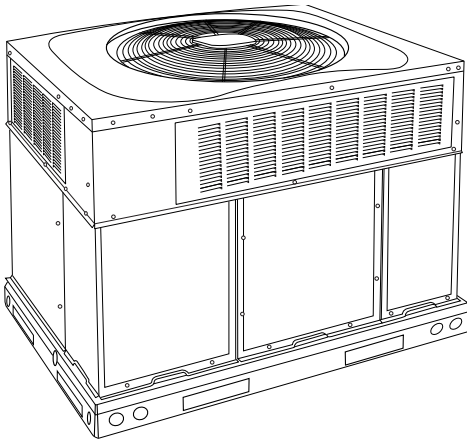


## 605C--B

### Legacy™ 13.4 SEER2 Single-Packaged Heat Pump System with Puron Advance™ (R-454B) Refrigerant Single Phase 2-5 Nominal Tons (Sizes 24-60) Three Phase 3-5 Nominal Tons (Sizes 36-60)



## Product Data



A09033

**Fig. 1 – Unit 605C--B**

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

- 13.4 SEER2
- 11.05 EER2
- 6.7 HSPF2
- ECM Motor-Standard
- Louvers-Standard
- Cabinet air leakage of 2.0% or less at 5 in. W.C. when tested in accordance with ASHRAE standard 193.
- Refrigerant leak detection dissipation system for added safety

### Features/Benefits

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

Puron Advance is Bryant's latest choice of refrigerant to help meet the 2025 GWP requirement. This unit is designed and tested with Puron Advance and contains a dissipation system.

#### Easy Installation

Factory-assembled package is a compact, fully self-contained, heat pump unit that is prewired, pre-piped, and pre-charged for minimum installation expense. These units are available in a variety of standard capacity ranges 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.

#### Durable, dependable components

**Scroll Compressors** 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.

**ECM Motor** is standard on all models. 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. Low ambient kit is available as a field installed accessory.

#### 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.

**Thermostat Controls** designed to work as a system with Bryant's small packaged product.

**Refrigerant system** is designed to provide dependability. Liquid filter driers are used to promote clean, unrestricted operation. Each unit leaves the factory with non-ozone depleting and low global warming potential Puron Advance (R-454B) refrigerant charge. Refrigerant service connections make checking operating pressures easier. Factory-installed leak detection dissipation system for added safety

**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 aluminum indoor coil 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 70.0 dBA.

**Easy to service cabinets** provide easy 3 panel accessibility to serviceable components during maintenance and installation. The base with integrated drain pan provides easy ground level installation with mounting pad. A nesting feature ensures a positive basepan to roof curb seal when the unit is roof mounted. A convenient 3/4-in. wide perimeter flange makes frame mounting on a rooftop easy.

#### Convertible duct configuration

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

**Cabinets** are constructed of heavyduty, phosphated, zinc-coated prepainted steel capable of withstanding 500 hours in 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 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.

## Limited Warranty\*

- Default 5 year parts limited warranty

-10 year parts limited warranty with timely registration. Equipment must be registered within 90 days of original installation, except in jurisdictions where warranty benefits cannot be conditioned on registration.

\* Applies to original purchaser/homeowner and 5 years to subsequent owners.

- Default 5-year on compressor limited warranty

-10-year on compressor limited warranty with timely registration. Equipment must be registered within 90 days of original installation, except in jurisdictions where warranty benefits cannot be conditioned on registration.

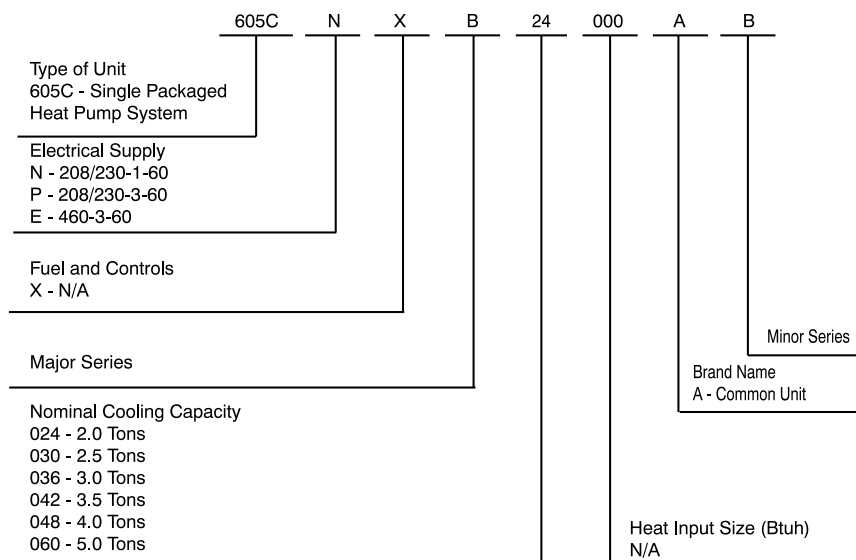
\* Applies to original purchaser/homeowner and 5 years to subsequent owners. See warranty certificate for complete details and restrictions

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## Model Number Nomenclature



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](http://www.ahridirectory.org).



| SAP ORDERING NO. | NOMINAL COOLING CAPACITY (Btuh) | VOLTS-PHASE (60 HZ) | APPROX SHIP WT (LB) |
|------------------|---------------------------------|---------------------|---------------------|
| 605CNXB24000     | 24,000                          | 208/230-1           | 349                 |
| 605CNXB30000     | 30,000                          | 208/230-1           | 384                 |
| 605CNXB36000     | 36,000                          | 208/230-1           | 423                 |
| 605CPXB36000     | 36,000                          | 208/230-3           | 423                 |
| 605CEXB36000     | 36,000                          | 460-3               | 423                 |
| 605CNXB42000     | 42,000                          | 208/230-1           | 444                 |
| 605CPXB42000     | 42,000                          | 208/230-3           | 444                 |
| 605CEXB42000     | 42,000                          | 460-3               | 444                 |
| 605CNXB48000     | 48,000                          | 208/230-1           | 426                 |
| 605CPXB48000     | 48,000                          | 208/230-3           | 426                 |
| 605CEXB48000     | 48,000                          | 460-3               | 426                 |
| 605CNXB60000     | 60,000                          | 208/230-1           | 475                 |
| 605CPXB60000     | 60,000                          | 208/230-3           | 475                 |
| 605CEXB60000     | 60,000                          | 460-3               | 475                 |

## AHRI\* Capacities

### Cooling Capacities and Efficiencies

| UNIT SIZE | NOMINAL TONS | STANDARD CFM | COOLING CAPACITY (BTUH)† | EER2‡ | SEER2** |
|-----------|--------------|--------------|--------------------------|-------|---------|
| 24        | 2            | 750          | 22200                    | 11.05 | 13.4    |
| 30        | 2.5          | 950          | 28600                    | 11.05 | 13.4    |
| 36        | 3            | 1150         | 33800                    | 11.05 | 13.4    |
| 42        | 3.5          | 1350         | 42000                    | 11.05 | 13.4    |
| 48        | 4            | 1600         | 47000                    | 11.05 | 13.4    |
| 60        | 5            | 1750         | 55000                    | 11.05 | 13.4    |

### Heat Pump Heating Capacities and Efficiencies

| UNIT SIZE | HEATING CAPACITY (BTUH) @ 47°F (8.3°C) | COP @ 47°F (8.3°C) | HEATING CAPACITY (BTUH) @ 17°F (-8.3°C) | COP @ 17°F (-8.3°C) | HSPF2 |
|-----------|----------------------------------------|--------------------|-----------------------------------------|---------------------|-------|
| 24        | 24000                                  | 3.8                | 12400                                   | 2.2                 | 6.7   |
| 30        | 27800                                  | 3.0                | 15800                                   | 2.1                 | 6.7   |
| 36        | 35600                                  | 3.8                | 19900                                   | 2.4                 | 6.7   |
| 42        | 41500                                  | 3.7                | 23400                                   | 2.3                 | 6.7   |
| 48        | 45500                                  | 3.7                | 24800                                   | 2.26                | 6.7   |
| 60        | 57500                                  | 3.4                | 31000                                   | 2.3                 | 6.7   |

#### LEGEND

dB—Sound Levels (decibels)

db—Dry Bulb

SEER2—Seasonal Energy Efficiency Ratio

wb—Wet Bulb

COP—Coefficient of Performance

HSPF2—Heating Season Performance Factor

\* Air Conditioning, Heating & Refrigeration Institute.

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

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

Notes:

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

Ratings are based on:

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

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

### A-Weighted Sound Power Level (dBA)

| UNIT SIZE | STANDARD RATING (dBA) | TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment) |     |     |      |      |      |      |
|-----------|-----------------------|------------------------------------------------------------|-----|-----|------|------|------|------|
|           |                       | 125                                                        | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 24        | 70                    | 55                                                         | 59  | 65  | 66   | 61   | 57   | 49   |
| 30        | 72                    | 57                                                         | 62  | 68  | 68   | 63   | 57   | 49   |
| 36        | 71                    | 63                                                         | 59  | 65  | 67   | 61   | 57   | 50   |
| 42        | 74                    | 58                                                         | 63  | 69  | 69   | 64   | 62   | 55   |
| 48        | 75                    | 59                                                         | 64  | 69  | 70   | 67   | 63   | 56   |
| 60        | 72                    | 60                                                         | 63  | 66  | 67   | 64   | 61   | 55   |

NOTE: Tested in compliance with AHRI 270 but not listed with AHRI.

## Physical Data

|                                            | <b>24</b>                           | <b>30</b> | <b>36</b>          | <b>42</b> | <b>48</b>          | <b>60</b> |
|--------------------------------------------|-------------------------------------|-----------|--------------------|-----------|--------------------|-----------|
| Unit Size                                  | 2                                   | 2.5       | 3                  | 3.5       | 4                  | 5         |
| Shipping Weight* (lb)                      | 349                                 | 384       | 423                | 444       | 426                | 475       |
| (kg)                                       | 159                                 | 174       | 192                | 201       | 193                | 215       |
| Compressor Quantity                        | 1                                   |           |                    |           |                    |           |
| Type                                       | Scroll                              |           |                    |           |                    |           |
| Refrigerant                                | R-410A                              |           |                    |           |                    |           |
| Refrigerant Quantity (lb)                  | 7.50                                | 8.25      | 9.50               | 9.00      | 9.75               | 11.0      |
| Quantity (kg)                              | 3.4                                 | 3.7       | 4.3                | 4.1       | 4.4                | 5.0       |
| Refrigerant Metering Device                | Indoor TXV, Outdoor Dual Accuraters |           |                    |           |                    |           |
| Minimum Conditioned Space Area (sq. ft.)   | 122                                 | 137       | 152                | 137       | 152                | 167       |
| Orifice ID (in)                            | N/A                                 |           |                    |           |                    |           |
| (mm)                                       |                                     |           |                    |           |                    |           |
| Orifice OD (in)                            | 0.032 (2)                           | 0.032 (2) | 0.040 (2)          | 0.042 (2) | 0.046 (2)          | 0.046 (2) |
| (mm)                                       | 0.81 (2)                            | 0.81 (2)  | 1.02 (2)           | 1.07 (2)  | 1.17 (2)           | 1.17 (2)  |
| Outdoor Coil                               |                                     |           |                    |           |                    |           |
| Rows...Fins/in,                            | 1...21                              | 2...21    | 1...21             | 1...21    | 2...21             | 2...21    |
| face area (sq. ft.)                        | 18.8                                | 18.8      | 23.3               | 23.3      | 13.6               | 17.5      |
| Outdoor Fan                                |                                     |           |                    |           |                    |           |
| Nominal Airflow (cfm)                      | 3000                                | 3200      | 3500               | 3500      | 3000               | 3500      |
| Diameter (in.)                             | 24                                  | 24        | 26                 | 26        | 26                 | 26        |
| Diameter (mm)                              | 610                                 | 610       | 660                | 660       | 660                | 660       |
| Motor hp (rpm)                             | 1/10 (810)                          | 1/5 (810) | 1/5 (810)          | 1/5 (810) | 1/5 (810)          | 1/5 (810) |
| Indoor Coil                                |                                     |           |                    |           |                    |           |
| Rows...Fins/in,                            | 3...15                              | 3...17    | 3...17             | 3...17    | 3...17             | 3...17    |
| face area (sq. ft.)                        | 3.7                                 | 3.7       | 4.7                | 4.7       | 5.6                | 5.6       |
| Indoor Blower                              |                                     |           |                    |           |                    |           |
| Required Minimum Dissipation Airflow (cfm) | 213                                 | 239       | 266                | 239       | 266                | 293       |
| Nominal Airflow (cfm)                      | 750                                 | 950       | 1150               | 1350      | 1600               | 1750      |
| Size (in.)                                 | 10 x 10                             | 10 x 10   | 11 x 10            | 11 x 10   | 11 x 10            | 11 x 10   |
| Size (mm)                                  | 254 x 254                           | 254 x 254 | 279 x 254          | 279 x 254 | 279 x 254          | 279 x 254 |
| Motor hp (rpm)                             | 1/2                                 | 1/2       | 1/2                | 3/4       | 1                  | 1         |
| High Pressure Switch (psig)                | 650 +/- 15                          |           |                    |           |                    |           |
| Cutout                                     | 420 +/- 25                          |           |                    |           |                    |           |
| Reset (Auto)                               |                                     |           |                    |           |                    |           |
| Loss-of-Charge/Low Pressure Switch (psig)  | 20 +/- 5                            |           |                    |           |                    |           |
| Cutout                                     | 45 +/- 10                           |           |                    |           |                    |           |
| Reset (Auto)                               |                                     |           |                    |           |                    |           |
| Return Air Filters                         | 2 each 20x12x1 in.                  |           | 1 each 24x14x1 in. |           | 1 each 24x16x1 in. |           |
| disposable†                                | 508x305x25 mm                       |           | 610x356x25 mm      |           | 610x406x25 mm      |           |
|                                            |                                     |           | 24x16x1 in.        |           | 24x18x1 in.        |           |
|                                            |                                     |           | 610x406x25 mm      |           | 610x457x25 mm      |           |

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

†. 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 300-350 ft/minute for throwaway type or 450 ft/minute for high-capacity type. Air filter pressure drop for non-standard filters must not exceed 0.08 IN. W.C.  
If using accessory filter rack refer to the filter rack installation instructions for correct filter size and quantity.

## Accessories

| PART NUMBER                                       | DESCRIPTION                                                          |       | USED WITH |
|---------------------------------------------------|----------------------------------------------------------------------|-------|-----------|
| CPRFCURB011B00 <sup>+</sup>                       | Roof Curb, 14-in. High                                               |       | 24 - 60   |
| CPRFCURB013B00                                    |                                                                      |       | 36 - 60   |
| CPADCURB001A00 <sup>†</sup>                       | Adapter curb                                                         |       | 24 - 30   |
| CPADCURB002A00 <sup>†</sup>                       |                                                                      |       | 36 - 60   |
| CPGSKTKIT001A00                                   | Gasket Kit for existing roof curb with new base rail unit            |       | All       |
| CPECOMZR007B00                                    | Economizer - Vertical, gear driven w/Filter Rack and 1-in. filter    |       | 24 - 30   |
| CPECOMZR008A00                                    |                                                                      |       | 36 - 42   |
| CPECOMZR009A00                                    |                                                                      |       | 48 - 60   |
| CPECOMZR010A00                                    | Economizer - Horizontal w/Filter Rack and 1-in filter.               |       | 24 - 30   |
| CPECOMZR011A00                                    |                                                                      |       | 36 - 42   |
| CPECOMZR012A00                                    |                                                                      |       | 48 - 60   |
| AXB078ENT                                         | Outdoor Enthalpy Control                                             |       | ALL       |
| CPMANDPR007A00                                    | Manual Outside Air Damper - External w/Filter Rack and 1-in. filters |       | 24 - 30   |
| CPMANDPR008A00                                    |                                                                      |       | 36 - 42   |
| CPMANDPR009A00                                    |                                                                      |       | 48 - 60   |
| CPFILTRK007A00                                    | Internal Filter Rack (includes 1-in. filters)                        |       | 24 - 30   |
| CPFILTRK008A00                                    |                                                                      |       | 36 - 42   |
| CPFILTRK009A00                                    |                                                                      |       | 48 - 60   |
| CPLOWAMB001A00                                    | Low Ambient Control                                                  |       | ALL       |
| CPDUCFLG002A00                                    | Square to Round (1 set of 2, used with horizontal duct flanges only) |       | 24 - 48   |
| CPHSTART002A00                                    | Compressor Start Assist Kit (single phase only)                      |       | ALL       |
| CPCRKHTR008A00                                    | 240V Crankcase Heater Single Phase                                   |       | 24 - 36   |
| CPCRKHTR004A00                                    |                                                                      |       | 42 - 60   |
| NRTIMEGD001A00                                    | Five Minute Compressor Delay                                         |       | ALL       |
| HN65KJ016                                         | Relay Pilot Duty                                                     |       | ALL       |
| CPFLUEDS001A00                                    | Flue Discharge Deflector Assembly                                    |       | ALL       |
| ELECTRIC HEATERS (208/230 — SINGLE PHASE — 60 Hz) |                                                                      |       |           |
|                                                   | Nominal Capacity (kW)                                                | Fuses |           |
| CPHEATER052B0 <sup>‡</sup>                        | 5.0                                                                  | -     | 24 - 42   |
| CPHEATER064B0 <sup>‡</sup>                        | 5.0                                                                  | 4     | ALL       |
| CPHEATER069B0 <sup>‡</sup>                        | 7.2                                                                  | -     | 24        |
| CPHEATER070B0 <sup>‡</sup>                        | 7.2                                                                  | 4     | ALL       |
| CPHEATER050B0 <sup>‡</sup>                        | 10.0                                                                 | 4     | ALL       |
| CPHEATER066B0 <sup>‡</sup>                        | 15.0                                                                 | 6     | 36 - 60   |
| CPHEATER133B0 <sup>‡</sup>                        | 15.0                                                                 | 4     | 30        |
| CPHEATER054B0 <sup>‡</sup>                        | 20.0                                                                 | 6     | 42 - 60   |
| ELECTRIC HEATERS (208/230 — THREE PHASE — 60 Hz)  |                                                                      |       |           |
| CPHEATER055B0 <sup>‡</sup>                        | 5.0                                                                  | -     | 36 - 60   |
| CPHEATER056B0 <sup>‡</sup>                        | 10.0                                                                 | -     | 36 - 48   |
| CPHEATER068B0 <sup>‡</sup>                        | 10.0                                                                 | 6     | 36 - 60   |
| CPHEATER058B0 <sup>‡</sup>                        | 15.0                                                                 | 6     | 36 - 60   |
| CPHEATER059B0 <sup>‡</sup>                        | 20.0                                                                 | 6     | 42 - 60   |
| ELECTRIC HEATERS (460 THREE PHASE — 60 Hz)        |                                                                      |       |           |
| CPHEATER061B0 <sup>‡</sup>                        | 10.0                                                                 | -     | 36 - 60   |
| CPHEATER062B0 <sup>‡</sup>                        | 15.0                                                                 | -     | 36 - 60   |
| CPHEATER063B0 <sup>‡</sup>                        | 20.0                                                                 | -     | 42 - 60   |

\*. CPRFCURB011B00 can be used with 42-60 size units with some overhang.

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

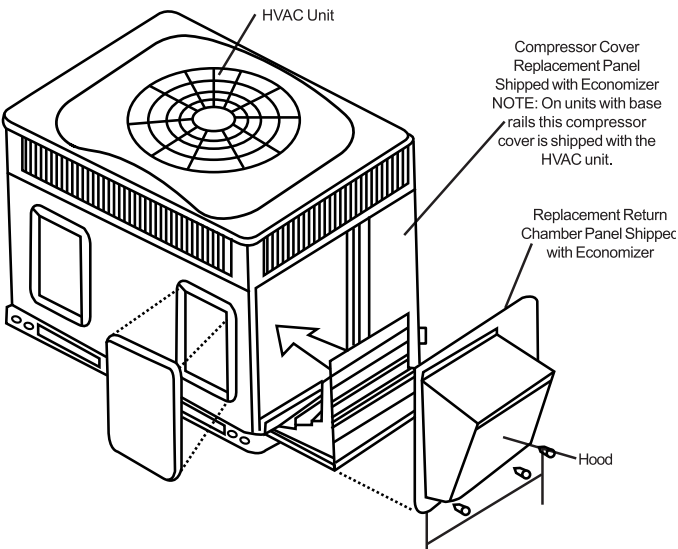
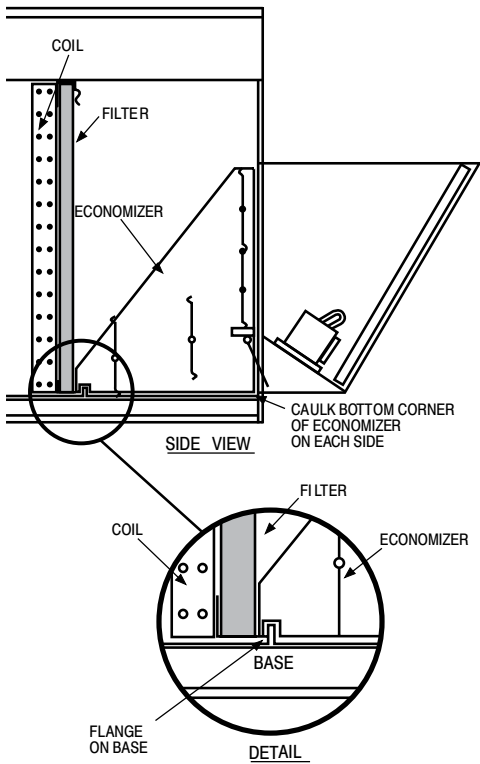
‡. Denotes digit can be 0, 1 or 2.

Note: If installing an accessory heater, the thermostat must have capability to energize "G" (fan) on a call for "W" (electric heat). TSTAT0406 and TSTAT0408 contain this feature.

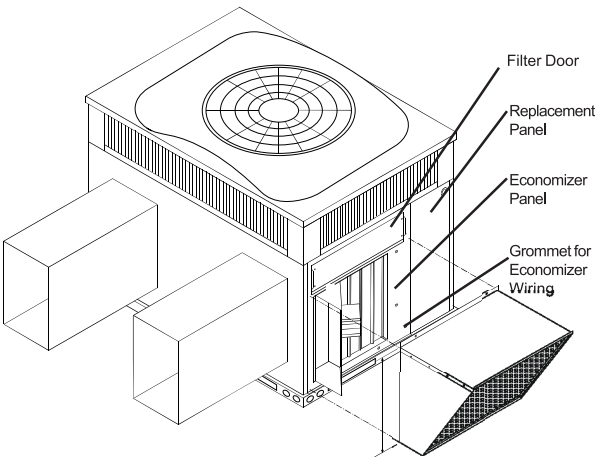
## Minimum Airflow for Reliable Electric Heater Operation (CFM)

| SIZE          | 24  | 30   | 36   | 42   | 48   | 60   |
|---------------|-----|------|------|------|------|------|
| AIRFLOW (CFM) | 800 | 1025 | 1250 | 1400 | 1710 | 1800 |

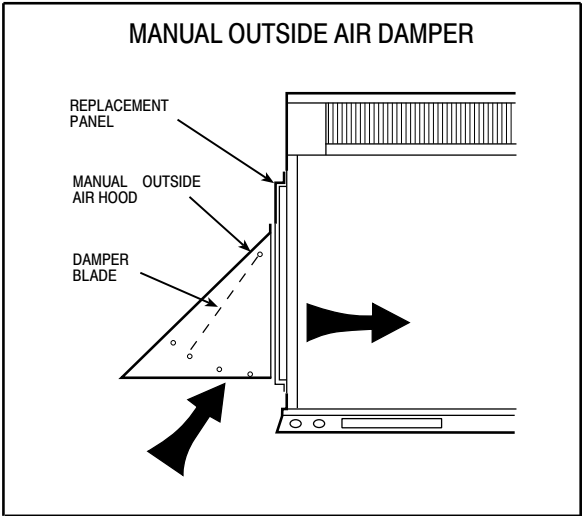
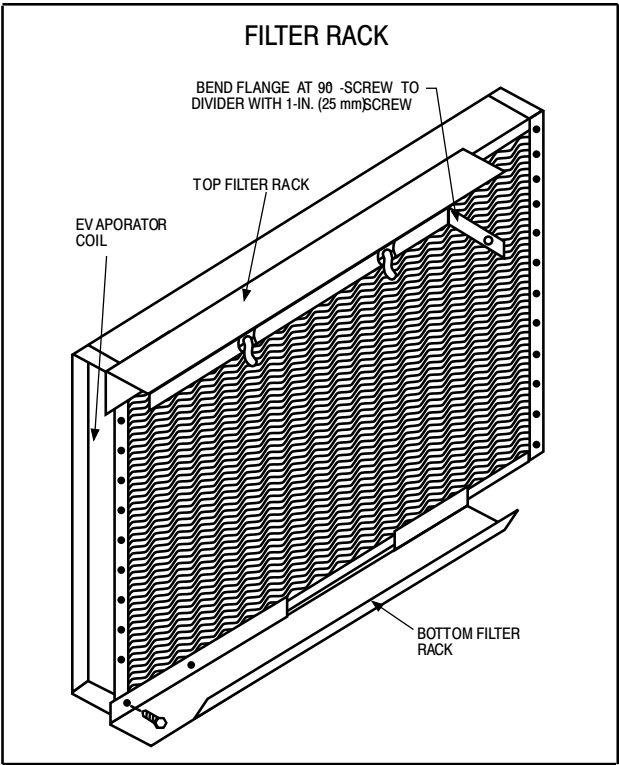
ECONOMIZER



Vertical Economizer



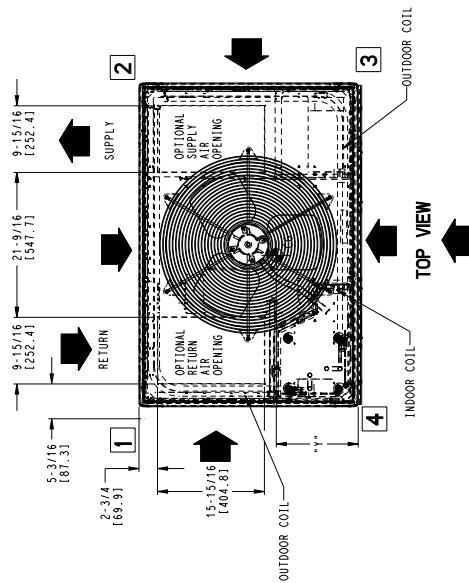
Horizontal Economizer



A09375

| COOLING CAPACITY | UNIT WT. |       | UNIT HEIGHT IN/MM | CENTER OF GRAVITY IN/MM |        |       |     |        |       |
|------------------|----------|-------|-------------------|-------------------------|--------|-------|-----|--------|-------|
|                  | LB       | KG    |                   | "A"                     | X      | Y     | Z   |        |       |
|                  |          |       |                   |                         |        |       |     |        |       |
| 24               | 338      | 153.3 | 51-3/4            | 1315                    | 20-1/2 | 520.7 | 394 | 16-5/8 | 422.3 |
| 30               | 373      | 169.2 | 51-3/4            | 1315                    | 20-1/2 | 520.7 | 394 | 16-5/8 | 422.3 |

| UNIT | CORNER WEIGHT LB/KG |       |       |       |
|------|---------------------|-------|-------|-------|
|      | "1"                 | "2"   | "3"   | "4"   |
| 24   | 86.3                | 39.2  | 76.2  | 34.6  |
| 30   | 95.3                | 43.2  | 83.9  | 38.1  |
| 36   | 104.3               | 47.2  | 91.2  | 41.4  |
| 42   | 113.3               | 51.2  | 98.9  | 44.8  |
| 48   | 122.3               | 55.2  | 106.2 | 48.2  |
| 54   | 131.3               | 59.2  | 113.9 | 51.6  |
| 60   | 140.3               | 63.2  | 121.2 | 55.0  |
| 66   | 149.3               | 67.2  | 128.9 | 58.4  |
| 72   | 158.3               | 71.2  | 136.2 | 61.8  |
| 78   | 167.3               | 75.2  | 143.9 | 65.2  |
| 84   | 176.3               | 79.2  | 151.2 | 68.6  |
| 90   | 185.3               | 83.2  | 158.9 | 72.0  |
| 96   | 194.3               | 87.2  | 166.2 | 75.4  |
| 102  | 203.3               | 91.2  | 173.9 | 78.8  |
| 108  | 212.3               | 95.2  | 181.2 | 82.2  |
| 114  | 221.3               | 99.2  | 188.9 | 85.6  |
| 120  | 230.3               | 103.2 | 196.2 | 89.0  |
| 126  | 239.3               | 107.2 | 203.9 | 92.4  |
| 132  | 248.3               | 111.2 | 211.2 | 95.8  |
| 138  | 257.3               | 115.2 | 218.9 | 99.2  |
| 144  | 266.3               | 119.2 | 226.2 | 102.6 |
| 150  | 275.3               | 123.2 | 233.9 | 106.0 |
| 156  | 284.3               | 127.2 | 241.2 | 109.4 |
| 162  | 293.3               | 131.2 | 248.9 | 112.8 |
| 168  | 302.3               | 135.2 | 256.2 | 116.2 |
| 174  | 311.3               | 139.2 | 263.9 | 119.6 |
| 180  | 320.3               | 143.2 | 271.2 | 123.0 |
| 186  | 329.3               | 147.2 | 278.9 | 126.4 |
| 192  | 338.3               | 151.2 | 286.2 | 129.8 |
| 198  | 347.3               | 155.2 | 293.9 | 133.2 |
| 204  | 356.3               | 159.2 | 301.2 | 136.6 |
| 210  | 365.3               | 163.2 | 308.9 | 140.0 |
| 216  | 374.3               | 167.2 | 316.2 | 143.4 |
| 222  | 383.3               | 171.2 | 323.9 | 146.8 |
| 228  | 392.3               | 175.2 | 331.2 | 150.2 |
| 234  | 401.3               | 179.2 | 338.9 | 153.6 |
| 240  | 410.3               | 183.2 | 346.2 | 157.0 |
| 246  | 419.3               | 187.2 | 353.9 | 160.4 |
| 252  | 428.3               | 191.2 | 361.2 | 163.8 |
| 258  | 437.3               | 195.2 | 368.9 | 167.2 |
| 264  | 446.3               | 199.2 | 376.2 | 170.6 |
| 270  | 455.3               | 203.2 | 383.9 | 174.0 |
| 276  | 464.3               | 207.2 | 391.2 | 177.4 |
| 282  | 473.3               | 211.2 | 398.9 | 180.8 |
| 288  | 482.3               | 215.2 | 406.2 | 184.2 |
| 294  | 491.3               | 219.2 | 413.9 | 187.6 |
| 300  | 500.3               | 223.2 | 421.2 | 191.0 |
| 306  | 509.3               | 227.2 | 428.9 | 194.4 |
| 312  | 518.3               | 231.2 | 436.2 | 197.8 |
| 318  | 527.3               | 235.2 | 443.9 | 201.2 |
| 324  | 536.3               | 239.2 | 451.2 | 204.6 |
| 330  | 545.3               | 243.2 | 458.9 | 208.0 |
| 336  | 554.3               | 247.2 | 466.2 | 211.4 |
| 342  | 563.3               | 251.2 | 473.9 | 214.8 |
| 348  | 572.3               | 255.2 | 481.2 | 218.2 |
| 354  | 581.3               | 259.2 | 488.9 | 221.6 |
| 360  | 590.3               | 263.2 | 496.2 | 225.0 |
| 366  | 599.3               | 267.2 | 503.9 | 228.4 |
| 372  | 608.3               | 271.2 | 511.2 | 231.8 |
| 378  | 617.3               | 275.2 | 518.9 | 235.2 |
| 384  | 626.3               | 279.2 | 526.2 | 238.6 |
| 390  | 635.3               | 283.2 | 533.9 | 242.0 |
| 396  | 644.3               | 287.2 | 541.2 | 245.4 |
| 402  | 653.3               | 291.2 | 548.9 | 248.8 |
| 408  | 662.3               | 295.2 | 556.2 | 252.2 |
| 414  | 671.3               | 299.2 | 563.9 | 255.6 |
| 420  | 680.3               | 303.2 | 571.2 | 259.0 |
| 426  | 689.3               | 307.2 | 578.9 | 2     |



**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.**

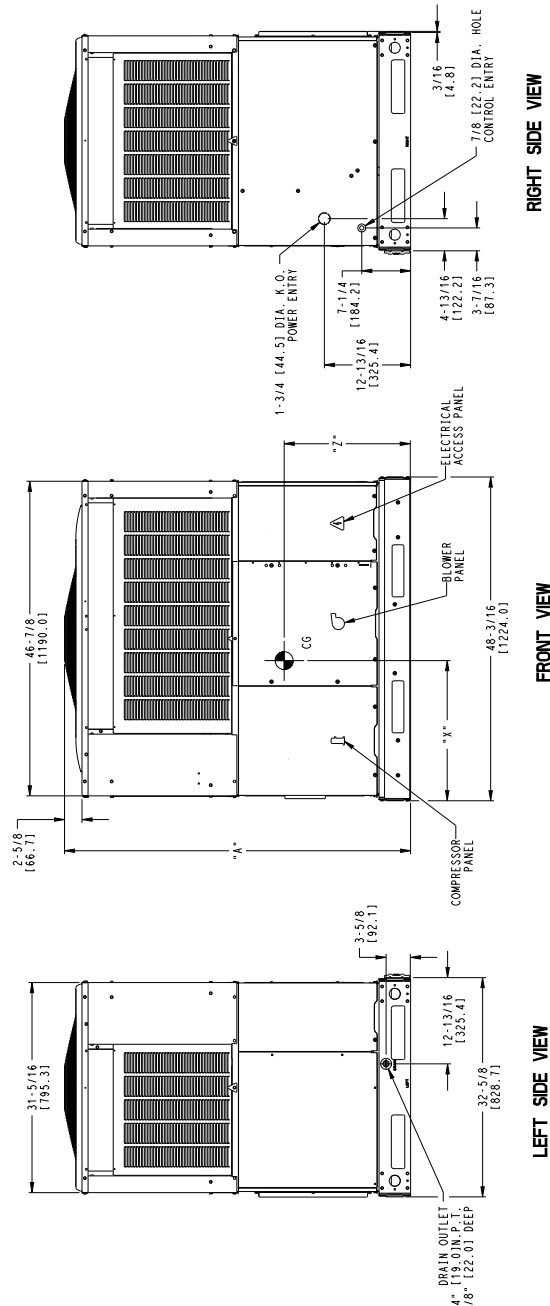
|                                                                                     |     |          |
|-------------------------------------------------------------------------------------|-----|----------|
| BETWEEN UNITS, POWER ENTRY SIDE.....                                                | .42 | [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.....         | 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 MILLIMETERS



REAR VIEW

**RIGHT SIDE VIEW**

**FRONT VIEW**

**LEFT SIDE VIEW**

|          |   |
|----------|---|
| SD5986-4 | - |
|----------|---|

Unit Dimensions - 36-60

| COOLING CAPACITY | UNIT WT.<br>LB | UNIT HEIGHT<br>IN/MM | CENTER OF GRAVITY IN/MM |      |        |     |
|------------------|----------------|----------------------|-------------------------|------|--------|-----|
|                  |                |                      | Y                       | Z    | Y      | Z   |
| 36               | 409            | 184.2                | 54.3/4                  | 1391 | 20-1/2 | 521 |
| 42               | 438            | 193.3                | 54.3/4                  | 1437 | 20-1/2 | 521 |
| 48               | 467            | 202.0                | 54.3/4                  | 1483 | 20-1/2 | 521 |
| 60               | 496            | 210.7                | 54.3/4                  | 1529 | 20-1/2 | 521 |

| UNIT | CORNER WEIGHT LBS/KG |       |       |       |
|------|----------------------|-------|-------|-------|
|      | 1"                   | 2"    | 3"    | 4"    |
| 36   | 89.2                 | 140.3 | 178.0 | 215.8 |
| 42   | 93.8                 | 145.6 | 183.2 | 221.4 |
| 48   | 98.4                 | 150.9 | 188.5 | 227.0 |
| 60   | 103.0                | 156.2 | 193.8 | 232.6 |

REQUIRED CLEARANCES TO COMBUSTIBLE UNIT.

|                      | INCHES (MM) |
|----------------------|-------------|
| TOP OF UNIT          | 14 (355.6)  |
| 4" BELOW UNIT        | 4 (101.6)   |
| SIDE, OPPOSITE DUCTS | 14 (355.6)  |
| BOTTOM OF UNIT       | 0 (0.0)     |
| ELECTRICAL PANEL     | 36 (914.4)  |

NEC REQUIRED CLEARANCES

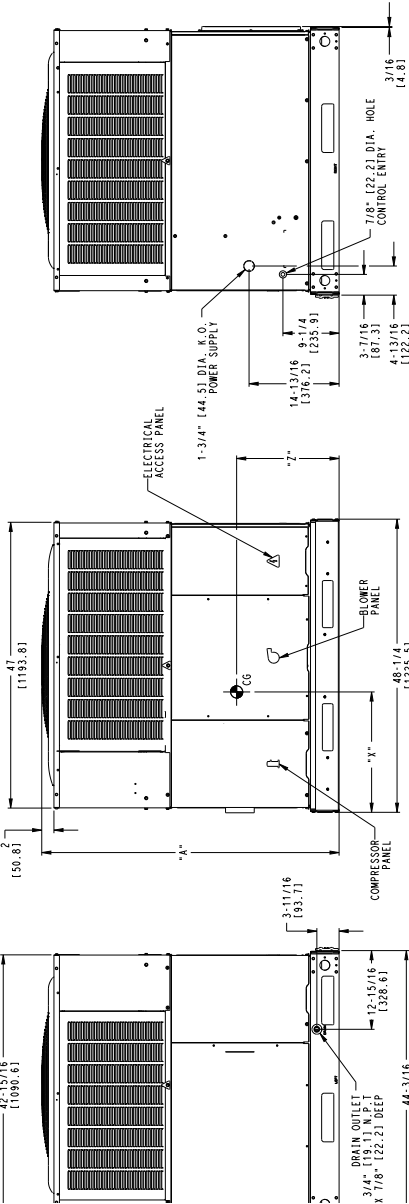
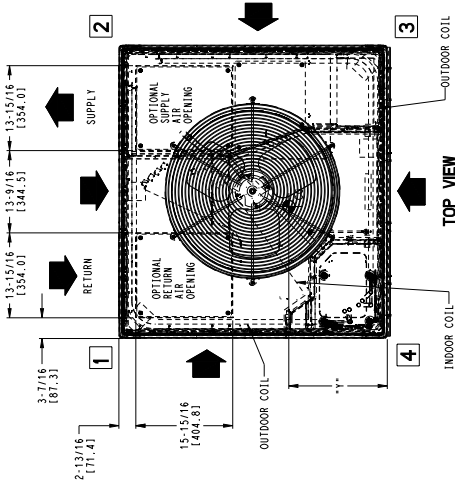
|                                                                                | INCHES (MM) |
|--------------------------------------------------------------------------------|-------------|
| BETWEEN UNITS, POWER ENTRY SIDE                                                | 36 (914.4)  |
| UNIT AND UNGROUNDING SURFACES, POWER ENTRY SIDE                                | 36 (914.4)  |
| UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, POWER ENTRY SIDE | 42 (1066.8) |

REQUIRED CLEARANCE FOR OPERATION AND SERVICE

|                               | INCHES (MM) |
|-------------------------------|-------------|
| EVAP. COIL ACCESS SIDE        | 42 (1066.8) |
| POWER ENTRY SIDE              | 42 (1066.8) |
| (EXCEPT FOR NEC REQUIREMENTS) | 48 (1219.2) |
| UNIT OPPOSITE DUCTS           | 36 (914.4)  |
| SIDE, OPPOSITE DUCTS          | 36 (914.4)  |
| DUCT PANEL                    | 12 (304.8)  |

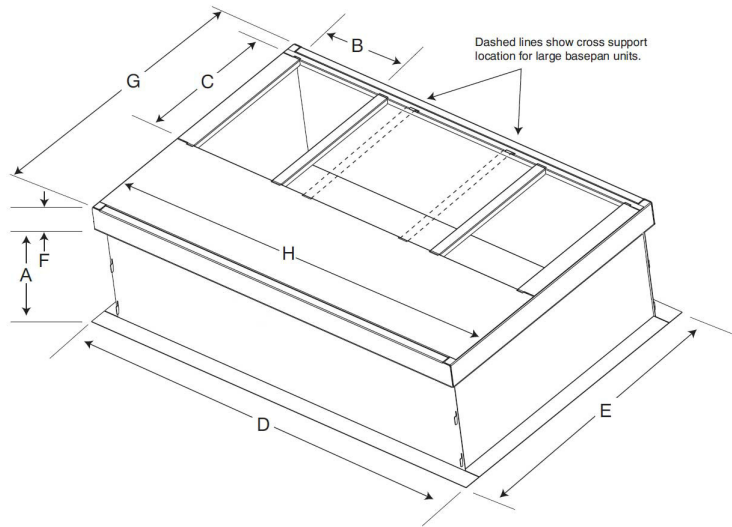
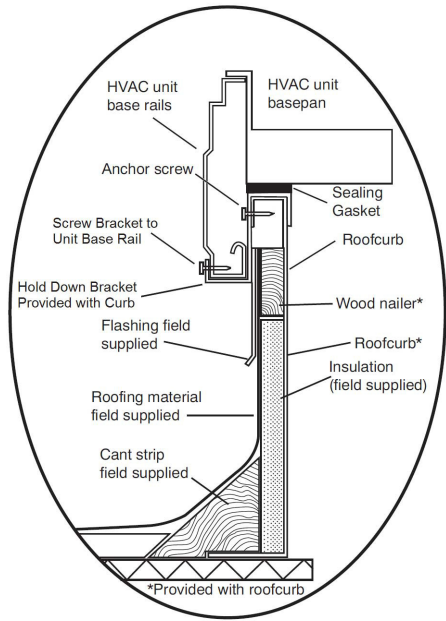
\*MINIMUM DISTANCES: IF UNIT IS PLACED LESS THAN 12 (304.8) FROM WALL SYSTEM, THEN SYSTEM PERFORMANCE MAY BE COMPROMISED.

DIMENSIONS IN [ ] ARE IN MILLIMETERS

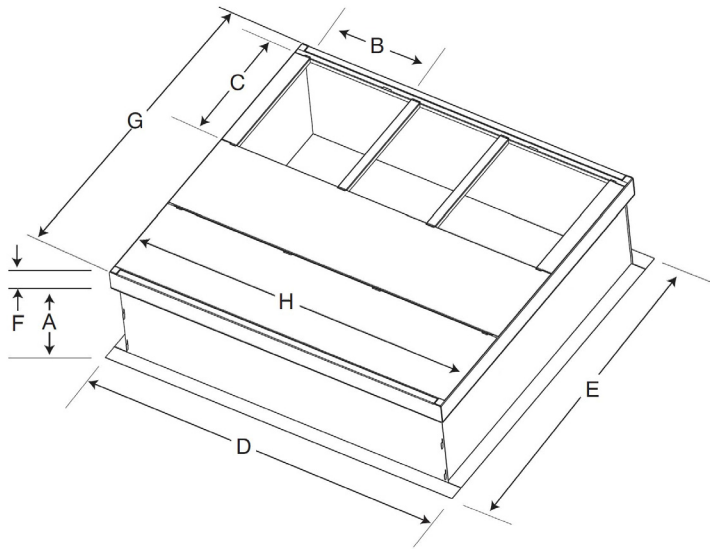


|            |
|------------|
| SD5986 - 4 |
|------------|

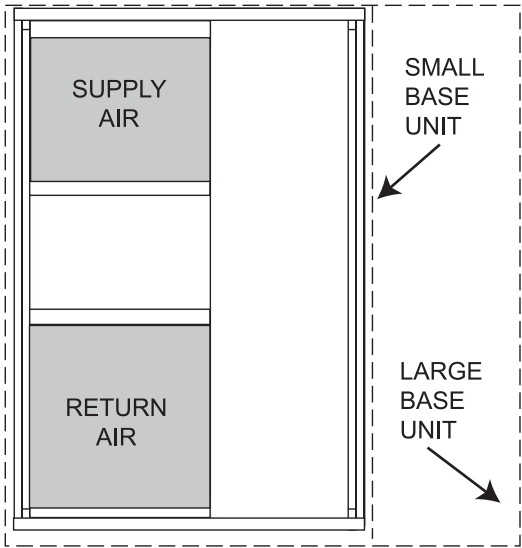
Roof Curb Accessory Dimensions



SMALL/COMMON CURB



LARGE CURB



UNIT PLACEMENT ON  
COMMON CURB

SMALL OR LARGE BASE UNIT

| UNIT SIZE      | CATALOG NUMBER | A<br>IN. (mm) | B (small/common base)<br>IN. (mm)* | B (large base)<br>IN. (mm)* | C<br>IN. (mm) | D<br>IN. (mm) | E<br>IN. (mm) | F<br>IN. (mm) | G<br>IN. (mm) | H<br>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)   |               |

A180216

\*. Part Number CPRFCURB011B00 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 mm) thick fiberglass 1 lb. density.

Selection Procedure (with example)

Determine cooling and heating requirements at design conditions:

Given:

|                                    |                                 |
|------------------------------------|---------------------------------|
| Required Cooling Capacity (TC)     | 29,000Btuh                      |
| Sensible Heat Capacity (SHC)       | 21,000 Btuh                     |
| Required Heating Capacity          | 42,000 Btuh                     |
| Condenser Entering Air Temperature | 95°F (35°C)                     |
| Indoor-Air Temperature             | 80°F (27°C) edb 67°F (19°C) ewb |
| Evaporator Air Quantity            | 1000 CFM                        |
| External Static Pressure           | 0.300 IN. W.C.                  |
| Electrical Characteristics         | 208-1-60                        |

Select unit based on required cooling capacity.

Enter Performance Data table at condenser entering temperature of 95°F (35°C). Unit 30 at 950 CFM and 67°F (19°C) ewb (entering wet bulb) will provide a total capacity of 28,600 Btuh and a SHC of 21,200 Btuh. Calculate SHC correction, if required, using Note 4 under Cooling Capacities tables.

Select heating capacity of unit to provide design condition requirement.

In the Heating Capacities and Efficiencies table, note that the 30 size unit will deliver 27,800 BTUH at the AHRI high temp rating point. To achieve 42,000 BTUH, accessory electric heat will be required. Use the Balance Point Worksheet to plot the load line with the unit capacity. The difference between the load line and unit capacity at the design heating temperature is the amount of electric heat that will be required.

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 | 0.300 IN. W.C.        |
| Filter                   | 0.060 IN. W.C.        |
| Wet Coil Pressure Drop   | <u>0.060 IN. W.C.</u> |
| Total Static Pressure    | 0.42 IN. W.C.         |

Enter the table for Dry Coil Air Delivery- At 0.42 IN. W.C. ESP (external static pressure) and MED-HIGH speed the motor delivers between 1037 CFM and 987 CFM. Interpolation estimates 1027 CFM at .42 IN. W.C. MED-HIGH delivers CFM needed.

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.

Performance Data  
24 Cooling Extended Performance Table

| EVAPORATOR AIR |            | CONDENSER ENTERING AIR TEMPERATURES deg F (C) |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
|----------------|------------|-----------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|
|                |            | 75 (23.9)                                     |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |
|                |            | 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 |
| CFM            | EWB        | Total                                         | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 |
| 700            | 57 (13.9)  | 22.6                                          | 22.6 | 1.5             | 21.8           | 21.8 | 1.7             | 20.8           | 20.8 | 1.9             | 17.5           | 17.5 | 2.3             | 16.6           | 16.6 | 2.5             | 15.8           | 15.8 | 2.6             |
|                | 62 (16.7)  | 23.5                                          | 22.0 | 1.5             | 22.4           | 21.4 | 1.7             | 21.4           | 20.3 | 1.9             | 17.9           | 16.8 | 2.3             | 17.0           | 15.4 | 2.5             | 16.3           | 14.2 | 2.6             |
|                | 63* (17.2) | 24.0                                          | 17.7 | 1.5             | 22.9           | 17.2 | 1.7             | 21.6           | 16.6 | 1.9             | 17.9           | 14.3 | 2.3             | 16.8           | 13.6 | 2.5             | 15.8           | 13.3 | 2.6             |
|                | 67 (19.4)  | 25.8                                          | 18.5 | 1.6             | 24.6           | 17.9 | 1.7             | 23.2           | 17.3 | 1.9             | 19.3           | 14.9 | 2.3             | 18.1           | 14.2 | 2.5             | 16.9           | 13.8 | 2.6             |
|                | 72 (22.2)  | 28.1                                          | 14.8 | 1.6             | 26.8           | 14.1 | 1.7             | 25.4           | 13.6 | 1.9             | 21.0           | 11.6 | 2.3             | 19.7           | 10.9 | 2.5             | 18.5           | 10.5 | 2.7             |
| 750            | 57 (13.9)  | 22.2                                          | 22.2 | 1.6             | 21.5           | 21.1 | 1.7             | 20.4           | 19.8 | 1.9             | 17.2           | 16.3 | 2.3             | 16.3           | 15.0 | 2.5             | 15.6           | 13.9 | 2.6             |
|                | 62 (16.7)  | 22.5                                          | 21.4 | 1.6             | 21.5           | 20.9 | 1.7             | 20.5           | 19.8 | 1.9             | 17.2           | 16.3 | 2.3             | 16.3           | 15.0 | 2.5             | 15.6           | 13.9 | 2.6             |
|                | 63* (17.2) | 22.7                                          | 17.3 | 1.6             | 21.7           | 16.7 | 1.7             | 20.5           | 16.1 | 1.9             | 17.0           | 13.9 | 2.3             | 16.0           | 13.2 | 2.5             | 14.9           | 12.9 | 2.6             |
|                | 67 (19.4)  | 24.4                                          | 18.0 | 1.6             | 23.3           | 17.4 | 1.7             | 22.0           | 16.8 | 1.9             | 18.3           | 14.5 | 2.3             | 17.2           | 13.8 | 2.5             | 16.1           | 13.5 | 2.6             |
| 900            | 72 (22.2)  | 26.6                                          | 14.4 | 1.6             | 25.4           | 13.8 | 1.7             | 24.0           | 13.2 | 1.9             | 19.9           | 11.3 | 2.3             | 18.7           | 10.6 | 2.5             | 17.5           | 10.2 | 2.7             |
|                | 57 (13.9)  | 24.5                                          | 24.5 | 1.6             | 23.7           | 23.7 | 1.8             | 22.6           | 22.5 | 1.9             | 18.9           | 18.6 | 2.3             | 18.0           | 17.1 | 2.5             | 17.2           | 15.8 | 2.7             |
|                | 62 (16.7)  | 24.8                                          | 24.7 | 1.6             | 23.7           | 23.7 | 1.8             | 22.6           | 22.5 | 1.9             | 18.9           | 18.6 | 2.3             | 18.0           | 17.1 | 2.5             | 17.2           | 15.8 | 2.7             |
|                | 63* (17.2) | 25.1                                          | 19.7 | 1.6             | 23.9           | 19.1 | 1.8             | 22.6           | 18.4 | 1.9             | 18.7           | 15.8 | 2.3             | 17.6           | 15.1 | 2.5             | 16.5           | 14.7 | 2.7             |
|                | 67 (19.4)  | 27.0                                          | 20.5 | 1.6             | 25.7           | 19.8 | 1.8             | 24.3           | 19.2 | 2.0             | 20.2           | 16.5 | 2.3             | 18.9           | 15.7 | 2.5             | 17.7           | 15.3 | 2.7             |
|                | 72 (22.2)  | 29.4                                          | 16.4 | 1.6             | 28.1           | 15.7 | 1.8             | 26.5           | 15.1 | 2.0             | 22.0           | 12.9 | 2.4             | 20.6           | 12.1 | 2.5             | 19.3           | 11.7 | 2.7             |

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

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

| INDOOR AIR       |     | OUTDOOR COIL ENTERING AIR TEMPERATURE |       |           |                  |               |           |                  |       |                |                  |       |           |                  |       |           |                  |               |           |                  |       |              |                  |       |           |                  |       |           |  |               |  |  |  |
|------------------|-----|---------------------------------------|-------|-----------|------------------|---------------|-----------|------------------|-------|----------------|------------------|-------|-----------|------------------|-------|-----------|------------------|---------------|-----------|------------------|-------|--------------|------------------|-------|-----------|------------------|-------|-----------|--|---------------|--|--|--|
|                  |     | -10°F (-23.3°C)                       |       |           |                  | 0°F (-17.8°C) |           |                  |       | 10°F (-12.2°C) |                  |       |           | 20°F (-6.7°C)    |       |           |                  | 30°F (-1.1°C) |           |                  |       | 40°F (4.4°C) |                  |       |           | 50°F (8.3°C)     |       |           |  | 60°F (15.6°C) |  |  |  |
|                  |     | Capacity (Mbtuh)                      |       | Total Sys | Capacity (Mbtuh) |               | Total Sys | Capacity (Mbtuh) |       | Total Sys      | Capacity (Mbtuh) |       | Total Sys | Capacity (Mbtuh) |       | Total Sys | Capacity (Mbtuh) |               | Total Sys | Capacity (Mbtuh) |       | Total Sys    | Capacity (Mbtuh) |       | Total Sys | Capacity (Mbtuh) |       | Total Sys |  |               |  |  |  |
| EDB              | CFM | Total                                 | Integ | kW        | Total            | Integ         | kW        | Total            | Integ | kW             | Total            | Integ | kW        | Total            | Integ | kW        | Total            | Integ         | kW        | Total            | Integ | kW           | Total            | Integ | kW        | Total            | Integ | kW        |  |               |  |  |  |
|                  |     |                                       |       |           |                  |               |           |                  |       |                |                  |       |           |                  |       |           |                  |               |           |                  |       |              |                  |       |           |                  |       |           |  |               |  |  |  |
| 65°F<br>(18.3°C) | 700 | 5.6                                   | 5.2   | 1.46      | 8.3              | 7.6           | 1.50      | 10.5             | 9.6   | 1.56           | 13.7             | 12.4  | 1.61      | 16.8             | 14.7  | 1.67      | 20.0             | 20.0          | 1.76      | 25.4             | 25.4  | 1.85         | 28.5             | 28.5  | 1.98      |                  |       |           |  |               |  |  |  |
|                  | 750 | 5.7                                   | 5.2   | 1.43      | 8.4              | 7.7           | 1.47      | 10.6             | 9.8   | 1.53           | 13.8             | 12.5  | 1.58      | 17.0             | 14.9  | 1.63      | 20.2             | 20.2          | 1.71      | 25.6             | 25.6  | 1.80         | 28.8             | 28.8  | 1.92      |                  |       |           |  |               |  |  |  |
|                  | 900 | 5.8                                   | 5.4   | 1.51      | 8.5              | 7.9           | 1.56      | 10.8             | 9.9   | 1.61           | 14.0             | 12.6  | 1.65      | 17.2             | 15.0  | 1.71      | 20.4             | 20.4          | 1.78      | 25.9             | 25.9  | 1.87         | 29.0             | 29.0  | 1.98      |                  |       |           |  |               |  |  |  |
| 70°F<br>(21.1°C) | 700 | 5.5                                   | 5.0   | 1.52      | 8.1              | 7.4           | 1.57      | 10.2             | 9.4   | 1.63           | 13.3             | 12.0  | 1.68      | 16.4             | 14.4  | 1.75      | 19.5             | 19.5          | 1.83      | 24.7             | 24.7  | 1.93         | 27.8             | 27.8  | 2.06      |                  |       |           |  |               |  |  |  |
|                  | 750 | 5.5                                   | 4.9   | 1.49      | 8.2              | 7.3           | 1.54      | 10.3             | 9.4   | 1.59           | 13.4             | 12.4  | 1.64      | 16.6             | 15.4  | 1.70      | 19.7             | 19.7          | 1.78      | 25.0             | 25.0  | 1.88         | 28.1             | 28.1  | 2.00      |                  |       |           |  |               |  |  |  |
|                  | 900 | 5.7                                   | 5.2   | 1.57      | 8.3              | 7.7           | 1.61      | 10.5             | 9.6   | 1.67           | 13.6             | 12.3  | 1.72      | 16.7             | 14.7  | 1.77      | 19.8             | 19.8          | 1.85      | 25.2             | 25.2  | 1.94         | 28.2             | 28.2  | 2.05      |                  |       |           |  |               |  |  |  |
| 75°F<br>(23.9°C) | 700 | 5.4                                   | 4.9   | 1.58      | 7.9              | 7.3           | 1.63      | 10.0             | 9.2   | 1.70           | 13.0             | 11.8  | 1.75      | 16.2             | 14.2  | 1.82      | 19.3             | 19.3          | 1.91      | 24.5             | 24.5  | 2.01         | 27.5             | 27.5  | 2.14      |                  |       |           |  |               |  |  |  |
|                  | 750 | 5.4                                   | 5.0   | 1.55      | 8.0              | 7.4           | 1.60      | 10.1             | 9.3   | 1.65           | 13.2             | 11.9  | 1.71      | 16.4             | 14.4  | 1.77      | 19.5             | 19.5          | 1.85      | 24.7             | 24.7  | 1.95         | 27.8             | 27.8  | 2.08      |                  |       |           |  |               |  |  |  |
|                  | 900 | 5.6                                   | 5.1   | 1.63      | 8.2              | 7.5           | 1.67      | 10.3             | 9.5   | 1.73           | 13.3             | 12.1  | 1.78      | 16.6             | 14.5  | 1.84      | 19.6             | 19.6          | 1.92      | 25.0             | 25.0  | 2.01         | 28.0             | 28.0  | 2.13      |                  |       |           |  |               |  |  |  |

Performance Data  
30 Cooling Extended Performance Table

| EVAPORATOR |     | CONDENSER ENTERING AIR TEMPERATURES deg F (C) |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
|------------|-----|-----------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|
| AIR        |     | 75 (23.9)                                     |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |
| CFM        | EWB | 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 |                 |
|            |     |                                               |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
| 875        | 57  | 29.0                                          | 29.0 | 1.9             | 28.0           | 28.0 | 2.1             | 26.7           | 26.7 | 2.3             | 22.7           | 22.7 | 2.7             | 21.5           | 21.5 | 3.0             | 20.3           | 20.3 | 3.2             |
|            | 62  | 30.1                                          | 27.3 | 1.9             | 28.8           | 26.7 | 2.1             | 27.4           | 25.2 | 2.3             | 23.3           | 21.1 | 2.7             | 22.1           | 19.2 | 3.0             | 20.9           | 17.7 | 3.2             |
|            | 63  | 30.7                                          | 22.1 | 1.9             | 29.3           | 21.3 | 2.1             | 27.7           | 20.6 | 2.3             | 23.3           | 17.9 | 2.7             | 21.9           | 16.9 | 3.0             | 20.2           | 16.5 | 3.2             |
|            | 67  | 33.0                                          | 23.0 | 1.9             | 31.6           | 22.2 | 2.1             | 29.8           | 21.5 | 2.3             | 25.0           | 18.7 | 2.7             | 23.5           | 17.6 | 3.0             | 21.7           | 17.2 | 3.2             |
|            | 72  | 36.0                                          | 18.4 | 1.9             | 34.4           | 17.6 | 2.1             | 32.5           | 16.9 | 2.3             | 27.3           | 14.6 | 2.8             | 25.6           | 13.6 | 3.0             | 23.7           | 13.1 | 3.3             |
| 950        | 57  | 28.9                                          | 28.1 | 1.9             | 27.9           | 26.5 | 2.1             | 26.6           | 24.9 | 2.3             | 22.6           | 20.8 | 2.8             | 21.5           | 18.9 | 3.0             | 20.3           | 17.5 | 3.2             |
|            | 62  | 29.2                                          | 27.0 | 1.9             | 27.9           | 26.3 | 2.1             | 26.6           | 24.9 | 2.3             | 22.6           | 20.8 | 2.8             | 21.5           | 18.9 | 3.0             | 20.3           | 17.5 | 3.2             |
|            | 63  | 29.5                                          | 21.8 | 1.9             | 28.2           | 21.1 | 2.1             | 26.6           | 20.4 | 2.3             | 22.3           | 17.7 | 2.8             | 21.0           | 16.7 | 3.0             | 19.4           | 16.3 | 3.2             |
|            | 67  | 31.7                                          | 22.7 | 1.9             | 30.3           | 21.9 | 2.1             | 28.6           | 21.2 | 2.3             | 24.0           | 18.4 | 2.8             | 22.6           | 17.4 | 3.0             | 20.9           | 17.0 | 3.2             |
|            | 72  | 34.6                                          | 18.1 | 1.9             | 33.0           | 17.3 | 2.1             | 31.3           | 16.7 | 2.4             | 26.2           | 14.4 | 2.8             | 24.6           | 13.4 | 3.0             | 22.8           | 12.9 | 3.3             |
| 1125       | 57  | 31.5                                          | 31.5 | 2.0             | 30.4           | 29.9 | 2.1             | 28.9           | 28.0 | 2.4             | 24.6           | 23.4 | 2.8             | 23.4           | 21.3 | 3.1             | 22.1           | 19.7 | 3.3             |
|            | 62  | 31.8                                          | 30.7 | 2.0             | 30.4           | 29.6 | 2.1             | 29.0           | 28.0 | 2.4             | 24.6           | 23.4 | 2.8             | 23.4           | 21.3 | 3.1             | 22.1           | 19.7 | 3.3             |
|            | 63  | 32.2                                          | 24.5 | 2.0             | 30.7           | 23.7 | 2.1             | 29.0           | 22.9 | 2.4             | 24.3           | 19.9 | 2.8             | 22.9           | 18.8 | 3.1             | 21.2           | 18.3 | 3.3             |
|            | 67  | 34.6                                          | 25.5 | 2.0             | 33.0           | 24.7 | 2.2             | 31.2           | 23.9 | 2.4             | 26.2           | 20.7 | 2.8             | 24.6           | 19.6 | 3.1             | 22.7           | 19.1 | 3.3             |
|            | 72  | 37.7                                          | 20.4 | 2.0             | 36.0           | 19.5 | 2.2             | 34.1           | 18.8 | 2.4             | 28.5           | 16.2 | 2.9             | 26.8           | 15.1 | 3.1             | 24.8           | 14.5 | 3.3             |

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

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

| INDOOR AIR       |      | OUTDOOR COIL ENTERING AIR TEMPERATURE |       |              |                  |               |              |                  |       |                |                  |       |              |                  |       |              |                  |               |              |                  |       |              |                  |       |              |                  |       |              |       |               |       |
|------------------|------|---------------------------------------|-------|--------------|------------------|---------------|--------------|------------------|-------|----------------|------------------|-------|--------------|------------------|-------|--------------|------------------|---------------|--------------|------------------|-------|--------------|------------------|-------|--------------|------------------|-------|--------------|-------|---------------|-------|
|                  |      | -10°F (-23.3°C)                       |       |              |                  | 0°F (-17.8°C) |              |                  |       | 10°F (-12.2°C) |                  |       |              | 20°F (-6.7°C)    |       |              |                  | 30°F (-1.1°C) |              |                  |       | 40°F (4.4°C) |                  |       |              | 50°F (8.3°C)     |       |              |       | 60°F (15.6°C) |       |
| EDB              | CFM  | Capacity (Mbtuh)                      |       | Total Sys kW | Capacity (Mbtuh) |               | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW   | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |               | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW |       |               |       |
|                  |      | Total                                 | Integ |              | Total            | Integ         |              | Total            | Integ |                | Total            | Integ |              | Total            | Integ |              | Total            | Integ         |              | Total            | Integ |              | Total            | Integ |              | Total            | Integ |              | Total | Integ         | Total |
|                  |      |                                       |       |              |                  |               |              |                  |       |                |                  |       |              |                  |       |              |                  |               |              |                  |       |              |                  |       |              |                  |       |              |       |               |       |
| 65°F<br>(18.3°C) | 875  | 7.6                                   | 7.0   | 1.9          | 10.7             | 9.9           | 2.0          | 13.3             | 12.2  | 2.1            | 17.0             | 15.3  | 2.1          | 20.6             | 18.1  | 2.2          | 23.7             | 23.7          | 2.3          | 29.4             | 29.4  | 2.6          | 33.1             | 33.1  | 2.7          |                  |       |              |       |               |       |
|                  | 950  | 7.7                                   | 7.1   | 1.9          | 10.8             | 10.0          | 2.0          | 13.4             | 12.3  | 2.0            | 17.1             | 15.5  | 2.1          | 20.8             | 18.3  | 2.2          | 24.0             | 24.0          | 2.3          | 29.7             | 29.7  | 2.5          | 33.4             | 33.4  | 2.7          |                  |       |              |       |               |       |
|                  | 1125 | 7.9                                   | 7.3   | 2.0          | 11.0             | 10.2          | 2.0          | 13.6             | 12.5  | 2.1            | 17.3             | 15.7  | 2.2          | 21.0             | 18.4  | 2.3          | 24.2             | 24.2          | 2.3          | 30.0             | 30.0  | 2.5          | 33.6             | 33.6  | 2.7          |                  |       |              |       |               |       |
| 70°F<br>(21.1°C) | 875  | 7.4                                   | 6.8   | 2.0          | 10.5             | 9.6           | 2.1          | 12.9             | 11.9  | 2.2            | 16.5             | 14.9  | 2.2          | 20.1             | 17.6  | 2.3          | 23.1             | 23.1          | 2.4          | 28.6             | 28.6  | 2.7          | 32.2             | 32.2  | 2.8          |                  |       |              |       |               |       |
|                  | 950  | 7.5                                   | 6.7   | 2.0          | 10.6             | 9.5           | 2.0          | 13.1             | 11.9  | 2.1            | 16.7             | 15.3  | 2.2          | 20.3             | 18.9  | 2.3          | 23.4             | 23.4          | 2.4          | 28.9             | 28.9  | 2.6          | 32.5             | 32.5  | 2.8          |                  |       |              |       |               |       |
|                  | 1125 | 7.7                                   | 7.1   | 2.1          | 10.8             | 9.9           | 2.1          | 13.3             | 12.2  | 2.2            | 16.9             | 15.3  | 2.3          | 20.5             | 17.9  | 2.3          | 23.5             | 23.5          | 2.4          | 29.2             | 29.2  | 2.6          | 32.7             | 32.7  | 2.8          |                  |       |              |       |               |       |
| 75°F<br>(23.9°C) | 875  | 7.3                                   | 6.7   | 2.1          | 10.2             | 9.4           | 2.2          | 12.7             | 11.7  | 2.3            | 16.2             | 14.6  | 2.3          | 19.9             | 17.4  | 2.4          | 22.9             | 22.9          | 2.5          | 28.3             | 28.3  | 2.8          | 31.9             | 31.9  | 3.0          |                  |       |              |       |               |       |
|                  | 950  | 7.4                                   | 6.8   | 2.1          | 10.4             | 9.5           | 2.1          | 12.8             | 11.8  | 2.2            | 16.3             | 14.8  | 2.3          | 20.1             | 17.6  | 2.4          | 23.1             | 23.1          | 2.4          | 28.6             | 28.6  | 2.7          | 32.2             | 32.2  | 2.9          |                  |       |              |       |               |       |
|                  | 1125 | 7.5                                   | 6.9   | 2.1          | 10.5             | 9.7           | 2.2          | 13.0             | 12.0  | 2.3            | 16.5             | 15.0  | 2.3          | 20.3             | 17.8  | 2.4          | 23.3             | 23.3          | 2.5          | 28.9             | 28.9  | 2.7          | 32.4             | 32.4  | 2.9          |                  |       |              |       |               |       |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Performance Data  
36 Cooling Extended Performance Table

| EVAPORATOR AIR |            | CONDENSER ENTERING AIR TEMPERATURES deg F (C) |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
|----------------|------------|-----------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|
|                |            | 75 (23.9)                                     |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |
|                |            | 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 |
| CFM            | EWB        | Total                                         | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 |
| 1050           | 57 (13.9)  | 33.6                                          | 33.6 | 2.3             | 32.4           | 32.4 | 2.5             | 30.9           | 30.9 | 2.8             | 26.2           | 26.2 | 3.0             | 24.3           | 24.3 | 3.4             | 23.2           | 23.2 | 3.7             |
|                | 62 (16.7)  | 34.9                                          | 33.5 | 2.3             | 33.3           | 32.7 | 2.5             | 31.8           | 30.9 | 2.8             | 27.0           | 25.6 | 3.0             | 25.0           | 23.5 | 3.4             | 23.9           | 21.7 | 3.7             |
|                | 63* (17.2) | 35.6                                          | 27.0 | 2.3             | 34.0           | 26.1 | 2.5             | 32.1           | 25.3 | 2.8             | 26.9           | 21.7 | 3.0             | 24.7           | 20.7 | 3.4             | 23.1           | 20.2 | 3.7             |
|                | 67 (19.4)  | 38.3                                          | 28.2 | 2.3             | 36.5           | 27.2 | 2.6             | 34.5           | 26.3 | 2.9             | 28.9           | 22.6 | 3.0             | 26.5           | 21.6 | 3.4             | 24.8           | 21.1 | 3.7             |
|                | 72 (22.2)  | 41.7                                          | 22.5 | 2.4             | 39.8           | 21.5 | 2.6             | 37.7           | 20.7 | 2.9             | 31.6           | 17.7 | 3.0             | 28.9           | 16.6 | 3.5             | 27.0           | 16.0 | 3.8             |
| 1150           | 57 (13.9)  | 33.7                                          | 33.7 | 2.3             | 32.6           | 32.6 | 2.6             | 31.0           | 30.8 | 2.9             | 26.4           | 25.5 | 3.0             | 24.4           | 23.4 | 3.5             | 23.3           | 21.6 | 3.7             |
|                | 62 (16.7)  | 34.1                                          | 33.4 | 2.3             | 32.6           | 32.5 | 2.6             | 31.1           | 30.8 | 2.9             | 26.4           | 25.5 | 3.0             | 24.4           | 23.4 | 3.5             | 23.3           | 21.6 | 3.7             |
|                | 63* (17.2) | 34.5                                          | 26.9 | 2.3             | 32.9           | 26.0 | 2.6             | 31.1           | 25.2 | 2.9             | 26.1           | 21.6 | 3.0             | 23.9           | 20.6 | 3.5             | 22.4           | 20.1 | 3.7             |
|                | 67 (19.4)  | 37.1                                          | 28.0 | 2.4             | 35.4           | 27.1 | 2.6             | 33.4           | 26.2 | 2.9             | 28.1           | 22.5 | 3.0             | 25.7           | 21.5 | 3.5             | 24.0           | 21.0 | 3.7             |
| 1350           | 72 (22.2)  | 40.4                                          | 22.4 | 2.4             | 38.6           | 21.4 | 2.6             | 36.5           | 20.6 | 2.9             | 30.6           | 17.6 | 3.1             | 28.0           | 16.5 | 3.5             | 26.2           | 15.9 | 3.8             |
|                | 57 (13.9)  | 36.4                                          | 36.4 | 2.4             | 35.2           | 35.2 | 2.6             | 33.5           | 33.5 | 2.9             | 28.5           | 28.4 | 3.1             | 26.4           | 26.1 | 3.5             | 25.2           | 24.1 | 3.8             |
|                | 62 (16.7)  | 36.8                                          | 36.8 | 2.4             | 35.2           | 35.2 | 2.6             | 33.5           | 33.5 | 2.9             | 28.5           | 28.4 | 3.1             | 26.4           | 26.1 | 3.5             | 25.2           | 24.1 | 3.8             |
|                | 63* (17.2) | 37.2                                          | 30.0 | 2.4             | 35.6           | 29.0 | 2.6             | 33.6           | 28.0 | 2.9             | 28.2           | 24.1 | 3.1             | 25.8           | 23.0 | 3.5             | 24.2           | 22.4 | 3.8             |
|                | 67 (19.4)  | 40.0                                          | 31.3 | 2.4             | 38.2           | 30.2 | 2.7             | 36.1           | 29.2 | 2.9             | 30.3           | 25.1 | 3.1             | 27.8           | 24.0 | 3.5             | 26.0           | 23.4 | 3.8             |
| 1350           | 72 (22.2)  | 43.6                                          | 25.0 | 2.5             | 41.7           | 23.9 | 2.7             | 39.4           | 23.0 | 3.0             | 33.0           | 19.6 | 3.1             | 30.3           | 18.4 | 3.6             | 28.3           | 17.8 | 3.8             |

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

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

| INDOOR AIR       |      | OUTDOOR COIL ENTERING AIR TEMPERATURES°F (°C) |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |
|------------------|------|-----------------------------------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|
|                  |      | -10 (-23.3)                                   |       |                    | 0 (-17.8)         |       |                    | 10 (-12.2)        |       |                    | 20 (-6.7)         |       |                    | 30 (-1.1)         |       |                    | 40 (4.4)          |       |                    | 50 (10)           |       |                    | 60 (15.6)         |       |                    |
| EDB<br>°F (°C)   | CFM  | Capacity<br>MBtuh                             |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW |
|                  |      | Total                                         | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    |
| 65°F<br>(18.3°C) | 1050 | 8.9                                           | 8.2   | 2.1                | 12.9              | 11.8  | 2.1                | 16.1              | 14.8  | 2.2                | 21.5              | 19.4  | 2.3                | 26.1              | 22.9  | 2.4                | 30.1              | 30.1  | 2.4                | 37.2              | 37.2  | 2.6                | 41.9              | 41.9  | 2.8                |
|                  | 1150 | 9.0                                           | 8.3   | 2.1                | 13.0              | 12.0  | 2.1                | 16.3              | 15.0  | 2.2                | 21.7              | 19.6  | 2.3                | 26.4              | 23.1  | 2.3                | 30.4              | 30.4  | 2.4                | 37.6              | 37.6  | 2.6                | 42.3              | 42.3  | 2.7                |
|                  | 1350 | 9.3                                           | 8.5   | 2.2                | 13.2              | 12.2  | 2.2                | 16.5              | 15.2  | 2.3                | 21.9              | 19.8  | 2.4                | 26.6              | 23.3  | 2.4                | 30.6              | 30.6  | 2.5                | 38.0              | 38.0  | 2.7                | 42.5              | 42.5  | 2.8                |
| 70°F<br>(21.1°C) | 1050 | 8.7                                           | 8.0   | 2.2                | 12.5              | 11.5  | 2.2                | 15.7              | 14.4  | 2.3                | 20.9              | 18.9  | 2.4                | 25.4              | 22.3  | 2.5                | 29.3              | 29.3  | 2.5                | 36.2              | 36.2  | 2.7                | 40.8              | 40.8  | 2.9                |
|                  | 1150 | 8.8                                           | 7.8   | 2.1                | 12.7              | 11.4  | 2.2                | 15.8              | 14.4  | 2.3                | 21.1              | 19.4  | 2.4                | 25.7              | 23.9  | 2.4                | 29.6              | 29.6  | 2.5                | 36.6              | 36.6  | 2.7                | 41.2              | 41.2  | 2.9                |
|                  | 1350 | 9.0                                           | 8.3   | 2.2                | 12.9              | 11.9  | 2.3                | 16.1              | 14.8  | 2.4                | 21.3              | 19.3  | 2.4                | 25.9              | 22.7  | 2.5                | 29.8              | 29.8  | 2.6                | 37.0              | 37.0  | 2.8                | 41.4              | 41.4  | 2.9                |
| 75°F<br>(23.9°C) | 1050 | 8.5                                           | 7.8   | 2.3                | 12.3              | 11.3  | 2.3                | 15.4              | 14.1  | 2.4                | 20.5              | 18.5  | 2.5                | 25.2              | 22.1  | 2.6                | 29.0              | 29.0  | 2.6                | 35.9              | 35.9  | 2.8                | 40.4              | 40.4  | 3.0                |
|                  | 1150 | 8.6                                           | 7.9   | 2.2                | 12.4              | 11.4  | 2.3                | 15.5              | 14.3  | 2.4                | 20.7              | 18.7  | 2.5                | 25.4              | 22.3  | 2.5                | 29.3              | 29.3  | 2.6                | 36.2              | 36.2  | 2.8                | 40.8              | 40.8  | 3.0                |
|                  | 1350 | 8.8                                           | 8.1   | 2.3                | 12.6              | 11.6  | 2.4                | 15.7              | 14.5  | 2.5                | 20.9              | 18.9  | 2.5                | 25.7              | 22.5  | 2.6                | 29.5              | 29.5  | 2.7                | 36.6              | 36.6  | 2.9                | 41.0              | 41.0  | 3.0                |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Performance Data  
42 Cooling Extended Performance Table

| EVAPORATOR AIR |            | CONDENSER ENTERING AIR TEMPERATURES deg F (C) |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
|----------------|------------|-----------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|
|                |            | 75 (23.9)                                     |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |
|                |            | 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 |
| CFM            | EWB        | Total                                         | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 | Total          | Sens |                 |
|                |            |                                               |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
| 1225           | 57 (13.9)  | 42.0                                          | 42.0 | 2.8             | 40.5           | 40.5 | 3.1             | 38.6           | 38.6 | 3.5             | 34.8           | 34.8 | 3.9             | 32.8           | 32.8 | 4.2             | 31.0           | 31.0 | 4.5             |
|                | 62 (16.7)  | 43.6                                          | 39.7 | 2.8             | 41.6           | 38.7 | 3.1             | 39.7           | 36.6 | 3.5             | 35.7           | 33.4 | 3.9             | 33.7           | 30.6 | 4.2             | 31.9           | 27.9 | 4.5             |
|                | 63* (17.2) | 44.5                                          | 32.0 | 2.8             | 42.5           | 30.9 | 3.1             | 40.1           | 29.9 | 3.5             | 35.6           | 28.4 | 3.9             | 33.2           | 26.9 | 4.2             | 30.8           | 26.0 | 4.5             |
|                | 67 (19.4)  | 47.8                                          | 33.3 | 2.9             | 45.6           | 32.2 | 3.2             | 43.1           | 31.1 | 3.5             | 38.3           | 29.6 | 3.9             | 35.7           | 28.0 | 4.2             | 33.2           | 27.1 | 4.5             |
|                | 72 (22.2)  | 52.1                                          | 26.7 | 2.9             | 49.8           | 25.5 | 3.2             | 47.1           | 24.5 | 3.5             | 41.8           | 23.1 | 3.9             | 39.0           | 21.6 | 4.3             | 36.1           | 20.6 | 4.5             |
| 1350           | 57 (13.9)  | 42.4                                          | 41.4 | 2.9             | 41.0           | 39.1 | 3.2             | 39.0           | 36.7 | 3.5             | 35.1           | 33.5 | 3.9             | 33.1           | 30.6 | 4.3             | 31.4           | 28.0 | 4.5             |
|                | 62 (16.7)  | 42.9                                          | 39.7 | 2.9             | 41.0           | 38.8 | 3.2             | 39.1           | 36.7 | 3.5             | 35.1           | 33.5 | 3.9             | 33.1           | 30.6 | 4.3             | 31.4           | 28.0 | 4.5             |
|                | 63* (17.2) | 43.4                                          | 32.0 | 2.9             | 41.4           | 31.0 | 3.2             | 39.1           | 30.0 | 3.5             | 34.8           | 28.5 | 3.9             | 32.4           | 27.0 | 4.3             | 30.1           | 26.1 | 4.5             |
|                | 67 (19.4)  | 46.6                                          | 33.4 | 2.9             | 44.5           | 32.3 | 3.2             | 42.0           | 31.2 | 3.6             | 37.4           | 29.6 | 3.9             | 34.9           | 28.1 | 4.3             | 32.3           | 27.1 | 4.5             |
|                | 72 (22.2)  | 50.8                                          | 26.7 | 2.9             | 48.5           | 25.5 | 3.2             | 45.9           | 24.6 | 3.6             | 40.7           | 23.1 | 4.0             | 38.0           | 21.6 | 4.3             | 35.3           | 20.6 | 4.6             |
| 1575           | 57 (13.9)  | 45.5                                          | 45.5 | 3.0             | 44.0           | 43.3 | 3.2             | 41.9           | 40.6 | 3.6             | 37.7           | 37.1 | 4.0             | 35.5           | 33.9 | 4.3             | 33.7           | 31.0 | 4.6             |
|                | 62 (16.7)  | 46.0                                          | 44.5 | 3.0             | 44.0           | 42.9 | 3.2             | 41.9           | 40.6 | 3.6             | 37.7           | 37.1 | 4.0             | 35.5           | 33.9 | 4.3             | 33.7           | 31.0 | 4.6             |
|                | 63* (17.2) | 46.5                                          | 35.5 | 3.0             | 44.4           | 34.4 | 3.2             | 42.0           | 33.2 | 3.6             | 37.3           | 31.5 | 4.0             | 34.8           | 29.9 | 4.3             | 32.3           | 28.9 | 4.6             |
|                | 67 (19.4)  | 50.0                                          | 37.0 | 3.0             | 47.8           | 35.8 | 3.3             | 45.1           | 34.6 | 3.6             | 40.1           | 32.9 | 4.0             | 37.4           | 31.1 | 4.3             | 34.7           | 30.1 | 4.6             |
|                | 72 (22.2)  | 54.5                                          | 29.6 | 3.0             | 52.1           | 28.3 | 3.3             | 49.3           | 27.2 | 3.7             | 43.7           | 25.6 | 4.1             | 40.8           | 24.0 | 4.4             | 37.8           | 22.9 | 4.7             |

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

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

| INDOOR AIR       |      | OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C) |       |                    |                   |           |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |           |                    |                   |       |                    |                   |       |                    |                   |       |                    |       |           |       |
|------------------|------|------------------------------------------------|-------|--------------------|-------------------|-----------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-----------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------|-----------|-------|
|                  |      | -10 (-23.3)                                    |       |                    |                   | 0 (-17.8) |                    |                   |       | 10 (-12.2)         |                   |       |                    | 20 (-6.7)         |       |                    |                   | 30 (-1.1) |                    |                   |       | 40 (4.4)           |                   |       |                    | 50 (10)           |       |                    |       | 60 (15.6) |       |
| EDB<br>°F (°C)   | CFM  | Capacity<br>MBtuh                              |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |           | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |           | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW | Capacity<br>MBtuh |       | Total<br>Sys<br>KW |       |           |       |
|                  |      | Total                                          | Integ |                    | Total             | Integ     |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ     |                    | Total             | Integ |                    | Total             | Integ |                    | Total             | Integ |                    | Total | Integ     | Total |
| 65°F<br>(18.3°C) | 1225 | 10.5                                           | 9.7   | 2.5                | 15.2              | 14.0      | 2.6                | 19.0              | 17.5  | 2.7                | 25.3              | 22.9  | 2.8                | 30.8              | 27.0  | 2.9                | 35.4              | 35.4      | 2.9                | 43.9              | 43.9  | 3.2                | 49.4              | 49.4  | 3.4                |                   |       |                    |       |           |       |
|                  | 1350 | 10.7                                           | 9.8   | 2.5                | 15.3              | 14.1      | 2.6                | 19.2              | 17.6  | 2.7                | 25.6              | 23.1  | 2.7                | 31.1              | 27.3  | 2.8                | 35.8              | 35.8      | 2.9                | 44.3              | 44.3  | 3.2                | 49.9              | 49.9  | 3.4                |                   |       |                    |       |           |       |
|                  | 1575 | 10.9                                           | 10.0  | 2.6                | 15.6              | 14.3      | 2.7                | 19.4              | 17.9  | 2.8                | 25.8              | 23.4  | 2.8                | 31.4              | 27.5  | 2.9                | 36.0              | 36.0      | 3.0                | 44.8              | 44.8  | 3.2                | 50.1              | 50.1  | 3.4                |                   |       |                    |       |           |       |
| 70°F<br>(21.1°C) | 1225 | 10.3                                           | 9.4   | 2.6                | 14.8              | 13.6      | 2.7                | 18.5              | 17.0  | 2.8                | 24.6              | 22.3  | 2.9                | 30.0              | 26.3  | 3.0                | 34.5              | 34.5      | 3.1                | 42.7              | 42.7  | 3.4                | 48.1              | 48.1  | 3.6                |                   |       |                    |       |           |       |
|                  | 1350 | 10.4                                           | 9.2   | 2.6                | 14.9              | 13.4      | 2.7                | 18.7              | 17.0  | 2.8                | 24.9              | 22.9  | 2.9                | 30.3              | 28.2  | 2.9                | 34.9              | 34.9      | 3.0                | 43.2              | 43.2  | 3.3                | 48.6              | 48.6  | 3.5                |                   |       |                    |       |           |       |
|                  | 1575 | 10.6                                           | 9.8   | 2.7                | 15.2              | 14.0      | 2.8                | 18.9              | 17.4  | 2.9                | 25.1              | 22.8  | 3.0                | 30.5              | 26.8  | 3.0                | 35.1              | 35.1      | 3.1                | 43.6              | 43.6  | 3.4                | 48.8              | 48.8  | 3.6                |                   |       |                    |       |           |       |
| 75°F<br>(23.9°C) | 1225 | 10.1                                           | 9.2   | 2.7                | 14.5              | 13.3      | 2.8                | 18.1              | 16.7  | 2.9                | 24.1              | 21.9  | 3.0                | 29.7              | 26.0  | 3.1                | 34.2              | 34.2      | 3.2                | 42.3              | 42.3  | 3.5                | 47.6              | 47.6  | 3.7                |                   |       |                    |       |           |       |
|                  | 1350 | 10.2                                           | 9.4   | 2.7                | 14.6              | 13.5      | 2.8                | 18.3              | 16.8  | 2.9                | 24.4              | 22.1  | 3.0                | 30.0              | 26.3  | 3.1                | 34.5              | 34.5      | 3.1                | 42.7              | 42.7  | 3.4                | 48.1              | 48.1  | 3.7                |                   |       |                    |       |           |       |
|                  | 1575 | 10.4                                           | 9.6   | 2.8                | 14.9              | 13.7      | 2.9                | 18.5              | 17.1  | 3.0                | 24.6              | 22.3  | 3.1                | 30.2              | 26.5  | 3.1                | 34.8              | 34.8      | 3.2                | 43.2              | 43.2  | 3.5                | 48.3              | 48.3  | 3.7                |                   |       |                    |       |           |       |

Performance Data  
48 Cooling Extended Performance Table

| EVAPORATOR AIR |            | CONDENSER ENTERING AIR TEMPERATURES deg F |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |  |  |
|----------------|------------|-------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|--|--|
|                |            | 75 (23.9)                                 |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |  |  |
| CFM            | EWB        | 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 |                 |  |  |
| 1400           | 57 (13.9)  | 46.2                                      | 46.2 | 3.2             | 44.6           | 44.6 | 3.5             | 42.5           | 42.5 | 3.9             | 37.9           | 37.9 | 4.5             | 34.8           | 34.8 | 4.9             | 32.4           | 32.4 | 5.2             |  |  |
|                | 62 (16.7)  | 48.0                                      | 44.4 | 3.2             | 45.9           | 43.3 | 3.5             | 43.7           | 40.9 | 3.9             | 38.9           | 37.0 | 4.5             | 35.8           | 33.4 | 4.9             | 33.3           | 29.4 | 5.2             |  |  |
|                | 63* (17.2) | 49.0                                      | 35.8 | 3.2             | 46.8           | 34.6 | 3.5             | 44.2           | 33.4 | 3.9             | 38.8           | 31.4 | 4.5             | 35.3           | 29.4 | 4.9             | 32.2           | 27.4 | 5.2             |  |  |
|                | 67 (19.4)  | 52.7                                      | 37.3 | 3.3             | 50.3           | 36.1 | 3.6             | 47.5           | 34.8 | 4.0             | 41.8           | 32.8 | 4.5             | 38.0           | 30.7 | 4.9             | 34.6           | 28.6 | 5.2             |  |  |
|                | 72 (22.2)  | 57.4                                      | 29.8 | 3.3             | 54.8           | 28.5 | 3.6             | 51.9           | 27.4 | 4.0             | 45.5           | 25.5 | 4.6             | 41.4           | 23.6 | 4.9             | 37.8           | 21.7 | 5.3             |  |  |
| 1600           | 57 (13.9)  | 48.5                                      | 48.0 | 3.3             | 46.8           | 45.3 | 3.6             | 44.6           | 42.5 | 4.0             | 39.7           | 38.5 | 4.6             | 36.5           | 34.7 | 5.0             | 34.0           | 30.6 | 5.3             |  |  |
|                | 62 (16.7)  | 49.0                                      | 46.1 | 3.3             | 46.8           | 45.0 | 3.6             | 44.6           | 42.5 | 4.0             | 39.7           | 38.5 | 4.6             | 36.5           | 34.7 | 5.0             | 34.0           | 30.6 | 5.3             |  |  |
|                | 63* (17.2) | 49.6                                      | 37.2 | 3.3             | 47.3           | 36.0 | 3.6             | 44.7           | 34.8 | 4.0             | 39.3           | 32.7 | 4.6             | 35.7           | 30.6 | 5.0             | 32.6           | 28.5 | 5.3             |  |  |
|                | 67 (19.4)  | 53.3                                      | 38.7 | 3.3             | 50.9           | 37.5 | 3.6             | 48.0           | 36.2 | 4.1             | 42.2           | 34.0 | 4.6             | 38.4           | 31.9 | 5.0             | 35.0           | 29.7 | 5.3             |  |  |
| 1800           | 72 (22.2)  | 58.1                                      | 31.0 | 3.4             | 55.5           | 29.6 | 3.7             | 52.5           | 28.5 | 4.1             | 46.0           | 26.5 | 4.6             | 41.9           | 24.5 | 5.0             | 38.2           | 22.6 | 5.3             |  |  |
|                | 57 (13.9)  | 50.2                                      | 50.2 | 3.4             | 48.4           | 48.4 | 3.7             | 46.2           | 45.5 | 4.1             | 41.1           | 41.1 | 4.7             | 37.8           | 37.1 | 5.0             | 35.2           | 32.7 | 5.3             |  |  |
|                | 62 (16.7)  | 50.7                                      | 49.8 | 3.4             | 48.4           | 48.1 | 3.7             | 46.2           | 45.5 | 4.1             | 41.1           | 41.1 | 4.7             | 37.8           | 37.1 | 5.0             | 35.2           | 32.7 | 5.3             |  |  |
|                | 63* (17.2) | 51.3                                      | 39.7 | 3.4             | 49.0           | 38.4 | 3.7             | 46.3           | 37.1 | 4.1             | 40.7           | 34.9 | 4.7             | 37.0           | 32.7 | 5.0             | 33.7           | 30.5 | 5.3             |  |  |
|                | 67 (19.4)  | 55.1                                      | 41.4 | 3.4             | 52.7           | 40.0 | 3.7             | 49.7           | 38.7 | 4.1             | 43.7           | 36.4 | 4.7             | 39.7           | 34.0 | 5.0             | 36.3           | 31.7 | 5.3             |  |  |
|                | 72 (22.2)  | 60.1                                      | 33.1 | 3.4             | 57.4           | 31.6 | 3.7             | 54.3           | 30.4 | 4.2             | 47.7           | 28.4 | 4.7             | 43.3           | 26.2 | 5.1             | 39.5           | 24.1 | 5.4             |  |  |

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

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

| INDOOR AIR       |      | OUTDOOR COIL ENTERING AIR TEMPERATURES °F (°C) |       |              |                |       |              |                |       |              |                |       |              |                |       |              |                |       |              |                |       |              |
|------------------|------|------------------------------------------------|-------|--------------|----------------|-------|--------------|----------------|-------|--------------|----------------|-------|--------------|----------------|-------|--------------|----------------|-------|--------------|----------------|-------|--------------|
|                  |      | -10 (-23.3)                                    |       |              | 0 (-17.8)      |       |              | 10 (-12.2)     |       |              | 20 (-6.7)      |       |              | 30 (-1.1)      |       |              | 40 (4.4)       |       |              | 50 (10)        |       |              |
| 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°F<br>(18.3°C) | 1400 | 12.2                                           | 11.2  | 2.7          | 15.4           | 14.2  | 2.7          | 21.3           | 19.6  | 2.8          | 26.4           | 23.9  | 2.9          | 27.0           | 23.7  | 3.0          | 33.0           | 33.0  | 3.1          | 48.1           | 48.1  | 3.4          |
|                  | 1600 | 12.3                                           | 11.3  | 2.7          | 15.6           | 14.4  | 2.8          | 21.6           | 19.8  | 2.9          | 26.7           | 24.2  | 3.0          | 27.3           | 23.9  | 3.1          | 33.4           | 33.4  | 3.2          | 48.6           | 48.6  | 3.4          |
|                  | 1800 | 12.5                                           | 11.5  | 2.8          | 15.8           | 14.6  | 2.9          | 21.8           | 20.0  | 3.0          | 26.9           | 24.4  | 3.0          | 27.5           | 24.1  | 3.1          | 33.6           | 33.6  | 3.2          | 49.1           | 49.1  | 3.5          |
| 70°F<br>(21.1°C) | 1400 | 11.9                                           | 10.9  | 2.8          | 15.0           | 13.8  | 2.8          | 20.8           | 19.1  | 3.0          | 25.7           | 23.3  | 3.1          | 26.3           | 23.1  | 3.2          | 32.2           | 32.2  | 3.3          | 46.8           | 46.8  | 3.6          |
|                  | 1600 | 12.0                                           | 10.7  | 2.8          | 15.2           | 13.7  | 2.9          | 21.0           | 19.1  | 3.0          | 26.0           | 23.9  | 3.1          | 26.6           | 24.7  | 3.2          | 32.5           | 32.5  | 3.3          | 47.3           | 47.3  | 3.6          |
|                  | 1800 | 12.2                                           | 11.2  | 2.9          | 15.4           | 14.2  | 3.0          | 21.2           | 19.5  | 3.1          | 26.2           | 23.7  | 3.2          | 26.8           | 23.5  | 3.3          | 32.7           | 32.7  | 3.3          | 47.8           | 47.8  | 3.6          |
| 75°F<br>(23.9°C) | 1400 | 11.6                                           | 10.7  | 2.9          | 14.7           | 13.6  | 3.0          | 20.4           | 18.7  | 3.1          | 25.2           | 22.8  | 3.2          | 26.1           | 22.8  | 3.3          | 31.8           | 31.8  | 3.4          | 46.4           | 46.4  | 3.7          |
|                  | 1600 | 11.8                                           | 10.8  | 2.9          | 14.9           | 13.7  | 3.0          | 20.6           | 18.9  | 3.1          | 25.5           | 23.1  | 3.2          | 26.3           | 23.1  | 3.3          | 32.2           | 32.2  | 3.4          | 46.8           | 46.8  | 3.7          |
|                  | 1800 | 12.0                                           | 11.0  | 3.0          | 15.1           | 13.9  | 3.1          | 20.8           | 19.1  | 3.2          | 25.7           | 23.3  | 3.3          | 26.6           | 23.3  | 3.4          | 32.4           | 32.4  | 3.5          | 47.3           | 47.3  | 3.8          |

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

Performance Table  
60 Cooling Extended Performance Table

| EVAPORATOR AIR |            | CONDENSER ENTERING AIR TEMPERATURES deg F (C) |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
|----------------|------------|-----------------------------------------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|----------------|------|-----------------|
|                |            | 75 (23.9)                                     |      |                 | 85 (29.4)      |      |                 | 95 (35)        |      |                 | 105 (40.6)     |      |                 | 115 (46.1)     |      |                 | 125 (51.7)     |      |                 |
| CFM            | EWB        | 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 |                 |
|                |            |                                               |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |                |      |                 |
| 1600           | 57 (13.9)  | 55.4                                          | 55.4 | 4.0             | 53.5           | 53.5 | 4.3             | 50.9           | 50.9 | 4.8             | 41.2           | 41.2 | 5.5             | 39.3           | 39.3 | 5.8             | 37.2           | 37.2 | 6.1             |
|                | 62 (16.7)  | 57.5                                          | 51.7 | 4.0             | 54.9           | 50.4 | 4.3             | 52.4           | 47.7 | 4.8             | 42.4           | 39.9 | 5.5             | 40.4           | 37.6 | 5.8             | 38.2           | 35.9 | 6.1             |
|                | 63* (17.2) | 58.7                                          | 41.7 | 4.0             | 56.0           | 40.3 | 4.3             | 52.9           | 38.9 | 4.8             | 42.3           | 33.9 | 5.5             | 39.9           | 33.1 | 5.8             | 37.0           | 33.5 | 6.1             |
|                | 67 (19.4)  | 63.1                                          | 43.4 | 4.0             | 60.2           | 42.0 | 4.4             | 56.8           | 40.6 | 4.9             | 45.5           | 35.3 | 5.5             | 42.9           | 34.5 | 5.8             | 39.8           | 34.9 | 6.1             |
|                | 72 (22.2)  | 68.7                                          | 34.7 | 4.0             | 65.7           | 33.2 | 4.4             | 62.1           | 31.9 | 4.9             | 49.5           | 27.5 | 5.6             | 46.8           | 26.6 | 5.9             | 43.4           | 26.5 | 6.2             |
| 1750           | 57 (13.9)  | 55.6                                          | 53.5 | 4.0             | 53.6           | 50.5 | 4.4             | 51.1           | 47.4 | 4.9             | 41.4           | 39.7 | 5.5             | 39.4           | 37.4 | 5.9             | 37.3           | 35.7 | 6.2             |
|                | 62 (16.7)  | 56.2                                          | 51.4 | 4.0             | 53.6           | 50.1 | 4.4             | 51.2           | 47.4 | 4.9             | 41.4           | 39.7 | 5.5             | 39.4           | 37.4 | 5.9             | 37.3           | 35.7 | 6.2             |
|                | 63* (17.2) | 56.8                                          | 41.4 | 4.0             | 54.2           | 40.1 | 4.4             | 51.2           | 38.7 | 4.9             | 40.9           | 33.7 | 5.5             | 38.6           | 32.9 | 5.9             | 35.8           | 33.3 | 6.2             |
|                | 67 (19.4)  | 61.1                                          | 43.2 | 4.0             | 58.3           | 41.8 | 4.4             | 55.0           | 40.3 | 4.9             | 44.0           | 35.1 | 5.5             | 41.5           | 34.3 | 5.9             | 38.5           | 34.7 | 6.2             |
|                | 72 (22.2)  | 66.5                                          | 34.5 | 4.1             | 63.5           | 33.0 | 4.5             | 60.1           | 31.7 | 5.0             | 48.0           | 27.4 | 5.6             | 45.3           | 26.4 | 5.9             | 42.0           | 26.4 | 6.2             |
| 2000           | 57 (13.9)  | 58.4                                          | 58.1 | 4.1             | 56.4           | 54.9 | 4.5             | 53.7           | 51.5 | 5.0             | 43.5           | 43.1 | 5.6             | 41.5           | 40.6 | 6.0             | 39.3           | 38.8 | 6.2             |
|                | 62 (16.7)  | 59.1                                          | 56.4 | 4.1             | 56.4           | 54.4 | 4.5             | 53.8           | 51.5 | 5.0             | 43.5           | 43.1 | 5.6             | 41.5           | 40.6 | 6.0             | 39.3           | 38.8 | 6.2             |
|                | 63* (17.2) | 59.7                                          | 45.0 | 4.1             | 57.0           | 43.5 | 4.5             | 53.8           | 42.0 | 5.0             | 43.0           | 36.6 | 5.6             | 40.6           | 35.7 | 6.0             | 37.6           | 36.2 | 6.2             |
|                | 67 (19.4)  | 64.2                                          | 46.9 | 4.1             | 61.3           | 45.3 | 4.5             | 57.8           | 43.8 | 5.0             | 46.3           | 38.1 | 5.6             | 43.7           | 37.2 | 6.0             | 40.5           | 37.7 | 6.2             |
|                | 72 (22.2)  | 70.0                                          | 37.5 | 4.2             | 66.8           | 35.8 | 4.6             | 63.2           | 34.5 | 5.1             | 50.4           | 29.7 | 5.7             | 47.6           | 28.7 | 6.0             | 44.1           | 28.6 | 6.3             |

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

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

| INDOOR AIR       |      | OUTDOOR COIL ENTERING AIR TEMPERATURE |       |              |                  |               |              |                  |       |                |                  |       |              |                  |       |              |                  |               |              |                  |       |              |                  |       |              |                  |       |              |  |               |  |
|------------------|------|---------------------------------------|-------|--------------|------------------|---------------|--------------|------------------|-------|----------------|------------------|-------|--------------|------------------|-------|--------------|------------------|---------------|--------------|------------------|-------|--------------|------------------|-------|--------------|------------------|-------|--------------|--|---------------|--|
|                  |      | -10°F (-23.3°C)                       |       |              |                  | 0°F (-17.8°C) |              |                  |       | 10°F (-12.2°C) |                  |       |              | 20°F (-6.7°C)    |       |              |                  | 30°F (-1.1°C) |              |                  |       | 40°F (4.4°C) |                  |       |              | 50°F (8.3°C)     |       |              |  | 60°F (15.6°C) |  |
| EDB              | CFM  | Capacity (Mbtuh)                      |       | Total Sys kW | Capacity (Mbtuh) |               | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW   | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |               | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW | Capacity (Mbtuh) |       | Total Sys kW |  |               |  |
|                  |      | Total                                 | Integ |              | Total            | Integ         |              | Total            | Integ |                | Total            | Integ |              | Total            | Integ |              | Total            | Integ         |              | Total            | Integ |              | Total            | Integ |              | Total            | Integ |              |  |               |  |
|                  |      |                                       |       |              |                  |               |              |                  |       |                |                  |       |              |                  |       |              |                  |               |              |                  |       |              |                  |       |              |                  |       |              |  |               |  |
| 65°F<br>(18.3°C) | 1600 | 15.1                                  | 13.8  | 3.61         | 21.4             | 19.7          | 3.71         | 27.9             | 25.7  | 3.85           | 32.0             | 29.0  | 3.99         | 32.2             | 28.2  | 4.11         | 41.7             | 41.7          | 4.23         | 60.3             | 60.3  | 4.63         | 67.8             | 67.8  | 4.94         |                  |       |              |  |               |  |
|                  | 1750 | 15.2                                  | 14.0  | 3.57         | 21.7             | 19.9          | 3.66         | 28.2             | 26.0  | 3.80           | 32.4             | 29.3  | 3.93         | 32.6             | 28.5  | 4.04         | 42.1             | 42.1          | 4.15         | 60.9             | 60.9  | 4.53         | 68.5             | 68.5  | 4.82         |                  |       |              |  |               |  |
|                  | 2000 | 15.5                                  | 14.3  | 3.65         | 21.9             | 20.2          | 3.74         | 28.5             | 26.2  | 3.87           | 32.6             | 29.5  | 3.99         | 32.8             | 28.8  | 4.10         | 42.4             | 42.4          | 4.21         | 61.5             | 61.5  | 4.57         | 68.8             | 68.8  | 4.84         |                  |       |              |  |               |  |
| 70°F<br>(21.1°C) | 1600 | 14.7                                  | 13.5  | 3.77         | 20.9             | 19.2          | 3.87         | 27.2             | 25.0  | 4.02           | 31.2             | 28.2  | 4.17         | 31.4             | 27.5  | 4.29         | 40.6             | 40.6          | 4.41         | 58.7             | 58.7  | 4.83         | 66.0             | 66.0  | 5.15         |                  |       |              |  |               |  |
|                  | 1750 | 14.8                                  | 13.2  | 3.72         | 21.1             | 19.0          | 3.82         | 27.5             | 25.0  | 3.96           | 31.5             | 29.0  | 4.09         | 31.7             | 23.1  | 4.21         | 41.0             | 41.0          | 4.33         | 59.3             | 59.3  | 4.72         | 66.7             | 66.7  | 5.03         |                  |       |              |  |               |  |
|                  | 2000 | 15.1                                  | 13.9  | 3.80         | 21.4             | 19.7          | 3.88         | 27.8             | 25.6  | 4.02           | 31.8             | 28.8  | 4.15         | 32.0             | 28.0  | 4.26         | 41.3             | 41.3          | 4.37         | 59.9             | 59.9  | 4.75         | 67.0             | 67.0  | 5.03         |                  |       |              |  |               |  |
| 75°F<br>(23.9°C) | 1600 | 14.4                                  | 13.2  | 3.93         | 20.4             | 18.8          | 4.03         | 26.7             | 24.5  | 4.19           | 30.5             | 27.6  | 4.34         | 31.1             | 27.2  | 4.47         | 40.2             | 40.2          | 4.60         | 58.1             | 58.1  | 5.03         | 65.3             | 65.3  | 5.37         |                  |       |              |  |               |  |
|                  | 1750 | 14.5                                  | 13.4  | 3.87         | 20.7             | 19.0          | 3.97         | 27.0             | 24.8  | 4.11           | 30.9             | 27.9  | 4.26         | 31.4             | 27.5  | 4.38         | 40.6             | 40.6          | 4.50         | 58.7             | 58.7  | 4.91         | 66.0             | 66.0  | 5.23         |                  |       |              |  |               |  |
|                  | 2000 | 14.8                                  | 13.6  | 3.94         | 20.9             | 19.3          | 4.03         | 27.2             | 25.0  | 4.17           | 31.1             | 28.2  | 4.30         | 31.7             | 27.7  | 4.42         | 40.9             | 40.9          | 4.53         | 59.3             | 59.3  | 4.93         | 66.3             | 66.3  | 5.22         |                  |       |              |  |               |  |

Performance Data (Continued)

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:

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

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

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

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

- 4.The SHC is based on 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 x (1 + BF) x (edb - 80).
- 5.Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it.

Multiplication Factors

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

## Dry Coil Air Delivery\* - Horizontal and Downflow Discharge Sizes 24-60

| Unit Size | Motor Speed | Tap    | ESP (in. W.C.) |      |      |      |      |      |      |      |      |      |      |
|-----------|-------------|--------|----------------|------|------|------|------|------|------|------|------|------|------|
|           |             |        |                | 0.1  | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 24        | Low         | Blue   | CFM            | 723  | 563  | 308  | ---  | ---  | ---  | ---  | ---  | ---  | ---  |
|           |             |        | BHP            | 0.09 | 0.07 | 0.06 | ---  | ---  | ---  | ---  | ---  | ---  | ---  |
|           | Med-Low     | Pink   | CFM            | 829  | 766  | 696  | 606  | 538  | 470  | 406  | 341  | 283  | 220  |
|           |             |        | BHP            | 0.11 | 0.12 | 0.12 | 0.13 | 0.13 | 0.14 | 0.14 | 0.15 | 0.15 | 0.16 |
|           | Medium**    | Red    | CFM            | 1065 | 1016 | 966  | 914  | 857  | 783  | 716  | 667  | 617  | 566  |
|           |             |        | BHP            | 0.19 | 0.20 | 0.20 | 0.21 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.25 |
|           | Med-High    | Orange | CFM            | 1097 | 1048 | 999  | 949  | 893  | 833  | 751  | 701  | 651  | 603  |
|           |             |        | BHP            | 0.21 | 0.21 | 0.22 | 0.22 | 0.23 | 0.24 | 0.25 | 0.25 | 0.26 | 0.26 |
|           | High        | Black  | CFM            | 1215 | 1173 | 1129 | 1085 | 1038 | 989  | 936  | 854  | 803  | 760  |
|           |             |        | BHP            | 0.26 | 0.27 | 0.28 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.32 | 0.33 |
| 30        | Low         | Blue   | CFM            | 643  | 552  | 455  | 348  | 225  | ---  | ---  | ---  | ---  | ---  |
|           |             |        | BHP            | 0.09 | 0.10 | 0.11 | 0.11 | 0.11 | ---  | ---  | ---  | ---  | ---  |
|           | Med-Low     | Pink   | CFM            | 817  | 744  | 673  | 597  | 516  | 431  | 325  | 190  | ---  | ---  |
|           |             |        | BHP            | 0.14 | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 0.18 | ---  | ---  |
|           | Medium**    | Red    | CFM            | 1159 | 1104 | 1045 | 990  | 937  | 878  | 821  | 759  | 693  | 618  |
|           |             |        | BHP            | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 |
|           | Med-High    | Orange | CFM            | 1201 | 1147 | 1095 | 1037 | 987  | 934  | 877  | 818  | 755  | 671  |
|           |             |        | BHP            | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.40 |
|           | High        | Black  | CFM            | 1291 | 1236 | 1181 | 1131 | 1080 | 1033 | 978  | 909  | 792  | 661  |
|           |             |        | BHP            | 0.41 | 0.42 | 0.43 | 0.43 | 0.44 | 0.45 | 0.46 | 0.45 | 0.43 | 0.40 |
| 36        | Low         | Blue   | CFM            | 1069 | 1006 | 955  | 896  | 847  | 800  | 755  | 700  | 649  | 598  |
|           |             |        | BHP            | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.24 |
|           | Med-Low     | Pink   | CFM            | 1154 | 1100 | 1045 | 997  | 936  | 886  | 847  | 804  | 749  | 699  |
|           |             |        | BHP            | 0.19 | 0.20 | 0.21 | 0.23 | 0.24 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 |
|           | Medium**    | Red    | CFM            | 1295 | 1247 | 1199 | 1152 | 1104 | 1050 | 997  | 955  | 918  | 875  |
|           |             |        | BHP            | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 |
|           | Med-High    | Orange | CFM            | 1421 | 1374 | 1328 | 1283 | 1236 | 1188 | 1137 | 1089 | 1042 | 1011 |
|           |             |        | BHP            | 0.32 | 0.33 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.41 |
|           | High        | Black  | CFM            | 1505 | 1464 | 1423 | 1380 | 1336 | 1292 | 1242 | 1199 | 1145 | 1096 |
|           |             |        | BHP            | 0.38 | 0.39 | 0.40 | 0.42 | 0.43 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 |
| 42        | Low         | Blue   | CFM            | 956  | 899  | 843  | 786  | 729  | 676  | 621  | 558  | 504  | 435  |
|           |             |        | BHP            | 0.13 | 0.13 | 0.14 | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 | 0.18 | 0.19 |
|           | Med-Low     | Pink   | CFM            | 1201 | 1153 | 1107 | 1060 | 1012 | 965  | 917  | 871  | 828  | 782  |
|           |             |        | BHP            | 0.21 | 0.22 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
|           | Medium**    | Red    | CFM            | 1443 | 1402 | 1361 | 1322 | 1284 | 1243 | 1204 | 1164 | 1124 | 1084 |
|           |             |        | BHP            | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 |
|           | Med-High    | Orange | CFM            | 1529 | 1491 | 1451 | 1411 | 1376 | 1338 | 1300 | 1261 | 1223 | 1185 |
|           |             |        | BHP            | 0.37 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 |
|           | High        | Black  | CFM            | 1604 | 1565 | 1529 | 1490 | 1455 | 1421 | 1385 | 1348 | 1310 | 1274 |
|           |             |        | BHP            | 0.42 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 |
| 48        | Low         | Blue   | CFM            | 641  | 551  | 462  | 385  | 289  | 216  | 163  | 115  | ---  | ---  |
|           |             |        | BHP            | 0.05 | 0.06 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | ---  | ---  |
|           | Med-Low     | Pink   | CFM            | 1437 | 1395 | 1351 | 1307 | 1265 | 1221 | 1176 | 1132 | 1084 | 1039 |
|           |             |        | BHP            | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 |
|           | Medium**    | Red    | CFM            | 1771 | 1735 | 1699 | 1664 | 1627 | 1592 | 1557 | 1522 | 1486 | 1450 |
|           |             |        | BHP            | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 |
|           | Med-High    | Orange | CFM            | 1928 | 1897 | 1862 | 1830 | 1796 | 1764 | 1732 | 1698 | 1620 | 1512 |
|           |             |        | BHP            | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.71 | 0.66 |
|           | High        | Black  | CFM            | 2212 | 2167 | 2124 | 2061 | 1976 | 1892 | 1794 | 1699 | 1567 | 1438 |
|           |             |        | BHP            | 0.97 | 0.99 | 1.00 | 0.97 | 0.95 | 0.91 | 0.86 | 0.82 | 0.77 | 0.71 |
| 60        | Low         | Blue   | CFM            | 641  | 551  | 462  | 385  | 289  | 216  | 163  | 115  | ---  | ---  |
|           |             |        | BHP            | 0.05 | 0.06 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | ---  | ---  |
|           | Med-Low     | Pink   | CFM            | 1437 | 1395 | 1351 | 1307 | 1265 | 1221 | 1176 | 1132 | 1084 | 1039 |
|           |             |        | BHP            | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 |
|           | Medium**    | Red    | CFM            | 1914 | 1881 | 1848 | 1814 | 1780 | 1748 | 1716 | 1681 | 1619 | 1512 |
|           |             |        | BHP            | 0.62 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.71 | 0.66 |
|           | Med-High    | Orange | CFM            | 1928 | 1897 | 1862 | 1830 | 1796 | 1764 | 1732 | 1698 | 1620 | 1512 |
|           |             |        | BHP            | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.71 | 0.66 |
|           | High        | Black  | CFM            | 2212 | 2167 | 2124 | 2061 | 1976 | 1892 | 1794 | 1699 | 1567 | 1438 |
|           |             |        | BHP            | 0.97 | 0.99 | 1.00 | 0.97 | 0.95 | 0.91 | 0.86 | 0.82 | 0.77 | 0.71 |

Shaded areas indicate speed/static combinations that are not permitted for dehumidification speed.

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

\*\* Factory-shipped cooling speed

**NOTE:** Deduct field-supplied air filter pressure drop and wet coil pressure drop to obtain external static pressure available for ducting.

**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<br>12x20x1+12x20x1<br>(305x508x25+305x508x25) | 2.0,<br>2.5         | 0.03                | 0.04 | 0.05 | 0.06 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | -    | -    | -    | -    | -    | -    | -    | -    |
| 1200-1800CFM<br>16x24x1+14x24x1<br>(406x610x25+356x610x25) | 3.5                 | -                   | -    | -    | -    | 0.04 | 0.05 | 0.06 | 0.07 | 0.08 | 0.09 | 0.09 | 0.10 | 0.11 | 0.12 | 0.12 | -    | -    |
| 1500-2200CFM<br>16x24x1+18x24x1<br>(406x610x25+457x610x25) | 3.0,<br>4.0,<br>5.0 | -                   | -    | -    | -    | -    | -    | -    | -    | -    | 0.04 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.15 |

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

| Unit Size | Standard CFM (SCFM) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           | 600                 | 700  | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 |
| 24        | 0.03                | 0.04 | 0.04 | 0.05 | 0.06 |      |      |      |      |      |      |      |      |      |      |      |      |
| 30        |                     |      |      | 0.05 | 0.06 | 0.07 | 0.08 | 0.11 |      |      |      |      |      |      |      |      |      |
| 36        |                     |      |      | 0.06 | 0.06 | 0.09 | 0.10 | 0.11 | 0.14 |      |      |      |      |      |      |      |      |
| 42        |                     |      |      |      | 0.05 | 0.05 | 0.06 | 0.07 | 0.08 | 0.08 | 0.09 | 0.09 | 0.11 |      |      |      |      |
| 48        |                     |      |      |      |      |      | 0.04 | 0.06 | 0.09 | 0.10 | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 |      |      |
| 48, 60    |                     |      |      |      |      |      |      |      | 0.05 | 0.06 | 0.07 | 0.07 | 0.08 | 0.09 | 0.10 | 0.12 | 0.13 |

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

| Filter Size in. (mm)                                       | Cooling Tons        | Standard CFM (SCFM) |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------------------------------------------|---------------------|---------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                                            |                     | 600                 | 700 | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 |
| 600-1400 CFM<br>12x20x1+12x20x1<br>(305x508x25+305x508x25) | 2.0,<br>2.5         | -                   | -   | 0.08 | 0.09 | 0.10 | 0.11 | 0.11 | 0.13 | 0.14 | -    | -    | -    | -    | -    | -    | -    | -    |
| 1200-1800CFM<br>16x24x1+14x24x1<br>(406x610x25+356x610x25) | 3.5                 | -                   | -   | -    | -    | -    | 0.09 | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.17 | 0.17 | 0.19 | 0.21 | -    | -    |
| 1500-2200CFM<br>16x24x1+18x24x1<br>(406x610x25+457x610x25) | 3.0,<br>4.0,<br>5.0 | -                   | -   | -    | -    | -    | -    | -    | -    | -    | 0.15 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | 0.23 | 0.23 |

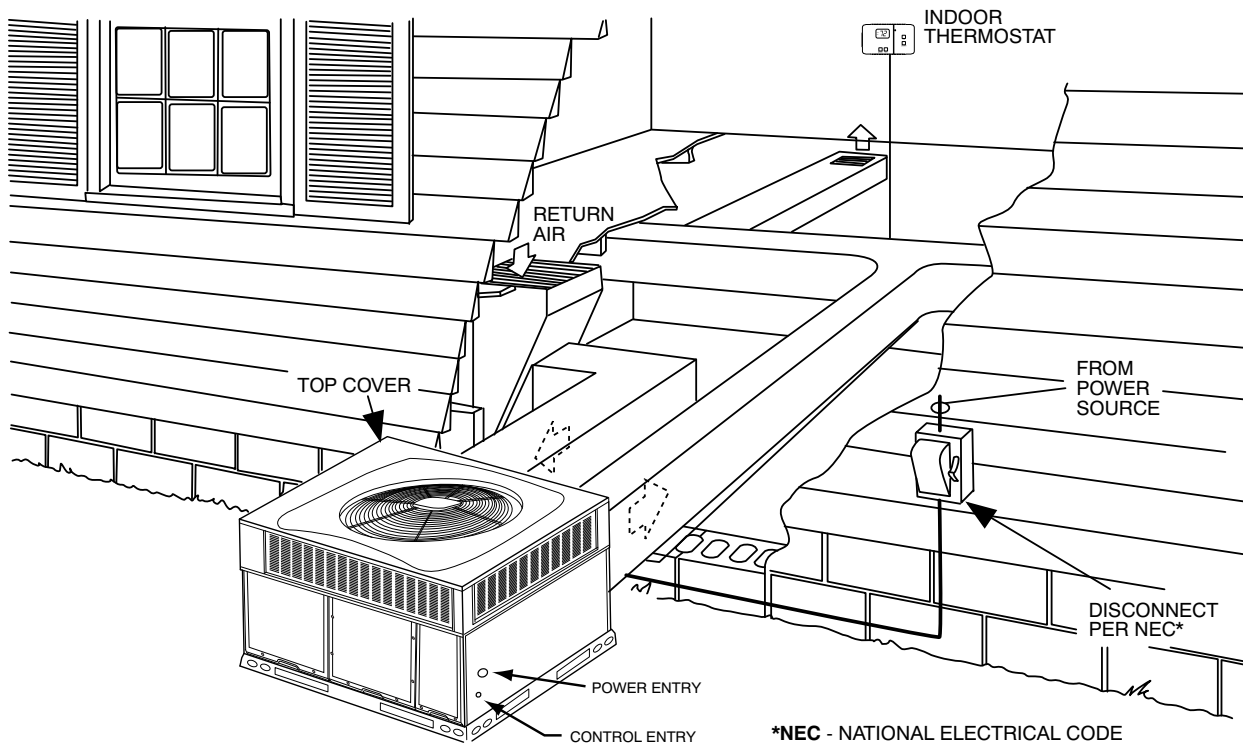
**Electric Heat Pressure Drop Table (IN. W.C.)****Small Cabinet: 24-30**

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

**Electric Heat Pressure Drop Table (IN. W.C.)****Large Cabinet 36-60**

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

## Typical Piping and Wiring



A09238

## Application Data

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

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

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

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

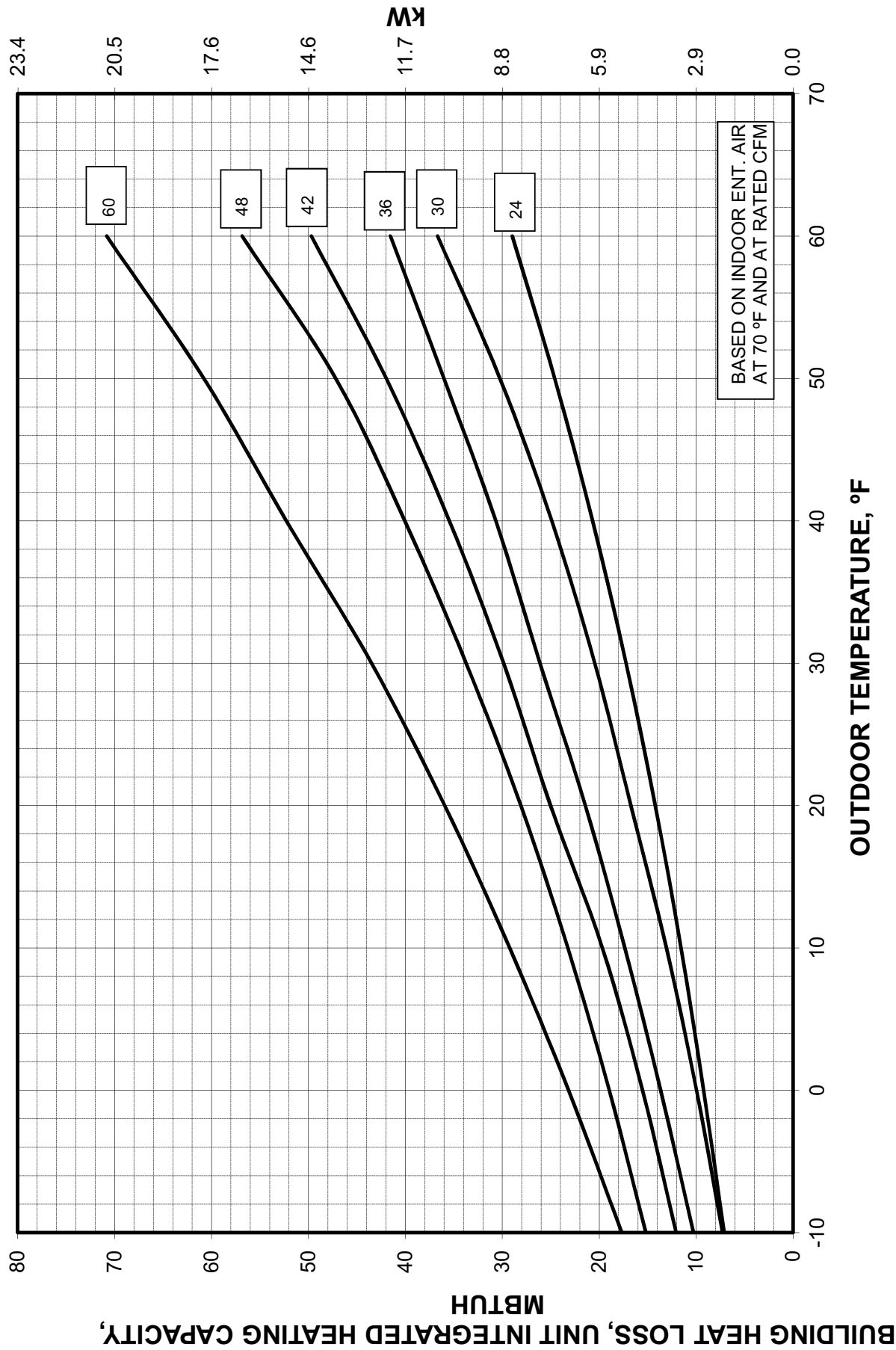
**Minimum cooling airflow** — Minimum cooling airflow is 350 CFM per ton in cooling mode. Airflow can be lower in certain modes when humidity removal is an issue however, low airflow could result in indoor coil freezing and/or refrigerant floodback.

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

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

Balance Point Worksheet

BALANCE POINT WORKSHEET



## Electrical Data

| MODEL | NOMINAL<br>V-PH-HZ | VOLTAGE RANGE |     | COMPRESSOR |     | OFM  | IFM | NOMINAL<br>ELECTRIC<br>HEAT<br>kW | POWER SUPPLY |             |         |
|-------|--------------------|---------------|-----|------------|-----|------|-----|-----------------------------------|--------------|-------------|---------|
|       |                    | MIN           | MAX | RLA        | LRA | FLA  | FLA |                                   | FLA          | MCA         | MOCP    |
| 24    | 208/230-1-60       | 197           | 253 | 11.8       | 63  | 0.71 | 3.9 | -/-                               | -/-          | 18.9        | 30      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 18.1/20.8    | 41.6/45     | 45/45   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 51.3/56.5   | 60/60   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 64.1/71.1   | 70/80   |
| 30    | 208/230-1-60       | 197           | 253 | 13.9       | 67  | 1.05 | 3.9 | -/-                               | -/-          | 22.4        | 35      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 18.1/20.8    | 45/48.3     | 45/50   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 54.7/59.8   | 60/60   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 67.5/74.5   | 70/80   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 54.2/62.5    | 90.1/100.5  | 100/110 |
| 36    | 208/230-1-60       | 197           | 253 | 14.4       | 86  | 1.05 | 3.8 | -/-                               | -/-          | 22.9        | 35      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 18.1/20.8    | 45.5/48.9   | 50/50   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 55.2/60.4   | 60/70   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 68/75       | 70/80   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 54.2/62.5    | 90.6/101    | 100/110 |
| 36    | 208/230-3-60       | 197           | 253 | 9          | 70  | 1.05 | 3.8 | -/-                               | -/-          | 16.2        | 25      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 10.4/12      | 29.1/31.1   | 30/35   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 20.8/24.1    | 42.1/46.2   | 45/50   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 31.2/36.1    | 55.1/61.2   | 60/70   |
| 36    | 460-3-60           | 414           | 506 | 4.1        | 39  | 0.53 | 1.2 | -                                 | -            | 6.8         | 15      |
|       |                    |               |     |            |     |      |     | 10                                | 12           | 21.9        | 25      |
|       |                    |               |     |            |     |      |     | 15                                | 18           | 29.4        | 30      |
|       |                    |               |     |            |     |      |     | -/-                               | -/-          | 29.5        | 45      |
| 42    | 208/230-1-60       | 197           | 253 | 18.1       | 95  | 1.05 | 5.8 | 3.8/5                             | 18.1/20.8    | 52.1/55.5   | 60/60   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 61.9/67     | 70/70   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 74.6/81.6   | 80/90   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 54.2/62.5    | 97.2/107.6  | 100/110 |
|       |                    |               |     |            |     |      |     | 15/20                             | 72.2/83.3    | 119.7/133.6 | 125/150 |
| 42    | 208/230-3-60       | 197           | 253 | 12.2       | 123 | 1.05 | 5.8 | -/-                               | -/-          | 22.2        | 30      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 10.4/12      | 35.1/37.1   | 40/40   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 20.8/24.1    | 48.1/52.2   | 50/60   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 31.2/36.1    | 61.1/67.2   | 70/70   |
|       |                    |               |     |            |     |      |     | 15/20                             | 41.4/47.9    | 73.9/82     | 80/90   |
| 42    | 460-3-60           | 414           | 506 | 6.9        | 60  | 0.53 | 1.7 | -                                 | -            | 10.8        | 15      |
|       |                    |               |     |            |     |      |     | 10                                | 12           | 25.9        | 30      |
|       |                    |               |     |            |     |      |     | 15                                | 18           | 33.4        | 35      |
|       |                    |               |     |            |     |      |     | 20                                | 24.1         | 41          | 45      |
| 48    | 208/230-1-60       | 197           | 253 | 19.4       | 102 | 1.2  | 6.9 | -/-                               | -/-          | 32.4        | 50      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 18.1/20.8    | 55/58.4     | 60/60   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 64.7/69.9   | 70/70   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 77.5/84.5   | 80/90   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 54.2/62.5    | 100.1/110.5 | 110/125 |
| 48    | 208/230-3-60       | 197           | 253 | 12         | 123 | 1.05 | 6.9 | 15/20                             | 72.2/83.3    | 122.6/136.5 | 125/150 |
|       |                    |               |     |            |     |      |     | -/-                               | -/-          | 23          | 35      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 10.4/12      | 36/38       | 40/40   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 20.8/24.1    | 49/53.1     | 50/60   |
|       |                    |               |     |            |     |      |     | 11.3/15                           | 31.2/36.1    | 62/68.1     | 70/70   |
| 48    | 460-3-60           | 414           | 506 | 6.3        | 60  | 0.53 | 2.3 | 15/20                             | 41.4/47.9    | 74.7/82.8   | 80/90   |
|       |                    |               |     |            |     |      |     | -                                 | -            | 10.7        | 15      |
|       |                    |               |     |            |     |      |     | 10                                | 12           | 25.7        | 30      |
|       |                    |               |     |            |     |      |     | 15                                | 18           | 33.2        | 35      |
| 60    | 208/230-1-60       | 197           | 253 | 23.9       | 148 | 1.1  | 6.9 | 20                                | 24.1         | 40.8        | 45      |
|       |                    |               |     |            |     |      |     | -/-                               | -/-          | 37.8        | 60      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 18.1/20.8    | 60.5/63.9   | 70/70   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 25.9/30      | 70.3/75.4   | 80/80   |
|       |                    |               |     |            |     |      |     | 7.5/10                            | 36.1/41.7    | 83/90       | 90/90   |
| 60    | 208/230-3-60       | 197           | 253 | 13.1       | 93  | 1.05 | 6.9 | 11.3/15                           | 54.2/62.5    | 105.6/116   | 110/125 |
|       |                    |               |     |            |     |      |     | 15/20                             | 72.2/83.3    | 128.1/142   | 150/150 |
|       |                    |               |     |            |     |      |     | -/-                               | -/-          | 24.4        | 35      |
|       |                    |               |     |            |     |      |     | 3.8/5                             | 10.4/12      | 37.3/39.3   | 40/40   |
|       |                    |               |     |            |     |      |     | 5.4/7.2                           | 20.8/24.1    | 50.3/54.5   | 60/60   |
| 60    | 460-3-60           | 414           | 506 | 6.6        | 60  | 0.53 | 2.3 | 11.3/15                           | 31.2/36.1    | 63.3/69.5   | 70/70   |
|       |                    |               |     |            |     |      |     | 15/20                             | 41.4/47.9    | 76.1/84.2   | 80/90   |
|       |                    |               |     |            |     |      |     | -                                 | -            | 11.1        | 15      |
|       |                    |               |     |            |     |      |     | 10                                | 12           | 26.1        | 30      |
| 60    | 460-3-60           | 414           | 506 | 6.6        | 60  | 0.53 | 2.3 | 15                                | 18           | 33.6        | 35      |
|       |                    |               |     |            |     |      |     | 20                                | 24.1         | 41.2        | 45      |

See Legend and Notes.

## LEGEND

FLA - Full Load Amps  
 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

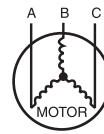
## NOTES:

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

$$\text{Average Voltage} = \frac{228 + 231 + 227}{3}$$

$$= \frac{686}{3}$$

$$= 229$$

Determine maximum deviation from average voltage.

$$(AB) 229 - 228 = 1 \text{ v}$$

$$(BC) 231 - 229 = 2 \text{ v}$$

$$(AC) 229 - 227 = 2 \text{ v}$$

Maximum deviation is 2 v.

Determine percent of voltage imbalance

$$\% \text{ Voltage Imbalance} = 100 \times \frac{2}{229}$$

$$= 0.8\%$$

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.

A09604

**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**



- ### UNIT COMPONENT ARRANGEMENT
- 
- The diagram illustrates the internal component arrangement of a unit, divided into four main sections:
- OUTDOOR FAN SECTION:** Contains the **OFM** (Outdoor Fan Motor).
  - INDOOR FAN SECTION:** Contains the **IFM** (Indoor Fan Motor), **CAP** (Capacitor), and **H C F** (Heater Control Fan).
  - COMPRESSOR SECTION:** Contains the **LPS** (Low Pressure Switch), **HPS** (High Pressure Switch), **COMP** (Compressor), **R C S** (Refrigerant Control Switch), and **COH** (Control Oil Heat).
  - CONTROL BOX AREA:** Contains the **24V** (24V Transformer), **23** (23V Transformer), **21** (21V Transformer), **11** (11V Transformer), **TRAN** (Transformer), **IFB** (Indoor Fan Board), **EQUIP GND** (Equipment Ground), **DISCONNECT PER NEC** (Disconnect per NEC), **24V SPRUCE BOX** (24V Spruce Box), and **24V POWER ENTRY** (24V Power Entry).
- Additional components and connections include:
- SINGLE PT CONNECTION FOR ELEC. HEAT WHEN USED:** A connection point for electric heat.
  - SEE HEATER SCHEMATIC FOR WIRING:** A reference to the heater schematic for wiring details.
  - DS** (Duct Switch) is shown at the bottom.
  - ROS** (Refrigerant Oil Switch) is shown in the Indoor Fan Section.

# Typical Ladder Wiring Schematic - 208/230-1-60

## LADDER WIRING DIAGRAM

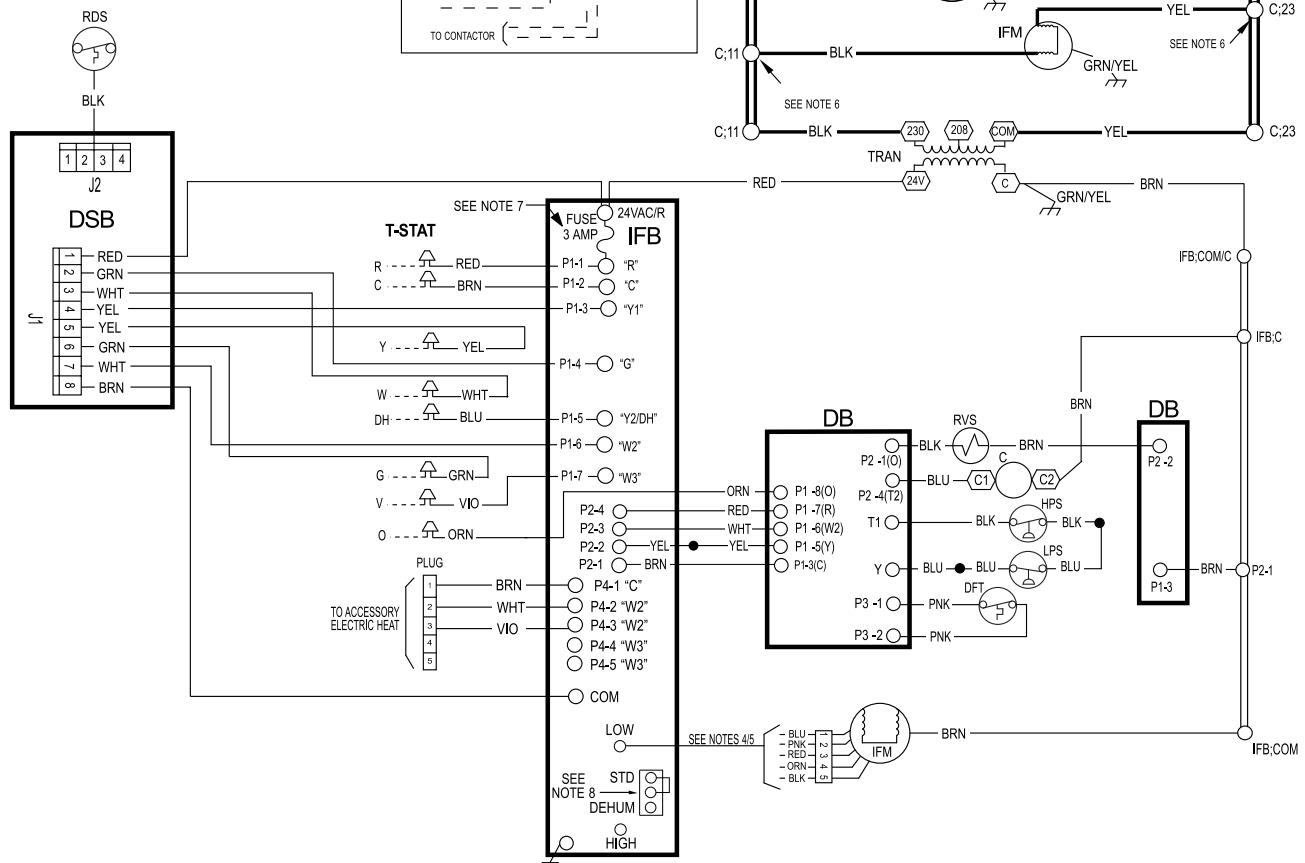
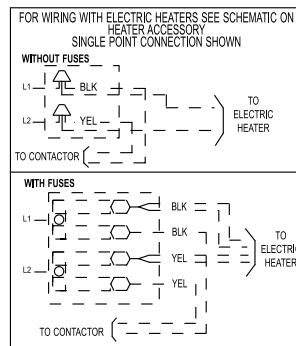
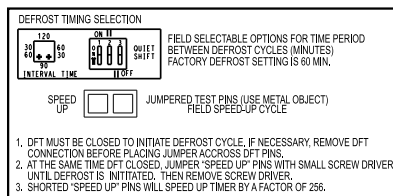
**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**

### LEGEND

|                     |                      |                              |                                    |
|---------------------|----------------------|------------------------------|------------------------------------|
| FIELD SPICE         | SPLICE (MARKED)      | ACCESSORY OR OPTIONAL WIRING | <b>CCH</b> CRANKCASE HEATER        |
| TERMINAL (MARKED)   | FACTORY LOW VOLTAGE  | FACTORY HI VOLTAGE           | <b>CHS</b> CRANKCASE HEATER SWITCH |
| TERMINAL (UNMARKED) | FIELD CONTROL WIRING | <b>C</b> CONTACTOR           | <b>COMP</b> COMPRESSOR MOTOR       |
| SPLICE              | FIELD POWER WIRING   | <b>CAP</b> CAPACITOR         | <b>CTD</b> COMPRESSOR TIME DELAY   |

|                                       |                                 |                                |                                     |
|---------------------------------------|---------------------------------|--------------------------------|-------------------------------------|
| <b>DB</b> DEFROST BOARD               | <b>DSB</b> DISSIPATION BOARD    | <b>IFB</b> INDOOR FAN BOARD    | <b>RDS</b> REFRIG. DETECTION SENSOR |
| <b>DH</b> DEHUM                       | <b>GND</b> GROUND               | <b>IFM</b> INDOOR FAN MOTOR    | <b>RVS</b> REVERSING VALVE          |
| <b>DFT</b> DEFROST TEMPERATURE SWITCH | <b>HPS</b> HIGH PRESSURE SWITCH | <b>LPS</b> LOW PRESSURE SWITCH | <b>TRAN</b> TRANSFORMER             |
| <b>DR</b> DEFROST RELAY (SEE DB)      | <b>HR</b> HEATER RELAY          | <b>OFM</b> OUTDOOR FAN MOTOR   | <b>T-STAT</b> THERMOSTAT            |



350966-701 REV. -



A240138

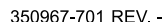
**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**



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.
8. DEHUM FEATURE CANNOT BE USED WHEN ECONOMIZER IS INSTALLED. UNIT FACTORY - SHIPPED IN STD MODE.
9. N.E.C. CLASS 2, 24V.
10. CCH NOT USED ON ALL UNITS.
11. REMOVE YELLOW SPLICE WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED AND CONNECT TO RELAY R1 AS SHOWN.
12. WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED CONNECT THE YELLOW AND BLACK WIRES TO RELAY "R" AS SHOWN. RELAY KIT REQUIRED WITH ECONOMIZER AND HEAT PUMP / DUAL FUEL UNITS.
13. WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, INSTALL WIRES AS SHOWN ONTO THE COILS OF RELAY R AND RELAY R1.

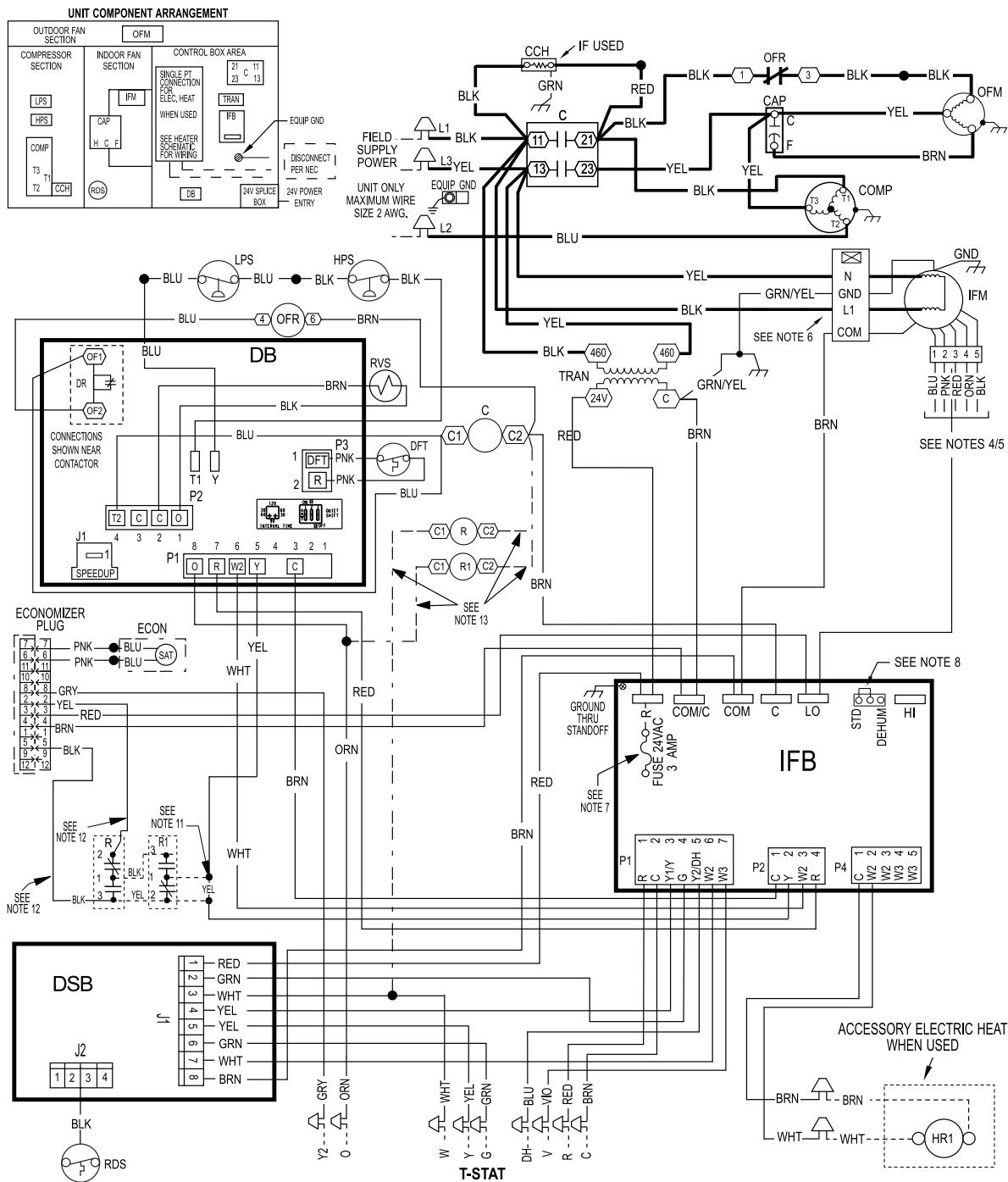
**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**

|                                                                                   |                     |                                                                                   |                      |                                                                                   |                              |                     |                         |               |                            |
|-----------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------------------------------|---------------------|-------------------------|---------------|----------------------------|
|  | FIELD SPLICE        |  | SPLICE (MARKED)      |  | ACCESSORY OR OPTIONAL WIRING | <b>CCH</b>          | CRANKCASE HEATER        | <b>DH</b>     | DEHUM                      |
|  | TERMINAL (MARKED)   |  | FACTORY LOW VOLTAGE  |  | FACTORY HI VOLTAGE           | <b>CHS</b>          | CRANKCASE HEATER SWITCH | <b>DFT</b>    | DEFROST TEMPERATURE SWITCH |
|  | TERMINAL (UNMARKED) |  | FIELD CONTROL WIRING | <b>C</b>                                                                          | CONTACTOR                    | <b>COMP</b>         | COMPRESSOR MOTOR        | <b>DR</b>     | DEFROST RELAY (SEE DB)     |
|  | SPLICE              |  | FIELD POWER WIRING   | <b>CAP</b>                                                                        | CAPACITOR                    | <b>DB</b>           | DEFROST BOARD           | <b>DSB</b>    | DISSIPATION BOARD          |
|                                                                                   |                     |                                                                                   |                      |                                                                                   | <b>HR</b>                    | HEATER RELAY        |                         | <b>RDS</b>    | REFRIG. DETECTION SENSOR   |
| <b>ECON</b> ECONOMIZER                                                            |                     |                                                                                   |                      |                                                                                   | <b>IFB</b>                   | INDOOR FAN BOARD    |                         | <b>RVS</b>    | REVERSING VALVE            |
| <b>EQUIP</b> EQUIPMENT                                                            |                     |                                                                                   |                      |                                                                                   | <b>IFM</b>                   | INDOOR FAN MOTOR    |                         | <b>STD</b>    | STANDARD MODE              |
| <b>GND</b> GROUND                                                                 |                     |                                                                                   |                      |                                                                                   | <b>LPS</b>                   | LOW PRESSURE SWITCH |                         | <b>TRAN</b>   | TRANSFORMER                |
| <b>HPS</b> HIGH PRESSURE SWITCH                                                   |                     |                                                                                   |                      |                                                                                   | <b>OFM</b>                   | OUTDOOR FAN MOTOR   |                         | <b>T-STAT</b> | THERMOSTAT                 |



# Typical Connection Wiring Schematic - 460-3-60

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

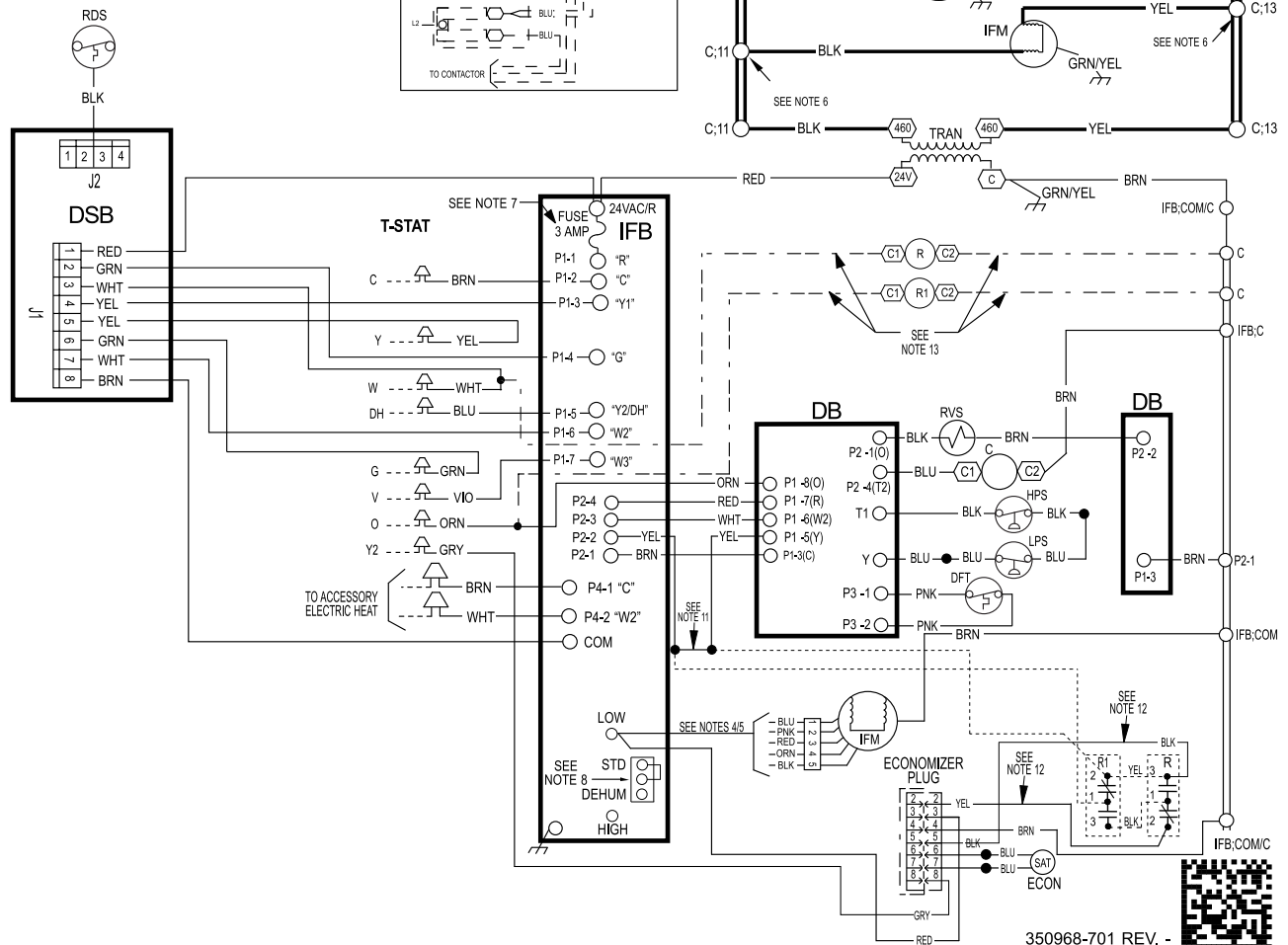
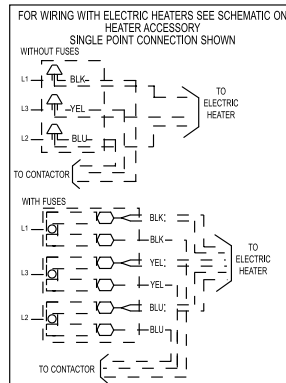


### NOTES:

- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED IT MUST BE REPLACED WITH THE SAME OR ITS EQUIVALENT.
- SEE PRE SALE LITERATURE FOR THERMOSTATS.
- USE 75 DEGREES C COPPER CONDUCTORS FOR FIELD INSTALLATION.
- REFER TO INSTALLATION INSTRUCTIONS FOR CORRECT SPEED SELECTION FOR IFM.
- RELOCATION OF SPEED TAPS MAY BE REQUIRED WHEN USING FIELD INSTALLED ELECTRIC HEATERS. CONSULT INSTALLATION INSTRUCTIONS TO DETERMINE CORRECT SPEED TAP SETTING.
- "DO NOT DISCONNECT PLUG UNDER LOAD".
- THIS FUSE IS MANUFACTURED BY LITTLE FUSE, P/N 287003.
- DEHUM FEATURE CANNOT BE USED WHEN ECONOMIZER IS INSTALLED. UNIT FACTORY - SHIPPED IN STD MODE.
- N.E.C. CLASS 2, 24V.
- CCH NOT USED ON ALL UNITS.
- REMOVE YELLOW SPICE WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED AND CONNECT TO RELAY R1 AS SHOWN.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED CONNECT THE YELLOW AND BLACK WIRES TO RELAY "R" AS SHOWN. RELAY KIT REQUIRED WITH ECONOMIZER AND HEAT PUMP / DUAL FUEL UNITS.
- WHEN ECONOMIZER AND ECONOMIZER RELAYS ARE USED, INSTALL WIRES AS SHOWN ONTO THE COILS OF RELAY R AND RELAY R1.

**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**

|                                                                                   |                            |                                                                                   |                      |                                                                                   |                              |               |                          |
|-----------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------------------------------|---------------|--------------------------|
|  | FIELD SPICE                |  | SPICE (MARKED)       |  | ACCESSORY OR OPTIONAL WIRING | <b>CCH</b>    | CRANKCASE HEATER         |
|  | TERMINAL (MARKED)          |  | FACTORY LOW VOLTAGE  |  | FACTORY HI VOLTAGE           | <b>CHS</b>    | CRANKCASE HEATER SWITCH  |
|  | TERMINAL (UNMARKED)        |  | FIELD CONTROL WIRING | <b>C</b>                                                                          | CONTACTOR                    | <b>COMP</b>   | COMPRESSOR MOTOR         |
|  | SPICE                      |  | FIELD POWER WIRING   | <b>CAP</b>                                                                        | CAPACITOR                    | <b>DB</b>     | DEFROST BOARD            |
| <b>DEHUM</b>                                                                      | DEHUM                      | <b>ECON</b>                                                                       | ECONOMIZER           | <b>IFB</b>                                                                        | INDOOR FAN BOARD             | <b>RDS</b>    | REFRIG. DETECTION SENSOR |
| <b>DEF</b>                                                                        | DEFROST TEMPERATURE SWITCH | <b>EQUIP</b>                                                                      | EQUIPMENT            | <b>IMF</b>                                                                        | INDOOR FAN MOTOR             | <b>RVS</b>    | REVERSING VALVE          |
| <b>DR</b>                                                                         | DEFROST RELAY (SEE DB)     | <b>GND</b>                                                                        | GROUND               | <b>LPS</b>                                                                        | LOW PRESSURE SWITCH          | <b>STD</b>    | STANDARD MODE            |
| <b>DSB</b>                                                                        | DISSIPATION BOARD          | <b>HPS</b>                                                                        | HIGH PRESSURE SWITCH | <b>OFM</b>                                                                        | OUTDOOR FAN MOTOR            | <b>TRAN</b>   | TRANSFORMER              |
|                                                                                   |                            | <b>HR</b>                                                                         | HEATER RELAY         | <b>OFR</b>                                                                        | OUTDOOR FAN RELAY            | <b>T-STAT</b> | THERMOSTAT               |



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## Controls

### Operating Sequence

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

On units with crankcase heater, heater is also energized.

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

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

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

**Heating** — On a call for heat, thermostat makes circuits R-Y and R-G.

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

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

**Demand Defrost Mode**— The defrost mode is factory set to an initial 60-minute time interval. It may also be adjusted to an initial interval of 30, 90, or 120 minutes. During operation, the control optimizes current defrost time based on the previous defrost interval and previous defrost period. If the previous defrost period is less than 2 minutes for two consecutive defrost cycles the control will lengthen the defrost interval by 15 minutes, up to a maximum of 120 minutes or 30 minutes greater than the original setpoint, whichever comes first. If the previous defrost period is more than 5 minutes for two consecutive defrost cycles the control will shorten the defrost interval by 15 minutes, down to a minimum of 30 minutes or 30 minutes from the original setpoint, whichever is first. After the defrost condition is satisfied, or after a maximum of 10 minutes in defrost mode, the unit will resume normal heating operation.

## Guide Specifications

### Packaged Heat Pump System

### HVAC Guide Specifications

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

#### Part 1 } General

##### SYSTEM DESCRIPTION

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

##### QUALITY ASSURANCE

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

###### General:

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

###### Unit Cabinet:

- Unit cabinet shall be constructed of phosphated, zinc-coated, pre-painted steel capable of withstanding 500 hours of salt spray.
- Normal service shall be through 3 removable cabinet panels.
- The unit shall be constructed on a rust proof unit base that has an externally trapped, integrated sloped drain.
- Indoor fan compartment top surface shall be insulated with a minimum 1/2-in. (13 mm) thick, flexible fiberglass insulation, coated on the air side and retained by adhesive and mechanical means. The indoor wall sections will be insulated with a minimum semi-rigid, foil-faced board capable of being wiped clean. Aluminum foil-faced fiberglass insulation shall be used in the entire indoor air cavity section.
- Unit shall have a field-supplied condensate trap.
- Metal Insulated Duct Covers for side discharge will be standard on all sizes.
- Unit insulation conforms to ASHRAE 62P.

###### Fans:

- The indoor fan shall be 5-speed, direct-drive, as shown on equipment drawings.
- Fan wheel shall be made from steel and shall be double-inlet type with forward-curved blades with corrosion resistant finish. Fan wheel shall be dynamically balanced.
- Outdoor fan shall be direct-drive, propeller-type with aluminum blades riveted to corrosion resistant steel spiders, be dynamically balanced, and discharge air vertically.

###### Compressor:

- Fully hermetic compressors with factory-installed vibration isolation.
- Scroll compressors shall be standard on all units.

###### Coils:

- Indoor coils shall have aluminum plate fins mechanically bonded to seamless aluminum tubes with all joints brazed. Tube sheet openings shall be belled to prevent tube wear. Outdoor coil shall have aluminum fins with copper tubing.

###### Refrigerant Metering Device:

- Refrigerant metering device shall be thermostatic expansion valve or fixed orifice for cooling, and fixed orifice for heating.

###### Filters:

- Filter section shall consist of field-installed, throwaway, 1-in. (25 mm) - thick fiberglass filters of commercially available sizes.

###### Controls and Safeties:

- Unit controls shall be complete with a self-contained, low-voltage control circuit.
- Units shall incorporate an internal compressor protector that provides reset capability.

###### Operating Characteristics:

- Unit shall be capable of starting and running at 125°F (51.7°C) ambient outdoor temperature.
- Compressor with standard controls shall be capable of operation down to 40°F (4.4°C) ambient outdoor temperature in cooling mode.
- Unit shall be provided with 90-second fan time delay after the thermostat is satisfied.

###### Electrical Requirements:

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

###### Motors:

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

###### Special Features Available:

- Compressor Start Kit (single phase units only):  
Shall provide additional starting torque for single-phase compressors.
- Thermostat:  
To provide for two-stage heating and one-stage cooling in addition manual or automatic changeover and indoor fan control.
- Crankcase Heater:  
Shall provide anti-floodback protection for lowload cooling applications.
- Economizer:  
(Horizontal - Field installed accessory)  
(Vertical - Field installed accessory)
  - 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.

## Guide Specifications (Continued)

- 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.
- Filter Rack Kit:  
Shall provide filter mounting for downflow applications. Offered as a field installed accessory.
- Flat Roof Curb:  
Curbs shall have seal strip and a wood nailer for flashing and shall be installed per manufacturer's instructions.
- Low Ambient Package:  
Shall consist of a solid-state control and outdoor coil temperature sensor for controlling outdoor-fan motor operation, which shall allow unit to operate down to 0°F (-17.7°C) outdoor ambient temperature.
- Manual Outdoor Air Damper:  
Package shall consist of damper, birdscreen, and rainhood which can be preset to admit outdoor air for year-round ventilation.
- Square-To-Round Duct Transitions (24-48 size):  
Shall have the ability to convert the supply and return openings from rectangular to round.
- 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. Offered as a field installed accessory.
- 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.
- Cabinet air leakage of 2.0% or less at .5 in. W.C. when tested in accordance with ASHRAE standard 193.
- Louver Metal Outdoor Coil Grille  
Shall provide hail and vandalism protection.

### Training

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