

**Up to 14 SEER**  
**PACKAGE GAS / ELECTRIC**  
**2 to 5 TONS**  
**Single Phase, 208/230 V, 60 Hz**

**GRAND AIRE**  
*Heating & Cooling Products*



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).



**WPG4**

#### UNIT PERFORMANCE DATA

| Model Number  | COOLING           |      |      | HEATING        |                      | Unit Dimensions<br>Height x Width x Depth<br>in (mm)                                                                      | Operating<br>Weight<br>lbs (kg) |
|---------------|-------------------|------|------|----------------|----------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------|
|               | Capacity<br>BTU/h | SEER | EER  | Input<br>BTU/h | Efficiency<br>AFUE % |                                                                                                                           |                                 |
| WPG4244040*KB | 23,600            | 14.0 | 11.5 | 40,000         | 81.0                 | 43 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 32 <sup>5</sup> / <sub>8</sub><br>(1111 x 1224 x 829)  | 304 (138)                       |
| WPG4244060*KB | 23,600            | 14.0 | 11.5 | 60,000         | 81.0                 |                                                                                                                           | 304 (138)                       |
| WPG4304040*KB | 28,600            | 14.0 | 11.5 | 40,000         | 81.0                 | 45 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 32 <sup>5</sup> / <sub>8</sub><br>(1162 x 1224 x 829)  | 336 (152)                       |
| WPG4304060*KB | 28,600            | 14.0 | 11.5 | 60,000         | 81.0                 |                                                                                                                           | 336 (152)                       |
| WPG4364060*KB | 34,800            | 14.0 | 11.5 | 60,000         | 81.0                 | 51 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 32 <sup>5</sup> / <sub>8</sub><br>(1315 x 1224 x 829)  | 349 (158)                       |
| WPG4364090*KB | 34,800            | 14.0 | 11.5 | 90,000         | 81.0                 |                                                                                                                           | 349 (158)                       |
| WPG4424060*KB | 40,000            | 14.0 | 11.5 | 60,000         | 81.0                 | 44 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 44 <sup>1</sup> / <sub>8</sub><br>(1137 x 1224 x 1123) | 413 (187)                       |
| WPG4424090*KB | 40,000            | 14.0 | 11.5 | 90,000         | 81.0                 |                                                                                                                           | 413 (187)                       |
| WPG4484090*KB | 46,000            | 14.0 | 11.5 | 90,000         | 81.0                 | 52 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 44 <sup>1</sup> / <sub>8</sub><br>(1340 x 1224 x 1123) | 438 (199)                       |
| WPG4484115*KB | 46,000            | 14.0 | 11.5 | 115,000        | 81.0                 |                                                                                                                           | 438 (199)                       |
| WPG4484130*KB | 46,000            | 14.0 | 11.5 | 127,000        | 81.0                 |                                                                                                                           | 438 (199)                       |
| WPG4604090*KB | 56,000            | 14.0 | 11.5 | 90,000         | 81.0                 | 54 <sup>3</sup> / <sub>4</sub> x 48 <sup>3</sup> / <sub>16</sub> x 44 <sup>1</sup> / <sub>8</sub><br>(1391 x 1224 x 1123) | 455 (206)                       |
| WPG4604115*KB | 56,000            | 14.0 | 11.5 | 115,000        | 81.0                 |                                                                                                                           | 455 (206)                       |
| WPG4604130*KB | 56,000            | 14.0 | 11.5 | 127,000        | 81.0                 |                                                                                                                           | 455 (206)                       |

\* R = Standard Model, L = Low NOx California Model

#### REFRIGERATION CIRCUIT

- Environmentally sound R-410A refrigerant
- Copper tube/aluminum fin condenser and evaporator coils

#### EASY TO INSTALL AND SERVICE

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

#### BUILT TO LAST

- Pre-painted steel cabinet
- Direct spark ignition
- High efficiency ECM indoor blower motor on all models
- Aluminized steel tubular heat exchanger
- Full perimeter steel base rails
- High pressure switch provides added reliability for the compressor

#### LIMITED WARRANTY\*

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

\*See warranty certificate for complete details and restrictions

**Product Specifications**

## MODEL NUMBER NOMENCLATURE

| MODEL NOMENCLATURE                                |      |   |   |      |   |        |    |    |    |    |
|---------------------------------------------------|------|---|---|------|---|--------|----|----|----|----|
| Digit Position:                                   | 1, 2 | 3 | 4 | 5, 6 | 7 | 8,9,10 | 11 | 12 | 13 | 14 |
| Example Part Number:                              | WP   | G | 4 | 36   | 4 | 090    | R  | K  | B  | 1  |
| WP = Package                                      |      |   |   |      |   |        |    |    |    |    |
| A = Air Conditioner                               |      |   |   |      |   |        |    |    |    |    |
| H = Heat Pump                                     |      |   |   |      |   |        |    |    |    |    |
| G = Gas/Electric                                  |      |   |   |      |   |        |    |    |    |    |
| TYPE                                              |      |   |   |      |   |        |    |    |    |    |
| 4 = 14                                            |      |   |   |      |   |        |    |    |    |    |
| SEER                                              |      |   |   |      |   |        |    |    |    |    |
| 24 = 24,000 BTUH = 2 Tons                         |      |   |   |      |   |        |    |    |    |    |
| 30 = 30,000 BTUH = 2.5 Tons                       |      |   |   |      |   |        |    |    |    |    |
| 36 = 36,000 BTUH = 3 Tons                         |      |   |   |      |   |        |    |    |    |    |
| 42 = 42,000 BTUH = 3.5 Tons                       |      |   |   |      |   |        |    |    |    |    |
| 48 = 48,000 BTUH = 4 Tons                         |      |   |   |      |   |        |    |    |    |    |
| 60 = 60,000 BTUH = 5 Tons                         |      |   |   |      |   |        |    |    |    |    |
| NOMINAL COOLING BTUH                              |      |   |   |      |   |        |    |    |    |    |
| 4 = R-410A                                        |      |   |   |      |   |        |    |    |    |    |
| REFRIGERANT                                       |      |   |   |      |   |        |    |    |    |    |
| 000 = no gas heat (use accessory electric heater) |      |   |   |      |   |        |    |    |    |    |
| 040 = 40,000 BTU/hr                               |      |   |   |      |   |        |    |    |    |    |
| 060 = 60,000 BTU/hr                               |      |   |   |      |   |        |    |    |    |    |
| 090 = 90,000 BTU/hr                               |      |   |   |      |   |        |    |    |    |    |
| 115 = 115,000 BTU/hr                              |      |   |   |      |   |        |    |    |    |    |
| 130 = 127,000 or 130,000 BTU/hr                   |      |   |   |      |   |        |    |    |    |    |
| NOMINAL HEATING BTUH (input)                      |      |   |   |      |   |        |    |    |    |    |
| R = Regular                                       |      |   |   |      |   |        |    |    |    |    |
| L = Low NOx Combustion (WPG models only)          |      |   |   |      |   |        |    |    |    |    |
| FEATURES                                          |      |   |   |      |   |        |    |    |    |    |
| K = 208/230-1-60                                  |      |   |   |      |   |        |    |    |    |    |
| VOLTAGE                                           |      |   |   |      |   |        |    |    |    |    |
| Sales Model Digit                                 |      |   |   |      |   |        |    |    |    |    |
| Engineering Digit                                 |      |   |   |      |   |        |    |    |    |    |

## AHRI\* CAPACITIES

### Cooling Capacities and Efficiencies

| UNIT SIZE | NOMINAL TONS | STANDARD CFM | COOLING CAPACITY | EER  | SEER |
|-----------|--------------|--------------|------------------|------|------|
| 24        | 2            | 800          | 23000            | 11.5 | 14.0 |
| 30        | 2.5          | 1000         | 28600            | 11.5 | 14.0 |
| 36        | 3            | 1150         | 34800            | 11.5 | 14.0 |
| 42        | 3.5          | 1350         | 40000            | 11.5 | 14.0 |
| 48        | 4            | 1550         | 46000            | 11.5 | 14.0 |
| 60        | 5            | 1750         | 56000            | 11.5 | 14.0 |

#### LEGEND

**dB**—Sound Levels (decibels)

**db**—Dry Bulb

**SEER**—Seasonal Energy Efficiency Ratio

**wb**—Wet Bulb

**COP**—Coefficient of Performance

\* Air Conditioning, Heating & Refrigeration Institute.

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

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

#### Notes:

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

Ratings are based on:

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

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

## Gas Heating Capacities and Efficiencies

| UNIT SIZE                        | HEATING INPUT (Btuh) | OUTPUT CAPACITY (Btuh)               | TEMPERATURE RISE RANGE °F (°C) | AFUE (%) |
|----------------------------------|----------------------|--------------------------------------|--------------------------------|----------|
| 24040<br>30040                   | 40,000               | 33,000                               | 25–55<br>(14–31)               | 81.0     |
| 24060<br>30060<br>36060<br>42060 | 60,000               | 49,000                               | 25–55<br>(14–31)               | 81.0     |
| 36090<br>42090<br>48090<br>60090 | 90,000               | 73,000<br>74,000<br>74,000<br>74,000 | 35–65<br>(19–36)               | 81.0     |
| 48115<br>60115                   | 115,000              | 94,000                               | 30–60<br>(17–33)               | 81.0     |
| 48130<br>60130                   | 127,000              | 104,000                              | 35–65<br>(19–36)               | 81.0     |

### LEGEND

**AFUE**—Annual Fuel Utilization Efficiency

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

## A-Weighted Sound Power Level (dBA)

| UNIT SIZE | SOUND RATING | TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment) |      |      |      |      |      |      |
|-----------|--------------|------------------------------------------------------------|------|------|------|------|------|------|
|           |              | 125                                                        | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 24        | 73           | 54.3                                                       | 61.3 | 55.2 | 54.8 | 57.1 | 53.6 | 43.1 |
| 30        | 73           | 58.1                                                       | 59.4 | 61.2 | 64.1 | 59.2 | 56.8 | 50.9 |
| 36        | 74           | 58.7                                                       | 62.8 | 65.7 | 67.8 | 63.7 | 58.9 | 51.7 |
| 42        | 74           | 54.4                                                       | 59.0 | 61.2 | 62.1 | 58.9 | 53.5 | 46.7 |
| 48        | 73           | 57.1                                                       | 57.6 | 60.5 | 62.7 | 58.2 | 56.4 | 50.7 |
| 60        | 76           | 64.4                                                       | 59.7 | 59.6 | 60.6 | 59.8 | 55.5 | 47.8 |

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

## PHYSICAL DATA

| UNIT SIZE                                                                      | 24040                        | 24060      | 30040       | 30060       | 36060      | 36090      | 42060                                                 | 42090       |
|--------------------------------------------------------------------------------|------------------------------|------------|-------------|-------------|------------|------------|-------------------------------------------------------|-------------|
| NOMINAL CAPACITY (ton)                                                         | 2                            | 2          | 2-1/2       | 2-1/2       | 3          | 3          | 3-1/2                                                 | 3-1/2       |
| SHIPPING WEIGHT lb.                                                            | 329                          | 329        | 361         | 361         | 390        | 390        | 455                                                   | 455         |
| SHIPPING WEIGHT (kg)                                                           | 149                          | 149        | 164         | 164         | 177        | 177        | 206                                                   | 206         |
| COMPRESSOR / QUANTITY                                                          | Rotary / 1                   |            | Recip / 1   |             | Scroll / 1 |            |                                                       |             |
| REFRIGERANT (R-410A)                                                           |                              |            |             |             |            |            |                                                       |             |
| Quantity lb.                                                                   | 5.3                          | 5.3        | 5.5         | 5.5         | 8.2        | 8.2        | 6.2                                                   | 6.2         |
| Quantity (kg)                                                                  | 2.4                          | 2.4        | 2.5         | 2.5         | 3.7        | 3.7        | 2.8                                                   | 2.8         |
| REFRIGERANT METERING DEVICE                                                    | Orifice                      |            |             |             | TXV        |            | Orifice                                               |             |
| ORIFICE ID in. / mm                                                            | .059 / 1.5                   | .059 / 1.5 | .061 / 1.55 | .061 / 1.55 | N/A        |            | .073 / 1.85                                           | .073 / 1.85 |
| OUTDOOR COIL                                                                   |                              |            |             |             |            |            |                                                       |             |
| Rows...Fins/in.                                                                | 1...21                       | 1...21     | 1...21      | 1...21      | 1...21     | 1...21     | 1...21                                                | 1...21      |
| Face Area (sq ft)                                                              | 11.9                         | 11.9       | 13.6        | 13.6        | 18.8       | 18.8       | 13.6                                                  | 13.6        |
| OUTDOOR FAN                                                                    |                              |            |             |             |            |            |                                                       |             |
| Nominal CFM                                                                    | 2500                         | 2500       | 2700        | 2700        | 3200       | 3200       | 3600                                                  | 3600        |
| Diameter in.                                                                   | 24                           | 24         | 24          | 24          | 24         | 24         | 26                                                    | 26          |
| Diameter (mm)                                                                  | 609.6                        | 609.6      | 609.6       | 609.6       | 609.6      | 609.6      | 660.4                                                 | 660.4       |
| Motor Hp (Rpm)                                                                 | 1/10 (810)                   | 1/10 (810) | 1/10 (810)  | 1/10 (810)  | 1/5 (810)  | 1/5 (810)  | 1/5 (810)                                             | 1/5 (810)   |
| INDOOR COIL                                                                    |                              |            |             |             |            |            |                                                       |             |
| Rows...Fins/in.                                                                | 3...17                       | 3...17     | 3...17      | 3...17      | 3...17     | 3...17     | 3...17                                                | 3...17      |
| Face Area (sq ft)                                                              | 3.7                          | 3.7        | 3.7         | 3.7         | 3.7        | 3.7        | 4.7                                                   | 4.7         |
| INDOOR BLOWER                                                                  |                              |            |             |             |            |            |                                                       |             |
| Nominal Cooling Airflow (Cfm)                                                  | 800                          | 800        | 1000        | 1000        | 1150       | 1150       | 1350                                                  | 1350        |
| Size in.                                                                       | 10x10                        | 10x10      | 10x10       | 10x10       | 11x10      | 11x10      | 11x10                                                 | 11x10       |
| Size (mm.)                                                                     | 254x254                      | 254x254    | 254x254     | 254x254     | 279.4x254  | 279.4x254  | 279.4x254                                             | 279.4x254   |
| Motor HP (RPM)                                                                 | 1/2 (1050)                   | 1/2 (1050) | 1/2 (1050)  | 1/2 (1050)  | 3/4 (1000) | 3/4 (1000) | 3/4 (1075)                                            | 3/4 (1075)  |
| FURNACE SECTION*                                                               |                              |            |             |             |            |            |                                                       |             |
| Burner Orifice No. (Qty...Drill Size)                                          |                              |            |             |             |            |            |                                                       |             |
| 1 Phase Natural Gas (Factory Installed)                                        | 2...44                       | 3...44     | 2...44      | 3...44      | 3...44     | 3...38     | 3...44                                                | 3...38      |
| 1 Phase Propane Gas                                                            | 2...55                       | 3...55     | 2...55      | 3...55      | 3...55     | 3...53     | 3...55                                                | 3...53      |
| HIGH-PRESSURE SWITCH (psig) Cut-out Reset (Auto)                               | 650 +/- 15<br>420 +/- 25     |            |             |             |            |            |                                                       |             |
| LOSS-OF-CHARGE / LOW-PRESSURE SWITCH (Liquid Line) (psig) cut-out Reset (auto) | 20 +/- 5<br>45 +/- 10        |            | N/A         |             |            |            |                                                       |             |
| RETURN-AIR FILTERS†‡<br>Throwaway Size in.<br>(mm)                             | 2 each 20x12x1<br>508x305x25 |            |             |             |            |            | 1 each 24x14x1<br>610x356x25<br>24x15x1<br>610x406x25 |             |

| UNIT SIZE                                                                      | 48090                                                 | 48115      | 48130      | 60090                                                 | 60115       | 60130      |
|--------------------------------------------------------------------------------|-------------------------------------------------------|------------|------------|-------------------------------------------------------|-------------|------------|
| NOMINAL CAPACITY (ton)                                                         | 4                                                     | 4          | 4          | 5                                                     | 5           | 5          |
| SHIPPING WEIGHT lb                                                             | 480                                                   | 480        | 480        | 497                                                   | 497         | 497        |
| SHIPPING WEIGHT kg                                                             | 218                                                   | 218        | 218        | 225                                                   | 225         | 225        |
| COMPRESSOR / QUANTITY                                                          | Scroll / 1                                            |            |            |                                                       |             |            |
| REFRIGERANT (R-410A)                                                           |                                                       |            |            |                                                       |             |            |
| Quantity lb                                                                    | 9.2                                                   | 9.2        | 9.2        | 9.8                                                   | 9.8         | 9.8        |
| Quantity (kg.)                                                                 | 4.2                                                   | 4.2        | 4.2        | 4.4                                                   | 4.4         | 4.4        |
| REFRIGERANT METERING DEVICE                                                    | Orifice                                               |            |            |                                                       |             |            |
| ORIFICE ID in./mm                                                              | .080 / 2.03                                           |            |            |                                                       | .084 / 2.14 |            |
| OUTDOOR COIL                                                                   |                                                       |            |            |                                                       |             |            |
| Rows...Fins/in.                                                                | 1...21                                                | 1...21     | 1...21     | 1...21                                                | 1...21      | 1...21     |
| Face Area (sq ft)                                                              | 21.4                                                  | 21.4       | 21.4       | 23.3                                                  | 23.3        | 23.3       |
| OUTDOOR FAN                                                                    |                                                       |            |            |                                                       |             |            |
| Nominal Cfm                                                                    | 3600                                                  | 3600       | 3600       | 4200                                                  | 4200        | 4200       |
| Diameter in.                                                                   | 26                                                    | 26         | 26         | 26                                                    | 26          | 26         |
| Diameter (mm)                                                                  | 660.4                                                 | 660.4      | 660.4      | 660.4                                                 | 660.4       | 660.4      |
| Motor Hp (Rpm)                                                                 | 1/5 (810)                                             | 1/5 (810)  | 1/5 (810)  | 1/5 (810)                                             | 1/5 (810)   | 1/5 (810)  |
| INDOOR COIL                                                                    |                                                       |            |            |                                                       |             |            |
| Rows...Fins/in.                                                                | 3...17                                                | 3...17     | 3...17     | 3...17                                                | 3...17      | 3...17     |
| Face Area (sq ft)                                                              | 4.7                                                   | 4.7        | 4.7        | 5.6                                                   | 5.6         | 5.6        |
| INDOOR BLOWER                                                                  |                                                       |            |            |                                                       |             |            |
| Nominal Cooling Airflow (Cfm)                                                  | 1550                                                  | 1550       | 1550       | 1750                                                  | 1750        | 1750       |
| Size in.                                                                       | 11x10                                                 | 11x10      | 11x10      | 11x10                                                 | 11x10       | 11x10      |
| Size (mm)                                                                      | 279.4x254                                             | 279.4x254  | 279.4x254  | 279.4x254                                             | 279.4x254   | 279.4x254  |
| Motor HP (RPM)                                                                 | 1.0 (1075)                                            | 1.0 (1075) | 1.0 (1075) | 1.0 (1040)                                            | 1.0 (1040)  | 1.0 (1040) |
| FURNACE SECTION*                                                               |                                                       |            |            |                                                       |             |            |
| Burner Orifice No. (Qty...Drill Size)                                          |                                                       |            |            |                                                       |             |            |
| 1 Phase Natural Gas (Factory Installed)                                        | 3...38                                                | 3...33     | 3...31     | 3...38                                                | 3...33      | 3...31     |
| 1 Phase Propane Gas                                                            | 3...53                                                | 3...51     | 3...49     | 3...53                                                | 3...51      | 3...49     |
| HIGH-PRESSURE SWITCH (psig) Cut-out Reset (Auto)                               | 650 +/- 15<br>420 +/- 25                              |            |            |                                                       |             |            |
| LOSS-OF-CHARGE / LOW-PRESSURE SWITCH (Liquid Line) (psig) cut-out Reset (auto) | N/A                                                   |            |            |                                                       |             |            |
| RETURN-AIR FILTERS Throwaway†‡ in.<br>mm                                       | 1 each 24x14x1<br>610x356x25<br>24x15x1<br>610x406x25 |            |            | 1 each 24x16x1<br>610x406x25<br>24x18x1<br>610x457x25 |             |            |

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

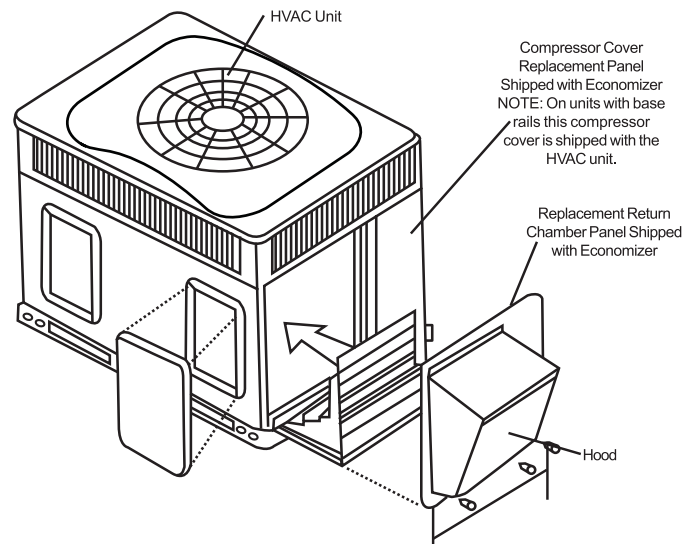
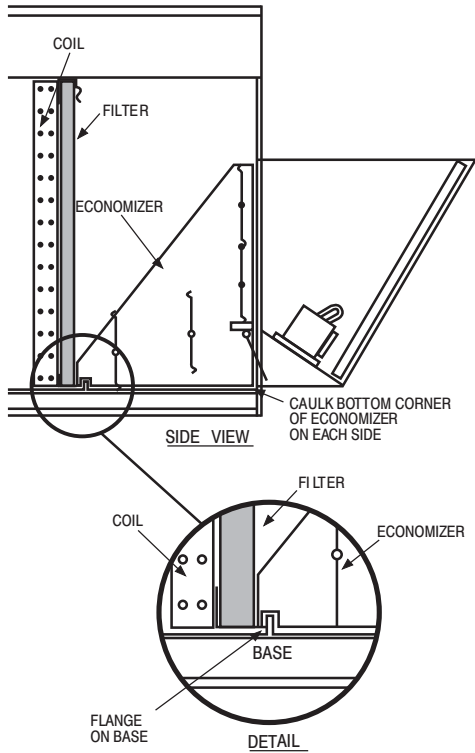
† Required filter sizes shown are based on the larger of the AHRI (Air Conditioning Heating and Refrigeration Institute) rated cooling airflow or the heating airflow velocity of 300 to 350 ft/minute for throwaway type. Air filter pressure drop for non-standard filters must not exceed 0.08 IN. W.C.

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

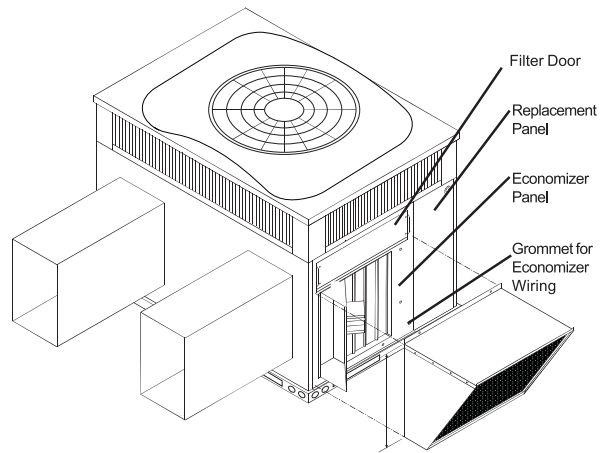
## OPTIONS AND ACCESSORIES

| ITEM                                  | DESCRIPTION                                                                                                                                                                                     | FACTORY<br>INSTALLED<br>OPTION | FIELD<br>INSTALLED<br>ACCESSORY |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------------|
| Compressor Start Kit                  | Compressor Start Kit assists compressor start-up by providing additional starting torque on single phase units only.                                                                            |                                | X                               |
| Corporate Thermostats                 | Thermostats provide control for the system heating and cooling functions.                                                                                                                       |                                | X                               |
| Crankcase Heater                      | Crankcase Heater provides anti-floodback protection for low-load cooling applications.                                                                                                          |                                | X*                              |
| Economizer                            | Horizontal Economizer with solid state controls and barometric relief dampers includes filter racks and provide outdoor air during cooling and reduce compressor operation.                     |                                | X                               |
|                                       | Vertical Economizer with solid state controls and barometric relief dampers includes filter racks and provide outdoor air during cooling and reduce compressor operation.                       |                                | X                               |
| Filter Rack                           | Filter Rack features easy installation, serviceability, and high-filtering performance for vertical applications. Includes 1-in. filter.                                                        |                                | X                               |
| Flat Roof Curbs                       | Flat Roof Curbs in both 11-in (279 mm) and 14-in. (356 mm) sizes are available for roof mounted applications.                                                                                   |                                | X                               |
| Flue Discharge Deflector              | Directs flue gas exhaust 90 degrees upward from current discharge.                                                                                                                              |                                | X                               |
| High Altitude Propane Conversion Kit  | High Altitude Propane Conversion Kit is for use at 2001 to 6000 ft. (611–1829 m) above sea level. Kit consists of propane gas orifices that compensate for gas heat operation at high altitude. |                                | X                               |
| Low Ambient Kit                       | Low Ambient Kit (Motormaster II Control) allows the use of mechanical cooling down to outdoor temperatures as low as 0°F (–18°C) when properly installed.                                       |                                | X                               |
| Manual Outside Air Damper             | Manual Outside Air Damper includes hood and filter rack with adjustable damper blade for up to 25% outdoor air.                                                                                 |                                | X                               |
| Natural to Propane Gas Conversion Kit | Natural to Propane Gas Conversion Kit allows for conversion from natural gas to propane gas (0–2000 ft) (0–610 m)                                                                               |                                | X                               |
| Propane to Natural Gas Conversion Kit | Propane to Natural Gas Conversion Kit allows for conversion from propane to natural gas for altitudes of 0–2000 ft (0–610 m)                                                                    |                                | X                               |
| Square-to-Round Duct Transition Kit   | Square-to-Round Duct Transition Kit enable 24–48 size units to be fitted to 14 in. (356 mm) round ductwork.                                                                                     |                                | X                               |
| Outdoor Coil Dense Metal Wire Grille  | 3/8" spacing Dense Metal Wire Grille provide hail and vandalism protection.                                                                                                                     |                                | X                               |
| Low Pressure Switch Kit               | This kit is designed for use when a low pressure control is desired.                                                                                                                            |                                | X                               |

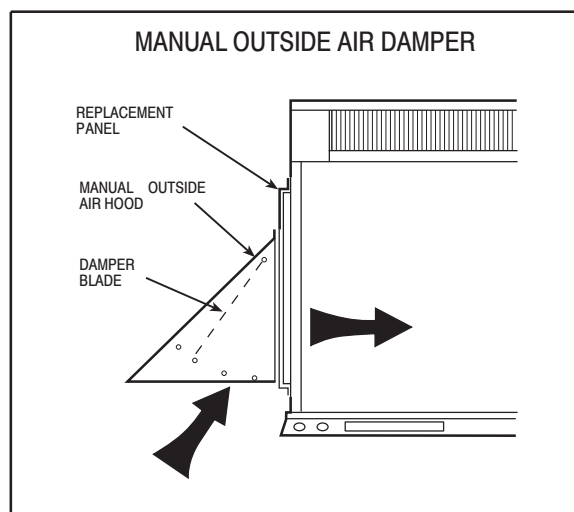
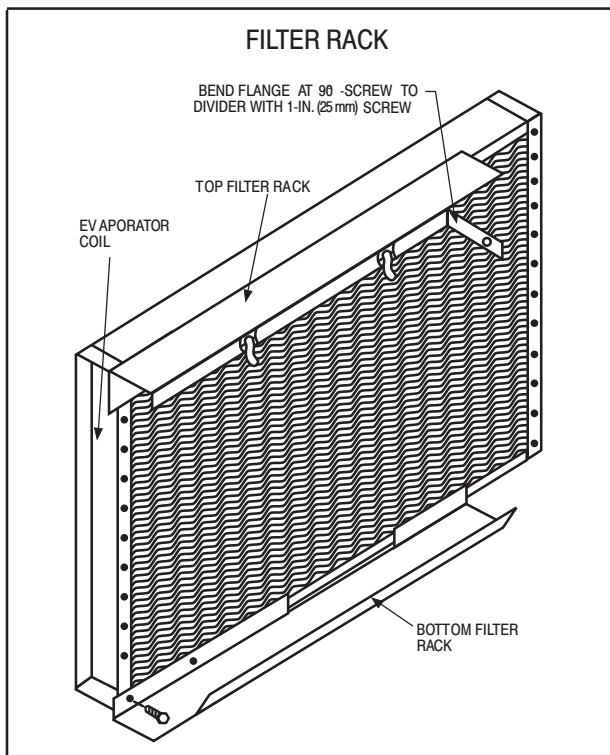
## ECONOMIZER



Vertical Economizer



Horizontal Economizer

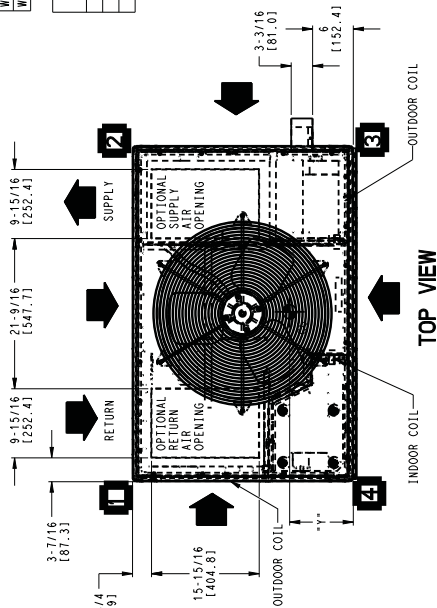


A09375

UNIT DIMENSIONS - 24-36

| UNIT                        | ELECTRICAL CHARACTERISTICS | UNIT WT.<br>LB. KG. | UNIT HEIGHT IN/MM |        |      |          | CENTER OF GRAVITY IN/MM |         |       |
|-----------------------------|----------------------------|---------------------|-------------------|--------|------|----------|-------------------------|---------|-------|
|                             |                            |                     | "A"               |        |      |          | X                       | Y       | Z     |
| WP64244I(040/060)(R/L)(KBT) | 208/230-1-60               | 304                 | 138.0             | 43-3/4 | 1111 | 22-13/16 | 579.4                   | 15-5/16 | 388.9 |
| WP64304I(040/060)(R/L)(KBT) | 208/230-1-60               | 336                 | 152.0             | 45-3/4 | 1162 | 22-13/16 | 579.4                   | 15-5/16 | 388.9 |
| WP64364I(040/060)(R/L)(KBT) | 208/230-1-60               | 349                 | 158.0             | 51-3/4 | 1315 | 22-13/16 | 579.4                   | 15-5/16 | 388.9 |

| UNIT | VOLTAGE | CORNER WEIGHT LB/KG |      |      |      |
|------|---------|---------------------|------|------|------|
|      |         | *1*                 | *2*  | *3*  | *4*  |
| 24   | 208/230 | 45.6                | 20.7 | 60.8 | 27.6 |
| 30   | 208/230 | 50.4                | 22.9 | 67.2 | 30.5 |
| 36   | 208/230 | 52.4                | 23.7 | 69.8 | 31.7 |



**REQUIRED CLEARANCES TO COMBUSTIBLE MAT'L**

TOP OF UNIT.....14 [355.6]  
DUCT SIDE OF UNIT.....2 [50.8]  
SIDE OPPOSITE DUCTS.....14 [355.6]  
BOTTOM OF UNIT.....12 [304.8]  
FLUE PANEL.....36 [914.4]

**NEC. REQUIRED CLEARANCES**

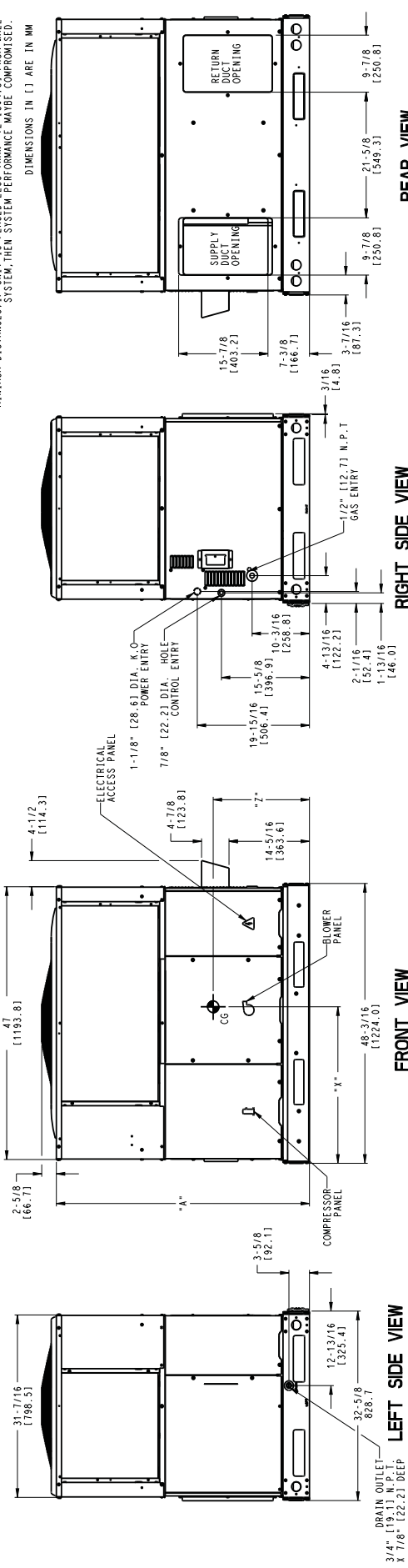
BETWEEN UNITS, POWER ENTRY SIDE.....42 [1066.8]  
UNIT AND GROUNDED SURFACES, POWER ENTRY SIDE.....36 [914.0]  
UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, POWER ENTRY SIDE.....42 [1066.8]

**REQUIRED CLEARANCE FOR OPERATION AND SERVICING**

EVAP. COIL ACCESS SIDE.....36 [914.0]  
POWER ENTRY SIDE.....42 [1066.8]  
(EXCEPT FOR NEC REQUIREMENTS)  
UNIT TOP SURFACES, POWER ENTRY SIDE.....48 [1193.2]  
SIDE OPPOSITE DUCTS.....36 [914.0]  
DUCT PANEL.....12 [304.8]\*

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

DIMENSIONS IN [ ] ARE IN MM



50CY502930

## 8

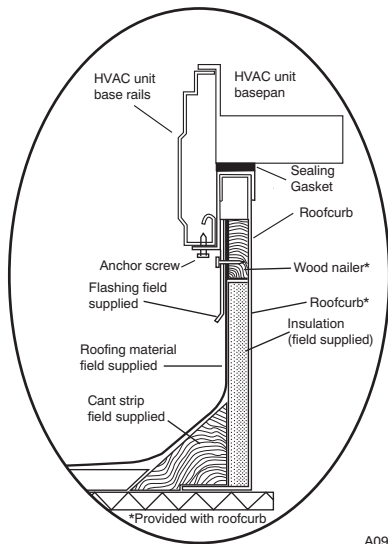
| UNIT | VOLTAGE | CORNER WEIGHTS LB/KG |           |            |            |
|------|---------|----------------------|-----------|------------|------------|
|      |         | "1"                  | "2"       | "3"        | "4"        |
| 42   | 208/230 | 62.0 28.1            | 82.6 37.5 | 123.9 56.2 | 144.6 65.6 |
| 48   | 208/230 | 65.7 29.8            | 87.6 39.7 | 131.4 59.6 | 153.3 69.5 |
| 60   | 208/230 | 68.3 31.0            | 91.0 41.3 | 136.6 61.9 | 159.3 72.2 |

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

A150549

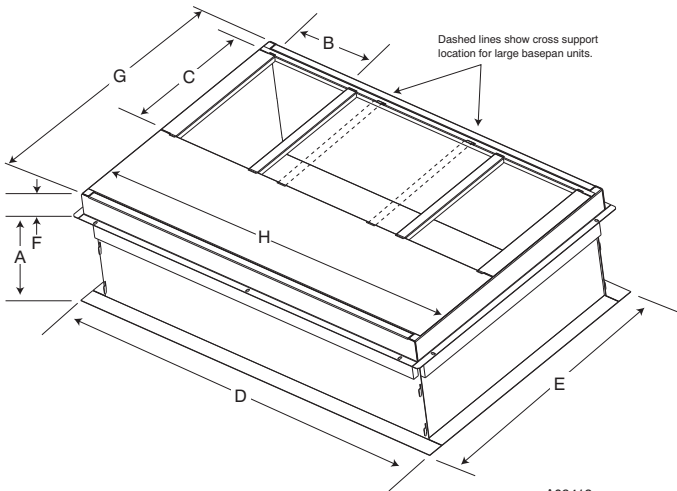


ACCESSORY DIMENSIONS



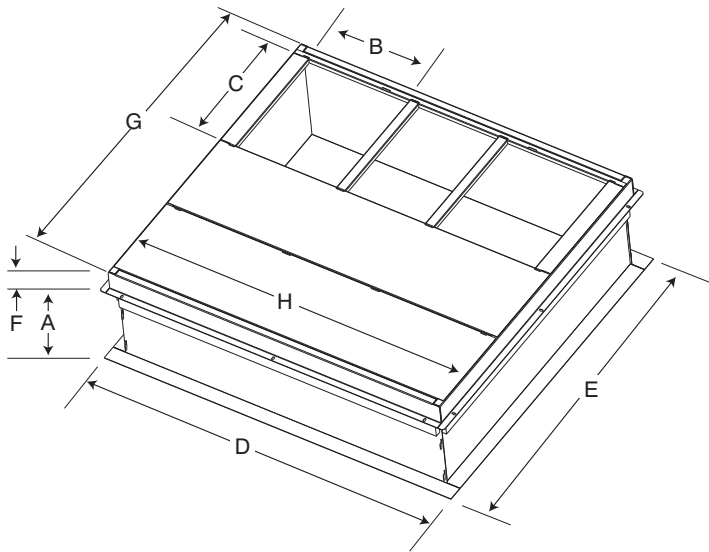
ROOF CURB DETAIL

A09090



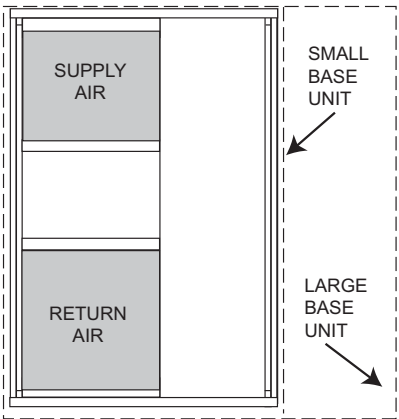
SMALL/COMMON CURB

A09413



LARGE CURB

A09415



UNIT PLACEMENT ON  
COMMON CURB

A09094

SMALL OR LARGE BASE UNIT

A09414

| UNIT SIZE      | CATALOG NUMBER | A IN. (mm) | B (small / common base) IN. (mm)* | B (large base) IN. (mm)* | C IN. (mm) | D IN. (mm)  | E IN. (mm)  | F IN. (mm) | G IN. (mm)  | H IN. (mm)  |
|----------------|----------------|------------|-----------------------------------|--------------------------|------------|-------------|-------------|------------|-------------|-------------|
| Small or Large | CPRFCURB011A00 | 14 (356)   | 10 (254)                          | 14 (356)                 | 16 (406)   | 47.8 (1214) | 32.4 (822)  | 2.7 (69)   | 30.6 (778)  | 46.1 (1170) |
| Large          | CPRFCURB013A00 | 14 (356)   | 14 (356)                          |                          |            |             | 43.9 (1116) |            | 42.2 (1072) |             |

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

NOTES:

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

## SELECTION PROCEDURE (WITH EXAMPLE)

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

Given:

Required Cooling Capacity (TC) . . . . . 34,000 Btuh  
Sensible Heat Capacity (SHC) . . . . . 25,000 Btuh  
Required Heating Capacity . . . . . 60,000 Btuh  
Condenser Entering Air Temperature . . 95°F (35°C)  
Indoor–Air Temperature 80°F (26°C)edb 67°F (19°C)ewb  
Evaporator Air Quantity . . . . . 1200 CFM  
External Static Pressure . . . . . 0.100 IN. W.C.  
Electrical Characteristics . . . . . 208–1–60

### 2. Select unit based on required cooling capacity.

Enter Net Cooling Capacities table at condenser entering temperature of 95°F (35°C). Unit 036 at 1200 cfm and 67°F (19°C) ewb (entering wet bulb) will provide a total capacity of 34,200 Btuh and a SHC of 27,400 Btuh. Calculate SHC correction, if required, using Note 4 under Cooling Capacities tables.

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

In the Heating Capacities and Efficiencies table, note that the single phase unit 036090 will provide 73,000 Btuh with an input of 90,000 Btuh.

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

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

|                          |                      |
|--------------------------|----------------------|
| External Static Pressure | 0.100 IN. W.C        |
| Filter                   | 0.07 IN. W.C         |
| Wet Coil Pressure Drop   | <u>0.180</u> IN. W.C |
| Total Static Pressure    | 0.287 IN. W.C        |

Enter the table for Dry Coil Air Delivery—Horizontal and Downflow Discharge. At .287 IN. W.C. ESP, the closest speed to 1200 CFM is Med–Low (pink wire), which delivers 1213 CFM at .3 in ESP.

### 5. Select unit that corresponds to power source available.

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

PERFORMANCE DATA

24 SIZE

462 55 2004 01

| EVAPORATOR AIR |               | CONDENSER ENTERING AIR TEMPERATURES ° F (° C) |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |
|----------------|---------------|-----------------------------------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|
| CFM            | EWB<br>F (°C) | 75 (23.9)                                     |       |                    | 85 (29.4)         |       |                    | 95 (35)           |       |                    | 105 (40.6)        |       |                    | 115 (46.1)        |       |                    | 125 (51.7)        |       |                    |
|                |               | 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                                         | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    |
| 700            | 57<br>(13.8)  | 23.62                                         | 23.62 | 1.55               | 21.90             | 21.90 | 1.75               | 20.07             | 20.07 | 1.95               | 17.88             | 17.88 | 2.14               | 15.87             | 15.87 | 2.38               | 14.01             | 14.01 | 2.64               |
|                | 62<br>(16.6)  | 24.47                                         | 21.38 | 1.56               | 22.45             | 20.24 | 1.75               | 20.32             | 19.02 | 1.96               | 17.92             | 17.92 | 2.14               | 15.90             | 15.90 | 2.38               | 14.03             | 14.03 | 2.64               |
|                | 63*<br>(17.2) | 24.99                                         | 17.43 | 1.56               | 22.88             | 16.39 | 1.76               | 20.71             | 15.32 | 1.96               | 18.05             | 14.06 | 2.15               | 15.56             | 12.87 | 2.36               | 13.28             | 11.77 | 2.61               |
|                | 67<br>(19.4)  | 27.02                                         | 18.13 | 1.55               | 24.79             | 17.09 | 1.76               | 22.51             | 16.03 | 1.98               | 19.92             | 14.86 | 2.20               | 17.28             | 13.67 | 2.42               | 14.91             | 12.59 | 2.67               |
|                | 72<br>(22.2)  | 29.59                                         | 14.70 | 1.55               | 27.20             | 13.77 | 1.76               | 24.84             | 12.86 | 1.99               | 22.48             | 11.95 | 2.24               | 19.68             | 10.89 | 2.51               | 17.14             | 9.92  | 2.77               |
|                | 57<br>(13.8)  | 24.74                                         | 24.74 | 1.57               | 22.92             | 22.92 | 1.77               | 21.02             | 21.02 | 1.99               | 18.78             | 18.78 | 2.19               | 16.65             | 16.65 | 2.42               | 14.70             | 14.70 | 2.69               |
| 800            | 62<br>(16.6)  | 25.14                                         | 23.06 | 1.57               | 23.07             | 21.80 | 1.78               | 21.05             | 21.05 | 1.99               | 18.81             | 18.81 | 2.19               | 16.68             | 16.68 | 2.42               | 14.72             | 14.72 | 2.69               |
|                | 63*<br>(17.2) | 25.59                                         | 18.60 | 1.57               | 23.43             | 17.53 | 1.77               | 21.18             | 16.43 | 1.99               | 18.51             | 15.14 | 2.18               | 15.93             | 13.90 | 2.39               | 13.61             | 12.73 | 2.64               |
|                | 67<br>(19.4)  | 27.63                                         | 19.36 | 1.56               | 25.32             | 18.28 | 1.77               | 23.00             | 17.20 | 2.00               | 20.41             | 16.03 | 2.24               | 17.67             | 14.78 | 2.45               | 15.25             | 13.64 | 2.71               |
|                | 72<br>(22.2)  | 30.16                                         | 15.42 | 1.56               | 27.69             | 14.48 | 1.77               | 25.27             | 13.55 | 2.01               | 22.88             | 12.64 | 2.26               | 20.12             | 11.62 | 2.53               | 17.47             | 10.60 | 2.80               |
| 900            | 57<br>(13.8)  | 25.69                                         | 25.69 | 1.58               | 23.77             | 23.77 | 1.79               | 21.80             | 21.80 | 2.01               | 19.55             | 19.55 | 2.23               | 17.32             | 17.32 | 2.46               | 15.29             | 15.29 | 2.73               |
|                | 62<br>(16.6)  | 25.74                                         | 25.74 | 1.58               | 23.81             | 23.81 | 1.79               | 21.84             | 21.84 | 2.01               | 19.58             | 19.58 | 2.23               | 17.35             | 17.35 | 2.46               | 15.31             | 15.31 | 2.73               |
|                | 63*<br>(17.2) | 26.07                                         | 19.72 | 1.58               | 23.84             | 18.62 | 1.79               | 21.55             | 17.49 | 2.01               | 18.84             | 16.17 | 2.20               | 16.24             | 14.87 | 2.42               | 13.92             | 13.92 | 2.67               |
|                | 67<br>(19.4)  | 28.08                                         | 20.52 | 1.58               | 25.72             | 19.42 | 1.79               | 23.37             | 18.31 | 2.02               | 20.82             | 17.17 | 2.26               | 17.98             | 15.84 | 2.48               | 15.54             | 14.63 | 2.74               |
|                | 72<br>(22.2)  | 30.58                                         | 16.10 | 1.58               | 28.07             | 15.15 | 1.79               | 25.58             | 14.21 | 2.02               | 23.17             | 13.29 | 2.28               | 20.45             | 12.30 | 2.56               | 17.73             | 11.25 | 2.83               |

See Legend and Notes on Page 17.

# PERFORMANCE DATA

## 30 SIZE

| EVAPORATOR AIR |               | CONDENSER ENTERING AIR TEMPERATURES ° F (°C) |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |
|----------------|---------------|----------------------------------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|
| CFM            | EWB<br>F (°C) | 75 (23.9)                                    |       |                    | 85 (29.4)         |       |                    | 95 (35)           |       |                    | 105 (40.6)        |       |                    | 115 (46.1)        |       |                    | 125 (51.7)        |       |                    |
|                |               | 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                                        | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    |
| 875            | 57<br>(13.8)  | 29.53                                        | 29.53 | 1.96               | 27.08             | 27.08 | 2.16               | 24.69             | 24.69 | 2.37               | 22.28             | 22.28 | 2.58               | 19.59             | 19.59 | 2.78               | 16.70             | 16.70 | 2.97               |
|                | 62<br>(16.6)  | 30.79                                        | 26.57 | 1.97               | 27.80             | 24.83 | 2.18               | 24.94             | 23.09 | 2.38               | 22.32             | 22.32 | 2.58               | 19.63             | 19.63 | 2.78               | 16.73             | 16.73 | 2.98               |
|                | 63*<br>(17.2) | 31.48                                        | 21.67 | 1.98               | 28.41             | 20.10 | 2.19               | 25.42             | 18.58 | 2.39               | 22.40             | 17.07 | 2.58               | 18.92             | 15.39 | 2.74               | 15.25             | 13.63 | 2.90               |
|                | 67<br>(19.4)  | 34.28                                        | 22.60 | 1.99               | 31.11             | 21.08 | 2.22               | 27.95             | 19.57 | 2.45               | 24.83             | 18.09 | 2.67               | 21.50             | 16.55 | 2.87               | 17.54             | 14.78 | 3.02               |
|                | 72<br>(22.2)  | 37.52                                        | 18.32 | 2.02               | 34.41             | 17.04 | 2.25               | 31.17             | 15.74 | 2.49               | 27.94             | 14.44 | 2.73               | 24.64             | 13.15 | 2.98               | 20.76             | 11.69 | 3.20               |
|                | 77<br>(25.2)  | 40.86                                        | 15.82 | 2.05               | 37.31             | 14.54 | 2.28               | 34.06             | 13.44 | 2.52               | 30.78             | 12.24 | 2.91               | 27.42             | 11.95 | 3.01               | 23.28             | 10.65 | 3.23               |
| 1000           | 57<br>(13.8)  | 31.03                                        | 31.03 | 2.01               | 28.44             | 28.44 | 2.22               | 25.91             | 25.91 | 2.44               | 23.40             | 23.40 | 2.66               | 20.68             | 20.68 | 2.87               | 17.58             | 17.58 | 3.06               |
|                | 62<br>(16.6)  | 31.72                                        | 28.62 | 2.01               | 28.67             | 26.73 | 2.23               | 25.96             | 25.96 | 2.45               | 23.44             | 23.44 | 2.67               | 20.72             | 20.72 | 2.87               | 17.61             | 17.61 | 3.06               |
|                | 63*<br>(17.2) | 32.32                                        | 23.12 | 2.01               | 29.14             | 21.51 | 2.23               | 26.02             | 19.93 | 2.44               | 22.95             | 18.37 | 2.64               | 19.44             | 16.64 | 2.80               | 15.73             | 15.73 | 2.96               |
|                | 67<br>(19.4)  | 35.07                                        | 24.07 | 2.03               | 31.85             | 22.55 | 2.26               | 28.60             | 21.00 | 2.49               | 25.37             | 19.46 | 2.72               | 21.99             | 17.88 | 2.94               | 17.99             | 16.02 | 3.08               |
|                | 72<br>(22.2)  | 38.18                                        | 19.12 | 2.05               | 35.03             | 17.87 | 2.29               | 31.75             | 16.57 | 2.53               | 28.42             | 15.25 | 2.78               | 25.07             | 13.95 | 3.02               | 21.25             | 12.54 | 3.27               |
|                | 77<br>(25.2)  | 41.29                                        | 16.62 | 2.08               | 38.14             | 15.37 | 2.32               | 34.86             | 14.27 | 2.56               | 31.50             | 13.05 | 2.90               | 28.36             | 12.15 | 3.05               | 24.16             | 11.75 | 3.29               |
| 1125           | 57<br>(13.8)  | 32.29                                        | 32.29 | 2.04               | 29.60             | 29.60 | 2.27               | 26.94             | 26.94 | 2.50               | 24.33             | 24.33 | 2.73               | 21.55             | 21.55 | 2.96               | 18.32             | 18.32 | 3.14               |
|                | 62<br>(16.6)  | 32.53                                        | 30.43 | 2.05               | 29.65             | 29.65 | 2.27               | 26.98             | 26.98 | 2.50               | 24.37             | 24.37 | 2.73               | 21.59             | 21.59 | 2.96               | 18.35             | 18.35 | 3.14               |
|                | 63*<br>(17.2) | 32.95                                        | 24.48 | 2.05               | 29.71             | 22.85 | 2.27               | 26.51             | 21.21 | 2.49               | 23.38             | 19.60 | 2.70               | 19.89             | 17.80 | 2.86               | 16.36             | 16.36 | 3.03               |
|                | 67<br>(19.4)  | 35.66                                        | 25.45 | 2.06               | 32.37             | 23.93 | 2.29               | 29.08             | 22.34 | 2.53               | 25.80             | 20.77 | 2.76               | 22.40             | 19.14 | 2.99               | 18.47             | 18.31 | 3.15               |
|                | 72<br>(22.2)  | 38.66                                        | 19.84 | 2.08               | 35.48             | 18.63 | 2.32               | 32.15             | 17.34 | 2.57               | 28.78             | 16.01 | 2.82               | 25.36             | 14.70 | 3.07               | 21.59             | 13.33 | 3.31               |
|                | 77<br>(25.2)  | 41.66                                        | 17.34 | 2.11               | 38.48             | 16.13 | 2.35               | 35.15             | 15.24 | 2.60               | 31.78             | 14.14 | 2.90               | 28.68             | 13.54 | 3.00               | 24.68             | 12.94 | 3.32               |

See Legend and Notes on Page 17.

# PERFORMANCE DATA (CONT)

## 36 SIZE

| EVAPORATOR<br>AIR |               | CONDENSER ENTERING AIR TEMPERATURES ° F (°C) |               |                    |                   |           |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |            |                    |                   |      |                    |  |  |  |
|-------------------|---------------|----------------------------------------------|---------------|--------------------|-------------------|-----------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|------------|--------------------|-------------------|------|--------------------|--|--|--|
|                   |               | 75 (23.9)                                    |               |                    |                   | 85 (29.4) |                    |                   |       | 95 (35)            |                   |       |                    | 105 (40.6)        |       |                    |                   | 115 (46.1) |                    |                   |      | 125 (51.7)         |  |  |  |
|                   |               | Capacity<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             | Sens          | Total                                        | Sens          |                    | Total             | Sens      |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens       |                    | Total             | Sens |                    |  |  |  |
| CFM               | EWB<br>F (°C) | 1000                                         | 57<br>(13.8)  | 34.58              | 34.58             | 2.40      | 32.46              | 32.46             | 2.66  | 30.31              | 30.31             | 2.94  | 28.08              | 28.08             | 3.27  | 25.78              | 25.78             | 3.65       | 23.44              | 23.44             | 4.08 | 4.08               |  |  |  |
|                   |               |                                              | 62<br>(16.6)  | 36.10              | 31.44             | 2.41      | 33.65              | 29.92             | 2.67  | 31.16              | 28.38             | 2.95  | 28.62              | 26.75             | 3.27  | 26.05              | 25.03             | 3.65       | 23.48              | 23.48             | 4.08 | 4.08               |  |  |  |
|                   |               |                                              | 63*<br>(17.2) | 36.53              | 25.60             | 2.42      | 34.01              | 24.25             | 2.67  | 31.48              | 22.90             | 2.95  | 28.86              | 21.49             | 3.28  | 26.20              | 20.05             | 3.65       | 23.49              | 18.58             | 4.08 | 4.08               |  |  |  |
|                   |               |                                              | 67<br>(19.4)  | 39.44              | 26.70             | 2.43      | 36.74              | 25.34             | 2.69  | 34.00              | 23.95             | 2.97  | 31.20              | 22.53             | 3.30  | 28.34              | 21.07             | 3.67       | 25.45              | 19.58             | 4.09 | 4.09               |  |  |  |
|                   |               |                                              | 72<br>(22.2)  | 43.05              | 21.95             | 2.46      | 40.11              | 20.71             | 2.72  | 37.12              | 19.45             | 3.00  | 34.07              | 18.16             | 3.32  | 30.95              | 16.85             | 3.69       | 27.81              | 15.51             | 4.11 | 4.11               |  |  |  |
| 1150              | 57<br>(13.8)  | 36.19                                        | 36.19         | 2.46               | 33.98             | 33.98     | 2.71               | 31.67             | 31.67 | 3.00               | 29.30             | 29.30 | 3.32               | 26.84             | 26.84 | 3.70               | 24.34             | 24.34      | 4.12               | 4.12              |      |                    |  |  |  |
|                   | 62<br>(16.6)  | 37.15                                        | 33.84         | 2.46               | 34.60             | 32.19     | 2.72               | 32.03             | 30.46 | 3.00               | 29.42             | 29.41 | 3.32               | 26.90             | 26.90 | 3.70               | 24.38             | 24.38      | 4.12               | 4.12              |      |                    |  |  |  |
|                   | 63*<br>(17.2) | 37.52                                        | 27.28         | 2.47               | 34.89             | 25.86     | 2.72               | 32.23             | 24.43 | 3.01               | 29.50             | 22.95 | 3.33               | 26.72             | 21.43 | 3.70               | 23.92             | 19.88      | 4.12               | 4.12              |      |                    |  |  |  |
|                   | 67<br>(19.4)  | 40.47                                        | 28.51         | 2.48               | 37.67             | 27.07     | 2.74               | 34.80             | 25.60 | 3.03               | 31.88             | 24.11 | 3.35               | 28.91             | 22.56 | 3.72               | 25.90             | 20.99      | 4.14               | 4.14              |      |                    |  |  |  |
|                   | 72<br>(22.2)  | 44.12                                        | 23.06         | 2.51               | 41.04             | 21.76     | 2.77               | 37.93             | 20.44 | 3.06               | 34.77             | 19.10 | 3.38               | 31.54             | 17.73 | 3.74               | 28.28             | 16.32      | 4.16               | 4.16              |      |                    |  |  |  |
| 1300              | 57<br>(13.8)  | 37.56                                        | 37.56         | 2.51               | 35.24             | 35.24     | 2.77               | 32.79             | 32.79 | 3.05               | 30.30             | 30.30 | 3.38               | 27.71             | 27.71 | 3.75               | 25.08             | 25.08      | 4.17               | 4.17              |      |                    |  |  |  |
|                   | 62<br>(16.6)  | 38.06                                        | 35.99         | 2.51               | 35.47             | 34.14     | 2.77               | 32.84             | 32.84 | 3.05               | 30.34             | 30.34 | 3.38               | 27.75             | 27.75 | 3.75               | 25.12             | 25.12      | 4.17               | 4.17              |      |                    |  |  |  |
|                   | 63*<br>(17.2) | 38.23                                        | 28.87         | 2.51               | 35.57             | 27.41     | 2.77               | 32.80             | 25.90 | 3.05               | 29.99             | 24.35 | 3.38               | 27.14             | 22.76 | 3.75               | 24.25             | 21.11      | 4.17               | 4.17              |      |                    |  |  |  |
|                   | 67<br>(19.4)  | 41.26                                        | 30.24         | 2.53               | 38.33             | 28.73     | 2.79               | 35.38             | 27.20 | 3.08               | 32.36             | 25.62 | 3.40               | 29.31             | 24.01 | 3.76               | 26.22             | 22.34      | 4.18               | 4.18              |      |                    |  |  |  |
|                   | 72<br>(22.2)  | 44.94                                        | 24.09         | 2.56               | 41.77             | 22.75     | 2.82               | 38.55             | 21.38 | 3.11               | 35.28             | 19.98 | 3.43               | 31.96             | 18.56 | 3.79               | 28.62             | 17.10      | 4.21               | 4.21              |      |                    |  |  |  |

See Legend and Notes on Page 17.

PERFORMANCE DATA

42 SIZE

| EVAPORATOR<br>AIR |                | CONDENSER ENTERING AIR TEMPERATURES ° F (° C) |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |       |                    |
|-------------------|----------------|-----------------------------------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|
| CFM               | EWB<br>F (° C) | 75 (23.9)                                     |       |                    | 85 (29.4)         |       |                    | 95 (35)           |       |                    | 105 (40.6)        |       |                    | 115 (46.1)        |       |                    | 125 (51.7)        |       |                    |
|                   |                | 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                                         | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    |
| 1175              | 57<br>(13.8)   | 38.66                                         | 38.66 | 2.51               | 36.66             | 36.66 | 2.87               | 34.60             | 34.60 | 3.30               | 32.45             | 32.45 | 3.80               | 30.07             | 30.07 | 4.39               | 27.19             | 27.19 | 5.02               |
|                   | 62<br>(16.6)   | 40.29                                         | 35.16 | 2.54               | 37.87             | 33.90 | 2.90               | 35.39             | 32.59 | 3.32               | 32.82             | 31.18 | 3.82               | 30.12             | 30.12 | 4.39               | 27.24             | 27.24 | 5.03               |
|                   | 63*<br>(17.2)  | 41.08                                         | 28.70 | 2.54               | 38.62             | 27.55 | 2.92               | 36.06             | 26.34 | 3.34               | 33.40             | 25.10 | 3.84               | 30.40             | 23.73 | 4.40               | 26.65             | 22.06 | 4.98               |
|                   | 67<br>(19.4)   | 44.34                                         | 29.79 | 2.59               | 41.80             | 28.66 | 2.97               | 39.16             | 27.52 | 3.42               | 36.41             | 26.33 | 3.95               | 33.45             | 25.06 | 4.57               | 29.97             | 23.59 | 5.21               |
|                   | 72<br>(22.2)   | 48.52                                         | 24.17 | 2.66               | 45.92             | 23.18 | 3.05               | 43.20             | 22.16 | 3.52               | 40.37             | 21.10 | 4.06               | 37.44             | 20.00 | 4.70               | 34.27             | 18.84 | 5.44               |
|                   | 57<br>(13.8)   | 40.50                                         | 40.50 | 2.58               | 38.39             | 38.39 | 2.95               | 36.24             | 36.24 | 3.40               | 34.01             | 34.01 | 3.92               | 31.54             | 31.54 | 4.51               | 28.67             | 28.67 | 5.17               |
| 1350              | 62<br>(16.6)   | 41.38                                         | 37.85 | 2.59               | 38.93             | 36.52 | 2.96               | 36.44             | 36.11 | 3.41               | 34.06             | 34.06 | 3.92               | 31.59             | 31.59 | 4.52               | 28.72             | 28.72 | 5.17               |
|                   | 63*<br>(17.2)  | 42.06                                         | 30.61 | 2.60               | 39.52             | 29.42 | 2.97               | 36.90             | 28.24 | 3.41               | 34.16             | 26.96 | 3.92               | 31.10             | 25.56 | 4.49               | 27.35             | 23.86 | 5.08               |
|                   | 67<br>(19.4)   | 45.33                                         | 31.78 | 2.64               | 42.72             | 30.67 | 3.03               | 40.00             | 29.50 | 3.48               | 37.18             | 28.29 | 4.01               | 34.18             | 27.02 | 4.64               | 30.76             | 25.56 | 5.32               |
|                   | 72<br>(22.2)   | 49.45                                         | 25.33 | 2.72               | 46.79             | 24.36 | 3.12               | 44.00             | 23.33 | 3.58               | 41.11             | 22.27 | 4.13               | 38.09             | 21.17 | 4.78               | 34.91             | 20.01 | 5.52               |
| 1525              | 57<br>(13.8)   | 41.99                                         | 41.99 | 2.63               | 39.82             | 39.82 | 3.02               | 37.59             | 37.59 | 3.47               | 35.28             | 35.28 | 4.01               | 32.78             | 32.78 | 4.63               | 29.92             | 29.92 | 5.31               |
|                   | 62<br>(16.6)   | 42.32                                         | 40.26 | 2.64               | 39.90             | 39.90 | 3.02               | 37.64             | 37.64 | 3.47               | 35.33             | 35.33 | 4.01               | 32.82             | 32.82 | 4.64               | 29.97             | 29.97 | 5.31               |
|                   | 63*<br>(17.2)  | 42.81                                         | 32.42 | 2.65               | 40.22             | 31.23 | 3.02               | 37.53             | 30.01 | 3.47               | 34.76             | 28.74 | 3.99               | 31.66             | 27.29 | 4.56               | 27.97             | 25.57 | 5.17               |
|                   | 67<br>(19.4)   | 46.08                                         | 33.66 | 2.70               | 43.40             | 32.57 | 3.08               | 40.64             | 31.35 | 3.54               | 37.75             | 30.14 | 4.07               | 34.73             | 28.86 | 4.70               | 31.38             | 27.42 | 5.42               |
|                   | 72<br>(22.2)   | 50.14                                         | 26.41 | 2.78               | 47.44             | 25.44 | 3.18               | 44.60             | 24.44 | 3.64               | 41.64             | 23.37 | 4.20               | 38.57             | 22.27 | 4.85               | 35.35             | 21.11 | 5.59               |

See Legend and Notes on Page 17.

PERFORMANCE DATA (CONT)

48 SIZE

| EVAPORATOR AIR |               |                   | CONDENSER ENTERING AIR TEMPERATURES ° F (° C) |                    |                   |                    |                   |       |                    |                   |                    |                   |      |                    |                   |                    |                   |            |                    |                   |                    |            |      |  |  |
|----------------|---------------|-------------------|-----------------------------------------------|--------------------|-------------------|--------------------|-------------------|-------|--------------------|-------------------|--------------------|-------------------|------|--------------------|-------------------|--------------------|-------------------|------------|--------------------|-------------------|--------------------|------------|------|--|--|
| CFM            | EWB<br>F (°C) | 75 (23.9)         |                                               |                    |                   | 85 (29.4)          |                   |       |                    | 95 (35)           |                    |                   |      | 105 (40.6)         |                   |                    |                   | 115 (46.1) |                    |                   |                    | 125 (51.7) |      |  |  |
|                |               | 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             | Sens                                          |                    |                   |                    | Total             | Sens  |                    |                   |                    | Total             | Sens |                    |                   |                    | Total             | Sens       |                    |                   |                    | Total      | Sens |  |  |
| 1400           | 57<br>(13.8)  | 45.45             | 45.45                                         | 3.10               | 42.83             | 42.83              | 3.46              | 40.16 | 40.16              | 3.89              | 37.26              | 37.26             | 4.36 | 33.52              | 33.52             | 4.82               | 29.80             | 29.80      | 5.37               |                   |                    |            |      |  |  |
|                | 62<br>(16.6)  | 47.27             | 42.17                                         | 3.13               | 44.15             | 40.29              | 3.49              | 41.03 | 38.39              | 3.91              | 37.61              | 36.29             | 4.36 | 33.57              | 33.57             | 4.83               | 29.84             | 29.84      | 5.37               |                   |                    |            |      |  |  |
|                | 63*<br>(17.2) | 48.20             | 34.32                                         | 3.13               | 45.02             | 32.66              | 3.50              | 41.76 | 30.98              | 3.92              | 38.24              | 29.20             | 4.38 | 33.54              | 26.93             | 4.82               | 28.81             | 24.65      | 5.33               |                   |                    |            |      |  |  |
|                | 67<br>(19.4)  | 52.06             | 35.63                                         | 3.15               | 48.74             | 34.02              | 3.52              | 45.33 | 32.35              | 3.95              | 41.77              | 30.64             | 4.44 | 37.35              | 28.63             | 4.96               | 32.39             | 26.38      | 5.46               |                   |                    |            |      |  |  |
|                | 72<br>(22.2)  | 56.98             | 28.79                                         | 3.18               | 53.50             | 27.36              | 3.56              | 49.89 | 25.89              | 3.99              | 46.16              | 24.36             | 4.48 | 42.23              | 22.80             | 5.04               | 37.37             | 21.00      | 5.64               |                   |                    |            |      |  |  |
| 1550           | 57<br>(13.8)  | 47.02             | 47.02                                         | 3.17               | 44.27             | 44.27              | 3.54              | 41.50 | 41.50              | 3.96              | 38.53              | 38.53             | 4.44 | 34.79              | 34.79             | 4.92               | 30.91             | 30.91      | 5.46               |                   |                    |            |      |  |  |
|                | 62<br>(16.6)  | 48.16             | 44.46                                         | 3.17               | 45.01             | 42.51              | 3.55              | 41.85 | 40.45              | 3.97              | 38.60              | 38.60             | 4.44 | 34.83              | 34.83             | 4.92               | 30.95             | 30.95      | 5.46               |                   |                    |            |      |  |  |
|                | 63*<br>(17.2) | 49.02             | 35.96                                         | 3.18               | 45.75             | 34.27              | 3.55              | 42.41 | 32.55              | 3.98              | 38.87              | 30.75             | 4.45 | 34.15              | 28.45             | 4.89               | 29.32             | 26.09      | 5.40               |                   |                    |            |      |  |  |
|                | 67<br>(19.4)  | 52.88             | 37.35                                         | 3.20               | 49.49             | 35.71              | 3.57              | 46.00 | 34.00              | 4.00              | 42.38              | 32.25             | 4.49 | 38.03              | 30.31             | 5.04               | 32.93             | 27.95      | 5.53               |                   |                    |            |      |  |  |
|                | 72<br>(22.2)  | 57.73             | 29.76                                         | 3.23               | 54.20             | 28.31              | 3.61              | 50.51 | 26.84              | 4.04              | 46.68              | 25.28             | 4.53 | 42.70              | 23.71             | 5.09               | 37.92             | 21.96      | 5.70               |                   |                    |            |      |  |  |
| 1800           | 57<br>(13.8)  | 49.14             | 49.14                                         | 3.25               | 46.25             | 46.25              | 3.63              | 43.34 | 43.34              | 4.06              | 40.29              | 40.29             | 4.55 | 36.55              | 36.55             | 5.07               | 32.46             | 32.46      | 5.60               |                   |                    |            |      |  |  |
|                | 62<br>(16.6)  | 49.49             | 47.88                                         | 3.25               | 46.34             | 46.34              | 3.63              | 43.39 | 43.39              | 4.06              | 40.34              | 40.34             | 4.55 | 36.60              | 36.60             | 5.07               | 32.49             | 32.49      | 5.61               |                   |                    |            |      |  |  |
|                | 63*<br>(17.2) | 50.04             | 38.56                                         | 3.25               | 46.70             | 36.84              | 3.63              | 43.27 | 35.06              | 4.06              | 39.66              | 33.20             | 4.54 | 34.96              | 30.85             | 5.00               | 30.05             | 28.30      | 5.51               |                   |                    |            |      |  |  |
|                | 67<br>(19.4)  | 53.94             | 40.13                                         | 3.28               | 50.43             | 38.42              | 3.65              | 46.85 | 36.63              | 4.08              | 43.16              | 34.80             | 4.57 | 38.95              | 32.92             | 5.12               | 33.66             | 30.41      | 5.65               |                   |                    |            |      |  |  |
|                | 72<br>(22.2)  | 58.67             | 31.28                                         | 3.31               | 55.06             | 29.83              | 3.69              | 51.26 | 28.32              | 4.12              | 47.34              | 26.73             | 4.62 | 43.27              | 25.12             | 5.18               | 38.61             | 23.50      | 5.78               |                   |                    |            |      |  |  |

See Legend and Notes on Page 17.

# PERFORMANCE DATA

## 60 SIZE

| EVAPORATOR<br>AIR |                | CONDENSER ENTERING AIR TEMPERATURES ° F (°C) |               |                    |                   |           |                    |                   |       |                    |                   |       |                    |                   |       |                    |                   |            |                    |                   |      |                    |  |  |  |
|-------------------|----------------|----------------------------------------------|---------------|--------------------|-------------------|-----------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|-------|--------------------|-------------------|------------|--------------------|-------------------|------|--------------------|--|--|--|
|                   |                | 75 (23.9)                                    |               |                    |                   | 85 (29.4) |                    |                   |       | 95 (35)            |                   |       |                    | 105 (40.6)        |       |                    |                   | 115 (46.1) |                    |                   |      | 125 (51.7)         |  |  |  |
|                   |                | Capacity<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             | Sens           | Total                                        | Sens          |                    | Total             | Sens      |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens  |                    | Total             | Sens       |                    | Total             | Sens |                    |  |  |  |
| CFM               | EWB<br>°F (°C) | 1750                                         | 57<br>(13.8)  | 57.04              | 57.04             | 3.68      | 53.71              | 53.71             | 4.20  | 50.37              | 50.37             | 4.81  | 46.94              | 46.94             | 5.51  | 42.94              | 42.94             | 6.27       | 38.22              | 38.22             | 7.08 |                    |  |  |  |
|                   |                |                                              | 62<br>(16.6)  | 58.59              | 49.98             | 3.70      | 54.72              | 48.26             | 4.22  | 50.83              | 46.41             | 4.82  | 47.02              | 47.02             | 5.51  | 43.00              | 43.00             | 6.28       | 38.29              | 38.29             | 7.08 |                    |  |  |  |
|                   |                |                                              | 63*<br>(17.2) | 59.69              | 40.44             | 3.70      | 55.67              | 38.90             | 4.23  | 51.62              | 37.32             | 4.83  | 47.50              | 35.70             | 5.52  | 42.48              | 33.69             | 6.25       | 36.58              | 31.27             | 7.00 |                    |  |  |  |
|                   |                |                                              | 67<br>(19.4)  | 64.43              | 42.04             | 3.73      | 60.26              | 40.56             | 4.26  | 56.00              | 39.00             | 4.87  | 51.67              | 37.39             | 5.57  | 47.05              | 35.71             | 6.38       | 41.05              | 33.47             | 7.21 |                    |  |  |  |
|                   |                |                                              | 72<br>(22.2)  | 70.39              | 33.58             | 3.78      | 66.06              | 32.25             | 4.31  | 61.55              | 30.87             | 4.93  | 56.94              | 29.39             | 5.64  | 52.21              | 27.88             | 6.45       | 47.19              | 26.29             | 7.37 |                    |  |  |  |
| 2000              | 57<br>(13.8)   | 59.44                                        | 59.44         | 3.78               | 55.93             | 55.93     | 4.31               | 52.41             | 52.41 | 4.92               | 48.83             | 48.83 | 5.62               | 44.92             | 44.92 | 6.44               | 39.97             | 39.97      | 7.26               |                   |      |                    |  |  |  |
|                   | 62<br>(16.6)   | 60.04                                        | 53.50         | 3.78               | 56.07             | 56.07     | 4.31               | 52.48             | 52.48 | 4.92               | 48.90             | 48.90 | 5.62               | 44.98             | 44.98 | 6.44               | 40.04             | 40.04      | 7.26               |                   |      |                    |  |  |  |
|                   | 63*<br>(17.2)  | 60.84                                        | 43.04         | 3.78               | 56.74             | 41.49     | 4.31               | 52.56             | 39.87 | 4.92               | 48.32             | 38.18 | 5.62               | 43.48             | 36.25 | 6.39               | 37.36             | 33.66      | 7.13               |                   |      |                    |  |  |  |
|                   | 67<br>(19.4)   | 65.61                                        | 44.79         | 3.81               | 61.36             | 43.29     | 4.34               | 56.95             | 41.68 | 4.96               | 52.51             | 40.02 | 5.66               | 47.83             | 38.30 | 6.47               | 41.86             | 36.09      | 7.35               |                   |      |                    |  |  |  |
|                   | 72<br>(22.2)   | 71.45                                        | 35.11         | 3.87               | 67.02             | 33.78     | 4.40               | 62.40             | 32.37 | 5.02               | 57.67             | 30.89 | 5.73               | 52.81             | 29.36 | 6.55               | 47.75             | 27.77      | 7.47               |                   |      |                    |  |  |  |
| 2250              | 57<br>(13.8)   | 61.37                                        | 61.37         | 3.86               | 57.76             | 57.76     | 4.39               | 54.09             | 54.09 | 5.01               | 50.36             | 50.36 | 5.72               | 46.38             | 46.38 | 6.54               | 41.44             | 41.44      | 7.43               |                   |      |                    |  |  |  |
|                   | 62<br>(16.6)   | 61.42                                        | 61.42         | 3.86               | 57.83             | 57.83     | 4.40               | 54.15             | 54.15 | 5.01               | 50.42             | 50.42 | 5.72               | 46.44             | 46.44 | 6.54               | 41.51             | 41.51      | 7.43               |                   |      |                    |  |  |  |
|                   | 63*<br>(17.2)  | 61.75                                        | 45.60         | 3.86               | 57.57             | 43.99     | 4.39               | 53.29             | 42.29 | 5.00               | 48.99             | 40.55 | 5.71               | 44.27             | 38.64 | 6.52               | 38.08             | 35.80      | 7.26               |                   |      |                    |  |  |  |
|                   | 67<br>(19.4)   | 66.46                                        | 47.42         | 3.89               | 62.10             | 45.93     | 4.43               | 57.67             | 44.25 | 5.04               | 53.13             | 42.53 | 5.75               | 48.44             | 40.74 | 6.56               | 42.58             | 38.56      | 7.48               |                   |      |                    |  |  |  |
|                   | 72<br>(22.2)   | 72.23                                        | 36.56         | 3.95               | 67.73             | 35.23     | 4.48               | 63.02             | 33.84 | 5.11               | 58.17             | 32.33 | 5.82               | 53.23             | 30.78 | 6.65               | 48.12             | 29.19      | 7.57               |                   |      |                    |  |  |  |

See Legend and Notes on Page 17.



PERFORMANCE DATA (CONT)

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

LEGEND

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

COOLING NOTES:

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

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

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

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

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

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

Above 80°F (26.6°C) edb, add (corr factor x cfm) to SHC.

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

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

## PERFORMANCE DATA (CONT)

### GAS ADJUSTMENT

#### Natural Gas Orifice Sizes and Manifold Pressure

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

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

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

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

Note: Orifice sizes and manifold pressure settings are based on natural gas with a heating value of 1025 Btu/ft<sup>3</sup> and a specific gravity of .6.

† Orifices available through your distributor.

#### Propane Gas Orifice Sizes and Manifold Pressure

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

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

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

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

† Use Kit No. CPLPCONV013C00 (0–2000 ft [0–610 m] above sea level). Use Kit No. CPLPCONV014C00 (2001–6000 ft [611–1829 m] above sea level).

#### High Altitude Compensation, Propane Gas

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

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

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

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

#### High Altitude Compensation, Natural Gas

| Nameplate Input<br>(Btu/hr) | Rated Heating Input (Btu/hr), Natural Gas at Installation Altitude Above Sea Level, U.S.A.* |                                    |                                    |                                     |                                     |
|-----------------------------|---------------------------------------------------------------------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
|                             | 0 to 2000 ft<br>(0–610 m)                                                                   | 2001 to 3000 ft*<br>(611 to 914 m) | 3001 to 4000 ft<br>(915 to 1219 m) | 4001 to 5000 ft<br>(1220 to 1524 m) | 5001 to 6000 ft<br>(1524 to 1829 m) |
| 40000                       | 40000                                                                                       | 36000                              | 34400                              | 32800                               | 31200                               |
| 60000                       | 60000                                                                                       | 54000                              | 51600                              | 49200                               | 46800                               |
| 90000                       | 90000                                                                                       | 81000                              | 77400                              | 73800                               | 70200                               |
| 115000                      | 115000                                                                                      | 103500                             | 98900                              | 94300                               | 89700                               |
| 127000                      | 127000                                                                                      | 114300                             | 109200                             | 104100                              | 99100                               |

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

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

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

**Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC**

| Unit Size | Heating Rise Range °F (°C) | Motor Speed           | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|-----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                       |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 24040     | 25 – 55<br>(14 – 31)       | Low <sup>1</sup>      | Blue       | CFM            | 669                                 | 580  | 525  | 423  | 303  | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.09                                | 0.10 | 0.11 | 0.11 | 0.12 | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 44                                  | 51   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 29   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>2</sup>  | Pink       | CFM            | 829                                 | 752  | 680  | 602  | 549  | 455  | 313  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.14                                | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 36                                  | 40   | 44   | 49   | 54   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 20                                  | 22   | 24   | 27   | 50   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>3</sup>   | Red        | CFM            | 1014                                | 929  | 884  | 818  | 746  | 683  | 600  | 537  | 405  | 305  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.27 | 0.29 |
|           |                            |                       |            | Heat Rise (°F) | 29                                  | 32   | 34   | 36   | 40   | 44   | 50   | 55   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 16                                  | 18   | 19   | 20   | 22   | 24   | 28   | 31   | NA   | NA   |
|           |                            | Med–High              | Orange     | CFM            | 1041                                | 972  | 916  | 850  | 782  | 713  | 631  | 581  | 465  | 340  |
|           |                            |                       |            | BHP            | 0.25                                | 0.26 | 0.26 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
|           |                            |                       |            | Heat Rise (°F) | 29                                  | 31   | 32   | 35   | 38   | 42   | 47   | 51   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 16                                  | 17   | 18   | 19   | 21   | 23   | 26   | 28   | NA   | NA   |
| 24060     | 25 – 55<br>(14 – 31)       | High                  | Black      | CFM            | 1187                                | 1124 | 1061 | 996  | 930  | 896  | 840  | 776  | 698  | 610  |
|           |                            |                       |            | BHP            | 0.36                                | 0.36 | 0.37 | 0.37 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 | 0.40 |
|           |                            |                       |            | Heat Rise (°F) | 25                                  | 26   | 28   | 30   | 32   | 33   | 35   | 38   | 43   | 49   |
|           |                            |                       |            | Heat Rise (°C) | 14                                  | 15   | 16   | 17   | 18   | 18   | 20   | 21   | 24   | 27   |
|           |                            | Low <sup>3</sup>      | Blue       | CFM            | 669                                 | 580  | 525  | 423  | 303  | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.09                                | 0.10 | 0.11 | 0.11 | 0.12 | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>2</sup>  | Pink       | CFM            | 829                                 | 752  | 680  | 602  | 549  | 455  | 313  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.14                                | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 54                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 30                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium                | Red        | CFM            | 1014                                | 929  | 884  | 818  | 746  | 683  | 600  | 537  | 405  | 305  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.27 | 0.29 |
|           |                            |                       |            | Heat Rise (°F) | 44                                  | 48   | 51   | 55   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 27   | 28   | 30   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–High <sup>1</sup> | Orange     | CFM            | 1041                                | 972  | 916  | 850  | 782  | 713  | 631  | 581  | 465  | 340  |
|           |                            |                       |            | BHP            | 0.25                                | 0.26 | 0.26 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
|           |                            |                       |            | Heat Rise (°F) | 43                                  | 46   | 49   | 53   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 24                                  | 26   | 27   | 29   | NA   | NA   | NA   | NA   | NA   | NA   |
|           | High                       | Black                 |            | CFM            | 1187                                | 1124 | 1061 | 996  | 930  | 896  | 840  | 776  | 698  | 610  |
|           |                            |                       |            | BHP            | 0.36                                | 0.36 | 0.37 | 0.37 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 | 0.40 |
|           |                            |                       |            | Heat Rise (°F) | 38                                  | 40   | 42   | 45   | 48   | 50   | 53   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 21                                  | 22   | 23   | 25   | 27   | 28   | 30   | NA   | NA   | NA   |

**Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)**

| Unit Size | Heating Rise Range °F (°C) | Motor Speed           | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|-----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                       |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 30040     | 25 – 55<br>(14 – 31)       | Low <sup>1</sup>      | Blue       | CFM            | 669                                 | 580  | 525  | 423  | 303  | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.09                                | 0.10 | 0.11 | 0.11 | 0.12 | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 44                                  | 51   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 29   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>3</sup>  | Pink       | CFM            | 829                                 | 752  | 680  | 602  | 549  | 455  | 313  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.14                                | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 36                                  | 40   | 44   | 49   | 54   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 20                                  | 22   | 24   | 27   | 30   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1014                                | 929  | 884  | 818  | 746  | 683  | 600  | 537  | 405  | 305  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.27 | 0.29 |
|           |                            |                       |            | Heat Rise (°F) | 29                                  | 32   | 34   | 36   | 40   | 44   | 50   | 55   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 16                                  | 18   | 19   | 20   | 22   | 24   | 28   | 31   | NA   | NA   |
|           |                            | Med–High              | Orange     | CFM            | 1041                                | 972  | 916  | 850  | 782  | 713  | 631  | 581  | 465  | 340  |
|           |                            |                       |            | BHP            | 0.25                                | 0.26 | 0.26 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
|           |                            |                       |            | Heat Rise (°F) | 29                                  | 31   | 32   | 35   | 38   | 42   | 47   | 51   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 16                                  | 17   | 18   | 19   | 21   | 23   | 26   | 28   | NA   | NA   |
| 30060     | 25 – 55<br>(14 – 31)       | High                  | Black      | CFM            | 1187                                | 1124 | 1061 | 996  | 930  | 896  | 840  | 776  | 698  | 610  |
|           |                            |                       |            | BHP            | 0.36                                | 0.36 | 0.37 | 0.37 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 | 0.40 |
|           |                            |                       |            | Heat Rise (°F) | 25                                  | 26   | 28   | 30   | 32   | 33   | 35   | 38   | 43   | 49   |
|           |                            |                       |            | Heat Rise (°C) | 14                                  | 15   | 16   | 17   | 18   | 18   | 20   | 21   | 24   | 27   |
|           |                            | Low <sup>3</sup>      | Blue       | CFM            | 669                                 | 580  | 525  | 423  | 303  | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.09                                | 0.10 | 0.11 | 0.11 | 0.12 | ---  | ---  | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low               | Pink       | CFM            | 829                                 | 752  | 680  | 602  | 549  | 455  | 313  | ---  | ---  | ---  |
|           |                            |                       |            | BHP            | 0.14                                | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | ---  | ---  | ---  |
|           |                            |                       |            | Heat Rise (°F) | 54                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 30                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1014                                | 929  | 884  | 818  | 746  | 683  | 600  | 537  | 405  | 305  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.27 | 0.29 |
|           |                            |                       |            | Heat Rise (°F) | 44                                  | 48   | 51   | 55   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 27   | 28   | 30   | NA   | NA   | NA   | NA   | NA   | NA   |
| 30060     | 25 – 55<br>(14 – 31)       | Med–High <sup>1</sup> | Orange     | CFM            | 1041                                | 972  | 916  | 850  | 782  | 713  | 631  | 581  | 465  | 340  |
|           |                            |                       |            | BHP            | 0.25                                | 0.26 | 0.26 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
|           |                            |                       |            | Heat Rise (°F) | 43                                  | 46   | 49   | 53   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 24                                  | 26   | 27   | 29   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | High                  | Black      | CFM            | 1187                                | 1124 | 1061 | 996  | 930  | 896  | 840  | 776  | 698  | 610  |
|           |                            |                       |            | BHP            | 0.36                                | 0.36 | 0.37 | 0.37 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 | 0.40 |
|           |                            |                       |            | Heat Rise (°F) | 38                                  | 40   | 42   | 45   | 48   | 50   | 53   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 21                                  | 22   | 23   | 25   | 27   | 28   | 30   | NA   | NA   | NA   |

**Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)**

| Unit Size | Heating Rise Range °F (°C) | Motor Speed           | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|-----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                       |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 36060     | 25 – 55<br>(14 – 31)       | Low <sup>3</sup>      | Blue       | CFM            | 1056                                | 982  | 911  | 882  | 812  | 740  | 667  | 564  | 486  | 361  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.30 |
|           |                            |                       |            | Heat Rise (°F) | 42                                  | 46   | 49   | 51   | 55   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 24                                  | 25   | 27   | 28   | 31   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>1</sup>  | Pink       | CFM            | 1174                                | 1107 | 1045 | 985  | 914  | 890  | 825  | 760  | 673  | 572  |
|           |                            |                       |            | BHP            | 0.32                                | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.37 |
|           |                            |                       |            | Heat Rise (°F) | 38                                  | 40   | 43   | 46   | 49   | 50   | 54   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 21                                  | 22   | 24   | 25   | 27   | 28   | 30   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1246                                | 1195 | 1148 | 1081 | 1019 | 953  | 884  | 859  | 795  | 690  |
|           |                            |                       |            | BHP            | 0.38                                | 0.39 | 0.39 | 0.40 | 0.40 | 0.41 | 0.42 | 0.42 | 0.42 | 0.43 |
|           |                            |                       |            | Heat Rise (°F) | 36                                  | 38   | 39   | 41   | 44   | 47   | 51   | 52   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 20                                  | 21   | 22   | 23   | 24   | 26   | 28   | 29   | NA   | NA   |
| 36090     | 35 – 65<br>(19 – 36)       | Med–High              | Orange     | CFM            | 1361                                | 1299 | 1229 | 1210 | 1152 | 1092 | 1025 | 958  | 889  | 822  |
|           |                            |                       |            | BHP            | 0.48                                | 0.49 | 0.49 | 0.50 | 0.50 | 0.51 | 0.51 | 0.51 | 0.51 | 0.52 |
|           |                            |                       |            | Heat Rise (°F) | 33                                  | 35   | 36   | 37   | 39   | 41   | 44   | 47   | 50   | 55   |
|           |                            |                       |            | Heat Rise (°C) | 18                                  | 19   | 20   | 21   | 22   | 23   | 24   | 26   | 28   | 30   |
|           |                            | High                  | Black      | CFM            | 1596                                | 1542 | 1482 | 1424 | 1362 | 1304 | 1238 | 1173 | 1201 | 1143 |
|           |                            |                       |            | BHP            | 0.74                                | 0.74 | 0.74 | 0.75 | 0.75 | 0.75 | 0.76 | 0.76 | 0.77 | 0.77 |
|           |                            |                       |            | Heat Rise (°F) | 28                                  | 29   | 30   | 31   | 33   | 34   | 36   | 38   | 37   | 39   |
|           |                            |                       |            | Heat Rise (°C) | 16                                  | 16   | 17   | 17   | 18   | 19   | 20   | 21   | 21   | 22   |
|           |                            | Low <sup>3</sup>      | Blue       | CFM            | 1056                                | 982  | 911  | 882  | 812  | 740  | 667  | 564  | 486  | 361  |
|           |                            |                       |            | BHP            | 0.24                                | 0.24 | 0.24 | 0.26 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.30 |
|           |                            |                       |            | Heat Rise (°F) | 63                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 35                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
| 36090     | 35 – 65<br>(19 – 36)       | Med–Low               | Pink       | CFM            | 1174                                | 1107 | 1045 | 985  | 914  | 890  | 825  | 760  | 673  | 572  |
|           |                            |                       |            | BHP            | 0.32                                | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.37 |
|           |                            |                       |            | Heat Rise (°F) | 57                                  | 60   | 64   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 32                                  | 34   | 36   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1246                                | 1195 | 1148 | 1081 | 1019 | 953  | 884  | 859  | 795  | 690  |
|           |                            |                       |            | BHP            | 0.38                                | 0.39 | 0.39 | 0.40 | 0.40 | 0.41 | 0.42 | 0.42 | 0.42 | 0.43 |
|           |                            |                       |            | Heat Rise (°F) | 54                                  | 56   | 58   | 62   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 30                                  | 31   | 32   | 34   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–High <sup>1</sup> | Orange     | CFM            | 1361                                | 1299 | 1229 | 1210 | 1152 | 1092 | 1025 | 958  | 889  | 822  |
|           |                            |                       |            | BHP            | 0.48                                | 0.49 | 0.49 | 0.50 | 0.50 | 0.51 | 0.51 | 0.51 | 0.51 | 0.52 |
|           |                            |                       |            | Heat Rise (°F) | 49                                  | 51   | 54   | 55   | 58   | 61   | 65   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 27                                  | 29   | 30   | 31   | 32   | 34   | 36   | NA   | NA   | NA   |
| 36090     | High                       | High                  | Black      | CFM            | 1596                                | 1542 | 1482 | 1424 | 1362 | 1304 | 1238 | 1173 | 1201 | 1143 |
|           |                            |                       |            | BHP            | 0.74                                | 0.74 | 0.74 | 0.75 | 0.75 | 0.75 | 0.76 | 0.76 | 0.77 | 0.77 |
|           |                            |                       |            | Heat Rise (°F) | 42                                  | 43   | 45   | 47   | 49   | 51   | 54   | 57   | 56   | 58   |
|           |                            |                       |            | Heat Rise (°C) | 23                                  | 24   | 25   | 26   | 27   | 28   | 30   | 32   | 31   | 32   |

**Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)**

| Unit<br>Size | Heating<br>Rise<br>Range °F (°C) | Motor<br>Speed        | Wire<br>Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|--------------|----------------------------------|-----------------------|---------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|              |                                  |                       |               |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 42060        | 25 – 55<br>(14 – 31)             | Low <sup>3</sup>      | Blue          | CFM            | 1001                                | 902  | 833  | 777  | 717  | 650  | 575  | 527  | 466  | 419  |
|              |                                  |                       |               | BHP            | 0.13                                | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
|              |                                  |                       |               | Heat Rise (°F) | 45                                  | 50   | 54   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | 25                                  | 28   | 30   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  | Med–Low <sup>1</sup>  | Pink          | CFM            | 1016                                | 950  | 902  | 842  | 783  | 721  | 655  | 590  | 541  | 480  |
|              |                                  |                       |               | BHP            | 0.13                                | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 |
|              |                                  |                       |               | Heat Rise (°F) | 44                                  | 47   | 50   | 53   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | 25                                  | 26   | 28   | 30   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  | Medium <sup>2</sup>   | Red           | CFM            | 1403                                | 1358 | 1316 | 1265 | 1217 | 1167 | 1116 | 1067 | 1012 | 956  |
|              |                                  |                       |               | BHP            | 0.29                                | 0.30 | 0.31 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
|              |                                  |                       |               | Heat Rise (°F) | 32                                  | 33   | 34   | 35   | 37   | 38   | 40   | 42   | 44   | 47   |
|              |                                  |                       |               | Heat Rise (°C) | 18                                  | 18   | 19   | 20   | 20   | 21   | 22   | 23   | 25   | 26   |
| 42090        | 35 – 65<br>(19 – 36)             | Med–High              | Orange        | CFM            | 1461                                | 1411 | 1367 | 1327 | 1275 | 1220 | 1174 | 1127 | 1074 | 1022 |
|              |                                  |                       |               | BHP            | 0.32                                | 0.33 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 |
|              |                                  |                       |               | Heat Rise (°F) | 31                                  | 32   | 33   | 34   | 35   | 37   | 38   | 40   | 42   | 44   |
|              |                                  |                       |               | Heat Rise (°C) | 17                                  | 18   | 18   | 19   | 20   | 20   | 21   | 22   | 23   | 24   |
|              |                                  | High                  | Black         | CFM            | 1575                                | 1528 | 1488 | 1447 | 1406 | 1360 | 1314 | 1264 | 1213 | 1159 |
|              |                                  |                       |               | BHP            | 0.40                                | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 |
|              |                                  |                       |               | Heat Rise (°F) | 28                                  | 29   | 30   | 31   | 32   | 33   | 34   | 35   | 37   | 39   |
|              |                                  |                       |               | Heat Rise (°C) | 16                                  | 16   | 17   | 17   | 18   | 18   | 19   | 20   | 21   | 21   |
|              |                                  | Low <sup>3</sup>      | Blue          | CFM            | 1001                                | 902  | 833  | 777  | 717  | 650  | 575  | 527  | 466  | 419  |
|              |                                  |                       |               | BHP            | 0.13                                | 0.13 | 0.14 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
|              |                                  |                       |               | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
| 42090        | 35 – 65<br>(19 – 36)             | Med–Low               | Pink          | CFM            | 1016                                | 950  | 902  | 842  | 783  | 721  | 655  | 590  | 541  | 480  |
|              |                                  |                       |               | BHP            | 0.13                                | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 |
|              |                                  |                       |               | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|              |                                  | Medium <sup>2</sup>   | Red           | CFM            | 1403                                | 1358 | 1316 | 1265 | 1217 | 1167 | 1116 | 1067 | 1012 | 956  |
|              |                                  |                       |               | BHP            | 0.29                                | 0.30 | 0.31 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 |
|              |                                  |                       |               | Heat Rise (°F) | 48                                  | 50   | 51   | 53   | 56   | 58   | 61   | 63   | NA   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | 27                                  | 28   | 29   | 30   | 31   | 32   | 34   | 35   | NA   | NA   |
|              |                                  | Med–High <sup>1</sup> | Orange        | CFM            | 1461                                | 1411 | 1367 | 1327 | 1275 | 1220 | 1174 | 1127 | 1074 | 1022 |
|              |                                  |                       |               | BHP            | 0.32                                | 0.33 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 |
|              |                                  |                       |               | Heat Rise (°F) | 46                                  | 48   | 49   | 51   | 53   | 55   | 58   | 60   | 63   | NA   |
|              |                                  |                       |               | Heat Rise (°C) | 26                                  | 27   | 27   | 28   | 29   | 31   | 32   | 33   | 35   | NA   |
| 42090        | High                             | High                  | Black         | CFM            | 1575                                | 1528 | 1488 | 1447 | 1406 | 1360 | 1314 | 1264 | 1213 | 1159 |
|              |                                  |                       |               | BHP            | 0.40                                | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 |
|              |                                  |                       |               | Heat Rise (°F) | 43                                  | 44   | 45   | 47   | 48   | 50   | 51   | 54   | 56   | 58   |
|              |                                  |                       |               | Heat Rise (°C) | 24                                  | 25   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   |

**Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)**

| Unit Size | Heating Rise Range °F (°C) | Motor Speed          | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                      |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 48090     | 35 – 65<br>(19 – 36)       | Low <sup>1</sup>     | Blue       | CFM            | 1378                                | 1344 | 1295 | 1260 | 1216 | 1179 | 1135 | 1087 | 1035 | 995  |
|           |                            |                      |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.31 | 0.31 | 0.33 | 0.34 | 0.36 | 0.36 | 0.38 |
|           |                            |                      |            | Heat Rise (°F) | 49                                  | 50   | 52   | 54   | 56   | 57   | 60   | 62   | 65   | NA   |
|           |                            |                      |            | Heat Rise (°C) | 27                                  | 28   | 29   | 30   | 31   | 32   | 33   | 35   | 36   | NA   |
|           |                            | Med–Low <sup>2</sup> | Pink       | CFM            | 1696                                | 1671 | 1631 | 1607 | 1574 | 1539 | 1507 | 1463 | 1432 | 1393 |
|           |                            |                      |            | BHP            | 0.45                                | 0.47 | 0.49 | 0.50 | 0.52 | 0.52 | 0.54 | 0.55 | 0.57 | 0.58 |
|           |                            |                      |            | Heat Rise (°F) | 40                                  | 40   | 41   | 42   | 43   | 44   | 45   | 46   | 47   | 49   |
|           |                            |                      |            | Heat Rise (°C) | 22                                  | 22   | 23   | 23   | 24   | 24   | 25   | 26   | 26   | 27   |
|           |                            | Medium <sup>3</sup>  | Red        | CFM            | 1994                                | 1968 | 1943 | 1910 | 1882 | 1835 | 1774 | 1702 | 1614 | 1512 |
|           |                            |                      |            | BHP            | 0.72                                | 0.73 | 0.75 | 0.76 | 0.78 | 0.78 | 0.76 | 0.73 | 0.70 | 0.66 |
|           |                            |                      |            | Heat Rise (°F) | NA                                  | NA   | 35   | 35   | 36   | 37   | 38   | 40   | 42   | 45   |
|           |                            |                      |            | Heat Rise (°C) | NA                                  | NA   | 19   | 20   | 20   | 20   | 21   | 22   | 23   | 25   |
| 48115     | 30 – 60<br>(17 – 33)       | Med–High             | Orange     | CFM            | 2054                                | 2013 | 1986 | 1964 | 1919 | 1854 | 1779 | 1695 | 1605 | 1498 |
|           |                            |                      |            | BHP            | 0.77                                | 0.79 | 0.80 | 0.82 | 0.81 | 0.80 | 0.76 | 0.74 | 0.69 | 0.65 |
|           |                            |                      |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | 35   | 36   | 38   | 40   | 42   | 45   |
|           |                            |                      |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | 20   | 20   | 21   | 22   | 23   | 25   |
|           |                            | High                 | Black      | CFM            | 2267                                | 2201 | 2133 | 2071 | 1997 | 1923 | 1835 | 1739 | 1654 | 1551 |
|           |                            |                      |            | BHP            | 1.03                                | 1.00 | 0.97 | 0.93 | 0.89 | 0.86 | 0.82 | 0.78 | 0.74 | 0.69 |
|           |                            |                      |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | 35   | 37   | 39   | 41   | 44   |
|           |                            |                      |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | 20   | 20   | 22   | 23   | 24   |
|           |                            | Low <sup>3</sup>     | Blue       | CFM            | 1378                                | 1344 | 1295 | 1260 | 1216 | 1179 | 1135 | 1087 | 1035 | 995  |
|           |                            |                      |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.31 | 0.31 | 0.33 | 0.34 | 0.36 | 0.36 | 0.38 |
|           |                            |                      |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                      |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
| 48115     | 30 – 60<br>(17 – 33)       | Med–Low <sup>2</sup> | Pink       | CFM            | 1696                                | 1671 | 1631 | 1607 | 1574 | 1539 | 1507 | 1463 | 1432 | 1393 |
|           |                            |                      |            | BHP            | 0.45                                | 0.47 | 0.49 | 0.50 | 0.52 | 0.52 | 0.54 | 0.55 | 0.57 | 0.58 |
|           |                            |                      |            | Heat Rise (°F) | 51                                  | 52   | 53   | 54   | 55   | 56   | 57   | 59   | 60   | NA   |
|           |                            |                      |            | Heat Rise (°C) | 28                                  | 29   | 29   | 30   | 31   | 31   | 32   | 33   | 34   | NA   |
|           |                            | Medium <sup>1</sup>  | Red        | CFM            | 1994                                | 1968 | 1943 | 1910 | 1882 | 1835 | 1774 | 1702 | 1614 | 1512 |
|           |                            |                      |            | BHP            | 0.72                                | 0.73 | 0.75 | 0.76 | 0.78 | 0.78 | 0.76 | 0.73 | 0.70 | 0.66 |
|           |                            |                      |            | Heat Rise (°F) | 43                                  | 44   | 44   | 45   | 46   | 47   | 49   | 51   | 54   | 57   |
|           |                            |                      |            | Heat Rise (°C) | 24                                  | 24   | 25   | 25   | 26   | 26   | 27   | 28   | 30   | 32   |
|           |                            | Med–High             | Orange     | CFM            | 2054                                | 2013 | 1986 | 1964 | 1919 | 1854 | 1779 | 1695 | 1605 | 1498 |
|           |                            |                      |            | BHP            | 0.77                                | 0.79 | 0.80 | 0.82 | 0.81 | 0.80 | 0.76 | 0.74 | 0.69 | 0.65 |
|           |                            |                      |            | Heat Rise (°F) | 42                                  | 43   | 44   | 44   | 45   | 47   | 49   | 51   | 54   | 58   |
|           |                            |                      |            | Heat Rise (°C) | 23                                  | 24   | 24   | 24   | 25   | 26   | 27   | 28   | 30   | 32   |
| 48115     | High                       | High                 | Black      | CFM            | 2267                                | 2201 | 2133 | 2071 | 1997 | 1923 | 1835 | 1739 | 1654 | 1551 |
|           |                            |                      |            | BHP            | 1.03                                | 1.00 | 0.97 | 0.93 | 0.89 | 0.86 | 0.82 | 0.78 | 0.74 | 0.69 |
|           |                            |                      |            | Heat Rise (°F) | 38                                  | 39   | 41   | 42   | 43   | 45   | 47   | 50   | 52   | 56   |
|           |                            |                      |            | Heat Rise (°C) | 21                                  | 22   | 23   | 23   | 24   | 25   | 26   | 28   | 29   | 31   |

# Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)

| Unit Size | Heating Rise Range °F (°C) | Motor Speed           | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|-----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                       |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 48130     | 35 – 65<br>(19 – 36)       | Low <sup>3</sup>      | Blue       | CFM            | 1378                                | 1344 | 1295 | 1260 | 1216 | 1179 | 1135 | 1087 | 1035 | 995  |
|           |                            |                       |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.31 | 0.31 | 0.33 | 0.34 | 0.36 | 0.36 | 0.38 |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>2</sup>  | Pink       | CFM            | 1696                                | 1671 | 1631 | 1607 | 1574 | 1539 | 1507 | 1463 | 1432 | 1393 |
|           |                            |                       |            | BHP            | 0.45                                | 0.47 | 0.49 | 0.50 | 0.52 | 0.52 | 0.54 | 0.55 | 0.57 | 0.58 |
|           |                            |                       |            | Heat Rise (°F) | 57                                  | 57   | 59   | 60   | 61   | 62   | 64   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 31                                  | 32   | 33   | 33   | 34   | 35   | 35   | NA   | NA   | NA   |
|           |                            | Medium                | Red        | CFM            | 1994                                | 1968 | 1943 | 1910 | 1882 | 1835 | 1774 | 1702 | 1614 | 1512 |
|           |                            |                       |            | BHP            | 0.72                                | 0.73 | 0.75 | 0.76 | 0.78 | 0.78 | 0.76 | 0.73 | 0.70 | 0.66 |
|           |                            |                       |            | Heat Rise (°F) | 48                                  | 49   | 49   | 50   | 51   | 52   | 54   | 56   | 59   | 63   |
|           |                            |                       |            | Heat Rise (°C) | 27                                  | 27   | 27   | 28   | 28   | 29   | 30   | 31   | 33   | 35   |
|           |                            | Med–High <sup>1</sup> | Orange     | CFM            | 2054                                | 2013 | 1986 | 1964 | 1919 | 1854 | 1779 | 1695 | 1605 | 1498 |
|           |                            |                       |            | BHP            | 0.77                                | 0.79 | 0.80 | 0.82 | 0.81 | 0.80 | 0.76 | 0.74 | 0.69 | 0.65 |
|           |                            |                       |            | Heat Rise (°F) | 47                                  | 48   | 48   | 49   | 50   | 52   | 54   | 57   | 60   | 64   |
|           |                            |                       |            | Heat Rise (°C) | 26                                  | 26   | 27   | 27   | 28   | 29   | 30   | 31   | 33   | 36   |
| 60090     | 35 – 65<br>(19 – 36)       | High                  | Black      | CFM            | 2267                                | 2201 | 2133 | 2071 | 1997 | 1923 | 1835 | 1739 | 1654 | 1551 |
|           |                            |                       |            | BHP            | 1.03                                | 1.00 | 0.97 | 0.93 | 0.89 | 0.86 | 0.82 | 0.78 | 0.74 | 0.69 |
|           |                            |                       |            | Heat Rise (°F) | 42                                  | 44   | 45   | 46   | 48   | 50   | 52   | 55   | 58   | 62   |
|           |                            |                       |            | Heat Rise (°C) | 24                                  | 24   | 25   | 26   | 27   | 28   | 29   | 31   | 32   | 34   |
|           |                            | Low <sup>3</sup>      | Blue       | CFM            | 1330                                | 1277 | 1232 | 1191 | 1147 | 1103 | 1060 | 1004 | 963  | 919  |
|           |                            |                       |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.36 | 0.37 |
|           |                            |                       |            | Heat Rise (°F) | 51                                  | 53   | 55   | 57   | 59   | 61   | 64   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 28                                  | 29   | 31   | 32   | 33   | 34   | 35   | NA   | NA   | NA   |
|           |                            | Med–Low <sup>1</sup>  | Pink       | CFM            | 1475                                | 1436 | 1399 | 1351 | 1317 | 1270 | 1236 | 1188 | 1152 | 1105 |
|           |                            |                       |            | BHP            | 0.35                                | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.45 |
|           |                            |                       |            | Heat Rise (°F) | 46                                  | 47   | 48   | 50   | 51   | 53   | 55   | 57   | 59   | 61   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 26   | 27   | 28   | 29   | 30   | 30   | 32   | 33   | 34   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1736                                | 1710 | 1668 | 1630 | 1600 | 1557 | 1522 | 1479 | 1450 | 1406 |
|           |                            |                       |            | BHP            | 0.53                                | 0.54 | 0.55 | 0.58 | 0.59 | 0.60 | 0.62 | 0.63 | 0.64 | 0.65 |
|           |                            |                       |            | Heat Rise (°F) | 39                                  | 40   | 41   | 42   | 42   | 43   | 44   | 46   | 47   | 48   |
|           |                            |                       |            | Heat Rise (°C) | 22                                  | 22   | 23   | 23   | 23   | 24   | 25   | 25   | 26   | 27   |
|           |                            | Med–High              | Orange     | CFM            | 1935                                | 1909 | 1867 | 1836 | 1808 | 1766 | 1696 | 1619 | 1535 | 1454 |
|           |                            |                       |            | BHP            | 0.71                                | 0.73 | 0.74 | 0.76 | 0.78 | 0.79 | 0.77 | 0.75 | 0.72 | 0.68 |
|           |                            |                       |            | Heat Rise (°F) | 35                                  | 35   | 36   | 37   | 37   | 38   | 40   | 42   | 44   | 47   |
|           |                            |                       |            | Heat Rise (°C) | 19                                  | 20   | 20   | 20   | 21   | 21   | 22   | 23   | 24   | 26   |
|           | High                       | Black                 |            | CFM            | 2205                                | 2150 | 2078 | 2011 | 1941 | 1852 | 1779 | 1672 | 1572 | 1473 |
|           |                            |                       |            | BHP            | 1.04                                | 1.02 | 0.99 | 0.95 | 0.92 | 0.87 | 0.85 | 0.79 | 0.75 | 0.70 |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | 35   | 37   | 38   | 40   | 43   | 46   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | 19   | 20   | 21   | 22   | 24   | 26   |



# Dry Coil Air Delivery\* – Horizontal and Downflow Discharge Sizes 24–60 208/230VAC (Cont.)

| Unit Size | Heating Rise Range °F (°C) | Motor Speed           | Wire Color |                | External Static Pressure (IN. W.C.) |      |      |      |      |      |      |      |      |      |
|-----------|----------------------------|-----------------------|------------|----------------|-------------------------------------|------|------|------|------|------|------|------|------|------|
|           |                            |                       |            |                | 0.1                                 | 0.2  | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 0.8  | 0.9  | 1    |
| 60115     | 30 – 60<br>(17 – 33)       | Low <sup>3</sup>      | Blue       | CFM            | 1330                                | 1277 | 1232 | 1191 | 1147 | 1103 | 1060 | 1004 | 963  | 919  |
|           |                            |                       |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.36 | 0.37 |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low               | Pink       | CFM            | 1475                                | 1436 | 1399 | 1351 | 1317 | 1270 | 1236 | 1188 | 1152 | 1105 |
|           |                            |                       |            | BHP            | 0.35                                | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.45 |
|           |                            |                       |            | Heat Rise (°F) | 59                                  | 60   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 33                                  | 33   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1736                                | 1710 | 1668 | 1630 | 1600 | 1557 | 1522 | 1479 | 1450 | 1406 |
|           |                            |                       |            | BHP            | 0.53                                | 0.54 | 0.55 | 0.58 | 0.59 | 0.60 | 0.62 | 0.63 | 0.64 | 0.65 |
|           |                            |                       |            | Heat Rise (°F) | 50                                  | 51   | 52   | 53   | 54   | 56   | 57   | 58   | 60   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 28                                  | 28   | 29   | 29   | 30   | 31   | 32   | 32   | 33   | NA   |
|           |                            | Med–High <sup>1</sup> | Orange     | CFM            | 1935                                | 1909 | 1867 | 1836 | 1808 | 1766 | 1696 | 1619 | 1535 | 1454 |
|           |                            |                       |            | BHP            | 0.71                                | 0.73 | 0.74 | 0.76 | 0.78 | 0.79 | 0.77 | 0.75 | 0.72 | 0.68 |
|           |                            |                       |            | Heat Rise (°F) | 45                                  | 45   | 46   | 47   | 48   | 49   | 51   | 53   | 56   | 59   |
|           |                            |                       |            | Heat Rise (°C) | 25                                  | 25   | 26   | 26   | 27   | 27   | 28   | 30   | 31   | 33   |
| 60130     | 35 – 65<br>(19 – 36)       | High                  | Black      | CFM            | 2205                                | 2150 | 2078 | 2011 | 1941 | 1852 | 1779 | 1672 | 1572 | 1473 |
|           |                            |                       |            | BHP            | 1.04                                | 1.02 | 0.99 | 0.95 | 0.92 | 0.87 | 0.85 | 0.79 | 0.75 | 0.70 |
|           |                            |                       |            | Heat Rise (°F) | 39                                  | 40   | 42   | 43   | 45   | 47   | 49   | 52   | 55   | 59   |
|           |                            |                       |            | Heat Rise (°C) | 22                                  | 22   | 23   | 24   | 25   | 26   | 27   | 29   | 31   | 33   |
|           |                            | Low <sup>3</sup>      | Blue       | CFM            | 1330                                | 1277 | 1232 | 1191 | 1147 | 1103 | 1060 | 1004 | 963  | 919  |
|           |                            |                       |            | BHP            | 0.26                                | 0.27 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.36 | 0.37 |
|           |                            |                       |            | Heat Rise (°F) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | NA                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Med–Low               | Pink       | CFM            | 1475                                | 1436 | 1399 | 1351 | 1317 | 1270 | 1236 | 1188 | 1152 | 1105 |
|           |                            |                       |            | BHP            | 0.35                                | 0.36 | 0.37 | 0.38 | 0.40 | 0.41 | 0.42 | 0.43 | 0.45 | 0.45 |
|           |                            |                       |            | Heat Rise (°F) | 65                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 36                                  | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   | NA   |
|           |                            | Medium <sup>2</sup>   | Red        | CFM            | 1736                                | 1710 | 1668 | 1630 | 1600 | 1557 | 1522 | 1479 | 1450 | 1406 |
|           |                            |                       |            | BHP            | 0.53                                | 0.54 | 0.55 | 0.58 | 0.59 | 0.60 | 0.62 | 0.63 | 0.64 | 0.65 |
|           |                            |                       |            | Heat Rise (°F) | 55                                  | 56   | 57   | 59   | 60   | 62   | 63   | 65   | NA   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 31                                  | 31   | 32   | 33   | 33   | 34   | 35   | 36   | NA   | NA   |
| 60130     | 35 – 65<br>(19 – 36)       | Med–High <sup>1</sup> | Orange     | CFM            | 1935                                | 1909 | 1867 | 1836 | 1808 | 1766 | 1696 | 1619 | 1535 | 1454 |
|           |                            |                       |            | BHP            | 0.71                                | 0.73 | 0.74 | 0.76 | 0.78 | 0.79 | 0.77 | 0.75 | 0.72 | 0.68 |
|           |                            |                       |            | Heat Rise (°F) | 50                                  | 50   | 51   | 52   | 53   | 54   | 57   | 59   | 62   | NA   |
|           |                            |                       |            | Heat Rise (°C) | 28                                  | 28   | 29   | 29   | 29   | 30   | 31   | 33   | 35   | NA   |
|           |                            | High                  | Black      | CFM            | 2205                                | 2150 | 2078 | 2011 | 1941 | 1852 | 1779 | 1672 | 1572 | 1473 |
|           |                            |                       |            | BHP            | 1.04                                | 1.02 | 0.99 | 0.95 | 0.92 | 0.87 | 0.85 | 0.79 | 0.75 | 0.70 |
|           |                            |                       |            | Heat Rise (°F) | 43                                  | 45   | 46   | 48   | 49   | 52   | 54   | 57   | 61   | 65   |
|           |                            |                       |            | Heat Rise (°C) | 24                                  | 25   | 26   | 26   | 27   | 29   | 30   | 32   | 34   | 36   |

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

1 Factory-shipped heating speed

2 Factory-shipped cooling speed

3 Factory-shipped continuous fan speed

"NA" = Not allowed for heating speed

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

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

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

| UNIT<br>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 |      |      |
| 60           |                     |      |      |      |      |      |      |      |      | 0.06 | 0.07 | 0.01 | 0.08 | 0.09 | 0.10 | 0.12 | 0.13 |

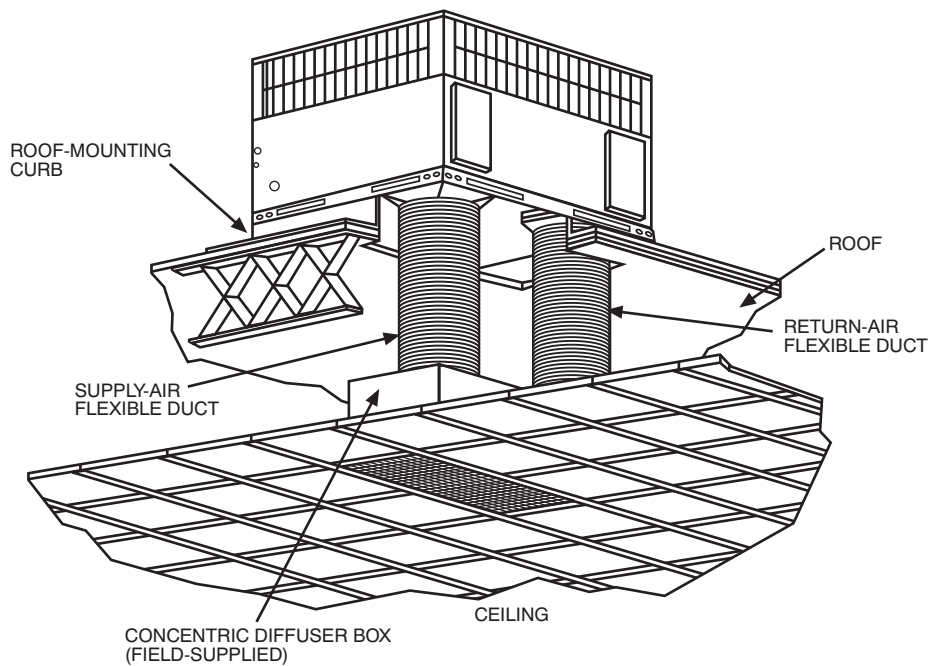
## Economizer with 1-in. Filter Pressure Drop (IN. W.C.)

| FILTER SIZE IN. (MM)                                            | COOLING<br>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,            | -                   | -   | 0.09 | 0.14 | 0.16 | 0.18 | 0.25 | 0.28 | 0.30 | -    | -    | -    | -    | -    | -    | -    | -    |
|                                                                 | 2.5,<br>3.0     | -                   | -   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| 1200-1800 CFM<br>16x24x1 + 14x24x1<br>(406x610x25 + 356x610x25) | 3.5,            | -                   | -   | -    | -    | -    | -    | 0.10 | 0.11 | 0.12 | 0.13 | 0.14 | 0.16 | 0.16 | -    | -    | -    | -    |
|                                                                 | 4.0             | -                   | -   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| 1500-2200 CFM<br>16x24x1 + 18x24x1<br>(406x610x25 + 457x610x25) | 5.0             | -                   | -   | -    | -    | -    | -    | -    | -    | -    | 0.15 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | 0.23 | 0.23 |

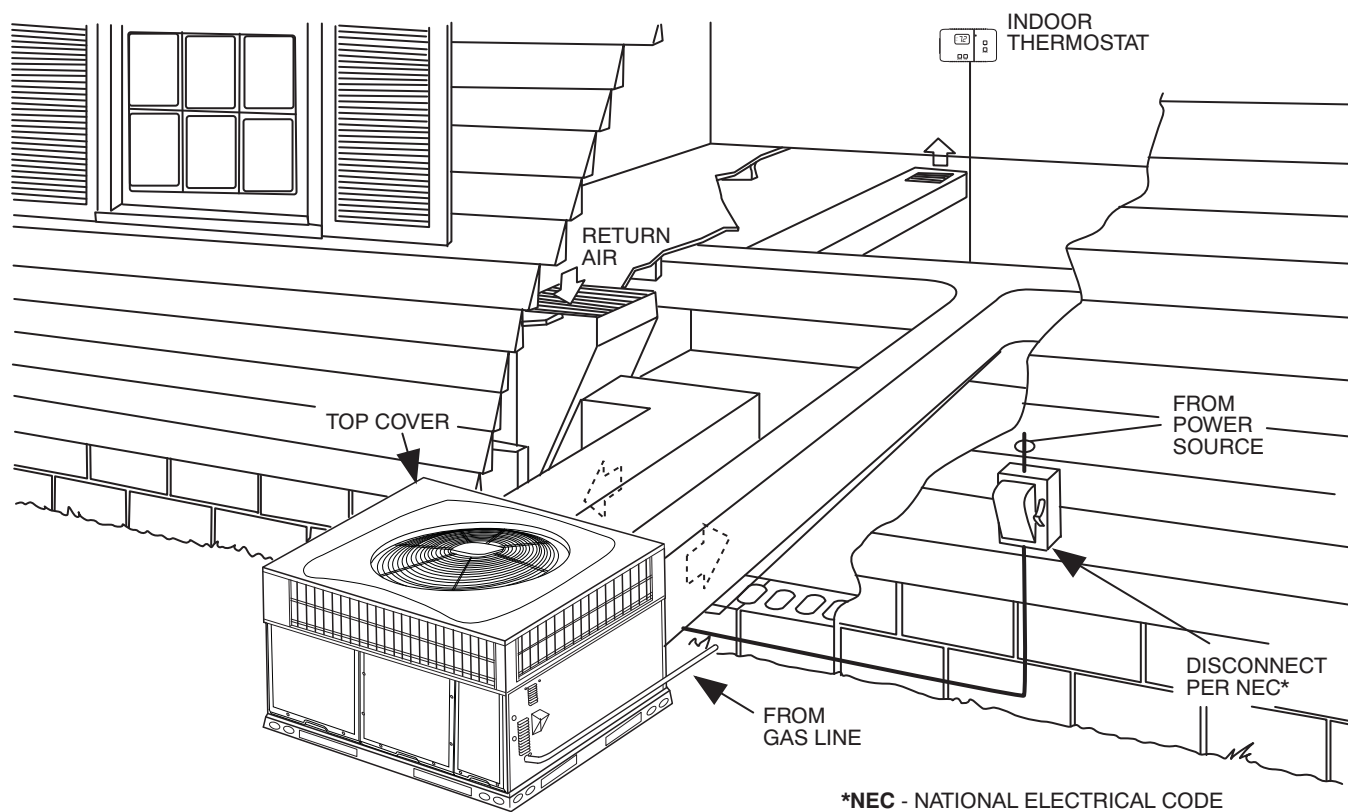
## Filter Pressure Drop Table (IN. W.C.)

| FILTER SIZE IN. (MM)                                            | COOLING<br>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,            | 0.03                | 0.05 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.16 | -    | -    | -    | -    | -    | -    | -    | -    |
|                                                                 | 2.5,<br>3.0     |                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1200-1800 CFM<br>16x24x1 + 14x24x1<br>(406x610x25 + 356x610x25) | 3.5,            | -                   | -    | -    | -    | -    | -    | 0.07 | 0.08 | 0.09 | 0.09 | 0.10 | 0.11 | 0.12 | -    | -    | -    | -    |
|                                                                 | 4.0             |                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 1500-2200 CFM<br>16x24x1 + 18x24x1<br>(406x610x25 + 457x610x25) | 5.0             | -                   | -    | -    | -    | -    | -    | -    | -    | -    | 0.04 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.15 |
|                                                                 |                 |                     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

## TYPICAL PIPING AND WIRING



A09230



\***NEC** - NATIONAL ELECTRICAL CODE

A09231

## APPLICATION DATA

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

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

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

**Airflow** — Units are draw-thru in the cooling mode and blow-thru in the heating mode.

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

**Minimum cooling airflow** — Minimum cooling airflow is 350 cfm per ton.

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

**Minimum temperature** — Air entering the heat exchanger in heating mode must be a minimum of 50°F (10°C) continuous and/or 45°F (7°C) intermittent.

## ELECTRICAL DATA

| MODEL | NOMINAL<br>V-PH-HZ | VOLTAGE<br>RANGE |     | COMPRESSOR |       | OFM  | IFM | IDM  | POWER SUPPLY |      |
|-------|--------------------|------------------|-----|------------|-------|------|-----|------|--------------|------|
|       |                    | MIN              | MAX | RLA        | LRA   | FLA  | FLA | FLA  | MCA          | MOCP |
| 24040 | 208/230-1-60       | 197              | 253 | 8.7        | 46    | 0.6  | 3.8 | 0.65 | 15.2         | 20   |
| 24060 | 208/230-1-60       | 197              | 253 | 8.7        | 46    | 0.6  | 3.8 | 0.65 | 15.2         | 20   |
| 30040 | 208/230-1-60       | 197              | 253 | 11.2       | 57    | 0.7  | 3.8 | 0.65 | 18.5         | 25   |
| 30060 | 208/230-1-60       | 197              | 253 | 11.2       | 57    | 0.7  | 3.8 | 0.65 | 18.5         | 25   |
| 36060 | 208/230-1-60       | 197              | 253 | 16.7       | 79    | 1.05 | 5.4 | 0.65 | 27.4         | 40   |
| 36090 | 208/230-1-60       | 197              | 253 | 16.7       | 79    | 1.05 | 5.4 | .75  | 27.4         | 40   |
| 42060 | 208/230-1-60       | 197              | 253 | 16.7       | 109   | 1.05 | 3.8 | 0.65 | 25.8         | 40   |
| 42090 | 208/230-1-60       | 197              | 253 | 16.7       | 109   | 1.05 | 3.8 | 0.65 | 25.8         | 40   |
| 48090 | 208/230-1-60       | 197              | 253 | 19.6       | 130   | 1.05 | 7.6 | 0.65 | 33.2         | 50   |
| 48115 | 208/230-1-60       | 197              | 253 | 19.6       | 130   | 1.05 | 7.6 | 0.65 | 33.2         | 50   |
| 48130 | 208/230-1-60       | 197              | 253 | 19.6       | 130   | 1.05 | 7.6 | .75  | 33.2         | 50   |
| 60090 | 208/230-1-60       | 197              | 253 | 23.7       | 152.5 | 1.05 | 7.6 | 0.65 | 38.3         | 60   |
| 60115 | 208/230-1-60       | 197              | 253 | 23.7       | 152.5 | 1.05 | 7.6 | 0.65 | 38.3         | 60   |
| 60130 | 208/230-1-60       | 197              | 253 | 23.7       | 152.5 | 1.05 | 7.6 | .75  | 38.3         | 60   |

### LEGEND

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

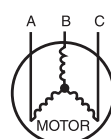
### NOTES:

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

% Voltage imbalance

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

EXAMPLE: Supply voltage is 230-3-60.



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

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

Determine maximum deviation from average voltage.

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

Maximum deviation is 2 v.

Determine percent of voltage imbalance

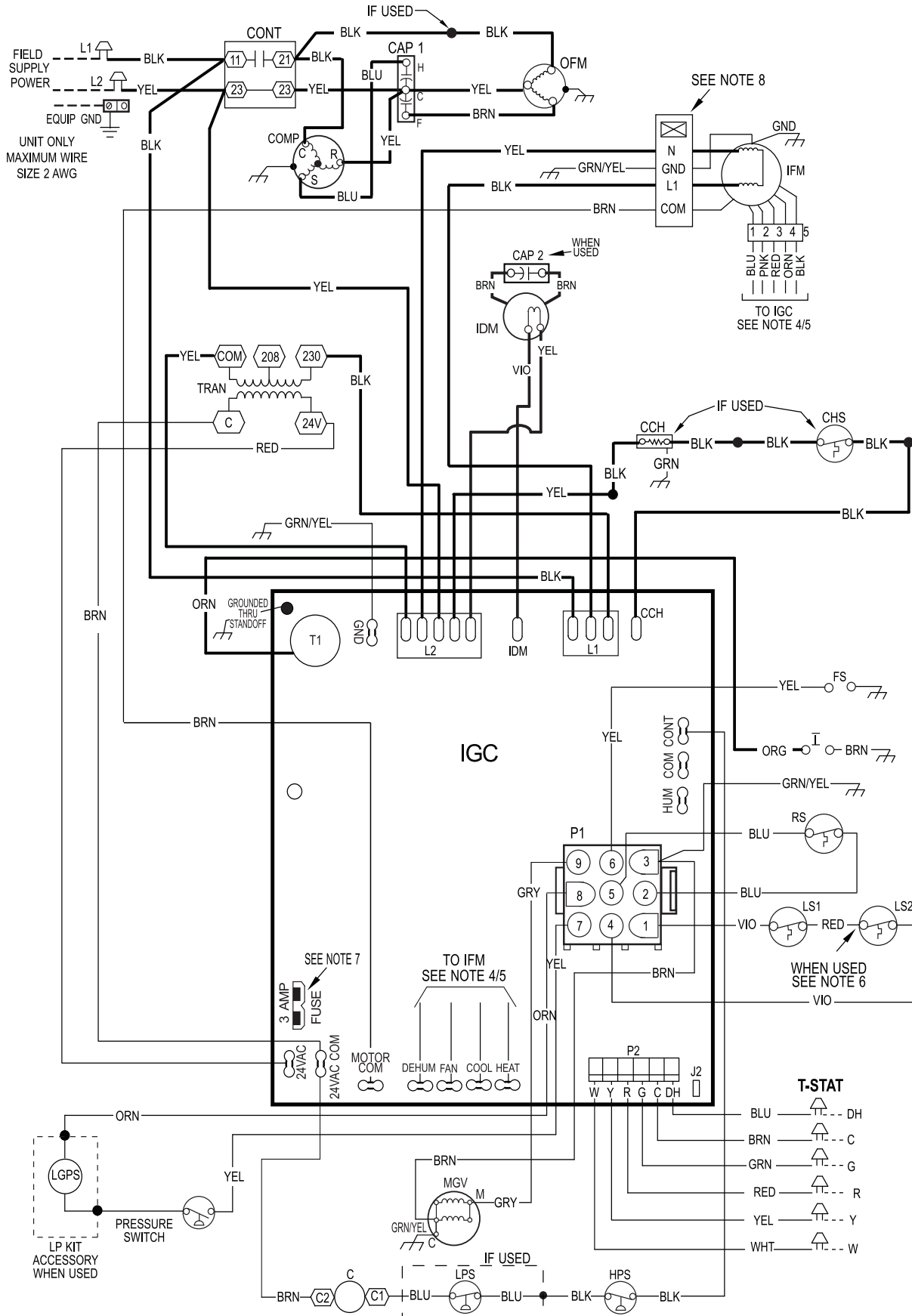
$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{2}{229} \\ &= 0.8\% \end{aligned}$$

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

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

A06564

**CONNECTION WIRING DIAGRAM**  
**DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING**  
**SCHEMATIC 208/230-1-60**

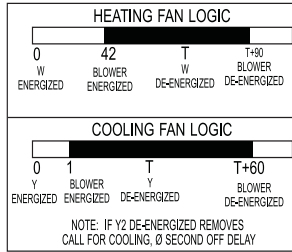
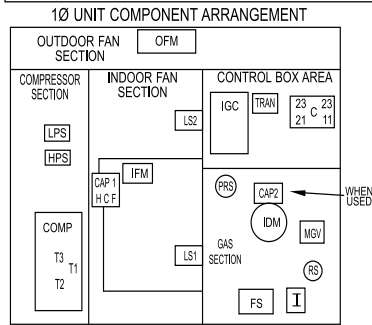
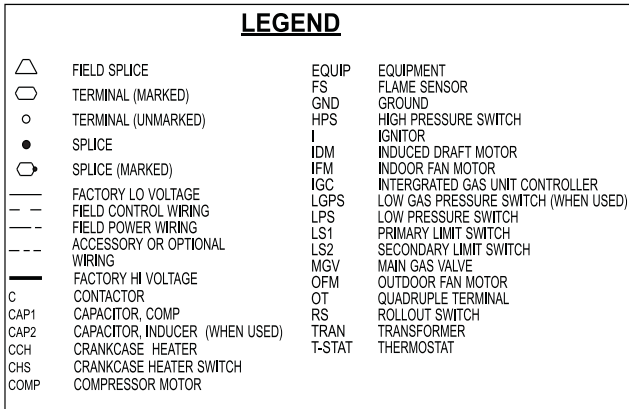


A150502

# LADDER WIRING SCHEMATIC 208/230-1-60

## LADDER WIRING DIAGRAM

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

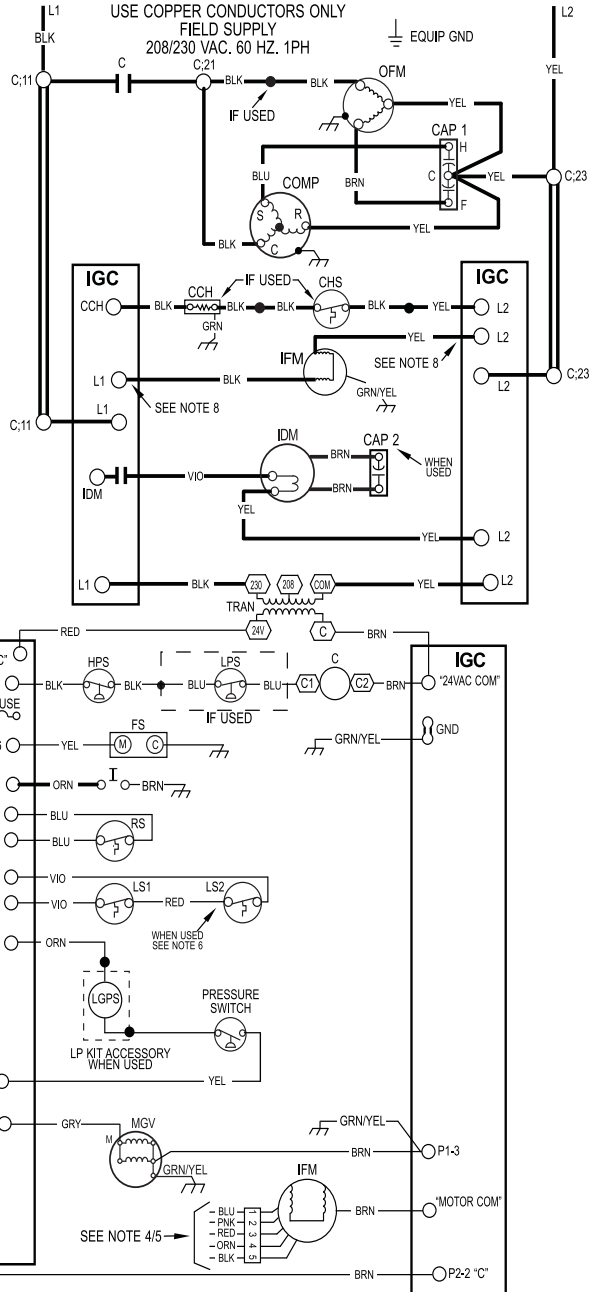


### NOTES:

- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED THEY MUST BE REPLACED WITH THE SAME WIRE OR ITS EQUIVALENT.
- SEE PRE-SALE LITERATURE FOR THERMOSTATS.
- USE 75 DEGREES C COPPER CONDUCTORS FOR FIELD INSTALLATION.
- REFER TO INSTALLATION INSTRUCTIONS FOR CORRECT SPEED SELECTION FOR IFM.
- SEE INSTALLATION INSTRUCTIONS FOR PROPER HEATING AND COOLING CONNECTIONS FOR YOUR UNIT.
- ON SOME MODELS LS1 AND LS2 ARE WIRED IN SERIES. ON OTHER MODELS ONLY LS1 IS USED.
- THIS FUSE IS MANUFACTURED BY LITTLE FUSE, P/N 287003.
- DO NOT DISCONNECT PLUG UNDER LOAD.
- N.E.C. CLASS 2, 24V.



48VLS00420 REV. 1



A150510

## CONTROLS

### Operating sequence

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

**Cooling** — When the system thermostat calls for cooling, 24 V is supplied to the “Y” and “G” terminals of the thermostat. This completes the circuit to the contactor coil (C) and indoor (evaporator) fan relay (IFR). The normally open contacts of energized C close and complete the circuit through compressor motor (COMP) to outdoor (condenser) fan motor (OFM). Both motors start instantly. The set of normally open contacts of energized IFR close and complete the circuit through IFM. The IFM starts instantly.

On the loss of the thermostat call for cooling, 24 V is removed from both the “Y” and “G” terminals (provided the fan switch is in the “AUTO” position) de-energizing the compressor contactor and opening the contacts supplying power to compressor/OFM. After a 60-second delay, the IFM shuts off. If the thermostat fan selector switch is in the “ON” position, the IFM will run continuously.

## GUIDE SPECIFICATIONS

### Packaged Gas Heating/Electric Cooling Units Constant Volume Application HVAC Guide Specifications

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

#### SYSTEM DESCRIPTION

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

#### QUALITY ASSURANCE

- A. Unit shall be rated in accordance with AHRI Standards 210/240 and 270-1995.**
- B. Unit shall be designed in accordance with UL Standard 1995 and ANSI Z 21.47.**
- C. Unit shall be manufactured in a facility registered to ISO 9001 manufacturing quality standard.**
- D. Unit shall be UL listed and c-UL certified as a total package for safety requirements.**
- E. Roof curb shall be designed to conform to NRCA Standards.**
- F. Insulation and adhesives shall meet NFPA 90.1 requirements for flame spread and smoke generation.**
- G. Cabinet insulation shall meet ASHRAE Standard 62.2.**

#### DELIVERY, STORAGE AND HANDLING

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

## Part 2 — Products

### EQUIPMENT

#### A. General:

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

#### B. Unit Cabinet:

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

#### C. Fans:

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

#### D. Compressor:

1. Fully hermetic compressors with factory-installed vibration isolation.

#### E. Coils:

Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed. Tube sheet openings shall be belled to prevent tube wear.

#### F. Heating Section:

1. Induced-draft combustion type with energy saving direct spark ignition system and redundant main gas valve.
2. Induced-draft motors shall provide adequate airflow for combustion.
3. The heat exchangers shall be constructed of aluminized steel for corrosion resistance.
4. Burners shall be of the in-shot type constructed of aluminum coated steel.
5. All gas piping and electric power shall enter the unit cabinet at a single location.

#### G. Refrigerant Components:

Refrigerant expansion device shall be of the TXV (thermostatic expansion valve) or fixed orifice type.

#### H. Filters:

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

#### I. Controls and Safeties:

1. Unit controls shall be complete with a self-contained low voltage control circuit.

## GUIDE SPECIFICATIONS (CONT)

2. Compressors shall incorporate a solid-state compressor protector that provides reset capability.

### J. Operating Characteristics:

1. Unit shall be capable of starting and running at 125°F (51°C) ambient outdoor temperature per maximum load criteria of AHRI Standard 210.
2. Compressor with standard controls shall be capable of operation down to 40°F (4°C) ambient outdoor temperature.
3. Units shall be provided with fan time delay to prevent cold air delivery before the heat exchanger warms up.
4. Unit shall be provided with 60-second fan time delay after the thermostat is satisfied.

### K. Electrical Requirements:

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

### L. Motors:

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

### M. Compressor Protection:

**Solid-state control shall protect compressor by preventing "short cycling."**

### N. Low NOx:

**Shall provide NOx reduction to values below 40 nano-grams/joule to meet California's and other localities' emission requirements as shipped from factory.**

### O. Special Features Available:

1. Compressor Start Kit:  
Shall provide additional starting torque for single-phase compressors.
2. Thermostat:  
To provide for one-stage heating and cooling in addition manual or automatic changeover and indoor fan control.
3. 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.

#### 4. Filter Rack Kit:

Shall provide filter mounting for downflow applications. Offered as field installed accessory.

#### 5. Flat Roof Curb:

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

#### 6. Flue Discharge Deflector:

Directs flue gas exhaust; 90 degrees upward from current discharge.

#### 7. High Altitude Propane Conversion Kit:

Shall consist of all required hardware to convert to propane gas heat operation at 2001 to 6000 ft (611 to 1829 m) above sea level.

#### 8. Low Ambient Package:

Shall consist of a solid-state control and condenser coil temperature sensor for controlling condenser-fan motor operation, which shall allow unit to operate down to 0°F (-18°C) outdoor ambient temperature when properly installed.

#### 9. Manual Outdoor Air Damper:

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

#### 10. Natural-to-Propane Conversion Kit:

Shall be complete with all required hardware to convert to propane gas operation at 10.0 IN. W.C. manifold pressure.

#### 11. Propane-to-Natural Conversion Kit

Shall be complete with all hardware to convert to natural gas at standard altitude (0 to 2000 ft [0 to 610 m] above sea level).

#### 12. Square-To-Round Duct Transitions (24-48 models):

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

#### 13. Low Pressure Switch Kit:

Kit is designed for use when a low pressure control is desired. This kit provides added reliability for the compressor.



## ACCESSORIES

| WPG4 ACCESSORIES                                                                                                                       |                                                                                                                                                                                                                                                                |            |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Accessory Model Number                                                                                                                 | Description                                                                                                                                                                                                                                                    | Use With   |
| CURBS                                                                                                                                  |                                                                                                                                                                                                                                                                |            |
| CPRFCURB011A00                                                                                                                         | Roof Curb, 14" High                                                                                                                                                                                                                                            | 24 – 60    |
| CPRFCURB013A00                                                                                                                         | Roof Curb, 14" High                                                                                                                                                                                                                                            | 42 – 60    |
| Note: CPRFCURB011A00 can be used with 42–60 size units with some overhang.                                                             |                                                                                                                                                                                                                                                                |            |
| ADAPTER CURBS*                                                                                                                         |                                                                                                                                                                                                                                                                |            |
| CPADCURB001A00                                                                                                                         | Adapter curb for use with NPRFCURB006A00 & NPRFCURB007A00                                                                                                                                                                                                      | 24 – 36    |
| CPADCURB002A00                                                                                                                         | Adapter curb for use with NPRFCURB008A00 & NPRFCURB009A00                                                                                                                                                                                                      | 42 – 60    |
| * Can also be used when replacing other manufacturer's older generation units that contain a composite base without a metal base rail. |                                                                                                                                                                                                                                                                |            |
| CONCENTRIC ADAPTERS – (Use with curb only)                                                                                             |                                                                                                                                                                                                                                                                |            |
| NPCONADP001A00                                                                                                                         | For 18" round duct (use with curb CPRFCURB011A00)                                                                                                                                                                                                              | Small Curb |
| NPCONADP002A00                                                                                                                         | For 18" round duct (use with curb CPRFCURB013A00)                                                                                                                                                                                                              | Large Curb |
| ECONOMIZERS                                                                                                                            |                                                                                                                                                                                                                                                                |            |
| CPECOMZR007B00                                                                                                                         | Dedicated Vertical Economizer – Internal with solid state controller, gear driven, fully modulating damper, spring return actuator, up to 50% barometric relief, supply and dry bulb outdoor air sensors. Includes filter rack with 1" filters.                | 24 – 36    |
| CPECOMZR008A00                                                                                                                         |                                                                                                                                                                                                                                                                | 42 – 48    |
| CPECOMZR009A00                                                                                                                         |                                                                                                                                                                                                                                                                | 60         |
| CPECOMZR010A00                                                                                                                         | Dedicated Horizontal Economizer – Internal with solid state controller, fully modulating damper, spring return actuator, supply and dry bulb outdoor air sensor, and low ambient compressor lockout switch included. Includes filter rack with 1–inch filters. | 24 – 36    |
| CPECOMZR011A00                                                                                                                         |                                                                                                                                                                                                                                                                | 42 – 48    |
| CPECOMZR012A00                                                                                                                         |                                                                                                                                                                                                                                                                | 60         |
| DAMPERS                                                                                                                                |                                                                                                                                                                                                                                                                |            |
| CPMANDPR007A00                                                                                                                         | Manual Outside Air Damper<br>(Includes filter rack and 1" filter, same as CPFILTRK kit)                                                                                                                                                                        | 30 – 36    |
| CPMANDPR008A00                                                                                                                         |                                                                                                                                                                                                                                                                | 42 – 48    |
| CPMANDPR009A00                                                                                                                         |                                                                                                                                                                                                                                                                | 60         |
| INTERNAL FILTER RACKS                                                                                                                  |                                                                                                                                                                                                                                                                |            |
| CPFILTRK007A00                                                                                                                         | Internal Filter Rack (includes 1–inch filters)                                                                                                                                                                                                                 | 30 – 36    |
| CPFILTRK008A00                                                                                                                         |                                                                                                                                                                                                                                                                | 42– 48     |
| CPFILTRK009A00                                                                                                                         |                                                                                                                                                                                                                                                                | 60         |
| CRANKCASE HEATER – BELLY BAND TYPE                                                                                                     |                                                                                                                                                                                                                                                                |            |
| CPCRKHTR008A00                                                                                                                         | 208/230–1–60 Crankcase Heater                                                                                                                                                                                                                                  | 24 & 36    |
| CPCRKHTR004A00                                                                                                                         | 208/230–1–60 Crankcase Heater                                                                                                                                                                                                                                  | 30         |
| CPCRKHTR004A00                                                                                                                         | 208/230–1–60 Crankcase Heater                                                                                                                                                                                                                                  | 42 – 60    |
| LOW AMBIENT, ANTI-CYCLE TIMER, COMPRESSOR START ASSIST                                                                                 |                                                                                                                                                                                                                                                                |            |
| CPLOWAMB001A00                                                                                                                         | Low Ambient Control – enables cooling system to operate down to 0 Deg. F by cycling condenser fan on and off.                                                                                                                                                  | ALL        |
| NRTIMEGD001A00                                                                                                                         | Five Minute Compressor Delay                                                                                                                                                                                                                                   | ALL        |
| CPHSTART002A00                                                                                                                         | PTC Compressor Start Assist Kit                                                                                                                                                                                                                                | ALL        |
| HAIL GUARDS / COIL PROTECTION                                                                                                          |                                                                                                                                                                                                                                                                |            |
| NAPA00501GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 24         |
| NAPA00701GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 30         |
| NAPA01401GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 36         |
| NAPA00601GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 42         |
| NAPA01201GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 48         |
| NAPA01301GR                                                                                                                            | 3/8" spacing dense wire grilles                                                                                                                                                                                                                                | 60         |

## ACCESSORIES (CONT)

|                                 |                                                                                                                                                                              |       |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>GAS CONVERSION KITS</b>      |                                                                                                                                                                              |       |
| NPLPCONV013C00                  | Natural to LP Conversion Kit ( 0 – 2000' )                                                                                                                                   | ALL   |
| NPLPCONV014C00                  | Natural to LP Conversion Kit ( 2001' – 6000' )                                                                                                                               | ALL   |
| NPNGCONV004C00                  | LP to Natural Gas Conversion Kit ( 0 – 2000' )                                                                                                                               | ALL   |
| <b>FLUE DISCHARGE DEFLECTOR</b> |                                                                                                                                                                              |       |
| CRFLUEDS001A00                  | Directs flue gas exhaust 90 degrees upward from current discharge. Designed to allow tighter distances between unit and combustible surfaces. 24 inch Height. AGA certified. | ALL   |
| <b>DUCT TRANSITIONS</b>         |                                                                                                                                                                              |       |
| NPDUCFLG002A00                  | Square to Round (1 set of 2, use with horizontal duct flanges only)                                                                                                          | 30–48 |
| <b>LOW PRESSURE SWITCH</b>      |                                                                                                                                                                              |       |
| CPLPSCTL001A00                  | Low Pressure Switch Kit (Standard on 24 size)                                                                                                                                | 30–60 |