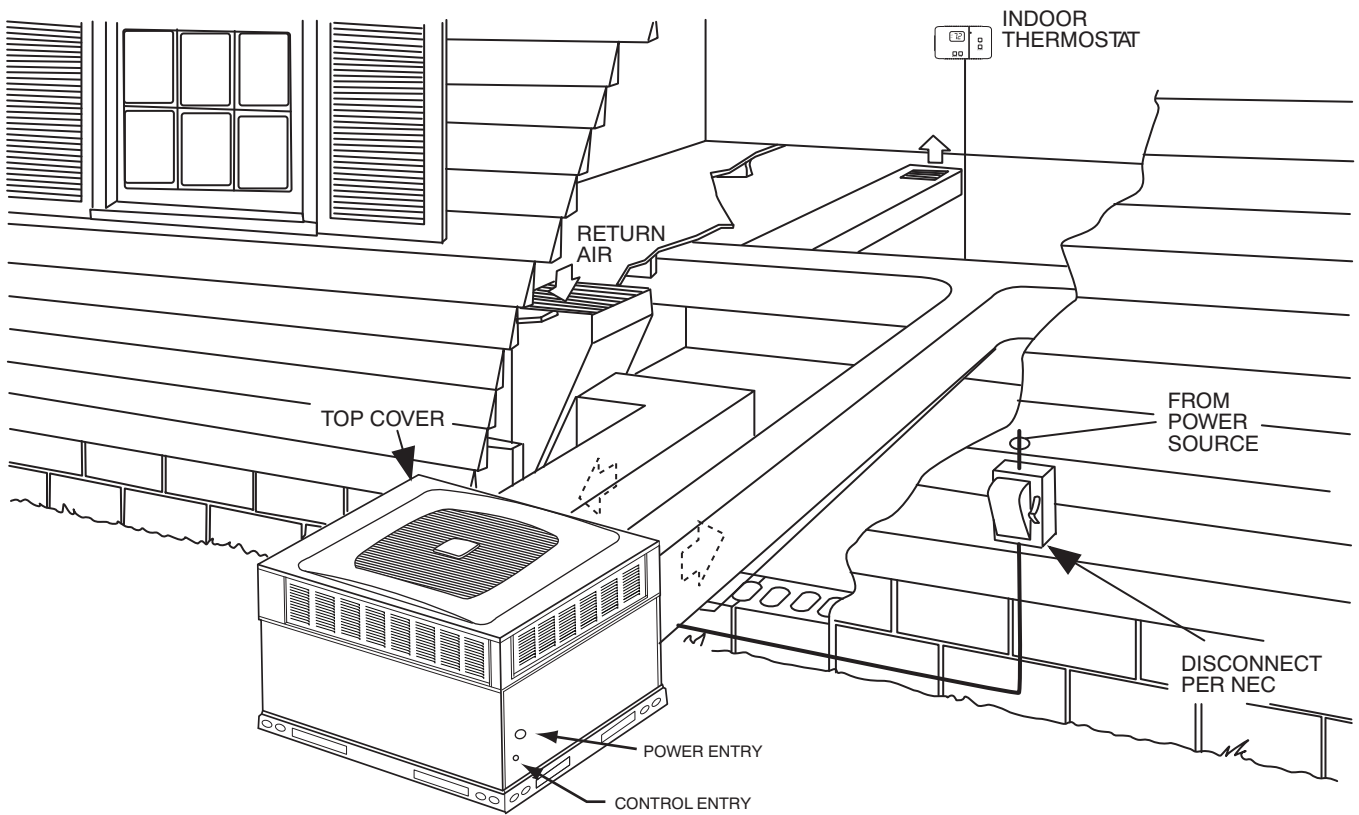
**NOTES:**

1. See User Interface instructions for more information on Max, Efficiency, and Comfort Settings
2. Efficiency Setting operates at 350 cfm/ton (nominal) and Max Setting operates at 400 cfm/ton (nominal)

# TYPICAL PIPING AND WIRING



A09233



A09091

50XL--A

## APPLICATION DATA

**Condensate trap** — A 2-in. (50 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. Remove the inserts similar to removing an electrical knockout. Leave on duct cov-

ers to seal the horizontal discharge openings in the unit. Units installed in horizontal discharge orientation do not require duct covers.

**Minimum cooling ambient operating temperature** — All standard units have a minimum ambient operating temperature of 55°F (12.7°C). With low-ambient cooling enabled at the UI, units can operate at temperatures down to 0°F (-17.7°C).

**Maximum operating outdoor air temperature** — Maximum outdoor operating air temperature for cooling is 125°F (51.6°C).

## ELECTRICAL DATA

UNIT SIZE	V-PH-HZ	VOLTAGE RANGE		COMPRESSOR		OFM FLA	IFM FLA	ELECTRIC HEAT		SINGLE POINT POWER SUPPLY	
		MIN	MAX	RLA	LRA			NOMINAL kW*	FLA	MCA	MOCP
24	208/230-1-60	187	253	10.3	52.0	0.9	4.3	-/-	-/-	18.0/18.0	25/25
								3.8/5.0	18.1/20.8	27.9/31.4	30/35
								5.4/7.2	26.0/30.0	37.9/42.9	40/45
								7.5/10.0	36.1/41.7	50.5/57.5	60/60
30	208/230-1-60	187	253	14.1	70.0	0.9	4.3	-/-	-/-	22.8/22.8	35/35
								3.8/5.0	18.1/20.8	27.9/31.4	35/35
								5.4/7.2	26.0/30.0	37.9/42.9	40/45
								7.5/10.0	36.1/41.7	50.5/57.5	60/60
								11.3/15.0	54.2/62.5	73.1/83.5	80/90
36	208/230-1-60	187	253	16.7	82.0	0.9	6.8	-/-	-/-	28.5/28.5	45/45
								3.8/5.0	18.1/20.8	31.1/34.5	45/45
								5.4/7.2	26.0/30.0	41.0/46.0	45/50
								7.5/10.0	36.1/41.7	53.6/60.6	60/70
								11.3/15.0	54.2/62.5	76.2/86.6	80/90
42	208/230-1-60	187	253	16.7	96.0	0.9	6.8	-/-	-/-	28.5/28.5	45/45
								3.8/5.0	18.1/20.8	31.1/34.5	45/45
								5.4/7.2	26.0/30.0	41.0/46.0	45/50
								7.5/10.0	36.1/41.7	53.6/60.6	60/70
								11.3/15.0	54.2/62.5	76.2/86.6	80/90
48	208/230-1-60	187	253	21.2	96.0	1.5	6.8	-/-	-/-	34.7/34.7	50/50
								3.8/5.0	18.1/20.8	34.7/34.7	50/50
								5.4/7.2	26.0/30.0	41.0/46.0	50/50
								7.5/10.0	36.1/41.7	53.6/60.6	60/70
								11.3/15.0	54.2/62.5	76.2/86.6	80/90
60	208/230-1-60	187	253	25.6	118.0	1.9	9.1	-/-	-/-	43.1/43.1	60/60
								3.8/5.0	18.1/20.8	43.1/43.1	60/60
								5.4/7.2	26.0/30.0	43.9/48.9	60/60
								7.5/10.0	36.1/41.7	56.5/63.5	60/70
								11.3/15.0	54.2/62.5	79.1/89.5	80/90
				15.0/20.0	72.2/83.3	101.6/115.5	110/125				

### LEGEND

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



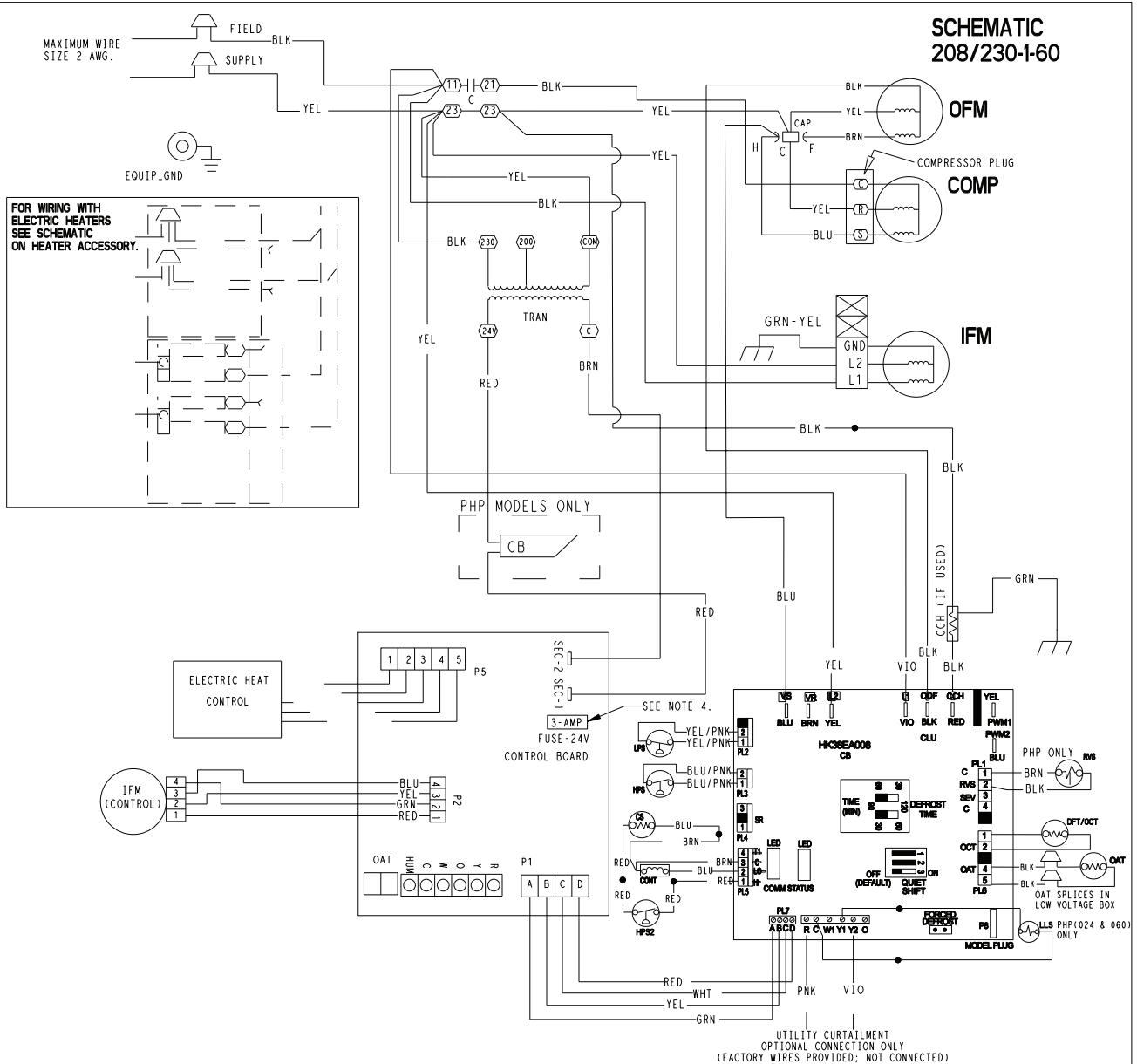
### NOTES:

- 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.
- Minimum wire size is based on 60°C copper wire. If other than 60°C copper wire is used, or if length exceeds wire length in table determine size from NEC.

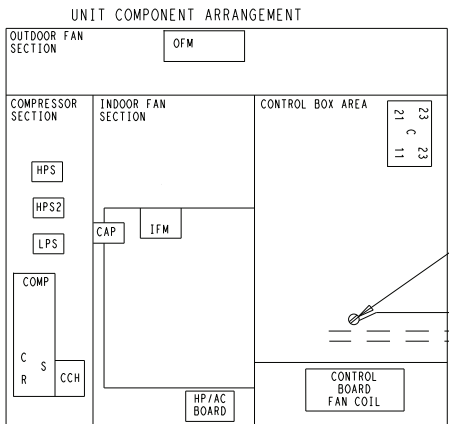
50XL--A

# TYPICAL WIRING SCHEMATIC — 230-1-60

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



**50XL--A**



**LEGEND**

△	FIELD SPLICE	C	CONTACTOR
○	TERMINAL (MARKED)	CAP	CAPACITOR
○	TERMINAL (UNMARKED)	CB	CIRCUIT BREAKER
●	SPLICE	CCH	CRANK CASE HEATER
○	SPLICE (MARKED)	COMP	COMPRESSOR MOTOR
—	FACTORY WIRING	CONT	CONTACTOR
- - -	FIELD CONTROL WIRING	GND	GROUND
- - -	FIELD POWER WIRING	HPS	HIGH PRESSURE SWITCH
- - -	ACCESSORY OR OPTIONAL WIRING	HPS2	HIGH PRESSURE SWITCH
		IFM	INDOOR FAN MOTOR
		LLS	LIQUID LINE SOLENOID
		LPS	LOW PRESSURE SWITCH
		OFM	OUTDOOR FAN MOTOR
		TRAN	TRANSFORMER

- NOTES:**
- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED, IT MUST BE REPLACED WITH TYPE 90° C WIRE OR IT'S EQUIVALENT.
  - SEE PRICE PAGES FOR USER INTERFACE AND SUBBASES
  - USE 75 DEGREE COPPER CONDUCTORS FOR FIELD INSTALLATION.
  - THE INDOOR CONTROL BOARD FUSE IS MANUFACTURED BY LITTELFUSE. THE PART NUMBER IS 257003.

**50XL500026 D**

## CONTROLS

### Sequence of Operation

The packaged air conditioner is designed for installation with a communicating Infinity User Interface. This unit will not respond to commands provided by a common thermostat except under certain emergency situations.

The User Interface uses temperature, humidity and other data supplied from indoor and outdoor system components to control heating or cooling system for optimum comfort. The unit will be commanded by the User Interface to supply airflow. The unit will operate the indoor blower at requested airflow for most modes.

The nominal requested airflow, in high stage, will be 350 cfm per ton of nominal cooling capacity as defined by unit size. Actual airflow request will be adjusted from nominal using indoor and outdoor temperature and indoor humidity data to optimize the system operation for occupant comfort and system efficiency. Refer to User Interface literature for further system control details.

Airflow during electric heater operation must be greater than a minimum level for safe operation. If User Interface instructs unit to turn on electric heat and the requested airflow is less than the minimum level the unit control will override requested value.

With a call for first stage cooling, the outdoor fan and low-stage compressor are energized. If low-stage cannot satisfy cooling demand, high-stage is energized by the User Interface. After second stage is satisfied, the unit returns to low-stage operation until first stage is satisfied or until second stage is required again.

When both first stage and second stage cooling are satisfied, the compressor will shut off.

**NOTE:** When two-stage unit is operating at low stage, system vapor (suction) pressure will be higher than a standard single-stage system or high-stage operation.

**NOTE:** Outdoor fan motor will continue to operate for one minute after compressor shuts off, when outdoor ambient is greater than or equal to 100°F (37.7°C).

### UTILITY INTERFACE WITH INFINITY CONTROL

The utility curtailment relay should be connected to factory supplied pigtails (PINK connected to R, VIOLET connected to Y2 on the control board) located in the low voltage splice box (see Typical Wiring Schematic). This input allows a power utility device to interrupt compressor operation during peak load periods. When the utility sends a signal to shut the system down, the UI will display “Curtailment Active”.

### Infinity Controlled Low Ambient Cooling

**NOTE:** When this unit is operating below 55°F (12.7°C) outdoor temperature, provisions must be made for low ambient operation. This unit is capable of low ambient cooling down to 0°F (-17.7°C) ONLY when using the Infinity control. A low ambient kit is not required, and the outdoor fan motor does not need to be replaced for Infinity controlled low ambient operation. **Low ambient cooling must be enabled in the UI set-up.** Fan may not begin to cycle until about 40°F (4.4°C) OAT. Fan will cycle based on coil and outdoor air temperature.

# GUIDE SPECIFICATIONS

## SINGLE-PACKAGED AIR CONDITIONER SYSTEM CONSTANT VOLUME APPLICATION

### HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 2 TO 5 TONS, NOMINAL COOLING

MODEL NUMBER: 50XL-A

#### PART I - GENERAL

##### SYSTEM DESCRIPTION

Outdoor rooftop or ground mounted electric cooling unit utilizing a 2 stage hermetic compressor for cooling duty and optional electric heating. Unit shall discharge supply air vertically or horizontally as shown on contract drawings. Outdoor fan/coil section shall have a draw-thru design with vertical discharge for minimum sound levels.

##### QUALITY ASSURANCE

- A. Unit shall be rated in accordance with AHRI Standards 210/240, and 270.
- 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, cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-410A), and special features required prior to field start-up.

###### B. Unit Cabinet:

- 1. Unit cabinet shall be constructed of phosphated, zinc-coated, prepainted steel capable of withstanding 500 hrs of salt spray.
- 2. Normal service shall be through 3 removable cabinet panels.
- 3. The unit shall be constructed on a rust proof unit base that has an externally trapped, integrated sloped drain pan.
- 4. Indoor fan compartment top surface shall be insulated with a minimum 1/2-in. (13 mm) thick, flexible fiberglass insulation, coated on the air side and retained by adhesive and mechanical means. The indoor wall sections will be insulated with a foil-faced insulation 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 indoor fan shall be variable-speed motor and control, as shown on equipment drawings.
- 2. Fan wheel shall be made from steel, be double-inlet type. It shall have forward-curved blades with a corrosion-resistant finish and shall be dynamically balanced.
- 3. Outdoor fan shall be of the direct-driven propeller type with aluminum blades, riveted to corrosion-resistant steel spiders. It shall be dynamically balanced and discharge air vertically.

###### D. Compressor:

- 1. Fully hermetic 2 stage compressors with factory-installed vibration isolation.
- 2. Two stage scroll compressors shall be standard on all units.

###### E. Coils:

- 1. Indoor and outdoor coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed.
- 2. Tube sheet openings shall be bellied to prevent tube wear.

###### F. Refrigerant Metering Device:

Refrigerant metering device shall be of the TXV type.

###### G. Filters:

Filter section shall consist of field-installed, throw-away, 1-in. thick fiberglass filters of commercially available sizes.

###### H. Controls and Safeties:

- 1. Unit controls shall be complete with self-contained low voltage control circuit.
- 2. Units shall incorporate an internal compressor protector that provides reset capability.
- 3. Unit shall provide high and low/loss-of-charge pressure safety protection.

###### I. Operating Characteristics:

- 1. Unit shall be capable of starting and running at 125°F (51.6°C) ambient outdoor temperature, exceeding maximum load criteria of AHRI Standard 210.
- 2. Compressor with standard controls shall be capable of operation down to 55°F (12.7°C) ambient outdoor temperature.
- 3. Unit shall be capable of low-ambient cooling (below 55°F (12.7°C) ambient outdoor temperature) with low-ambient cooling enabled on the UI.

###### J. Electrical Requirements:

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

###### K. Motors:

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

###### L. Grille

- 1. Louvered Grille:  
Louvered grille shall be standard on all units.

## GUIDE SPECIFICATIONS (CONT)

### M. Special Features:

1. Coil Option:  
Base unit with tin plated indoor coil hairpins available as a factory installed option.
2. Infinity User Interface (UI):  
To provide for two-stage cooling and electric (auxiliary) heat in addition to manual or automatic changeover and indoor fan control.
3. 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.
4. Flat Roof Curb:  
Curbs shall have seal strip and a wood nailer for flashing and shall be installed per manufacturer's instructions.
5. Manual Outdoor Air Damper:  
Package shall consist of damper, bird screen, and rain hood which can be preset to admit outdoor air for year-round ventilation.
6. Square-To-Round Duct Transitions:  
Shall have the ability to convert the supply and return openings from rectangular to round (24-48 sizes only).
7. 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.