



Product Catalog

# Packaged Rooftop Air Conditioners Precedent™ Heat Pump

High Efficiency

12.5 to 25 Tons — 60 Hz





# Introduction

## Packaged Heat Pumps

Trane's customers demand products that provide exceptional reliability, meet stringent performance requirements, and are competitively priced. Trane delivers with Precedent™.

Precedent™ features cutting edge technologies: reliable compressors, Trane engineered Symbio controls, computer-aided run testing, and Integrated Comfort™ Systems. So, whether you're the contractor, the engineer, or the owner you can be certain Precedent™ products are built to meet your needs.

The Precedent product is designed for comfort cooling, mixed air applications. If the product is being considered for other types of applications, such as process cooling, dedicated outdoor air, indoor agriculture, etc. Consult with your local Trane Sales Representative. Applying the units in an unintended application could result in inadequate performance and/or premature component failures.

Through the years, Trane has designed and developed the most complete line of Packaged Rooftop products available in the market today. Trane was the first to introduce the Micro—microelectronic unit controls—and has continued to improve and revolutionize this design concept.

Symbio control platform offers the same great features and functionality as the original Micro, with additional benefits for greater application flexibility.

With its sleek, compact cabinet, Precedent™ continues to provide the highest standards in quality and reliability, comfort, ease of service, and the performance of Trane light commercial products.

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## Revision History

- Added W/DHJ\* features in Features and Benefits chapter.
- Added CompleteCoat Condenser Coil, Dual Fuel Operation, High Altitude Kit, LP Conversion Kit, Through-the-Base Gas Access and Ventilation Override topics in Features and Benefits.
- Added Humidity Control (HGRH) topic in Features and Benefits and in Controls chapters.
- Added Dual Fuel information in Model Number Description, General Data, Evaporator Fan Performance, Fan Performance, Heating Performance, Electrical Data and in Weights chapter.
- Added Evaporator Fan Performance - Dual Fuel chapter.
- Added Gas Heating Section, Heat Exchanger and Stainless Steel Heat Exchanger in Mechanical Specification chapter.



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# Features and Benefits

## Features

**Table 1. Precedent™ features – standard and optional**

|                                                                        | Standard Features | Options           |                            |                 |
|------------------------------------------------------------------------|-------------------|-------------------|----------------------------|-----------------|
|                                                                        |                   | Factory Installed | Factory or Field Installed | Field Installed |
| 3-year Limited Parts Warranty                                          | X                 |                   |                            |                 |
| 5-year Limited Compressor Warranty                                     | X                 |                   |                            |                 |
| 10-year Limited Heat Exchanger Warranty <sup>(a)</sup>                 |                   | X                 |                            |                 |
| 15-year Limited Warranty Stainless Steel Heat Exchanger <sup>(a)</sup> |                   | X                 |                            |                 |
| 2 inch Filter                                                          | X                 |                   |                            |                 |
| 2 inch MERV 8 Filters                                                  |                   | X                 |                            |                 |
| 2 inch MERV 13 Filters                                                 |                   | X                 |                            |                 |
| Access Doors                                                           |                   | X                 |                            |                 |
| Access Door (Control Box)                                              | X                 |                   |                            |                 |
| Access Panels                                                          | X                 |                   |                            |                 |
| Anti-Short Cycle Timer (Standard with Symbio)                          | X                 |                   |                            |                 |
| Barometric Relief                                                      |                   |                   | X                          |                 |
| CO <sub>2</sub> Sensor                                                 |                   |                   |                            | X               |
| Clogged Filter Switch <sup>(b)</sup>                                   |                   |                   | X                          |                 |
| Coil guards                                                            | X                 |                   |                            |                 |
| CompleteCoat™ Condenser Coil                                           |                   | X                 |                            |                 |
| Condensate Overflow Switch <sup>(c)</sup>                              |                   |                   | X                          |                 |
| Convertible Airflow <sup>(d)</sup>                                     | X                 |                   |                            |                 |
| Colored and Numbered Wiring                                            | X                 |                   |                            |                 |
| Crankcase Heaters                                                      | X                 |                   |                            |                 |
| Direct Drive Plenum Fan                                                | X                 |                   |                            |                 |
| Discharge Air Temperature Sensing Kit — MZVAV, SZVAV, Economizer       | X                 |                   |                            |                 |
| Discharge Air Temperature Sensing Kit — Standard (Multispeed)          |                   |                   | X                          |                 |
| Economizer: Low Leak — Downflow (12.5 to 25 Tons) <sup>(b)</sup>       |                   |                   | X                          |                 |
| Economizer: Low Leak — Horizontal (12.5 to 25 Tons) <sup>(b)</sup>     |                   |                   |                            | X               |
| Economizer: Standard — Downflow (12.5 to 25 Tons) <sup>(b)</sup>       |                   |                   | X                          |                 |
| Economizer: Standard — Horizontal (12.5 to 25 Tons) <sup>(b)</sup>     |                   |                   |                            | X               |
| Electric Heater <sup>(e) (c)</sup>                                     |                   |                   | X                          |                 |
| Expansion Modules <sup>(f)</sup>                                       |                   |                   | X                          |                 |
| Fault Detection and Diagnostics (FDD) <sup>(g)</sup>                   | X                 |                   |                            |                 |
| Filter Removal Tool                                                    | X                 |                   |                            |                 |
| Foil-Faced and Edge Protected Insulation                               | X                 |                   |                            |                 |
| Frostat™                                                               | X                 |                   |                            |                 |
| High Pressure Control                                                  | X                 |                   |                            |                 |
| High Altitude Kit <sup>(a)</sup>                                       |                   |                   |                            | X               |
| High Static/Oversized Motor <sup>(h)</sup>                             |                   | X                 |                            |                 |
| High Temperature Sensor                                                |                   |                   |                            | X               |
| Humidity Control (HGRH)                                                |                   | X                 |                            |                 |
| IAQ Dual Sloped Composite Drain Pan                                    | X                 |                   |                            |                 |
| Liquid Line Refrigerant Drier                                          | X                 |                   |                            |                 |
| Low Ambient Cooling to 0°F                                             |                   |                   | X                          |                 |
| Low Ambient Cooling to 40°F                                            | X                 |                   |                            |                 |



## Features and Benefits

**Table 1. Precedent™ features – standard and optional (continued)**

|                                                     | Standard Features | Options           |                            |                 |
|-----------------------------------------------------|-------------------|-------------------|----------------------------|-----------------|
|                                                     |                   | Factory Installed | Factory or Field Installed | Field Installed |
| Low Pressure Control                                | X                 |                   |                            |                 |
| LP Conversion Kit <sup>(a)</sup>                    |                   |                   |                            | X               |
| Manual Outside Air Damper                           |                   |                   | X                          |                 |
| Motorized Outside Air Damper                        |                   |                   | X                          |                 |
| Multispeed Direct Drive Motors                      | X                 |                   |                            |                 |
| Operating Charge of R-410A                          | X                 |                   |                            |                 |
| Phase Balance/Loss/Reversal Protection              | X                 |                   |                            |                 |
| Phase Monitor                                       | X                 |                   |                            |                 |
| Powered Exhaust                                     |                   |                   |                            | X               |
| Powered or Unpowered Convenience Outlet             |                   | X                 |                            |                 |
| Reference or Comparative Enthalpy                   |                   |                   | X                          |                 |
| Roof Curb                                           |                   |                   |                            | X               |
| Single Point Power                                  | X                 |                   |                            |                 |
| Single Side Service                                 | X                 |                   |                            |                 |
| Smoke Detector - Return <sup>(b)</sup>              |                   | X                 |                            |                 |
| Smoke Detector - Supply <sup>(c)</sup>              |                   | X                 |                            |                 |
| Stainless Steel Drain Pan                           |                   | X                 |                            |                 |
| Standardized Components                             | X                 |                   |                            |                 |
| Symbio Controls                                     | X                 |                   |                            |                 |
| Thermal Expansion Valve                             | X                 |                   |                            |                 |
| Through-the-Base Electrical Access                  |                   | X                 |                            |                 |
| Through-the-Base Electrical with Circuit Breaker    |                   | X                 |                            |                 |
| Through-the-Base Electrical with Disconnect Switch  |                   | X                 |                            |                 |
| Through-the-Base Gas Piping <sup>(a)</sup>          |                   | X                 |                            |                 |
| Tubular Gas Heat Exchanger <sup>(a)</sup>           |                   | X                 |                            |                 |
| Variable Air Flow (SZVAV)/Variable Air Flow (MZVAV) |                   | X                 |                            |                 |
| Ventilation Override <sup>(i)</sup>                 |                   |                   |                            | X               |

(a) Only available on DSJ\* models.

(b) Includes Symbio Fresh Air Options Module.

(c) Includes Symbio Indoor Options Module.

(d) Factory ships in downflow. For W/DHJ150-300 units where horizontal airflow is required, FIAHZDC001\* (Horizontal Conversion Panel) is required.

(e) Only available on WSJ\* models.

(f) Requires Tracer TU and utilizes TGP2 software.

(g) Fault Detection and Diagnostics (FDD) requires Advanced Controller (either Digit 21=1 for BACnet or 21=3 for Air-Fi).

(h) Available on 25 ton units.

(i) Requires FIASCCM001 accessory.

## Control Options

**Table 2. Precedent™ control options — standard and optional**

|                                           | Standard Features | Options           |                            |                 |
|-------------------------------------------|-------------------|-------------------|----------------------------|-----------------|
|                                           |                   | Factory Installed | Factory or Field Installed | Field Installed |
| Dual Thermistor Remote Zone Sensor        |                   |                   |                            | X               |
| Symbio Service and Installation App       | X                 |                   |                            |                 |
| Symbio 700 Advanced Module <sup>(a)</sup> |                   |                   | X                          |                 |
| Humidity Sensor/Humidistat                |                   |                   |                            | X               |
| Thermostat                                |                   |                   |                            | X               |

**Table 2. Precedent™ control options — standard and optional (continued)**

|                                                                      | Standard Features | Options           |                            |                 |
|----------------------------------------------------------------------|-------------------|-------------------|----------------------------|-----------------|
|                                                                      |                   | Factory Installed | Factory or Field Installed | Field Installed |
| Wireless Zone Sensor                                                 |                   |                   |                            | X               |
| Zone Sensor                                                          |                   |                   |                            | X               |
| LonTalk® Communication Interface (LCI) <sup>(b)</sup>                |                   |                   | X                          |                 |
| Trane® Air-Fi® Wireless Communication Interface (WCI) <sup>(b)</sup> |                   |                   | X                          |                 |

**Note:** For more information, reference the Controls chapter.

<sup>(a)</sup> Symbio 700 Advanced Module includes BACnet MS/TP or IP communication protocols.

<sup>(b)</sup> Requires Symbio 700 Advanced Module (MOD03103).

## Accessories

| FIA KIT #S                | DESCRIPTION                                              | Used With Cabinets | Used With Models |
|---------------------------|----------------------------------------------------------|--------------------|------------------|
| FIAEHWD318 <sup>(a)</sup> | 18kW, 208-230V Electric Heater                           | D                  | WHJ150A3-180A3   |
| FIAEHWD336 <sup>(a)</sup> | 36kW, 208-230V Electric Heater                           | D                  | WHJ150A3-300A3   |
| FIAEHWD354 <sup>(a)</sup> | 54kW, 208-230V Electric Heater                           | D                  | WHJ150A3-300A3   |
| FIAEHWD372 <sup>(a)</sup> | 72kW, 208-230V Electric Heater                           | D                  | WHJ210A3-300A3   |
| FIAEHWD418 <sup>(a)</sup> | 18kW, 460V Electric Heater                               | D                  | WHJ150A4-180A4   |
| FIAEHWD436 <sup>(a)</sup> | 36kW, 460V Electric Heater                               | D                  | WHJ150A4-300A4   |
| FIAEHWD454 <sup>(a)</sup> | 54kW, 460V Electric Heater                               | D                  | WHJ150A4-300A4   |
| FIAEHWD472 <sup>(a)</sup> | 72kW, 460V Electric Heater                               | D                  | WHJ210A4-300A4   |
| FIAEHWDW18 <sup>(a)</sup> | 18kW, 575V Electric Heater                               | D                  | WHJ150AW-180AW   |
| FIAEHWDW36 <sup>(a)</sup> | 36kW, 575V Electric Heater                               | D                  | WHJ150AW-300AW   |
| FIAEHWDW54 <sup>(a)</sup> | 54kW, 575V Electric Heater                               | D                  | WHJ150AW-300AW   |
| FIAEHWDW72 <sup>(a)</sup> | 72kW, 575V Electric Heater                               | D                  | WHJ210AW-300AW   |
| FIABARM003*               | Barometric Relief                                        | D                  | W/DHJ150A-300A   |
| FIAC02K001*               | CO <sub>2</sub> (DCV) Wall Mounted Sensor                | ALL                | W/DHJ150A-300A   |
| FIAC02K002*               | CO <sub>2</sub> (DCV) Duct Mounted Sensor                | ALL                | W/DHJ150A-300A   |
| FIACURB404*               | 14-inch Full Perimeter Knockdown Curb                    | D                  | W/DHJ150A-300A   |
| FIACLFS003 <sup>(b)</sup> | Clogged Filter Switch                                    | D                  | W/DHJ150A-300A   |
| FIACLFS004 <sup>(b)</sup> | Clogged Filter Switch (MERV13)                           | D                  | W/DHJ150A-300A   |
| FIADAST007*               | Discharge Air Sensing Tube Kit Y/D Models (Digit 11 = L) | D                  | DHJ150A-300A     |
| FIADAST008*               | Discharge Air Sensing Tube Kit T/W Models (All)          | D                  | WHJ150A-300A     |
| FIADFDB001 <sup>(b)</sup> | Differential Dry Bulb Economizer Control                 | ALL                | W/DHJ150A-300A   |
| FIADMPR003*               | Manual Damper                                            | D                  | W/DHJ150A-300A   |
| FIADMPR103*               | Motorized Damper                                         | D                  | W/DHJ150A-300A   |
| FIAECON003 <sup>(b)</sup> | Dry Bulb Downflow Economizer                             | D                  | W/DHJ150A-300A   |
| FIAECON303 <sup>(b)</sup> | Dry Bulb Horizontal Economizer                           | D                  | W/DHJ150A-300A   |
| FIAECON103 <sup>(b)</sup> | Dry Bulb Downflow Low Leak                               | D                  | W/DHJ150A-300A   |
| FIAECON203 <sup>(b)</sup> | Dry Bulb Horizontal Low Leak                             | D                  | W/DHJ150A-300A   |
| FIAGENTH001*              | Reference Enthalpy Economizer Control                    | ALL                | W/DHJ150A-300A   |
| FIAGENTH002*              | Comparative Enthalpy Economizer Control                  | ALL                | W/DHJ150A-300A   |
| FIAHALT003*               | High Altitude Gas Adjustment Kit                         | D                  | DHJ150A-300A     |
| FIAHST001*                | High Temperature (Fire) Duct Mounted Stat                | ALL                | W/DHJ150A-300A   |
| FIAHZDC001*               | Horizontal Conversion Panel                              | D                  | W/DHJ150A-300A   |
| FIALOAM001*               | Low Ambient                                              | ALL                | W/DHJ150A-300A   |
| FIALTCI001*               | LonTalk Communication Interface                          | ALL                | W/DHJ150A-300A   |



## Features and Benefits

| FIA KIT #S          | DESCRIPTION                       | Used With Cabinets | Used With Models |
|---------------------|-----------------------------------|--------------------|------------------|
| FIALPKT003*         | LP Gas Conversion Kit             | D                  | DHJ150A-300A     |
| FIAOPTN001*         | Indoor Options Module             | ALL                | W/DHJ150A-300A   |
| FIAOPTN002*         | Fresh Air Options Module          | ALL                | W/DHJ150A-300A   |
| FIAOVFL001*(a)      | Condensate Overflow Switch        | ALL                | W/DHJ150A-300A   |
| FIAPWRX303*         | Power Exhaust 230V                | D                  | W/DHJ150A3-300A3 |
| FIAPWRX403*         | Power Exhaust 460V                | D                  | W/DHJ150A4-300A4 |
| FIAPWRXW03*         | Power Exhaust 575V                | D                  | W/DHJ150AW-300AW |
| FIASCCM001*(c), (d) | Symbio Customer Connection Module | ALL                | W/DHJ150A-300A   |
| FIAXMOD030*(d), (e) | Symbio 700 XM30 Expansion Module  | ALL                | W/DHJ150A-300A   |
| FIAXMOD032*(d), (e) | Symbio 700 XM32 Expansion Module  | ALL                | W/DHJ150A-300A   |

(a) Requires Symbio Indoor Options Module.

(b) Requires Symbio Fresh Air Options Module.

(c) Provides Ventilation Override, External Auto/Stop, Alarm Indicator, Remote Min Position.

(d) Requires Symbio Advanced Controller (digit 21=1 or 3).

(e) Requires Tracer TU and Utilizes TGP2 Software (programming knowledge required).

## Key Benefits

### Airflow Distribution

Airflow is outstanding. Precedent™ can replace an older machine with old ductwork and, in many cases, improve the comfort through better air distribution.

### Cabinet Integrity

For added water integrity, Precedent™ has a raised 1 inch lip around the supply and return of the downflow units to prevent water from blowing into the ductwork.

### Coil Guards

Coil guards protect condenser coil during shipping as well as hail, vandals, wind, etc. Toolless design lends itself to ease of maintenance in cleaning coils.



### CO<sub>2</sub> Sensor — Demand Control Ventilation (DCV)

Demand-controlled ventilation (DCV) is a control strategy that responds to the actual demand (need) for ventilation by regulating the rate at which the HVAC system brings outdoor air into the building. A CO<sub>2</sub> sensor measures the concentration (parts per million, ppm) of CO<sub>2</sub> (carbon dioxide) in the air. As the CO<sub>2</sub> concentration changes, the outside air damper modulates to meet the current ventilation needs of the zone. The CO<sub>2</sub> sensor kit is available as a field installed accessory and wires directly to the Symbio 700 controller.

## **CompleteCoat™ Condenser Coil**

This optional coated coil provides excellent corrosion resistance as well as uniformity of coverage and coating thickness.

## **Controls — Symbio**

### **Enhanced BAS Integration and Connectivity**

- Open standard communications
  - BACnet® over Zigbee (Air-Fi Wireless)
  - BACnet MS/TP
  - BACnet IP
  - Modbus™ RTU
  - Modbus TCP/IP
  - LonTalk®
- Securely access, troubleshoot, and monitor equipment from anywhere via Trane Connect™

### **Serviceability**

- Wireless mobile app interface (iPhone and Android) to simplify startup/service
- On-board user interface
- Data Trending
- Real-time, clear language diagnostics
- Historical alarm logs
- Backup and Restore functionality to reduce commissioning and service time

### **Flexibility**

- Future-ready upgradable software, supporting changing codes and new sequences of operation
- Standard, consistent pre-engineered applications that meet industry standards
- Built-in Schedules (requires Tracer® TU)
- Expandable inputs and outputs (requires Tracer TU)
- Ability to add custom programmed sequences (requires Tracer TU)

### **Accessibility**

Control box consists of a multilevel design with Symbio Controls located on hinged panels which provide protection from high voltage components for ease of servicing.

## **Convenience Outlet**

This option is GFCI, 120V/15A, 2 plug, convenience outlet powered or GFCI, 120V/20A, 2 plug convenience outlet unpowered. This option can be ordered when through the base electrical with either the disconnect switch or circuit breaker option is ordered.



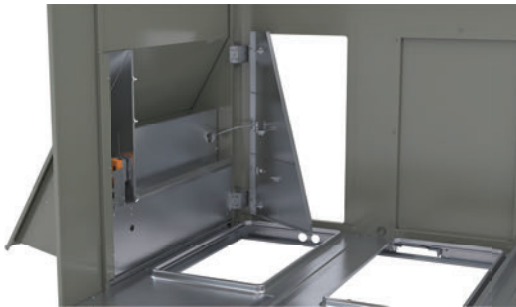
## Features and Benefits

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### Convertible Units

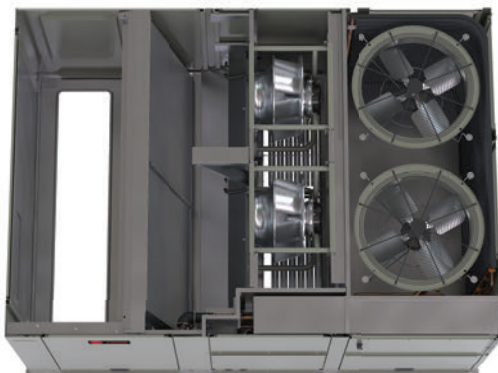
Units ship in a downflow configuration and can be easily converted to horizontal by simply removing two panels. Optional field accessory kits required for 12.5 to 25 ton units.



### Direct Drive Plenum Fans

All 12.5 to 25 tons units are equipped with a direct drive plenum fan design with the following features.

- Backward-curved fan wheel
- External rotor direct drive variable speed indoor motor
- Variable speed adjustment available in Symbio controller
- Designed to slide out for ease of maintenance



## Drain Pan

Every unit has an easy-to-clean, composite removable dual-sloped drain pan (IAQ).



## Dual Fuel Operation

For dual fuel models, heat pump with gas auxiliary heat (digit 1 = D). If the call for heat is not satisfied, the final heat pump stage is activated. If ambient temperature is below the adjustable lockout set point, the controller will activate auxiliary gas heat 1st stage, and heat pump operation will be terminated. A continued call for heat will cause the controller to activate auxiliary gas heat 2nd stage. The indoor fan will continue to run and will increase to 100% during transition from heat pump to gas heat.

If continuous fan operation is available and selected from the thermostat, the controller automatically adjusts fan speed for heat pump and gas heat operation. During defrost mode, the controller will activate auxiliary gas heat to maintain comfort.

## Fault Detection and Diagnostics (FDD)

This offering meets the mandatory requirement of CA Title 24 of fully configurable diagnostics allowing fault history and reading fault codes at the unit via Symbio™ 700 board or app. This feature provides detection of the following faults: Air temperature sensor failure/fault and notification of acceptable economizer mode. The FDD system shall be certified by the Energy Commission as meeting the requirements.

## Flexibility

Precedent™ offers ultimate flexibility. Units are built to order in our standard ship cycle time.

## High Altitude Kit

While recommended for units applied above 2,000 feet, domestic contractors should consult with local authority on best practice. High altitude kits contain gas orifices that derate the gas input rate (Btuh/r) by 10%.

## High Efficiency Filtration

Precedent™ units offer a variety of high efficiency filtration options. MERV 8 and MERV 13 filters provide additional filtration beyond the capabilities of typical 2 inches throwaway filters.

## High Static Motor

Available on 25 ton models, this high static motor option extends beyond the capability of the standard motor.



## Features and Benefits

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### Hinged Access Doors

These doors permit easy access to the filter, fan and compressor/control sections. They reduce the potential roof damage from screws or sharp access panel corners.



### Humidity Control (HGRH)

All 12.5 to 25 tons Precedent units can be ordered with a factory installed modulating humidity control system designed to provide year around comfort by improving indoor air quality while controlling humidity levels.

### Humidity Sensor/Humidistat

The humidity sensor/humidistat, when used in conjunction with our dehumidification (hot gas reheat) units will provide outstanding humidity control and comfort. Humidity sensors can be wall or duct mounted. The humidity deadband can be set between 40% and 60% relative humidity.

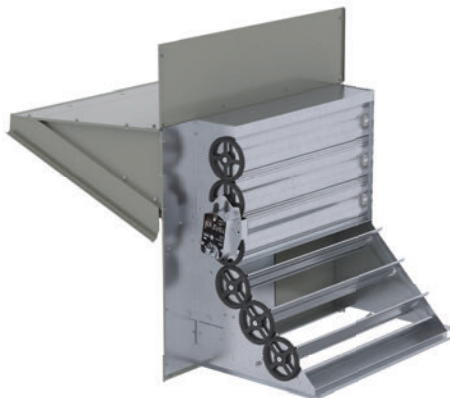
### Low Ambient Cooling

All Precedent™ units have cooling capabilities down to 40°F. Factory installed option or field installed accessory extends operation down to 0°F.

### Low Leak Economizer

This accessory meets low leak requirements for ASHRAE 90.1, IECC, and CA Title 24 standards (4 cfm/ft<sup>2</sup>@1" wg exterior air/return air). This option allows 100% outdoor air supply from 0 to 100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief. This option can be paired with or without fault detection and diagnostics (FDD) to meet current mandatory CA Title 24 requirements.

The economizers come with four control options, dry bulb, reference enthalpy, comparative enthalpy, or differential dry bulb.



**Note:** Downflow low leak economizer is available as a factory installed option. Horizontal low leak economizer is only available as a field installed option.

## **LP Conversion Kit**

Provided for field conversion of gas/electric units from natural gas to propane.

## **Multi-Speed Indoor Fan System**

This system incorporates a multi-speed fan control to change the speed of the fan to 66% of full airflow based off of compressor stages.

## **Multiple-Zone VAV Control**

A multiple-zone VAV (MZVAV) system consists of a packaged rooftop unit that serves several individually controlled zones. Each zone is equipped with a VAV terminal unit that varies the quantity of air delivered to maintain the desired temperature in that zone. The rooftop unit controller varies the speed of the indoor fan to maintain the static pressure in the supply ductwork at a setpoint, ensuring that all zones receive the necessary quantity of air. In addition, cooling capacity is cycled to maintain the supply air temperature at the desired setpoint.

For decades, Trane has been an industry leader in rooftop VAV systems. Now, multiple-zone VAV control is available in the light commercial rooftop platform (12.5 to 25 tons).

## **Other Benefits**

- Cabinet design ensures water integrity
- Ease of Service, Installation and Maintenance
- Mixed model build enables “fastest in the industry” ship cycle times
- Outstanding Airflow Distribution
- Symbio Controls

## **Rigorous Testing**

All Precedent™ designs were rigorously tested at the factory to ensure premier quality.

Rain testing is completed to ensure water integrity.

Transportation vibration and forklifting tests are performed to ensure that the unit arrives at the job site in top condition.

Rigging lift and drop tests are completed to assure that the lifting lugs and rails hold up under stress.

During production we perform 100% coil leak test at the factory. The assembled unit is leak tested to 465 psig. All parts are inspected at the point of final assembly. Sub standard parts are identified and rejected immediately. Every unit receives a 100% unit run test before leaving the production line to make sure it meets rigorous requirements.

## **Single Zone VAV (SZVAV)**

SZVAV is fully integrated into the control system. It provides the simplest and fastest commissioning in the industry through proven factory-installed, wired, and tested system controllers. All control modules, logic boards and sensors are factory installed and tested to ensure the highest quality and most reliable system available. This means no special programming of algorithms, or hunting at the jobsite for field installed sensors, boards, etc. SZVAV is a quick and simple solution for many applications and is available from your most trusted rooftop VAV system solution provider -Trane.

Building system modeling in energy simulation software such as TRACE is recommended to evaluate performance improvements for your application.



## Features and Benefits

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### Supply/Return Air Smoke Detector

With this option installed, if smoke is detected, all unit operation will be shut down. Reset will be manual at the unit. In order for the supply air smoke detector or return air smoke detector to properly sense smoke in the supply air stream or the return air stream, the air velocity entering the smoke detector unit must be between 500 to 4000 feet per minute. Equipment covered in this manual will develop an airflow velocity that falls within these limits over the entire airflow range specified in the evaporator fan performance table.



### Through-the-Base Electrical Access

An electrical service entrance shall be provided allowing electrical access for both control and main power connections inside the curb and through-the-base of the unit. Option will allow for field installation of liquid-tight conduit and an external field installed disconnect switch.

### Through-the-Base Gas Access

Factory provided through-the-base openings simplify piping. Because these utility openings frequently minimize the number of roof penetrations, the integrity of roofing materials is enhanced.

This option shall have all piping necessary including, black steel, manual gas shut-off valve, elbows, and union. This assembly will require minor field labor to install.

### Ventilation Override

Ventilation override allows the unit to be set to transition to up to three different pre-programmed sequences for smoke purge, pressurization, and exhaust. The transition occurs when a binary input on the Customer Connection Module is closed (shorted). This would typically be a hard wired relay output from a smoke detector or fire control panel. The Customer Connection module that allows ventilation override is available as a field installed accessory (FIASCCM001). For more information on functionality, refer to *Symbio™ 700 Controller with Precedent™ Packaged Rooftop Air-Conditioners Application Guide* (ACC-APG002\*-EN).



# Model Number Description

## Digit 1 — Unit Function

**W** = Packaged Heat Pump  
**D** = Dual Fuel Heat Pump

## Digit 2 — Cooling Efficiency

**H** = High Efficiency

## Digit 3 — Refrigerant

**J** = R-410A

## Digit 4,5,6 — Nominal Gross Cooling Capacity (MBh)

**150** = 12.5 Ton  
**180** = 15 Ton  
**240** = 20 Ton  
**300** = 25 Ton

## Digit 7 — Design Sequence

## Digit 8 — Voltage Selection

**3** = 208–230/60/3  
**4** = 460/60/3  
**W** = 575/60/3

## Digit 9 — Unit Controls

**S** = Symbio™ 700

## Digit 10 — Heat Type

**0** = Base Model (None or Electric)  
**A** = Stainless Steel Gas Heat

## Digit 11 — Heating Capacity<sup>1</sup>

**0** = No Heat  
**G** = 18 kW Electric Heat  
**K** = 27 kW Electric Heat  
**N** = 36 kW Electric Heat  
**P** = 54 kW Electric Heat  
**R** = 72 kW Electric Heat  
**L** = Low Gas Heat  
**M** = Medium Gas Heat  
**H** = High Gas Heat

## Digit 12, 13 — Service Sequence

**\*\*** = Factory Assigned

## Digit 14 — Fresh Air Selection

**0** = No Fresh Air  
**A** = Manual Outside Air Damper 0–50%  
**B** = Motorized Outside Air Damper 0–50%  
**C** = Economizer, Dry Bulb 0–100% without Barometric Relief<sup>2</sup>  
**D** = Economizer, Dry Bulb 0–100% with Barometric Relief<sup>2</sup>  
**E** = Economizer, Reference Enthalpy 0–100% without Barometric Relief<sup>2</sup>  
**F** = Economizer, Reference Enthalpy 0–100% with Barometric Relief<sup>2</sup>  
**G** = Economizer, Comparative Enthalpy 0–100% without Barometric Relief<sup>2</sup>  
**H** = Economizer, Comparative Enthalpy 0–100% with Barometric Relief<sup>2</sup>  
**K** = Downflow Low Leak Economizer, Dry Bulb with Barometric Relief<sup>2</sup>  
**M** = Downflow Low Leak Economizer, Reference Enthalpy with Barometric Relief<sup>2</sup>  
**P** = Downflow Low Leak Economizer, Comparative Enthalpy with Barometric Relief<sup>2</sup>  
**R** = Downflow Low Leak Economizer, Differential Dry Bulb with Barometric Relief<sup>2</sup>

## Digit 15 — Supply Fan/Motor

**0** = Multi-Speed Motor  
**1** = Optional Oversized/High Static Motor  
**2** = Single Zone Variable Air Volume with Standard Motor  
**3** = Single Zone Variable Air Volume with Oversized/High Static Motor  
**4** = Multiple Zone Variable Air Volume with Standard Motor  
**5** = Multiple Zone Variable Air Volume with Oversized/High Static Motor

## Digit 16 — Hinged Access/Filters

**0** = Standard Panels/Standard Filters  
**A** = Hinged Access Panels/Standard Filters  
**B** = Standard Panels/2 inch MERV 8 Filters  
**C** = Hinged Access Panels/2 inch MERV 8 Filters  
**D** = Standard Panels/2 inch MERV 13 Filters  
**E** = Hinged Access Panels/2 inch MERV 13 Filters

## Digit 17 — Coil Protection

**0** = Standard Coil  
**1** = Condenser with CompleteCoat

## Digit 18 — Through-the-Base Provisions

**0** = No Through-the-Base Provisions  
**A** = Through-the-Base Electric  
**B** = Through-the-Base Gas Piping<sup>5</sup>  
**C** = Through-the-Base Electric and Gas Piping<sup>5</sup>

## Digit 19 — Disconnect/Circuit Breaker (three-phase only)

**0** = No Disconnect/No Circuit Breaker  
**1** = Unit Mounted/Non-Fused Disconnect  
**2** = Unit Mounted Circuit Breaker

## Digit 20— Convenience Outlet

**0** = No Convenience Outlet  
**A** = Unpowered 20A Convenience Outlet  
**B** = Powered 15A Convenience Outlet (three-phase only)

## Digit 21— Communications Options

**0** = No Communications Interface  
**1** = Advanced Controller with BACnet® Communications Interface  
**2** = Advanced Controller with LonTalk® Communications Interface  
**3** = Advanced Controller with Air-Fi® Communications Interface

## Digit 22— Refrigeration System Option

**0** = Standard Refrigeration System  
**A** = Dehumidification Option<sup>1, 3</sup>

## Digit 23— Controls Expansion Module

**0** = None  
**1** = XM-30 Expansion Module  
**2** = XM-32 Expansion Module  
**3** = XM-30 and XM-32 Expansion Module  
**4** = XM-30 Expansion Module (Qty 2)  
**5** = XM-32 Expansion Module (Qty 2)

## Digit 24— Smoke Detector

**0** = No Smoke Detector  
**A** = Return Air Smoke Detector<sup>2</sup>  
**B** = Supply Air Smoke Detector<sup>1</sup>  
**C** = Supply and Return Air Smoke Detectors<sup>1, 2</sup>



## Model Number Description

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### Digit 25— System Monitoring Controls

- 0 = No Monitoring Control
- 1 = Clogged Filter Switch<sup>2</sup>
- 2 = Condensate Overflow Switch<sup>1</sup>
- 3 = Discharge Air Sensing Tube
- 4 = Clogged Filter Switch and Condensate Overflow Switch<sup>1, 2</sup>
- 5 = Clogged Filter Switch and Discharge Air Sensing Tube<sup>2</sup>
- 6 = Condensate Overflow Switch and Discharge Air Sensing Tube<sup>1</sup>
- 7 = Clogged Filter Switch, Condensate Overflow Switch and Discharge Air Sensing Tube<sup>1, 2</sup>

### Digit 26— Not Used

### Digit 27— Hardware Enhancements

- 0 = No Enhancements
- 1 = Stainless Steel Drain Pan

### Digit 28— Short Circuit Current Rating

- 0 = Standard (5k) SCCR Marking
- A = Tier 2 (65K) SCCR Marking

### Digit 29— Low Ambient<sup>4</sup>

- 0 = None
- A = Low Ambient Cooling to 0°F

### Model Number Notes

#### Notes:

1. Includes Symbio™ Indoor Module.
2. Includes Symbio™ Fresh Air Module.
3. Includes Symbio™ Customer Connection Module.
4. Standard Low Ambient Cooling Limit is 40°F.
5. Includes gas piping and shutoff valve (field assembly required).



# General Data

**Table 3. General data — 12.5 to 25 tons, high efficiency (WHJ\*)**

|                                           | 12.5 Tons         | 15 Tons           | 20 Tons           | 25 Tons           |
|-------------------------------------------|-------------------|-------------------|-------------------|-------------------|
|                                           | WHJ150            | WHJ180            | WHJ240            | WHJ300            |
| <b>Cooling Performance</b>                |                   |                   |                   |                   |
| Gross Cooling Capacity                    | 154000            | 182000            | 246000            | 272000            |
| EER                                       | 12.3              | 12.0              | 11.2              | 10.4              |
| Nominal cfm/AHRI Rated cfm                | 5000              | 6000              | 8000              | 10000             |
| AHRI Net Cooling Capacity                 | 150000            | 178000            | 240000            | 262000            |
| IEER (2-Speed)                            | 17.8              | 17.9              | 17.2              | 16.1              |
| IEER (SZVAV/MZVAV)                        | 18.3              | 18.4              | 17.7              | 16.6              |
| System Power (kW)                         | 12.20             | 14.83             | 21.43             | 25.19             |
| <b>Heating Performance</b>                |                   |                   |                   |                   |
| High Temp Btuh Rating                     | 135000            | 162000            | 224000            | 242000            |
| System Power (kW) / COP                   | 10.41 / 3.80      | 12.05 / 3.90      | 18.14 / 3.60      | 20.21 / 3.50      |
| Low Temp Btuh Rating                      | 62500             | 76000             | 119000            | 136000            |
| System Power (kW) / COP                   | 8.81 / 2.08       | 10.66 / 2.09      | 16.37 / 2.13      | 17.11 / 2.33      |
| <b>Compressor</b>                         |                   |                   |                   |                   |
| Number/Type                               | 2/Manifold Scroll | 2/Manifold Scroll | 2/Manifold Scroll | 2/Manifold Scroll |
| Percent Capacity (Stage 1 - Stage 4)      | 33/67/100/NA      | 33/67/100/NA      | 24/36/64/100      | 25/37/63/100      |
| <b>Sound</b>                              |                   |                   |                   |                   |
| Outdoor Sound Rating (dBA)                | 87                | 87                | 93                | 93                |
| <b>Outdoor Coil</b>                       |                   |                   |                   |                   |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       |
| Configuration                             | Full Face         | Full Face         | Full Face         | Full Face         |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313             | 0.313             |
| Face Area (sq. ft.)                       | 34.71             | 34.71             | 40.05             | 40.05             |
| Rows/FPI (Fins per inch)                  | 3/16              | 3/16              | 3/16              | 3/16              |
| Refrigerant Control                       | TXV               | TXV               | TXV               | TXV               |
| <b>Indoor Coil</b>                        |                   |                   |                   |                   |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       |
| Configuration                             | Full Face         | Full Face         | Full Face         | Full Face         |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313             | 0.313             |
| Face Area (sq. ft.)                       | 25.83             | 25.83             | 30.09             | 30.09             |
| Rows/FPI (Fins per inch)                  | 4/16              | 4/16              | 4/16              | 4/16              |
| Refrigerant Control                       | TXV               | TXV               | TXV               | TXV               |
| STD. Drain Connection No./Size (in.)      | 1/1.00 PVC Female | 1/1.00 PVC Female | 1/1.00 PVC Female | 1/1.00 PVC Female |
| Stainless Drain Connection No./Size (in.) | 1/1.00 NPT        | 1/1.00 NPT        | 1/1.00 NPT        | 1/1.00 NPT        |
| <b>Reheat Coil</b>                        |                   |                   |                   |                   |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       | RTPF Lanced       |
| Configuration                             | Full Face         | Full Face         | Full Face         | Full Face         |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313             | 0.313             |
| Face Area (sq. ft.)                       | 25.83             | 25.83             | 25.83             | 25.83             |



## General Data

**Table 3. General data — 12.5 to 25 tons, high efficiency (WHJ\*) (continued)**

|                                     | 12.5 Tons         | 15 Tons           | 20 Tons                            | 25 Tons                            |
|-------------------------------------|-------------------|-------------------|------------------------------------|------------------------------------|
|                                     | WHJ150            | WHJ180            | WHJ240                             | WHJ300                             |
| Rows/FPI (Fins per inch)            | 1/16              | 1/16              | 1/16                               | 1/16                               |
| <b>Outdoor Fan</b>                  |                   |                   |                                    |                                    |
| Type                                | Propeller         | Propeller         | Propeller                          | Propeller                          |
| No. Used/Diameter (in.)             | 2/26x3            | 2/26x3            | 2/28x4                             | 2/28x4                             |
| Drive Type/No. Speeds               | Direct/1          | Direct/1          | Direct/1                           | Direct/1                           |
| CFM                                 | 10480             | 10480             | 15810                              | 15810                              |
| Motor HP                            | 2/0.50            | 2/0.50            | 2/1.0                              | 2/1.0                              |
| Motor RPM                           | 1125              | 1125              | 1125                               | 1125                               |
| <b>Indoor Fan</b>                   |                   |                   |                                    |                                    |
| Type                                | BC Plenum         | BC Plenum         | BC Plenum                          | BC Plenum                          |
| No. Used/Diameter (in.)/Width (in.) | 2/23x6            | 2/23x6            | 2/23x6                             | 2/23x6                             |
| Drive Type/No. Speeds/RPM           | Direct / Variable | Direct / Variable | Direct / Variable                  | Direct / Variable                  |
| Motor HP (Standard/Oversized)       | 2.9 / –           | 2.9 / –           | 2.9 / –                            | 2.9 / 4.2                          |
| Max Motor RPM                       | 1850              | 1850              | 1850                               | 1850 / 1940                        |
| <b>Filters<sup>(a)</sup></b>        |                   |                   |                                    |                                    |
| Type Furnished                      | Throwaway         | Throwaway         | Throwaway                          | Throwaway                          |
| Number Size Recommended             | (8) 20 x 24 x 2   | (8) 20 x 24 x 2   | (4) 20 x 24 x 2<br>(4) 20 x 30 x 2 | (4) 20 x 24 x 2<br>(4) 20 x 30 x 2 |
| <b>Refrigerant Charge</b>           |                   |                   |                                    |                                    |
| lbs of R-410A                       | 30.0              | 33.0              | 39.0                               | 38.0                               |
| lbs of R-410A, Hot Gas Reheat       | 36.0              | 35.0              | 42.0                               | 38.0                               |
| <b>Cabinet</b>                      |                   |                   |                                    |                                    |
| Cabinet Size                        | D0                | D0                | D1                                 | D1                                 |

**Note:** 12.5-20 ton units are AHRI Certified to AHRI Standard 340-360 (I-P). 25 ton unit tested in accordance with AHRI Standard 340-360.

<sup>(a)</sup> Outdoor sound rating shown is tested in accordance with AHRI 370-2015. For additional information reference the outdoor sound power level data in the performance section.

**Table 4. General data — 12.5 to 25 tons, high efficiency (DHJ\*)**

|                            | 12.5 Tons    | 15 Tons      | 20 Tons      | 25 Tons      |
|----------------------------|--------------|--------------|--------------|--------------|
|                            | DHJ150       | DHJ180       | DHJ240       | DHJ300       |
| <b>Cooling Performance</b> |              |              |              |              |
| Gross Cooling Capacity     | 154000       | 182000       | 246000       | 272000       |
| EER                        | 12.2         | 12.0         | 11.0         | 10.2         |
| Nominal cfm/AHRI Rated cfm | 5000         | 6000         | 8000         | 10000        |
| AHRI Net Cooling Capacity  | 152000       | 178000       | 240000       | 260000       |
| IEER (2-Speed)             | 17.8         | 17.9         | 17.2         | 16.1         |
| IEER (SZVAV/MZVAV)         | 18.3         | 18.4         | 17.7         | 16.6         |
| System Power (kW)          | 12.45        | 14.83        | 21.81        | 25.49        |
| <b>Heating Performance</b> |              |              |              |              |
| High Temp Btuh Rating      | 135000       | 162000       | 224000       | 242000       |
| System Power (kW) / COP    | 10.41 / 3.80 | 12.05 / 3.90 | 18.14 / 3.60 | 20.21 / 3.50 |
| Low Temp Btuh Rating       | 62500        | 76000        | 119000       | 136000       |
| System Power (kW) / COP    | 8.81 / 2.08  | 10.66 / 2.09 | 16.37 / 2.13 | 17.11 / 2.33 |

**Table 4. General data — 12.5 to 25 tons, high efficiency (DHJ\*) (continued)**

|                                           | 12.5 Tons         | 15 Tons           | 20 Tons                            | 25 Tons                            |
|-------------------------------------------|-------------------|-------------------|------------------------------------|------------------------------------|
|                                           | DHJ150            | DHJ180            | DHJ240                             | DHJ300                             |
| <b>Compressor</b>                         |                   |                   |                                    |                                    |
| Number/Type                               | 2/Manifold Scroll | 2/Manifold Scroll | 2/Manifold Scroll                  | 2/Manifold Scroll                  |
| Percent Capacity (Stage 1 - Stage 4)      | 33/67/100/NA      | 33/67/100/NA      | 24/36/64/100                       | 25/37/63/100                       |
| <b>Sound</b>                              |                   |                   |                                    |                                    |
| Outdoor Sound Rating (dBA)                | 87                | 87                | 93                                 | 93                                 |
| <b>Outdoor Coil</b>                       |                   |                   |                                    |                                    |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced                        | RTPF Lanced                        |
| Configuration                             | Full Face         | Full Face         | Full Face                          | Full Face                          |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313                              | 0.313                              |
| Face Area (sq. ft.)                       | 34.71             | 34.71             | 40.05                              | 40.05                              |
| Rows/FPI (Fins per inch)                  | 3/16              | 3/16              | 3/16                               | 3/16                               |
| Refrigerant Control                       | TXV               | TXV               | TXV                                | TXV                                |
| <b>Indoor Coil</b>                        |                   |                   |                                    |                                    |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced                        | RTPF Lanced                        |
| Configuration                             | Full Face         | Full Face         | Full Face                          | Full Face                          |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313                              | 0.313                              |
| Face Area (sq. ft.)                       | 25.83             | 25.83             | 30.09                              | 30.09                              |
| Rows/FPI (Fins per inch)                  | 4/16              | 4/16              | 4/16                               | 4/16                               |
| Refrigerant Control                       | TXV               | TXV               | TXV                                | TXV                                |
| STD. Drain Connection No./Size (in.)      | 1/1.00 PVC Female | 1/1.00 PVC Female | 1/1.00 PVC Female                  | 1/1.00 PVC Female                  |
| Stainless Drain Connection No./Size (in.) | 1/1.00 NPT        | 1/1.00 NPT        | 1/1.00 NPT                         | 1/1.00 NPT                         |
| <b>Reheat Coil</b>                        |                   |                   |                                    |                                    |
| Type                                      | RTPF Lanced       | RTPF Lanced       | RTPF Lanced                        | RTPF Lanced                        |
| Configuration                             | Full Face         | Full Face         | Full Face                          | Full Face                          |
| Tube Size (in.)                           | 0.313             | 0.313             | 0.313                              | 0.313                              |
| Face Area (sq. ft.)                       | 25.83             | 25.83             | 25.83                              | 25.83                              |
| Rows/FPI (Fins per inch)                  | 1/16              | 1/16              | 1/16                               | 1/16                               |
| <b>Outdoor Fan</b>                        |                   |                   |                                    |                                    |
| Type                                      | Propeller         | Propeller         | Propeller                          | Propeller                          |
| No. Used/Diameter (in.)                   | 2/26x3            | 2/26x3            | 2/28x4                             | 2/28x4                             |
| Drive Type/No. Speeds                     | Direct/1          | Direct/1          | Direct/1                           | Direct/1                           |
| CFM                                       | 10480             | 10480             | 15810                              | 15810                              |
| Motor HP                                  | 2/0.50            | 2/0.50            | 2/1.0                              | 2/1.0                              |
| Motor RPM                                 | 1125              | 1125              | 1125                               | 1125                               |
| <b>Indoor Fan</b>                         |                   |                   |                                    |                                    |
| Type                                      | BC Plenum         | BC Plenum         | BC Plenum                          | BC Plenum                          |
| No. Used/Diameter (in.)/Width (in.)       | 2/23x6            | 2/23x6            | 2/23x6                             | 2/23x6                             |
| Drive Type/No. Speeds/RPM                 | Direct / Variable | Direct / Variable | Direct / Variable                  | Direct / Variable                  |
| Motor HP (Standard/Oversized)             | 2.9 / –           | 2.9 / –           | 2.9 / –                            | 2.9 / 4.2                          |
| Max Motor RPM                             | 1850              | 1850              | 1850                               | 1850 / 1940                        |
| <b>Filters<sup>(a)</sup></b>              |                   |                   |                                    |                                    |
| Type Furnished                            | Throwaway         | Throwaway         | Throwaway                          | Throwaway                          |
| Number Size Recommended                   | (8) 20 x 24 x 2   | (8) 20 x 24 x 2   | (4) 20 x 24 x 2<br>(4) 20 x 30 x 2 | (4) 20 x 24 x 2<br>(4) 20 x 30 x 2 |
| <b>Refrigerant Charge</b>                 |                   |                   |                                    |                                    |



## General Data

**Table 4. General data — 12.5 to 25 tons, high efficiency (DHJ\*) (continued)**

|                                                | 12.5 Tons       | 15 Tons         | 20 Tons         | 25 Tons         |
|------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                                | DHJ150          | DHJ180          | DHJ240          | DHJ300          |
| lbs of R-410A                                  | 30.0            | 33.0            | 39.0            | 38.0            |
| lbs of R-410A, Hot Gas Reheat                  | 36.0            | 35.0            | 42.0            | 38.0            |
| <b>Heating Performance (Gas/Electric Only)</b> |                 |                 |                 |                 |
| <b>Heating Input</b>                           |                 |                 |                 |                 |
| Low Heat Input (Btu) (High/Low Stage)          | 150,000/105,000 | 250,000/175,000 | 250,000/175,000 | 250,000/175,000 |
| Mid Heat Input (Btu) (High/Low Stage)          | 200,000/140,000 | 320,000/224,000 | 320,000/224,000 | 320,000/224,000 |
| High Heat Input (Btu) (High/Low Stage)         | 250,000/175,000 | 400,000/280,000 | 400,000/280,000 | 400,000/280,000 |
| <b>Heating Output</b>                          |                 |                 |                 |                 |
| Low Heat Input (Btu) (High/Low Stage)          | 121,500/85,000  | 202,500/141,750 | 202,500/141,750 | 202,500/141,750 |
| Mid Heat Input (Btu) (High/Low Stage)          | 162,000/113,400 | 259,200/181,440 | 259,200/181,440 | 259,200/181,440 |
| High Heat Input (Btu) (High/Low Stage)         | 202,500/141,750 | 324,000/226,800 | 324,000/226,800 | 324,000/226,800 |
| <b>Steady State Efficiency %</b>               |                 |                 |                 |                 |
| Low Heat Input (Btu)                           | 81              | 81              | 81              | 81              |
| Mid Heat Input (Btu)                           | 81              | 81              | 81              | 81              |
| High Heat Input (Btu)                          | 81              | 81              | 81              | 81              |
| <b>No. Burners</b>                             |                 |                 |                 |                 |
| Low Heat Output (Btu)                          | 5               | 5               | 5               | 5               |
| Mid Heat Output (Btu)                          | 5               | 7               | 7               | 7               |
| High Heat Output (Btu)                         | 7               | 8               | 8               | 8               |
| <b>No. Stages</b>                              |                 |                 |                 |                 |
| Low Heat Input (Btu)                           | 2               | 2               | 2               | 2               |
| Mid Heat Input (Btu)                           | 2               | 2               | 2               | 2               |
| High Heat Input (Btu)                          | 2               | 2               | 2               | 2               |
| <b>Gas Supply Line Pressure (InWC)</b>         |                 |                 |                 |                 |
| Natural (minimum/maximum) Low Heat             | 4.5/14.0        | 4.5/14.0        | 4.5/14.0        | 4.5/14.0        |
| Natural (minimum/maximum) Mid Heat             | 4.5/14.0        | 4.5/14.0        | 4.5/14.0        | 4.5/14.0        |
| Natural (minimum/maximum) High Heat            | 4.5/14.0        | 6.0/14.0        | 6.0/14.0        | 6.0/14.0        |
| LP (minimum/maximum)                           | 11.5/14.0       | 11.5/14.0       | 11.5/14.0       | 11.5/14.0       |
| <b>Gas Connection Pipe Size (in.)</b>          |                 |                 |                 |                 |
| Low Heat                                       | 3/4             | 3/4             | 3/4             | 3/4             |
| Mid Heat                                       | 3/4             | 3/4             | 3/4             | 3/4             |
| High Heat                                      | 3/4             | 3/4             | 3/4             | 3/4             |
| <b>Cabinet</b>                                 |                 |                 |                 |                 |
| Cabinet Size                                   | D0              | D0              | D1              | D1              |

(a) Outdoor sound rating shown is tested in accordance with AHRI 370-2015. For additional information reference the outdoor sound power level data in the performance section.



# Gross Cooling Capacities

Table 5. Gross cooling capacities — 12.5 tons

| CFM  | Ent DB<br>(°F) | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       |
|------|----------------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|
|      |                | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       |
|      |                | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   |
|      |                | Ambient Temperature 85°F    |       |       |       |       |       | Ambient Temperature 95°F    |       |       |       |       |       | Ambient Temperature 105°F   |       |       |       |       |       |
| 3750 | 75             | 138.5                       | 109.3 | 154.1 | 85.8  | 169.9 | 61.2  | 130.4                       | 105.0 | 145.1 | 81.4  | 159.7 | 56.9  | 121.8                       | 100.4 | 135.8 | 77.0  | 149.2 | 52.5  |
|      | 80             | 139.0                       | 127.7 | 154.9 | 105.5 | 171.1 | 81.1  | 131.0                       | 123.2 | 145.9 | 101.1 | 161.2 | 76.8  | 122.7                       | 118.5 | 136.7 | 96.7  | 151.0 | 72.4  |
|      | 85             | 142.3                       | 142.3 | 155.3 | 125.0 | 171.9 | 100.8 | 135.5                       | 135.5 | 146.5 | 120.7 | 162.1 | 96.5  | 128.4                       | 128.4 | 137.2 | 116.2 | 152.0 | 92.2  |
|      | 90             | 150.3                       | 150.3 | 155.8 | 143.3 | 172.4 | 120.4 | 143.3                       | 143.3 | 147.2 | 138.8 | 162.7 | 116.2 | 136.0                       | 136.0 | 138.2 | 134.2 | 152.6 | 111.8 |
| 4500 | 75             | 143.5                       | 120.7 | 159.2 | 92.5  | 174.3 | 63.1  | 134.9                       | 116.2 | 149.6 | 88.0  | 163.7 | 58.8  | 125.8                       | 109.9 | 139.9 | 83.5  | 152.7 | 54.3  |
|      | 80             | 145.0                       | 142.5 | 160.0 | 115.9 | 176.1 | 86.8  | 136.8                       | 136.8 | 150.5 | 111.4 | 165.7 | 82.5  | 128.9                       | 128.9 | 140.8 | 106.9 | 155.0 | 78.1  |
|      | 85             | 152.3                       | 152.3 | 160.6 | 139.2 | 177.0 | 110.3 | 144.8                       | 144.8 | 151.2 | 133.1 | 166.7 | 106.0 | 137.0                       | 137.0 | 141.6 | 128.4 | 156.0 | 101.6 |
|      | 90             | 160.9                       | 160.9 | 162.3 | 160.8 | 177.5 | 133.7 | 153.2                       | 153.2 | 153.6 | 153.6 | 167.3 | 129.4 | 145.2                       | 145.2 | 145.4 | 145.4 | 156.7 | 125.0 |
| 5000 | 75             | 146.1                       | 128.0 | 161.7 | 96.7  | 176.6 | 64.3  | 137.3                       | 121.6 | 151.9 | 92.3  | 165.6 | 59.6  | 128.3                       | 116.6 | 141.9 | 87.7  | 153.6 | 55.0  |
|      | 80             | 148.9                       | 148.9 | 162.6 | 122.6 | 178.7 | 90.5  | 141.2                       | 141.2 | 152.9 | 118.1 | 168.0 | 86.1  | 133.3                       | 133.3 | 142.9 | 113.6 | 157.0 | 81.7  |
|      | 85             | 157.8                       | 157.8 | 163.5 | 146.6 | 179.6 | 116.5 | 149.9                       | 149.9 | 154.0 | 141.8 | 169.0 | 112.1 | 141.7                       | 141.7 | 144.3 | 137.0 | 158.1 | 107.7 |
|      | 90             | 166.8                       | 166.8 | 167.0 | 167.0 | 180.2 | 142.3 | 158.7                       | 158.7 | 158.9 | 158.9 | 169.7 | 138.0 | 150.2                       | 150.2 | 150.4 | 150.4 | 158.9 | 133.5 |
| 5500 | 75             | 148.5                       | 133.1 | 163.8 | 100.9 | 178.4 | 65.5  | 139.6                       | 128.2 | 153.8 | 96.4  | 167.3 | 61.1  | 130.4                       | 123.2 | 143.6 | 91.8  | 155.8 | 56.6  |
|      | 80             | 153.3                       | 153.3 | 164.7 | 129.2 | 180.8 | 94.1  | 145.4                       | 145.4 | 154.8 | 124.7 | 169.8 | 89.7  | 137.1                       | 137.1 | 144.6 | 120.1 | 158.7 | 85.3  |
|      | 85             | 162.6                       | 162.6 | 166.1 | 155.2 | 181.7 | 122.5 | 154.4                       | 154.4 | 156.6 | 150.4 | 170.9 | 118.1 | 145.8                       | 145.8 | 146.8 | 145.5 | 159.8 | 113.6 |
|      | 90             | 171.8                       | 171.8 | 172.1 | 172.1 | 182.5 | 150.7 | 163.3                       | 163.3 | 163.6 | 163.6 | 171.8 | 146.4 | 154.4                       | 154.4 | 154.7 | 154.7 | 160.8 | 139.2 |
| 6000 | 75             | 150.7                       | 139.7 | 165.6 | 104.9 | 180.0 | 66.6  | 141.6                       | 134.8 | 155.4 | 100.4 | 168.6 | 62.1  | 132.4                       | 129.6 | 145.0 | 95.8  | 156.8 | 57.6  |
|      | 80             | 157.3                       | 157.3 | 166.6 | 135.6 | 182.6 | 97.6  | 149.0                       | 149.0 | 156.5 | 131.1 | 171.4 | 93.2  | 140.4                       | 140.4 | 146.2 | 123.5 | 160.1 | 88.7  |
|      | 85             | 166.8                       | 166.8 | 168.7 | 163.6 | 183.6 | 128.4 | 158.2                       | 158.2 | 159.0 | 158.8 | 172.6 | 124.0 | 149.3                       | 149.3 | 149.4 | 149.4 | 161.3 | 119.5 |
|      | 90             | 176.3                       | 176.3 | 176.5 | 176.5 | 184.5 | 159.1 | 167.4                       | 167.4 | 167.6 | 167.6 | 173.7 | 151.8 | 158.2                       | 158.2 | 158.4 | 158.4 | 162.6 | 146.9 |
|      |                | Ambient Temperature 115°F   |       |       |       |       |       | Ambient Temperature 125°F   |       |       |       |       |       |                             |       |       |       |       |       |
| 3750 | 75             | 112.8                       | 95.7  | 126.1 | 72.4  | 138.3 | 48.0  | 103.0                       | 89.1  | 115.6 | 67.5  | 126.5 | 43.2  |                             |       |       |       |       |       |
|      | 80             | 114.0                       | 113.6 | 127.0 | 92.1  | 140.4 | 67.9  | 105.3                       | 105.3 | 116.5 | 87.2  | 128.9 | 63.2  |                             |       |       |       |       |       |
|      | 85             | 120.8                       | 120.8 | 127.4 | 110.2 | 141.4 | 87.7  | 112.5                       | 112.5 | 117.1 | 105.0 | 129.9 | 83.0  |                             |       |       |       |       |       |
|      | 90             | 128.2                       | 128.2 | 128.9 | 128.9 | 142.0 | 107.4 | 119.7                       | 119.7 | 119.9 | 119.9 | 130.6 | 102.6 |                             |       |       |       |       |       |
| 4500 | 75             | 116.6                       | 104.7 | 129.6 | 78.8  | 141.3 | 49.8  | 106.7                       | 99.3  | 118.6 | 74.0  | 129.1 | 45.0  |                             |       |       |       |       |       |
|      | 80             | 120.8                       | 120.8 | 130.6 | 102.3 | 143.9 | 73.5  | 112.0                       | 112.0 | 119.6 | 97.4  | 131.9 | 68.8  |                             |       |       |       |       |       |
|      | 85             | 128.7                       | 128.7 | 131.7 | 123.4 | 145.0 | 97.1  | 119.7                       | 119.7 | 121.1 | 118.1 | 133.0 | 92.3  |                             |       |       |       |       |       |
|      | 90             | 136.6                       | 136.6 | 136.8 | 136.8 | 145.7 | 120.5 | 127.3                       | 127.3 | 127.5 | 127.5 | 133.8 | 113.2 |                             |       |       |       |       |       |
| 5000 | 75             | 118.8                       | 111.4 | 131.4 | 83.0  | 142.8 | 50.9  | 108.7                       | 105.8 | 120.1 | 78.1  | 130.1 | 46.0  |                             |       |       |       |       |       |
|      | 80             | 124.8                       | 124.8 | 132.4 | 108.9 | 145.6 | 77.1  | 115.6                       | 115.6 | 121.2 | 101.0 | 133.4 | 72.4  |                             |       |       |       |       |       |
|      | 85             | 133.0                       | 133.0 | 134.2 | 131.9 | 146.8 | 103.1 | 123.5                       | 123.5 | 123.7 | 123.7 | 134.6 | 98.3  |                             |       |       |       |       |       |
|      | 90             | 141.1                       | 141.1 | 141.4 | 141.4 | 147.6 | 126.4 | 131.3                       | 131.3 | 131.5 | 131.5 | 135.7 | 121.0 |                             |       |       |       |       |       |
| 5500 | 75             | 120.8                       | 117.9 | 132.8 | 87.1  | 143.8 | 51.9  | 110.7                       | 110.7 | 121.3 | 82.1  | 130.8 | 47.1  |                             |       |       |       |       |       |
|      | 80             | 128.3                       | 128.3 | 134.0 | 112.4 | 147.0 | 80.7  | 118.7                       | 118.7 | 122.8 | 106.8 | 134.5 | 75.9  |                             |       |       |       |       |       |
|      | 85             | 136.7                       | 136.7 | 136.8 | 136.8 | 148.3 | 109.1 | 126.8                       | 126.8 | 126.9 | 126.9 | 135.9 | 104.3 |                             |       |       |       |       |       |
|      | 90             | 145.0                       | 145.0 | 145.2 | 145.2 | 149.5 | 134.1 | 134.7                       | 134.7 | 134.9 | 134.9 | 137.4 | 128.7 |                             |       |       |       |       |       |
| 6000 | 75             | 122.8                       | 122.8 | 134.0 | 91.0  | 144.5 | 52.9  | 113.0                       | 113.0 | 122.3 | 86.1  | 131.4 | 48.1  |                             |       |       |       |       |       |
|      | 80             | 131.2                       | 131.2 | 135.5 | 118.1 | 148.2 | 84.1  | 121.3                       | 121.3 | 124.2 | 112.4 | 135.5 | 79.3  |                             |       |       |       |       |       |
|      | 85             | 139.8                       | 139.8 | 140.0 | 140.0 | 149.5 | 114.9 | 129.6                       | 129.6 | 129.7 | 129.7 | 136.9 | 105.9 |                             |       |       |       |       |       |
|      | 90             | 148.4                       | 148.4 | 148.6 | 148.6 | 151.2 | 141.7 | 137.7                       | 137.7 | 137.9 | 137.9 | 139.0 | 136.2 |                             |       |       |       |       |       |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity



## Gross Cooling Capacities

**Table 6. Gross cooling capacities — 15 tons**

| CFM  | Ent DB<br>(°F) | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       |
|------|----------------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|
|      |                | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       |
|      |                | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   |
|      |                | Ambient Temperature 85°F    |       |       |       |       |       | Ambient Temperature 95°F    |       |       |       |       |       | Ambient Temperature 105°F   |       |       |       |       |       |
| 4500 | 75             | 165.1                       | 129.5 | 183.4 | 101.0 | 202.7 | 71.5  | 155.7                       | 124.2 | 173.1 | 95.8  | 191.4 | 66.3  | 145.8                       | 118.8 | 162.4 | 90.4  | 179.6 | 61.0  |
|      | 80             | 165.8                       | 152.9 | 184.0 | 124.5 | 203.1 | 95.1  | 156.5                       | 146.8 | 173.8 | 119.3 | 191.9 | 90.0  | 146.9                       | 141.3 | 163.0 | 113.9 | 180.2 | 84.7  |
|      | 85             | 169.8                       | 169.8 | 184.4 | 147.9 | 203.6 | 118.7 | 161.9                       | 161.9 | 174.3 | 142.7 | 192.5 | 113.6 | 153.5                       | 153.5 | 163.6 | 137.4 | 180.9 | 108.3 |
|      | 90             | 179.1                       | 179.1 | 185.3 | 171.4 | 204.1 | 142.1 | 171.0                       | 171.0 | 175.3 | 166.2 | 193.0 | 137.1 | 162.4                       | 162.4 | 165.0 | 159.8 | 181.4 | 131.8 |
| 5400 | 75             | 170.9                       | 142.9 | 189.1 | 108.9 | 208.1 | 73.7  | 161.0                       | 137.5 | 178.3 | 103.6 | 196.2 | 68.5  | 150.7                       | 132.0 | 167.1 | 98.1  | 183.8 | 63.2  |
|      | 80             | 172.9                       | 169.9 | 189.8 | 136.8 | 208.8 | 101.8 | 163.5                       | 163.5 | 179.0 | 131.5 | 197.0 | 96.6  | 154.0                       | 154.0 | 167.8 | 126.0 | 184.8 | 91.3  |
|      | 85             | 181.4                       | 181.4 | 190.5 | 164.6 | 209.3 | 129.8 | 172.7                       | 172.7 | 180.0 | 159.4 | 197.7 | 124.6 | 163.6                       | 163.6 | 168.9 | 154.0 | 185.5 | 119.3 |
|      | 90             | 191.4                       | 191.4 | 192.9 | 191.5 | 209.8 | 157.7 | 182.5                       | 182.5 | 183.0 | 183.0 | 198.3 | 152.5 | 173.1                       | 173.1 | 173.3 | 173.3 | 186.2 | 147.3 |
| 6000 | 75             | 174.0                       | 151.5 | 192.1 | 113.9 | 210.9 | 75.1  | 163.9                       | 146.1 | 181.0 | 108.5 | 198.6 | 69.9  | 153.4                       | 140.6 | 169.5 | 103.0 | 186.0 | 64.5  |
|      | 80             | 177.4                       | 177.4 | 192.7 | 144.6 | 211.6 | 106.1 | 168.5                       | 168.5 | 181.7 | 139.3 | 199.6 | 100.9 | 159.2                       | 159.2 | 170.3 | 133.8 | 187.1 | 95.6  |
|      | 85             | 187.7                       | 187.7 | 194.0 | 175.5 | 212.2 | 137.0 | 178.6                       | 178.6 | 183.2 | 168.9 | 200.3 | 131.8 | 169.1                       | 169.1 | 172.1 | 163.2 | 187.9 | 126.5 |
|      | 90             | 198.1                       | 198.1 | 198.2 | 198.2 | 212.9 | 167.8 | 188.7                       | 188.7 | 189.0 | 189.0 | 201.1 | 162.6 | 178.8                       | 178.8 | 179.1 | 179.1 | 188.8 | 157.3 |
| 6600 | 75             | 176.8                       | 160.0 | 194.5 | 118.7 | 213.1 | 76.4  | 166.5                       | 154.6 | 183.2 | 113.3 | 200.6 | 71.2  | 156.0                       | 147.2 | 171.5 | 107.8 | 187.8 | 65.8  |
|      | 80             | 182.5                       | 182.5 | 195.2 | 152.3 | 214.0 | 110.3 | 173.3                       | 173.3 | 184.0 | 147.0 | 201.8 | 105.1 | 163.7                       | 163.7 | 172.4 | 141.5 | 189.1 | 99.7  |
|      | 85             | 193.2                       | 193.2 | 197.1 | 184.6 | 214.6 | 144.0 | 183.7                       | 183.7 | 186.2 | 179.1 | 202.5 | 138.8 | 173.8                       | 173.8 | 175.0 | 173.4 | 189.8 | 133.4 |
|      | 90             | 203.8                       | 203.8 | 204.1 | 204.1 | 215.5 | 177.7 | 194.1                       | 194.1 | 194.3 | 194.3 | 203.5 | 172.5 | 183.8                       | 183.8 | 184.1 | 184.1 | 191.0 | 167.2 |
| 7200 | 75             | 179.3                       | 166.6 | 196.6 | 123.4 | 215.0 | 77.7  | 169.0                       | 160.9 | 185.1 | 118.0 | 202.4 | 72.5  | 158.4                       | 155.0 | 173.2 | 112.5 | 189.3 | 67.1  |
|      | 80             | 187.0                       | 187.0 | 197.4 | 159.8 | 216.0 | 114.4 | 177.5                       | 177.5 | 186.1 | 154.5 | 203.6 | 109.1 | 167.5                       | 167.5 | 174.3 | 149.0 | 190.7 | 103.7 |
|      | 85             | 197.9                       | 197.9 | 200.0 | 194.7 | 216.7 | 150.8 | 188.1                       | 188.1 | 189.2 | 189.1 | 204.3 | 145.6 | 177.8                       | 177.8 | 178.1 | 178.1 | 191.4 | 140.3 |
|      | 90             | 208.9                       | 208.9 | 209.1 | 209.1 | 217.8 | 187.4 | 198.8                       | 198.8 | 199.0 | 199.0 | 205.7 | 182.3 | 188.1                       | 188.1 | 188.3 | 188.3 | 193.1 | 174.8 |
|      |                | Ambient Temperature 115°F   |       |       |       |       |       | Ambient Temperature 125°F   |       |       |       |       |       |                             |       |       |       |       |       |
| 4500 | 75             | 135.4                       | 113.1 | 151.1 | 84.9  | 167.1 | 55.6  | 124.3                       | 107.2 | 139.0 | 79.0  | 153.6 | 49.8  |                             |       |       |       |       |       |
|      | 80             | 136.9                       | 135.5 | 151.8 | 108.4 | 167.9 | 79.3  | 126.5                       | 126.5 | 139.7 | 102.5 | 154.6 | 73.5  |                             |       |       |       |       |       |
|      | 85             | 144.5                       | 144.5 | 152.4 | 131.8 | 168.6 | 102.9 | 134.9                       | 134.9 | 140.5 | 126.0 | 155.4 | 97.1  |                             |       |       |       |       |       |
|      | 90             | 153.2                       | 153.2 | 154.3 | 154.2 | 169.2 | 126.4 | 143.2                       | 143.2 | 143.5 | 143.5 | 156.0 | 120.6 |                             |       |       |       |       |       |
| 5400 | 75             | 139.9                       | 126.3 | 155.3 | 92.5  | 170.8 | 57.7  | 128.5                       | 118.8 | 142.6 | 86.6  | 156.8 | 51.9  |                             |       |       |       |       |       |
|      | 80             | 144.7                       | 144.7 | 156.0 | 120.4 | 172.0 | 85.8  | 134.5                       | 134.5 | 143.4 | 114.5 | 158.2 | 80.0  |                             |       |       |       |       |       |
|      | 85             | 153.9                       | 153.9 | 157.4 | 146.9 | 172.7 | 113.8 | 143.3                       | 143.3 | 145.2 | 140.8 | 158.9 | 108.0 |                             |       |       |       |       |       |
|      | 90             | 163.0                       | 163.0 | 163.3 | 163.3 | 173.5 | 141.8 | 152.1                       | 152.1 | 152.4 | 152.4 | 159.8 | 136.0 |                             |       |       |       |       |       |
| 6000 | 75             | 142.5                       | 133.2 | 157.4 | 97.4  | 172.7 | 59.0  | 131.0                       | 126.8 | 144.5 | 91.4  | 158.5 | 53.2  |                             |       |       |       |       |       |
|      | 80             | 149.4                       | 149.4 | 158.3 | 128.2 | 174.0 | 90.1  | 138.8                       | 138.8 | 145.5 | 122.3 | 159.9 | 84.2  |                             |       |       |       |       |       |
|      | 85             | 158.9                       | 158.9 | 160.4 | 157.3 | 174.8 | 120.9 | 147.9                       | 147.9 | 148.2 | 148.2 | 160.7 | 115.1 |                             |       |       |       |       |       |
|      | 90             | 168.3                       | 168.3 | 168.6 | 168.6 | 175.8 | 151.9 | 156.8                       | 156.8 | 157.1 | 157.1 | 161.9 | 146.1 |                             |       |       |       |       |       |
| 6600 | 75             | 145.0                       | 141.1 | 159.2 | 102.1 | 174.3 | 60.3  | 133.4                       | 133.4 | 146.0 | 96.1  | 159.8 | 54.4  |                             |       |       |       |       |       |
|      | 80             | 153.5                       | 153.5 | 160.2 | 135.8 | 175.7 | 94.2  | 142.4                       | 142.4 | 147.2 | 129.9 | 161.4 | 88.3  |                             |       |       |       |       |       |
|      | 85             | 163.2                       | 163.2 | 163.5 | 163.5 | 176.5 | 127.9 | 151.7                       | 151.7 | 151.9 | 151.9 | 162.3 | 122.1 |                             |       |       |       |       |       |
|      | 90             | 172.8                       | 172.8 | 173.1 | 173.1 | 177.9 | 161.8 | 160.9                       | 160.9 | 161.1 | 161.1 | 164.0 | 153.4 |                             |       |       |       |       |       |
| 7200 | 75             | 147.3                       | 147.3 | 160.7 | 106.8 | 175.6 | 61.5  | 136.0                       | 136.0 | 147.3 | 100.8 | 161.0 | 55.7  |                             |       |       |       |       |       |
|      | 80             | 157.0                       | 157.0 | 162.0 | 143.3 | 177.2 | 98.2  | 145.6                       | 145.6 | 148.9 | 134.8 | 162.6 | 92.3  |                             |       |       |       |       |       |
|      | 85             | 166.9                       | 166.9 | 167.1 | 167.1 | 178.0 | 134.7 | 155.0                       | 155.0 | 155.2 | 155.2 | 163.6 | 128.9 |                             |       |       |       |       |       |
|      | 90             | 176.7                       | 176.7 | 176.9 | 176.9 | 179.9 | 168.9 | 164.3                       | 164.3 | 164.5 | 164.5 | 165.9 | 162.5 |                             |       |       |       |       |       |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity

**Table 7. Gross cooling capacities — 20 tons**

| CFM  | Ent DB<br>(°F) | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       |
|------|----------------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|
|      |                | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       |
|      |                | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   |
|      |                | Ambient Temperature 85°F    |       |       |       |       |       | Ambient Temperature 95°F    |       |       |       |       |       | Ambient Temperature 105°F   |       |       |       |       |       |
| 6000 | 75             | 222.9                       | 176.2 | 248.0 | 138.3 | 274.7 | 98.9  | 209.8                       | 169.3 | 233.8 | 131.5 | 259.0 | 92.3  | 195.7                       | 162.0 | 218.6 | 124.4 | 242.3 | 85.4  |
|      | 80             | 224.4                       | 207.8 | 248.9 | 169.8 | 275.3 | 130.6 | 211.6                       | 199.6 | 234.8 | 163.0 | 259.9 | 124.1 | 198.0                       | 192.1 | 219.7 | 155.9 | 243.5 | 117.2 |
|      | 85             | 230.4                       | 230.4 | 249.6 | 201.1 | 276.1 | 162.2 | 219.6                       | 219.6 | 235.7 | 194.4 | 260.9 | 155.7 | 207.8                       | 207.8 | 220.8 | 187.4 | 244.6 | 148.8 |
|      | 90             | 243.2                       | 243.2 | 251.3 | 232.8 | 276.8 | 193.7 | 232.1                       | 232.1 | 237.7 | 226.2 | 261.7 | 187.2 | 220.2                       | 220.2 | 223.3 | 217.5 | 245.5 | 180.3 |
| 7200 | 75             | 231.0                       | 194.2 | 255.9 | 148.8 | 282.1 | 102.0 | 217.3                       | 187.2 | 241.0 | 141.9 | 265.7 | 95.3  | 202.6                       | 179.9 | 225.1 | 134.8 | 248.1 | 88.3  |
|      | 80             | 234.4                       | 230.4 | 256.9 | 186.2 | 283.2 | 139.6 | 221.5                       | 221.5 | 242.1 | 179.3 | 267.0 | 133.0 | 208.2                       | 208.2 | 226.2 | 172.2 | 249.9 | 126.1 |
|      | 85             | 246.1                       | 246.1 | 258.4 | 223.7 | 284.1 | 177.1 | 234.3                       | 234.3 | 243.9 | 217.0 | 268.2 | 170.6 | 221.5                       | 221.5 | 228.4 | 209.9 | 251.1 | 163.7 |
|      | 90             | 259.9                       | 259.9 | 262.2 | 259.7 | 284.9 | 214.5 | 247.8                       | 247.8 | 248.7 | 248.7 | 269.2 | 208.0 | 234.8                       | 234.8 | 235.1 | 235.1 | 252.3 | 201.2 |
| 8000 | 75             | 235.4                       | 205.8 | 260.0 | 155.5 | 285.9 | 103.8 | 221.4                       | 198.8 | 244.7 | 148.6 | 269.0 | 97.1  | 206.5                       | 189.1 | 228.4 | 141.4 | 251.1 | 90.1  |
|      | 80             | 240.7                       | 240.7 | 261.0 | 196.7 | 287.2 | 145.4 | 228.4                       | 228.4 | 245.9 | 189.9 | 270.7 | 138.7 | 215.3                       | 215.3 | 229.8 | 182.7 | 253.2 | 131.8 |
|      | 85             | 254.8                       | 254.8 | 263.3 | 238.3 | 288.2 | 186.8 | 242.4                       | 242.4 | 248.5 | 229.4 | 271.8 | 180.1 | 229.0                       | 229.0 | 232.9 | 221.8 | 254.4 | 173.2 |
|      | 90             | 269.1                       | 269.1 | 269.5 | 269.5 | 289.3 | 228.1 | 256.4                       | 256.4 | 256.8 | 256.8 | 273.2 | 221.5 | 242.7                       | 242.7 | 243.0 | 243.0 | 256.1 | 214.7 |
| 8800 | 75             | 239.3                       | 217.2 | 263.4 | 162.0 | 289.0 | 105.6 | 225.1                       | 207.7 | 247.8 | 155.0 | 271.8 | 98.9  | 210.2                       | 199.8 | 231.2 | 147.8 | 253.6 | 91.9  |
|      | 80             | 247.5                       | 247.5 | 264.6 | 207.0 | 290.6 | 151.0 | 234.9                       | 234.9 | 249.2 | 200.2 | 273.7 | 144.3 | 221.3                       | 221.3 | 232.8 | 193.0 | 255.9 | 137.4 |
|      | 85             | 262.2                       | 262.2 | 267.7 | 250.2 | 291.6 | 196.1 | 249.3                       | 249.3 | 252.9 | 243.1 | 274.9 | 189.5 | 235.4                       | 235.4 | 237.2 | 235.5 | 257.2 | 182.6 |
|      | 90             | 277.0                       | 277.0 | 277.4 | 277.4 | 293.2 | 241.4 | 263.7                       | 263.7 | 264.1 | 264.1 | 276.8 | 234.8 | 249.5                       | 249.5 | 249.8 | 249.8 | 259.4 | 228.0 |
| 9600 | 75             | 242.9                       | 225.7 | 266.3 | 168.3 | 291.6 | 107.3 | 228.7                       | 218.1 | 250.4 | 161.3 | 274.2 | 100.6 | 213.6                       | 210.2 | 233.5 | 154.0 | 255.7 | 93.5  |
|      | 80             | 253.6                       | 253.6 | 267.8 | 217.1 | 293.4 | 156.5 | 240.5                       | 240.5 | 252.2 | 210.3 | 276.3 | 149.8 | 226.6                       | 226.6 | 235.6 | 203.1 | 258.2 | 142.8 |
|      | 85             | 268.7                       | 268.7 | 272.0 | 263.7 | 294.5 | 205.3 | 255.4                       | 255.4 | 257.0 | 256.4 | 277.5 | 198.7 | 241.0                       | 241.0 | 241.5 | 241.5 | 259.6 | 191.7 |
|      | 90             | 283.9                       | 283.9 | 284.3 | 284.3 | 296.6 | 254.4 | 270.2                       | 270.2 | 270.5 | 270.5 | 280.0 | 247.9 | 255.4                       | 255.4 | 255.7 | 255.7 | 262.4 | 241.1 |
|      |                | Ambient Temperature 115°F   |       |       |       |       |       | Ambient Temperature 125°F   |       |       |       |       |       |                             |       |       |       |       |       |
| 6000 | 75             | 180.7                       | 154.3 | 202.3 | 117.0 | 224.3 | 78.2  | 164.5                       | 146.3 | 184.8 | 109.1 | 204.9 | 70.5  |                             |       |       |       |       |       |
|      | 80             | 183.7                       | 183.7 | 203.5 | 148.5 | 226.0 | 110.0 | 169.5                       | 169.5 | 186.0 | 140.7 | 207.1 | 102.5 |                             |       |       |       |       |       |
|      | 85             | 195.1                       | 195.1 | 204.8 | 180.1 | 227.2 | 141.7 | 181.3                       | 181.3 | 187.6 | 172.4 | 208.4 | 134.1 |                             |       |       |       |       |       |
|      | 90             | 207.2                       | 207.2 | 208.3 | 208.3 | 228.2 | 173.2 | 193.1                       | 193.1 | 193.5 | 193.5 | 209.5 | 165.7 |                             |       |       |       |       |       |
| 7200 | 75             | 187.0                       | 170.0 | 208.1 | 127.2 | 229.5 | 81.0  | 170.5                       | 161.3 | 189.9 | 119.3 | 209.3 | 73.3  |                             |       |       |       |       |       |
|      | 80             | 194.8                       | 194.8 | 209.4 | 164.7 | 231.7 | 118.9 | 180.2                       | 180.2 | 191.3 | 156.9 | 212.0 | 111.3 |                             |       |       |       |       |       |
|      | 85             | 207.8                       | 207.8 | 212.0 | 200.1 | 233.0 | 156.5 | 192.8                       | 192.8 | 194.7 | 191.7 | 213.4 | 148.9 |                             |       |       |       |       |       |
|      | 90             | 220.7                       | 220.7 | 221.0 | 221.0 | 234.4 | 194.0 | 205.3                       | 205.3 | 205.6 | 205.6 | 215.1 | 186.5 |                             |       |       |       |       |       |
| 8000 | 75             | 190.8                       | 180.8 | 211.1 | 133.8 | 232.1 | 82.8  | 174.2                       | 172.0 | 192.4 | 125.9 | 211.6 | 75.1  |                             |       |       |       |       |       |
|      | 80             | 201.3                       | 201.3 | 212.6 | 175.2 | 234.6 | 124.6 | 186.0                       | 186.0 | 194.3 | 167.3 | 214.5 | 116.9 |                             |       |       |       |       |       |
|      | 85             | 214.6                       | 214.6 | 216.5 | 213.9 | 235.9 | 166.0 | 199.0                       | 199.0 | 199.3 | 199.3 | 216.0 | 158.4 |                             |       |       |       |       |       |
|      | 90             | 227.9                       | 227.9 | 228.3 | 228.3 | 237.9 | 207.6 | 211.8                       | 211.8 | 212.1 | 212.1 | 218.2 | 196.8 |                             |       |       |       |       |       |
| 8800 | 75             | 194.4                       | 191.4 | 213.5 | 140.2 | 234.3 | 84.5  | 177.8                       | 177.8 | 194.5 | 132.2 | 213.4 | 76.8  |                             |       |       |       |       |       |
|      | 80             | 206.8                       | 206.8 | 215.5 | 185.5 | 237.0 | 130.1 | 191.0                       | 191.0 | 196.8 | 174.0 | 216.6 | 122.4 |                             |       |       |       |       |       |
|      | 85             | 220.5                       | 220.5 | 220.9 | 220.9 | 238.4 | 175.3 | 204.3                       | 204.3 | 204.5 | 204.5 | 218.2 | 167.7 |                             |       |       |       |       |       |
|      | 90             | 234.2                       | 234.2 | 234.4 | 234.4 | 240.9 | 217.6 | 217.4                       | 217.4 | 217.6 | 217.6 | 221.3 | 209.2 |                             |       |       |       |       |       |
| 9600 | 75             | 197.8                       | 197.8 | 215.6 | 146.4 | 236.1 | 86.2  | 181.6                       | 181.6 | 196.3 | 138.4 | 214.9 | 78.4  |                             |       |       |       |       |       |
|      | 80             | 211.5                       | 211.5 | 217.9 | 192.1 | 239.0 | 135.5 | 195.3                       | 195.3 | 199.3 | 183.3 | 218.3 | 127.8 |                             |       |       |       |       |       |
|      | 85             | 225.6                       | 225.6 | 225.8 | 225.8 | 240.6 | 184.5 | 208.8                       | 208.8 | 209.0 | 209.0 | 220.2 | 176.9 |                             |       |       |       |       |       |
|      | 90             | 239.5                       | 239.5 | 239.8 | 239.8 | 243.9 | 229.8 | 222.1                       | 222.1 | 222.4 | 222.4 | 224.2 | 221.3 |                             |       |       |       |       |       |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity



## Gross Cooling Capacities

**Table 8. Gross cooling capacities — 25 tons**

| CFM   | Ent DB<br>(°F) | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       | Entering Wet Bulb Temp (°F) |       |       |       |       |       |
|-------|----------------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|-----------------------------|-------|-------|-------|-------|-------|
|       |                | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       | 61                          |       | 67    |       | 73    |       |
|       |                | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   | MBh                         | SHC   | MBh   | SHC   | MBh   | SHC   |
|       |                | Ambient Temperature 85°F    |       |       |       |       |       | Ambient Temperature 95°F    |       |       |       |       |       | Ambient Temperature 105°F   |       |       |       |       |       |
| 7500  | 75             | 247.4                       | 201.9 | 273.9 | 155.7 | 301.5 | 107.9 | 233.5                       | 194.4 | 258.6 | 148.2 | 284.3 | 100.4 | 218.8                       | 186.5 | 242.5 | 140.4 | 266.0 | 92.7  |
|       | 80             | 250.4                       | 238.1 | 275.3 | 193.8 | 303.1 | 146.3 | 237.0                       | 230.3 | 260.1 | 186.3 | 286.4 | 138.9 | 222.9                       | 222.1 | 244.0 | 178.5 | 268.8 | 131.3 |
|       | 85             | 260.5                       | 260.5 | 276.6 | 231.8 | 304.4 | 184.4 | 248.4                       | 248.4 | 261.7 | 224.4 | 288.0 | 177.1 | 235.4                       | 235.4 | 245.9 | 216.7 | 270.5 | 169.5 |
|       | 90             | 274.9                       | 274.9 | 280.0 | 267.7 | 305.4 | 222.4 | 262.5                       | 262.5 | 265.6 | 260.0 | 289.1 | 215.2 | 249.2                       | 249.2 | 250.6 | 250.6 | 271.7 | 207.6 |
| 9000  | 75             | 255.6                       | 222.5 | 281.6 | 167.6 | 308.2 | 111.2 | 241.2                       | 214.9 | 265.7 | 160.0 | 290.4 | 103.8 | 225.8                       | 207.0 | 248.8 | 152.1 | 271.5 | 96.0  |
|       | 80             | 261.5                       | 261.5 | 283.1 | 212.5 | 310.7 | 156.6 | 248.1                       | 248.1 | 267.3 | 204.9 | 293.4 | 149.1 | 234.5                       | 234.5 | 250.5 | 197.0 | 275.0 | 141.4 |
|       | 85             | 276.3                       | 276.3 | 285.7 | 257.7 | 312.3 | 201.6 | 263.1                       | 263.1 | 270.3 | 250.3 | 295.1 | 194.2 | 249.1                       | 249.1 | 253.9 | 238.4 | 276.9 | 186.5 |
|       | 90             | 291.7                       | 291.7 | 292.4 | 292.4 | 313.6 | 246.4 | 278.2                       | 278.2 | 278.3 | 278.3 | 296.7 | 239.1 | 263.7                       | 263.7 | 264.1 | 264.1 | 278.7 | 231.5 |
| 10000 | 75             | 260.2                       | 235.7 | 285.7 | 175.2 | 311.9 | 113.4 | 245.5                       | 228.1 | 269.3 | 167.5 | 293.6 | 105.8 | 230.0                       | 215.4 | 252.0 | 159.6 | 274.4 | 98.0  |
|       | 80             | 268.7                       | 268.7 | 287.2 | 224.4 | 314.7 | 163.1 | 255.6                       | 255.6 | 271.1 | 216.8 | 297.0 | 155.6 | 241.4                       | 241.4 | 254.0 | 209.0 | 278.2 | 147.9 |
|       | 85             | 284.8                       | 284.8 | 290.9 | 270.6 | 316.3 | 212.5 | 271.1                       | 271.1 | 275.3 | 262.5 | 298.8 | 205.1 | 256.4                       | 256.4 | 258.9 | 253.9 | 280.1 | 197.3 |
|       | 90             | 300.8                       | 300.8 | 301.2 | 301.2 | 318.1 | 261.9 | 286.7                       | 286.7 | 287.0 | 287.0 | 300.9 | 254.5 | 271.5                       | 271.5 | 271.8 | 271.8 | 282.6 | 246.9 |
| 11000 | 75             | 264.3                       | 248.5 | 289.0 | 182.4 | 314.9 | 115.4 | 249.5                       | 235.9 | 272.4 | 174.8 | 296.3 | 107.8 | 233.9                       | 227.1 | 254.8 | 166.7 | 276.7 | 99.9  |
|       | 80             | 275.8                       | 275.8 | 290.8 | 236.0 | 318.1 | 169.4 | 262.0                       | 262.0 | 274.5 | 228.4 | 300.0 | 161.9 | 247.2                       | 247.2 | 257.2 | 220.5 | 280.9 | 154.1 |
|       | 85             | 292.2                       | 292.2 | 295.8 | 285.7 | 319.7 | 223.0 | 277.9                       | 277.9 | 280.1 | 277.5 | 301.8 | 215.6 | 262.7                       | 262.7 | 263.6 | 263.6 | 282.9 | 207.8 |
|       | 90             | 308.6                       | 308.6 | 308.9 | 308.9 | 322.1 | 276.9 | 293.9                       | 293.9 | 294.2 | 294.2 | 304.6 | 269.5 | 278.2                       | 278.2 | 278.4 | 278.4 | 286.1 | 261.9 |
| 12000 | 75             | 268.2                       | 255.8 | 291.9 | 189.5 | 317.4 | 117.3 | 253.2                       | 247.3 | 275.0 | 181.7 | 298.6 | 109.7 | 237.4                       | 237.4 | 257.1 | 173.7 | 278.6 | 101.8 |
|       | 80             | 281.8                       | 281.8 | 294.1 | 247.3 | 320.9 | 175.5 | 267.5                       | 267.5 | 277.5 | 239.7 | 302.5 | 167.9 | 252.3                       | 252.3 | 260.0 | 231.7 | 283.2 | 160.1 |
|       | 85             | 298.5                       | 298.5 | 300.4 | 300.4 | 322.6 | 233.2 | 283.8                       | 283.8 | 284.6 | 284.6 | 304.4 | 225.8 | 268.1                       | 268.1 | 268.2 | 268.2 | 285.2 | 218.0 |
|       | 90             | 315.3                       | 315.3 | 315.7 | 315.7 | 325.7 | 291.4 | 300.1                       | 300.1 | 300.4 | 300.4 | 308.0 | 284.1 | 283.9                       | 283.9 | 284.1 | 284.1 | 289.3 | 269.9 |
|       |                | Ambient Temperature 115°F   |       |       |       |       |       | Ambient Temperature 125°F   |       |       |       |       |       |                             |       |       |       |       |       |
| 7500  | 75             | 203.0                       | 178.3 | 225.2 | 132.2 | 246.7 | 84.6  | 186.2                       | 169.5 | 206.7 | 123.5 | 225.9 | 76.1  |                             |       |       |       |       |       |
|       | 80             | 208.2                       | 208.2 | 226.8 | 170.3 | 250.0 | 123.3 | 193.3                       | 193.3 | 208.4 | 161.7 | 229.8 | 114.8 |                             |       |       |       |       |       |
|       | 85             | 221.4                       | 221.4 | 229.0 | 208.7 | 251.9 | 161.5 | 206.2                       | 206.2 | 211.0 | 196.2 | 231.7 | 153.1 |                             |       |       |       |       |       |
|       | 90             | 234.8                       | 234.8 | 235.0 | 235.0 | 253.3 | 199.7 | 219.1                       | 219.1 | 219.4 | 219.4 | 233.3 | 191.2 |                             |       |       |       |       |       |
| 9000  | 75             | 209.6                       | 194.3 | 230.8 | 143.8 | 251.5 | 87.8  | 192.5                       | 184.5 | 211.5 | 135.1 | 229.9 | 79.2  |                             |       |       |       |       |       |
|       | 80             | 219.8                       | 219.8 | 232.7 | 188.8 | 255.5 | 133.4 | 203.9                       | 203.9 | 213.7 | 180.2 | 234.5 | 124.8 |                             |       |       |       |       |       |
|       | 85             | 234.0                       | 234.0 | 236.8 | 229.5 | 257.5 | 178.4 | 217.5                       | 217.5 | 218.6 | 218.6 | 236.6 | 169.9 |                             |       |       |       |       |       |
|       | 90             | 248.1                       | 248.1 | 248.4 | 248.4 | 259.7 | 223.6 | 231.1                       | 231.1 | 231.3 | 231.3 | 239.1 | 215.1 |                             |       |       |       |       |       |
| 10000 | 75             | 213.7                       | 206.2 | 233.7 | 151.2 | 253.9 | 89.8  | 196.3                       | 196.2 | 214.0 | 142.4 | 231.8 | 81.1  |                             |       |       |       |       |       |
|       | 80             | 226.1                       | 226.1 | 236.0 | 200.7 | 258.4 | 139.8 | 209.5                       | 209.5 | 216.5 | 186.5 | 237.0 | 131.2 |                             |       |       |       |       |       |
|       | 85             | 240.7                       | 240.7 | 241.7 | 241.7 | 260.4 | 189.2 | 223.5                       | 223.5 | 223.6 | 223.6 | 239.1 | 180.7 |                             |       |       |       |       |       |
|       | 90             | 255.2                       | 255.2 | 255.5 | 255.5 | 263.3 | 239.0 | 237.4                       | 237.4 | 237.6 | 237.6 | 242.5 | 224.2 |                             |       |       |       |       |       |
| 11000 | 75             | 217.4                       | 217.4 | 236.1 | 158.4 | 255.8 | 91.7  | 200.0                       | 200.0 | 216.0 | 149.5 | 233.2 | 82.9  |                             |       |       |       |       |       |
|       | 80             | 231.4                       | 231.4 | 238.9 | 212.3 | 260.7 | 146.0 | 214.3                       | 214.3 | 219.3 | 196.7 | 239.0 | 137.3 |                             |       |       |       |       |       |
|       | 85             | 246.4                       | 246.4 | 246.5 | 246.5 | 262.8 | 199.7 | 228.6                       | 228.6 | 228.8 | 228.8 | 241.3 | 191.1 |                             |       |       |       |       |       |
|       | 90             | 261.3                       | 261.3 | 261.5 | 261.5 | 266.6 | 247.5 | 242.7                       | 242.7 | 243.0 | 243.0 | 245.7 | 237.6 |                             |       |       |       |       |       |
| 12000 | 75             | 220.9                       | 220.9 | 238.1 | 165.3 | 257.3 | 93.5  | 203.7                       | 203.7 | 217.7 | 156.3 | 234.3 | 84.7  |                             |       |       |       |       |       |
|       | 80             | 236.1                       | 236.1 | 241.5 | 216.8 | 262.7 | 152.0 | 218.4                       | 218.4 | 221.8 | 206.4 | 240.6 | 143.3 |                             |       |       |       |       |       |
|       | 85             | 251.3                       | 251.3 | 251.5 | 251.5 | 265.0 | 209.9 | 232.9                       | 232.9 | 233.1 | 233.1 | 243.3 | 201.3 |                             |       |       |       |       |       |
|       | 90             | 266.4                       | 266.4 | 266.7 | 266.7 | 269.8 | 260.6 | 247.3                       | 247.3 | 247.5 | 247.5 | 248.8 | 248.8 |                             |       |       |       |       |       |

**Notes:**

1. All capacities shown are gross and have not considered indoor fan heat. To obtain NET cooling capacity subtract indoor fan heat. For indoor fan heat formula, refer to appropriate airflow table notes.
2. MBh = Total gross capacity
3. SHC = Sensible heat capacity



# Heating Capacities

**Table 9. Heating capacities — 12.5 tons**

| Outdoor Temp (°F)<br>0% RH | Integrated Heating Capacity (MBh/1000)<br>at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power (kW)<br>at Indicated Dry Bulb Temp (°F) |      |      |      |
|----------------------------|---------------------------------------------------------------------------|-------|-------|-------|-----------------------------------------------------|------|------|------|
|                            | 60                                                                        | 70    | 75    | 80    | 60                                                  | 70   | 75   | 80   |
| -8                         | 45.7                                                                      | 43.4  | 42.3  | 41.1  | 9.0                                                 | 9.9  | 10.3 | 10.8 |
| -3                         | 52.6                                                                      | 50.3  | 49.1  | 47.9  | 9.1                                                 | 10.0 | 10.5 | 10.9 |
| 2                          | 59.8                                                                      | 57.3  | 56.1  | 54.8  | 9.2                                                 | 10.1 | 10.6 | 11.1 |
| 7                          | 67.3                                                                      | 64.6  | 63.3  | 61.9  | 9.4                                                 | 10.3 | 10.8 | 11.3 |
| 12                         | 75.3                                                                      | 72.5  | 71.1  | 69.7  | 9.5                                                 | 10.4 | 10.9 | 11.4 |
| 17                         | 83.7                                                                      | 80.6  | 79.1  | 77.7  | 9.7                                                 | 10.6 | 11.1 | 11.6 |
| 22                         | 92.6                                                                      | 89.3  | 87.7  | 86.1  | 9.8                                                 | 10.8 | 11.3 | 11.8 |
| 27                         | 101.9                                                                     | 98.3  | 96.5  | 94.8  | 10.0                                                | 10.9 | 11.5 | 12.0 |
| 32                         | 111.5                                                                     | 107.6 | 105.7 | 103.8 | 10.2                                                | 11.1 | 11.6 | 12.2 |
| 37                         | 121.1                                                                     | 116.8 | 114.7 | 112.7 | 10.4                                                | 11.3 | 11.8 | 12.4 |
| 42                         | 130.9                                                                     | 126.2 | 124.0 | 121.8 | 10.6                                                | 11.5 | 12.0 | 12.6 |
| 47                         | 141.0                                                                     | 136.0 | 133.5 | 131.2 | 10.8                                                | 11.7 | 12.3 | 12.8 |
| 52                         | 151.6                                                                     | 146.1 | 143.5 | 140.9 | 11.0                                                | 12.0 | 12.5 | 13.0 |
| 57                         | 162.5                                                                     | 156.5 | 153.7 | 150.9 | 11.2                                                | 12.2 | 12.7 | 13.3 |
| 62                         | 173.2                                                                     | 166.8 | 163.8 | 160.8 | 11.5                                                | 12.4 | 13.0 | 13.5 |
| 67                         | 185.1                                                                     | 178.1 | 174.8 | 171.5 | 11.7                                                | 12.7 | 13.2 | 13.8 |
| 72                         | 196.6                                                                     | 188.7 | 185.0 | 181.3 | 12.0                                                | 12.9 | 13.5 | 14.0 |

**Notes:**

1. For other airflow conditions, see heating capacity correction factor Net Heating Capacity and Power Input include indoor fan heat at nominal CFM and 0.35 inch ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Heating capacities and powers are integrated to include the effects of defrost in the frost region.
3. All heating capacities and power (kW) are at 70% OD relative humidity.

**Table 10. Heating capacities — 15 tons**

| Outdoor Temp (°F) 70%<br>RH | Integrated Heating Capacity (MBh/1000)<br>at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power in Kilowatts at Indicated<br>Dry Bulb Temp (°F) |      |      |      |
|-----------------------------|---------------------------------------------------------------------------|-------|-------|-------|-------------------------------------------------------------|------|------|------|
|                             | 60                                                                        | 70    | 75    | 80    | 60                                                          | 70   | 75   | 80   |
| -8                          | 55.5                                                                      | 54.0  | 53.2  | 52.3  | 11.0                                                        | 12.1 | 12.6 | 13.3 |
| -3                          | 63.6                                                                      | 61.8  | 60.9  | 59.9  | 11.1                                                        | 12.2 | 12.8 | 13.4 |
| 2                           | 72.0                                                                      | 70.0  | 68.9  | 67.9  | 11.3                                                        | 12.4 | 13.0 | 13.6 |
| 7                           | 80.8                                                                      | 78.6  | 77.4  | 76.2  | 11.5                                                        | 12.6 | 13.2 | 13.9 |
| 12                          | 90.2                                                                      | 87.7  | 86.4  | 85.1  | 11.7                                                        | 12.8 | 13.4 | 14.1 |
| 17                          | 99.9                                                                      | 97.1  | 95.7  | 94.2  | 11.9                                                        | 13.0 | 13.6 | 14.3 |
| 22                          | 110.3                                                                     | 107.2 | 105.6 | 104.0 | 12.1                                                        | 13.2 | 13.8 | 14.5 |
| 27                          | 121.0                                                                     | 117.6 | 115.8 | 114.0 | 12.3                                                        | 13.5 | 14.1 | 14.7 |
| 32                          | 132.2                                                                     | 128.4 | 126.5 | 124.5 | 12.5                                                        | 13.7 | 14.3 | 14.9 |
| 37                          | 143.3                                                                     | 139.0 | 136.9 | 134.8 | 12.7                                                        | 13.9 | 14.5 | 15.2 |
| 42                          | 154.7                                                                     | 150.0 | 147.6 | 145.3 | 13.0                                                        | 14.1 | 14.8 | 15.4 |
| 47                          | 166.2                                                                     | 161.1 | 158.6 | 156.0 | 13.2                                                        | 14.4 | 15.0 | 15.7 |
| 52                          | 178.2                                                                     | 172.6 | 169.8 | 167.1 | 13.4                                                        | 14.6 | 15.3 | 15.9 |
| 57                          | 190.5                                                                     | 184.3 | 181.3 | 178.3 | 13.7                                                        | 14.9 | 15.5 | 16.2 |



## Heating Capacities

**Table 10. Heating capacities — 15 tons (continued)**

| Outdoor Temp (°F) 70% RH | Integrated Heating Capacity (MBh/1000) at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power in Kilowatts at Indicated Dry Bulb Temp (°F) |      |      |      |
|--------------------------|------------------------------------------------------------------------|-------|-------|-------|----------------------------------------------------------|------|------|------|
|                          | 60                                                                     | 70    | 75    | 80    | 60                                                       | 70   | 75   | 80   |
| 62                       | 202.0                                                                  | 195.3 | 192.0 | 188.6 | 14.0                                                     | 15.1 | 15.8 | 16.4 |
| 67                       | 213.9                                                                  | 206.6 | 202.9 | 199.2 | 14.3                                                     | 15.4 | 16.1 | 16.7 |
| 72                       | 226.9                                                                  | 218.7 | 214.7 | 210.8 | 14.6                                                     | 15.8 | 16.4 | 17.1 |

**Notes:**

1. For other airflow conditions, see heating capacity correction factor Net Heating Capacity and Power Input include indoor fan heat at nominal CFM and 0.35 inch ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Heating capacities and powers are integrated to include the effects of defrost in the frost region.
3. All heating capacities and power (kW) are at 70% OD relative humidity.

**Table 11. Heating capacities — 20 tons**

| Outdoor Temp (°F) 70% RH | Integrated Heating Capacity (MBh/1000) at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power in Kilowatts at Indicated Dry Bulb Temp (°F) |      |      |      |
|--------------------------|------------------------------------------------------------------------|-------|-------|-------|----------------------------------------------------------|------|------|------|
|                          | 60                                                                     | 70    | 75    | 80    | 60                                                       | 70   | 75   | 80   |
| -8                       | 79.9                                                                   | 76.5  | 74.7  | 72.8  | 16.2                                                     | 17.7 | 18.5 | 19.4 |
| -3                       | 91.0                                                                   | 87.4  | 85.6  | 83.7  | 16.4                                                     | 17.9 | 18.8 | 19.7 |
| 2                        | 102.4                                                                  | 98.7  | 96.8  | 94.8  | 16.7                                                     | 18.2 | 19.0 | 19.9 |
| 7                        | 114.3                                                                  | 110.4 | 108.4 | 106.2 | 16.9                                                     | 18.4 | 19.3 | 20.2 |
| 12                       | 127.1                                                                  | 123.0 | 120.8 | 118.5 | 17.1                                                     | 18.7 | 19.5 | 20.5 |
| 17                       | 140.1                                                                  | 135.8 | 133.5 | 131.2 | 17.3                                                     | 18.9 | 19.8 | 20.7 |
| 22                       | 154.1                                                                  | 149.5 | 147.1 | 144.6 | 17.6                                                     | 19.2 | 20.1 | 21.0 |
| 27                       | 168.6                                                                  | 163.6 | 161.0 | 158.4 | 17.8                                                     | 19.4 | 20.3 | 21.3 |
| 32                       | 183.7                                                                  | 178.3 | 175.5 | 172.8 | 18.1                                                     | 19.7 | 20.6 | 21.5 |
| 37                       | 198.5                                                                  | 192.7 | 189.8 | 186.8 | 18.3                                                     | 20.0 | 20.9 | 21.8 |
| 42                       | 213.9                                                                  | 207.6 | 204.4 | 201.2 | 18.6                                                     | 20.2 | 21.1 | 22.1 |
| 47                       | 229.5                                                                  | 222.8 | 219.4 | 216.0 | 18.8                                                     | 20.5 | 21.4 | 22.4 |
| 52                       | 245.7                                                                  | 238.5 | 234.8 | 231.1 | 19.1                                                     | 20.8 | 21.7 | 22.7 |
| 57                       | 262.5                                                                  | 254.6 | 250.6 | 246.7 | 19.4                                                     | 21.1 | 22.0 | 23.0 |
| 62                       | 278.8                                                                  | 270.3 | 266.0 | 261.7 | 19.6                                                     | 21.3 | 22.3 | 23.3 |
| 67                       | 295.1                                                                  | 285.8 | 281.1 | 276.4 | 19.9                                                     | 21.6 | 22.6 | 23.6 |
| 72                       | 312.8                                                                  | 302.3 | 297.1 | 291.9 | 20.2                                                     | 22.0 | 22.9 | 23.9 |

**Notes:**

1. For other airflow conditions, see heating capacity correction factor Net Heating Capacity and Power Input include indoor fan heat at nominal CFM and 0.35 inch ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Heating capacities and powers are integrated to include the effects of defrost in the frost region.
3. All heating capacities and power (kW) are at 70% OD relative humidity.

**Table 12. Heating capacities — 25 tons**

| Outdoor Temp (°F) 70% RH | Integrated Heating Capacity (MBh/1000) at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power in Kilowatts at Indicated Dry Bulb Temp (°F) |      |      |      |
|--------------------------|------------------------------------------------------------------------|-------|-------|-------|----------------------------------------------------------|------|------|------|
|                          | 60                                                                     | 70    | 75    | 80    | 60                                                       | 70   | 75   | 80   |
| -8                       | 90.3                                                                   | 88.2  | 87.4  | 86.7  | 17.6                                                     | 19.2 | 20.1 | 21.0 |
| -3                       | 101.7                                                                  | 99.4  | 98.4  | 97.7  | 17.8                                                     | 19.5 | 20.4 | 21.3 |
| 2                        | 113.6                                                                  | 111.2 | 110.1 | 109.1 | 18.1                                                     | 19.7 | 20.6 | 21.6 |
| 7                        | 126.1                                                                  | 123.4 | 122.2 | 121.0 | 18.3                                                     | 20.0 | 20.9 | 21.8 |
| 12                       | 139.1                                                                  | 136.2 | 134.8 | 133.6 | 18.6                                                     | 20.2 | 21.2 | 22.1 |
| 17                       | 152.6                                                                  | 149.3 | 147.8 | 146.5 | 18.8                                                     | 20.5 | 21.4 | 22.4 |

**Table 12. Heating capacities — 25 tons (continued)**

| Outdoor Temp (°F) 70% RH | Integrated Heating Capacity (MBh/1000)<br>at Indicated Dry Bulb Temp (°F) |       |       |       | Total Power in Kilowatts at Indicated<br>Dry Bulb Temp (°F) |      |      |      |
|--------------------------|---------------------------------------------------------------------------|-------|-------|-------|-------------------------------------------------------------|------|------|------|
|                          | 60                                                                        | 70    | 75    | 80    | 60                                                          | 70   | 75   | 80   |
| 22                       | 167.0                                                                     | 163.5 | 161.8 | 160.1 | 19.1                                                        | 20.8 | 21.7 | 22.7 |
| 27                       | 182.0                                                                     | 177.9 | 176.2 | 174.3 | 19.3                                                        | 21.0 | 22.0 | 23.0 |
| 32                       | 197.9                                                                     | 193.6 | 191.2 | 189.3 | 19.6                                                        | 21.3 | 22.3 | 23.3 |
| 37                       | 213.6                                                                     | 208.8 | 206.4 | 204.2 | 19.8                                                        | 21.6 | 22.5 | 23.5 |
| 42                       | 230.0                                                                     | 224.7 | 222.1 | 219.5 | 20.1                                                        | 21.9 | 22.8 | 23.8 |
| 47                       | 246.6                                                                     | 240.8 | 237.9 | 235.0 | 20.4                                                        | 22.1 | 23.1 | 24.1 |
| 52                       | 263.9                                                                     | 257.5 | 254.3 | 251.2 | 20.6                                                        | 22.4 | 23.4 | 24.4 |
| 57                       | 282.2                                                                     | 275.2 | 271.6 | 268.1 | 20.9                                                        | 22.7 | 23.7 | 24.7 |
| 62                       | 300.4                                                                     | 292.6 | 288.7 | 284.8 | 21.2                                                        | 23.0 | 24.0 | 25.1 |
| 67                       | 318.4                                                                     | 309.8 | 305.4 | 301.0 | 21.5                                                        | 23.3 | 24.3 | 25.4 |
| 72                       | 338.1                                                                     | 328.1 | 323.2 | 318.2 | 21.9                                                        | 23.7 | 24.7 | 25.7 |

**Notes:**

1. For other airflow conditions, see heating capacity correction factor Net Heating Capacity and Power Input include indoor fan heat at nominal CFM and 0.35 inch ESP. To obtain net heating at other conditions, subtract fan heat at this condition and add fan heat at new condition.
2. Heating capacities and powers are integrated to include the effects of defrost in the frost region.
3. All heating capacities and power (kW) are at 70% OD relative humidity.

# Reheat Temperature Rise

**Table 13. Reheat temperature rise — 12.5 tons**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |         |                       |      |                     |         |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------|-----------------------|------|---------------------|---------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |         |                       |      | 55                  |         |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |         | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |         | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX     | MIN                   | MAX  | MIN                 | MAX     | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| Ambient DB 60°F  |                |                        |         |                       |      |                     |         |                       |      |                     |      |                       |      |
| 2500             | 60             | 30.1(a)                | 27.9(a) | 35.0                  | 59.2 | 34.3                | 32.5(a) | 39.4                  | 63.6 | 38.6                | 37.9 | 44.0                  | 67.5 |
|                  | 65             | 30.0(a)                | 27.8(a) | 35.0                  | 59.1 | 34.1                | 32.3(a) | 39.4                  | 63.6 | 38.5                | 37.7 | 44.0                  | 67.4 |
|                  | 70             | 30.0(a)                | 27.8(a) | 35.1                  | 59.0 | 34.0                | 32.2(a) | 39.4                  | 63.5 | 38.3                | 37.6 | 44.0                  | 67.4 |
|                  | 75             | 32.0(a)                | 29.1(a) | 37.4                  | 60.6 | 34.0                | 32.1(a) | 39.2                  | 63.4 | 38.2                | 37.4 | 43.9                  | 67.3 |
| 3000             | 60             | 33.3                   | 31.1(a) | 37.5                  | 58.4 | 37.5                | 35.7    | 42.0                  | 62.9 | 41.9                | 41.0 | 46.6                  | 67.0 |
|                  | 65             | 33.2                   | 31.0(a) | 37.5                  | 58.4 | 37.4                | 35.6    | 42.0                  | 62.9 | 41.8                | 40.8 | 46.6                  | 66.9 |
|                  | 70             | 33.5                   | 31.0(a) | 38.2                  | 58.5 | 37.3                | 35.5    | 42.0                  | 62.9 | 41.6                | 40.7 | 46.6                  | 66.9 |
|                  | 75             | 36.5                   | 33.7    | 41.6                  | 61.5 | 37.2                | 35.4    | 42.2                  | 62.9 | 41.5                | 40.6 | 46.6                  | 66.9 |
| 3500             | 60             | 35.7                   | 33.6    | 39.4                  | 57.8 | 40.0                | 38.2    | 43.9                  | 62.4 | 44.3                | 43.3 | 48.4                  | 66.4 |
|                  | 65             | 35.6                   | 33.5    | 39.6                  | 57.8 | 39.9                | 38.1    | 43.9                  | 62.4 | 44.2                | 43.2 | 48.4                  | 66.4 |
|                  | 70             | 37.0                   | 34.0    | 41.4                  | 58.7 | 39.8                | 38.0    | 43.9                  | 62.4 | 44.1                | 43.1 | 48.5                  | 66.4 |
|                  | 75             | 40.2                   | 37.5    | 44.9                  | 62.3 | 40.3                | 37.8    | 44.9                  | 62.4 | 44.0                | 43.0 | 48.5                  | 66.4 |
| 4000             | 60             | 37.6                   | 35.6    | 40.9                  | 57.4 | 41.8                | 40.1    | 45.3                  | 61.9 | 46.2                | 45.1 | 49.7                  | 65.9 |
|                  | 65             | 37.5                   | 35.5    | 41.1                  | 57.5 | 41.7                | 40.0    | 45.3                  | 61.9 | 46.1                | 45.0 | 49.8                  | 66.0 |
|                  | 70             | 39.9                   | 37.0    | 44.0                  | 59.4 | 41.6                | 39.9    | 45.6                  | 62.0 | 46.0                | 44.9 | 49.9                  | 66.0 |
|                  | 75             | 43.2                   | 40.6    | 47.6                  | 63.1 | 43.3                | 40.7    | 47.7                  | 63.1 | 45.9                | 44.8 | 50.1                  | 66.0 |
| 4500             | 60             | 39.1                   | 37.2    | 42.1                  | 57.0 | 43.3                | 41.7    | 46.4                  | 61.5 | 47.7                | 46.5 | 50.8                  | 65.5 |
|                  | 65             | 38.9                   | 37.1    | 42.3                  | 57.2 | 43.2                | 41.6    | 46.5                  | 61.5 | 47.6                | 46.4 | 50.9                  | 65.6 |
|                  | 70             | 42.4                   | 39.5    | 46.1                  | 60.0 | 43.1                | 41.5    | 46.8                  | 61.7 | 47.5                | 46.3 | 51.0                  | 65.6 |
|                  | 75             | 45.8                   | 43.3    | 49.8                  | 63.7 | 45.9                | 43.4    | 49.9                  | 63.7 | 47.4                | 46.3 | 51.3                  | 65.8 |
| 5000             | 60             | 40.3                   | 38.5    | 43.0                  | 56.6 | 44.5                | 43.0    | 47.3                  | 61.1 | 48.9                | 47.8 | 51.6                  | 65.3 |
|                  | 65             | 40.9                   | 38.3    | 44.1                  | 56.9 | 44.5                | 42.9    | 47.4                  | 61.2 | 48.8                | 47.6 | 51.8                  | 65.3 |
|                  | 70             | 44.4                   | 41.6    | 48.0                  | 60.5 | 44.3                | 42.7    | 47.8                  | 61.4 | 48.7                | 47.5 | 51.9                  | 65.3 |
|                  | 75             | 48.0                   | 45.6    | 51.7                  | 64.3 | 48.1                | 45.7    | 51.9                  | 64.3 | 48.5                | 47.5 | 52.3                  | 65.6 |
| 5500             | 60             | 41.3                   | 39.6    | 44.0                  | 56.4 | 45.5                | 44.0    | 48.0                  | 60.8 | 49.9                | 48.7 | 52.3                  | 64.9 |
|                  | 65             | 42.5                   | 39.4    | 45.6                  | 56.7 | 45.5                | 44.0    | 48.2                  | 60.9 | 49.8                | 48.6 | 52.5                  | 65.0 |
|                  | 70             | 46.2                   | 43.5    | 49.5                  | 61.0 | 46.3                | 43.8    | 49.6                  | 61.2 | 49.7                | 48.5 | 52.6                  | 65.1 |
|                  | 75             | 49.8                   | 47.6    | 53.4                  | 64.9 | 49.9                | 47.7    | 53.5                  | 64.9 | 49.5                | 48.4 | 53.0                  | 65.4 |
| 6000             | 60             | 42.1                   | 40.6    | 44.7                  | 56.1 | 46.4                | 44.9    | 48.7                  | 60.5 | 50.7                | 49.6 | 52.9                  | 64.6 |
|                  | 65             | 44.0                   | 41.3    | 46.9                  | 57.5 | 46.3                | 44.9    | 49.1                  | 60.6 | 50.6                | 49.5 | 53.1                  | 64.7 |
|                  | 70             | 47.8                   | 45.2    | 50.9                  | 61.5 | 47.8                | 44.6    | 51.0                  | 61.0 | 50.5                | 49.4 | 53.5                  | 64.8 |
|                  | 75             | 51.5                   | 49.4    | 54.8                  | 65.4 | 51.6                | 49.5    | 54.9                  | 65.4 | 51.6                | 49.2 | 55.0                  | 65.2 |
| Ambient DB 65°F  |                |                        |         |                       |      |                     |         |                       |      |                     |      |                       |      |
| 2500             | 60             | 30.6(a)                | 28.1(a) | 35.7                  | 60.4 | 34.8                | 32.5(a) | 40.2                  | 65.1 | 39.1                | 37.4 | 45.0                  | 69.7 |
|                  | 65             | 30.5(a)                | 27.8(a) | 35.7                  | 60.3 | 34.7                | 32.3(a) | 40.1                  | 65.1 | 39.0                | 37.3 | 44.8                  | 69.5 |
|                  | 70             | 30.5(a)                | 28.0(a) | 35.9                  | 60.3 | 34.6                | 32.2(a) | 40.1                  | 65.0 | 38.9                | 37.2 | 44.8                  | 69.5 |
|                  | 75             | 32.7(a)                | 29.3(a) | 38.4                  | 62.0 | 34.5                | 32.1(a) | 40.1                  | 64.9 | 38.8                | 37.0 | 44.8                  | 69.5 |

**Table 13. Reheat temperature rise — 12.5 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |                     |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |                     |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 3000             | 60             | 33.8                   | 31.3 <sup>(a)</sup> | 38.1                  | 59.5 | 38.0                | 35.7                | 42.6                  | 64.3 | 42.4                | 40.6 | 47.2                  | 68.8 |
|                  | 65             | 33.7                   | 31.2 <sup>(a)</sup> | 38.1                  | 59.4 | 37.9                | 35.6                | 42.6                  | 64.3 | 42.2                | 40.5 | 47.2                  | 68.7 |
|                  | 70             | 34.2                   | 31.1 <sup>(a)</sup> | 39.1                  | 59.5 | 37.8                | 35.5                | 42.7                  | 64.3 | 42.1                | 40.3 | 47.3                  | 68.8 |
|                  | 75             | 37.3                   | 33.8                | 42.5                  | 62.8 | 37.7                | 35.4                | 42.8                  | 64.2 | 42.0                | 40.2 | 47.3                  | 68.7 |
| 3500             | 60             | 36.1                   | 33.8                | 40.0                  | 58.8 | 40.4                | 38.2                | 44.4                  | 63.5 | 44.8                | 43.0 | 49.0                  | 68.0 |
|                  | 65             | 36.0                   | 33.7                | 40.2                  | 58.8 | 40.3                | 38.1                | 44.5                  | 63.6 | 44.6                | 42.9 | 49.0                  | 68.1 |
|                  | 70             | 37.7                   | 34.2                | 42.2                  | 59.8 | 40.2                | 38.0                | 44.5                  | 63.6 | 44.5                | 42.7 | 49.1                  | 68.1 |
|                  | 75             | 40.9                   | 37.5                | 45.8                  | 63.5 | 41.0                | 37.9                | 45.8                  | 63.8 | 44.5                | 42.7 | 49.1                  | 68.1 |
| 4000             | 60             | 38.0                   | 35.7                | 41.4                  | 58.2 | 42.2                | 40.2                | 45.8                  | 62.9 | 46.6                | 44.8 | 50.4                  | 67.4 |
|                  | 65             | 37.8                   | 35.7                | 41.6                  | 58.4 | 42.1                | 40.1                | 45.9                  | 63.0 | 46.5                | 44.7 | 50.4                  | 67.5 |
|                  | 70             | 40.6                   | 37.1                | 44.8                  | 60.4 | 42.0                | 40.0                | 46.1                  | 63.0 | 46.4                | 44.6 | 50.4                  | 67.5 |
|                  | 75             | 43.9                   | 40.6                | 48.4                  | 64.2 | 44.0                | 40.7                | 48.5                  | 64.2 | 46.3                | 44.5 | 50.7                  | 67.5 |
| 4500             | 60             | 39.4                   | 37.3                | 42.5                  | 57.8 | 43.7                | 41.7                | 46.9                  | 62.4 | 48.1                | 46.4 | 51.2                  | 66.9 |
|                  | 65             | 39.2                   | 37.2                | 42.8                  | 58.0 | 43.6                | 41.6                | 46.9                  | 62.5 | 47.9                | 46.2 | 51.4                  | 66.9 |
|                  | 70             | 43.0                   | 39.6                | 46.9                  | 60.9 | 43.4                | 41.5                | 47.3                  | 62.7 | 47.8                | 46.1 | 51.5                  | 67.0 |
|                  | 75             | 46.4                   | 43.2                | 50.6                  | 64.8 | 46.5                | 43.3                | 50.7                  | 64.8 | 47.7                | 46.1 | 51.8                  | 67.2 |
| 5000             | 60             | 40.6                   | 38.7                | 43.4                  | 57.3 | 44.9                | 43.0                | 47.7                  | 62.0 | 49.2                | 47.6 | 52.0                  | 66.4 |
|                  | 65             | 41.4                   | 38.5                | 44.8                  | 57.6 | 44.8                | 42.9                | 47.8                  | 62.0 | 49.1                | 47.5 | 52.2                  | 66.5 |
|                  | 70             | 45.0                   | 41.8                | 48.7                  | 61.4 | 44.6                | 42.8                | 48.2                  | 62.3 | 49.0                | 47.4 | 52.3                  | 66.6 |
|                  | 75             | 48.6                   | 45.4                | 52.5                  | 65.4 | 48.7                | 45.5                | 52.6                  | 65.4 | 48.9                | 47.3 | 52.7                  | 66.8 |
| 5500             | 60             | 41.6                   | 39.8                | 44.4                  | 57.0 | 45.8                | 44.1                | 48.4                  | 61.6 | 50.2                | 48.6 | 52.7                  | 65.9 |
|                  | 65             | 43.1                   | 39.5                | 46.2                  | 57.4 | 45.7                | 44.0                | 48.8                  | 61.7 | 50.1                | 48.5 | 52.9                  | 66.1 |
|                  | 70             | 46.8                   | 43.6                | 50.2                  | 61.9 | 46.8                | 43.8                | 50.3                  | 62.0 | 50.0                | 48.4 | 53.3                  | 66.2 |
|                  | 75             | 50.4                   | 47.4                | 54.1                  | 65.9 | 50.5                | 47.5                | 54.2                  | 65.9 | 50.6                | 48.3 | 54.3                  | 66.5 |
| 6000             | 60             | 42.4                   | 40.7                | 45.0                  | 56.7 | 46.6                | 45.0                | 49.0                  | 61.2 | 51.0                | 49.5 | 53.2                  | 65.5 |
|                  | 65             | 44.5                   | 41.5                | 47.5                  | 58.2 | 46.6                | 44.9                | 49.4                  | 61.3 | 50.9                | 49.4 | 53.5                  | 65.7 |
|                  | 70             | 48.3                   | 45.2                | 51.5                  | 62.3 | 48.4                | 44.7                | 51.6                  | 61.8 | 50.8                | 49.3 | 53.9                  | 65.8 |
|                  | 75             | 52.0                   | 49.1                | 55.5                  | 66.3 | 52.1                | 49.2                | 55.6                  | 66.3 | 52.2                | 49.1 | 55.7                  | 66.2 |
| Ambient DB 70°F  |                |                        |                     |                       |      |                     |                     |                       |      |                     |      |                       |      |
| 2500             | 60             | 31.2 <sup>(a)</sup>    | 28.3 <sup>(a)</sup> | 36.4                  | 61.6 | 35.4                | 32.6 <sup>(a)</sup> | 40.9                  | 66.5 | 39.7                | 37.3 | 45.6                  | 71.3 |
|                  | 65             | 31.1 <sup>(a)</sup>    | 28.1 <sup>(a)</sup> | 36.4                  | 61.5 | 35.2                | 32.4 <sup>(a)</sup> | 40.9                  | 66.5 | 39.6                | 37.2 | 45.6                  | 71.3 |
|                  | 70             | 31.1 <sup>(a)</sup>    | 28.1 <sup>(a)</sup> | 36.6                  | 61.5 | 35.1                | 32.3 <sup>(a)</sup> | 40.9                  | 66.5 | 39.5                | 37.1 | 45.6                  | 71.3 |
|                  | 75             | 33.5                   | 29.5 <sup>(a)</sup> | 39.4                  | 63.3 | 35.1                | 32.3 <sup>(a)</sup> | 40.9                  | 66.3 | 39.4                | 37.0 | 45.6                  | 71.3 |
| 3000             | 60             | 34.2                   | 31.4 <sup>(a)</sup> | 38.8                  | 60.5 | 38.5                | 35.9                | 43.3                  | 65.4 | 42.9                | 40.5 | 47.9                  | 70.4 |
|                  | 65             | 34.2                   | 31.3 <sup>(a)</sup> | 38.8                  | 60.4 | 38.4                | 35.7                | 43.3                  | 65.4 | 42.7                | 40.4 | 47.9                  | 70.3 |
|                  | 70             | 34.9                   | 31.3 <sup>(a)</sup> | 40.0                  | 60.5 | 38.3                | 35.6                | 43.3                  | 65.4 | 42.6                | 40.3 | 48.0                  | 70.3 |
|                  | 75             | 38.0                   | 34.0                | 43.4                  | 64.0 | 38.2                | 35.6                | 43.5                  | 65.5 | 42.5                | 40.2 | 48.0                  | 70.3 |
| 3500             | 60             | 36.5                   | 33.9                | 40.5                  | 59.7 | 40.8                | 38.3                | 45.0                  | 64.6 | 45.2                | 42.9 | 49.5                  | 69.5 |
|                  | 65             | 36.5                   | 33.8                | 40.7                  | 59.6 | 40.7                | 38.2                | 45.0                  | 64.6 | 45.1                | 42.8 | 49.6                  | 69.4 |
|                  | 70             | 38.3                   | 34.4                | 43.0                  | 60.8 | 40.6                | 38.1                | 45.2                  | 64.6 | 45.0                | 42.7 | 49.7                  | 69.4 |
|                  | 75             | 41.6                   | 37.7                | 46.6                  | 64.6 | 41.7                | 38.0                | 46.7                  | 64.7 | 44.9                | 42.6 | 49.7                  | 69.4 |



## Reheat Temperature Rise

**Table 13. Reheat temperature rise — 12.5 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |      |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |      |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 4000             | 60             | 38.3                   | 35.9 | 41.9                  | 59.0 | 42.6                | 40.3 | 46.3                  | 63.9 | 47.0                | 44.8 | 50.8                  | 68.6 |
|                  | 65             | 38.2                   | 35.8 | 42.2                  | 59.2 | 42.5                | 40.2 | 46.4                  | 63.9 | 46.9                | 44.7 | 50.9                  | 68.6 |
|                  | 70             | 41.2                   | 37.4 | 45.5                  | 61.3 | 42.4                | 40.1 | 46.6                  | 63.9 | 46.8                | 44.6 | 51.0                  | 68.7 |
|                  | 75             | 44.6                   | 40.7 | 49.2                  | 65.2 | 44.7                | 40.8 | 49.3                  | 65.3 | 46.7                | 44.5 | 51.2                  | 68.7 |
| 4500             | 60             | 39.8                   | 37.5 | 42.9                  | 58.5 | 44.0                | 41.8 | 47.3                  | 63.2 | 48.4                | 46.4 | 51.7                  | 67.9 |
|                  | 65             | 40.0                   | 37.4 | 43.7                  | 58.7 | 43.9                | 41.7 | 47.4                  | 63.3 | 48.3                | 46.2 | 51.9                  | 68.0 |
|                  | 70             | 43.6                   | 39.8 | 47.6                  | 61.8 | 43.8                | 41.6 | 47.8                  | 63.5 | 48.2                | 46.1 | 52.0                  | 68.1 |
|                  | 75             | 47.1                   | 43.3 | 51.4                  | 65.8 | 47.2                | 43.4 | 51.5                  | 65.8 | 48.1                | 46.1 | 52.3                  | 68.3 |
| 5000             | 60             | 40.9                   | 38.8 | 44.0                  | 58.0 | 45.2                | 43.1 | 48.1                  | 62.7 | 49.5                | 47.6 | 52.5                  | 67.3 |
|                  | 65             | 41.9                   | 38.6 | 45.4                  | 58.3 | 45.1                | 43.0 | 48.5                  | 62.8 | 49.4                | 47.5 | 52.7                  | 67.4 |
|                  | 70             | 45.6                   | 41.9 | 49.4                  | 62.3 | 45.6                | 42.9 | 49.4                  | 63.1 | 49.3                | 47.4 | 52.8                  | 67.5 |
|                  | 75             | 49.2                   | 45.5 | 53.2                  | 66.3 | 49.3                | 45.6 | 53.3                  | 66.3 | 49.2                | 47.3 | 53.2                  | 67.8 |
| 5500             | 60             | 41.9                   | 39.9 | 44.8                  | 57.6 | 46.1                | 44.2 | 48.8                  | 62.2 | 50.5                | 48.7 | 53.1                  | 66.8 |
|                  | 65             | 43.6                   | 39.6 | 46.8                  | 58.0 | 46.0                | 44.1 | 49.2                  | 62.3 | 50.3                | 48.5 | 53.3                  | 66.9 |
|                  | 70             | 47.3                   | 43.8 | 50.9                  | 62.7 | 47.4                | 43.9 | 50.9                  | 62.7 | 50.3                | 48.4 | 53.7                  | 67.0 |
|                  | 75             | 51.0                   | 47.4 | 54.8                  | 66.7 | 51.1                | 47.5 | 55.0                  | 66.8 | 51.2                | 48.3 | 55.0                  | 67.4 |
| 6000             | 60             | 42.6                   | 40.8 | 45.4                  | 57.2 | 46.9                | 45.1 | 49.4                  | 61.8 | 51.3                | 49.6 | 53.6                  | 66.3 |
|                  | 65             | 45.0                   | 41.7 | 48.1                  | 58.8 | 46.8                | 45.0 | 49.8                  | 61.9 | 51.1                | 49.4 | 53.8                  | 66.5 |
|                  | 70             | 48.8                   | 45.4 | 52.1                  | 63.0 | 48.9                | 44.8 | 52.2                  | 62.4 | 51.0                | 49.3 | 54.3                  | 66.6 |
|                  | 75             | 52.6                   | 49.1 | 56.2                  | 67.2 | 52.7                | 49.2 | 56.3                  | 67.2 | 52.8                | 49.1 | 56.4                  | 67.1 |

**Note:** MIN, MAX: The leaving evaporator temperature is affected by the modulating valve position. The MIN and MAX numbers represent modulating valve position impact on both the leaving evaporator temperature and the leaving reheat coil temperature. MAX represents wide open, MIN represents closed to minimum position.

<sup>(a)</sup> The unit might be tripped by Froststat at these conditions due to low leaving evaporator air temperature.

**Table 14. Reheat temperature rise — 15 tons**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| Ambient DB 60°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 3000             | 60             | 30.9 <sup>(a)</sup>    | 29.6 <sup>(a)</sup> | 36.7                  | 61.9 | 35.1                | 34.8 | 41.2                  | 65.6 | 39.4                | 40.1 | 46.1                  | 69.5 |
|                  | 65             | 30.9 <sup>(a)</sup>    | 29.5 <sup>(a)</sup> | 36.7                  | 61.8 | 34.9                | 34.7 | 41.1                  | 65.6 | 39.3                | 40.0 | 45.9                  | 69.4 |
|                  | 70             | 30.7 <sup>(a)</sup>    | 29.4 <sup>(a)</sup> | 36.5                  | 61.7 | 34.9                | 34.6 | 41.1                  | 65.6 | 39.2                | 39.9 | 45.9                  | 69.4 |
|                  | 75             | 33.1                   | 32.0 <sup>(a)</sup> | 39.5                  | 63.9 | 34.9                | 34.6 | 41.0                  | 65.6 | 39.2                | 39.8 | 45.9                  | 69.3 |
| 3600             | 60             | 34.1                   | 32.5 <sup>(a)</sup> | 39.0                  | 60.9 | 38.2                | 37.6 | 43.5                  | 64.8 | 42.6                | 42.8 | 48.3                  | 68.6 |
|                  | 65             | 34.0                   | 32.4 <sup>(a)</sup> | 39.0                  | 60.9 | 38.2                | 37.6 | 43.5                  | 64.8 | 42.5                | 42.8 | 48.2                  | 68.6 |
|                  | 70             | 34.5                   | 32.2 <sup>(a)</sup> | 40.0                  | 60.7 | 38.1                | 37.5 | 43.4                  | 64.7 | 42.4                | 42.7 | 48.2                  | 68.6 |
|                  | 75             | 37.6                   | 36.5                | 43.5                  | 64.4 | 38.0                | 37.3 | 43.5                  | 64.7 | 42.3                | 42.6 | 48.2                  | 68.6 |
| 4200             | 60             | 36.4                   | 34.8                | 40.8                  | 60.1 | 40.7                | 39.8 | 45.3                  | 64.1 | 45.0                | 44.9 | 50.0                  | 68.1 |
|                  | 65             | 36.3                   | 34.7                | 40.8                  | 60.1 | 40.6                | 39.7 | 45.3                  | 64.2 | 44.9                | 44.8 | 49.9                  | 68.0 |
|                  | 70             | 38.0                   | 35.9                | 43.0                  | 61.5 | 40.5                | 39.7 | 45.3                  | 64.2 | 44.8                | 44.8 | 49.8                  | 68.0 |
|                  | 75             | 41.3                   | 40.2                | 46.7                  | 65.0 | 41.3                | 40.3 | 46.7                  | 65.0 | 44.7                | 44.7 | 49.7                  | 68.0 |

**Table 14. Reheat temperature rise — 15 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 4800             | 60             | 38.2                   | 36.6                | 42.1                  | 59.5 | 42.4                | 41.5 | 46.5                  | 63.6 | 46.9                | 46.5 | 51.2                  | 67.4 |
|                  | 65             | 38.1                   | 36.5                | 42.1                  | 59.5 | 42.4                | 41.4 | 46.6                  | 63.5 | 46.9                | 46.5 | 51.3                  | 67.4 |
|                  | 70             | 40.9                   | 38.8                | 45.5                  | 62.0 | 42.3                | 41.3 | 46.6                  | 63.6 | 46.8                | 46.4 | 51.3                  | 67.5 |
|                  | 75             | 44.4                   | 43.3                | 49.3                  | 65.6 | 44.5                | 43.4 | 49.4                  | 65.6 | 46.7                | 46.3 | 51.3                  | 67.5 |
| 5400             | 60             | 39.6                   | 38.1                | 43.1                  | 58.9 | 43.9                | 42.9 | 47.6                  | 63.0 | 48.4                | 47.8 | 52.1                  | 66.9 |
|                  | 65             | 39.7                   | 37.9                | 43.7                  | 59.0 | 43.9                | 42.8 | 47.6                  | 63.1 | 48.3                | 47.8 | 52.2                  | 67.0 |
|                  | 70             | 43.3                   | 41.3                | 47.6                  | 62.4 | 43.6                | 42.7 | 47.7                  | 63.2 | 48.2                | 47.7 | 52.3                  | 67.0 |
|                  | 75             | 47.1                   | 45.8                | 51.7                  | 66.1 | 46.7                | 45.9 | 51.3                  | 66.1 | 48.1                | 47.6 | 52.4                  | 67.1 |
| 6000             | 60             | 40.8                   | 39.3                | 44.0                  | 58.5 | 45.1                | 44.0 | 48.4                  | 62.6 | 49.5                | 48.9 | 52.9                  | 66.5 |
|                  | 65             | 41.7                   | 39.0                | 45.4                  | 58.6 | 45.0                | 43.9 | 48.5                  | 62.7 | 49.4                | 48.8 | 53.0                  | 66.5 |
|                  | 70             | 45.6                   | 43.5                | 49.5                  | 62.8 | 45.6                | 43.7 | 49.6                  | 62.8 | 49.4                | 48.8 | 53.1                  | 66.6 |
|                  | 75             | 49.2                   | 48.0                | 53.5                  | 66.6 | 49.3                | 48.1 | 53.6                  | 66.6 | 49.2                | 48.6 | 53.2                  | 66.7 |
| 6600             | 60             | 41.8                   | 40.3                | 44.7                  | 58.1 | 46.0                | 44.9 | 49.0                  | 62.2 | 50.4                | 49.7 | 53.5                  | 66.1 |
|                  | 65             | 43.4                   | 40.9                | 46.9                  | 59.2 | 45.9                | 44.9 | 49.1                  | 62.3 | 50.4                | 49.7 | 53.6                  | 66.1 |
|                  | 70             | 47.3                   | 45.3                | 51.1                  | 63.2 | 47.4                | 44.6 | 51.1                  | 62.5 | 50.3                | 49.7 | 53.8                  | 66.3 |
|                  | 75             | 51.1                   | 49.9                | 55.1                  | 67.0 | 51.1                | 50.0 | 55.2                  | 67.0 | 51.2                | 49.4 | 55.2                  | 66.4 |
| 7200             | 60             | 42.6                   | 41.1                | 45.3                  | 57.7 | 46.9                | 45.7 | 49.7                  | 61.9 | 51.2                | 50.5 | 54.0                  | 65.7 |
|                  | 65             | 44.8                   | 42.4                | 48.1                  | 59.5 | 46.8                | 45.7 | 49.8                  | 62.0 | 51.2                | 50.5 | 54.2                  | 65.8 |
|                  | 70             | 48.8                   | 46.9                | 52.4                  | 63.5 | 48.9                | 47.0 | 52.4                  | 63.5 | 51.1                | 50.4 | 54.3                  | 65.9 |
|                  | 75             | 52.7                   | 51.5                | 56.5                  | 67.4 | 52.7                | 51.6 | 56.5                  | 67.4 | 52.8                | 51.7 | 56.6                  | 67.5 |
| Ambient DB 65°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 2500             | 60             | 31.4 <sup>(a)</sup>    | 29.2 <sup>(a)</sup> | 37.3                  | 63.3 | 35.6                | 34.2 | 41.9                  | 67.5 | 39.9                | 39.6 | 46.6                  | 71.5 |
|                  | 65             | 31.3 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 37.2                  | 63.3 | 35.5                | 34.1 | 41.8                  | 67.5 | 39.8                | 39.5 | 46.6                  | 71.4 |
|                  | 70             | 31.3 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 37.2                  | 63.2 | 35.4                | 34.0 | 41.8                  | 67.5 | 39.8                | 39.4 | 46.6                  | 71.3 |
|                  | 75             | 33.8                   | 31.1 <sup>(a)</sup> | 40.4                  | 65.4 | 35.4                | 33.9 | 41.8                  | 67.4 | 39.7                | 39.3 | 46.6                  | 71.3 |
| 3000             | 60             | 34.5                   | 32.2 <sup>(a)</sup> | 39.6                  | 62.1 | 38.7                | 37.1 | 44.1                  | 66.5 | 43.1                | 42.4 | 48.8                  | 70.4 |
|                  | 65             | 34.4                   | 32.1 <sup>(a)</sup> | 39.4                  | 62.1 | 38.7                | 37.0 | 44.1                  | 66.5 | 42.9                | 42.3 | 48.8                  | 70.4 |
|                  | 70             | 35.1                   | 32.0 <sup>(a)</sup> | 40.7                  | 62.1 | 38.5                | 36.9 | 44.1                  | 66.5 | 42.9                | 42.2 | 48.9                  | 70.4 |
|                  | 75             | 38.3                   | 35.6                | 44.3                  | 65.8 | 38.4                | 36.8 | 44.1                  | 66.5 | 42.9                | 42.1 | 48.9                  | 70.4 |
| 3500             | 60             | 36.8                   | 34.6                | 41.2                  | 61.2 | 41.1                | 39.3 | 45.8                  | 65.6 | 45.4                | 44.5 | 50.6                  | 69.7 |
|                  | 65             | 36.7                   | 34.5                | 41.3                  | 61.2 | 40.9                | 39.3 | 45.8                  | 65.6 | 45.3                | 44.4 | 50.5                  | 69.6 |
|                  | 70             | 38.7                   | 35.4                | 43.8                  | 62.5 | 40.9                | 39.2 | 45.8                  | 65.7 | 45.2                | 44.3 | 50.4                  | 69.6 |
|                  | 75             | 42.0                   | 39.3                | 47.5                  | 66.3 | 42.1                | 38.9 | 47.5                  | 65.7 | 45.1                | 44.3 | 50.3                  | 69.7 |
| 4000             | 60             | 38.6                   | 36.4                | 42.6                  | 60.4 | 42.8                | 41.1 | 47.0                  | 64.9 | 47.3                | 46.1 | 51.7                  | 68.9 |
|                  | 65             | 38.4                   | 36.3                | 42.6                  | 60.4 | 42.8                | 41.0 | 47.1                  | 64.9 | 47.2                | 46.0 | 51.7                  | 68.9 |
|                  | 70             | 41.5                   | 38.3                | 46.3                  | 62.9 | 42.6                | 40.9 | 47.1                  | 65.0 | 47.2                | 46.0 | 51.8                  | 69.0 |
|                  | 75             | 45.0                   | 42.4                | 50.1                  | 66.7 | 44.9                | 42.5 | 50.0                  | 66.7 | 47.1                | 45.9 | 51.8                  | 69.0 |
| 4500             | 60             | 39.9                   | 37.9                | 43.5                  | 59.8 | 44.2                | 42.5 | 48.0                  | 64.2 | 48.7                | 47.4 | 52.6                  | 68.3 |
|                  | 65             | 40.2                   | 37.8                | 44.3                  | 59.8 | 44.1                | 42.5 | 48.0                  | 64.3 | 48.6                | 47.4 | 52.7                  | 68.3 |
|                  | 70             | 43.9                   | 40.8                | 48.4                  | 63.3 | 43.9                | 42.3 | 48.1                  | 64.4 | 48.6                | 47.3 | 52.7                  | 68.4 |
|                  | 75             | 47.2                   | 45.0                | 52.0                  | 67.1 | 47.8                | 45.1 | 52.5                  | 67.1 | 48.4                | 47.2 | 52.8                  | 68.5 |

## Reheat Temperature Rise

**Table 14. Reheat temperature rise — 15 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 5000             | 60             | 41.1                   | 39.2                | 44.4                  | 59.2 | 45.4                | 43.7 | 48.8                  | 63.6 | 49.8                | 48.5 | 53.3                  | 67.7 |
|                  | 65             | 42.2                   | 38.9                | 46.0                  | 59.4 | 45.3                | 43.6 | 48.9                  | 63.7 | 49.7                | 48.4 | 53.4                  | 67.8 |
|                  | 70             | 46.1                   | 42.9                | 50.2                  | 63.6 | 46.2                | 43.4 | 50.3                  | 63.9 | 49.7                | 48.4 | 53.5                  | 67.9 |
|                  | 75             | 49.8                   | 47.2                | 54.2                  | 67.5 | 49.9                | 47.3 | 54.3                  | 67.5 | 49.4                | 48.2 | 53.6                  | 68.0 |
| 5500             | 60             | 42.0                   | 40.2                | 45.1                  | 58.7 | 46.3                | 44.7 | 49.4                  | 63.1 | 50.7                | 49.4 | 53.9                  | 67.3 |
|                  | 65             | 43.9                   | 40.7                | 47.4                  | 59.8 | 46.2                | 44.6 | 49.5                  | 63.3 | 50.7                | 49.4 | 54.0                  | 67.3 |
|                  | 70             | 47.8                   | 44.7                | 51.7                  | 63.9 | 47.9                | 44.4 | 51.7                  | 63.4 | 50.6                | 49.3 | 54.1                  | 67.5 |
|                  | 75             | 51.6                   | 49.1                | 55.8                  | 67.9 | 51.7                | 49.2 | 55.8                  | 67.9 | 51.8                | 49.1 | 55.9                  | 67.6 |
| 6000             | 60             | 42.8                   | 41.1                | 45.4                  | 58.3 | 47.2                | 45.5 | 50.0                  | 62.7 | 51.5                | 50.2 | 54.4                  | 66.8 |
|                  | 65             | 45.2                   | 42.2                | 48.6                  | 60.1 | 47.1                | 45.5 | 50.1                  | 62.8 | 51.4                | 50.1 | 54.5                  | 66.9 |
|                  | 70             | 49.3                   | 46.3                | 52.9                  | 64.2 | 49.4                | 46.4 | 53.0                  | 64.2 | 51.3                | 50.1 | 54.6                  | 67.1 |
|                  | 75             | 53.2                   | 50.8                | 57.1                  | 68.3 | 53.3                | 50.9 | 57.2                  | 68.3 | 53.3                | 51.0 | 57.2                  | 68.3 |
| Ambient DB 70°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 2500             | 60             | 31.9 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 38.0                  | 64.5 | 36.1                | 33.8 | 42.6                  | 69.1 | 40.5                | 39.0 | 47.5                  | 73.3 |
|                  | 65             | 31.8 <sup>(a)</sup>    | 29.0 <sup>(a)</sup> | 37.9                  | 64.4 | 36.0                | 33.7 | 42.5                  | 69.1 | 40.4                | 38.9 | 47.3                  | 73.3 |
|                  | 70             | 31.7 <sup>(a)</sup>    | 29.0 <sup>(a)</sup> | 37.8                  | 64.4 | 35.9                | 33.6 | 42.5                  | 69.1 | 40.3                | 38.9 | 47.3                  | 73.3 |
|                  | 75             | 34.4                   | 30.8 <sup>(a)</sup> | 41.2                  | 66.6 | 35.9                | 33.5 | 42.5                  | 69.0 | 40.2                | 38.8 | 47.3                  | 73.3 |
| 3000             | 60             | 34.9                   | 32.1 <sup>(a)</sup> | 40.1                  | 63.1 | 39.1                | 36.8 | 44.8                  | 67.8 | 43.5                | 41.8 | 49.6                  | 72.2 |
|                  | 65             | 34.9                   | 32.0 <sup>(a)</sup> | 40.0                  | 63.1 | 39.0                | 36.7 | 44.7                  | 67.8 | 43.4                | 41.8 | 49.4                  | 72.2 |
|                  | 70             | 35.8                   | 31.9 <sup>(a)</sup> | 41.6                  | 63.1 | 39.0                | 36.6 | 44.6                  | 67.8 | 43.3                | 41.7 | 49.4                  | 72.2 |
|                  | 75             | 39.0                   | 35.2                | 45.2                  | 66.9 | 39.1                | 36.5 | 45.3                  | 67.8 | 43.3                | 41.6 | 49.5                  | 72.2 |
| 3500             | 60             | 37.2                   | 34.5                | 41.7                  | 62.0 | 41.4                | 39.1 | 46.3                  | 66.8 | 45.8                | 44.0 | 51.1                  | 71.2 |
|                  | 65             | 37.1                   | 34.4                | 41.8                  | 62.0 | 41.3                | 39.0 | 46.3                  | 66.8 | 45.7                | 43.9 | 51.0                  | 71.2 |
|                  | 70             | 39.2                   | 35.3                | 44.5                  | 63.4 | 41.3                | 38.9 | 46.4                  | 66.8 | 45.7                | 43.8 | 51.1                  | 71.2 |
|                  | 75             | 42.5                   | 38.9                | 48.2                  | 67.3 | 42.6                | 38.7 | 48.3                  | 66.9 | 45.5                | 43.8 | 50.8                  | 71.3 |
| 4000             | 60             | 38.9                   | 36.4                | 43.0                  | 61.2 | 43.2                | 40.9 | 47.5                  | 65.9 | 47.6                | 45.7 | 52.3                  | 70.4 |
|                  | 65             | 38.7                   | 36.3                | 43.0                  | 61.2 | 43.1                | 40.8 | 47.6                  | 65.9 | 47.6                | 45.6 | 52.2                  | 70.4 |
|                  | 70             | 42.0                   | 38.2                | 46.9                  | 63.7 | 43.0                | 40.7 | 47.6                  | 66.0 | 47.5                | 45.6 | 52.3                  | 70.4 |
|                  | 75             | 45.8                   | 41.9                | 51.0                  | 67.7 | 45.5                | 42.0 | 50.8                  | 67.7 | 47.4                | 45.5 | 52.3                  | 70.4 |
| 4500             | 60             | 40.2                   | 37.9                | 43.8                  | 60.4 | 44.6                | 42.4 | 48.4                  | 65.1 | 49.0                | 47.1 | 53.0                  | 69.5 |
|                  | 65             | 40.8                   | 37.7                | 45.1                  | 60.5 | 44.4                | 42.3 | 48.5                  | 65.2 | 48.9                | 47.0 | 53.1                  | 69.6 |
|                  | 70             | 44.5                   | 40.6                | 49.0                  | 64.0 | 44.3                | 42.2 | 48.5                  | 65.3 | 48.9                | 47.0 | 53.2                  | 69.7 |
|                  | 75             | 48.3                   | 44.5                | 53.2                  | 68.1 | 47.9                | 44.6 | 52.8                  | 68.1 | 48.7                | 46.8 | 53.3                  | 69.8 |
| 5000             | 60             | 41.4                   | 39.2                | 44.8                  | 59.8 | 45.7                | 43.6 | 49.2                  | 64.5 | 50.1                | 48.2 | 53.7                  | 68.9 |
|                  | 65             | 42.7                   | 38.9                | 46.7                  | 60.0 | 45.6                | 43.5 | 49.3                  | 64.5 | 50.0                | 48.1 | 53.8                  | 69.0 |
|                  | 70             | 46.6                   | 42.7                | 50.9                  | 64.3 | 46.7                | 43.3 | 50.9                  | 64.7 | 50.0                | 48.1 | 53.9                  | 69.0 |
|                  | 75             | 50.4                   | 46.7                | 54.9                  | 68.4 | 50.4                | 46.8 | 55.0                  | 68.4 | 50.5                | 47.9 | 55.1                  | 69.2 |
| 5500             | 60             | 42.3                   | 40.2                | 45.4                  | 59.3 | 46.5                | 44.6 | 49.7                  | 63.9 | 51.0                | 49.1 | 54.2                  | 68.3 |
|                  | 65             | 44.3                   | 40.7                | 48.0                  | 60.4 | 46.4                | 44.5 | 49.8                  | 64.0 | 50.9                | 49.1 | 54.4                  | 68.4 |
|                  | 70             | 48.3                   | 44.5                | 52.3                  | 64.6 | 48.4                | 44.3 | 52.4                  | 64.2 | 50.8                | 49.0 | 54.5                  | 68.5 |
|                  | 75             | 52.2                   | 48.6                | 56.4                  | 68.7 | 52.2                | 48.7 | 56.5                  | 68.7 | 52.3                | 48.8 | 56.6                  | 68.7 |

**Table 14. Reheat temperature rise — 15 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |      |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |      |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 6000             | 60             | 43.0                   | 41.1 | 45.7                  | 58.8 | 47.4                | 45.5 | 50.3                  | 63.4 | 51.7                | 50.0 | 54.7                  | 67.8 |
|                  | 65             | 45.8                   | 42.2 | 49.2                  | 60.6 | 47.3                | 45.4 | 50.5                  | 63.5 | 51.7                | 49.9 | 54.8                  | 67.9 |
|                  | 70             | 49.8                   | 46.1 | 53.5                  | 64.9 | 49.9                | 46.2 | 53.6                  | 64.9 | 51.6                | 49.9 | 55.0                  | 68.0 |
|                  | 75             | 53.7                   | 50.2 | 57.8                  | 69.0 | 53.8                | 50.3 | 57.8                  | 69.0 | 53.9                | 49.6 | 57.9                  | 68.3 |

**Note:** MIN, MAX: The leaving evaporator temperature is affected by the modulating valve position. The MIN and MAX numbers represent modulating valve position impact on both the leaving evaporator temperature and the leaving reheat coil temperature. MAX represents wide open, MIN represents closed to minimum position.

<sup>(a)</sup> The unit might be tripped by Froststat at these conditions due to low leaving evaporator air temperature.

**Table 15. Reheat temperature rise — 20 tons**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |         |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |         |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |         | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX     | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| Ambient DB 60°F  |                |                        |         |                       |      |                     |      |                       |      |                     |      |                       |      |
| 4000             | 60             | 30.2(a)                | 29.2(a) | 33.3                  | 54.3 | 34.3                | 34.0 | 37.7                  | 58.1 | 38.6                | 39.0 | 42.3                  | 61.8 |
|                  | 65             | 29.9(a)                | 29.1(a) | 33.2                  | 54.3 | 34.3                | 33.9 | 37.6                  | 58.0 | 38.6                | 38.9 | 42.1                  | 61.7 |
|                  | 70             | 29.8(a)                | 29.1(a) | 33.2                  | 54.5 | 34.2                | 33.8 | 37.5                  | 58.1 | 38.5                | 38.9 | 42.1                  | 61.8 |
|                  | 75             | 32.2(a)                | 31.3(a) | 35.8                  | 56.2 | 34.1                | 33.8 | 37.4                  | 58.2 | 38.4                | 38.8 | 42.0                  | 61.8 |
| 4800             | 60             | 33.4                   | 32.2(a) | 36.0                  | 54.5 | 37.6                | 37.0 | 40.4                  | 58.3 | 42.0                | 42.0 | 45.1                  | 62.1 |
|                  | 65             | 33.3                   | 32.1(a) | 35.9                  | 54.6 | 37.6                | 37.0 | 40.4                  | 58.4 | 41.9                | 41.9 | 45.0                  | 62.1 |
|                  | 70             | 33.3                   | 32.2(a) | 36.4                  | 54.8 | 37.5                | 36.9 | 40.7                  | 58.5 | 41.8                | 41.8 | 45.0                  | 62.1 |
|                  | 75             | 36.8                   | 35.8    | 40.1                  | 57.7 | 37.5                | 36.8 | 40.9                  | 58.5 | 41.7                | 41.8 | 44.9                  | 62.2 |
| 5600             | 60             | 35.8                   | 34.6    | 38.1                  | 54.5 | 40.1                | 39.3 | 42.6                  | 58.4 | 44.4                | 44.2 | 47.1                  | 62.1 |
|                  | 65             | 35.7                   | 34.5    | 38.4                  | 54.7 | 40.0                | 39.3 | 42.7                  | 58.6 | 44.3                | 44.1 | 47.1                  | 62.2 |
|                  | 70             | 37.3                   | 35.5    | 40.1                  | 55.7 | 39.9                | 39.2 | 42.4                  | 58.7 | 44.3                | 44.1 | 47.3                  | 62.4 |
|                  | 75             | 40.5                   | 39.4    | 43.6                  | 59.0 | 39.6                | 39.2 | 42.4                  | 58.8 | 44.2                | 44.0 | 47.4                  | 62.5 |
| 6400             | 60             | 37.7                   | 36.5    | 39.7                  | 54.6 | 42.0                | 41.1 | 44.1                  | 58.5 | 46.3                | 45.9 | 48.5                  | 62.2 |
|                  | 65             | 37.6                   | 36.3    | 40.1                  | 54.7 | 41.9                | 41.1 | 44.1                  | 58.6 | 46.2                | 45.9 | 48.7                  | 62.3 |
|                  | 70             | 40.2                   | 38.5    | 42.8                  | 56.7 | 41.8                | 41.0 | 44.5                  | 58.8 | 46.2                | 45.8 | 48.9                  | 62.5 |
|                  | 75             | 43.6                   | 42.5    | 46.5                  | 60.1 | 43.6                | 42.6 | 46.5                  | 60.1 | 46.0                | 45.7 | 49.1                  | 62.6 |
| 7200             | 60             | 39.2                   | 38.0    | 41.0                  | 54.5 | 43.4                | 42.5 | 45.4                  | 58.5 | 47.7                | 47.3 | 49.7                  | 62.2 |
|                  | 65             | 39.0                   | 37.9    | 40.9                  | 54.7 | 43.4                | 42.5 | 45.7                  | 58.7 | 47.7                | 47.3 | 49.9                  | 62.4 |
|                  | 70             | 42.6                   | 40.9    | 45.1                  | 57.6 | 43.2                | 42.4 | 45.3                  | 58.8 | 47.6                | 47.2 | 50.2                  | 62.5 |
|                  | 75             | 46.1                   | 45.1    | 48.8                  | 61.1 | 46.2                | 45.2 | 48.9                  | 61.1 | 47.6                | 47.2 | 50.4                  | 62.7 |
| 8000             | 60             | 40.4                   | 39.2    | 42.3                  | 54.5 | 44.6                | 43.7 | 46.5                  | 58.5 | 48.9                | 48.4 | 50.7                  | 62.1 |
|                  | 65             | 40.4                   | 39.2    | 42.6                  | 54.8 | 44.6                | 43.7 | 46.7                  | 58.7 | 48.9                | 48.4 | 51.0                  | 62.4 |
|                  | 70             | 44.7                   | 43.0    | 47.1                  | 58.4 | 44.6                | 43.8 | 47.0                  | 59.0 | 48.8                | 48.4 | 51.2                  | 62.6 |
|                  | 75             | 48.3                   | 47.3    | 50.9                  | 61.9 | 48.4                | 47.4 | 50.9                  | 62.0 | 48.9                | 48.4 | 51.5                  | 62.8 |
| 8800             | 60             | 41.4                   | 40.2    | 43.2                  | 54.4 | 45.6                | 44.7 | 47.3                  | 58.4 | 49.9                | 49.4 | 51.5                  | 62.1 |
|                  | 65             | 42.8                   | 40.3    | 44.8                  | 54.8 | 45.6                | 44.7 | 47.6                  | 58.7 | 49.9                | 49.3 | 51.8                  | 62.3 |
|                  | 70             | 46.5                   | 44.9    | 48.7                  | 59.1 | 45.7                | 44.8 | 47.9                  | 59.0 | 49.8                | 49.3 | 52.1                  | 62.6 |
|                  | 75             | 50.2                   | 49.2    | 52.6                  | 62.7 | 50.2                | 49.3 | 52.7                  | 62.7 | 50.0                | 49.5 | 52.4                  | 62.9 |

## Reheat Temperature Rise

**Table 15. Reheat temperature rise — 20 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 9600             | 60             | 42.2                   | 41.1                | 44.0                  | 54.4 | 46.5                | 45.5 | 48.0                  | 58.4 | 50.7                | 50.1 | 52.1                  | 62.0 |
|                  | 65             | 44.2                   | 41.2                | 46.2                  | 54.8 | 46.4                | 45.5 | 48.4                  | 58.6 | 50.7                | 50.1 | 52.5                  | 62.3 |
|                  | 70             | 48.0                   | 46.5                | 50.1                  | 59.7 | 48.1                | 45.7 | 50.2                  | 59.0 | 50.6                | 50.1 | 52.8                  | 62.6 |
|                  | 75             | 51.8                   | 50.9                | 54.1                  | 63.4 | 51.9                | 50.9 | 54.2                  | 63.4 | 50.9                | 50.4 | 53.2                  | 63.0 |
| Ambient DB 65°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 4000             | 60             | 30.7 <sup>(a)</sup>    | 29.2 <sup>(a)</sup> | 34.0                  | 55.8 | 34.9                | 33.8 | 38.3                  | 59.7 | 39.2                | 38.9 | 42.9                  | 63.6 |
|                  | 65             | 30.6 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 33.8                  | 55.9 | 34.8                | 33.7 | 38.2                  | 59.8 | 39.1                | 38.8 | 42.8                  | 63.5 |
|                  | 70             | 30.6 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 33.9                  | 55.9 | 34.7                | 33.6 | 38.2                  | 59.9 | 39.0                | 38.7 | 42.8                  | 63.6 |
|                  | 75             | 32.9 <sup>(a)</sup>    | 31.1 <sup>(a)</sup> | 36.7                  | 57.7 | 34.6                | 33.6 | 38.1                  | 59.9 | 38.9                | 38.6 | 43.0                  | 63.6 |
| 4800             | 60             | 33.8                   | 32.2 <sup>(a)</sup> | 36.6                  | 55.7 | 38.1                | 36.8 | 41.0                  | 59.8 | 42.4                | 41.8 | 45.5                  | 63.8 |
|                  | 65             | 33.8                   | 32.1 <sup>(a)</sup> | 36.5                  | 55.8 | 38.0                | 36.8 | 41.0                  | 60.0 | 42.3                | 41.7 | 45.6                  | 63.7 |
|                  | 70             | 33.7                   | 32.2 <sup>(a)</sup> | 36.9                  | 56.0 | 37.9                | 36.7 | 41.3                  | 60.0 | 42.3                | 41.7 | 45.7                  | 63.8 |
|                  | 75             | 37.5                   | 35.5                | 41.0                  | 59.1 | 37.8                | 36.6 | 40.9                  | 60.1 | 42.2                | 41.6 | 45.9                  | 63.9 |
| 5600             | 60             | 36.2                   | 34.6                | 38.8                  | 55.6 | 40.5                | 39.2 | 43.1                  | 59.8 | 44.8                | 44.0 | 47.5                  | 63.8 |
|                  | 65             | 36.1                   | 34.5                | 38.5                  | 55.7 | 40.4                | 39.1 | 43.2                  | 59.9 | 44.7                | 44.0 | 47.6                  | 63.8 |
|                  | 70             | 37.9                   | 35.5                | 40.9                  | 56.8 | 40.3                | 39.0 | 43.0                  | 60.1 | 44.7                | 43.9 | 47.8                  | 63.9 |
|                  | 75             | 41.2                   | 39.1                | 44.4                  | 60.3 | 41.3                | 39.0 | 44.5                  | 60.2 | 44.6                | 43.8 | 48.0                  | 64.0 |
| 6400             | 60             | 38.0                   | 36.5                | 40.4                  | 55.5 | 42.3                | 41.0 | 44.6                  | 59.7 | 46.6                | 45.7 | 49.0                  | 63.6 |
|                  | 65             | 37.9                   | 36.3                | 40.1                  | 55.6 | 42.2                | 40.9 | 44.8                  | 59.9 | 46.6                | 45.7 | 49.2                  | 63.7 |
|                  | 70             | 40.8                   | 38.4                | 43.6                  | 57.8 | 42.1                | 40.8 | 44.5                  | 60.0 | 46.5                | 45.6 | 49.4                  | 63.9 |
|                  | 75             | 44.2                   | 42.2                | 47.2                  | 61.3 | 44.3                | 42.3 | 47.3                  | 61.4 | 46.4                | 45.6 | 49.6                  | 64.0 |
| 7200             | 60             | 39.5                   | 38.0                | 41.7                  | 55.4 | 43.8                | 42.4 | 45.9                  | 59.6 | 48.1                | 47.1 | 50.1                  | 63.5 |
|                  | 65             | 39.5                   | 37.9                | 41.9                  | 55.5 | 43.7                | 42.4 | 46.1                  | 59.8 | 48.0                | 47.1 | 50.4                  | 63.7 |
|                  | 70             | 43.2                   | 40.8                | 45.8                  | 58.6 | 43.7                | 42.3 | 46.4                  | 59.9 | 48.0                | 47.0 | 50.6                  | 63.8 |
|                  | 75             | 46.7                   | 44.7                | 49.5                  | 62.2 | 46.8                | 44.8 | 49.6                  | 62.3 | 47.9                | 47.0 | 50.8                  | 64.0 |
| 8000             | 60             | 40.7                   | 39.2                | 42.7                  | 55.2 | 44.9                | 43.6 | 46.9                  | 59.4 | 49.2                | 48.2 | 51.1                  | 63.4 |
|                  | 65             | 40.7                   | 39.3                | 43.0                  | 55.6 | 44.9                | 43.6 | 47.1                  | 59.7 | 49.2                | 48.2 | 51.3                  | 63.6 |
|                  | 70             | 45.2                   | 42.9                | 47.7                  | 59.3 | 44.9                | 43.4 | 47.4                  | 59.4 | 49.1                | 48.2 | 51.6                  | 63.8 |
|                  | 75             | 48.9                   | 46.9                | 51.5                  | 63.0 | 48.9                | 47.0 | 51.6                  | 63.0 | 49.2                | 48.2 | 51.9                  | 64.0 |
| 8800             | 60             | 41.6                   | 40.3                | 43.1                  | 55.1 | 45.9                | 44.6 | 47.7                  | 59.3 | 50.2                | 49.2 | 51.8                  | 63.2 |
|                  | 65             | 43.2                   | 40.3                | 45.4                  | 55.5 | 45.8                | 44.6 | 48.0                  | 59.6 | 50.1                | 49.2 | 52.1                  | 63.5 |
|                  | 70             | 47.0                   | 44.7                | 49.3                  | 59.9 | 47.0                | 44.7 | 49.4                  | 59.9 | 50.1                | 49.1 | 52.4                  | 63.7 |
|                  | 75             | 50.7                   | 48.8                | 53.2                  | 63.7 | 50.8                | 48.9 | 53.3                  | 63.7 | 50.3                | 49.3 | 52.8                  | 64.1 |
| 9600             | 60             | 42.4                   | 41.1                | 44.3                  | 55.0 | 46.7                | 45.5 | 48.4                  | 59.2 | 51.0                | 50.0 | 52.5                  | 63.1 |
|                  | 65             | 44.7                   | 41.2                | 46.7                  | 55.5 | 46.6                | 45.4 | 48.7                  | 59.5 | 50.9                | 50.0 | 52.8                  | 63.4 |
|                  | 70             | 48.5                   | 46.3                | 50.7                  | 60.5 | 48.6                | 45.7 | 50.8                  | 59.9 | 50.9                | 49.9 | 53.1                  | 63.7 |
|                  | 75             | 52.3                   | 50.5                | 54.7                  | 64.3 | 52.4                | 50.6 | 54.8                  | 64.4 | 52.5                | 50.2 | 54.9                  | 64.1 |
| Ambient DB 70°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 4000             | 60             | 31.2 <sup>(a)</sup>    | 29.2 <sup>(a)</sup> | 34.7                  | 57.1 | 35.4                | 33.7 | 38.9                  | 61.3 | 39.7                | 38.7 | 43.7                  | 65.4 |
|                  | 65             | 31.1 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 34.5                  | 57.1 | 35.3                | 33.6 | 38.9                  | 61.4 | 39.6                | 38.6 | 43.6                  | 65.3 |
|                  | 70             | 31.2 <sup>(a)</sup>    | 29.1 <sup>(a)</sup> | 34.9                  | 57.2 | 35.2                | 33.5 | 38.9                  | 61.2 | 39.6                | 38.6 | 43.6                  | 65.4 |
|                  | 75             | 33.7                   | 31.1 <sup>(a)</sup> | 37.6                  | 59.1 | 35.2                | 33.5 | 38.8                  | 61.5 | 39.5                | 38.5 | 43.5                  | 65.4 |

**Table 15. Reheat temperature rise — 20 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 4800             | 60             | 34.3                   | 32.2 <sup>(a)</sup> | 37.2                  | 56.8 | 38.6                | 36.8 | 41.6                  | 61.2 | 42.9                | 41.6 | 46.3                  | 65.4 |
|                  | 65             | 34.2                   | 32.1 <sup>(a)</sup> | 37.1                  | 56.9 | 38.5                | 36.7 | 41.6                  | 61.3 | 42.8                | 41.6 | 46.2                  | 65.3 |
|                  | 70             | 35.0                   | 32.2 <sup>(a)</sup> | 38.4                  | 57.0 | 38.4                | 36.7 | 41.5                  | 61.4 | 42.7                | 41.5 | 46.4                  | 65.4 |
|                  | 75             | 38.2                   | 35.5                | 41.8                  | 60.4 | 38.2                | 36.6 | 41.5                  | 61.4 | 42.7                | 41.4 | 46.5                  | 65.5 |
| 5600             | 60             | 36.6                   | 34.6                | 39.3                  | 56.5 | 40.9                | 39.1 | 43.6                  | 60.9 | 45.2                | 43.8 | 48.0                  | 65.1 |
|                  | 65             | 36.5                   | 34.6                | 39.4                  | 56.6 | 40.8                | 39.1 | 43.8                  | 61.1 | 45.2                | 43.8 | 48.2                  | 65.2 |
|                  | 70             | 38.5                   | 35.6                | 41.6                  | 57.8 | 40.7                | 39.0 | 43.9                  | 61.2 | 45.1                | 43.7 | 48.4                  | 65.4 |
|                  | 75             | 41.8                   | 39.1                | 45.2                  | 61.5 | 41.9                | 39.0 | 45.3                  | 61.4 | 45.0                | 43.7 | 48.5                  | 65.5 |
| 6400             | 60             | 38.4                   | 36.5                | 40.8                  | 56.3 | 42.7                | 41.0 | 45.1                  | 60.7 | 47.0                | 45.6 | 49.5                  | 64.9 |
|                  | 65             | 38.4                   | 36.4                | 41.1                  | 56.5 | 42.6                | 40.9 | 45.3                  | 60.9 | 46.9                | 45.5 | 49.7                  | 65.1 |
|                  | 70             | 41.4                   | 38.5                | 44.3                  | 58.7 | 42.5                | 40.8 | 45.5                  | 61.0 | 46.9                | 45.5 | 49.9                  | 65.2 |
|                  | 75             | 44.8                   | 42.1                | 48.0                  | 62.4 | 44.9                | 42.2 | 48.1                  | 62.5 | 46.8                | 45.4 | 50.0                  | 65.4 |
| 7200             | 60             | 39.8                   | 38.1                | 42.1                  | 56.1 | 44.1                | 42.5 | 46.3                  | 60.5 | 48.4                | 47.0 | 50.6                  | 64.7 |
|                  | 65             | 39.8                   | 38.0                | 42.3                  | 56.4 | 44.0                | 42.4 | 46.5                  | 60.7 | 48.3                | 47.0 | 50.8                  | 64.8 |
|                  | 70             | 43.7                   | 40.9                | 46.5                  | 59.4 | 44.0                | 42.3 | 46.8                  | 60.9 | 48.3                | 46.9 | 51.1                  | 65.1 |
|                  | 75             | 47.3                   | 44.6                | 50.3                  | 63.3 | 47.4                | 44.7 | 50.4                  | 63.3 | 48.3                | 46.9 | 51.4                  | 65.2 |
| 8000             | 60             | 41.0                   | 39.3                | 42.7                  | 55.9 | 45.2                | 43.7 | 47.2                  | 60.2 | 49.5                | 48.1 | 51.5                  | 64.4 |
|                  | 65             | 42.1                   | 39.3                | 44.4                  | 56.2 | 45.2                | 43.6 | 47.5                  | 60.5 | 49.5                | 48.1 | 51.7                  | 64.6 |
|                  | 70             | 45.8                   | 43.0                | 48.3                  | 60.1 | 45.2                | 43.7 | 47.8                  | 60.8 | 49.4                | 48.1 | 52.0                  | 64.9 |
|                  | 75             | 49.4                   | 46.8                | 52.2                  | 64.0 | 49.5                | 46.9 | 52.3                  | 64.0 | 49.5                | 48.1 | 52.4                  | 65.1 |
| 8800             | 60             | 41.9                   | 40.3                | 43.9                  | 55.7 | 46.2                | 44.7 | 48.0                  | 60.0 | 50.5                | 49.1 | 52.2                  | 64.2 |
|                  | 65             | 43.7                   | 40.4                | 45.9                  | 56.2 | 46.1                | 44.6 | 48.3                  | 60.3 | 50.4                | 49.1 | 52.5                  | 64.5 |
|                  | 70             | 47.5                   | 44.8                | 49.9                  | 60.7 | 47.6                | 44.8 | 50.0                  | 60.7 | 50.3                | 49.0 | 52.8                  | 64.7 |
|                  | 75             | 51.3                   | 48.7                | 53.9                  | 64.6 | 51.3                | 48.8 | 54.0                  | 64.7 | 50.6                | 49.2 | 53.2                  | 65.1 |
| 9600             | 60             | 42.7                   | 41.2                | 44.6                  | 55.6 | 47.0                | 45.5 | 48.7                  | 59.8 | 51.2                | 49.9 | 52.8                  | 64.0 |
|                  | 65             | 45.1                   | 42.5                | 47.2                  | 57.1 | 46.9                | 45.5 | 49.0                  | 60.1 | 51.2                | 49.9 | 53.1                  | 64.3 |
|                  | 70             | 49.0                   | 46.4                | 51.3                  | 61.2 | 49.1                | 45.7 | 51.3                  | 60.6 | 51.1                | 49.9 | 53.5                  | 64.6 |
|                  | 75             | 52.8                   | 50.3                | 55.4                  | 65.2 | 52.9                | 50.4 | 55.4                  | 65.2 | 53.0                | 50.1 | 55.5                  | 65.0 |

**Note:** MIN, MAX: The leaving evaporator temperature is affected by the modulating valve position. The MIN and MAX numbers represent modulating valve position impact on both the leaving evaporator temperature and the leaving reheat coil temperature. MAX represents wide open, MIN represents closed to minimum position.

<sup>(a)</sup> The unit might be tripped by Froststat at these conditions due to low leaving evaporator air temperature.

**Table 16. Reheat temperature rise — 25 tons**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |         |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |         |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |         | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX     | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| Ambient DB 60°F  |                |                        |         |                       |      |                     |      |                       |      |                     |      |                       |      |
| 5000             | 60             | 31.8(a)                | 30.9(a) | 33.8                  | 53.1 | 36.3                | 35.2 | 38.2                  | 56.9 | 40.8                | 39.8 | 43.0                  | 60.6 |
|                  | 65             | 31.7(a)                | 30.8(a) | 33.9                  | 53.2 | 36.2                | 35.1 | 38.3                  | 57.0 | 40.8                | 39.7 | 42.9                  | 60.5 |
|                  | 70             | 31.5(a)                | 30.6(a) | 33.7                  | 53.0 | 36.1                | 35.0 | 38.4                  | 56.9 | 40.7                | 39.6 | 43.0                  | 60.5 |
|                  | 75             | 34.6                   | 33.1    | 37.1                  | 55.5 | 36.0                | 34.9 | 38.5                  | 57.1 | 40.6                | 39.5 | 43.1                  | 60.4 |



## Reheat Temperature Rise

Table 16. Reheat temperature rise — 25 tons (continued)

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 6000             | 60             | 35.0                   | 33.9                | 36.7                  | 53.3 | 39.4                | 38.3 | 41.1                  | 57.3 | 44.0                | 42.8 | 45.5                  | 61.1 |
|                  | 65             | 34.9                   | 33.8                | 36.8                  | 53.5 | 39.4                | 38.2 | 41.2                  | 57.4 | 43.9                | 42.7 | 45.7                  | 61.0 |
|                  | 70             | 36.0                   | 33.8                | 38.1                  | 53.7 | 39.3                | 38.1 | 41.4                  | 57.5 | 43.9                | 42.6 | 45.9                  | 61.0 |
|                  | 75             | 39.5                   | 37.6                | 41.7                  | 57.3 | 39.4                | 38.2 | 41.6                  | 57.7 | 43.8                | 42.6 | 46.0                  | 61.3 |
| 7000             | 60             | 37.3                   | 36.2                | 38.9                  | 53.5 | 41.8                | 40.6 | 43.1                  | 57.5 | 46.3                | 45.1 | 47.5                  | 61.3 |
|                  | 65             | 37.2                   | 36.1                | 39.0                  | 53.7 | 41.7                | 40.5 | 43.4                  | 57.7 | 46.2                | 45.0 | 47.7                  | 61.3 |
|                  | 70             | 39.7                   | 37.8                | 41.6                  | 55.5 | 41.6                | 40.4 | 43.5                  | 57.8 | 46.2                | 44.9 | 48.0                  | 61.5 |
|                  | 75             | 43.4                   | 41.3                | 45.4                  | 58.7 | 43.5                | 40.5 | 45.5                  | 58.1 | 46.1                | 44.9 | 48.1                  | 61.7 |
| 8000             | 60             | 39.1                   | 38.0                | 40.5                  | 53.7 | 43.5                | 42.3 | 44.7                  | 57.6 | 48.0                | 46.8 | 49.0                  | 61.5 |
|                  | 65             | 39.2                   | 37.8                | 40.8                  | 53.5 | 43.4                | 42.3 | 45.0                  | 57.8 | 48.0                | 46.8 | 49.3                  | 61.5 |
|                  | 70             | 42.7                   | 40.7                | 44.4                  | 56.6 | 43.6                | 42.2 | 45.4                  | 58.0 | 47.9                | 46.7 | 49.6                  | 61.7 |
|                  | 75             | 46.5                   | 38.4                | 48.4                  | 53.9 | 46.6                | 44.3 | 48.4                  | 60.0 | 47.9                | 46.7 | 49.8                  | 61.9 |
| 9000             | 60             | 40.5                   | 39.4                | 41.8                  | 53.7 | 44.9                | 43.7 | 46.0                  | 57.7 | 49.3                | 48.2 | 50.2                  | 61.5 |
|                  | 65             | 40.7                   | 39.6                | 42.2                  | 54.1 | 44.8                | 43.7 | 46.3                  | 57.9 | 49.3                | 48.1 | 50.5                  | 61.5 |
|                  | 70             | 45.2                   | 43.1                | 46.8                  | 57.6 | 45.1                | 43.9 | 46.7                  | 58.3 | 49.3                | 48.1 | 50.8                  | 61.9 |
|                  | 75             | 49.1                   | 41.3                | 50.8                  | 52.7 | 49.2                | 46.8 | 50.9                  | 61.0 | 49.6                | 48.1 | 51.3                  | 62.1 |
| 10000            | 60             | 41.6                   | 40.5                | 42.8                  | 53.8 | 46.0                | 44.9 | 47.0                  | 57.7 | 50.4                | 49.3 | 51.1                  | 61.5 |
|                  | 65             | 43.3                   | 40.8                | 44.6                  | 54.3 | 45.9                | 44.8 | 47.3                  | 58.0 | 50.4                | 49.2 | 51.5                  | 61.7 |
|                  | 70             | 47.3                   | 45.1                | 48.8                  | 58.4 | 46.4                | 45.1 | 47.8                  | 58.5 | 50.3                | 49.2 | 51.8                  | 62.0 |
|                  | 75             | 51.3                   | 42.8                | 52.9                  | 53.5 | 51.4                | 49.0 | 53.0                  | 62.0 | 50.8                | 49.6 | 52.4                  | 62.5 |
| 11000            | 60             | 42.5                   | 41.5                | 43.7                  | 53.8 | 46.9                | 45.8 | 47.8                  | 57.7 | 51.3                | 50.2 | 51.9                  | 61.5 |
|                  | 65             | 44.9                   | 41.8                | 46.2                  | 54.4 | 46.9                | 45.8 | 48.2                  | 58.1 | 51.3                | 50.1 | 52.3                  | 61.8 |
|                  | 70             | 49.1                   | 46.8                | 50.4                  | 59.2 | 49.1                | 46.2 | 50.5                  | 58.6 | 51.3                | 50.0 | 52.7                  | 61.5 |
|                  | 75             | 53.2                   | 50.8                | 54.6                  | 62.8 | 53.3                | 50.8 | 54.7                  | 62.8 | 53.3                | 50.6 | 54.8                  | 62.6 |
| 12000            | 60             | 43.3                   | 42.4                | 44.5                  | 53.8 | 47.6                | 46.6 | 48.5                  | 57.7 | 52.0                | 51.0 | 52.5                  | 61.5 |
|                  | 65             | 46.4                   | 44.5                | 47.6                  | 56.0 | 47.7                | 46.6 | 48.9                  | 58.1 | 52.0                | 50.9 | 53.0                  | 61.8 |
|                  | 70             | 50.6                   | 48.4                | 51.9                  | 59.8 | 50.7                | 47.1 | 51.9                  | 58.7 | 51.9                | 51.0 | 52.8                  | 62.2 |
|                  | 75             | 54.8                   | 45.4                | 56.2                  | 54.4 | 54.9                | 45.4 | 56.2                  | 58.2 | 54.9                | 51.5 | 56.3                  | 62.8 |
| Ambient DB 65°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 5000             | 60             | 32.0 <sup>(a)</sup>    | 31.0 <sup>(a)</sup> | 34.1                  | 54.3 | 36.5                | 35.4 | 38.5                  | 58.3 | 41.1                | 39.9 | 43.3                  | 62.3 |
|                  | 65             | 31.9 <sup>(a)</sup>    | 30.9 <sup>(a)</sup> | 34.2                  | 54.4 | 36.4                | 35.3 | 38.7                  | 58.4 | 41.1                | 39.8 | 43.2                  | 62.3 |
|                  | 70             | 32.1 <sup>(a)</sup>    | 31.0 <sup>(a)</sup> | 34.4                  | 54.6 | 36.3                | 35.2 | 38.8                  | 58.5 | 41.0                | 39.7 | 43.3                  | 62.2 |
|                  | 75             | 35.0                   | 33.4                | 37.6                  | 56.9 | 36.3                | 35.1 | 38.8                  | 58.6 | 40.9                | 39.6 | 43.5                  | 62.2 |
| 6000             | 60             | 35.2                   | 34.0                | 37.0                  | 54.4 | 39.7                | 38.4 | 41.4                  | 58.6 | 44.2                | 42.9 | 45.8                  | 62.5 |
|                  | 65             | 35.1                   | 33.9                | 37.1                  | 54.5 | 39.6                | 38.3 | 41.5                  | 58.7 | 44.2                | 42.8 | 46.0                  | 62.6 |
|                  | 70             | 36.4                   | 33.9                | 38.5                  | 54.8 | 39.5                | 38.2 | 41.7                  | 58.8 | 44.1                | 42.7 | 46.2                  | 62.7 |
|                  | 75             | 39.9                   | 37.8                | 42.2                  | 58.6 | 39.6                | 38.3 | 41.9                  | 59.1 | 44.0                | 42.6 | 46.3                  | 62.5 |
| 7000             | 60             | 37.5                   | 36.3                | 39.1                  | 54.4 | 42.0                | 40.7 | 43.4                  | 58.6 | 46.5                | 45.1 | 47.8                  | 62.6 |
|                  | 65             | 37.4                   | 36.2                | 39.2                  | 54.6 | 41.9                | 40.6 | 43.6                  | 58.8 | 46.4                | 45.1 | 48.0                  | 62.8 |
|                  | 70             | 40.1                   | 38.0                | 42.0                  | 56.6 | 41.8                | 40.5 | 43.8                  | 59.0 | 46.4                | 45.0 | 48.2                  | 62.9 |
|                  | 75             | 43.7                   | 41.4                | 45.8                  | 60.0 | 43.8                | 40.6 | 45.9                  | 59.3 | 46.3                | 44.9 | 48.4                  | 63.1 |

**Table 16. Reheat temperature rise — 25 tons (continued)**

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|---------------------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |                     |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |                     | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX                 | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 8000             | 60             | 39.3                   | 38.1                | 40.7                  | 54.4 | 43.7                | 42.4 | 45.0                  | 58.6 | 48.2                | 46.9 | 49.2                  | 62.6 |
|                  | 65             | 39.4                   | 38.2                | 41.1                  | 54.8 | 43.6                | 42.4 | 45.2                  | 58.8 | 48.2                | 46.8 | 49.5                  | 62.8 |
|                  | 70             | 43.0                   | 40.8                | 44.8                  | 57.6 | 43.8                | 42.3 | 45.6                  | 59.1 | 48.1                | 46.7 | 49.8                  | 63.0 |
|                  | 75             | 46.9                   | 44.4                | 48.8                  | 61.2 | 47.0                | 44.5 | 48.9                  | 61.2 | 48.1                | 46.7 | 50.0                  | 63.2 |
| 9000             | 60             | 40.6                   | 39.5                | 42.0                  | 54.4 | 45.0                | 43.8 | 46.2                  | 58.6 | 49.5                | 48.2 | 50.4                  | 62.7 |
|                  | 65             | 40.9                   | 39.7                | 42.4                  | 54.9 | 45.0                | 43.8 | 46.5                  | 58.8 | 49.5                | 48.2 | 50.7                  | 62.8 |
|                  | 70             | 45.5                   | 43.2                | 47.1                  | 58.6 | 45.3                | 44.0 | 46.9                  | 59.3 | 49.4                | 48.1 | 51.0                  | 63.1 |
|                  | 75             | 49.5                   | 46.9                | 51.2                  | 62.2 | 49.6                | 47.0 | 51.3                  | 62.2 | 49.8                | 48.2 | 51.5                  | 63.3 |
| 10000            | 60             | 41.7                   | 40.6                | 43.0                  | 54.4 | 46.1                | 44.9 | 47.1                  | 58.5 | 50.6                | 49.3 | 51.4                  | 62.5 |
|                  | 65             | 43.5                   | 40.9                | 44.9                  | 54.9 | 46.1                | 44.9 | 47.5                  | 58.8 | 50.5                | 49.3 | 51.7                  | 62.8 |
|                  | 70             | 47.6                   | 45.2                | 49.1                  | 59.4 | 46.5                | 45.2 | 48.0                  | 59.3 | 50.5                | 49.2 | 52.0                  | 63.1 |
|                  | 75             | 51.7                   | 49.0                | 53.3                  | 63.1 | 51.8                | 49.1 | 53.4                  | 63.1 | 51.0                | 49.6 | 52.6                  | 63.5 |
| 11000            | 60             | 42.6                   | 41.6                | 43.9                  | 54.4 | 47.0                | 45.9 | 48.0                  | 58.4 | 51.4                | 50.2 | 52.0                  | 62.4 |
|                  | 65             | 45.2                   | 41.9                | 46.5                  | 55.0 | 47.0                | 45.8 | 48.3                  | 58.8 | 51.4                | 50.2 | 52.5                  | 62.7 |
|                  | 70             | 49.3                   | 47.0                | 50.8                  | 60.1 | 49.4                | 46.2 | 50.8                  | 59.4 | 51.4                | 50.2 | 52.9                  | 63.1 |
|                  | 75             | 53.5                   | 50.8                | 55.0                  | 63.8 | 53.6                | 50.9 | 55.1                  | 63.8 | 53.7                | 50.6 | 55.2                  | 63.6 |
| 12000            | 60             | 43.7                   | 42.4                | 44.9                  | 54.4 | 47.8                | 46.7 | 48.6                  | 58.4 | 52.2                | 51.0 | 52.6                  | 62.3 |
|                  | 65             | 46.6                   | 44.6                | 47.9                  | 56.7 | 47.8                | 46.7 | 49.1                  | 58.8 | 52.1                | 50.9 | 53.1                  | 62.7 |
|                  | 70             | 50.9                   | 48.5                | 52.2                  | 60.7 | 50.9                | 47.1 | 52.3                  | 59.5 | 52.2                | 51.0 | 53.6                  | 63.1 |
|                  | 75             | 55.1                   | 52.4                | 56.5                  | 64.5 | 55.2                | 52.5 | 56.6                  | 64.5 | 55.3                | 51.5 | 56.7                  | 63.7 |
| Ambient DB 70°F  |                |                        |                     |                       |      |                     |      |                       |      |                     |      |                       |      |
| 5000             | 60             | 32.3 <sup>(a)</sup>    | 31.2 <sup>(a)</sup> | 34.4                  | 55.3 | 36.8                | 35.6 | 38.9                  | 59.6 | 41.4                | 40.0 | 43.7                  | 63.9 |
|                  | 65             | 32.1 <sup>(a)</sup>    | 31.1 <sup>(a)</sup> | 34.5                  | 55.4 | 36.7                | 35.4 | 39.0                  | 59.7 | 41.4                | 40.0 | 43.6                  | 63.9 |
|                  | 70             | 32.3 <sup>(a)</sup>    | 31.2 <sup>(a)</sup> | 34.7                  | 55.6 | 36.6                | 35.3 | 39.1                  | 59.8 | 41.3                | 39.9 | 43.7                  | 64.0 |
|                  | 75             | 35.5                   | 33.6                | 38.0                  | 58.2 | 36.5                | 35.3 | 38.8                  | 59.9 | 41.2                | 39.8 | 43.8                  | 64.0 |
| 6000             | 60             | 35.4                   | 34.2                | 37.2                  | 55.3 | 39.9                | 38.6 | 41.6                  | 59.7 | 44.5                | 43.0 | 46.1                  | 63.8 |
|                  | 65             | 35.3                   | 34.1                | 37.4                  | 55.4 | 39.8                | 38.5 | 41.8                  | 59.8 | 44.4                | 43.0 | 46.3                  | 64.0 |
|                  | 70             | 36.8                   | 34.1                | 38.9                  | 55.7 | 39.7                | 38.4 | 42.0                  | 59.9 | 44.4                | 42.9 | 46.5                  | 64.1 |
|                  | 75             | 40.3                   | 38.1                | 42.7                  | 59.8 | 39.9                | 38.5 | 42.2                  | 60.2 | 44.3                | 42.8 | 46.6                  | 64.3 |
| 7000             | 60             | 37.7                   | 36.5                | 39.3                  | 55.2 | 42.2                | 40.8 | 43.7                  | 59.6 | 46.7                | 45.2 | 48.1                  | 63.8 |
|                  | 65             | 37.8                   | 36.3                | 39.7                  | 55.4 | 42.1                | 40.7 | 43.9                  | 59.8 | 46.7                | 45.2 | 48.3                  | 64.0 |
|                  | 70             | 40.4                   | 38.2                | 42.4                  | 57.5 | 42.0                | 40.6 | 44.0                  | 60.0 | 46.6                | 45.1 | 48.5                  | 64.1 |
|                  | 75             | 44.1                   | 41.6                | 46.3                  | 61.1 | 44.2                | 40.7 | 46.3                  | 60.3 | 46.5                | 45.0 | 48.7                  | 64.3 |
| 8000             | 60             | 39.4                   | 38.2                | 40.9                  | 55.1 | 43.9                | 42.6 | 45.2                  | 59.5 | 48.4                | 47.0 | 49.5                  | 63.6 |
|                  | 65             | 39.6                   | 38.3                | 41.3                  | 55.5 | 43.8                | 42.5 | 45.5                  | 59.7 | 48.3                | 46.9 | 49.8                  | 63.9 |
|                  | 70             | 43.4                   | 41.0                | 45.2                  | 58.5 | 44.0                | 42.4 | 45.8                  | 59.9 | 48.3                | 46.8 | 50.1                  | 64.1 |
|                  | 75             | 47.3                   | 44.6                | 49.2                  | 62.2 | 47.4                | 44.7 | 49.3                  | 62.3 | 48.5                | 46.8 | 50.5                  | 64.3 |
| 9000             | 60             | 40.8                   | 39.6                | 42.2                  | 55.1 | 45.2                | 43.9 | 46.4                  | 59.3 | 49.7                | 48.3 | 50.6                  | 63.5 |
|                  | 65             | 41.0                   | 39.8                | 42.6                  | 55.5 | 45.1                | 43.8 | 46.7                  | 59.6 | 49.7                | 48.2 | 50.9                  | 63.7 |
|                  | 70             | 45.8                   | 43.4                | 47.5                  | 59.4 | 45.5                | 44.1 | 47.1                  | 60.1 | 49.6                | 48.2 | 51.2                  | 64.0 |
|                  | 75             | 49.9                   | 47.0                | 51.7                  | 63.2 | 49.9                | 47.1 | 51.7                  | 63.2 | 50.0                | 48.2 | 51.8                  | 64.3 |



## Reheat Temperature Rise

Table 16. Reheat temperature rise — 25 tons (continued)

| Airflow<br>(cfm) | Ent DB<br>(°F) | Entering Wet Bulb (°F) |      |                       |      |                     |      |                       |      |                     |      |                       |      |
|------------------|----------------|------------------------|------|-----------------------|------|---------------------|------|-----------------------|------|---------------------|------|-----------------------|------|
|                  |                | 51                     |      |                       |      | 55                  |      |                       |      | 59                  |      |                       |      |
|                  |                | Lvg Evap<br>DB (°F)    |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      | Lvg Evap<br>DB (°F) |      | Lvg Reheat<br>DB (°F) |      |
|                  |                | MIN                    | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  | MIN                 | MAX  | MIN                   | MAX  |
| 10000            | 60             | 41.9                   | 40.7 | 43.2                  | 55.0 | 46.3                | 45.0 | 47.3                  | 59.2 | 50.7                | 49.4 | 51.5                  | 63.3 |
|                  | 65             | 43.8                   | 41.0 | 45.2                  | 55.5 | 46.2                | 45.0 | 47.7                  | 59.5 | 50.7                | 49.3 | 51.9                  | 63.6 |
|                  | 70             | 47.9                   | 45.4 | 49.4                  | 60.1 | 48.0                | 45.3 | 49.5                  | 60.1 | 50.6                | 49.3 | 52.2                  | 63.9 |
|                  | 75             | 52.0                   | 49.1 | 53.7                  | 64.0 | 52.1                | 49.2 | 53.8                  | 64.0 | 51.2                | 49.7 | 52.8                  | 64.5 |
| 11000            | 60             | 42.8                   | 41.7 | 44.1                  | 54.9 | 47.2                | 46.0 | 48.1                  | 59.0 | 51.6                | 50.3 | 52.2                  | 63.1 |
|                  | 65             | 45.5                   | 43.3 | 46.8                  | 56.7 | 47.1                | 45.9 | 48.5                  | 59.4 | 51.5                | 50.2 | 52.6                  | 63.5 |
|                  | 70             | 49.6                   | 47.1 | 51.1                  | 60.8 | 49.7                | 46.3 | 51.1                  | 60.1 | 51.6                | 50.2 | 53.0                  | 63.9 |
|                  | 75             | 53.9                   | 50.9 | 55.4                  | 64.7 | 53.9                | 51.0 | 55.5                  | 64.7 | 54.0                | 50.7 | 55.6                  | 64.5 |
| 12000            | 60             | 43.8                   | 42.5 | 45.0                  | 54.8 | 47.9                | 46.7 | 48.8                  | 58.9 | 52.3                | 51.1 | 52.8                  | 63.0 |
|                  | 65             | 46.9                   | 44.7 | 48.1                  | 57.3 | 47.9                | 46.8 | 49.2                  | 59.4 | 52.3                | 51.0 | 53.3                  | 63.4 |
|                  | 70             | 51.1                   | 48.6 | 52.5                  | 61.4 | 51.2                | 48.7 | 52.6                  | 61.4 | 52.2                | 51.1 | 53.2                  | 63.8 |
|                  | 75             | 55.4                   | 52.5 | 56.9                  | 65.4 | 55.5                | 52.6 | 57.0                  | 65.4 | 55.6                | 51.6 | 57.1                  | 64.5 |

**Note:** MIN, MAX: The leaving evaporator temperature is affected by the modulating valve position. The MIN and MAX numbers represent modulating valve position impact on both the leaving evaporator temperature and the leaving reheat coil temperature. MAX represents wide open, MIN represents closed to minimum position.

(a) The unit might be tripped by Froststat at these conditions due to low leaving evaporator air temperature.



# Evaporator Fan Performance - Heat Pump

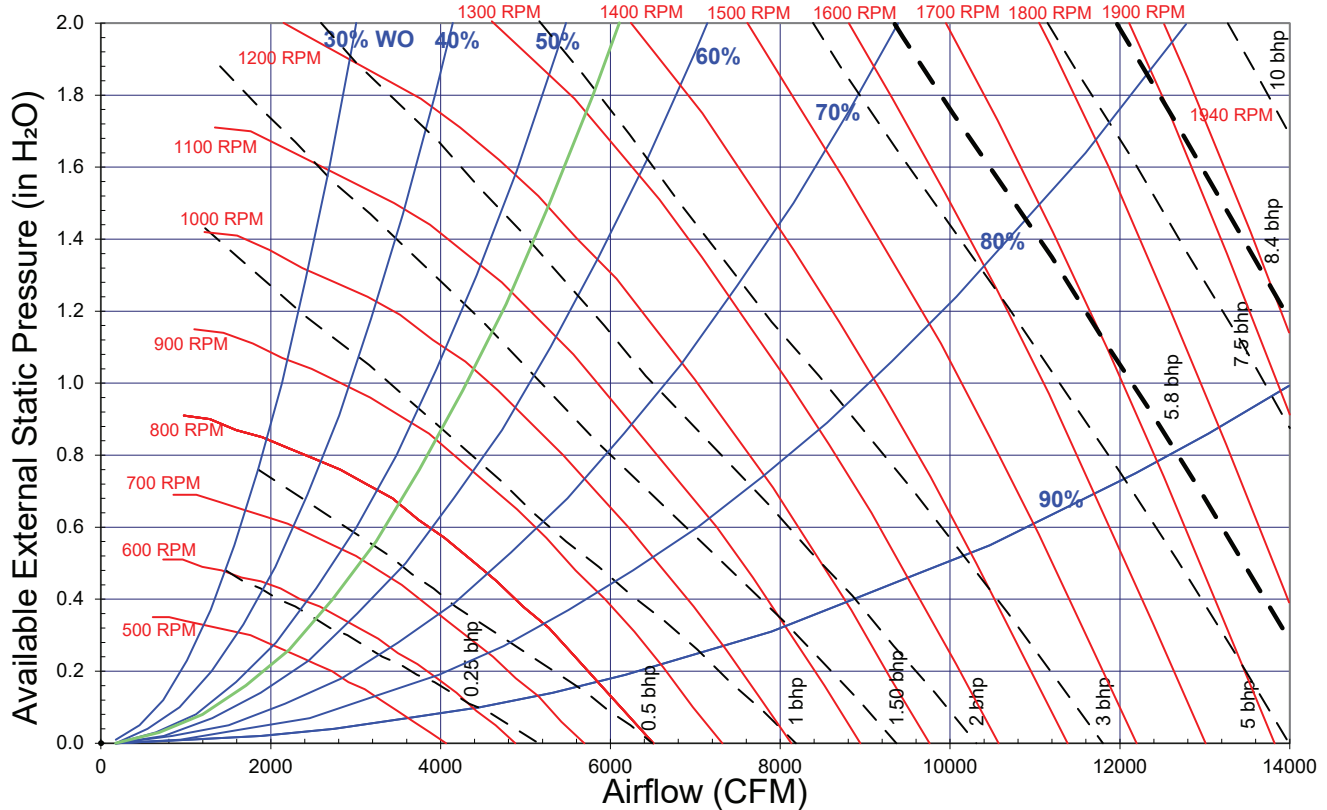
Fan Curve Limits:

- WHJ150–300 Std Motor, Max 5.8 hp or 1850 rpm
- WHJ300 High static, Max 8.4 hp or 1940 rpm
- Maximum CFM — 480 cfm/ton
- Maximum ESP = 2.0 in-H<sub>2</sub>O @ 400 cfm/ton

The fan curve graphs include standard filter and a wet indoor coil. Available static pressure is reduced with options based on the accessory table component pressure drop. To determine available static pressure at rpm/cfm with other options/accessories, select intersection point of the RPM vs CFM and then reduce available static pressure shown in graph by the sum of additional option static pressure drop listed in the fan performance accessory table section. For more detailed and precise RPM, BHP, and CFM operating points, see evaporator tables below.

## 12.5 to 25 Ton Units — Downflow

Figure 1. Fan curves — 12.5 to 25 tons, WHJ\* downflow





## Evaporator Fan Performance - Heat Pump

**Table 17. Evaporator fan performance — 12.5 ton, model WHJ, downflow**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 541 0.19  | 604 0.28  | 661 0.37  | 713 0.47  | 761 0.58  | 807 0.69  | 850 0.80  | 891 0.91  | 930 1.03  | 968 1.16  |
| 4000                                                       | 568 0.21  | 629 0.31  | 684 0.41  | 734 0.51  | 781 0.62  | 825 0.74  | 868 0.85  | 908 0.97  | 947 1.10  | 983 1.22  |
| 4500                                                       | 625 0.28  | 679 0.38  | 731 0.49  | 779 0.61  | 823 0.73  | 866 0.85  | 905 0.97  | 944 1.10  | 982 1.23  | 1018 1.37 |
| 5000                                                       | 683 0.35  | 732 0.47  | 780 0.58  | 826 0.71  | 868 0.84  | 908 0.97  | 947 1.11  | 983 1.24  | 1018 1.38 | 1053 1.53 |
| 5500                                                       | 742 0.45  | 786 0.57  | 831 0.69  | 874 0.83  | 915 0.97  | 953 1.11  | 989 1.26  | 1025 1.40 | 1059 1.55 | 1092 1.70 |
| 6000                                                       | 801 0.55  | 842 0.68  | 883 0.82  | 924 0.96  | 962 1.11  | 999 1.26  | 1035 1.42 | 1068 1.58 | 1102 1.74 | 1133 1.90 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 1005 1.29 | 1040 1.43 | 1074 1.57 | 1106 1.71 | 1137 1.86 | 1168 2    | 1198 2.15 | 1228 2.31 | 1257 2.46 | 1285 2.62 |
| 4000                                                       | 1019 1.36 | 1054 1.5  | 1088 1.64 | 1120 1.79 | 1152 1.94 | 1182 2.09 | 1211 2.24 | 1240 2.4  | 1269 2.56 | 1297 2.72 |
| 4500                                                       | 1052 1.51 | 1085 1.65 | 1117 1.79 | 1149 1.95 | 1180 2.1  | 1211 2.26 | 1240 2.43 | 1268 2.59 | 1296 2.76 | 1323 2.93 |
| 5000                                                       | 1087 1.67 | 1120 1.82 | 1151 1.98 | 1182 2.13 | 1211 2.29 | 1240 2.45 | 1269 2.62 | 1297 2.79 | 1325 2.97 | 1352 3.15 |
| 5500                                                       | 1123 1.86 | 1155 2.02 | 1186 2.18 | 1216 2.34 | 1246 2.51 | 1274 2.68 | 1302 2.85 | 1328 3.02 | 1354 3.2  | 1381 3.38 |
| 6000                                                       | 1164 2.06 | 1194 2.23 | 1223 2.4  | 1252 2.57 | 1281 2.74 | 1309 2.92 | 1336 3.1  | 1363 3.28 | 1389 3.47 | 1414 3.66 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 18. Evaporator fan performance — 15 ton, model WHJ, downflow**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 625 0.28  | 679 0.38  | 731 0.49  | 779 0.61  | 823 0.73  | 866 0.85  | 905 0.97  | 944 1.10  | 982 1.23  | 1018 1.37 |
| 4800                                                       | 660 0.32  | 711 0.43  | 760 0.54  | 807 0.67  | 850 0.79  | 891 0.92  | 930 1.05  | 967 1.18  | 1003 1.32 | 1039 1.46 |
| 5400                                                       | 730 0.43  | 775 0.54  | 821 0.67  | 864 0.80  | 905 0.94  | 944 1.08  | 981 1.22  | 1017 1.37 | 1051 1.52 | 1084 1.67 |
| 6000                                                       | 801 0.55  | 842 0.68  | 883 0.82  | 924 0.96  | 962 1.11  | 999 1.26  | 1035 1.42 | 1068 1.58 | 1102 1.74 | 1133 1.90 |
| 6600                                                       | 873 0.71  | 911 0.85  | 948 1.00  | 985 1.15  | 1022 1.31 | 1057 1.47 | 1091 1.63 | 1123 1.81 | 1155 1.98 | 1185 2.16 |
| 7200                                                       | 945 0.89  | 981 1.04  | 1014 1.20 | 1049 1.36 | 1083 1.53 | 1116 1.70 | 1148 1.88 | 1180 2.06 | 1210 2.25 | 1239 2.43 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 1052 1.51 | 1085 1.65 | 1117 1.79 | 1149 1.95 | 1180 2.1  | 1211 2.26 | 1240 2.43 | 1268 2.59 | 1296 2.76 | 1323 2.93 |
| 4800                                                       | 1073 1.61 | 1106 1.75 | 1137 1.90 | 1168 2.05 | 1198 2.21 | 1228 2.37 | 1257 2.54 | 1286 2.71 | 1313 2.88 | 1340 3.06 |
| 5400                                                       | 1115 1.82 | 1148 1.98 | 1179 2.14 | 1209 2.3  | 1239 2.46 | 1267 2.63 | 1295 2.80 | 1322 2.97 | 1348 3.15 | 1375 3.33 |
| 6000                                                       | 1164 2.06 | 1194 2.23 | 1223 2.40 | 1252 2.57 | 1281 2.74 | 1309 2.92 | 1336 3.10 | 1363 3.28 | 1389 3.47 | 1414 3.66 |
| 6600                                                       | 1215 2.33 | 1244 2.51 | 1272 2.69 | 1300 2.87 | 1326 3.05 | 1352 3.24 | 1379 3.43 | 1405 3.62 | 1431 3.82 | 1456 4.02 |
| 7200                                                       | 1268 2.63 | 1295 2.82 | 1323 3.01 | 1350 3.2  | 1376 3.4  | 1401 3.6  | 1426 3.79 | 1450 4.00 | 1474 4.2  | 1498 4.41 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## Evaporator Fan Performance - Heat Pump

**Table 19. Evaporator fan performance — 20 ton, model WHJ, downflow**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 785 0.51  | 827 0.64  | 868 0.77  | 907 0.91  | 945 1.05  | 981 1.20  | 1016 1.35 | 1049 1.50 | 1081 1.65 | 1112 1.80 |
| 6400                                                       | 831 0.61  | 872 0.74  | 911 0.88  | 948 1.02  | 984 1.17  | 1019 1.33 | 1053 1.48 | 1085 1.64 | 1116 1.80 | 1146 1.96 |
| 7200                                                       | 925 0.83  | 962 0.97  | 997 1.13  | 1031 1.28 | 1064 1.45 | 1096 1.61 | 1128 1.79 | 1158 1.96 | 1188 2.14 | 1217 2.32 |
| 8000                                                       | 1020 1.09 | 1054 1.26 | 1086 1.42 | 1117 1.60 | 1148 1.77 | 1177 1.95 | 1206 2.14 | 1235 2.33 | 1263 2.52 | 1290 2.72 |
| 8800                                                       | 1115 1.42 | 1146 1.60 | 1176 1.78 | 1205 1.96 | 1233 2.15 | 1261 2.35 | 1288 2.55 | 1314 2.75 | 1341 2.96 | 1367 3.17 |
| 9600                                                       | 1211 1.81 | 1240 2.00 | 1268 2.20 | 1295 2.39 | 1321 2.60 | 1347 2.81 | 1372 3.02 | 1397 3.24 | 1421 3.46 | 1445 3.68 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 1141 1.95 | 1170 2.1  | 1198 2.25 | 1227 2.41 | 1255 2.57 | 1282 2.74 | 1308 2.9  | 1333 3.07 | 1358 3.24 | 1383 3.41 |
| 6400                                                       | 1175 2.12 | 1203 2.28 | 1231 2.44 | 1257 2.6  | 1284 2.77 | 1311 2.94 | 1337 3.11 | 1362 3.29 | 1387 3.46 | 1411 3.64 |
| 7200                                                       | 1245 2.49 | 1272 2.67 | 1299 2.85 | 1324 3.03 | 1349 3.21 | 1374 3.39 | 1397 3.57 | 1421 3.76 | 1445 3.95 | 1469 4.14 |
| 8000                                                       | 1317 2.91 | 1343 3.11 | 1369 3.31 | 1394 3.5  | 1418 3.7  | 1442 3.9  | 1465 4.1  | 1487 4.31 | 1510 4.5  | 1532 4.7  |
| 8800                                                       | 1392 3.38 | 1417 3.59 | 1442 3.81 | 1466 4.02 | 1489 4.24 | 1512 4.46 | 1534 4.68 | 1557 4.89 | 1578 5.11 | 1599 5.33 |
| 9600                                                       | 1469 3.9  | 1493 4.13 | 1517 4.37 | 1539 4.6  | 1562 4.83 | 1584 5.07 | 1606 5.31 | 1627 5.54 | 1648 5.78 | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 20. Evaporator fan performance — 25 ton, model WHJ, downflow**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                       | 961 0.92  | 996 1.07  | 1030 1.23 | 1063 1.40 | 1095 1.56 | 1126 1.74 | 1157 1.91 | 1187 2.09 | 1216 2.28 | 1244 2.46 |
| 8000                                                       | 1020 1.09 | 1054 1.26 | 1086 1.42 | 1117 1.60 | 1148 1.77 | 1177 1.95 | 1206 2.14 | 1235 2.33 | 1263 2.52 | 1290 2.72 |
| 9000                                                       | 1139 1.51 | 1170 1.69 | 1199 1.88 | 1227 2.06 | 1255 2.26 | 1282 2.46 | 1309 2.66 | 1335 2.87 | 1360 3.07 | 1386 3.29 |
| 10000                                                      | 1259 2.02 | 1287 2.23 | 1314 2.43 | 1340 2.64 | 1365 2.84 | 1390 3.06 | 1415 3.28 | 1439 3.51 | 1463 3.73 | 1486 3.96 |
| 11000                                                      | 1379 2.65 | 1405 2.87 | 1430 3.09 | 1454 3.32 | 1478 3.54 | 1501 3.77 | 1523 4.01 | 1546 4.25 | 1568 4.50 | 1590 4.75 |
| 12000                                                      | 1500 3.39 | 1524 3.63 | 1547 3.87 | 1570 4.12 | 1592 4.37 | 1613 4.61 | 1634 4.86 | 1655 5.12 | 1676 5.39 | 1696 5.65 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                       | 1272 2.65 | 1299 2.83 | 1325 3.02 | 1350 3.2  | 1375 3.39 | 1399 3.58 | 1422 3.77 | 1446 3.96 | 1468 4.15 | 1491 4.34 |
| 8000                                                       | 1317 2.91 | 1343 3.11 | 1369 3.31 | 1394 3.5  | 1418 3.7  | 1442 3.9  | 1465 4.1  | 1487 4.31 | 1510 4.5  | 1532 4.7  |
| 9000                                                       | 1411 3.5  | 1436 3.72 | 1460 3.94 | 1484 4.16 | 1507 4.38 | 1530 4.61 | 1552 4.83 | 1574 5.05 | 1596 5.27 | 1617 5.5  |
| 10000                                                      | 1509 4.19 | 1532 4.43 | 1555 4.67 | 1577 4.91 | 1599 5.15 | 1621 5.4  | 1643 5.64 | - -       | - -       | - -       |
| 11000                                                      | 1611 4.99 | 1633 5.25 | 1653 5.5  | 1674 5.76 | - -       | - -       | - -       | - -       | - -       | - -       |
| 12000                                                      | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Evaporator Fan Performance - Heat Pump

Table 21. Evaporator fan performance — 25 ton, downflow, model WHJ, high static drive

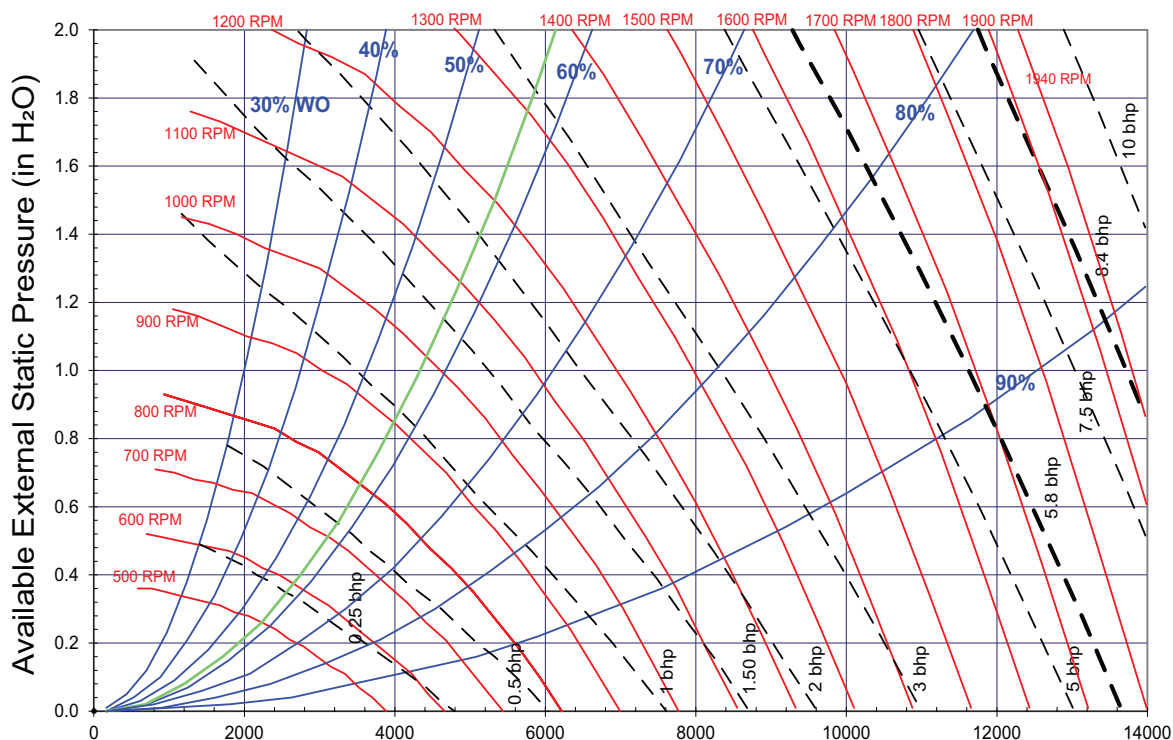
| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
|------------------------------------------------------------|----------------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
| CFM                                                        | 0.10"                |      | 0.20" |      | 0.30" |      | 0.40" |      | 0.50" |      | 0.60" |      | 0.70" |      | 0.80" |      | 0.90" |      | 1.00" |      |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| 7500                                                       | 983                  | 0.94 | 1019  | 1.10 | 1053  | 1.26 | 1086  | 1.42 | 1117  | 1.59 | 1148  | 1.76 | 1179  | 1.94 | 1209  | 2.11 | 1238  | 2.29 | 1266  | 2.47 |
| 8000                                                       | 1044                 | 1.12 | 1078  | 1.28 | 1110  | 1.45 | 1142  | 1.63 | 1171  | 1.80 | 1200  | 1.98 | 1230  | 2.17 | 1259  | 2.36 | 1287  | 2.55 | 1314  | 2.74 |
| 9000                                                       | 1166                 | 1.55 | 1197  | 1.73 | 1226  | 1.92 | 1255  | 2.11 | 1283  | 2.30 | 1309  | 2.50 | 1335  | 2.70 | 1361  | 2.91 | 1387  | 3.12 | 1413  | 3.33 |
| 10000                                                      | 1289                 | 2.08 | 1317  | 2.28 | 1344  | 2.48 | 1370  | 2.69 | 1396  | 2.91 | 1421  | 3.12 | 1445  | 3.34 | 1468  | 3.56 | 1491  | 3.79 | 1515  | 4.02 |
| 11000                                                      | 1412                 | 2.72 | 1438  | 2.94 | 1463  | 3.16 | 1487  | 3.39 | 1511  | 3.62 | 1534  | 3.86 | 1557  | 4.09 | 1579  | 4.33 | 1601  | 4.58 | 1622  | 4.82 |
| 12000                                                      | 1535                 | 3.48 | 1560  | 3.72 | 1583  | 3.97 | 1605  | 4.21 | 1628  | 4.46 | 1650  | 4.72 | 1671  | 4.97 | 1692  | 5.23 | 1712  | 5.49 | 1732  | 5.75 |
| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| CFM                                                        | 1.10"                |      | 1.20" |      | 1.30" |      | 1.40" |      | 1.50" |      | 1.60" |      | 1.70" |      | 1.80" |      | 1.90" |      | 2.00" |      |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| 7500                                                       | 1294                 | 2.66 | 1321  | 2.84 | 1346  | 3.03 | 1371  | 3.21 | 1396  | 3.4  | 1419  | 3.6  | 1442  | 3.79 | 1466  | 3.98 | 1489  | 4.18 | 1511  | 4.37 |
| 8000                                                       | 1341                 | 2.93 | 1367  | 3.12 | 1392  | 3.32 | 1417  | 3.52 | 1441  | 3.72 | 1464  | 3.92 | 1487  | 4.12 | 1509  | 4.32 | 1531  | 4.53 | 1553  | 4.74 |
| 9000                                                       | 1438                 | 3.54 | 1463  | 3.76 | 1487  | 3.97 | 1510  | 4.19 | 1534  | 4.41 | 1556  | 4.62 | 1579  | 4.85 | 1600  | 5.07 | 1622  | 5.29 | 1642  | 5.52 |
| 10000                                                      | 1539                 | 4.25 | 1562  | 4.49 | 1585  | 4.72 | 1607  | 4.96 | 1629  | 5.2  | 1651  | 5.43 | 1672  | 5.68 | 1693  | 5.92 | 1714  | 6.16 | 1734  | 6.4  |
| 11000                                                      | 1643                 | 5.07 | 1665  | 5.32 | 1686  | 5.58 | 1707  | 5.84 | 1728  | 6.1  | 1749  | 6.36 | 1769  | 6.61 | 1789  | 6.88 | 1809  | 7.14 | 1829  | 7.4  |
| 12000                                                      | 1752                 | 6.02 | 1771  | 6.28 | 1790  | 6.55 | 1810  | 6.83 | 1830  | 7.11 | 1850  | 7.39 | 1869  | 7.67 | 1888  | 7.96 | 1907  | 8.24 | -     | -    |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## 12.5 to 25 Ton Units — Horizontal

Figure 2. Fan curves — 12.5 to 25 tons, WHJ horizontal



## Evaporator Fan Performance - Heat Pump

**Table 22. Evaporator fan performance — 12.5 ton, model WHJ, horizontal**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 562 0.22  | 618 0.30  | 672 0.39  | 723 0.49  | 771 0.59  | 815 0.70  | 858 0.81  | 898 0.93  | 936 1.04  | 972 1.16  |
| 4000                                                       | 592 0.25  | 646 0.34  | 696 0.44  | 745 0.54  | 792 0.65  | 835 0.76  | 877 0.87  | 916 0.99  | 954 1.11  | 990 1.24  |
| 4500                                                       | 653 0.33  | 701 0.43  | 748 0.54  | 792 0.64  | 835 0.76  | 877 0.88  | 917 1.00  | 955 1.13  | 991 1.26  | 1027 1.39 |
| 5000                                                       | 716 0.43  | 759 0.54  | 802 0.65  | 843 0.77  | 882 0.89  | 922 1.02  | 959 1.15  | 996 1.29  | 1031 1.43 | 1065 1.57 |
| 5500                                                       | 779 0.55  | 819 0.67  | 858 0.79  | 896 0.92  | 933 1.04  | 969 1.17  | 1005 1.32 | 1039 1.46 | 1073 1.61 | 1106 1.76 |
| 6000                                                       | 842 0.69  | 879 0.82  | 915 0.95  | 951 1.08  | 985 1.22  | 1020 1.36 | 1052 1.50 | 1085 1.66 | 1117 1.82 | 1149 1.98 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 1007 1.29 | 1042 1.42 | 1075 1.55 | 1107 1.69 | 1138 1.83 | 1168 1.97 | 1197 2.11 | 1225 2.26 | 1253 2.41 | 1280 2.56 |
| 4000                                                       | 1024 1.36 | 1057 1.49 | 1090 1.63 | 1122 1.77 | 1153 1.91 | 1183 2.06 | 1212 2.21 | 1240 2.36 | 1268 2.51 | 1294 2.66 |
| 4500                                                       | 1060 1.53 | 1093 1.67 | 1124 1.81 | 1155 1.95 | 1184 2.1  | 1213 2.25 | 1242 2.41 | 1270 2.56 | 1298 2.73 | 1324 2.89 |
| 5000                                                       | 1098 1.71 | 1130 1.86 | 1161 2.01 | 1191 2.16 | 1220 2.32 | 1248 2.47 | 1275 2.63 | 1302 2.79 | 1328 2.96 | 1355 3.13 |
| 5500                                                       | 1138 1.91 | 1169 2.07 | 1199 2.23 | 1228 2.39 | 1256 2.55 | 1284 2.72 | 1311 2.89 | 1338 3.06 | 1364 3.23 | 1389 3.4  |
| 6000                                                       | 1180 2.14 | 1210 2.3  | 1239 2.47 | 1267 2.64 | 1295 2.81 | 1322 2.99 | 1348 3.16 | 1375 3.34 | 1400 3.52 | 1425 3.7  |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 23. Evaporator fan performance — 15 ton, model WHJ, horizontal**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 653 0.33  | 701 0.43  | 748 0.54  | 792 0.64  | 835 0.76  | 877 0.88  | 917 1.00  | 955 1.13  | 991 1.26  | 1027 1.39 |
| 4800                                                       | 690 0.39  | 736 0.49  | 780 0.60  | 822 0.72  | 863 0.83  | 903 0.96  | 942 1.09  | 979 1.22  | 1015 1.36 | 1049 1.50 |
| 5400                                                       | 766 0.53  | 807 0.64  | 846 0.76  | 885 0.88  | 923 1.01  | 959 1.14  | 995 1.28  | 1030 1.43 | 1065 1.57 | 1098 1.72 |
| 6000                                                       | 842 0.69  | 879 0.82  | 915 0.95  | 951 1.08  | 985 1.22  | 1020 1.36 | 1052 1.50 | 1085 1.66 | 1117 1.82 | 1149 1.98 |
| 6600                                                       | 919 0.90  | 953 1.03  | 986 1.17  | 1019 1.32 | 1051 1.47 | 1082 1.62 | 1114 1.77 | 1144 1.93 | 1173 2.09 | 1203 2.26 |
| 7200                                                       | 997 1.13  | 1028 1.28 | 1058 1.43 | 1089 1.59 | 1118 1.75 | 1148 1.91 | 1177 2.08 | 1205 2.25 | 1233 2.42 | 1261 2.59 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 1060 1.53 | 1093 1.67 | 1124 1.81 | 1155 1.95 | 1184 2.1  | 1213 2.25 | 1242 2.41 | 1270 2.56 | 1298 2.73 | 1324 2.89 |
| 4800                                                       | 1083 1.64 | 1115 1.78 | 1146 1.93 | 1176 2.07 | 1205 2.23 | 1234 2.38 | 1261 2.53 | 1289 2.7  | 1316 2.86 | 1342 3.03 |
| 5400                                                       | 1130 1.87 | 1161 2.03 | 1191 2.18 | 1220 2.34 | 1249 2.5  | 1277 2.67 | 1304 2.83 | 1331 3    | 1356 3.17 | 1382 3.34 |
| 6000                                                       | 1180 2.14 | 1210 2.3  | 1239 2.47 | 1267 2.64 | 1295 2.81 | 1322 2.99 | 1348 3.16 | 1375 3.34 | 1400 3.52 | 1425 3.7  |
| 6600                                                       | 1232 2.44 | 1261 2.61 | 1289 2.79 | 1317 2.97 | 1343 3.15 | 1370 3.34 | 1396 3.53 | 1421 3.71 | 1445 3.9  | 1469 4.1  |
| 7200                                                       | 1288 2.77 | 1315 2.96 | 1342 3.15 | 1368 3.34 | 1394 3.53 | 1420 3.73 | 1445 3.92 | 1469 4.12 | 1493 4.33 | 1517 4.53 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Evaporator Fan Performance - Heat Pump

**Table 24. Evaporator fan performance — 20 ton, model WHJ, horizontal**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |         |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |         |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP |
| 6000                                                       | 810 0.60  | 847 0.72  | 883 0.84  | 920 0.97  | 956 1.10  | 989 1.23  | 1022 1.37 | 1054 1.52 | 1085 1.66 | 1114 1.80 |         |
| 6400                                                       | 860 0.71  | 894 0.84  | 928 0.96  | 962 1.10  | 997 1.23  | 1029 1.37 | 1061 1.52 | 1092 1.67 | 1122 1.82 | 1150 1.98 |         |
| 7200                                                       | 958 0.98  | 990 1.11  | 1020 1.26 | 1050 1.40 | 1081 1.55 | 1112 1.71 | 1141 1.86 | 1169 2.02 | 1197 2.18 | 1225 2.35 |         |
| 8000                                                       | 1058 1.30 | 1087 1.46 | 1114 1.61 | 1142 1.77 | 1168 1.93 | 1196 2.10 | 1224 2.27 | 1251 2.44 | 1277 2.62 | 1303 2.80 |         |
| 8800                                                       | 1158 1.70 | 1185 1.87 | 1210 2.04 | 1235 2.21 | 1260 2.38 | 1284 2.56 | 1309 2.74 | 1335 2.93 | 1359 3.12 | 1384 3.32 |         |
| 9600                                                       | 1259 2.17 | 1283 2.35 | 1307 2.54 | 1330 2.72 | 1353 2.91 | 1376 3.11 | 1398 3.30 | 1420 3.50 | 1444 3.70 | 1467 3.91 |         |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |         |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |         |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP |
| 6000                                                       | 1142 1.94 | 1170 2.09 | 1197 2.24 | 1223 2.39 | 1250 2.54 | 1276 2.7  | 1302 2.86 | 1327 3.02 | 1352 3.19 | 1377 3.36 |         |
| 6400                                                       | 1178 2.13 | 1204 2.28 | 1231 2.43 | 1256 2.59 | 1282 2.75 | 1306 2.91 | 1331 3.07 | 1356 3.24 | 1381 3.41 | 1404 3.59 |         |
| 7200                                                       | 1252 2.53 | 1278 2.7  | 1303 2.87 | 1327 3.04 | 1350 3.21 | 1374 3.39 | 1397 3.56 | 1420 3.74 | 1442 3.92 | 1464 4.09 |         |
| 8000                                                       | 1327 2.97 | 1352 3.16 | 1377 3.35 | 1401 3.55 | 1424 3.74 | 1446 3.93 | 1468 4.12 | 1490 4.31 | 1511 4.5  | 1532 4.69 |         |
| 8800                                                       | 1407 3.51 | 1431 3.7  | 1453 3.9  | 1476 4.1  | 1498 4.31 | 1520 4.52 | 1542 4.74 | 1563 4.95 | 1584 5.15 | 1604 5.36 |         |
| 9600                                                       | 1490 4.12 | 1512 4.33 | 1533 4.53 | 1555 4.75 | 1575 4.96 | 1596 5.17 | 1617 5.4  | 1637 5.63 | - -       | - -       |         |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 25. Evaporator fan performance — 25 ton, model WHJ, horizontal**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |         |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |         |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |         |
| 7500                                                       | 996 1.09  | 1026 1.23 | 1055 1.38 | 1084 1.53 | 1113 1.69 | 1143 1.85 | 1172 2.01 | 1200 2.17 | 1227 2.34 | 1253 2.51 |         |
| 8000                                                       | 1058 1.30 | 1087 1.46 | 1114 1.61 | 1142 1.77 | 1168 1.93 | 1196 2.10 | 1224 2.27 | 1251 2.44 | 1277 2.62 | 1303 2.80 |         |
| 9000                                                       | 1183 1.81 | 1209 1.98 | 1234 2.15 | 1259 2.33 | 1283 2.51 | 1307 2.69 | 1330 2.87 | 1356 3.07 | 1380 3.26 | 1404 3.46 |         |
| 10000                                                      | 1309 2.44 | 1333 2.63 | 1356 2.82 | 1378 3.01 | 1400 3.21 | 1422 3.41 | 1443 3.61 | 1464 3.81 | 1486 4.02 | 1509 4.23 |         |
| 11000                                                      | 1436 3.21 | 1457 3.41 | 1478 3.62 | 1499 3.83 | 1519 4.05 | 1539 4.26 | 1559 4.48 | 1579 4.70 | 1598 4.92 | 1617 5.14 |         |
| 12000                                                      | 1562 4.12 | 1582 4.34 | 1602 4.57 | 1621 4.80 | 1640 5.03 | 1658 5.26 | 1676 5.5  | 1695 5.74 | - -       | - -       |         |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |         |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |         |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |         |
| 7500                                                       | 1280 2.69 | 1305 2.87 | 1330 3.05 | 1354 3.23 | 1378 3.4  | 1401 3.58 | 1423 3.76 | 1445 3.94 | 1467 4.13 | 1489 4.31 |         |
| 8000                                                       | 1327 2.97 | 1352 3.16 | 1377 3.35 | 1401 3.55 | 1424 3.74 | 1446 3.93 | 1468 4.12 | 1490 4.31 | 1511 4.5  | 1532 4.69 |         |
| 9000                                                       | 1428 3.65 | 1451 3.85 | 1473 4.05 | 1495 4.25 | 1517 4.46 | 1539 4.68 | 1561 4.9  | 1582 5.11 | 1602 5.33 | 1622 5.54 |         |
| 10000                                                      | 1531 4.45 | 1553 4.67 | 1574 4.88 | 1595 5.1  | 1616 5.32 | 1636 5.54 | 1655 5.77 | - -       | - -       | - -       |         |
| 11000                                                      | 1637 5.38 | 1658 5.61 | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |         |
| 12000                                                      | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |         |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## Evaporator Fan Performance - Heat Pump

**Table 26. Evaporator fan performance — 25 ton, model WHJ, horizontal, high static drive**

| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |  |
|------------------------------------------------------------|----------------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|--|
| CFM                                                        | 0.10"                |      | 0.20" |      | 0.30" |      | 0.40" |      | 0.50" |      | 0.60" |      | 0.70" |      | 0.80" |      | 0.90" |      | 1.00" |      |  |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |  |
| 7500                                                       | 1023                 | 1.11 | 1054  | 1.27 | 1086  | 1.42 | 1119  | 1.59 | 1149  | 1.76 | 1177  | 1.92 | 1205  | 2.09 | 1233  | 2.25 | 1259  | 2.42 | 1286  | 2.59 |  |
| 8000                                                       | 1087                 | 1.33 | 1117  | 1.49 | 1145  | 1.65 | 1177  | 1.83 | 1207  | 2.02 | 1234  | 2.19 | 1260  | 2.36 | 1286  | 2.54 | 1312  | 2.71 | 1337  | 2.89 |  |
| 9000                                                       | 1216                 | 1.85 | 1242  | 2.03 | 1268  | 2.21 | 1294  | 2.40 | 1323  | 2.60 | 1350  | 2.80 | 1374  | 3.00 | 1398  | 3.20 | 1421  | 3.39 | 1444  | 3.59 |  |
| 10000                                                      | 1346                 | 2.50 | 1369  | 2.69 | 1393  | 2.89 | 1416  | 3.09 | 1440  | 3.30 | 1465  | 3.53 | 1490  | 3.75 | 1513  | 3.98 | 1535  | 4.19 | 1556  | 4.41 |  |
| 11000                                                      | 1476                 | 3.28 | 1497  | 3.48 | 1519  | 3.70 | 1540  | 3.92 | 1561  | 4.15 | 1583  | 4.38 | 1606  | 4.63 | 1628  | 4.88 | 1650  | 5.13 | 1671  | 5.37 |  |
| 12000                                                      | 1606                 | 4.22 | 1626  | 4.44 | 1645  | 4.67 | 1665  | 4.91 | 1685  | 5.15 | 1704  | 5.4  | 1723  | 5.65 | 1745  | 5.92 | 1766  | 6.19 | 1786  | 6.47 |  |
| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |  |
| CFM                                                        | 1.10"                |      | 1.20" |      | 1.30" |      | 1.40" |      | 1.50" |      | 1.60" |      | 1.70" |      | 1.80" |      | 1.90" |      | 2.00" |      |  |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |  |
| 7500                                                       | 1311                 | 2.76 | 1336  | 2.93 | 1360  | 3.11 | 1384  | 3.3  | 1408  | 3.48 | 1432  | 3.67 | 1454  | 3.86 | 1477  | 4.04 | 1500  | 4.23 | 1522  | 4.42 |  |
| 8000                                                       | 1362                 | 3.07 | 1386  | 3.25 | 1410  | 3.44 | 1432  | 3.63 | 1455  | 3.82 | 1478  | 4.01 | 1501  | 4.21 | 1523  | 4.41 | 1544  | 4.61 | 1565  | 4.81 |  |
| 9000                                                       | 1467                 | 3.79 | 1490  | 3.99 | 1512  | 4.19 | 1534  | 4.39 | 1555  | 4.59 | 1576  | 4.8  | 1597  | 5.01 | 1617  | 5.22 | 1637  | 5.44 | 1658  | 5.66 |  |
| 10000                                                      | 1576                 | 4.63 | 1597  | 4.85 | 1618  | 5.07 | 1639  | 5.29 | 1659  | 5.51 | 1679  | 5.73 | 1699  | 5.95 | 1718  | 6.18 | 1737  | 6.41 | 1756  | 6.65 |  |
| 11000                                                      | 1690                 | 5.61 | 1710  | 5.85 | 1728  | 6.09 | 1747  | 6.33 | 1766  | 6.57 | 1785  | 6.81 | 1804  | 7.05 | 1822  | 7.29 | 1841  | 7.54 | 1859  | 7.78 |  |
| 12000                                                      | 1806                 | 6.74 | 1825  | 7    | 1843  | 7.26 | 1860  | 7.52 | 1877  | 7.78 | 1894  | 8.04 | 1911  | 8.31 | -     | -    | -     | -    | -     | -    |  |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters and wet coils. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



# Evaporator Fan Performance - Dual Fuel

Fan Curve Limits:

- DHJ150–300 Std Motor, Max 5.8 hp or 1850 rpm
- DHJ300 High static, Max 8.4 hp or 1940 rpm
- Maximum CFM — 480 cfm/ton
- Maximum ESP = 2.0 in-H<sub>2</sub>O @ 400 cfm/ton

The fan curve graphs include standard filter and a wet indoor coil. Available static pressure is reduced with options based on the accessory table component pressure drop. To determine available static pressure at rpm/cfm with other options/accessories, select intersection point of the RPM vs CFM and then reduce available static pressure shown in graph by the sum of additional option static pressure drop listed in the fan performance accessory table section. For more detailed and precise RPM, BHP, and CFM operating points, see evaporator tables below.

## 12.5 to 25 Ton Units — Downflow

Table 27. Evaporator fan performance — 12.5 ton, model DHJ, downflow, high gas heat

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 558 0.21  | 619 0.30  | 674 0.39  | 724 0.49  | 771 0.60  | 815 0.71  | 859 0.82  | 901 0.94  | 940 1.06  | 977 1.18  |
| 4000                                                       | 586 0.24  | 645 0.33  | 698 0.44  | 747 0.54  | 793 0.65  | 835 0.76  | 876 0.88  | 918 1.00  | 957 1.13  | 994 1.25  |
| 4500                                                       | 645 0.31  | 699 0.42  | 749 0.53  | 795 0.64  | 838 0.76  | 879 0.88  | 918 1.01  | 955 1.13  | 991 1.27  | 1028 1.41 |
| 5000                                                       | 704 0.40  | 755 0.52  | 801 0.64  | 845 0.76  | 885 0.89  | 924 1.02  | 962 1.16  | 997 1.29  | 1032 1.43 | 1065 1.57 |
| 5500                                                       | 765 0.51  | 811 0.63  | 855 0.77  | 896 0.90  | 935 1.04  | 972 1.18  | 1008 1.32 | 1042 1.47 | 1075 1.62 | 1107 1.77 |
| 6000                                                       | 827 0.63  | 869 0.77  | 910 0.91  | 950 1.06  | 986 1.20  | 1022 1.36 | 1056 1.51 | 1089 1.67 | 1121 1.82 | 1152 1.99 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 1013 1.32 | 1048 1.45 | 1081 1.59 | 1113 1.73 | 1144 1.87 | 1174 2.02 | 1203 2.17 | 1233 2.32 | 1261 2.47 | 1289 2.63 |
| 4000                                                       | 1029 1.39 | 1063 1.52 | 1097 1.67 | 1129 1.81 | 1159 1.96 | 1189 2.11 | 1218 2.26 | 1247 2.42 | 1274 2.57 | 1302 2.73 |
| 4500                                                       | 1063 1.55 | 1097 1.69 | 1129 1.84 | 1160 1.99 | 1191 2.14 | 1220 2.3  | 1249 2.46 | 1277 2.62 | 1305 2.79 | 1331 2.96 |
| 5000                                                       | 1098 1.72 | 1131 1.87 | 1163 2.03 | 1194 2.19 | 1224 2.35 | 1253 2.51 | 1281 2.68 | 1309 2.85 | 1336 3.02 | 1363 3.2  |
| 5500                                                       | 1138 1.92 | 1168 2.08 | 1198 2.24 | 1228 2.41 | 1258 2.58 | 1287 2.75 | 1315 2.92 | 1342 3.1  | 1369 3.28 | 1395 3.46 |
| 6000                                                       | 1182 2.15 | 1211 2.31 | 1239 2.48 | 1267 2.65 | 1294 2.82 | 1322 3    | 1349 3.19 | 1377 3.37 | 1403 3.56 | 1429 3.75 |

Notes:

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## Evaporator Fan Performance - Dual Fuel

**Table 28. Evaporator fan performance — 15 ton, model DHJ, downflow, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                                            | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 645 0.31  | 699 0.42  | 749 0.53  | 795 0.64  | 838 0.76  | 879 0.88  | 918 1.01  | 955 1.13  | 991 1.27  | 1028 1.41 |
| 4800                                                       | 680 0.36  | 732 0.48  | 780 0.59  | 824 0.71  | 866 0.84  | 906 0.96  | 944 1.09  | 980 1.23  | 1015 1.36 | 1049 1.50 |
| 5400                                                       | 753 0.48  | 800 0.61  | 844 0.74  | 886 0.87  | 925 1.01  | 962 1.15  | 998 1.29  | 1033 1.43 | 1066 1.58 | 1099 1.73 |
| 6000                                                       | 827 0.63  | 869 0.77  | 910 0.91  | 950 1.06  | 986 1.20  | 1022 1.36 | 1056 1.51 | 1089 1.67 | 1121 1.82 | 1152 1.99 |
| 6600                                                       | 901 0.81  | 940 0.96  | 978 1.11  | 1015 1.27 | 1050 1.43 | 1083 1.59 | 1116 1.76 | 1147 1.93 | 1177 2.10 | 1207 2.27 |
| 7200                                                       | 977 1.02  | 1011 1.18 | 1047 1.35 | 1082 1.52 | 1115 1.69 | 1147 1.87 | 1178 2.04 | 1208 2.22 | 1236 2.41 | 1265 2.59 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|                                                            | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 1063 1.55 | 1097 1.69 | 1129 1.84 | 1160 1.99 | 1191 2.14 | 1220 2.3  | 1249 2.46 | 1277 2.62 | 1305 2.79 | 1331 2.96 |
| 4800                                                       | 1084 1.65 | 1117 1.8  | 1149 1.95 | 1180 2.1  | 1210 2.26 | 1240 2.42 | 1268 2.59 | 1296 2.75 | 1323 2.93 | 1350 3.1  |
| 5400                                                       | 1130 1.88 | 1160 2.04 | 1191 2.2  | 1222 2.36 | 1251 2.53 | 1280 2.7  | 1308 2.87 | 1336 3.05 | 1362 3.22 | 1388 3.4  |
| 6000                                                       | 1182 2.15 | 1211 2.31 | 1239 2.48 | 1267 2.65 | 1294 2.82 | 1322 3.00 | 1349 3.19 | 1377 3.37 | 1403 3.56 | 1429 3.75 |
| 6600                                                       | 1236 2.45 | 1264 2.62 | 1292 2.8  | 1318 2.99 | 1344 3.17 | 1370 3.35 | 1395 3.54 | 1419 3.73 | 1445 3.93 | 1470 4.13 |
| 7200                                                       | 1292 2.78 | 1319 2.97 | 1346 3.16 | 1372 3.35 | 1397 3.55 | 1422 3.74 | 1446 3.94 | 1470 4.14 | 1494 4.35 | 1517 4.55 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 29. Evaporator fan performance — 20 ton, model DHJ, downflow, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                                            | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 808 0.58  | 848 0.71  | 888 0.85  | 927 0.98  | 964 1.12  | 999 1.27  | 1033 1.42 | 1066 1.57 | 1098 1.71 | 1128 1.87 |
| 6400                                                       | 856 0.68  | 894 0.82  | 932 0.97  | 969 1.11  | 1004 1.26 | 1038 1.41 | 1071 1.57 | 1103 1.73 | 1134 1.88 | 1164 2.04 |
| 7200                                                       | 954 0.94  | 989 1.09  | 1022 1.25 | 1056 1.41 | 1088 1.57 | 1119 1.74 | 1150 1.91 | 1180 2.08 | 1209 2.26 | 1238 2.43 |
| 8000                                                       | 1052 1.25 | 1084 1.41 | 1114 1.58 | 1145 1.76 | 1175 1.94 | 1204 2.12 | 1232 2.31 | 1260 2.49 | 1288 2.69 | 1315 2.88 |
| 8800                                                       | 1151 1.62 | 1180 1.8  | 1209 1.99 | 1236 2.18 | 1263 2.38 | 1291 2.58 | 1318 2.78 | 1344 2.98 | 1369 3.18 | 1394 3.39 |
| 9600                                                       | 1251 2.07 | 1278 2.26 | 1304 2.46 | 1329 2.67 | 1354 2.88 | 1380 3.1  | 1405 3.31 | 1429 3.53 | 1453 3.75 | 1477 3.97 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|                                                            | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 1157 2.02 | 1185 2.17 | 1213 2.32 | 1240 2.48 | 1267 2.64 | 1294 2.8  | 1321 2.96 | 1346 3.13 | 1371 3.3  | 1395 3.47 |
| 6400                                                       | 1192 2.2  | 1220 2.36 | 1247 2.53 | 1274 2.69 | 1299 2.85 | 1324 3.02 | 1350 3.19 | 1376 3.36 | 1400 3.54 | 1424 3.71 |
| 7200                                                       | 1265 2.61 | 1292 2.79 | 1318 2.97 | 1343 3.15 | 1368 3.33 | 1392 3.51 | 1416 3.69 | 1439 3.88 | 1462 4.06 | 1484 4.25 |
| 8000                                                       | 1341 3.07 | 1367 3.27 | 1392 3.47 | 1416 3.67 | 1440 3.87 | 1464 4.06 | 1486 4.26 | 1509 4.47 | 1531 4.67 | 1552 4.87 |
| 8800                                                       | 1419 3.6  | 1444 3.81 | 1468 4.03 | 1491 4.24 | 1514 4.46 | 1537 4.68 | 1559 4.9  | 1581 5.11 | 1602 5.33 | 1623 5.55 |
| 9600                                                       | 1500 4.19 | 1523 4.42 | 1546 4.65 | 1569 4.88 | 1591 5.12 | 1613 5.35 | 1634 5.59 | - -       | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Evaporator Fan Performance - Dual Fuel

**Table 30. Evaporator fan performance — 25 ton, model DHJ, downflow, high gas heat**

| Available External Static Pressure (Inches of Water Gauge)        |           |           |           |           |           |           |           |           |           |           |
|-------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                               | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                                   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| <b>3-hp Standard Motor</b>                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                              | 991 1.05  | 1024 1.2  | 1056 1.37 | 1089 1.53 | 1120 1.7  | 1151 1.87 | 1180 2.05 | 1210 2.23 | 1238 2.41 | 1266 2.59 |
| 8000                                                              | 1052 1.25 | 1084 1.41 | 1114 1.58 | 1145 1.76 | 1175 1.94 | 1204 2.12 | 1232 2.31 | 1260 2.49 | 1288 2.69 | 1315 2.88 |
| 9000                                                              | 1176 1.73 | 1205 1.91 | 1232 2.1  | 1259 2.3  | 1286 2.5  | 1313 2.7  | 1339 2.9  | 1365 3.11 | 1390 3.31 | 1414 3.52 |
| 10000                                                             | 1301 2.32 | 1327 2.52 | 1352 2.73 | 1376 2.94 | 1400 3.16 | 1425 3.39 | 1449 3.61 | 1473 3.84 | 1496 4.07 | 1519 4.29 |
| 11000                                                             | 1426 3.04 | 1450 3.26 | 1473 3.49 | 1495 3.72 | 1518 3.96 | 1539 4.2  | 1561 4.44 | 1584 4.69 | 1605 4.94 | 1627 5.19 |
| 12000                                                             | 1551 3.9  | 1573 4.15 | 1595 4.39 | 1615 4.63 | 1636 4.89 | 1657 5.15 | 1676 5.41 | 1696 5.68 | - -       | - -       |
| <b>Available External Static Pressure (Inches of Water Gauge)</b> |           |           |           |           |           |           |           |           |           |           |
| CFM                                                               | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                                   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| <b>3-hp Standard Motor</b>                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                              | 1293 2.78 | 1320 2.97 | 1345 3.15 | 1371 3.34 | 1395 3.52 | 1419 3.71 | 1442 3.9  | 1465 4.09 | 1487 4.28 | 1509 4.47 |
| 8000                                                              | 1341 3.07 | 1367 3.27 | 1392 3.47 | 1416 3.67 | 1440 3.87 | 1464 4.06 | 1486 4.26 | 1509 4.47 | 1531 4.67 | 1552 4.87 |
| 9000                                                              | 1439 3.74 | 1463 3.96 | 1487 4.18 | 1510 4.4  | 1533 4.62 | 1556 4.84 | 1578 5.06 | 1599 5.29 | 1620 5.51 | 1641 5.73 |
| 10000                                                             | 1542 4.52 | 1564 4.75 | 1586 4.99 | 1608 5.23 | 1630 5.47 | 1651 5.72 | - -       | - -       | - -       | - -       |
| 11000                                                             | 1648 5.44 | 1669 5.69 | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |
| 12000                                                             | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 31. Evaporator fan performance — 25 ton, model DHJ, downflow, high static drive**

| Available External Static Pressure (Inches of Water Gauge)        |           |           |           |           |           |           |           |           |           |           |
|-------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                               | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                                   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| <b>5-hp Oversized Motor</b>                                       |           |           |           |           |           |           |           |           |           |           |
| 7500                                                              | 1005 1.05 | 1040 1.20 | 1074 1.37 | 1106 1.53 | 1138 1.70 | 1169 1.88 | 1199 2.05 | 1229 2.23 | 1257 2.41 | 1284 2.58 |
| 8000                                                              | 1067 1.25 | 1101 1.41 | 1132 1.59 | 1163 1.76 | 1193 1.94 | 1223 2.12 | 1252 2.31 | 1280 2.50 | 1308 2.69 | 1334 2.87 |
| 9000                                                              | 1193 1.72 | 1223 1.91 | 1252 2.11 | 1280 2.30 | 1307 2.50 | 1334 2.70 | 1360 2.90 | 1386 3.11 | 1412 3.32 | 1437 3.53 |
| 10000                                                             | 1319 2.31 | 1346 2.52 | 1373 2.74 | 1398 2.95 | 1423 3.17 | 1448 3.39 | 1472 3.61 | 1496 3.84 | 1520 4.06 | 1543 4.29 |
| 11000                                                             | 1445 3.03 | 1470 3.26 | 1495 3.49 | 1518 3.73 | 1542 3.97 | 1565 4.21 | 1587 4.45 | 1609 4.69 | 1631 4.94 | 1653 5.18 |
| 12000                                                             | 1572 3.89 | 1595 4.14 | 1618 4.39 | 1640 4.65 | 1662 4.9  | 1683 5.16 | 1704 5.42 | 1725 5.69 | 1745 5.95 | 1765 6.22 |
| <b>Available External Static Pressure (Inches of Water Gauge)</b> |           |           |           |           |           |           |           |           |           |           |
| CFM                                                               | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                                   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| <b>5-hp Oversized Motor</b>                                       |           |           |           |           |           |           |           |           |           |           |
| 7500                                                              | 1311 2.77 | 1336 2.95 | 1361 3.14 | 1386 3.33 | 1410 3.52 | 1435 3.71 | 1459 3.9  | 1483 4.10 | 1506 4.30 | 1529 4.50 |
| 8000                                                              | 1360 3.06 | 1385 3.26 | 1410 3.45 | 1434 3.65 | 1457 3.85 | 1480 4.05 | 1503 4.25 | 1526 4.46 | 1549 4.66 | 1571 4.87 |
| 9000                                                              | 1462 3.74 | 1486 3.95 | 1509 4.17 | 1532 4.38 | 1554 4.60 | 1576 4.82 | 1598 5.04 | 1619 5.26 | 1639 5.48 | 1660 5.71 |
| 10000                                                             | 1566 4.52 | 1589 4.76 | 1611 4.99 | 1633 5.23 | 1655 5.47 | 1676 5.70 | 1696 5.94 | 1717 6.18 | 1736 6.42 | 1756 6.67 |
| 11000                                                             | 1674 5.43 | 1695 5.69 | 1716 5.94 | 1737 6.20 | 1758 6.46 | 1778 6.72 | 1798 6.98 | 1817 7.24 | 1837 7.50 | 1855 7.76 |
| 12000                                                             | 1785 6.49 | 1805 6.76 | 1824 7.03 | 1843 7.30 | 1863 7.58 | 1882 7.86 | 1902 8.14 | 1920 8.42 | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## 12.5 to 25 Ton Units — Horizontal

**Table 32. Evaporator fan performance — 12.5 ton, model DHJ, horizontal, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                                            | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 572 0.23  | 629 0.32  | 683 0.41  | 734 0.51  | 779 0.61  | 822 0.71  | 864 0.82  | 903 0.94  | 941 1.05  | 977 1.17  |
| 4000                                                       | 603 0.27  | 656 0.36  | 708 0.46  | 757 0.56  | 802 0.67  | 844 0.77  | 884 0.89  | 922 1.00  | 960 1.13  | 995 1.25  |
| 4500                                                       | 666 0.36  | 713 0.45  | 760 0.56  | 805 0.67  | 849 0.79  | 890 0.91  | 928 1.03  | 964 1.15  | 999 1.28  | 1034 1.41 |
| 5000                                                       | 730 0.47  | 772 0.57  | 815 0.68  | 857 0.80  | 897 0.93  | 937 1.06  | 974 1.20  | 1009 1.33 | 1042 1.46 | 1075 1.60 |
| 5500                                                       | 795 0.60  | 833 0.71  | 872 0.83  | 911 0.96  | 949 1.09  | 985 1.23  | 1021 1.38 | 1056 1.52 | 1089 1.67 | 1120 1.81 |
| 6000                                                       | 861 0.75  | 896 0.88  | 931 1.00  | 966 1.14  | 1002 1.28 | 1037 1.43 | 1070 1.58 | 1103 1.73 | 1136 1.89 | 1167 2.05 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|                                                            | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3750                                                       | 1011 1.3  | 1043 1.42 | 1074 1.54 | 1104 1.67 | 1133 1.8  | 1161 1.93 | 1188 2.06 | 1214 2.19 | 1240 2.33 | 1265 2.47 |
| 4000                                                       | 1029 1.38 | 1062 1.5  | 1093 1.64 | 1123 1.77 | 1152 1.9  | 1179 2.03 | 1206 2.17 | 1233 2.31 | 1258 2.45 | 1283 2.59 |
| 4500                                                       | 1067 1.55 | 1099 1.69 | 1130 1.83 | 1160 1.97 | 1189 2.12 | 1217 2.26 | 1244 2.41 | 1270 2.56 | 1296 2.71 | 1321 2.86 |
| 5000                                                       | 1107 1.74 | 1138 1.89 | 1168 2.04 | 1198 2.19 | 1227 2.34 | 1254 2.5  | 1282 2.66 | 1308 2.82 | 1334 2.98 | 1359 3.14 |
| 5500                                                       | 1150 1.96 | 1180 2.11 | 1209 2.27 | 1237 2.43 | 1265 2.59 | 1293 2.76 | 1319 2.92 | 1345 3.09 | 1371 3.26 | 1396 3.44 |
| 6000                                                       | 1196 2.21 | 1225 2.37 | 1252 2.53 | 1280 2.7  | 1306 2.87 | 1333 3.04 | 1358 3.21 | 1384 3.39 | 1409 3.57 | 1434 3.75 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 33. Evaporator fan performance — 15 ton, model DHJ, horizontal, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                                            | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 666 0.36  | 713 0.45  | 760 0.56  | 805 0.67  | 849 0.79  | 890 0.91  | 928 1.03  | 964 1.15  | 999 1.28  | 1034 1.41 |
| 4800                                                       | 705 0.42  | 749 0.52  | 793 0.63  | 836 0.75  | 878 0.87  | 918 1.00  | 955 1.13  | 991 1.25  | 1025 1.39 | 1058 1.52 |
| 5400                                                       | 782 0.57  | 821 0.68  | 860 0.80  | 900 0.93  | 938 1.06  | 975 1.20  | 1012 1.34 | 1047 1.48 | 1079 1.62 | 1111 1.77 |
| 6000                                                       | 861 0.75  | 896 0.88  | 931 1.00  | 966 1.14  | 1002 1.28 | 1037 1.43 | 1070 1.58 | 1103 1.73 | 1136 1.89 | 1167 2.05 |
| 6600                                                       | 940 0.98  | 972 1.11  | 1003 1.24 | 1036 1.39 | 1068 1.54 | 1101 1.70 | 1132 1.86 | 1163 2.02 | 1193 2.19 | 1223 2.36 |
| 7200                                                       | 1020 1.24 | 1050 1.38 | 1078 1.53 | 1108 1.68 | 1138 1.84 | 1167 2.01 | 1197 2.18 | 1226 2.35 | 1254 2.53 | 1282 2.71 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|                                                            | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
| CFM                                                        | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 4500                                                       | 1067 1.55 | 1099 1.69 | 1130 1.83 | 1160 1.97 | 1189 2.12 | 1217 2.26 | 1244 2.41 | 1270 2.56 | 1296 2.71 | 1321 2.86 |
| 4800                                                       | 1090 1.66 | 1122 1.81 | 1153 1.95 | 1183 2.1  | 1212 2.25 | 1240 2.4  | 1267 2.56 | 1293 2.71 | 1319 2.87 | 1343 3.03 |
| 5400                                                       | 1141 1.91 | 1171 2.07 | 1200 2.22 | 1229 2.38 | 1257 2.54 | 1285 2.7  | 1312 2.87 | 1338 3.04 | 1363 3.21 | 1388 3.38 |
| 6000                                                       | 1196 2.21 | 1225 2.37 | 1252 2.53 | 1280 2.7  | 1306 2.87 | 1333 3.04 | 1358 3.21 | 1384 3.39 | 1409 3.57 | 1434 3.75 |
| 6600                                                       | 1252 2.54 | 1281 2.72 | 1308 2.89 | 1334 3.06 | 1359 3.24 | 1384 3.41 | 1409 3.6  | 1433 3.79 | 1457 3.98 | 1481 4.17 |
| 7200                                                       | 1309 2.9  | 1337 3.09 | 1364 3.28 | 1390 3.47 | 1415 3.66 | 1439 3.85 | 1463 4.04 | 1486 4.23 | 1509 4.42 | 1532 4.63 |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



## Evaporator Fan Performance - Dual Fuel

**Table 34. Evaporator fan performance — 20 ton, model DHJ, horizontal, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 842 0.70  | 879 0.82  | 916 0.94  | 952 1.08  | 986 1.21  | 1019 1.35 | 1052 1.49 | 1082 1.64 | 1112 1.78 | 1140 1.92 |
| 6400                                                       | 894 0.83  | 928 0.96  | 963 1.09  | 997 1.23  | 1030 1.37 | 1061 1.51 | 1093 1.66 | 1123 1.82 | 1152 1.97 | 1179 2.12 |
| 7200                                                       | 997 1.14  | 1028 1.28 | 1058 1.43 | 1089 1.58 | 1120 1.74 | 1149 1.90 | 1178 2.06 | 1205 2.22 | 1233 2.39 | 1260 2.57 |
| 8000                                                       | 1102 1.53 | 1129 1.69 | 1157 1.85 | 1183 2.01 | 1212 2.18 | 1240 2.35 | 1266 2.53 | 1292 2.71 | 1318 2.88 | 1343 3.07 |
| 8800                                                       | 1207 2.00 | 1232 2.17 | 1257 2.35 | 1281 2.52 | 1306 2.71 | 1332 2.89 | 1357 3.08 | 1382 3.28 | 1406 3.47 | 1429 3.66 |
| 9600                                                       | 1312 2.56 | 1335 2.75 | 1358 2.94 | 1381 3.13 | 1403 3.32 | 1426 3.52 | 1450 3.73 | 1473 3.94 | 1496 4.14 | 1518 4.35 |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 6000                                                       | 1168 2.07 | 1195 2.21 | 1222 2.36 | 1249 2.52 | 1275 2.68 | 1301 2.84 | 1326 3.00 | 1352 3.17 | 1376 3.33 | 1401 3.50 |
| 6400                                                       | 1206 2.27 | 1232 2.43 | 1258 2.58 | 1284 2.74 | 1308 2.90 | 1334 3.07 | 1359 3.24 | 1383 3.41 | 1407 3.58 | 1430 3.76 |
| 7200                                                       | 1286 2.74 | 1311 2.91 | 1335 3.08 | 1359 3.25 | 1382 3.42 | 1405 3.60 | 1428 3.78 | 1450 3.95 | 1472 4.13 | 1495 4.32 |
| 8000                                                       | 1368 3.26 | 1392 3.45 | 1415 3.65 | 1438 3.83 | 1460 4.02 | 1482 4.21 | 1503 4.40 | 1525 4.60 | 1546 4.79 | 1567 4.99 |
| 8800                                                       | 1452 3.86 | 1474 4.06 | 1497 4.27 | 1520 4.48 | 1541 4.7  | 1563 4.91 | 1583 5.12 | 1604 5.32 | 1623 5.53 | 1643 5.74 |
| 9600                                                       | 1540 4.57 | 1561 4.78 | 1582 4.99 | 1603 5.21 | 1624 5.44 | 1644 5.67 | - -       | - -       | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

**Table 35. Evaporator fan performance — 25 ton, model DHJ, horizontal, high gas heat**

| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| CFM                                                        | 0.10"     | 0.20"     | 0.30"     | 0.40"     | 0.50"     | 0.60"     | 0.70"     | 0.80"     | 0.90"     | 1.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                       | 1036 1.28 | 1066 1.43 | 1095 1.58 | 1124 1.73 | 1154 1.90 | 1183 2.06 | 1211 2.22 | 1238 2.39 | 1264 2.57 | 1291 2.75 |
| 8000                                                       | 1102 1.53 | 1129 1.69 | 1157 1.85 | 1183 2.01 | 1212 2.18 | 1240 2.35 | 1266 2.53 | 1292 2.71 | 1318 2.88 | 1343 3.07 |
| 9000                                                       | 1233 2.13 | 1257 2.30 | 1282 2.48 | 1306 2.67 | 1330 2.85 | 1355 3.04 | 1380 3.24 | 1404 3.43 | 1428 3.63 | 1451 3.83 |
| 10000                                                      | 1365 2.88 | 1387 3.07 | 1409 3.27 | 1431 3.47 | 1453 3.67 | 1473 3.87 | 1497 4.09 | 1519 4.30 | 1541 4.52 | 1563 4.74 |
| 11000                                                      | 1497 3.78 | 1517 4.00 | 1537 4.21 | 1557 4.43 | 1577 4.65 | 1597 4.87 | 1616 5.10 | 1636 5.33 | 1657 5.56 | - -       |
| 12000                                                      | 1629 4.87 | 1648 5.10 | 1666 5.33 | 1685 5.57 | - -       | - -       | - -       | - -       | - -       | - -       |
| Available External Static Pressure (Inches of Water Gauge) |           |           |           |           |           |           |           |           |           |           |
| CFM                                                        | 1.10"     | 1.20"     | 1.30"     | 1.40"     | 1.50"     | 1.60"     | 1.70"     | 1.80"     | 1.90"     | 2.00"     |
|                                                            | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   | RPM BHP   |
| 3-hp Standard Motor                                        |           |           |           |           |           |           |           |           |           |           |
| 7500                                                       | 1316 2.93 | 1341 3.11 | 1365 3.28 | 1388 3.46 | 1411 3.64 | 1433 3.82 | 1456 4    | 1478 4.19 | 1499 4.37 | 1520 4.56 |
| 8000                                                       | 1368 3.26 | 1392 3.45 | 1415 3.65 | 1438 3.83 | 1460 4.02 | 1482 4.21 | 1503 4.4  | 1525 4.6  | 1546 4.79 | 1567 4.99 |
| 9000                                                       | 1474 4.03 | 1496 4.23 | 1518 4.44 | 1540 4.66 | 1562 4.87 | 1583 5.09 | 1604 5.31 | 1624 5.52 | 1643 5.73 | - -       |
| 10000                                                      | 1584 4.95 | 1605 5.17 | 1626 5.40 | 1646 5.62 | - -       | - -       | - -       | - -       | - -       | - -       |
| 11000                                                      | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |
| 12000                                                      | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       | - -       |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.

## Evaporator Fan Performance - Dual Fuel

**Table 36. Evaporator fan performance — 25 ton, model DHJ, horizontal, high static drive**

| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
|------------------------------------------------------------|----------------------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|
| CFM                                                        | 0.10"                |      | 0.20" |      | 0.30" |      | 0.40" |      | 0.50" |      | 0.60" |      | 0.70" |      | 0.80" |      | 0.90" |      | 1.00" |      |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| 7500                                                       | 1054                 | 1.29 | 1085  | 1.44 | 1117  | 1.60 | 1147  | 1.76 | 1175  | 1.93 | 1203  | 2.09 | 1231  | 2.26 | 1258  | 2.43 | 1285  | 2.60 | 1312  | 2.78 |
| 8000                                                       | 1121                 | 1.54 | 1149  | 1.70 | 1179  | 1.87 | 1208  | 2.04 | 1235  | 2.22 | 1262  | 2.39 | 1288  | 2.57 | 1314  | 2.75 | 1339  | 2.93 | 1365  | 3.11 |
| 9000                                                       | 1255                 | 2.15 | 1278  | 2.32 | 1306  | 2.51 | 1332  | 2.70 | 1357  | 2.90 | 1382  | 3.09 | 1406  | 3.29 | 1429  | 3.49 | 1452  | 3.68 | 1476  | 3.89 |
| 10000                                                      | 1389                 | 2.91 | 1410  | 3.09 | 1434  | 3.29 | 1458  | 3.50 | 1482  | 3.72 | 1504  | 3.93 | 1527  | 4.15 | 1548  | 4.37 | 1569  | 4.59 | 1590  | 4.81 |
| 11000                                                      | 1524                 | 3.83 | 1543  | 4.03 | 1563  | 4.23 | 1585  | 4.47 | 1607  | 4.70 | 1629  | 4.94 | 1649  | 5.18 | 1670  | 5.41 | 1690  | 5.65 | 1709  | 5.89 |
| 12000                                                      | 1659                 | 4.93 | 1677  | 5.15 | 1694  | 5.37 | 1714  | 5.61 | 1734  | 5.86 | 1754  | 6.12 | 1774  | 6.37 | 1793  | 6.63 | 1812  | 6.89 | 1830  | 7.15 |
| Available External Static Pressure (Inches of Water Gauge) |                      |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| CFM                                                        | 1.10"                |      | 1.20" |      | 1.30" |      | 1.40" |      | 1.50" |      | 1.60" |      | 1.70" |      | 1.80" |      | 1.90" |      | 2.00" |      |
|                                                            | RPM                  | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  | RPM   | BHP  |
|                                                            | 5-hp Oversized Motor |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |       |      |
| 7500                                                       | 1338                 | 2.96 | 1362  | 3.14 | 1385  | 3.32 | 1407  | 3.49 | 1429  | 3.67 | 1452  | 3.86 | 1475  | 4.04 | 1497  | 4.22 | 1518  | 4.41 | 1539  | 4.60 |
| 8000                                                       | 1390                 | 3.30 | 1415  | 3.49 | 1439  | 3.69 | 1461  | 3.88 | 1482  | 4.07 | 1503  | 4.26 | 1523  | 4.45 | 1545  | 4.64 | 1566  | 4.83 | 1587  | 5.03 |
| 9000                                                       | 1498                 | 4.09 | 1520  | 4.29 | 1543  | 4.5  | 1566  | 4.72 | 1587  | 4.94 | 1609  | 5.15 | 1630  | 5.37 | 1649  | 5.58 | 1668  | 5.79 | 1686  | 6.01 |
| 10000                                                      | 1611                 | 5.03 | 1632  | 5.25 | 1653  | 5.48 | 1673  | 5.70 | 1693  | 5.93 | 1714  | 6.17 | 1734  | 6.41 | 1754  | 6.65 | 1773  | 6.89 | 1792  | 7.13 |
| 11000                                                      | 1729                 | 6.13 | 1747  | 6.38 | 1767  | 6.62 | 1786  | 6.86 | 1805  | 7.11 | 1823  | 7.36 | 1841  | 7.60 | 1860  | 7.86 | 1878  | 8.12 | 1897  | 8.38 |
| 12000                                                      | 1849                 | 7.41 | 1867  | 7.67 | 1884  | 7.94 | 1901  | 8.20 | -     | -    | -     | -    | -     | -    | -     | -    | -     | -    | -     | -    |

**Notes:**

1. Available External Static Pressure is the static pressure difference between the return duct and the supply duct plus the static pressure drop caused by accessories and options.
2. Data includes pressure drop due to standard filters, wet coils, and high gas heat. No accessories or options are included in pressure drop data.
3. To determine static pressure drop due to other options/accessories, refer to the applicable table in the fan performance section.
4. Direct drive fan motor heat is negligible.
5. Factory supplied motors, in commercial equipment, are definite purpose motors, specifically designed and tested to operate reliably and continuously at all cataloged conditions. Using the full horsepower range of our fan motors as shown in our tabular data will not result in nuisance tripping or premature motor failure. Our product's warranty will not be affected.



# Fan Performance

**Table 37. Outdoor sound power level**

| Tons | Unit Model Number | Octave Center Frequency |     |     |     |      |      |      |      | Overall dBA |
|------|-------------------|-------------------------|-----|-----|-----|------|------|------|------|-------------|
|      |                   | 63                      | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |             |
| 12.5 | W/DHJ150A*        | 83                      | 87  | 87  | 85  | 82   | 77   | 74   | 69   | 87          |
| 15   | W/DHJ180A*        | 83                      | 87  | 87  | 85  | 82   | 77   | 74   | 69   | 87          |
| 20   | W/DHJ240A*        | 94                      | 90  | 92  | 91  | 88   | 84   | 81   | 75   | 93          |
| 25   | W/DHJ300A*        | 94                      | 90  | 92  | 91  | 88   | 84   | 81   | 75   | 93          |

**Notes:**

1. Outdoor sound rating shown is tested in accordance with AHRI 370-2015.
2. Indoor sound in accordance with AHRI 260 is available through Trane's selection software.

**Table 38. Static pressure drop through accessories (inches water column) - high efficiency- economizer**

| Tons | Unit Model Number | cfm <sup>(a)</sup> | Standard Filters <sup>(b)</sup> | 2" MERV 8 Filter <sup>(c)</sup> | 2" MERV 13 Filter <sup>(c)</sup> | Reheat Coil | Economizer with OA/RA Dampers <sup>(d)</sup> |         |            |         |                   |         |                     |         |
|------|-------------------|--------------------|---------------------------------|---------------------------------|----------------------------------|-------------|----------------------------------------------|---------|------------|---------|-------------------|---------|---------------------|---------|
|      |                   |                    |                                 |                                 |                                  |             | Downflow                                     |         | Horizontal |         | Low Leak Downflow |         | Low Leak Horizontal |         |
|      |                   |                    |                                 |                                 |                                  |             | 100% OA                                      | 100% RA | 100% OA    | 100% RA | 100% OA           | 100% RA | 100% OA             | 100% RA |
| 12.5 | W/DHJ150A         | 3750               | 0.02                            | 0.04                            | 0.07                             | 0.02        | 0.10                                         | 0.02    | 0.10       | 0.02    | 0.11              | 0.09    | 0.05                | 0.09    |
|      |                   | 5000               | 0.03                            | 0.06                            | 0.10                             | 0.04        | 0.15                                         | 0.03    | 0.15       | 0.03    | 0.17              | 0.13    | 0.09                | 0.14    |
|      |                   | 6000               | 0.04                            | 0.08                            | 0.13                             | 0.04        | 0.20                                         | 0.04    | 0.20       | 0.04    | 0.23              | 0.17    | 0.12                | 0.18    |
| 15   | W/DHJ180A         | 4500               | 0.03                            | 0.05                            | 0.09                             | 0.04        | 0.13                                         | 0.02    | 0.13       | 0.02    | 0.14              | 0.11    | 0.07                | 0.12    |
|      |                   | 6000               | 0.04                            | 0.08                            | 0.13                             | 0.04        | 0.20                                         | 0.04    | 0.20       | 0.04    | 0.23              | 0.17    | 0.12                | 0.18    |
|      |                   | 7200               | 0.06                            | 0.10                            | 0.17                             | 0.02        | 0.27                                         | 0.05    | 0.27       | 0.05    | 0.32              | 0.23    | 0.16                | 0.25    |
| 20   | W/DHJ240A         | 6000               | 0.04                            | 0.08                            | 0.13                             | 0.04        | 0.20                                         | 0.04    | 0.20       | 0.04    | 0.23              | 0.17    | 0.12                | 0.18    |
|      |                   | 8000               | 0.07                            | 0.12                            | 0.21                             | 0.02        | 0.32                                         | 0.06    | 0.32       | 0.06    | 0.39              | 0.27    | 0.19                | 0.30    |
|      |                   | 9600               | 0.09                            | 0.16                            | 0.27                             | 0.05        | 0.44                                         | 0.07    | 0.44       | 0.07    | 0.54              | 0.37    | 0.27                | 0.41    |
| 25   | W/DHJ300A         | 7500               | 0.06                            | 0.11                            | 0.19                             | 0.02        | 0.29                                         | 0.05    | 0.29       | 0.05    | 0.34              | 0.24    | 0.17                | 0.27    |
|      |                   | 10000              | 0.09                            | 0.17                            | 0.29                             | 0.06        | 0.48                                         | 0.08    | 0.48       | 0.08    | 0.58              | 0.40    | 0.29                | 0.45    |
|      |                   | 12000              | 0.12                            | 0.23                            | 0.39                             | 0.06        | 0.66                                         | 0.11    | 0.66       | 0.11    | 0.82              | 0.55    | 0.39                | 0.62    |

<sup>(a)</sup> See below for restrictions:

Multi-speed, single zone VAV or multi-zone VAV applications are capable of running below 300 cfm/ton during low speed airflow operation.

<sup>(b)</sup> Tested with: 2-in filters 12.5 to 25 tons.

<sup>(c)</sup> Difference in pressure drop should be considered when utilizing optional 2-in pleated filters.

<sup>(d)</sup> OA = Outside Air and RA = Return Air.

**Table 39. Static pressure drop through accessories (inches water column) - high efficiency- auxiliary heater**

| Tons | Unit Model Number | cfm <sup>(a)</sup> | Electric Heater |      |      |      | Gas Heater <sup>(b)</sup> |       |       |            |      |      |
|------|-------------------|--------------------|-----------------|------|------|------|---------------------------|-------|-------|------------|------|------|
|      |                   |                    | Accessory (kW)  |      |      |      | Downflow                  |       |       | Horizontal |      |      |
|      |                   |                    | 18              | 36   | 54   | 72   | L                         | M     | H     | L          | M    | H    |
| 12.5 | W/DHJ150A         | 3750               | 0               | 0.01 | 0.01 | N/A  | -0.09                     | -0.08 | -0.08 | 0.03       | 0.03 | 0.06 |
|      |                   | 5000               | 0.01            | 0.03 | 0.03 | N/A  | -0.06                     | -0.04 | -0.05 | 0.10       | 0.10 | 0.12 |
|      |                   | 6000               | 0.01            | 0.04 | 0.04 | N/A  | -0.03                     | -0.02 | -0.02 | 0.12       | 0.13 | 0.16 |
| 15   | W/DHJ180A         | 4500               | 0.01            | 0.02 | 0.02 | N/A  | -0.07                     | -0.05 | -0.06 | 0.08       | 0.08 | 0.10 |
|      |                   | 6000               | 0.01            | 0.04 | 0.04 | N/A  | -0.03                     | -0.02 | -0.02 | 0.12       | 0.13 | 0.16 |
|      |                   | 7200               | 0.02            | 0.06 | 0.06 | N/A  | -0.01                     | 0.00  | 0.01  | 0.11       | 0.13 | 0.19 |
| 20   | W/DHJ240A         | 6000               | N/A             | 0.04 | 0.04 | 0.04 | -0.03                     | -0.02 | -0.02 | 0.12       | 0.13 | 0.16 |
|      |                   | 8000               | N/A             | 0.08 | 0.08 | 0.08 | 0.01                      | 0.01  | 0.03  | 0.10       | 0.13 | 0.19 |
|      |                   | 9600               | N/A             | 0.12 | 0.12 | 0.12 | 0.04                      | 0.05  | 0.07  | 0.10       | 0.14 | 0.21 |

**Table 39. Static pressure drop through accessories (inches water column) - high efficiency- auxiliary heater (continued)**

| Tons | Unit Model Number | cfm <sup>(a)</sup> | Electric Heater |      |      |      | Gas Heater <sup>(b)</sup> |      |      |            |      |      |
|------|-------------------|--------------------|-----------------|------|------|------|---------------------------|------|------|------------|------|------|
|      |                   |                    | Accessory (kW)  |      |      |      | Downflow                  |      |      | Horizontal |      |      |
|      |                   |                    | 18              | 36   | 54   | 72   | L                         | M    | H    | L          | M    | H    |
| 25   | W/DHJ300A         | 7500               | N/A             | 0.07 | 0.07 | 0.07 | 0.00                      | 0.00 | 0.01 | 0.11       | 0.13 | 0.19 |
|      |                   | 10000              | N/A             | 0.13 | 0.13 | 0.13 | 0.06                      | 0.07 | 0.08 | 0.11       | 0.15 | 0.21 |
|      |                   | 12000              | N/A             | 0.20 | 0.20 | 0.20 | 0.14                      | 0.15 | 0.14 | 0.16       | 0.21 | 0.31 |

<sup>(a)</sup> See below for restrictions:

Multi-speed, single zone VAV or multi-zone VAV applications are capable of running below 300 cfm/ton during low speed airflow operation.

<sup>(b)</sup> Model digit 11 selection of low gas heat is 5x5, medium gas heat is 7x7, and high gas heat is 8x8 for 12.5 to 25T units.

# Heating Performance

**Table 40. Gas fired heating capacities - dual fuel standard efficiency**

| Tons | Unit Model Number | Heating Input BTU (High / Low Stage) | Heating Output BTU (High / Low Stage) | Air Temperature Rise°F |
|------|-------------------|--------------------------------------|---------------------------------------|------------------------|
| 12.5 | DHJ150A**(0,A)L   | 150,000 / 105,000                    | 121,500 / 85,000                      | 10 - 40                |
|      | DHJ150A**(0,A)M   | 200,000 / 140,000                    | 162,000 / 113,400                     | 15 - 45                |
|      | DHJ150A**(0,A)H   | 250,000 / 175,000                    | 202,500 / 141,750                     | 25 - 55                |
| 15   | DHJ180A**(0,A)L   | 250,000 / 175,000                    | 202,500 / 141,750                     | 15 - 45                |
|      | DHJ180A**(0,A)M   | 320,000 / 224,000                    | 259,200 / 181,440                     | 20 - 50                |
|      | DHJ180A**(0,A)H   | 400,000 / 280,000                    | 324,000 / 226,800                     | 25 - 55                |
| 20   | DHJ240A**(0,A)L   | 250,000 / 175,000                    | 202,500 / 141,750                     | 10 - 40                |
|      | DHJ240A**(0,A)M   | 320,000 / 224,000                    | 259,200 / 181,440                     | 15 - 45                |
|      | DHJ240A**(0,A)H   | 400,000 / 280,000                    | 324,000 / 226,800                     | 20 - 50                |
| 25   | DHJ300A**(0,A)L   | 250,000 / 175,000                    | 202,500 / 141,750                     | 10 - 40                |
|      | DHJ300A**(0,A)M   | 320,000 / 224,000                    | 259,200 / 181,440                     | 15 - 45                |
|      | DHJ300A**(0,A)H   | 400,000 / 280,000                    | 324,000 / 226,800                     | 20 - 50                |

**Table 41. Auxiliary electric heat capacity**

| Tons       | Unit Model Number            | Total <sup>(a)</sup>    |            | No. of Stages | Stage 1  |            | Stage 2  |            |
|------------|------------------------------|-------------------------|------------|---------------|----------|------------|----------|------------|
|            |                              | kw Input <sup>(b)</sup> | MBh Output |               | kw Input | MBh Output | kw Input | MBh Output |
| 12.5 to 15 | WH*150*3,4,W<br>WH*180*3,4,W | 18.00                   | 61.47      | 1             | 18.00    | 61.47      | —        | —          |
|            |                              | 36.00                   | 122.94     | 2             | 18.00    | 61.47      | 18.00    | 61.47      |
|            |                              | 54.00                   | 184.41     | 2             | 36.00    | 122.94     | 18.00    | 61.47      |
| 20 to 25   | WH*240*3,4,W<br>WH*300*3,4,W | 36.00                   | 122.94     | 2             | 18.00    | 61.47      | 18.00    | 61.47      |
|            |                              | 54.00                   | 184.41     | 2             | 36.00    | 122.94     | 18.00    | 61.47      |
|            |                              | 72                      | 245.88     | 2             | 36       | 122.94     | 36       | 122.94     |

<sup>(a)</sup> Heaters are rated at 240V, 480V, and 600V. For other than rated voltage, CAP = (voltage/rated voltage)<sup>2</sup> x rated cap.

<sup>(b)</sup> For all input/output categories, does not include fan power or heat.

**Table 42. Auxiliary electric heat - air temperature rise**

| kW    | Stages | 12.5 Tons<br>3750 cfm       | 15 Tons<br>4500 cfm         | 20 Tons<br>6000 cfm         | 25 Tons<br>7500 cfm         |
|-------|--------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|       |        | Three Phase<br>WH*150*3,4,W | Three Phase<br>WH*180*3,4,W | Three Phase<br>WH*240*3,4,W | Three Phase<br>WH*300*3,4,W |
| 18.00 | 1      | 15.17                       | 12.64                       | -                           | -                           |
| 27.00 | 2      | 22.76                       | -                           | -                           | -                           |
| 36.00 | 2      | 30.35                       | 25.28                       | 18.96                       | 15.17                       |
| 54.00 | 2      | 45.52                       | 37.93                       | 28.45                       | 22.76                       |
| 72.00 | 2      | -                           | -                           | 37.93                       | 30.34                       |

**Note:** For minimum design airflow, see airflow performance table for each unit. To calculate temp. rise at different airflow, use the following formula:

Temp. rise across electric heater = (kW x 3414)/(1.08 x cfm).



## Controls

### Enhanced BAS Integration and Connectivity

- Symbio™ 700 integrates seamlessly with Trane® Tracer® Synchrony and Tracer Ensemble® to deliver optimized building automation and building management features and functions.
- Easily integrate with open standard protocols to connect seamlessly to a BAS (whether that is Trane or non-Trane).
- Digit 21 must equal 1, 2, or 3 for communication support.

#### BACnet® Communications

Symbio™ 700 includes native BACnet communications which allows the unit to communicate directly with a Tracer or non-Trane Building Automation System via open protocol BACnet MS/TP or IP.

#### Modbus Communications

Symbio 700 includes native Modbus communications which allows the unit to communicate directly with a Tracer or non-Trane Building Automation System via open protocol Modbus RTU or TCP/IP.

#### LonTalk® Communications

The optional LonTalk® communications module allows the unit to communicate directly with a Tracer or non-Trane Building Automation System via open protocol LonTalk.

#### Air-Fi® Wireless Communications

The optional Air-Fi communications module allows the unit to communicate directly with a Tracer Building Automation System via open protocol BACnet over Zigbee wireless.

### Secure Remote Connectivity with Trane Connect

The Symbio controller enables secure remote connectivity via Trane Connect to Trane Intelligent Services and remote monitoring. Trane Connect provides anywhere/anytime access to monitor and manage with secure remote access and connectivity options through a multitude of platforms. Peace of mind that the system will be operational and provide comfort to customers.

## Serviceability

### Symbio Service and Installation Mobile App

The Symbio™ Service and Installation mobile app is accessible through mobile devices (phones and tablets) via Bluetooth connectivity or via Trane Connect. The intuitive mobile app feels natural to technicians and operators. They will quickly be able to view equipment status and alarms, perform startup tasks, change configurations, test the equipment's performance in specific modes—and much more. Free for download from App Store (Apple iOS) and Google Play (Android devices).

To download the Symbio™ Service and Installation Mobile App use the links below or scan the code with your mobile phone camera.

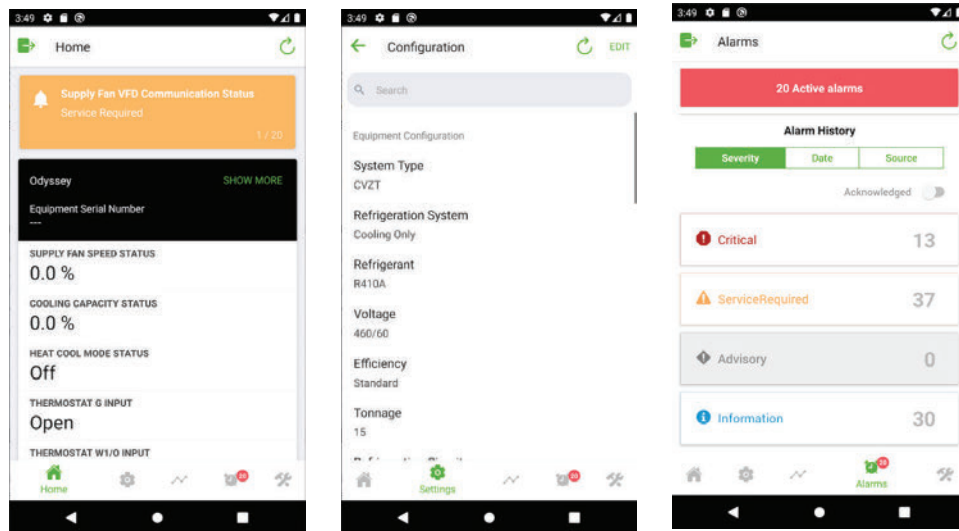
Apple download link (<https://apps.apple.com/us/app/symbio-service-installation/id1309310176>)

Google Play (Android) download link (<https://play.google.com/store/apps/details?id=com.trane.mobileservicetool>)

**Figure 3. Scan code**



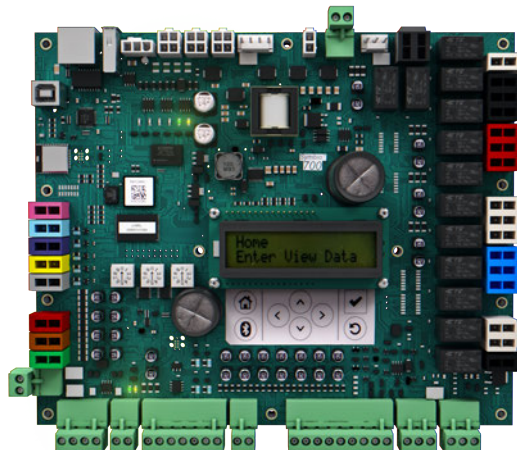
**Figure 4. Symbio service and installation mobile app**



## Onboard User Interface

An integrated onboard user interface that makes setup and continued operation easy. It provides real time operational performance, status, data, and alarms. It also allows the user to interact with, service, troubleshoot, and control their equipment without additional service software tools or when a mobile interface is not available.

**Figure 5. Onboard user interface**



## Service Test Mode

Symbio™ 700 requires no special tools to run the unit through its paces. Simply navigate to the 'Service' section of the on-board user interface or the 'Tools' section of the Symbio™ Service and Installation Mobile App and enter the 'Service Test Mode' section. Here the unit can be placed in the desired operating condition for a pre-determined amount of time supporting troubleshooting efforts in the field. The Symbio™ 700 will return to normal control when the user exits test mode or when the pre-determined, user-selected Service Test time has expired.

## Symbio 700 controls with upgradeable software

Trane's equipment and systems feature engineered, tested, and proven applications that meet industry energy standards and provide the flexibility to customize and update over the life of the equipment. Professional operational algorithms are embedded within the Symbio™ 700 controller at the Trane factory. Symbio™ 700 standardizes each equipment unit to maintain standards for comfort, efficiency, and air quality, without additional field programming. Symbio™ 700 provides the flexibility over the life of the equipment to meet changing customer needs and/or industry standards.

## Flexibility

### Expansion Modules (requires Tracer® TU)

- XM30 – Provides 4 universal inputs or analog outputs
- XM32 – Provides 4 binary outputs

### Field Programming via TGP2 (requires Tracer TU)

- Control ancillary equipment
- Custom sequences

### TGP2 and XM Limitations:

- Programs will only have access to available BACnet® points. (Ensures system reliability.)
- TGP2 programs will not have direct I/O control access for factory components. (Compressors will not be able to be directly controlled On/Off without going through factory provided protection sequences.)
- Onboard I/O will not be available to custom applied TGP2 programs. If additional I/O is required for a new control loop, a separate expansion module will be required.
- Customer applied I/O will be limited to a maximum combination of 2 XM modules. Only XM30 or XM32 modules will be supported by the Symbio 700 UC.
- Tracer TU will be required to configure XMs and to create, view, or modify TGP2 programs.

## Economizer Controls

There are four options for economizer control, Dry Bulb Temperature, Comparative Enthalpy, Reference Enthalpy and Differential Dry Bulb Temperature.

### Dry Bulb Temperature Control

The dry bulb system measures outdoor temperature comparing it to the economizer enable setpoint. If the outdoor temperature is below the economizer enable setpoint, the economizer will operate freely. This system is best suited for arid regions where the humidity levels of outside air would not be detrimental to building comfort and indoor air quality.

### Comparative Enthalpy Control

The comparative enthalpy system measures the temperature and humidity of both return air and outside air to determine which source has lower enthalpy. This system allows true comparison of outdoor air and return air enthalpy by measurement of outdoor air and return air temperature and humidity.

### Reference Enthalpy Control

The reference enthalpy system compares outdoor air temperature and humidity to the economizer enthalpy enable setpoint. If outdoor air temperature and humidity are below the economizer enthalpy

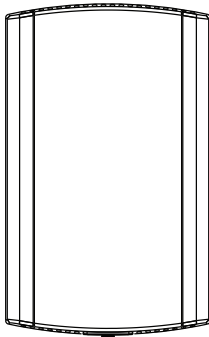
enable setpoint, the economizer will operate freely. This system provides more sophisticated control where outdoor air humidity levels may not be acceptable for building comfort and indoor air quality.

## Differential Dry Bulb Temperature Control

The differential dry bulb system measures the temperature of both return air and outside air to determine when to economize. If outdoor air temperature is below the return air temperature minus a differential, the economizer will operate freely. This system is best suited for arid regions where the humidity levels of outside air would not be detrimental to building comfort and indoor air quality.

## Zone Sensors

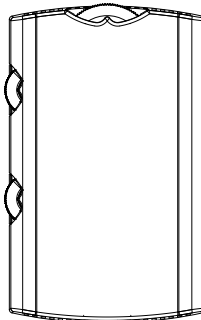
**Zone Temperature Only**



**BAYSENS077**

Provides temperature input only. Can be used as a secondary remote temperature input for thermostats.

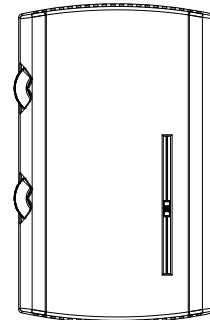
**Manual Changeover**



**BAYSENS106**

Heat, Cool or Off System Switch. Fan Auto or Off Switch. Single temperature setpoint thumbwheel.

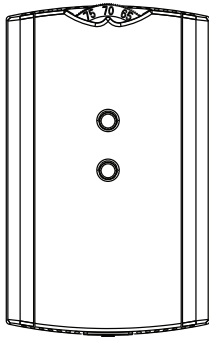
**Manual/Automatic Changeover**



**BAYSENS108**

Auto, Heat, Cool or Off System Switch. Fan Auto or Off Switch. Dual temperature setpoint sliders

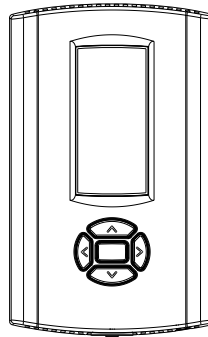
**Integrated Comfort™ System**



**BAYSENS073 / BAYSENS074 / BAYSENS075**

Sensor(s) available with optional temperature adjustment and override buttons to provide central control through a Trane Integrated Comfort system.

**Wired Display Sensor**



**BAYSENS135**

LCD display that provides heat, cool, auto, or off. Includes two temperature setpoints and a lockable setting with °F or °C indicators.

**Touchscreen Digital Display Communicating Sensor**



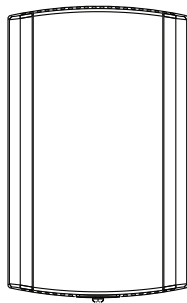
**BAYSENS800**

Uses BACnet® MS/TP link to communicate zone temperature and setpoints. Auto, Heat, Cool or Off System Switch. Fan Auto or On Switch. 7-day programmable thermostat with night setback.

**Note:** Not compatible with VAV units. Requires BACnet communications.

## Air-Fi Wireless Communicating Zone Sensors

Wireless Zone Temperature Only

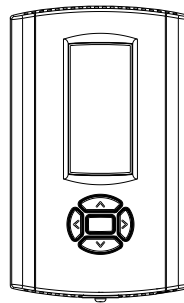


**BAYSENS203**

Measures temperature and optional humidity (with WCS-SH) for use in public spaces where no local user interface is preferred.

**Note:** Requires BACnet communications.

Wireless Display Sensor

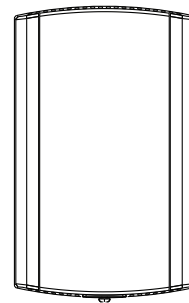


**BAYSENS202**

Easy-to-use interface for clear and simple monitoring and control. Can be configured for any Trane system or to meet the customer's preference.

**Note:** Requires BACnet communications.

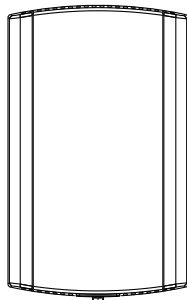
Wired CO<sub>2</sub> Sensor



**FIACO2K001 wall mount CO<sub>2</sub> Sensor**  
**FIACO2K002 duct mount CO<sub>2</sub> Sensor**

The maintenance-free carbon dioxide (CO<sub>2</sub>) sensor is primarily used for demand control ventilation applications.

Wired Zone Temperature and Humidity Sensor

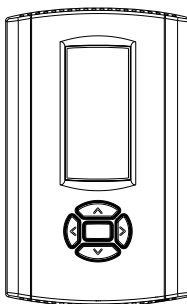


**BAYSENS036**

Measures temperature and relative humidity. Relative humidity input is used to control activation of dehumidification.

## Thermostats

Digital Display Programmable Thermostat (3H/2C)

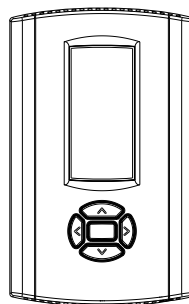


**BAYSTAT150**

Three Heat/Two Cool Auto changeover digital display thermostat. 7-day programmable thermostat with night setback.

**Note:** Not compatible with VAV units.

Digital Display Programmable Thermostat (1H/1C)

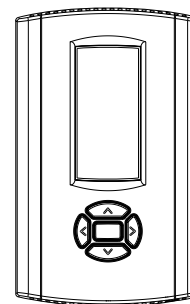


**BAYSTAT151**

One Heat/One Cool Auto changeover digital display thermostat.

**Note:** Not compatible with VAV units.

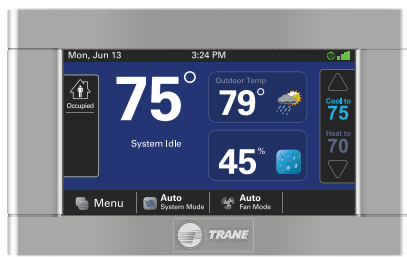
Digital Display Thermostat (3H/2C)



**BAYSTAT155**

Three Heat/Two Cool Auto changeover display thermostat.

**Note:** Not compatible with VAV units.

**Pivot® Web Enabled Smart Thermostat (3H/2C)**

**BAYSTAT814**

Our Pivot Smart Thermostat system is great for commercial buildings. With its intuitive touchscreen and customizable display, it is easy for occupants to use. The Trane Pivot mobile app enables users to control multiple buildings remotely, making changes in seconds to all systems.

**Note:** Not compatible with VAV units.

**Touchscreen Programmable Thermostat with Relative Humidity Sensor (3H/2C)**

**BAYSTAT152**

Three Heat, Two Cool digital display thermostat with built-in humidity control. This thermostat combines both humidity and temperature into one.

**Note:** Not compatible with VAV units.

## Humidity Control (HGRH)

### Sequence of Operations

Humidity Control system capable of operating in normal cooling, dual mode to satisfy cooling and humidity requirements, and hot gas reheat mode when only humidity demand is required. Function between requirements and unit transition seamlessly providing an all-around comfort solution.

**Note:** Supports Humidistat control. When the Humidistat input becomes active, compressors will stage to full capacity and modulate the 3 way valve.

#### Initiation of Humidity Control

- Conforms to ASHRAE standard (62)
- Dehumidification is initiated when too much moisture is in the space (>60°F Dew point)
  - Two measurement options for this dehumidification status:
  - Humidity control is started when:
    - Dew point is too high (60°F is default),
    - Relative Humidity is too high (60% is default), DH is started
    - Choice between these values above is user-configurable, and the actual values are adjustable by customer if desired
- Reheat circuit is initiated when space temperature drops below setpoint during humidity control.

#### Humidity Control Routine

There are two independent control loops: One to control latent load, the other to control sensible load.

Latent load is controlled by compressor staging:

- Compressors initially move up one stage from the last cooling mode stage.
- Compressors are staged up as needed by the controller to achieve a target leaving ID air dew point based on space conditions.

Sensible load is controlled with the Modulating 3 way valve:

- Modulating valve opens when space temperature is below setpoint.
- The reheat valve adjusts the amount of flow to RH coil to achieve the targeted leaving ID air temperature, based on space conditions.

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### **Purge Cycle**

During dehumidification, every 120 minutes (default) a 3 minute cooling “purge cycle” will be executed. This purge cycle is executed for system reliability, specifically it helps manage oil return to compressors.

- Modulating valve moves to a fixed position based on OD air and compressor stage.
- Compressors move to full load.

### **Leaving Humidity Control and Returning to Cooling Only**

- When space humidity drops to below the threshold humidity value (60°F dew point or 60% relative humidity), system reverts back to cooling mode. Dead band of ~5°F yields approximately 55°F dew point for switch to cooling.
- Unit can stay in humidity control mode indefinitely, with purge cycles happening regularly.
  - Relative humidity setpoint is 65% for unoccupied mode.
  - Dew point for unoccupied mode is the same as occupied (default 60°F DP).

### **Indoor Fan**

Indoor fan minimum percent follows compressor staging. See Symbio™ 700 Controller with Precedent™ Packaged Rooftop Air Conditioners Application Guide (ACC-APG002\*-EN).



# Electrical Data

**Table 43. Unit wiring, high efficiency**

| Tons | Unit Model Number | Voltage Range | Standard Indoor Fan Motor |                                      | Oversized/High Static Indoor Fan Motor |                                      | Optional Power Exhaust Standard Indoor Fan Motor |                                      | Optional Power Exhaust Oversized/High Static Indoor Fan Motor |                                      |
|------|-------------------|---------------|---------------------------|--------------------------------------|----------------------------------------|--------------------------------------|--------------------------------------------------|--------------------------------------|---------------------------------------------------------------|--------------------------------------|
|      |                   |               | MCA                       | Max Fuse Size or Max Circuit Breaker | MCA                                    | Max Fuse Size or Max Circuit Breaker | MCA                                              | Max Fuse Size or Max Circuit Breaker | MCA                                                           | Max Fuse Size or Max Circuit Breaker |
| 12.5 | W/DHJ150A3        | 187-253       | 72                        | 90                                   | -                                      | -                                    | 78                                               | 100                                  | -                                                             | -                                    |
|      | W/DHJ150A4        | 414-506       | 37                        | 50                                   | -                                      | -                                    | 40                                               | 50                                   | -                                                             | -                                    |
|      | W/DHJ150AW        | 517-633       | 29                        | 40                                   | -                                      | -                                    | 32                                               | 40                                   | -                                                             | -                                    |
| 15   | W/DHJ180A3        | 187-253       | 78                        | 100                                  | -                                      | -                                    | 83                                               | 110                                  | -                                                             | -                                    |
|      | W/DHJ180A4        | 414-506       | 41                        | 50                                   | -                                      | -                                    | 45                                               | 60                                   | -                                                             | -                                    |
|      | W/DHJ180AW        | 517-633       | 32                        | 40                                   | -                                      | -                                    | 34                                               | 45                                   | -                                                             | -                                    |
| 20   | W/DHJ240A3        | 187-253       | 108                       | 150                                  | -                                      | -                                    | 113                                              | 150                                  | -                                                             | -                                    |
|      | W/DHJ240A4        | 414-506       | 54                        | 70                                   | -                                      | -                                    | 57                                               | 70                                   | -                                                             | -                                    |
|      | W/DHJ240AW        | 517-633       | 47                        | 60                                   | -                                      | -                                    | 49                                               | 70                                   | -                                                             | -                                    |
| 25   | W/DHJ300A3        | 187-253       | 119                       | 150                                  | 124                                    | 150                                  | 125                                              | 150                                  | 129                                                           | 175                                  |
|      | W/DHJ300A4        | 414-506       | 59                        | 80                                   | 61                                     | 80                                   | 62                                               | 80                                   | 64                                                            | 80                                   |
|      | W/DHJ300AW        | 517-633       | 46                        | 60                                   | 48                                     | 60                                   | 48                                               | 60                                   | 50                                                            | 60                                   |

**Table 44. Unit wiring with electric heat, high efficiency**

| Tons                      | Unit Model Number | Heater Model Number | Heater kW Rating | Control Stages | Standard Indoor Fan Motor <sup>(a)</sup> |                                      | Oversized/High Static Indoor Fan Motor |                                      | Optional Power Exhaust Standard Indoor Fan Motor |                                      | Optional Power Exhaust Oversized/High Static Indoor Fan Motor |                                      |
|---------------------------|-------------------|---------------------|------------------|----------------|------------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------|--------------------------------------------------|--------------------------------------|---------------------------------------------------------------|--------------------------------------|
|                           |                   |                     |                  |                | MCA                                      | Max Fuse Size or Max Circuit Breaker | MCA                                    | Max Fuse Size or Max Circuit Breaker | MCA                                              | Max Fuse Size or Max Circuit Breaker | MCA                                                           | Max Fuse Size or Max Circuit Breaker |
| 208/230 Volts Three Phase |                   |                     |                  |                |                                          |                                      |                                        |                                      |                                                  |                                      |                                                               |                                      |
| 12.5                      | WHJ150A3          | FIAEHWD318AA        | 13.5/18.0        | 1              | 119/126                                  | 125/150                              | -                                      | -                                    | 125/132                                          | 125/150                              | -                                                             | -                                    |
|                           |                   | FIAEHWD336AA        | 27.0/36.0        | 2              | 166/180                                  | 175/200                              | -                                      | -                                    | 172/186                                          | 175/200                              | -                                                             | -                                    |
|                           |                   | FIAEHWD354AA        | 40.6/54.0        | 2              | 213/202                                  | 225/225                              | -                                      | -                                    | 219/208                                          | 225/225                              | -                                                             | -                                    |
| 15                        | WHJ180A3          | FIAEHWD318AA        | 13.5/18.0        | 1              | 124/132                                  | 125/150                              | -                                      | -                                    | 130/137                                          | 150/150                              | -                                                             | -                                    |
|                           |                   | FIAEHWD336AA        | 27.0/36.0        | 2              | 171/186                                  | 175/200                              | -                                      | -                                    | 177/191                                          | 200/200                              | -                                                             | -                                    |
|                           |                   | FIAEHWD354AA        | 40.6/54.0        | 2              | 218/207                                  | 225/225                              | -                                      | -                                    | 224/213                                          | 225/225                              | -                                                             | -                                    |
| 20                        | WHJ240A3          | FIAEHWD336AA        | 27.0/36.0        | 2              | 201/216                                  | 225/225                              | -                                      | -                                    | 207/222                                          | 225/225                              | -                                                             | -                                    |
|                           |                   | FIAEHWD354AA        | 40.6/54.0        | 2              | 248/238                                  | 300/300                              | -                                      | -                                    | 254/243                                          | 300/250                              | -                                                             | -                                    |
|                           |                   | FIAEHWD372AA        | 54.0/72.0        | 2              | 258/281                                  | 300/300                              | -                                      | -                                    | 263/287                                          | 300/300                              | -                                                             | -                                    |
| 25                        | WHJ300A3          | FIAEHWD336AA        | 27.0/36.0        | 2              | 213/227                                  | 225/250                              | 214/232                                | 225/250                              | 219/233                                          | 225/250                              | 223/238                                                       | 250/250                              |
|                           |                   | FIAEHWD354AA        | 40.6/54.0        | 2              | 260/249                                  | 300/300                              | 264/254                                | 300/300                              | 266/255                                          | 300/300                              | 270/259                                                       | 300/300                              |
|                           |                   | FIAEHWD372AA        | 54.0/72.0        | 2              | 269/292                                  | 300/300                              | 274/297                                | 300/300                              | 275/298                                          | 300/300                              | 279/303                                                       | 300/350                              |

**Table 44. Unit wiring with electric heat, high efficiency (continued)**

| Tons                  | Unit Model Number | Heater Model Number | Heater kW Rating | Control Stages | Standard Indoor Fan Motor <sup>(a)</sup> |                                      | Oversized/High Static Indoor Fan Motor |                                      | Optional Power Exhaust Standard Indoor Fan Motor |                                      | Optional Power Exhaust Oversized/High Static Indoor Fan Motor |                                      |
|-----------------------|-------------------|---------------------|------------------|----------------|------------------------------------------|--------------------------------------|----------------------------------------|--------------------------------------|--------------------------------------------------|--------------------------------------|---------------------------------------------------------------|--------------------------------------|
|                       |                   |                     |                  |                | MCA                                      | Max Fuse Size or Max Circuit Breaker | MCA                                    | Max Fuse Size or Max Circuit Breaker | MCA                                              | Max Fuse Size or Max Circuit Breaker | MCA                                                           | Max Fuse Size or Max Circuit Breaker |
| 460 Volts Three Phase |                   |                     |                  |                |                                          |                                      |                                        |                                      |                                                  |                                      |                                                               |                                      |
| 12.5                  | WHJ150A4          | FIAEHWD418AA        | 18               | 1              | 64                                       | 70                                   | -                                      | -                                    | 67                                               | 70                                   | -                                                             | -                                    |
|                       |                   | FIAEHWD436AA        | 36               | 2              | 91                                       | 100                                  | -                                      | -                                    | 94                                               | 100                                  | -                                                             | -                                    |
|                       |                   | FIAEHWD454AA        | 54               | 2              | 102                                      | 110                                  | -                                      | -                                    | 105                                              | 110                                  | -                                                             | -                                    |
| 15                    | WHJ180A4          | FIAEHWD418AA        | 18               | 1              | 68                                       | 70                                   | -                                      | -                                    | 72                                               | 80                                   | -                                                             | -                                    |
|                       |                   | FIAEHWD436AA        | 36               | 2              | 96                                       | 100                                  | -                                      | -                                    | 99                                               | 100                                  | -                                                             | -                                    |
|                       |                   | FIAEHWD454AA        | 54               | 2              | 106                                      | 110                                  | -                                      | -                                    | 110                                              | 125                                  | -                                                             | -                                    |
| 20                    | WHJ240A4          | FIAEHWD436AA        | 36               | 2              | 108                                      | 110                                  | -                                      | -                                    | 111                                              | 125                                  | -                                                             | -                                    |
|                       |                   | FIAEHWD454AA        | 54               | 2              | 119                                      | 150                                  | -                                      | -                                    | 122                                              | 125                                  | -                                                             | -                                    |
|                       |                   | FIAEHWD472AA        | 72               | 2              | 140                                      | 150                                  | -                                      | -                                    | 143                                              | 150                                  | -                                                             | -                                    |
| 25                    | WHJ300A4          | FIAEHWD436AA        | 36               | 2              | 113                                      | 125                                  | 115                                    | 125                                  | 116                                              | 125                                  | 118                                                           | 125                                  |
|                       |                   | FIAEHWD454AA        | 54               | 2              | 124                                      | 150                                  | 126                                    | 150                                  | 127                                              | 150                                  | 129                                                           | 150                                  |
|                       |                   | FIAEHWD472AA        | 72               | 2              | 146                                      | 150                                  | 147                                    | 150                                  | 149                                              | 150                                  | 151                                                           | 175                                  |
| 575 Volts Three Phase |                   |                     |                  |                |                                          |                                      |                                        |                                      |                                                  |                                      |                                                               |                                      |
| 12.5                  | WHJ150AW          | FIAEHWDW18AA        | 18               | 1              | 51                                       | 60                                   | -                                      | -                                    | 53                                               | 60                                   | -                                                             | -                                    |
|                       |                   | FIAEHWDW36AA        | 36               | 2              | 73                                       | 80                                   | -                                      | -                                    | 75                                               | 80                                   | -                                                             | -                                    |
|                       |                   | FIAEHWDW54AA        | 54               | 2              | 81                                       | 90                                   | -                                      | -                                    | 84                                               | 90                                   | -                                                             | -                                    |
| 15                    | WHJ180AW          | FIAEHWDW18AA        | 18               | 1              | 53                                       | 60                                   | -                                      | -                                    | 56                                               | 60                                   | -                                                             | -                                    |
|                       |                   | FIAEHWDW36AA        | 36               | 2              | 75                                       | 80                                   | -                                      | -                                    | 77                                               | 80                                   | -                                                             | -                                    |
|                       |                   | FIAEHWDW54AA        | 54               | 2              | 84                                       | 90                                   | -                                      | -                                    | 86                                               | 90                                   | -                                                             | -                                    |
| 20                    | WHJ240AW          | FIAEHWDW36AA        | 36               | 2              | 90                                       | 100                                  | -                                      | -                                    | 93                                               | 100                                  | -                                                             | -                                    |
|                       |                   | FIAEHWDW54AA        | 54               | 2              | 99                                       | 125                                  | -                                      | -                                    | 101                                              | 110                                  | -                                                             | -                                    |
|                       |                   | FIAEHWDW72AA        | 72               | 2              | 116                                      | 125                                  | -                                      | -                                    | 119                                              | 125                                  | -                                                             | -                                    |
| 25                    | WHJ300AW          | FIAEHWDW36AA        | 36               | 2              | 89                                       | 100                                  | 91                                     | 100                                  | 92                                               | 100                                  | 93                                                            | 100                                  |
|                       |                   | FIAEHWDW54AA        | 54               | 2              | 98                                       | 125                                  | 100                                    | 110                                  | 100                                              | 110                                  | 102                                                           | 110                                  |
|                       |                   | FIAEHWDW72AA        | 72               | 2              | 115                                      | 125                                  | 117                                    | 125                                  | 118                                              | 125                                  | 119                                                           | 125                                  |

<sup>(a)</sup> The standard motor is a multispeed, direct drive motor.

## Electrical Data

**Table 45. Electrical characteristics - compressor motor and condenser motor**

| Tons | Unit Model Number | No. | Compressor Motors |       |                   |           |                     |             | No. | Condenser Fan Motor |       |     |      |      |
|------|-------------------|-----|-------------------|-------|-------------------|-----------|---------------------|-------------|-----|---------------------|-------|-----|------|------|
|      |                   |     | Volts             | Phase | hp <sup>(a)</sup> | rpm       | Amps <sup>(b)</sup> |             |     | Volts               | Phase | hp  | Amps |      |
|      |                   |     |                   |       |                   |           | RLA                 | LRA         |     |                     |       |     | FLA  | LRA  |
| 12.5 | W/DHJ150A3        | 2   | 208/230           | 3     | 7.6/3.5           | 3500/3500 | 28.4/14.1           | 191.0/83.1  | 2   | 208/230             | 3     | 0.5 | 2.2  | 7.3  |
|      | W/DHJ150A4        | 2   | 460               | 3     | 7.6/3.5           | 3500/3500 | 14.6/6.5            | 100/41      | 2   | 460                 | 3     | 0.5 | 1.3  | 4.2  |
|      | W/DHJ150AW        | 2   | 575               | 3     | 7.6/3.5           | 3500/3500 | 11.9/5.4            | 78/33       | 2   | 575                 | 3     | 0.5 | 1.1  | 3.6  |
| 15   | W/DHJ180A3        | 2   | 208/230           | 3     | 8.7/4.3           | 3500/3500 | 30.9/16.4           | 240/110     | 2   | 208/230             | 3     | 0.5 | 2.2  | 7.3  |
|      | W/DHJ180A4        | 2   | 460               | 3     | 8.7/4.3           | 3500/3500 | 16.7/8.2            | 130/52      | 2   | 460                 | 3     | 0.5 | 1.3  | 4.2  |
|      | W/DHJ180AW        | 2   | 575               | 3     | 8.7/4.3           | 3500/3500 | 12.8/6.6            | 93.7/38.9   | 2   | 575                 | 3     | 0.5 | 1.1  | 3.6  |
| 20   | W/DHJ240A3        | 2   | 208/230           | 3     | 11.4/6.3          | 3500/3500 | 43.1/26.1           | 270/167     | 2   | 208/230             | 3     | 1   | 4.8  | 19.4 |
|      | W/DHJ240A4        | 2   | 460               | 3     | 11.4/6.3          | 3500/3500 | 21.3/12.2           | 147/84      | 2   | 460                 | 3     | 1   | 2.5  | 10.1 |
|      | W/DHJ240AW        | 2   | 575               | 3     | 11.4/6.3          | 3500/3500 | 21.3/9.6            | 109/60      | 2   | 575                 | 3     | 1   | 1.9  | 8.0  |
| 25   | W/DHJ300A3        | 2   | 208/230           | 3     | 12.8/7.6          | 3500/3500 | 49.5/29.6           | 335.5/223.0 | 2   | 208/230             | 3     | 1   | 4.8  | 19.4 |
|      | W/DHJ300A4        | 2   | 460               | 3     | 12.8/7.6          | 3500/3500 | 23.9/14.4           | 141/100     | 2   | 460                 | 3     | 1   | 2.5  | 10.1 |
|      | W/DHJ300AW        | 2   | 575               | 3     | 12.8/7.6          | 3500/3500 | 19.8/10.8           | 109/70      | 2   | 575                 | 3     | 1   | 1.9  | 8.0  |

(a) Hp for each compressor.

(b) Amp draw for each motor (compressor and condenser fan motor); multiply value by number of motors to determine total amps.

**Table 46. Electrical characteristics - indoor fan motor**

| Tons | Unit Model Number | No. | Volts   | Phase | hp | Amps <sup>(a)</sup> |     |
|------|-------------------|-----|---------|-------|----|---------------------|-----|
|      |                   |     |         |       |    | FLA                 | LRA |
| 12.5 | W/DHJ150A3        | 2   | 208/230 | 3     | 3  | 8.8                 | -   |
|      | W/DHJ150A4        | 2   | 460     | 3     | 3  | 4.6                 | -   |
|      | W/DHJ150AW        | 2   | 575     | 3     | 3  | 3.2                 | -   |
| 15   | W/DHJ180A3        | 2   | 208/230 | 3     | 3  | 8.8                 | -   |
|      | W/DHJ180A4        | 2   | 460     | 3     | 3  | 4.6                 | -   |
|      | W/DHJ180AW        | 2   | 575     | 3     | 3  | 3.2                 | -   |
| 20   | W/DHJ240A3        | 2   | 208/230 | 3     | 3  | 8.8                 | -   |
|      | W/DHJ240A4        | 2   | 460     | 3     | 3  | 4.6                 | -   |
|      | W/DHJ240AW        | 2   | 575     | 3     | 3  | 3.2                 | -   |
| 25   | W/DHJ300A3        | 2   | 208/230 | 3     | 3  | 8.8                 | -   |
|      | W/DHJ300A4        | 2   | 460     | 3     | 3  | 4.6                 | -   |
|      | W/DHJ300AW        | 2   | 575     | 3     | 3  | 3.2                 | -   |

(a) Amp draw for each motor (compressor and condenser fan motor); multiply value by number of motors to determine total amps.

**Table 47. Electrical characteristics - power exhaust**

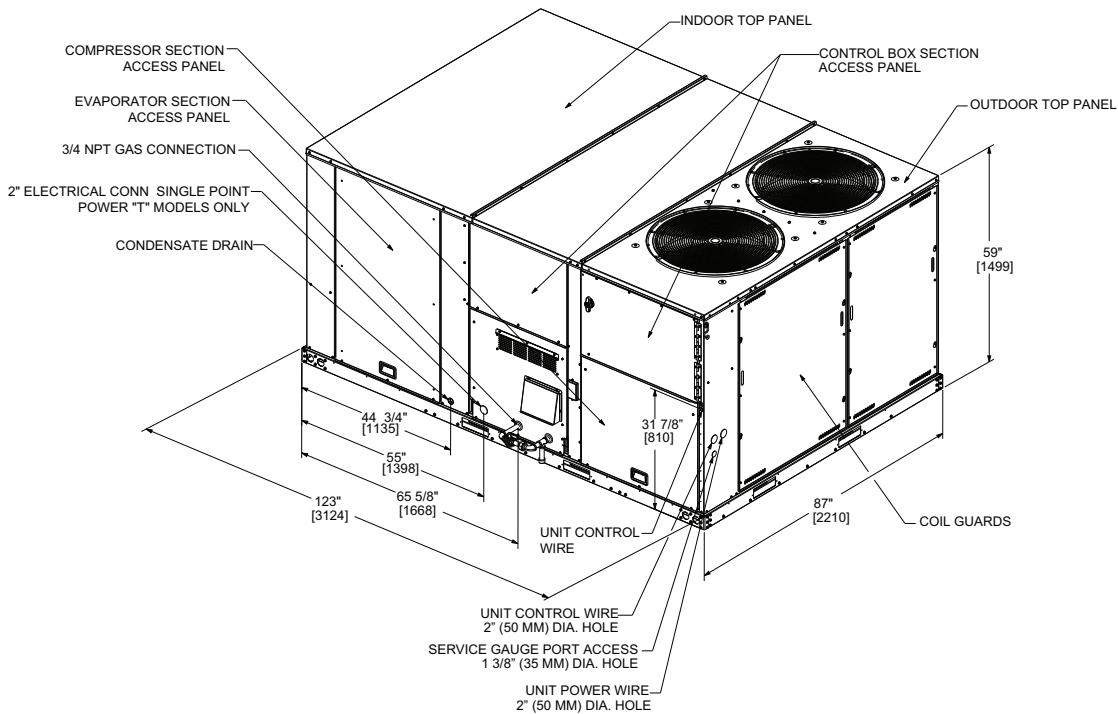
| Tons    | Volts   | Phase | hp   | rpm  | FLA | LRA  |
|---------|---------|-------|------|------|-----|------|
| 12.5-25 | 208-230 | 1     | 0.87 | 1075 | 5.7 | 13.6 |
| 12.5-25 | 460     | 1     | 0.87 | 1075 | 3.3 | 7.2  |
| 12.5-25 | 575     | 1     | 0.80 | 1075 | 2.3 | 5.8  |

**Table 48. Electrical characteristics - inducer motor**

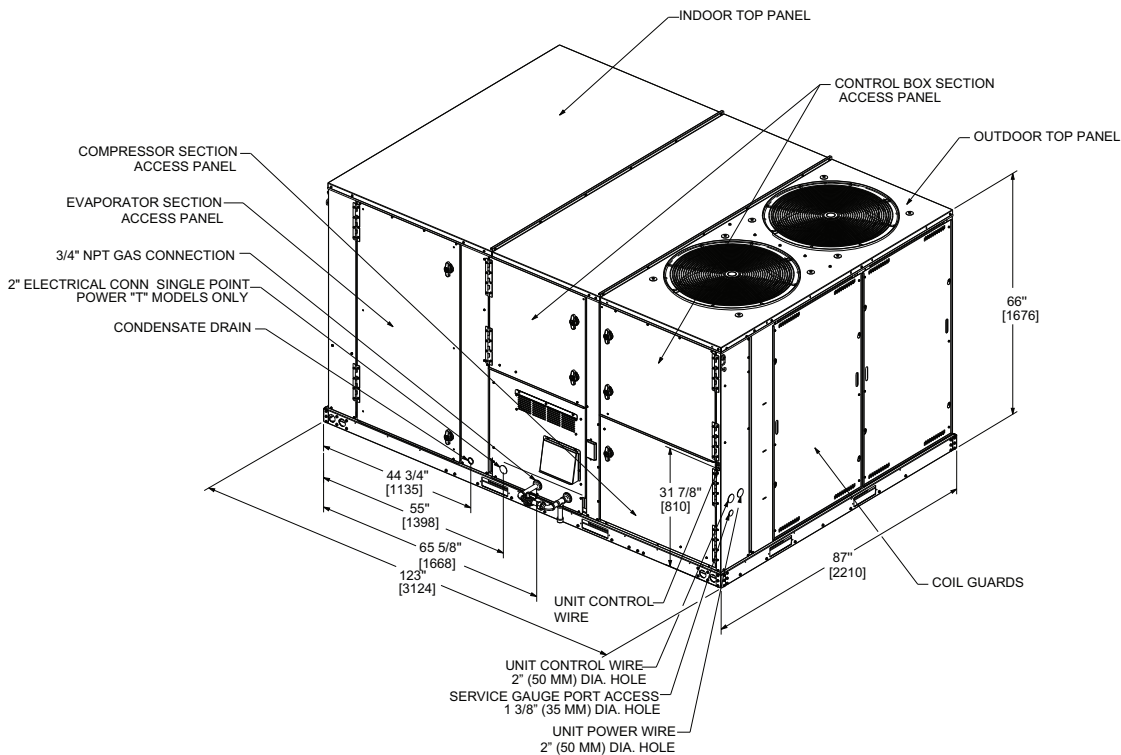
| Unit Model Number         | Stages | hp   | rpm       | Volts   | Phase | FLA       | LRA  |
|---------------------------|--------|------|-----------|---------|-------|-----------|------|
| DHJ150A**(0,A)(L,M,H)     | 2      | 1/15 | 3300/2800 | 208-230 | 1     | 0.36/0.30 | 0.73 |
| DHJ(180-300)A**(0,A)(L,M) | 2      | 1/15 | 3300/2800 | 208-230 | 1     | 0.36/0.30 | 0.73 |
| DHJ(180-300)A**(0,A)H     | 2      | 1/6  | 3300/2300 | 208-230 | 1     | 0.95/0.49 | 1.53 |

# Dimensional Data

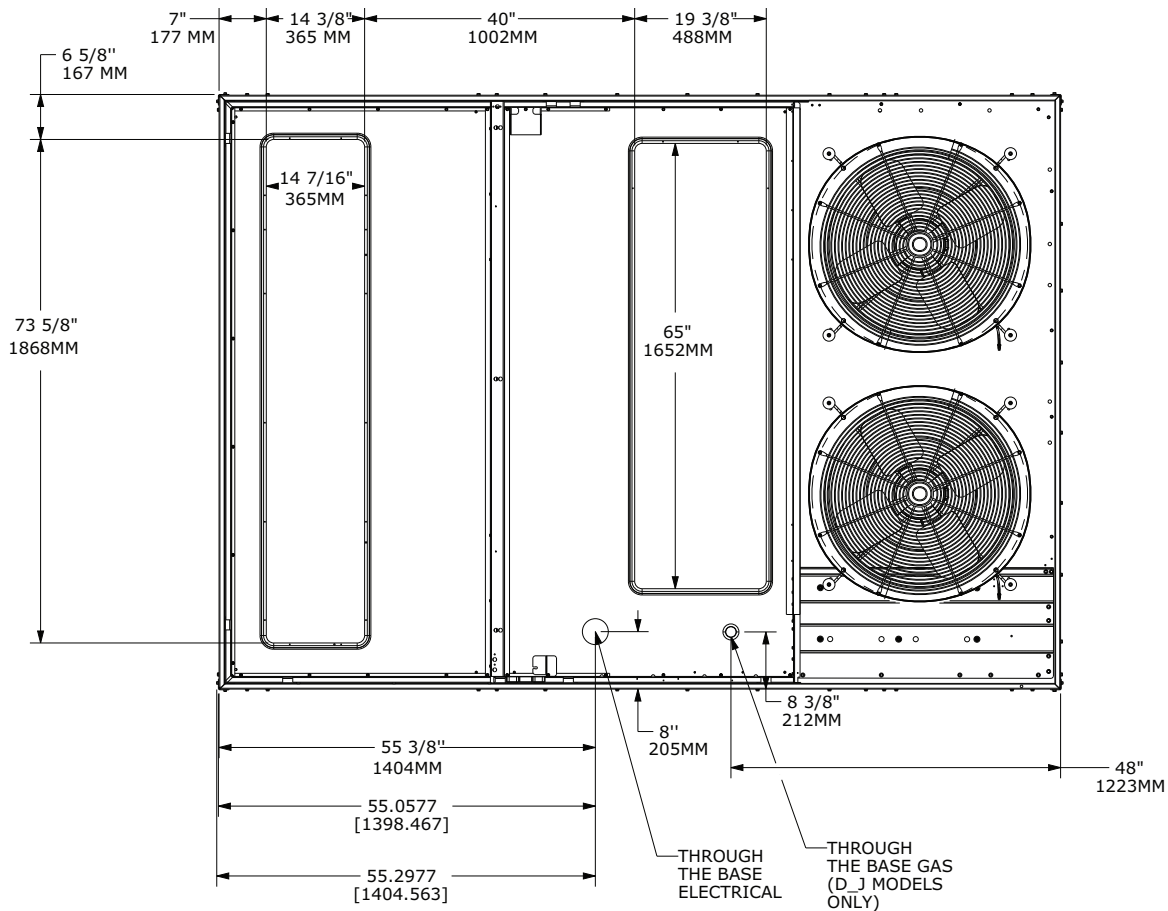
**Figure 6. 12.5 to 15 tons high efficiency**



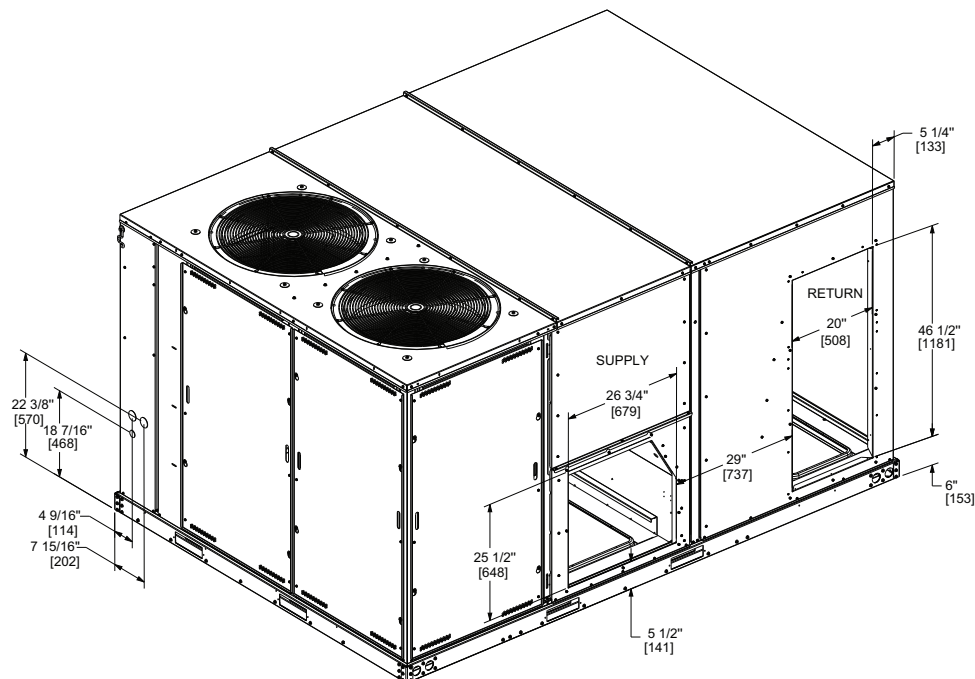
**Figure 7. 20 to 25 tons high efficiency**



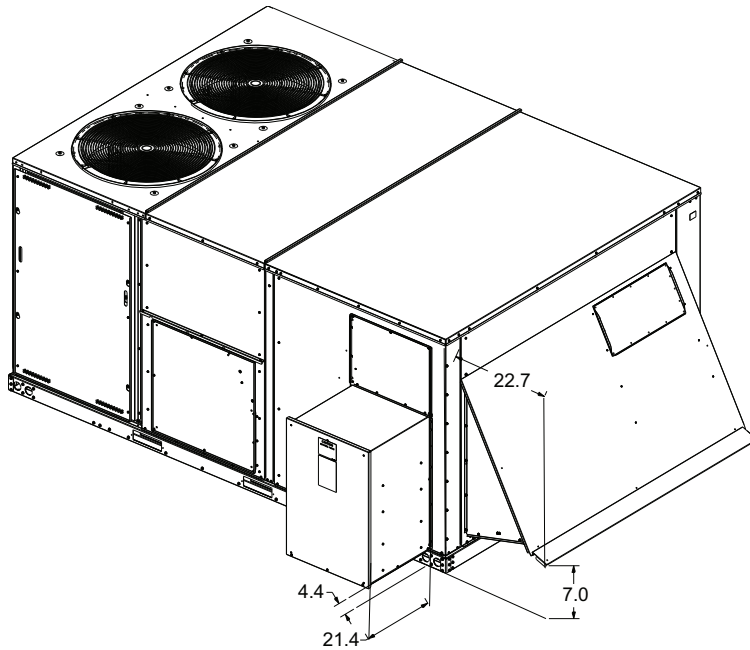
**Figure 8. 12.5 to 25 tons high efficiency – downflow airflow supply/return, through-the-base utilities**



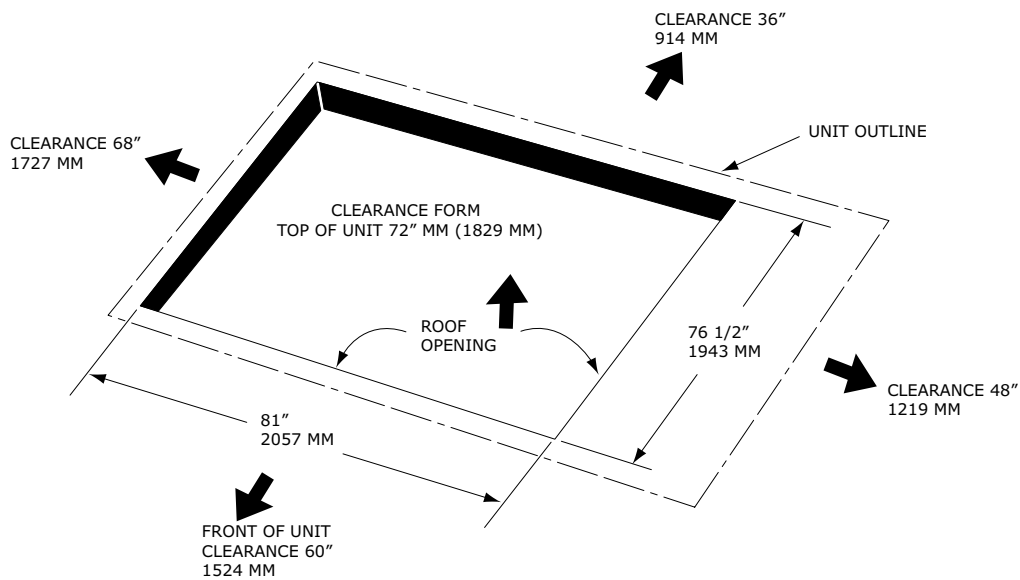
**Figure 9. 12.5 to 25 tons high efficiency – horizontal airflow supply/return**



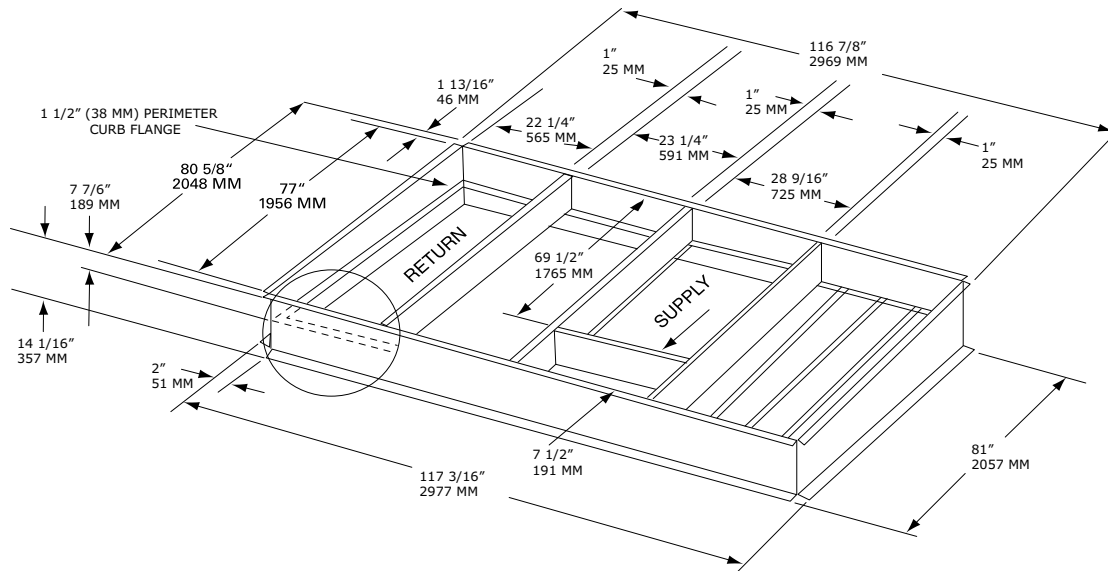
**Figure 10. 12.5 to 25 tons high efficiency – power exhaust**



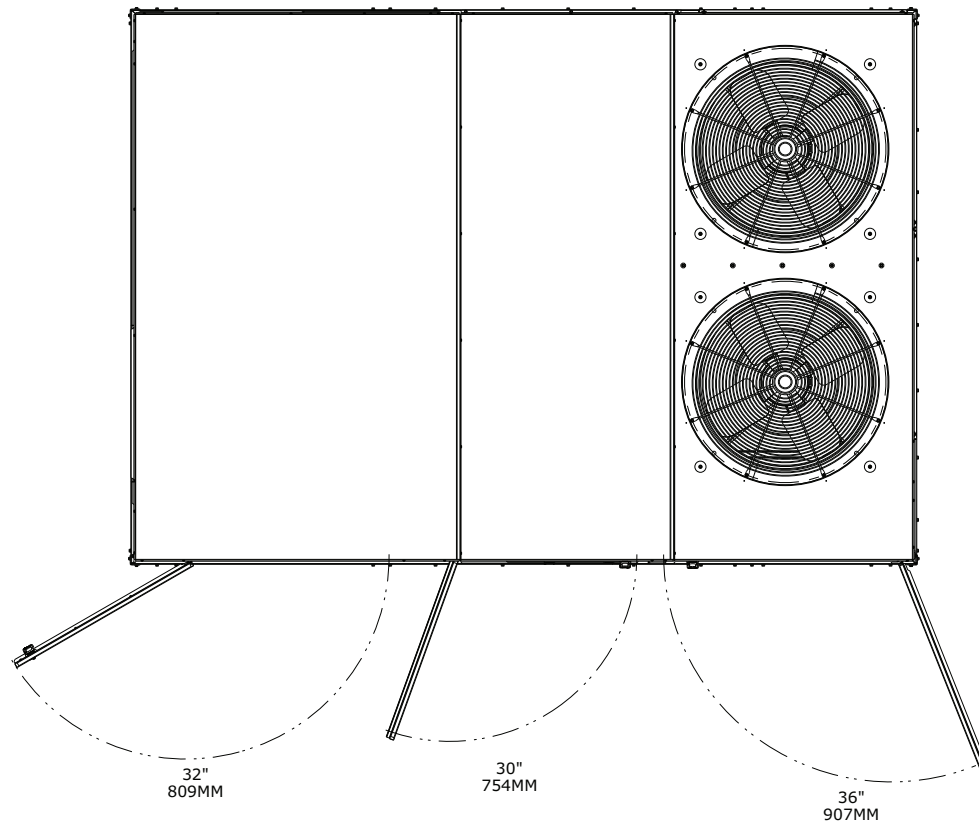
**Figure 11. 12.5 to 25 tons high efficiency – unit clearance and roof opening**



**Figure 12. 12.5 to 25 tons high efficiency – roof curb**



**Figure 13. 12.5 to 25 ton high efficiency – swing diameter for hinged door(s) option**



# Weights

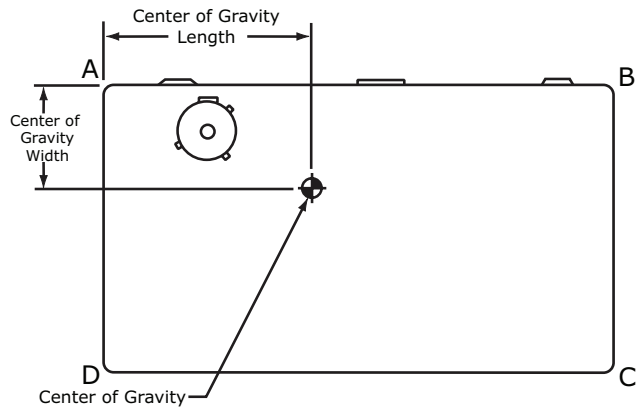
**Table 49. Model weights, corner weights (lbs) and center of gravity dimensions (in.)**

| Tons | Unit Model No. | Model Weights <sup>(a)</sup> |      | Corner Weights <sup>(b)</sup> |     |     |     | Center of Gravity (in.) |       |
|------|----------------|------------------------------|------|-------------------------------|-----|-----|-----|-------------------------|-------|
|      |                | Shipping                     | Net  | A                             | B   | C   | D   | Length                  | Width |
| 12.5 | WHJ150         | 2225                         | 2005 | 688                           | 487 | 344 | 486 | 51                      | 36    |
| 15   | WHJ180         | 2246                         | 2026 | 695                           | 492 | 348 | 491 | 51                      | 36    |
| 20   | WHJ240         | 2403                         | 2183 | 680                           | 550 | 426 | 527 | 55                      | 38    |
| 25   | WHJ300         | 2405                         | 2185 | 680                           | 550 | 427 | 528 | 55                      | 38    |
|      |                |                              |      |                               |     |     |     |                         |       |
| 12.5 | DHJ150         | 2407                         | 2187 | 750                           | 532 | 375 | 530 | 51                      | 36    |
| 15   | DHJ180         | 2427                         | 2207 | 757                           | 536 | 379 | 535 | 51                      | 36    |
| 20   | DHJ240         | 2697                         | 2477 | 771                           | 624 | 484 | 598 | 55                      | 38    |
| 25   | DHJ300         | 2700                         | 2480 | 772                           | 625 | 484 | 599 | 55                      | 38    |

<sup>(a)</sup> Weights are approximate. Weights do not include additional factory or field installed options/accessories. For option/accessory additional weights to be added to unit weight, reference the following table.

<sup>(b)</sup> Corner weights are given for information only.

**Figure 14. Corner weights**



**Table 50. Factory installed options (FIOPS)/accessory net weights (lb)**

| Accessory                        | W/D*J150-180  | W/D*J240-300 |
|----------------------------------|---------------|--------------|
|                                  | 12.5, 15 Tons | 20, 25 Tons  |
| Barometric Relief                | 40            | 40           |
| Economizer                       | 91            | 91           |
| Electric Heaters <sup>(a)</sup>  | 75            | 75           |
| Hinged Doors                     | 20            | 30           |
| Low Leak Economizer - Downflow   | 150           | 150          |
| Low Leak Economizer - Horizontal | 180           | 180          |
| Manual Outside Air Damper        | 15            | 15           |
| Motorized Outside Air Damper     | 82            | 82           |
| Oversized Motor                  | —             | 30           |
| Powered Convenience Outlet       | 50            | 50           |
| Powered Exhaust                  | 110           | 110          |
| Reheat Coil                      | 100           | 100          |
| Roof Curb                        | 235           | 235          |
| Smoke Detector, Supply           | 5             | 5            |



## Weights

**Table 50. Factory installed options (FIOPS)/accessory net weights (lb) (continued)**

| Accessory                                     | W/D*J150-180  | W/D*J240-300 |
|-----------------------------------------------|---------------|--------------|
|                                               | 12.5, 15 Tons | 20, 25 Tons  |
| Smoke Detector, Return                        | 5             | 5            |
| Stainless Steel Heat Exchanger <sup>(b)</sup> | 5             | 5            |
| Through-the-Base Electrical                   | 10            | 10           |
| Through-the-Base Gas <sup>(b)</sup>           | 10            | 10           |
| Unit Mounted Circuit Breaker                  | 10            | 10           |
| Unit Mounted Disconnect                       | 10            | 10           |

**Notes:**

1. Weights for options not listed are less than 5 pounds.
2. Net weight should be added to unit weight when ordering factory-installed accessories.
3. Weights are approximate.

<sup>(a)</sup> Only applies to W\*J models.

<sup>(b)</sup> Only applies to D\*J models.



# Mechanical Specifications

## General

- Packaged rooftop units cooling, heating capacities, and efficiencies are AHRI Certified within scope of AHRI Standard 210-240 for 12.5 to 25 Tons.
- Convertible airflow.
- Symbio controls operating range between 40°F and 125°F in cooling mode standard from the factory. Factory or field-installed low ambient kit extended operating range down to 0°F.
- Factory assembled, internally wired, fully charged with R-410A, and 100 percent run tested to check cooling and heat pump operation, fan and blower rotation, and control sequence before leaving the factory.
- Colored and numbered wiring internal to the unit for simplified identification.
- Units cULus listed and labeled, classified in accordance for Central Cooling Air Conditioners.

## Casing

- Zinc coated, heavy gauge, galvanized steel.
- Weather resistant pre-painted metal with galvanized substrate.
- Meets ASTM B117, 672 hour salt spray test.
- Removable single side maintenance access panels.
- Lifting handles in maintenance access panels (can be removed and reinstalled by removing fasteners while providing a water and air tight seal).
- Exposed vertical panels and top covers in the indoor air section insulated with a cleanable foil-faced, fire-retardant permanent, odorless glass fiber material.
- Base pan shall have no penetrations within the perimeter of the curb other than the raised 1 inch high downflow supply/return openings to provide an added water integrity precaution, if the condensate drain backs up.
- Base of the unit insulated with 1/8 inch, foil-faced, closed-cell insulation.
- Unit base provisions for forklift and/or crane lifting on three sides of unit.

## Coils

### Evaporator and Condenser

- Internally finned, 5/16-inch copper tubes mechanically bonded to a configured aluminum plate fin are standard.
- Coils are leak tested at the factory to ensure integrity.
- Evaporator coil and condenser coil are leak tested to 600 psig.
- Assembled unit is leak tested to 465 psig.
- Condenser coil is patent pending 1+1+1 hybrid coil, designed with slight gaps for cleaning ease.
- Composite, dual-sloped, removable condensate drain pan is standard.

## Coil Guards

Provides condenser coil protection.

## Compressors

- All units have direct-drive, hermetic, scroll type compressors with centrifugal type oil pumps.
- Suction gas-cooled motor with voltage utilization range of plus or minus 10 percent of unit nameplate voltage.
- Internal overloads standard with scroll compressors.
- Crankcase heaters are standard on all compressors.
- All units have dual compressors.
- Three stages of cooling available on 12.5 to 17.5 tons units and four stages of cooling available on 20 and 25 tons units.



### Filters

- Standard throwaway filters
- Optional 2 inch MERV 8 and MERV 13 filters

### Frostat™

- Utilized as a safety device.
- Opens to prevent freezing temperatures on evaporator coil.
- Temperature will need to rise to 50°F before closing.
- Utilized in low airflow or high outside air applications (cooling only).

### Gas Heating Section

- The heating section shall have a progressive tubular heat exchanger with corrosion-resistant aluminized steel tubes and burners as standard on all models.
- Stainless steel heat exchanger with 409 stainless steel tubes and 439 stainless steel burners shall be optional.
- Induced draft combustion blower shall be used to pull the combustion products through the firing tubes.
- Heater shall use a direct spark ignition (DSI) system.
- On initial call for heat, the combustion blower shall purge the heat exchanger for 20 seconds before ignition.
- After three unsuccessful ignition attempts, entire heating system shall be locked out until manually reset at the thermostat/zone sensor.
- Units shall be suitable for use with natural gas or propane (field-installed kit).

### Tubular Gas Heat Exchanger

- Compact cabinet features a tubular heat exchanger in low, medium and high heat capacities.
- Corrosion-resistant aluminized steel tubes and burners are standard on all models.
- Induced draft blower to pull the gas mixture through the burner tubes.
- Direct spark ignition and a flame sensor as a safety device to validate the flame.

### Indoor Fan

- Direct drive plenum fan design – 12.5 to 25 tons units.
- Plenum fan design — backward-curved fan wheel along with an external rotor direct drive variable speed indoor motor.
- Supply fan speed adjustments can be made using the Symbio 700 or Mobile App.
- Motors are electronically protected.
- Variable speed direct drive motors are high efficiency – 12.5 to 25 tons.

### Powered or Unpowered Convenience Outlet

- Powered GFCI, 120V/15A, 2 plug, convenience outlet or unpowered GFCI, 120V/20A, 2 plug, convenience outlet.
- When convenience outlet is powered, a service receptacle disconnect will be available.
- Convenience outlet is powered from the line side of the disconnect or circuit breaker, and therefore will not be affected by the position of the disconnect or circuit breaker.
- Available to order when through-the-base electrical with disconnect switch or circuit breaker option is ordered.

### Stainless Steel Drain Pan

- Corrosion and oxidation resistance.
- Constructed of 304 stainless steel.

## **Stainless Steel Heat Exchanger**

- Constructed of 409 stainless steel tubes and 439 stainless steel burners.
- Resistant to corrosion and oxidation and easy to clean.
- High strength to weight ratio allows for high ventilation rates with gas units.
- Compliment dehumidification option as a high outside air ventilation unit.
- 15 years stainless steel heat exchanger warranty is standard.

## **Through-the-Base Electrical with Circuit Breaker**

- Thermal magnetic, molded case, HACR circuit breaker with provisions for through-the-base electrical connections.
- Circuit breaker installed within unit in water tight enclosure.
- Wiring provided from the switch to the unit high voltage terminal block.
- Circuit breaker will provide overcurrent protection, sized per NEC and cULus guidelines, and agency recognized by cULus.

## **Through-the-Base Electrical with Disconnect Switch**

- 3-pole, molded case, disconnect switch with provisions for through-the-base electrical connections.
- Disconnect switch installed within unit in a water tight enclosure.
- Wiring provided from the switch to the unit high voltage terminal block.
- Switch cULus agency recognized.

**Note:** Disconnect switch sized per NEC and cULus guidelines but will not be used in place of unit overcurrent protection

## **Economizer (Standard)**

- Available with or without barometric relief.
- Fully modulating 0-100 percent motor and dampers, minimum position setting, preset linkage, wiring harness with plug, spring return actuator and fixed dry bulb control.
- Barometric relief shall provide a pressure operated damper that shall be gravity closing.
- Barometric relief shall prohibit entrance of outside air during the equipment “off” cycle.
- Optional solid state or differential enthalpy control.
- Arrives in shipping position and shall be moved to the operating position by the installing contractor.

## **Manual Outside Air Damper**

Rain hood and screen shall provide up to 50 percent outside air.

## **Motorized Outside Air Damper**

- Once set, when indoor fan starts, outdoor air dampers shall open to set position.
- When indoor fan shuts down, damper shall close to the full closed position.

## **Powered Exhaust**

- Available for 12.5 to 25 ton units.
- Shall provide exhaust of return air, when using an economizer.
- Maintain better building pressurization.

## **Roof Curb**

- Designed to mate with the unit’s downflow supply and return.
- Provide support and a water tight installation when installed properly.



## Mechanical Specifications

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- Shall allow field-fabricated rectangular supply/return ductwork to be connected directly to the curb.
- Curb shall be shipped knocked down for field assembly.
- Shall include wood nailer strips.

## Ventilation Override Operation

- Unit can be set to transition up to 3 different pre-programmed sequences for smoke purge, pressurization, and exhaust.
- Transition occurs when binary input on the Symbio is closed (shorted) (typically hard wired relay output from a smoke detector/ fire control panel).

**Note:** Requires Symbio™ Customer Connection Module, FIASCCM001\*.





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