

**577C--K Ultra Low NOx
Legacy™ 13.4 SEER2 Single-Packaged Air
Conditioner and Gas Furnace System with Puron®
(R-410A) Refrigerant
Single Phase 2-5 Nominal Tons (Sizes 24-60)
Three Phase 3-5 Nominal Tons (Sizes 36-60)**



Product Data

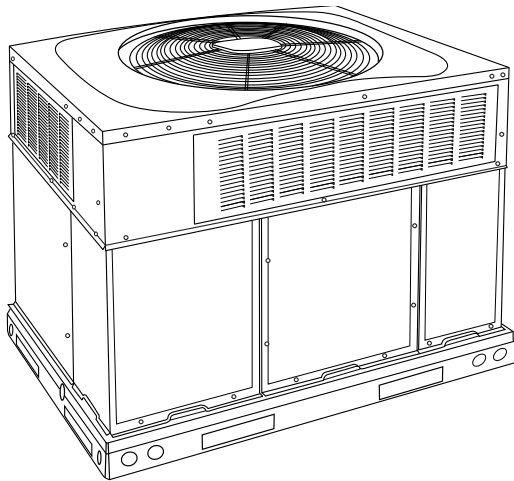


Fig. 1 – Unit 577C

A09033

Single-Packaged Products with Energy-Saving Features and Puron® R-410A refrigerant.

- 13.4 SEER2
- 10.6 EER2
- 81.0% AFUE (Single phase and three phase models)
- ECM Blower Motor-Standard
- Direct Spark Ignition
- Low Sound Levels
- Dehumidification Feature
- Louvered Condenser Coil Guard-Standard

Features/Benefits

One-piece heating and cooling units with low sound levels, easy installation, low maintenance, and dependable performance.

Puron is Bryant's unique refrigerant designed to be environmentally balanced. Puron is an HFC refrigerant which does not contain chlorine that can harm the ozone layer. The most important advantage of Puron refrigerant is that it has not been banned in future air conditioning systems as the traditional refrigerant R-22 has been. Puron refrigerant is in service in millions of systems proving highly reliable and is non-ozone depleting.

Easy Installation

Factory-assembled package is a compact, fully self-contained, combination gas heating/electric cooling unit that is prewired, pre-piped, and pre-charged for minimum installation expense. These units are available in a variety of standard and optional heating/ cooling size combinations with voltage options to meet residential and light commercial requirements. Units are lightweight and install easily on a rooftop or at ground level. The high tech composite base eliminates rust problems associated with ground level applications.

Innovative Unit Base Design

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

Convertible Duct Configuration

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

Efficient operation high-efficiency design offers SEER2 (Seasonal Energy Efficiency Ratios) of 13.4, 10.6 EER2, and AFUE (Annual Fuel Utilization Efficiency) ratings of 81.0%.

Energy-saving, direct spark ignition saves gas by operating only when the room thermostat calls for heating. Standard units are furnished with natural gas controls.

Ultra Low NOx units meet California air quality district standards requiring NOx emissions no more than 14ng/J.

Durable, Dependable Components

Turbo-tubular™ heat exchangers are constructed of stainless steel for corrosion resistance and optimum heat transfer for improved efficiency. The tubular design permits hot gases to make multiple passes across the path of the supply air.

In addition, dimples located on the heat exchanger walls force the hot gases to stay in close contact with the walls, improving heat transfer.

ECM Blower Motor is standard on all models.

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

Thermostat Controls

Time Guard® II anti-short cycle protection circuitry. If a non-corporate thermostat without anti-short cycle protection is used the Time Guard II field-installed anti-short cycle kit is recommended.

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

High pressure switch provides added reliability for the compressor.

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

Low sound ratings ensure a quiet indoor and outdoor environment with sound ratings as low as 70.7 dBA.

Easy to service cabinets provide easy 3-panel accessibility to serviceable components during maintenance and installation. The basepan with integrated drain pan provides easy ground level installation with mounting pad. A nesting feature ensures a positive basepan to roof curb seal when the unit is roof mounted. A convenient 3/4-in. (19.05 mm) wide perimeter flange makes frame mounting on a rooftop easy.

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

Integrated Gas Control (IGC) board provides safe and efficient control of heating and simplifies trouble-shooting through its built-in diagnostic function.

Cabinets are constructed of heavy duty, phosphated, zinc-coated prepainted steel capable of withstanding 500 hours in salt spray. Interior surfaces of the evaporator/heat exchanger compartment are insulated with cleanable semi-rigid insulation board, which keeps the conditioned air from being affected by the outdoor ambient temperature and provides improved indoor air quality. (Conforms to American Society of Heating, Refrigeration and Air Conditioning Engineers 62.2.) The sloped drain pan minimizes standing water in the drain. An external drain is provided.

Table of Contents

| | |
|--|----|
| Features/Benefits | 1 |
| Model Number Nomenclature | 3 |
| AHRI Capacities | 4 |
| Unit Dimensions | 7 |
| Unit Dimensions | 8 |
| Performance Data | 11 |
| Application Data | 25 |
| Electrical Data | 26 |
| Connection Wiring Schematic 208/230-1-60 | 27 |
| Controls | 31 |
| Guide Specifications | 32 |

Model Number Nomenclature

| | 577C | N | W | K | 24 | 040 | U | A | -- |
|--|------|---|---|---|----|-----|---|---|--|
| Type of Unit 577C - Single Packaged Air Conditioner and Gas Furnace System | | | | | | | | | LW - Low Cabinet Air Leakage See Price Page for full list of factory options. |
| Electrical Supply N - 208/230-1-60 P - 208/230-3-60 E - 460-3-60 | | | | | | | | | Only used if ordering an option. |
| Fuel and Controls W - Natural Gas | | | | | | | | | Brand Name A - Common Unit |
| Major Series | | | | | | | | | Low NOx Indicator - Standard N - Low NOx U - Ultra Low NOx |
| Nominal Cooling Capacity 024 - 2.0 Tons 030 - 2.5 Tons 036 - 3.0 Tons 042 - 3.5 Tons 048 - 4.0 Tons 060 - 5.0 Tons | | | | | | | | | Nominal Heat Input Size (Btuh) 040 - 45,000 060 - 60,000 090 - 89,000 |



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.

GAS-FIRED



AHRI* Capacities Cooling Capacities and Efficiencies

| UNIT SIZE | NOMINAL TONS | STANDARD CFM | COOLING CAPACITY† | EER2‡ | SEER2** |
|-----------|--------------|--------------|-------------------|-------|---------|
| 24 | 2 | 750 | 22800 | 10.6 | 13.4 |
| 30 | 2.5 | 950 | 28000 | 10.6 | 13.4 |
| 36 | 3 | 1150 | 33800 | 10.6 | 13.4 |
| 42 | 3.5 | 1350 | 39000 | 10.6 | 13.4 |
| 48 | 4 | 1600 | 47000 | 10.6 | 13.4 |
| 60 | 5 | 1750 | | 10.6 | 13.4 |

*. Air Conditioning, Heating & Refrigeration Institute.

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

‡. 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 AHRI Standard 270.

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.

LEGEND

dB—Sound Levels (decibels)

db—Dry Bulb

SEER—Seasonal Energy Efficiency Ratio

wb—Wet Bulb

COP—Coefficient of Performance

Gas Heating Capacities and Efficiencies, Single and Three Phase Models

| Unit Size | Heating Input (Btuh) | Output Capacity (Btuh) | Temperature Rise Range °F (°C) | AFUE (%) |
|----------------------------------|----------------------|------------------------|--------------------------------|----------|
| 24040 30040 | 45,000 | 37,000 | 25-55 (14-31) | 81.0 |
| 24060 30060 36060 42060 | 60,000 | 49,000 | 25-55 (14-31) | 81.0 |
| 42090 48090 60090 | 89,000 | 73,000 | 35-65 (19-36) | 81.0 |

LEGEND

AFUE—Annual Fuel Utilization Efficiency

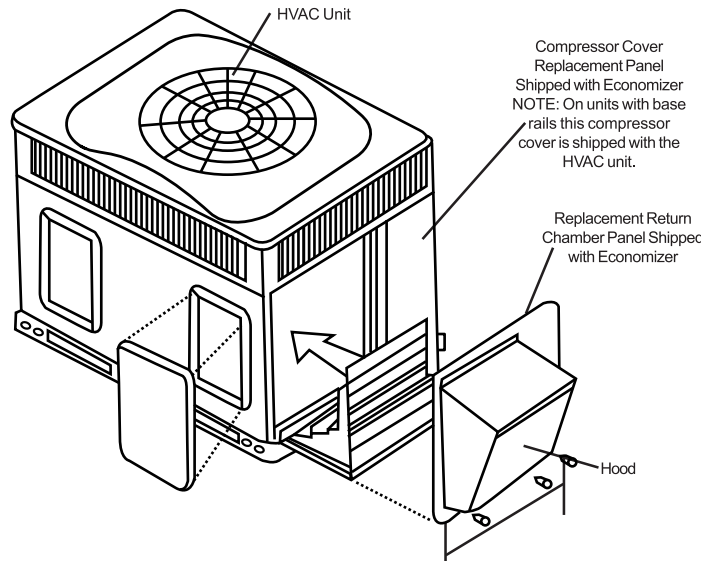
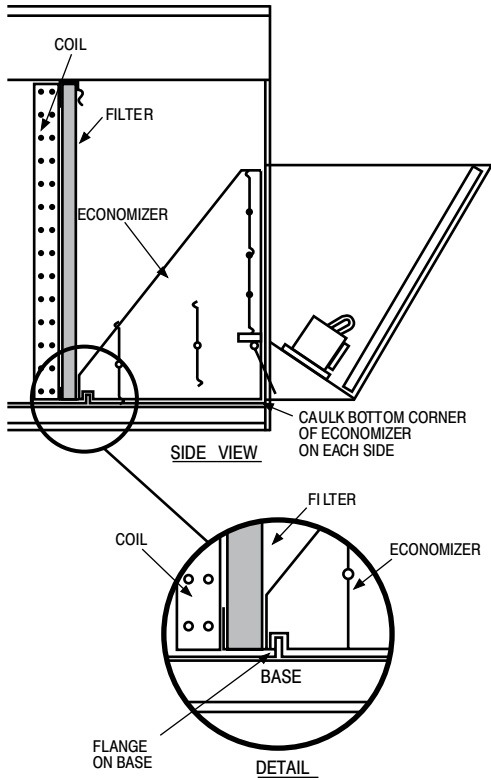
NOTE: Before purchasing this appliance, read important energy cost and efficiency information available from your retailer.

A-Weighted Sound Power Level

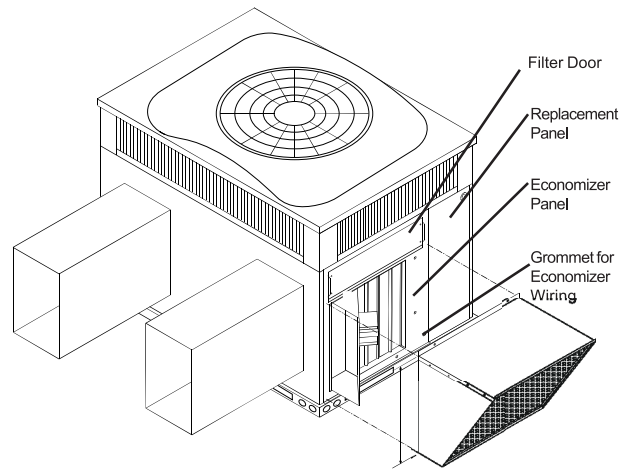
| UNIT SIZE | STANDARD RATING (dBA) | TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment) | | | | | | |
|-----------|-----------------------|--|------|------|------|------|------|------|
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 24 | 70.7 | 59.4 | 58.5 | 58.3 | 60.4 | 56.7 | 52.6 | 46.9 |
| 30 | 73.4 | 53.8 | 59.9 | 62.3 | 64.0 | 61.4 | 53.8 | 45.6 |
| 36 | 74.8 | 67.1 | 60.3 | 64.3 | 63.8 | 61.9 | 57.1 | 50.8 |
| 42 | 74.9 | 62.5 | 63.1 | 63.7 | 65.5 | 61.5 | 57.5 | 53.5 |
| 48 | 75.4 | 64.1 | 61.0 | 65.5 | 63.7 | 61.8 | 60.1 | 56.1 |
| 60 | | | | | | | | |

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

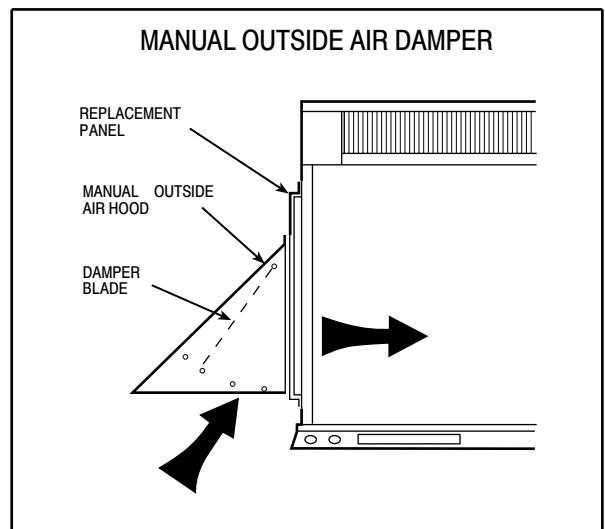
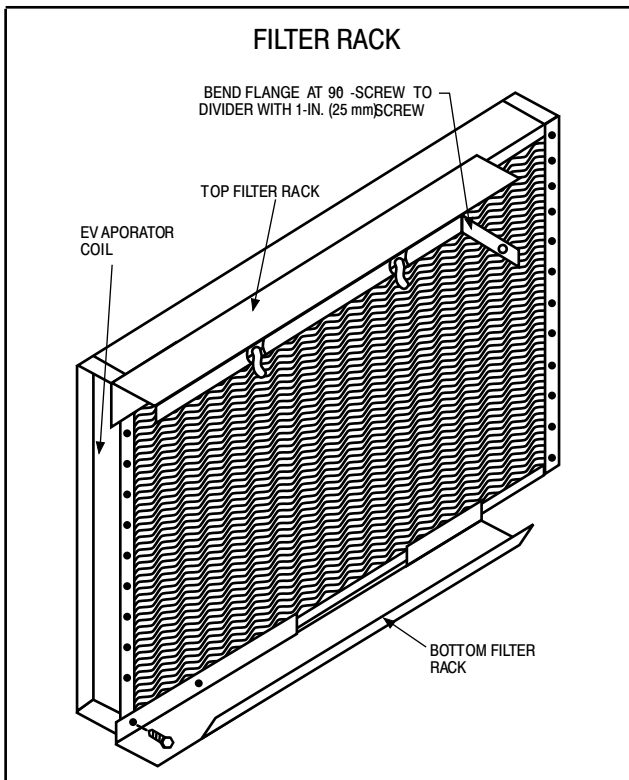
ECONOMIZER



Vertical Economizer



Horizontal Economizer



Physical Data

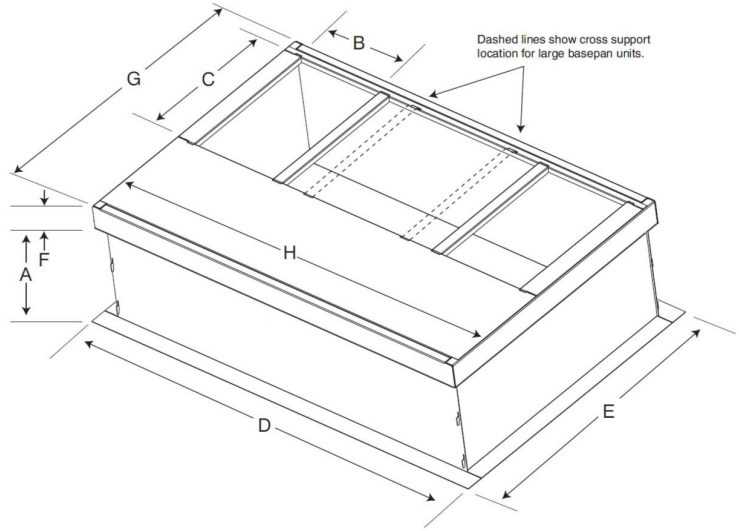
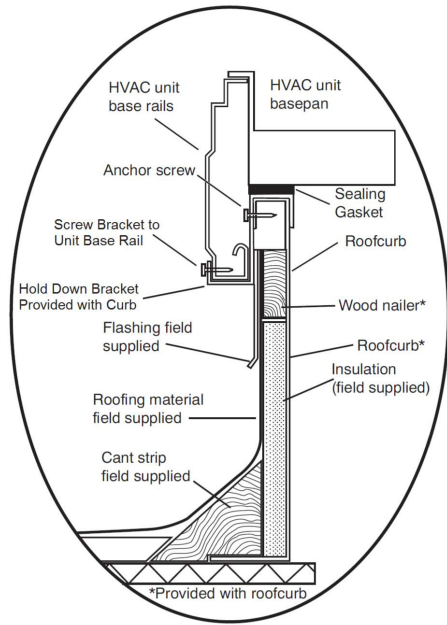
| UNIT SIZE | 24040 | 24060 | 30040 | 30060 | 36060 | 42060 | 42090 | 48090 |
|---|------------------------------|------------|--------------------|-------------|--|---|--|-------------|
| NOMINAL CAPACITY (ton) | 2 | 2 | 2-1/2 | 2-1/2 | 3 | 3-1/2 | 3-1/2 | 4 |
| SHIPPING WEIGHT lb. | 339 | 339 | 348 | 348 | 394 | 428 | 428 | 481 |
| SHIPPING WEIGHT (kg) | 154 | 154 | 158 | 158 | 179 | 194 | 194 | 218 |
| COMPRESSOR / QUANTITY | Scroll / 1 | | | | | | | |
| REFRIGERANT (R-410A) | | | | | | | | |
| Quantity lb. | 6.4 | 6.4 | 6.0 | 6.0 | 5.75 | 6.0 | 6.0 | 9.0 |
| Quantity (kg) | 2.9 | 2.9 | 2.7 | 2.7 | 2.6 | 2.7 | 2.7 | 4.1 |
| REFRIGERANT METERING DEVICE | Orifice | | | | | | | |
| ORIFICE ID in. / mm | .059 / 1.5 | .059 / 1.5 | .063 / 1.60 | .063 / 1.60 | .070 / 1.78 | .073 / 1.85 | .073 / 1.85 | .080 / 2.03 |
| 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 | 13.6 | 13.6 | 13.6 | 23.3 |
| OUTDOOR FAN | | | | | | | | |
| Nominal CFM | 2500 | 2500 | 3200 | 3200 | 3500 | 3500 | 3500 | 3500 |
| Diameter in. | 24 | 24 | 24 | 24 | 26 | 26 | 26 | 26 |
| Diameter (mm) | 609.6 | 609.6 | 609.6 | 609.6 | 660.4 | 660.4 | 660.4 | 660.4 |
| Motor Hp (Rpm) | 1/12 (810) | 1/12 (810) | 1/5 (810) | 1/5 (810) | 1/2 (810) | 3/4 (810) | 3/4 (810) | 1/5 (810) |
| INDOOR COIL | | | | | | | | |
| Rows...Fins/in. | 3...17 | 3...17 | 3...17 | 3...17 | 2...17 | 3...17 | 3...17 | 3...17 |
| Face Area (sq ft) | 3.7 | 3.7 | 3.7 | 3.7 | 5.6 | 4.7 | 4.7 | 5.6 |
| INDOOR BLOWER | | | | | | | | |
| Nominal Cooling Airflow (CFM) | 750 | 750 | 950 | 950 | 1150 | 1350 | 1350 | 1600 |
| 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) | 1/2 (1050) | 1/2 (1050) | 1.0 (1075) |
| FURNACE SECTION* | | | | | | | | |
| Burner Orifice No. (Qty...Drill Size) 1 & 3 Phase Ultra Low NOx Natural Gas (Factory Installed) | 1...0.125" size | 1...#28 | 1...0.125" size | 1...#28 | 1...#28 | 1...#28 | 1...#18 | 1...#18 |
| HIGH-PRESSURE SWITCH (psig) Cut-out Reset (Auto) | 650 +/- 15 420 +/- 25 | | | | | | | |
| LOSS-OF-CHARGE / LOW-PRESSURE SWITCH (Liquid Line) (psig) cut-out Reset (auto) | NA | | | | | | | |
| RETURN-AIR FILTERS† ‡ Throwaway Size in. (mm) | 2 each 20x12x1 508x305x25 | | | | 1 each 24x16x1 610x406x25 24x18x1 610x457x25 | 1 each 24x14x1 610x356x25 24x16x1 610x406x25 | 1 each 24x16x1 610x406x25 24x18x1 610x457x25 | |

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

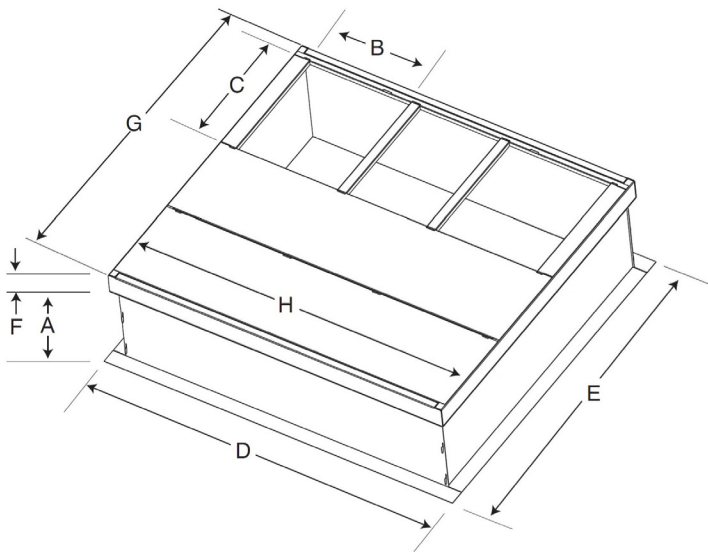
† Required filter sizes shown are based on the larger of the AHRI (Air Conditioning Heating and Refrigeration Institute) rated cooling airflow or the heating airflow velocity of 300 to 350 ft/minute for throwaway type. Air filter pressure drop for non-standard filters must not exceed 0.08 IN. W.C.

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

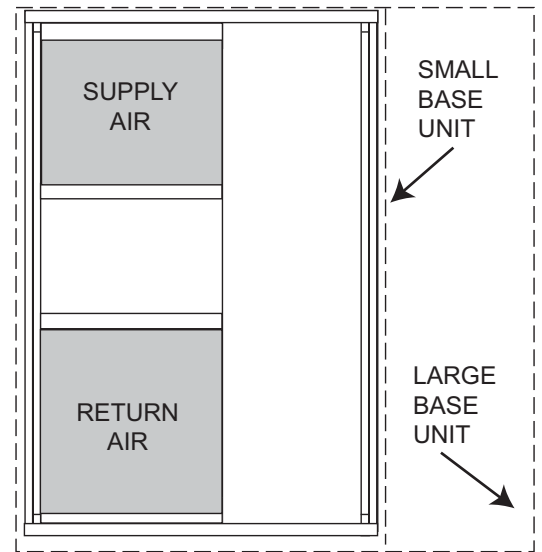
NA - Not Available



SMALL/COMMON CURB



LARGE CURB



UNIT PLACEMENT ON COMMON CURB

SMALL OR LARGE BASE UNIT

A180216

Accessory Dimensions

| Unit Size | Catalog Number | A IN. (mm) | B (small / common base) IN. (mm)* | B (large base) IN. (mm)* | C IN. (mm) | D IN. (mm) | E IN. (mm) | F IN. (mm) | G IN. (mm) | H IN. (mm) |
|----------------|----------------|------------|-----------------------------------|--------------------------|------------|-------------|------------|------------|------------|-------------|
| Small or Large | CPRFCURB011B00 | 14 (356) | 10 (254) | 14 (356) | 16 (406) | 47.8 (1214) | 32.4 (822) | 2.7 (69) | 30.6 (778) | 46.1 (1170) |
| Large | CPRFCURB013B00 | 14 (356) | 14 (356) | | | | | | | |

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

NOTES:

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

Selection Procedure (With Example)

DETERMINE COOLING AND HEATING REQUIREMENTS AT DESIGN CONDITIONS:

Given:

| | |
|--|---------------------------------|
| Required Cooling Capacity (TC)..... | 46,000 Btuh |
| Sensible Heat Capacity (SHC)..... | 34,000 Btuh |
| Required Heating Capacity..... | 72,000 Btuh |
| Condenser Entering Air Temperature | 95°F (35°C) |
| Indoor-Air Temperature | 80°F (27°C) edb 67°F (19°C) ewb |
| Evaporator Air Quantity..... | 1600 CFM |
| External Static Pressure | 0.440 IN. W.C. |
| Electrical Characteristics | 208-1-60 |

SELECT UNIT BASED ON REQUIRED COOLING CAPACITY

Enter Net Cooling Capacities table at condenser entering temperature of 95°F (35°C). Unit 48 at 1600 CFM and 67°F (19°C) ewb (entering wet bulb) will provide a total capacity of 47,000 Btuh and a SHC of 35,000 Btuh. Calculate SHC correction, if required, using Note 4 under Cooling Capacities tables.

SELECT ELECTRIC HEAT

In the Gas Heating Capacities and Efficiencies table, note that the 48090 unit will provide 73,000 Btuh with an input of 89,000 Btuh.

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 | 0.30 IN. W.C |
| Filter | 0.06 IN. W.C |
| Wet Coil Pressure Drop | <u>0.07 IN. W.C</u> |
| Total Static Pressure | 0.43 IN. W.C |

At 0.43 IN. W.C. ESP (external static pressure) and MED speed the motor delivers between 1664 CFM and 1627 cfm. Interpolation estimates 1653 CFM at .43 IN. W.C. Thus, MED delivers CFM needed.

SELECT UNIT THAT CORRESPONDS TO POWER SOURCE AVAILABLE.

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

Performance Data

24 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | | | | |
|----------------|------------|---|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | | 125 (51.7) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 700 | 57 (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 (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* (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 (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 (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 |
| 800 | 57 (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 |
| | 62 (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* (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 (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 (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 (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 (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* (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 (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 (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 |

Performance Data
30 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | |
|----------------|---------------|---|-------|-------------------|----------------|-------|-------------------|----------------|-------|-------------------|----------------|-------|-------------------|----------------|-------|-------------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 875 | 57 (13.9) | 27.39 | 27.39 | 1.98 | 26.29 | 26.29 | 2.20 | 25.01 | 25.01 | 2.44 | 23.52 | 23.52 | 2.69 | 21.57 | 21.57 | 2.94 |
| | 62 (16.7) | 28.22 | 26.10 | 1.99 | 26.84 | 25.48 | 2.20 | 25.28 | 24.73 | 2.45 | 23.38 | 23.38 | 2.68 | 21.59 | 21.59 | 2.94 |
| | 63* (17.2) | 28.70 | 21.18 | 1.99 | 27.33 | 20.58 | 2.20 | 25.77 | 19.89 | 2.45 | 23.74 | 19.00 | 2.69 | 21.18 | 17.90 | 2.93 |
| | 67 (19.4) | 30.96 | 21.97 | 2.00 | 29.59 | 21.44 | 2.22 | 28.06 | 20.82 | 2.46 | 26.21 | 20.08 | 2.74 | 23.74 | 19.09 | 3.02 |
| | 71 (21.7) | 33.22 | 18.60 | 2.02 | 31.86 | 18.10 | 2.24 | 30.33 | 17.53 | 2.48 | 28.62 | 16.90 | 2.76 | 26.55 | 16.13 | 3.08 |
| 1000 | 57 (13.9) | 28.61 | 28.61 | 2.01 | 27.47 | 27.47 | 2.22 | 26.20 | 26.20 | 2.47 | 24.68 | 24.68 | 2.75 | 22.66 | 22.66 | 3.00 |
| | 62 (16.7) | 28.93 | 28.00 | 2.01 | 27.59 | 27.35 | 2.23 | 26.34 | 26.18 | 2.47 | 24.72 | 24.72 | 2.75 | 22.70 | 22.70 | 3.00 |
| | 63* (17.2) | 29.30 | 22.46 | 2.01 | 27.91 | 21.89 | 2.23 | 26.32 | 21.22 | 2.47 | 24.35 | 20.38 | 2.73 | 21.72 | 19.26 | 2.97 |
| | 67 (19.4) | 31.55 | 23.29 | 2.03 | 30.16 | 22.79 | 2.24 | 28.60 | 22.20 | 2.49 | 26.76 | 21.49 | 2.77 | 24.30 | 20.55 | 3.06 |
| | 71 (21.7) | 33.80 | 19.48 | 2.05 | 32.41 | 19.01 | 2.26 | 30.84 | 18.46 | 2.51 | 29.10 | 17.84 | 2.79 | 27.04 | 17.11 | 3.11 |
| 1125 | 57 (13.9) | 29.58 | 29.58 | 2.03 | 28.44 | 28.44 | 2.25 | 27.15 | 27.15 | 2.50 | 25.62 | 25.62 | 2.78 | 23.61 | 23.61 | 3.06 |
| | 62 (16.7) | 29.56 | 29.56 | 2.03 | 28.82 | 27.88 | 2.25 | 27.19 | 27.19 | 2.50 | 25.66 | 25.66 | 2.78 | 23.65 | 23.65 | 3.06 |
| | 63* (17.2) | 29.76 | 23.65 | 2.04 | 28.33 | 23.11 | 2.25 | 26.76 | 22.46 | 2.50 | 24.80 | 21.66 | 2.77 | 22.16 | 20.54 | 3.01 |
| | 67 (19.4) | 31.99 | 24.51 | 2.05 | 30.58 | 24.06 | 2.27 | 29.00 | 23.49 | 2.51 | 27.19 | 22.82 | 2.79 | 24.77 | 21.94 | 3.11 |
| | 71 (21.7) | 34.23 | 20.29 | 2.07 | 32.81 | 19.85 | 2.29 | 31.24 | 19.31 | 2.54 | 29.45 | 18.71 | 2.82 | 27.39 | 18.01 | 3.13 |

Performance Data

36 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | | | | |
|----------------|------------|---|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | | 125 (51.7) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 1000 | 57 (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 |
| | 62 (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 |
| | 63* (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 |
| | 67 (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 |
| | 72 (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 |
| 1150 | 57 (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 |
| | 62 (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 |
| | 63* (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 |
| | 67 (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 |
| | 72 (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 |
| 1300 | 57 (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 |
| | 62 (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 |
| | 63* (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 |
| | 67 (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 |
| | 72 (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 |

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

Performance Data

42 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | | | | |
|----------------|------------|---|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | | 125 (51.7) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 1175 | 57 (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 (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* (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 (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 (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 |
| 1350 | 57 (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 |
| | 62 (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* (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 (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 (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 (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 (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* (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 (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 (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 |

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

Performance Data

48 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | | | | |
|----------------|------------|---|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | | 125 (51.7) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 1400 | 57 (13.8) | 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 (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* (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 (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 (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 (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 (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* (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 (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 (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 (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 (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* (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 (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 (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 |

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

Performance Data

60 Size

| Evaporator Air | | Condenser Entering Air Temperatures °F (°C) | | | | | | | | | | | | | | | | | |
|----------------|------------|---|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|----------------|-------|----------------|
| | | 75 (23.9) | | | 85 (29.4) | | | 95 (35) | | | 105 (40.6) | | | 115 (46.1) | | | 125 (51.7) | | |
| CFM | EWB °F(°C) | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** | Capacity MBtuh | | Total Sys KW** |
| | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | | Total | Sens‡ | |
| 1750 | 57 (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 (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* (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 (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 (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 (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 (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* (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 (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 (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 (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 (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* (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 (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 (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 |

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

Performance Data

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

‡ Sensible capacities shown are based on 80°F (27°C) entering air at the indoor coil. For sensible capacities at other than 80°F (27°C), deduct 835 Btuh (245 kW) per 1000 CFM (480 L/S) of indoor coil air for each degree below 80°F (27°C), or add 835 Btuh (245 kW) per 1000 CFM (480 L/S) of indoor coil air per degree above 80°F (27°C).

** System KW is total of indoor and outdoor unit kilowatts.

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:

4. The SHC is based on 80°F (26.6°C) edb temperature of air enteringevaporator 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 = $1.10 \times (1 + BF) \times (edb \text{ --- } 80)$.

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

Gas Adjustment
Natural Gas Orifice Sizes and Manifold Pressure - Single and Three Phase Models

| Nameplate Input (Btu/hr) | | Altitude of Installation (FT. Above Sea Level) |
|--------------------------|----------------------------|--|
| | | U.S.A.* 0 to 2000 (0-610 m) |
| 45,000 | Orifice No. (Qty) | 0.125-in. |
| | Manifold Press. (in. W.C.) | 3.2-3.8 |
| 60,000 | Orifice No. (Qty) | 28 (1) |
| | Manifold Press. (in. W.C.) | 3.2-3.8 |
| 89,000 | Orifice No. (Qty) | 18 (1) |
| | Manifold Press. (in. W.C.) | 3.2-3.8 |

*. Altitude of 2001ft and above is not allowed.

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

| Unit Size | Heating Rise °F (°C) | Motor Speed | Tap | Allowable Functions | ESP (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 (14 - 31) | Low† | Blue | Alternate Heating | CFM | 640 | 553 | 454 | 310 | --- | --- | --- | --- | --- | --- |
| | | | | | BHP | 0.07 | 0.08 | 0.08 | 0.09 | --- | --- | --- | --- | --- | |
| | | | | | Gas Heat Rise (°F) | 52 | NA | NA | NA | NA | NA | NA | NA | NA | |
| | | | | | Gas Heat Rise (°C) | 29 | NA | NA | NA | NA | NA | NA | NA | NA | |
| | | Med-Low‡ | Pink | Heating Alternate Cooling | CFM | 830 | 758 | 688 | 607 | 514 | 393 | 254 | --- | --- | --- |
| | | | | | BHP | 0.12 | 0.13 | 0.13 | 0.13 | 0.14 | 0.14 | 0.15 | --- | --- | --- |
| | | | | | Gas Heat Rise (°F) | 40 | 44 | 49 | 55 | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 22 | 25 | 27 | 31 | NA | NA | NA | NA | NA | NA |
| | | Medium** | Red | Cooling Alternate Heating | CFM | 1080 | 1025 | 969 | 910 | 852 | 787 | 718 | 638 | 541 | 457 |
| | | | | | BHP | 0.21 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.25 | 0.25 | 0.26 | 0.27 |
| | | | | | Gas Heat Rise (°F) | 31 | 33 | 35 | 37 | 39 | 43 | 47 | 52 | NA | NA |
| | | | | | Gas Heat Rise (°C) | 17 | 18 | 19 | 20 | 22 | 24 | 26 | 29 | NA | NA |
| | | Med-High | Orange | Alternate Cooling Alternate Heating | CFM | 1101 | 1046 | 993 | 936 | 878 | 816 | 749 | 676 | 599 | 498 |
| | | | | | BHP | 0.22 | 0.23 | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.28 |
| | | | | | Gas Heat Rise (°F) | 30 | 32 | 34 | 36 | 38 | 41 | 45 | 50 | NA | NA |
| | | High | Black | High Static Cooling Only | CFM | 1222 | 1173 | 1123 | 1072 | 1021 | 967 | 912 | 853 | 787 | 712 |
| BHP | 0.29 | | | | 0.29 | 0.30 | 0.31 | 0.31 | 0.32 | 0.33 | 0.34 | 0.34 | 0.34 | | |
| Gas Heat Rise (°C) | 17 | | | | 18 | 19 | 20 | 21 | 23 | 25 | 28 | NA | NA | | |
| 24060 | 25 - 55 (14 - 31) | Low† | Blue | | CFM | 640 | 553 | 454 | 310 | --- | --- | --- | --- | --- | --- |
| | | | | | BHP | 0.07 | 0.08 | 0.08 | 0.09 | --- | --- | --- | --- | --- | |
| | | | | | Gas Heat Rise (°F) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low | Pink | Alternate Cooling Alternate Heating | CFM | 830 | 758 | 688 | 607 | 514 | 393 | 254 | --- | --- | --- |
| | | | | | BHP | 0.12 | 0.13 | 0.13 | 0.13 | 0.14 | 0.14 | 0.15 | --- | --- | --- |
| | | | | | Gas Heat Rise (°F) | 54 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 30 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Medium** | Red | Cooling Alternate Heating | CFM | 1080 | 1025 | 969 | 910 | 852 | 787 | 718 | 638 | 541 | 457 |
| | | | | | BHP | 0.21 | 0.22 | 0.23 | 0.23 | 0.24 | 0.24 | 0.25 | 0.25 | 0.26 | 0.27 |
| | | | | | Gas Heat Rise (°F) | 41 | 44 | 46 | 49 | 52 | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 23 | 24 | 26 | 27 | 29 | NA | NA | NA | NA | NA |
| | | Med-High‡ | Orange | Heating Alternate Cooling | CFM | 1101 | 1046 | 993 | 936 | 878 | 816 | 749 | 676 | 599 | 498 |
| | | | | | BHP | 0.22 | 0.23 | 0.24 | 0.24 | 0.25 | 0.26 | 0.26 | 0.27 | 0.27 | 0.28 |
| | | | | | Gas Heat Rise (°F) | 41 | 43 | 45 | 48 | 51 | 55 | NA | NA | NA | NA |
| | | High | Black | High Static Cooling Only | CFM | 1222 | 1173 | 1123 | 1072 | 1021 | 967 | 912 | 853 | 787 | 712 |
| BHP | 0.29 | | | | 0.29 | 0.30 | 0.31 | 0.31 | 0.32 | 0.33 | 0.34 | 0.34 | 0.34 | | |

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

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

| Unit Size | Heating Rise °F (°C) | Motor Speed | Tap | Allowable Functions | ESP (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 (14 - 31) | Low† | Blue | Alternate Heating | CFM | 643 | 552 | 455 | 348 | 225 | --- | --- | --- | --- | --- |
| | | | | | BHP | 0.09 | 0.10 | 0.11 | 0.11 | 0.11 | --- | --- | --- | --- | --- |
| | | | | | Gas Heat Rise (°F) | 52 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 29 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low‡ | Pink | Heating Alternate Cooling | CFM | 817 | 744 | 673 | 597 | 516 | 431 | 325 | 190 | --- | --- |
| | | | | | BHP | 0.14 | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 0.18 | --- | --- |
| | | | | | Gas Heat Rise (°F) | 41 | 45 | 50 | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 23 | 25 | 28 | NA | NA | NA | NA | NA | NA | NA |
| | | Medium | Red | Alternate Cooling Alternate Heating | CFM | 1159 | 1104 | 1045 | 990 | 937 | 878 | 821 | 759 | 693 | 618 |
| | | | | | BHP | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 |
| | | | | | Gas Heat Rise (°F) | 29 | 30 | 32 | 34 | 36 | 38 | 41 | 44 | 48 | 54 |
| | | | | | Gas Heat Rise (°C) | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 25 | 27 | 30 |
| | | Med-High** | Orange | Cooling Alternate Heating | CFM | 1201 | 1147 | 1095 | 1037 | 987 | 934 | 877 | 818 | 755 | 671 |
| | | | | | BHP | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.40 |
| | | | | | Gas Heat Rise (°F) | 28 | 29 | 31 | 32 | 34 | 36 | 38 | 41 | 44 | 50 |
| | | | | | Gas Heat Rise (°C) | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 23 | 25 | 28 |
| | | High | Black | High Static Cooling Only | CFM | 1291 | 1236 | 1181 | 1131 | 1080 | 1033 | 978 | 909 | 792 | 661 |
| | | | | | BHP | 0.41 | 0.42 | 0.43 | 0.43 | 0.44 | 0.45 | 0.46 | 0.45 | 0.43 | 0.40 |
| 30060 | 25 - 55 (14 - 31) | Low† | Blue | | CFM | 643 | 552 | 455 | 348 | 225 | --- | --- | --- | --- | --- |
| | | | | | BHP | 0.09 | 0.10 | 0.11 | 0.11 | 0.11 | --- | --- | --- | --- | --- |
| | | | | | Gas Heat Rise (°F) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low | Pink | Alternate Cooling Alternate Heating | CFM | 817 | 744 | 673 | 597 | 516 | 431 | 325 | 190 | --- | --- |
| | | | | | BHP | 0.14 | 0.15 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 0.18 | --- | --- |
| | | | | | Gas Heat Rise (°F) | 55 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 30 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Medium‡ | Red | Heating Alternate Cooling | CFM | 1159 | 1104 | 1045 | 990 | 937 | 878 | 821 | 759 | 693 | 618 |
| | | | | | BHP | 0.31 | 0.32 | 0.33 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 |
| | | | | | Gas Heat Rise (°F) | 39 | 40 | 43 | 45 | 48 | 51 | 54 | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 21 | 22 | 24 | 25 | 26 | 28 | 30 | NA | NA | NA |
| | | Medium-High** | Orange | Cooling Alternate Heating | CFM | 1201 | 1147 | 1095 | 1037 | 987 | 934 | 877 | 818 | 755 | 671 |
| | | | | | BHP | 0.34 | 0.35 | 0.36 | 0.37 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.40 |
| | | | | | Gas Heat Rise (°F) | 37 | 39 | 41 | 43 | 45 | 48 | 51 | 55 | NA | NA |
| | | | | | Gas Heat Rise (°C) | 21 | 22 | 23 | 24 | 25 | 27 | 28 | 30 | NA | NA |
| | | High | Black | High Static Cooling Only | CFM | 1291 | 1236 | 1181 | 1131 | 1080 | 1033 | 978 | 909 | 792 | 661 |
| | | | | | BHP | 0.41 | 0.42 | 0.43 | 0.43 | 0.44 | 0.45 | 0.46 | 0.45 | 0.43 | 0.40 |

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

| Unit Size | Heating Rise °F (°C) | Motor Speed | Tap | Allowable Functions | ESP (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 (14 - 31) | Low† | Blue | Alternate Cooling, Alternate Gas Heating | CFM | 1096 | 1044 | 994 | 945 | 892 | 837 | 780 | 717 | 664 | 612 |
| | | | | | BHP | 0.14 | 0.15 | 0.16 | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.22 | 0.23 |
| | | | | | Gas Heat Rise (°F) | 41 | 43 | 45 | 47 | 50 | 53 | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 23 | 24 | 25 | 26 | 28 | 30 | NA | NA | NA | NA |
| | | Med-Low‡ | Pink | Gas Heating, Alternate Cooling | CFM | 1151 | 1103 | 1056 | 1002 | 953 | 897 | 845 | 788 | 729 | 678 |
| | | | | | BHP | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 | 0.21 | 0.22 | 0.23 | 0.24 | 0.25 |
| | | | | | Gas Heat Rise (°F) | 39 | 40 | 42 | 45 | 47 | 50 | 53 | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 22 | 22 | 23 | 25 | 26 | 28 | 29 | NA | NA | NA |
| | | Medium | Red | Alternate Cooling, Alternate Gas Heating | CFM | 1299 | 1252 | 1204 | 1155 | 1106 | 1059 | 1007 | 959 | 905 | 844 |
| | | | | | BHP | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 |
| | | | | | Gas Heat Rise (°F) | 34 | 36 | 37 | 39 | 40 | 42 | 44 | 47 | 49 | 53 |
| | | | | | Gas Heat Rise (°C) | 19 | 20 | 21 | 21 | 22 | 23 | 25 | 26 | 27 | 29 |
| | | Med-High** | Orange | Cooling, Alternate Gas Heating | CFM | 1382 | 1335 | 1292 | 1246 | 1202 | 1152 | 1106 | 1058 | 1007 | 957 |
| | | | | | BHP | 0.26 | 0.27 | 0.28 | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 |
| | | | | | Gas Heat Rise (°F) | 32 | 33 | 35 | 36 | 37 | 39 | 40 | 42 | 44 | 47 |
| | | | | | Gas Heat Rise (°C) | 18 | 19 | 19 | 20 | 21 | 22 | 22 | 23 | 25 | 26 |
| High | Black | High Static Cooling Only | CFM | 1530 | 1485 | 1442 | 1398 | 1354 | 1309 | 1263 | 1217 | 1169 | 1120 | | |
| | | | BHP | 0.33 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | | |
| 42060 | 25 - 55 (14 - 31) | Low† | Blue | Alternate Heating | CFM | 956 | 899 | 843 | 786 | 729 | 676 | 621 | 558 | 504 | 435 |
| | | | | | BHP | 0.13 | 0.13 | 0.14 | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 | 0.18 | 0.19 |
| | | | | | Gas Heat Rise (°F) | 47 | 50 | 53 | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 26 | 28 | 29 | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low‡ | Pink | Heating Alternate Cooling | CFM | 1201 | 1153 | 1107 | 1060 | 1012 | 965 | 917 | 871 | 828 | 782 |
| | | | | | BHP | 0.21 | 0.22 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 |
| | | | | | Gas Heat Rise (°F) | 37 | 39 | 40 | 42 | 44 | 46 | 49 | 51 | 54 | NA |
| | | | | | Gas Heat Rise (°C) | 21 | 22 | 22 | 23 | 25 | 26 | 27 | 28 | 30 | NA |
| | | Medium | Red | Alternate Cooling Alternate Heating | CFM | 1443 | 1402 | 1361 | 1322 | 1284 | 1243 | 1204 | 1164 | 1124 | 1084 |
| | | | | | BHP | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 |
| | | | | | Gas Heat Rise (°F) | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 40 | 41 |
| | | | | | Gas Heat Rise (°C) | 17 | 18 | 18 | 19 | 19 | 20 | 21 | 21 | 22 | 23 |
| | | Med-High** | Orange | Cooling Alternate Heating | CFM | 1529 | 1491 | 1451 | 1411 | 1376 | 1338 | 1300 | 1261 | 1223 | 1185 |
| | | | | | BHP | 0.37 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 |
| | | | | | Gas Heat Rise (°F) | 29 | 30 | 31 | 32 | 32 | 33 | 34 | 35 | 36 | 38 |
| | | | | | Gas Heat Rise (°C) | 16 | 17 | 17 | 18 | 18 | 19 | 19 | 20 | 20 | 21 |
| High | Black | High Static Cooling Only | CFM | 1604 | 1565 | 1529 | 1490 | 1455 | 1421 | 1385 | 1348 | 1310 | 1274 | | |
| | | | BHP | 0.42 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | | |

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

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

| Unit Size | Heating Rise °F (°C) | Motor Speed | Tap | Allowable Functions | ESP (in. W.C.) | | | | | | | | | | | |
|-----------|----------------------|--------------------------|--|--|--------------------|------|------|------|------|------|------|------|------|------|------|----|
| | | | | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1 | |
| 42090 | 35 - 65 (19 - 36) | Low† | Blue | | CFM | 956 | 899 | 843 | 786 | 729 | 676 | 621 | 558 | 504 | 435 | |
| | | | | | BHP | 0.13 | 0.13 | 0.14 | 0.15 | 0.16 | 0.16 | 0.17 | 0.18 | 0.18 | 0.19 | |
| | | | | | Gas Heat Rise (°F) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low | Pink | Alternate Cooling Alternate Heating | CFM | 1201 | 1153 | 1107 | 1060 | 1012 | 965 | 917 | 871 | 828 | 782 | |
| | | | | | BHP | 0.21 | 0.22 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 0.27 | 0.28 | 0.29 | |
| | | | | | Gas Heat Rise (°F) | 56 | 58 | 60 | 63 | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | 31 | 32 | 34 | 35 | NA | NA | NA | NA | NA | NA | NA |
| | | Medium‡ | Red | Heating Alternate Cooling | CFM | 1443 | 1402 | 1361 | 1322 | 1284 | 1243 | 1204 | 1164 | 1124 | 1084 | |
| | | | | | BHP | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | 0.39 | 0.40 | 0.42 | |
| | | | | | Gas Heat Rise (°F) | 46 | 48 | 49 | 51 | 52 | 54 | 56 | 58 | 60 | 62 | |
| | | | | | Gas Heat Rise (°C) | 26 | 27 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | |
| | Med-High** | Orange | Cooling Alternate Heating | CFM | 1529 | 1491 | 1451 | 1411 | 1376 | 1338 | 1300 | 1261 | 1223 | 1185 | | |
| | | | | BHP | 0.37 | 0.39 | 0.40 | 0.41 | 0.42 | 0.43 | 0.44 | 0.45 | 0.46 | 0.47 | | |
| | | | | Gas Heat Rise (°F) | 44 | 45 | 46 | 47 | 49 | 50 | 52 | 53 | 55 | 57 | | |
| | | | | Gas Heat Rise (°C) | 24 | 25 | 26 | 26 | 27 | 28 | 29 | 29 | 30 | 31 | | |
| High | Black | High Static Cooling Only | CFM | 1604 | 1565 | 1529 | 1490 | 1455 | 1421 | 1385 | 1348 | 1310 | 1274 | | | |
| | | | BHP | 0.42 | 0.44 | 0.45 | 0.46 | 0.47 | 0.48 | 0.49 | 0.50 | 0.51 | 0.52 | | | |
| 48090 | 35 - 65 (19 - 36) | Low† | Blue | | CFM | 641 | 551 | 462 | 385 | 289 | 216 | 115 | --- | --- | | |
| | | | | | BHP | 0.05 | 0.06 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | --- | --- | |
| | | | | | Gas Heat Rise (°F) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| | | | | | Gas Heat Rise (°C) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| | | Med-Low‡ | Pink | Heating Alternate Cooling | CFM | 1437 | 1395 | 1351 | 1307 | 1265 | 1221 | 1176 | 1132 | 1084 | 1039 | |
| | | | | | BHP | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 | |
| | | | | | Gas Heat Rise (°F) | 47 | 48 | 50 | 51 | 53 | 55 | 57 | 59 | 62 | 64 | |
| | | | | | Gas Heat Rise (°C) | 26 | 27 | 28 | 28 | 29 | 30 | 32 | 33 | 34 | 36 | |
| | | Medium** | Red | Cooling Alternate Heating | CFM | 1771 | 1735 | 1699 | 1664 | 1627 | 1592 | 1557 | 1522 | 1486 | 1450 | |
| | | | | | BHP | 0.51 | 0.52 | 0.53 | 0.55 | 0.56 | 0.57 | 0.58 | 0.59 | 0.61 | 0.62 | |
| | | | | | Gas Heat Rise (°F) | 38 | 39 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | |
| | | | | | Gas Heat Rise (°C) | 21 | 21 | 22 | 22 | 23 | 23 | 24 | 24 | 25 | 26 | |
| | Med-High | Orange | Alternate Cooling Alternate Heating | CFM | 1928 | 1897 | 1862 | 1830 | 1796 | 1764 | 1732 | 1698 | 1620 | 1512 | | |
| | | | | BHP | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.71 | 0.66 | | |
| | | | | Gas Heat Rise (°F) | 35 | 35 | 36 | 37 | 37 | 38 | 39 | 39 | 41 | 44 | | |
| | | | | Gas Heat Rise (°C) | 19 | 20 | 20 | 20 | 21 | 21 | 21 | 22 | 23 | 25 | | |
| High | Black | High Static Cooling Only | CFM | 2212 | 2167 | 2124 | 2061 | 1976 | 1892 | 1794 | 1699 | 1567 | 1438 | | | |
| | | | BHP | 0.97 | 0.99 | 1.00 | 0.97 | 0.95 | 0.91 | 0.86 | 0.82 | 0.77 | 0.71 | | | |

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

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

| Unit Size | Heating Rise °F (°C) | Motor Speed | Tap | Allowable Functions | ESP (in. W.C.) | | | | | | | | | | |
|-----------|----------------------|-------------|--------|--|--------------------|------|------|------|------|------|------|------|------|------|------|
| | | | | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | 1 |
| 60090 | 35 - 65 (19 - 36) | Low† | Blue | Alternate Heating | CFM | 641 | 551 | 462 | 385 | 289 | 216 | 163 | 115 | --- | --- |
| | | | | | BHP | 0.05 | 0.06 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | 0.09 | --- | --- |
| | | | | | Gas Heat Rise (°F) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | | | | Gas Heat Rise (°C) | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | | Med-Low‡ | Pink | Heating Alternate Cooling | CFM | 1437 | 1395 | 1351 | 1307 | 1265 | 1221 | 1176 | 1132 | 1084 | 1039 |
| | | | | | BHP | 0.29 | 0.30 | 0.31 | 0.32 | 0.33 | 0.34 | 0.35 | 0.36 | 0.37 | 0.38 |
| | | | | | Gas Heat Rise (°F) | 47 | 48 | 50 | 51 | 53 | 55 | 57 | 59 | 62 | 64 |
| | | | | | Gas Heat Rise (°C) | 26 | 27 | 28 | 28 | 29 | 30 | 32 | 33 | 34 | 36 |
| | | Medium** | Red | Cooling Alternate Heating | CFM | 1914 | 1881 | 1848 | 1814 | 1780 | 1748 | 1716 | 1681 | 1619 | 1512 |
| | | | | | BHP | 0.62 | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.71 | 0.66 |
| | | | | | Gas Heat Rise (°F) | 35 | 36 | 36 | 37 | 38 | 38 | 39 | 40 | 41 | 44 |
| | | | | | Gas Heat Rise (°C) | 19 | 20 | 20 | 21 | 21 | 21 | 22 | 22 | 23 | 25 |
| | | Med-High | Orange | Alternate Cooling Alternate Heating | CFM | 1928 | 1897 | 1862 | 1830 | 1796 | 1764 | 1732 | 1698 | 1620 | 1512 |
| | | | | | BHP | 0.64 | 0.65 | 0.67 | 0.68 | 0.69 | 0.71 | 0.72 | 0.73 | 0.71 | 0.66 |
| | | | | | Gas Heat Rise (°F) | 35 | 35 | 36 | 37 | 37 | 38 | 39 | 39 | 41 | 44 |
| | | | | | Gas Heat Rise (°C) | 19 | 20 | 20 | 20 | 21 | 21 | 21 | 22 | 23 | 25 |
| | | High | Black | High Static Cooling Only | CFM | 2212 | 2167 | 2124 | 2061 | 1976 | 1892 | 1794 | 1699 | 1567 | 1438 |
| | | | | | BHP | 0.97 | 0.99 | 1.00 | 0.97 | 0.95 | 0.91 | 0.86 | 0.82 | 0.77 | 0.71 |

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

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

† Factory-shipped continuous fan speed

‡ Factory-shipped heating speed

** Factory-shipped cooling speed

"High Static Cooling" = Only to be used for cooling function (not allowed for heating function)

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

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

| Unit Size | Standard CFM (SCFM) | | | | | | | | | | | | | | | | | |
|-----------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 | |
| 24 | 0.03 | 0.04 | 0.04 | 0.05 | 0.06 | | | | | | | | | | | | | |
| 30 | | | | 0.05 | 0.06 | 0.07 | 0.08 | 0.11 | | | | | | | | | | |
| 36 | | | | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | | | | | | | | | |
| 42 | | | | | 0.05 | 0.05 | 0.06 | 0.07 | 0.08 | 0.08 | 0.09 | 0.09 | 0.11 | | | | | |
| 48 | | | | | | | 0.04 | 0.05 | 0.05 | 0.06 | 0.07 | 0.07 | 0.08 | 0.09 | 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 Tons | Standard CFM (SCFM) | | | | | | | | | | | | | | | | |
|--|---------------------|---------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 |
| 600-1400 CFM 12x20x1+12x20x1 (305x508x25+305x508x25) | 2.0, 2.5 | - | - | 0.08 | 0.09 | 0.10 | 0.11 | 0.11 | 0.13 | 0.14 | - | - | - | - | - | - | - | - |
| 1200-1800CFM 16x24x1+14x24x1 (406x610x25+356x610x25) | 3.5 | - | - | - | - | - | 0.09 | 0.09 | 0.10 | 0.12 | 0.13 | 0.15 | 0.17 | 0.17 | 0.19 | 0.21 | - | - |
| 1500-2200CFM 16x24x1+18x24x1 (406x610x25+457x610x25) | 3.0, 4.0, 5.0 | - | - | - | - | - | - | - | - | - | 0.15 | 0.17 | 0.18 | 0.20 | 0.21 | 0.22 | 0.23 | 0.23 |

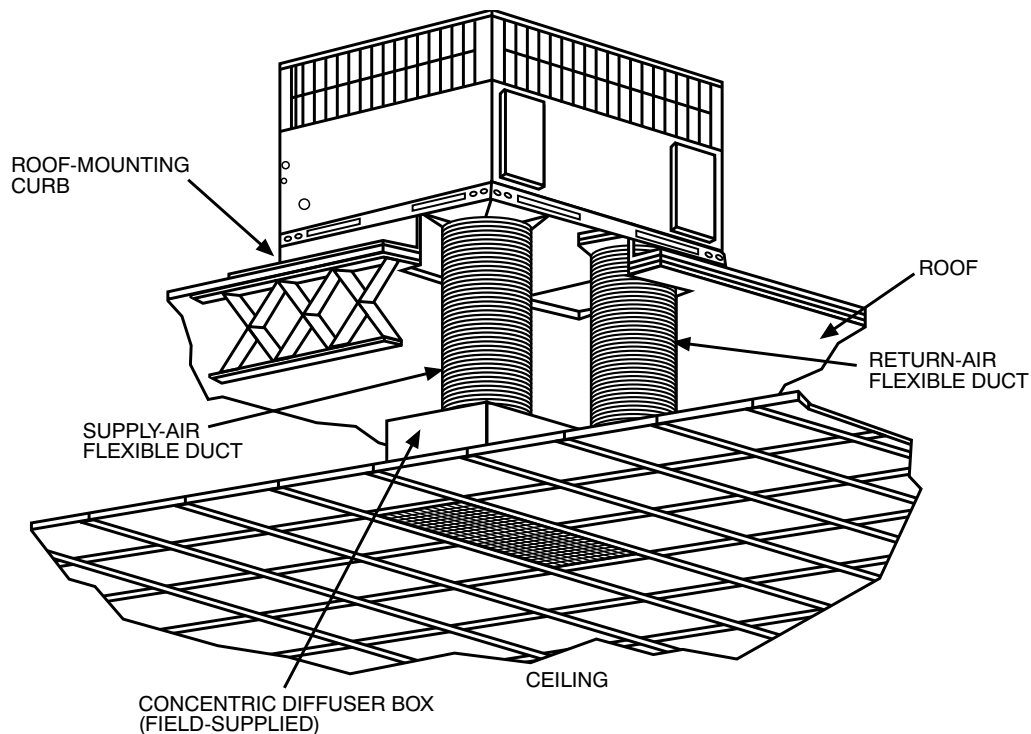
Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

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

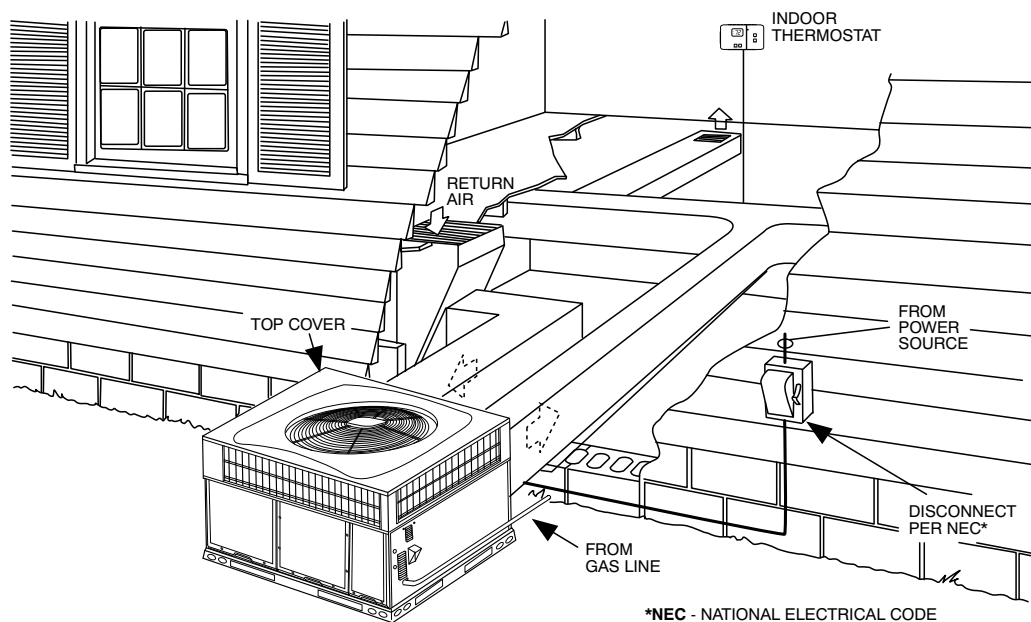
| Filter Size in. (mm) | Cooling Tons | Standard CFM (SCFM) | | | | | | | | | | | | | | | | |
|---|-------------------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 | 1900 | 2000 | 2100 | 2200 |
| 600-1400CFM 12x20x1+12x20x1 (305x508x25+305x508x25) | 2.0, 2.5 | 0.03 | 0.05 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.16 | - | - | - | - | - | - | - | - |
| 1200-1800 CFM 16x24x1+14x24x1 (406x610x25+356x610x25) | 3.5 | - | - | - | - | - | - | 0.07 | 0.08 | 0.09 | 0.09 | 0.10 | 0.11 | 0.12 | - | - | - | - |
| 1100-2200 CFM 16x24x1+18x24x1 (406x610x25+457x610x25) | 3.0 4.0 5.0 | - | - | - | - | - | 0.02 | 0.02 | 0.03 | 0.03 | 0.04 | 0.06 | 0.08 | 0.10 | 0.11 | 0.13 | 0.14 | 0.15 |

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

Typical Piping and Wiring



A09230



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 V-PH-HZ | VOLTAGE RANGE | | COMPRESSOR | | OFM | IFM | IDM | POWER SUPPLY | |
|-----------------|--------------------|---------------|-----|------------|------|------|-----|-----|--------------|------|
| | | MIN | MAX | RLA | LRA | FLA | FLA | FLA | MCA | MOCP |
| 24040, 24060 | 208/230-1-60 | 197 | 253 | 11.1 | 59.5 | 0.6 | 3.9 | 0.7 | 18.4 | 25 |
| 30040, 30060 | 208/230-1-60 | 197 | 253 | 14.1 | 67.9 | 1.05 | 3.9 | 0.7 | 22.6 | 30 |
| 36060 | 208/230-1-60 | 197 | 253 | 14.7 | 75 | 1.05 | 3.8 | 0.7 | 23.3 | 35 |
| 36060 | 208/230-3-60 | 197 | 253 | 8.5 | 70 | 1.05 | 3.8 | 0.7 | 15.5 | 25 |
| 42060, 42090 | 208/230-1-60 | 197 | 253 | 16.7 | 109 | 1.05 | 5.8 | 0.7 | 27.8 | 40 |
| 42060, 42090 | 208/230-3-60 | 197 | 253 | 11.2 | 84 | 1.05 | 5.8 | 0.7 | 20.9 | 30 |
| 48090 | 208/230-1-60 | 197 | 253 | 19.6 | 130 | 1.05 | 6.9 | 0.7 | 32.5 | 50 |
| 48090 | 208/230-3-60 | 197 | 253 | 13.7 | 83.1 | 1.05 | 6.9 | 0.7 | 25.1 | 35 |

LEGEND

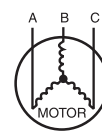
FLA - Full Load Amps
 IDM - Inducer Motor
 IFM - Indoor Fan Motor
 LRA - Locked Rotor Amps
 MCA - Minimum Circuit Amps
 MOCP - Maximum Over Current Protection
 OFM - Outdoor Fan Motor
 RLA - Rated Load Amps

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

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

EXAMPLE: Supply voltage is 230-3-60.



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

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

Determine maximum deviation from average voltage.

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

Maximum deviation is 2 v.

Determine percent of voltage imbalance

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

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

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

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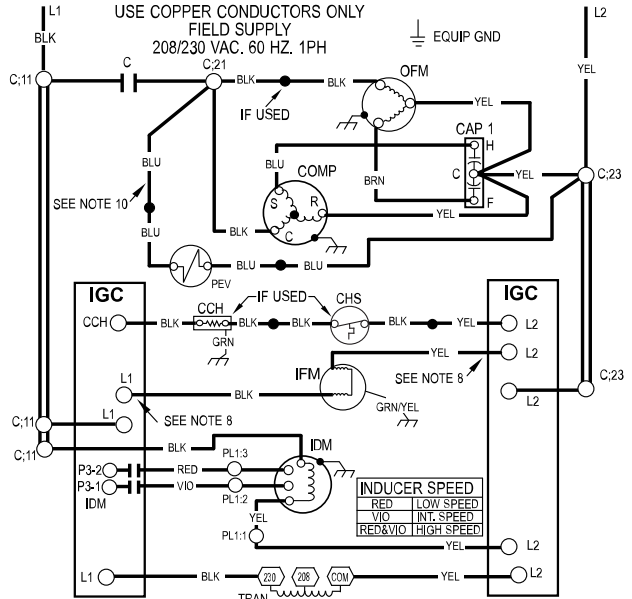
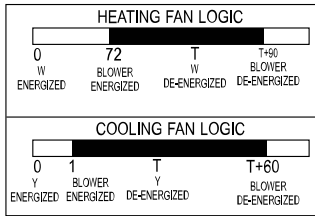
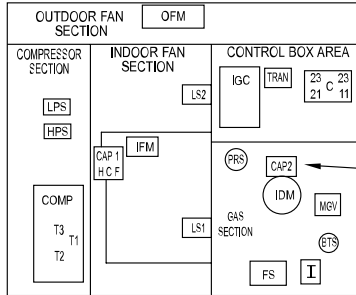
Ladder Wiring Schematic 208/230-1-60

LADDER WIRING DIAGRAM

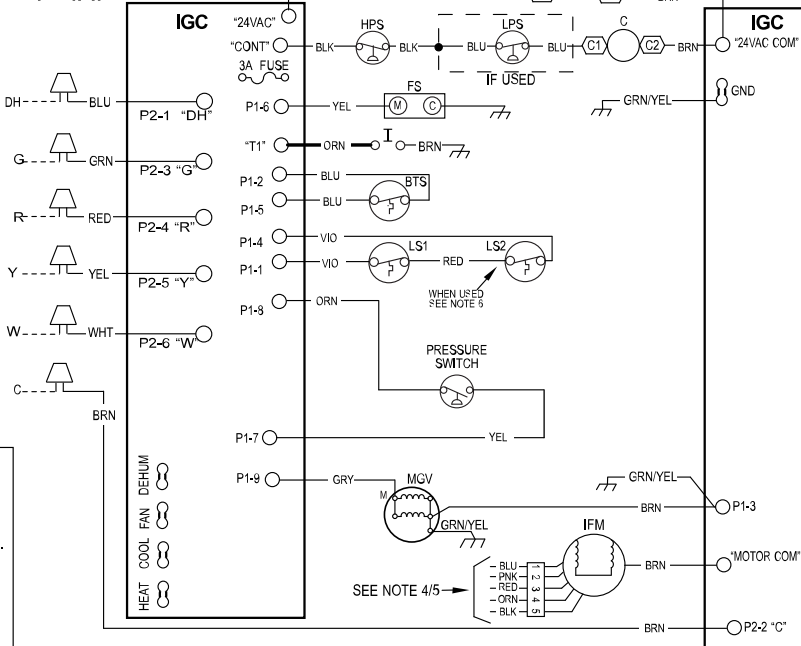
DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING

| LEGEND | | | |
|--------|--------------------------------|--------|------------------------------------|
| | FIELD SPLICE | CONT | COMPRESSOR CONTACTOR |
| | TERMINAL (MARKED) | EQUIP | EQUIPMENT |
| | TERMINAL (UNMARKED) | FS | FLAME SENSOR |
| | SPLICE | GND | GROUND |
| | SPLICE (MARKED) | HPS | HIGH PRESSURE SWITCH |
| | FACTORY LO VOLTAGE | I | IGNITOR |
| | FIELD CONTROL WIRING | IDM | INDUCED DRAFT MOTOR |
| | FIELD POWER WIRING | IFM | INDOOR FAN MOTOR |
| | ACCESSORY OR OPTIONAL WIRING | IGC | INTEGRATED GAS UNIT CONTROLLER |
| | FACTORY HI VOLTAGE | LPS | LOW PRESSURE SWITCH |
| | BURNER THERMAL SWITCH | LS1 | PRIMARY LIMIT SWITCH |
| | CONTACTOR | LS2 | SECONDARY LIMIT SWITCH |
| | CAPACITOR, COMP | MGV | MAIN GAS VALVE |
| | CAPACITOR, INDUCER (WHEN USED) | OFM | OUTDOOR FAN MOTOR |
| | CRANKCASE HEATER | OT | QUADRUPLE TERMINAL |
| | CRANKCASE HEATER SWITCH | PEV | PRESSURE EQUALIZER VALVE (IF USED) |
| | COMPRESSOR MOTOR | TRAN | TRANSFORMER |
| | | T-STAT | THERMOSTAT |

1Ø UNIT COMPONENT ARRANGEMENT



T-STAT



NOTES:

- IF ANY OF THE ORIGINAL WIRES FURNISHED ARE REPLACED THEY MUST BE REPLACED WITH THE SAME WIRE OR IT'S 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.
- PEV FOUND ON SELECT ROTARY COMPRESSORS.
- INDUCER MOTOR USES A 230V CONTROL SIGNAL.



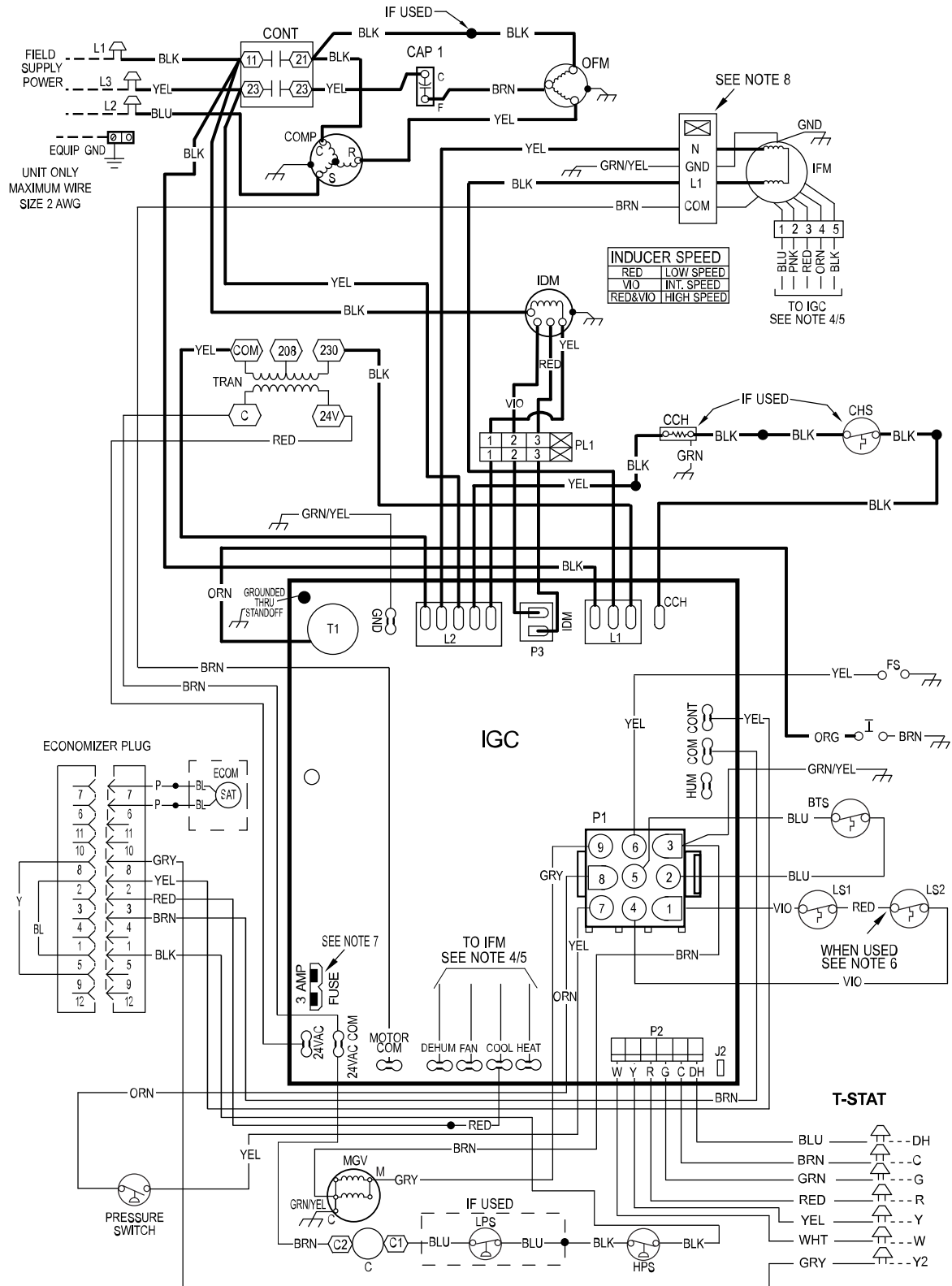
345854-101 REV. D

345854-101 REV. D



Connection Wiring Schematic 208/230-3-60

CONNECTION WIRING DIAGRAM DANGER: ELECTRICAL SHOCK HAZARD DISCONNECT POWER BEFORE SERVICING SCHEMATIC 208/230-3-60



Controls

Operating Sequence

Heating Sequence of Operation (Ultra Low NOx Single and Three Phase Models)

On a call for heating, terminal W of the thermostat is energized, starting the induced-draft motor for a 30 second pre-purge at intermediate speed. 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).

After 30 sec of pre-purge is complete, the pressure switch checks for sufficient combustion. Then, the gas valve energizes and the system attempts to ignite with igniter being energized. The igniter energizes for 5 sec and integrated gas controller (IGC) allows system to sense flame for 2 sec at the end of 5 sec of ignition trial. On first successful ignition, system stays at the intermediate inducer speed for 10 sec and gradually ramps up to the high speed for steady-state operation. The system uses the same logic for 2nd ignition trial. If a 3rd or 4th ignition attempt is needed, the inducer speed is decreased to the low speed. On a successful light on the 3rd or 4th attempt, the inducer speed is increased to the intermediate speed for about 10 seconds and then gradually ramps up to the high speed for steady-state operation. In case the 4th attempt fails, the system will lock out for 1 hr. After 1 hr. lock out period, the system starts with normal operating sequence. Once flame is established and proven successfully, indoor (evaporator) fan motor is energized after 30 seconds. When the thermostat is satisfied and W is de-energized, the pre-mix burner will 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 decrease the indoor (evaporator) fan motor "ON" delay and increase the indoor (evaporator) fan motor "OFF" delay in the event of high duct static and/or partially-clogged filter.

Cooling Sequence of Operation

With the room thermostat SYSTEM switch in the COOL position and the FAN switch in the AUTO position, the cooling sequence of operation is as follows:

1. When the room temperature rises to a point that is slightly above the cooling control setting of the thermostat, the thermostat completes the circuit between thermostat terminal R to terminals Y and G.
2. The normally open contacts of energized contactor (C) close and complete the circuit through compressor motor (COMP) to condenser (outdoor) fan motor (OFM). Both motors start instantly.
3. The set of normally open contacts on the interface fan board (IFB) are closed which energizes a circuit to the indoor fan motor (IFM).

NOTE: Once the compressor has started and then stopped, it should not be started again until 5 minutes have elapsed. The cooling cycle remains on until the room temperature drops to a point that is slightly below the cooling control setting of the room thermostat. At this point, the thermostat breaks the circuit between thermostat terminal R to terminals Y and G. These open circuits deenergize contactor coil C. The condenser and compressor motors stop. After a 60-sec. delay, the blower motor stops. The unit is in a standby condition, waiting for the next call for cooling from the room thermostat.

Guide Specifications

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

Size Range: 2 to 5 Tons, Nominal Cooling

60,000 to 90,000 Btuh,

Nominal Heating Input

General

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

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

DELIVERY, STORAGE AND HANDLING

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

Products

EQUIPMENT

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.

Unit Cabinet:

- Unit cabinet shall be constructed of phosphated, zinc-coated, pre-painted steel capable of with-standing 500 hours in salt spray.
- Normal service shall be through 3 removable cabinet panels.
- The unit shall be constructed on a rust proof unit base that has an externally trapped, integrated sloped drain.
- 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.
- Unit shall have a field-supplied condensate trap.

Fans:

- The evaporator fan shall be a multi-speed, direct-drive, as shown on equipment drawings.
- 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.
- Condenser fan shall be direct drive propeller type with aluminum blades riveted to corrosion resistant steel spiders, be dynamically balanced, and discharge air vertically.

Compressor:

- Fully hermetic compressors with factory-installed vibration isolation.

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.

Heating Section:

- Induced-draft combustion type with energy saving direct spark ignition system and redundant main gas valve.
- Induced-draft motors shall provide adequate airflow for combustion.
- The heat exchangers shall be constructed of stainless steel for corrosion resistance.
- Pre-mixed burners shall be stainless steel and other alloys.
- All gas piping and electric power shall enter the unit cabinet at a single location.

Refrigerant Components:

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

Filters:

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

Controls and Safeties:

- Unit controls shall be complete with a self-contained low voltage control circuit.
- Compressors shall incorporate a solid-state compressor protector that provides reset capability.

Operating Characteristics:

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

Electrical Requirements:

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

Motors:

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

Compressor Protection:

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

Guide Specifications (Continued)

Ultra Low NOx:

Shall provide NOx reduction to meet 14ng/J NOx emissions requirements as shipped from the factory.

Special Features Available:

1. Coil Options
Base unit with tin plated indoor coil hairpins available as a factory installed option.
2. Compressor Start Kit (single phase units only):
Shall provide additional starting torque for single-phase compressors.
3. Thermostat:
To provide for one-stage heating and cooling in addition manual or automatic changeover and indoor fan control.
4. Crankcase Heater:
Shall provide anti-floodback protection for low-load cooling applications.
5. 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.
6. Filter Rack Kit:
Shall provide filter mounting for downflow applications. Offered as a field installed accessory.
7. Flat Roof Curb:
Curbs shall have seal strip and a wood nailer for flashing and shall be installed per manufacturer's instructions.
8. Flue Discharge Deflector
Directs flue gas exhaust; 90 degrees upward from current discharge.
9. 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.
10. Manual Outdoor Air Damper:
Package shall consist of damper, birdscreen, and rainhood which can be preset to admit outdoor air for year-round ventilation.
11. Square-To-Round Duct Transitions (24-48 models):
Shall have the ability to convert the supply and return openings from rectangular to round.
12. Time Guard II
Automatically prevents the compressor from restarting for at least 4 minutes and 45 seconds after shutdown of the compressor. Not required when a corporate programmable thermostat is applied or with a RTU-MP control. Offered as a field installed accessory.
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.

