



# Product Catalog

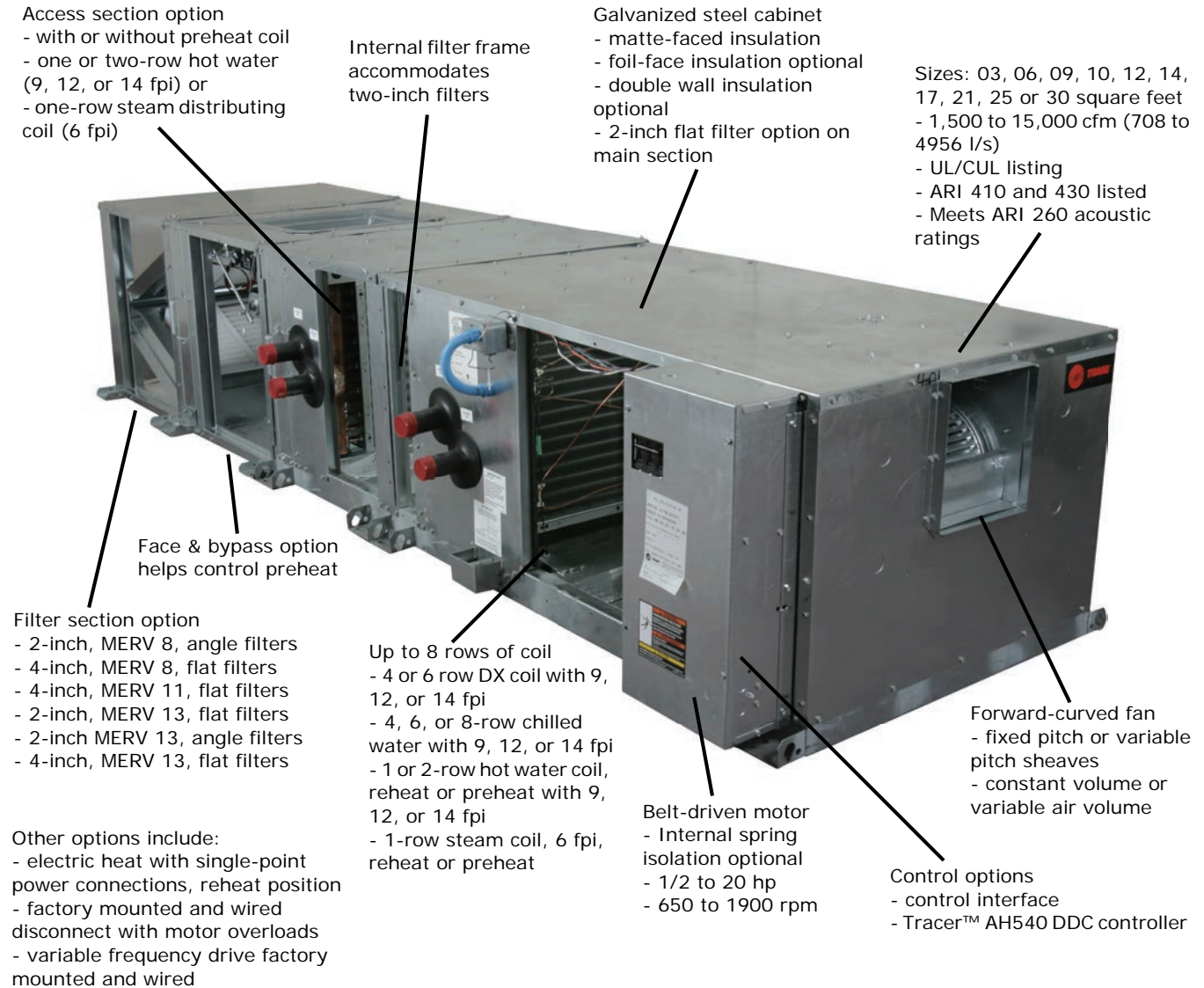
## Packaged Climate Changer Air Handler





## Introduction

### The Packaged Climate Changer offers added feature flexibility without added cost!



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## Features and Benefits

The Trane Packaged Climate Changer, model LPC, is one of the lowest cost, IAQ compliant air handling units on the market today. Also, the model LPC has many of the same standard features as more elaborate air handlers — but without added cost. This includes features that add flexibility while aiding indoor air quality, such as:

- single point power,
- factory mounted controls,
- double-wall cooling coil sections and access panels, or double-wall throughout the whole unit,
- filter options that include MERV 11 and MERV 13 filters, which helps achieving points toward LEED® certification,
- and a variety of coil options that include hydronic, steam, and DX.

### Flexibility

The Trane Packaged Climate Changer is available in both a horizontal and vertical configuration with a variety of discharge arrangements. Units ship with mounting brackets on all corners to aid installation. Horizontal units may be either floor mounted or ceiling suspended using threaded rods. Vertical units are typically floor mounted.

#### Coil Options

Coil options include:

- Chilled water with four, six, or eight rows
- Direct expansion with four or six rows
- Hot water with one or two-rows, reheat or preheat
- Steam distributing, one row reheat or preheat

All cooling and hot water coils are available in three fin series (9, 12, or 14 fpi) to optimize coil performance and airside pressure drop. Steam coils are available in 6 fpi.

#### Access Section Option

If access between the coils is required, an additional module is available to house the preheat coil and provide access between the two coils. The access section is also available without a coil.

#### Electric Heat Section

Additionally, units are available with factory mounted and wired electric heat (reheat position) using single-point power connections.

#### Motors

Units are belt driven with motor sizes ranging from 1/2 to 20 horsepower, in a wide range of voltages. All motors smaller than one horsepower are provided with internal overload protection. Motors one horsepower and larger require external overload protection. Motors 5 hp and larger are NEMA premium efficient.

#### Control Options

Control options range from the simple controls interface for field-mounted controllers to the sophisticated Tracer AH540 controller.

The controls interface includes a factory mounted and wired disconnect with motor overloads (where applicable), transformer, fan contactor, and customer connection terminal strip.

The Tracer AH540 controller is factory mounted, wired, and tested. It can be either a stand-alone or communicating controller with Trane Integrated Comfort™ System or other building automation system. The controller can be configured to operate in either a constant or variable air volume application.

Sheave options are either fixed pitch or variable pitch sheaves, depending on the application. Also, a factory mounted and wired variable frequency drive (VFD) is available for variable air volume (VAV) applications.



## Features and Benefits

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### Filter Options

The Packaged Climate Changer is available with two-inch MERV 8 or MERV 13 flat filters in the base unit. Also, an optional accessory module with a two-inch, MERV 8 or MERV 13 angle filter, or a four-inch MERV 8, MERV 11, and MERV 13 flat filter is available.

### Mixing Section Option

Mixing sections with low leak dampers are available for applications where both return air and fresh air are delivered directly to the unit.

### Face and Bypass Section Option

The face and bypass section diverts airflow around the auxiliary coil to help control preheat.

### Easy to Service

The coils, motors and drives are easily accessible for service through the double-wall access panels on both sides of the unit. If the motor should require servicing, only the drive side needs to be accessed.

## Indoor Air Quality

Indoor air quality continues to be an important design aspect of air handling equipment today. That's why we designed the Packaged Climate Changer to meet the requirements of ASHRAE Standard 62-1999, with features that include a double wall cooling coil section, cleanable unit interiors, and sloped drain pans.

### Sloped Drain Pan

The drain pan is positively sloped in every plane to assure proper drainage and help maximize protection from microbial growth.

Drain pans are made from a noncorrosive polymer material, double wall construction, and foamed in place to help eliminate condensation beneath the drain pan. An optional stainless steel drain pan is also available.

### Accessibility and Cleanability

The Trane Packaged Climate Changer has a double-wall and single-wall construction available. Both options have a solid, double-wall cooling coil with no exposed insulation. The coil and fan sections include large, double-wall access panels or doors on both sides.

- The single-wall option has one-inch dual density (matt-faced) insulation designed to withstand high velocities and meet NFPA90A and UL181. In addition, the unit may have optional foil-faced insulation that meets NFPA90A, UL181, and bacteriological standard ASTM C665. The coil and fan sections include large, double-wall access panels on both sides. All access panels on optional sections are also double-wall.

- The double-wall option is a solid one-inch construction. The smooth, cleanable interior double-wall surfaces helps achieve optimal indoor air quality. The coil, and fan sections and optional sections include large, double-wall access doors on both sides. All access doors are fully removable.

Coils mount above, not in, the drain pan. This allows for easier access to the drain pan for cleaning.

### Filtration

The Packaged Climate Changer is available with two-inch flat filters in the base unit. Also, an optional accessory module is available that can hold a two-inch angle filter or a four-inch flat filter. Filtration options for the four-inch flat filter include options for MERV 8, MERV 11, and MERV 13 filters.

A factory-mounted dirty filter switch can be used to indicate when the filter needs replacement.

### **Ventilation**

An optional mixing section with low-leak dampers is available for use when ventilation air is delivered directly to the unit. This mixing section can also function as a zero to 100 percent economizer to improve energy efficiency.

### **Dehumidification**

The Packaged Climate Changer can be configured for either a constant-volume or VAV application. VAV systems generally provide effective, coincidental dehumidification over a wide range of indoor load conditions. As long as any space needs cooling, the VAV air handler supplies dry (low dew point) air to all of the VAV terminal units.

For direct control of space humidity in a constant-volume application, the Packaged Climate Changer can be configured with a hydronic or steam heating coil in the reheat position. This would allow the cooling and heating coils to modulate independently to directly control both temperature and humidity in the space. A unit-mounted electric heater, with a single-point power connection, is also available in the reheat position.

The Tracer 540 controller, when coupled with the Trane Packed Climate Changer Air Handler provides a complete dehumidification package with both occupied and unoccupied dehumidification control. With the cooling and reheat capacity, the dehumidification control sequence is allowed on units configuration with hydronic or DX cooling and hydronic or electric reheat.

## **Optional Accessory Sections**

All accessory sections have access on both sides of the unit. Single-wall units feature large double-wall panels that are lift-off type on unit sizes 2 through 21 and those on sizes 25 and 30 are hinged. Optional foil-faced insulation aids in cleanability.

Double-wall units feature large doors on both sides of the section. These doors feature a 90-degree stop handle and hinges that allow for easy removability of the door.

### **Access Section with Auxiliary Coil**

The access section with auxiliary coil allows a unit with up to eight rows of cooling to also have a preheat coil in the access section, with some distance between the coils (see [Figure 1](#)).

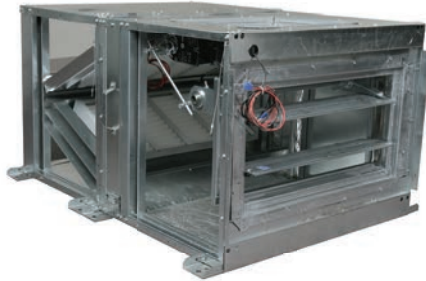
**Figure 1. Access section**



### **Mixing Section**

A mixing section is available for those applications where both return air and fresh air are delivered directly to the unit or as part of an economizer control strategy (see [Figure 2, p. 8](#)).

**Figure 2. Mixing section**



### Filter Section

The Packaged Climate Changer is available with a filter section that can be configured with a four-inch flat filter or a two-inch angle filter (see [Figure 3](#)).

**Figure 3. Filter section and bypass section**



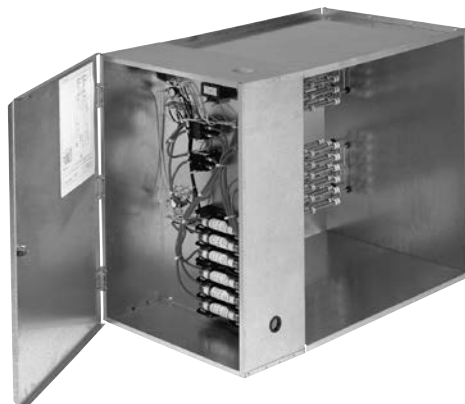
### Face and Bypass Section

An external face and bypass section option diverts airflow around the auxiliary coil and helps control preheat (see [Figure 3](#)).

### Electric Heat

In addition to the hydronic and steam coils options, the unit is also available with a unit mounted electric heater in the reheat position. The unit will have single point power connection to the electric heater (see [Figure 4](#)).

**Figure 4. Electric heat section**





# Application Considerations

The Packaged Climate Changer, model LPC, offers a wide range of application flexibility while maintaining a simple, easy to install unit design. These units provide an additional choice to the Trane air handler products, such as the blower coil and Performance Climate Changer.

Typical unit applications include many different types of buildings such as; schools, office buildings, hospitals, and stores. Applications can be either constant volume or variable air volume. Following below is a partial listing of possible Packaged Climate Changer applications.

Some typical constant volume applications are:

- Two pipe hydronic system for cooling and/or heating
- Two pipe hydronic cooling system with electric heat
- Four pipe system with dedicated heating and cooling coils
- Direct expansion (DX) split systems with hydronic heat

Some typical variable air volume applications are:

- Cooling only air handling units with heat in the terminal units
- Air handling units with both cooling and heating capability with additional heat in the terminal unit. The heating within the air handling unit may be used for a morning warm-up cycle.

## Installation

Horizontal units are typically suspended from the ceiling using threaded rods through the installation brackets. These brackets may also be used to secure the unit to the floor. Vertical units are floor-mounted on a house-keeping pad.

For units without internal isolation, install units with external vibration isolation on all connection points, including the corner brackets, ductwork connections, and piping connections.

It is important to consider proper condensate management before installation. You must mount the unit high enough so that the condensate drain can be properly trapped. Please refer to the Trane literature number LPC-SVX01C-EN, *Installation, Operation, and Maintenance - Packaged Climate Changer Air Handler*, for specifics on this issue.

Install units in accordance to all applicable ASHRAE standards, SMACNA, and local code requirements.

## Acoustics

Controlling outdoor and equipment noise within the occupied space is increasingly important to designers and building owners/occupants. Therefore, give proper consideration to this when designing Packaged Climate Changer unit applications.

The unit's inherent flexibility of the fan and coil combinations allows application in sound-sensitive areas. For example, a fan running at low speed with a high capacity coil normally yields satisfactory acoustical results. Also, you may select a larger nominal capacity unit and operate it at a less than nominal airflow for further acoustic benefit.

Packaged Climate Changer sound power data (Lw) for ducted discharge, ducted inlet, casing radiated, and inlet + casing radiated components is available. This sound power data is useful for estimating the sound levels in the occupied space, for a given application. Three-phase motors are recommended for sound-sensitive applications to avoid potential single phase motor hum. All sound-power data is based on units with three-phase motors.

**Note:** *Trane recommends three-phase motors for sound-sensitive applications to avoid potential single-phase motor hum. All sound power data is based on units with three-phase motors.*

**Note:** *Do not operate the unit in the fan stall region of the fan curve. It may cause unsatisfactory noise levels and excessive unit vibration.*

## Operating Limitations

Do not operate units above maximum fan speed or unit airflow as shown in the unit fan curves. Unit operation at greater than maximum fan speed can drastically reduce bearing life and may



## Application Considerations

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result in a catastrophic failure. Operating at greater than the maximum allowable airflow in the cooling mode may result in unsatisfactory operation due to moisture carryover from the coil. In addition, it is often not economical to operate a unit at its maximum fan speed due to the greater motor power requirements.

Do not operate units with electric heat below the minimum airflow listed in [Table 2, p. 19](#). This is to prevent excessive leaving air temperatures and electric heat limit trips.

Do not operate a hydronic (or steam) coil and electric heat simultaneously. This is to prevent excessive leaving air temperatures and limit trips. Electric heat units are equipped with a lockout switch to disable the electric heater if the temperature of the hydronic (or steam) coil is greater than 95°F (35°C).

Do not operate coils above the fluid flow limits listed in [Table 2, p. 19](#). This is to prevent noise and erosion within the coil. A minimum or “self venting” fluid flow rate is also listed in [Table 2](#). If coils operate below this flow rate, you should periodically vent them by flushing at a higher flow rate. These low fluid flow rates may also be too low to be included in the ARI certification.

### DX Cooling Units

A Packaged Climate Changer with a DX cooling coil will often be connected to an air-cooled condensing unit. Some condensing units have two, independent refrigeration circuits, while the DX coil in size 3 through 10 units can be configured with a single circuit. Do not manifold two, independent refrigeration circuits into a single-circuited DX (evaporator) coil. If the condensing unit will have two, independent refrigeration circuits, configure the DX coil to have either two or four distributors.

DX coils, equipped with either two or four distributors, can be configured with either intertwined or horizontal split circuiting. Intertwined circuiting is preferred in VAV applications. At low loads, refrigerant is fed to alternating tubes, and the coil performs as though its fin surface area is substantially greater. Therefore, the coil surface can be warmer at part load, which reduces the risk of frost and still provides a constant leaving-air temperature.

# Selection Procedure

## Packaged Climate Changer Unit Selection Procedure

Following is the selection procedure for a Packaged Climate Changer, model LPC, unit with a chilled water coil. You can also use the Trane Official Product Selection System, TOPSS™, to computer-generate a product selection. Contact your local Trane office to obtain a copy.

### 1. Determine Unit Capacity

Determine unit capacities using the performance data tables in this catalog. Capacity data is based on various conditions to aid interpolation. Interpolate between values when necessary.

### 2. Verify Air and Water Flow Operating Limits

If the design airflow equals the rated unit airflow with the desired coil size, use the water flow rate shown for that coil in the table. If using interpolation to determine the capacity, calculate the water flow using the following formula:

$$\text{water flow} = \text{total capacity} \times Y / \text{water temperature rise}$$

$$\text{where } Y = 2$$

Water flow and airflow must fall within the limits shown in [Table 2, p. 19](#) or you must reselect equipment.

### 3. Calculate the Water Pressure Drop

Calculate the water pressure drop through hydronic coils using the water pressure drop data in the appropriate capacity tables. Interpolate if necessary.

### 4. Check Fan Performance Requirements

Check the unit fan performance characteristics using either the fan performance tables (see [Table 8, p. 25](#) through [Table 49, p. 66](#)) or the unit fan curves (see [Figure 4, p. 25](#) through [Figure 45, p. 66](#)). Note that the fan curves and tables include pressure drop for the casing only. Use [Table 5, p. 21](#) through [Table 7, p. 23](#) to calculate the total airside pressure drop from coils, filters, and accessories.

### 5. Calculate Total Static Pressure Requirements

Add the required external static pressure based on your application, to the total unit airside pressure drop to obtain the fan total static pressure requirements.

Then verify your specific fan requirements with the fan performance curves or tables.

### 6. Determine Motor and Drive Size

Check required motor power and fan speed requirements to determine the size of the motor and drive selection. Drives are available as fixed or variable pitch.



## Selection Procedure

### Cooling Example

#### Cooling Selection Example

Job requirements:

- horizontal LPC unit with front/top fan discharge
- two-inch MERV 8 flat filters
- mixing section
- total capacity required = 245 MBh
- sensible capacity required = 185 MBh
- airflow = 7200 cfm at 1.5" ESP
- entering air conditions = 80°F DB/67°F WB
- entering water temperature (EWT) = 45°F
- desired water temperature rise (delta T) = 10°F

1. Referencing the chilled water cooling capacity tables, use [Table 75, p. 93](#). The capacity of a size 14 unit with four-row coil, 14 fins per inch, at 10°F delta T, and 7000 cfm is 245.0 MBh total and 183.8 MBh sensible. At 8400 cfm, the capacity is 276.3 MBh total and 212.6 MBh sensible. Interpolate between these values to determine capacity at 7200 cfm = 249.5 MBh total and is 187.9 MBh sensible.
2. Waterflow =  $249.5 \times 2 / 10 = 49.9$  gpm. Referencing [Table 2, p. 19](#), waterflow rate of 49.9 gpm and airflow of 7200 cfm fall within the range specified for an LPC size 14 with a four-row coil.
3. Interpolate between the values in [Table 75](#), the water pressure drop for a size 14 LPC with a four-row coil at 49.9 gpm is 5.1 feet of water.
4. Using [Table 5, p. 21](#) through [Table 7, p. 23](#), interpolate the additional airside pressure drop (APD) for the coil, filter, and accessories at 7200 cfm.

|                                |                    |
|--------------------------------|--------------------|
| Four-row, 14 fpi cooling coil: | 0.71 in. wg        |
| 2" MERV 8 flat filter:         | + 0.24 in. wg      |
| Mixing section:                | + 0.14 in. wg      |
| Total accessory APD            | <u>1.09 in. wg</u> |

5.

|                            |                    |
|----------------------------|--------------------|
| Unit airside pressure drop | 1.09 in. wg        |
|                            | + 1.5 in. wg       |
| Total static pressure      | <u>2.59 in. wg</u> |

6. From [Table 38, p. 55](#), interpolate 7200 cfm at 2.52 in. wg total static pressure to determine a 1008 rpm and 5.30 bhp motor requirement. This leads to a selection of a 7-1/2 hp motor.

## Heating Selection Example

Following is the selection procedure for the previous example with a hydronic heating coil added.

1. Reference heating capacity data in [Table 80, p. 98](#) through [Table 89, p. 116](#). Capacities are tabulated for various water flow and airflow conditions. Capacity correction factors for additional entering conditions are in [Table 90](#) through [Table 91, p. 118](#). Interpolate between values when necessary.
2. If entering air and water conditions are other than those catalogued, refer to the capacity correction factors on [p. 118](#).
3. Divide the required capacity by the correction factor and then refer to the associated table to locate the corrected capacity.
4. Interpolate for airflow and/or water flow to obtain capacity at desired conditions. Determine the water pressure drop using [Table 80, p. 98](#) through [Table 89, p. 116](#)
5. Obtain airside pressure drop for the coil selected from [Table 2, p. 19](#).
6. Check required motor power and fan speed requirements to determine the motor size and drive selection. Drives can be ordered fixed or variable pitch. Select a heating coil for the size 14 LPC, used previously in the chilled water example, operating at 7200 cfm (with 200°F EWT, 60°F EAT) to obtain a 100°F LAT.

$$1. \text{ Required Capacity} = (\text{Airflow})(Z)(\text{LAT} - \text{EAT})$$

$$Z = 1.0845 \text{ (English)}$$

$$Z = 1.213 \text{ (SI)}$$

$$\text{Required Capacity} =$$

$$7200 \times 1.0845 \times (100 - 60) =$$

$$312,336 \text{ Btuh (312.3 MBh)}$$

2. The capacity correction factor for a one-row coil for 60°F EAT and 200°F EWT is 1.167.
3. Corrected Capacity Required =  $338.0/1.167 = 289.6 \text{ MBh}$
4. Heating capacity for a size 14 unit with one-row heating coil, 14 fins per inch, is as follows:

Capacity at 30°F water temperature drop,

|              |             |
|--------------|-------------|
| At 7000 cfm: | 307.1 MBh   |
|              | 20.5 gpm    |
|              | 100.4°F LAT |
|              | 1.4 ft WPD  |

|              |            |
|--------------|------------|
| At 8400 cfm: | 333.9 MBh  |
|              | 22.3 gpm   |
|              | 96.7°F LAT |
|              | 1.7 ft WPD |

Interpolating at 7200 cfm and 30°F water temperature drop,

|              |            |
|--------------|------------|
| At 7200 cfm: | 310.9 MBh  |
|              | 20.8 gpm   |
|              | 99.9°F LAT |
|              | 1.4 ft WPD |

Capacity at 40°F water temperature drop,

|              |            |
|--------------|------------|
| At 7000 cfm: | 272.9 MBh  |
|              | 13.6 gpm   |
|              | 95.9°F LAT |
|              | 0.7 ft WPD |



## Selection Procedure

### Heating Example

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At 8400 cfm:                    297.1 MBh  
   14.9 gpm  
   92.6°F LAT  
   0.8 ft WPD

Interpolating at 7200 cfm and 40°F water temperature drop,

At 7200 cfm:                    276.4 MBh  
   13.8 gpm  
   95.4°F LAT  
   0.7 ft WPD

Interpolating for 289.6 MBh at 7200 cfm between 30°F and 40°F water temperature drop,

At 7200 cfm:                    289.6 MBh  
   97.1°F LAT  
   16.46 gpm  
   36.4 F water temp. drop  
   0.97 ft WPD

Using the water pressure drop correction factor for 200°F EWT = 0.99, WPD =  $0.97 / 0.99 = 0.98$  ft. wg.

To interpolate additional airside pressure drops through other unit components, use [Table 7, p. 23](#). Interpolate for 7200 cfm as shown below:

- Cooling coil, four-row, 14 fins per inch = 0.65 in. wg
- Heating coil, one-row, 14 fins per inch = 0.16 in. wg
- 2" MERV 8 flat filter = 0.24 in. wg
- Mixing section = 0.14 in. wg

Total unit airside pressure drop = 1.19 in. wg

5. 1.19 in. wg unit APD + 1.50 in. wg = 2.69 in. wg total static pressure
6. From [Table 38, p. 55](#) interpolating 7200 cfm at 2.69 in. wg TSP, we obtain 1038 rpm and 5.59 bhp. Therefore, select a 7-1/2 hp motor.

# Model Number Descriptions

## Packaged Climate Changer Model Number Descriptions

Following is a complete description of the Packaged Climate Changer model number. Each digit in the model number has a corresponding code that identifies specific unit options.

### Digit 1, 2, 3 – Unit Model

LPC= Packaged Climate Changer

### Digit 4 – Development Sequence

A = "A" Development Sequence

### Digit 5 – Configuration

A = Horizontal, Front Top Discharge  
 B = Horizontal, Top Front Discharge  
 C = Vertical, Front Top Discharge  
 D = Vertical, Top Front Discharge  
 E = Vertical, Back Top Discharge  
 F = Vertical, Top Back Discharge

### Digit 6, 7 – Unit Size

03 = 3 Square Feet of Coil  
 06 = 6 Square Feet of Coil  
 08 = 8 Square Feet of Coil  
 10 = 10 Square Feet of Coil  
 12 = 12 Square Feet of Coil  
 14 = 14 Square Feet of Coil  
 17 = 17 Square Feet of Coil  
 21 = 21 Square Feet of Coil  
 25 = 25 Square Feet of Coil  
 30 = 30 Square Feet of Coil

### Digit 8 – Unit Voltage

0 = No Motor, Controls, Electric Heat  
 A = 208/60 /1  
 B = 230/60/1  
 C = 277/60/1  
 D = 208/60/3  
 E = 230/60 /3  
 F = 460/60/3  
 G = 575/60/3  
 H = 380/50/3  
 J = 415/50/3

### Digit 9 – Insulation & Isolation

1 = 1-inch, Matte Faced  
 2 = 1-inch, Foil Faced  
 3 = 1-inch, Double-Wall with Field-Provided External Isolation  
 4 = 1-inch, Double-Wall with Internal Isolation

### Digit 10, 11 – Design Sequence

J0

### Digit 12 – Drain Pan Type, Coil & Motor Connection Location

R = Polymer Drain Pan, RH Coil & Motor  
 L = Polymer Drain Pan, LH Coil & Motor  
 C = Polymer Drain Pan, RH Coil & LH Motor  
 D = Polymer Drain Pan, LH Coil & RH Motor  
 E = SS Drain Pan, RH Coil & Motor  
 F = SS Drain Pan, LH Coil & Motor  
 G = SS Drain Pan, RH Coil & LH Motor  
 H = SS Drain Pan, LH Coil & RH Motor

### Digit 13 – Unit Coil #1 Type (1<sup>st</sup> in Air Stream)

0 = No Unit Coil #1

#### Hydronic Heat Coils

A = 1-row, 9 fpi  
 B = 1-row, 12 fpi  
 C = 1-row, 14 fpi  
 D = 2-row, 9 fpi  
 E = 2-row, 12 fpi  
 F = 2-row, 14 fpi

#### Chilled Hydronic Coils

G = 4-row, 9 fpi  
 H = 4-row, 12 fpi  
 J = 4-row, 14 fpi  
 K = 6-row, 9 fpi  
 L = 6-row, 12 fpi  
 M = 6-row, 14 fpi  
 N = 8-row, 9 fpi  
 P = 8-row, 12 fpi  
 R = 8-row, 14 fpi

#### DX Coils, 3/16 Inch, Distributor

T = 4-row DX, 9 fpi  
 U = 4-row DX, 12 fpi  
 V = 4-row DX, 14 fpi

#### Steam Coil

1 = 1-row, 6 fpi

#### DX Coils, 1/4 Inch, Distributor

5 = 6-row DX, 9 fpi  
 6 = 6-row DX, 12 fpi  
 7 = 6-row DX, 14 fpi

### Digit 14 – Unit Coil #2 Type (2<sup>nd</sup> in Air Stream)

0 = No Unit Coil #2

#### Hydronic Reheat Coils

A = 1-row, 9 fpi  
 B = 1-row, 12 fpi  
 C = 1-row, 14 fpi  
 D = 2-row, 9 fpi  
 E = 2-row, 12 fpi  
 F = 2-row, 14 fpi

#### Chilled Hydronic Coils

G = 4-row, 9 fpi  
 H = 4-row, 12 fpi  
 J = 4-row, 14 fpi  
 K = 6-row, 9 fpi  
 L = 6-row, 12 fpi  
 M = 6-row, 14 fpi

#### DX Coils, 3/16 Inch, Distributor

N = 4-row DX, 9 fpi  
 P = 4-row DX, 12 fpi  
 R = 4-row DX, 14 fpi

#### Steam Coil

W = 1-row, 6 fpi

#### DX Coils, 1/4 Inch, Distributor

2 = 6-row DX, 9 fpi  
 3 = 6-row DX, 12 fpi  
 4 = 6-row DX, 14 fpi

### Digit 15 – Access Section (Preheat)

0 = None

#### Hydronic Coils

A = 1-row, 9 fpi  
 B = 1-row, 12 fpi  
 C = 1-row, 14 fpi  
 D = 2-row, 9 fpi  
 E = 2-row, 12 fpi  
 F = 2-row, 14 fpi  
 G = 1-row Steam Coil, Type NS, 6 fpi  
 R = No Coil, Matte Face Insulation

### Digit 16 – Electric Heat, Factory Mounted Only

0 = None

1 = Electric Heat with 1 Stage  
 2 = Electric Heat with 2 Stages  
 4 = Electric Heat with 4 Stages

### Digit 17, 18, 19 – Electric Heater kW

006–018 = 1 kW Increments  
 020–038 = 2 kW Increments  
 041–059 = 3 kW Increments  
 063–095 = 4 kW Increments  
 95 and < = 5 kW Increments

### Digit 20 – Control Type

0 = None

1 = Control Interface  
 2 = Tracer™ AH540 Zone Temp. Control  
 3 = Tracer AH540 Discharge Temp. Control



## Packaged Climate Changer Model Number Descriptions

### Digit 21 — Electric Heater Options

- 0 = None
- A = Line Fuse
- B = Door Interlocking Disconnect Switch
- C = Air Flow Switch Combined Options
- D = A & B
- E = A & C
- F = B & C
- G = A, B, & C

### Digit 22 — Refrigerant Circuit Options

- 0 = None
- 1 = Single Circuit with 1-stage DX
- 2 = Face Split Circuit with 2-stage DX
- 3 = Intertwined Circuit with 2-stage DX
- 5 = Single Circuit with 2-stage DX
- 6 = Face Split Circuit with 4-stage DX
- 7 = Intertwined Circuit with 4-stage DX

**Note:** Staging is used for configuration of the AH540 controller.

### Digit 23 — Motor Horsepower (hp)

- 0 = None
- A = 1/2 hp (0.373 kW)
- B = 3/4 hp (0.559 kW)
- C = 1 hp (0.746 kW)
- D = 1-1/2 hp (1.119 kW)
- E = 2 hp (1.492 kW)
- F = 3 hp (2.238 kW)
- 1 = 5 Premium hp (3.730 kW)
- 2 = 7-1/2 Premium hp (5.595 kW)
- 3 = 10 Premium hp (7.460 kW)
- 4 = 15 Premium hp (11.190 kW)
- 5 = 20 Premium hp (14.920 kW)

### Digit 24 — Volume Control

- A = CV with Variable Pitch Sheaves
- B = CV with Fixed Pitch Sheaves
- C = VFD with Fixed Pitch Sheaves

### Digit 25 — Drives, Fixed / Variable

- 0 = None
- A = 650 rpm / 600–700 rpm
- B = 700 rpm / 650–750 rpm
- C = 750 rpm / 700–800 rpm
- D = 800 rpm / 750–850 rpm
- E = 850 rpm / 800–900 rpm
- F = 900 rpm / 850–950 rpm
- G = 950 rpm / 900–1000 rpm
- H = 1000 rpm / 950–1050 rpm
- J = 1050 rpm / 1000–1100 rpm
- K = 1100 rpm / 1050–1150 rpm
- L = 1150 rpm / 1100–1200 rpm
- M = 1200 rpm / 1150–1250 rpm
- N = 1250 rpm / 1200–1300 rpm
- P = 1300 rpm / 1250–1350 rpm
- R = 1350 rpm / 1300–1400 rpm
- T = 1400 rpm / 1350–1450 rpm
- U = 1450 rpm / 1400–1500 rpm
- V = 1500 rpm / 1450–1550 rpm
- W = 1550 rpm / 1500–1600 rpm
- Y = 1600 rpm / 1550–1650 rpm
- Z = 1650 rpm / 1600–1700 rpm
- 1 = 1700 rpm / 1650–1750 rpm
- 2 = 1750 rpm / 1700–1800 rpm
- 3 = 1800 rpm / 1750–1850 rpm
- 4 = 1850 rpm / 1800–1900 rpm
- 5 = 1900 rpm / 1850–1950 rpm
- 6 = 1950 rpm / 1900–2000 rpm
- 7 = 2000 rpm / 1950–2050 rpm

### Digit 26 — Filter Type / Filter / Mixing Section

- 0 = None
- A = 2-inch, Flat Unit Filter
- B = 2-inch, Flat Unit Filter & Mixing Section
- C = 2-inch, Angle Filter Section
- D = 4-inch, Flat Filter Section
- E = 2-inch, Angle Filter Section & Mixing Section
- F = 4-inch, Flat Filter Section & Mixing Section
- G = 4-inch, MERV 11 Flat Filter Section
- H = 4-inch, MERV 11 Flat Filter & Mixing Section
- J = 2-inch, MERV 13 Flat Unit Filter
- K = 2-inch MERV 13 Flat Unit Filter & Mixing Section
- L = 2-inch MERV 13 Angle Filter Section
- M = 2-inch MERV 13 Angle Filter Section & Mixing Section
- N = 4-inch MERV 13 Flat Filter Section
- P = 4-inch MERV 13 Flat Filter Section & Mixing Section

### Digit 27 — Face & Bypass Section (F & B, Preheat Position)

- 0 = None
- A = F & B w/ NC Actuator
- B = F & B w/ NO Actuator
- C = F & B w/ Field-Supplied NO Actuator
- D = F & B w/ Field-Supplied NC Actuator

### Digit 28 — Control Option

- 0 = None
- 1 = Dehumidification w/ RH Sensor
- 2 = Dehumidification w/ Comm. RH Sensor
- 3 = 2-pipe Changeover w/ EWT
- 4 = 2-pipe Changeover w/ Comm. EWT
- 5 = CO<sub>2</sub> Sensor
- 6 = 1 & 4

### Digit 29 — Control Options 1, Factory Mounted

- 0 = None
- A = Low Limit Switch
- B = Condensate Overflow Switch
- C = Dirty Filter Switch
- D = Fan Status Switch

### Combined Options

- E = A & B
- F = A & C
- G = A & D
- H = B & C
- J = B & D
- K = C & D
- L = A, B, & C
- M = A, B, & D
- N = A, C, & D
- P = B, C, & D
- R = A, B, C, & D

### Digit 30 — Control Options 2

- 0 = None
- A = Discharge Air Sensor (DAS)
- B = Mixed Air Sensor (MAS)
- D = NO Mixing Box Act.
- E = NC Mixing Box Act.

### Combined Options

- F = A & B
- H = A & D
- J = A & E
- L = B & D
- M = B & E
- R = A, B, & D
- T = A, B, & E
- 1 = Field-Mounted, NO, Mixing Box Act.
- 2 = Field-Mounted, NC, Mixing Box Act.
- 3 = A & 1
- 4 = A & 2
- 5 = B & 1
- 6 = B & 2
- 7 = A, B, & 1
- 8 = A, B, & 2

### Digit 31 — Control Function

- 0 = None
- 1 = Mixed Air Ctrl.
- 2 = Mixed Air Preheat Ctrl.
- 3 = Economizing with Mixed Air Ctrl.
- 4 = Economizing with Mixed Air Preheat Ctrl.



## Packaged Climate Changer Model Number Descriptions

### Digit 32 – Control Options 3, Factory Provided, Field Installed

- 0 = None
- A = Outdoor Air Temperature Sensor
- B = Duct Static Pressure Sensor
- C = A & B
- D = Outdoor Air Temperature Communicated
- E = Duct Static Pressure Communicated
- F = D & E

### Digit 33 – Preheat Control Valve Options

- 0 = None
- A = 3/4-inch, 2-way, NO 7.4 Cv
- B = 3/4-inch, 2-way, NC 7.4 Cv
- C = 3/4-inch, 3-way, NO 7.4 Cv
- D = 3/4-inch, 3-way, NC 7.4 Cv
- E = 1-inch, 2-way, NO 10 Cv
- F = 1-inch, 2-way, NC 10 Cv
- G = 1-inch, 3-way, NO 10 Cv
- H = 1-inch, 3-way, NC 10 Cv
- J = 1-1/4-inch, 2-way, NO 25 Cv
- K = 1-1/4-inch, 2-way, NC 25 Cv
- L = 1-1/4-inch, 3-way, NO 25 Cv
- M = 1-1/4-inch, 3-way, NC 25 Cv
- N = 1-1/2-inch, 2-way, NO 29 Cv
- P = 1-1/2-inch, 2-way, NC 29 Cv
- Q = 1-1/2-inch, 3-way, NO 29 Cv
- R = 1-1/2-inch, 3-way, NC 29 Cv
- T = 2-inch, 2-way, NO 46 Cv
- U = 2-inch, 2-way, NC 46 Cv
- V = 2-inch, 3-way, NO 46 Cv
- W = 2-inch, 3-way, NC 46 Cv
- X = 2-1/2-inch, 2-way, NO 54 Cv
- Y = 2-1/2-inch, 2-way, NC 54 Cv
- Z = 2-1/2-inch, 3-way, NO 54 Cv
- 1 = 2-1/2-inch, 3-way, NC 54 Cv
- 2 = Field-Supplied 2-way NO
- 3 = Field-Supplied 2-way NC
- 6 = Field-Supplied 3-way NO
- 7 = Field-Supplied 3-way NC

**Note:** NO = Normally open & NC = Normally closed in the valve's de-energized state.

### Digit 34 – Cooling Control Valve Options

- 0 = None
- A = 3/4-inch, 2-way, NO 7.4 Cv
- B = 3/4-inch, 2-way, NC 7.4 Cv
- C = 3/4-inch, 3-way, NO 7.4 Cv
- D = 3/4-inch, 3-way, NC 7.4 Cv
- E = 1-inch, 2-way, NO 10 Cv
- F = 1-inch, 2-way, NC 10 Cv
- G = 1-inch, 3-way, NO 10 Cv
- H = 1-inch, 3-way, NC 10 Cv
- J = 1-1/4-inch, 2-way, NO 25 Cv
- K = 1-1/4-inch, 2-way, NC 25 Cv
- L = 1-1/4-inch, 3-way, NO 25 Cv
- M = 1-1/4-inch, 3-way, NC 25 Cv
- N = 1-1/2-inch, 2-way, NO 29 Cv
- P = 1-1/2-inch, 2-way, NC 29 Cv
- Q = 1-1/2-inch, 3-way, NO 29 Cv
- R = 1-1/2-inch, 3-way, NC 29 Cv
- T = 2-inch, 2-way, NO 46 Cv
- U = 2-inch, 2-way, NC 46 Cv
- V = 2-inch, 3-way, NO 46 Cv
- W = 2-inch, 3-way, NC 46 Cv
- X = 2-1/2-inch, 2-way, NO 54 Cv
- Y = 2-1/2-inch, 2-way, NC 54 Cv
- Z = 2-1/2-inch, 3-way, NO 54 Cv
- 1 = 2-1/2-inch, 3-way, NC 54 Cv
- 2 = Field-Supplied, 2-way NO
- 3 = Field-Supplied, 2-way NC
- 6 = Field-Supplied, 3-way NO
- 7 = Field-Supplied, 3-way NC

**Note:** NO = Normally open & NC = Normally closed in the valve's de-energized state.

### Digit 35 – Reheat Control Valve Options

- 0 = None
- A = 3/4-inch, 2-way, NO 7.4 Cv
- B = 3/4-inch, 2-way, NC 7.4 Cv
- C = 3/4-inch, 3-way, NO 7.4 Cv
- D = 3/4-inch, 3-way, NC 7.4 Cv
- E = 1-inch, 2-way, NO 10 Cv
- F = 1-inch, 2-way, NC 10 Cv
- G = 1-inch, 3-way, NO 10 Cv
- H = 1-inch, 3-way, NC 10 Cv
- J = 1-1/4-inch, 2-way, NO 25 Cv
- K = 1-1/4-inch, 2-way, NC 25 Cv
- L = 1-1/4-inch, 3-way, NO 25 Cv
- M = 1-1/4-inch, 3-way, NC 25 Cv
- N = 1-1/2-inch, 2-way, NO 29 Cv
- P = 1-1/2-inch, 2-way, NC 29 Cv
- Q = 1-1/2-inch, 3-way, NO 29 Cv
- R = 1-1/2-inch, 3-way, NC 29 Cv
- T = 2-inch, 2-way, NO 46 Cv
- U = 2-inch, 2-way, NC 46 Cv
- V = 2-inch, 3-way, NO 46 Cv
- W = 2-inch, 3-way, NC 46 Cv
- X = 2-1/2-inch, 2-way, NO 54 Cv
- Y = 2-1/2-inch, 2-way, NC 54 Cv
- Z = 2-1/2-inch, 3-way, NO 54 Cv
- 1 = 2-1/2-inch, 3-way, NC 54 Cv
- 2 = Field-Supplied, 2-way NO
- 3 = Field-Supplied, 2-way NC
- 6 = Field-Supplied 3-way NO
- 7 = Field-Supplied 3-way NC

**Note:** NO = Normally open & NC = Normally closed in the valve's de-energized state.

### Digit 36 – External Exhaust Fan Support

- 0 = None
- 1 = Configure for Control
- 2 = Configure for Exhaust Fan Start / Stop & Status Support
- 3 = Generic Temperature Thermistor

### Digit 37 – Zone Sensor Options

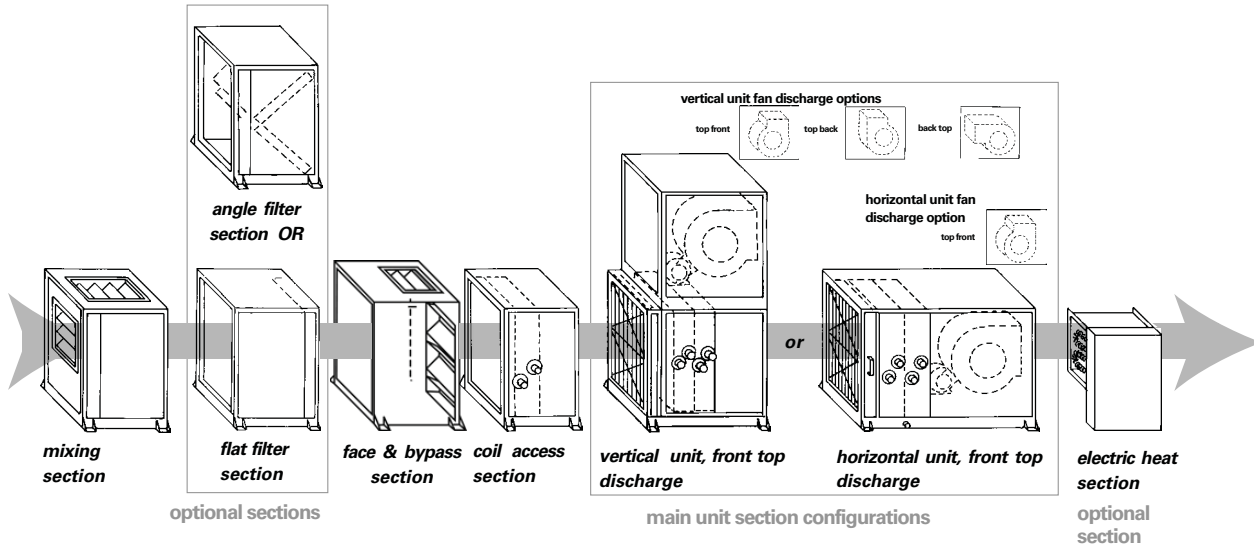
- 0 = None
- 1 = Sensor w/Off, Auto, Fahrenheit Knob, On / Cancel and Comm Jack
- 2 = Sensor w/Fahrenheit Knob, On / Cancel and Comm Jack
- 4 = Sensor Only
- 5 = Field-Supplied Zone Sensor
- 6 = Digital Zone Sensor
- F = Standalone Operator Display
- G = 1 & F
- H = 2 & F
- J = 4 & F
- K = 5 & F
- L = 6 & F

### Digit 38 – Field Installed Option

- 0 = None
- 1 = Finishing Kit

# General Data

## Packaged Climate Changer Unit Configurations and Optional Sections



## Available DX Coil Options

Figure 1. Single circuit DX coil

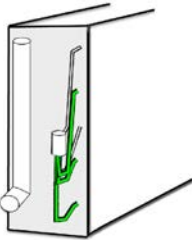


Figure 2. Intertwined DX coil

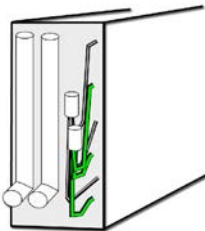


Figure 3. Horizontal face split DX coil

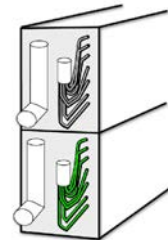


Table 1. Packaged climate changer DX coil configuration options

| Unit Size | Single Coil Fin |            |       |        | Horizontal Face Split Coil Fin |            |       |        | Intertwined Coil Fin |            |       |        |
|-----------|-----------------|------------|-------|--------|--------------------------------|------------|-------|--------|----------------------|------------|-------|--------|
|           | # Dist.         | # Circuits | Width | Length | # Dist.                        | # Circuits | Width | Length | # Dist.              | # Circuits | Width | Length |
| 3         | 1               | 3          | 17.5  | 23     | -                              | -          | -     | -      | -                    | -          | -     | -      |
| 6         | 1               | 5          | 22.5  | 36     | -                              | -          | -     | -      | -                    | -          | -     | -      |
| 8         | 1               | 7          | 27.5  | 39     | 2                              | 7          | 27.5  | 39     | 2                    | 7          | 27.5  | 39     |
| 10        | 1               | 10         | 27.5  | 51     | 2                              | 10         | 27.5  | 51     | 2                    | 10         | 27.5  | 51     |
| 12        | -               | -          | -     | -      | 2                              | 13         | 35    | 51     | 2                    | 13         | 35    | 51     |
| 14        | -               | -          | -     | -      | 2                              | 13         | 35    | 59     | 2                    | 13         | 35    | 59     |
| 17        | -               | -          | -     | -      | 2                              | 17         | 45    | 54     | 4                    | 17         | 45    | 54     |
| 21        | -               | -          | -     | -      | 2                              | 17         | 45    | 66     | 4                    | 17         | 45    | 66     |
| 25        | -               | -          | -     | -      | 2                              | 20         | 51.3  | 68     | 4                    | 20         | 51.5  | 68     |
| 30        | -               | -          | -     | -      | 4                              | 40         | 51.3  | 81     | 4                    | 40         | 51.3  | 81     |

**Notes:**

- Four-row coils have a 3/16" distributor. 6-row coils have a 1/4" distributor. Units size 3 through 10 can be equipped with a single distributor.
- Do not manifold two, independent refrigeration circuits into a single-circuited DX (evaporator) coil. Instead, use a single-circuited condensing unit or a DX coil with two distributors.

**Table 2. Packaged climate changer general data**

| Unit Size                              | 3         | 6         | 8         | 10                     | 12                     | 14                     | 17                     | 21                     | 25                      | 30                      |
|--|-----------|-----------|-----------|------------------------|------------------------|------------------------|------------------------|------------------------|-------------------------|-------------------------|
| Unit Nominal Airflow (cfm)             | 1500      | 3000      | 4000      | 5000                   | 6000                   | 7000                   | 8500                   | 10500                  | 12500                   | 15000                   |
| <b>Hydronic &amp; DX coil</b>          |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Coil area (ft <sup>2</sup> )           | 2.8       | 5.6       | 7.5       | 9.7                    | 12.4                   | 14.3                   | 16.9                   | 20.6                   | 24.2                    | 28.8                    |
| width (in.)                            | 17.5      | 22.5      | 27.5      | 27.5                   | 35.0                   | 35.0                   | 45.0                   | 45.0                   | 51.2                    | 51.2                    |
| length (in.)                           | 23.0      | 36.0      | 39.0      | 51.0                   | 51.0                   | 59.0                   | 54.0                   | 66.0                   | 68.0                    | 81.0                    |
| velocity (ft/min)                      | 536.7     | 533.3     | 537.1     | 513.3                  | 484.0                  | 488.1                  | 503.7                  | 509.1                  | 516.5                   | 520.3                   |
| dry weight (lb) <sup>(a)</sup>         |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| 1-row                                  | 23.5      | 35.0      | 41.8      | 51.5                   | 66.2                   | 72.1                   | 82.8                   | 93.2                   | 109.7                   | 122.5                   |
| 2-row                                  | 29.5      | 46.3      | 56.8      | 70.8                   | 91.0                   | 100.5                  | 116.6                  | 134.2                  | 168.5                   | 190.2                   |
| 4-row                                  | 46.6      | 75.8      | 94.7      | 120.5                  | 152.8                  | 170.7                  | 207.3                  | 240.7                  | 276.3                   | 317.0                   |
| 6-row                                  | 58.6      | 98.5      | 124.7     | 159.3                  | 202.4                  | 227.8                  | 274.9                  | 322.8                  | 372.7                   | 431.2                   |
| 8-row                                  | 73.6      | 125.4     | 159.5     | 204.7                  | 259.4                  | 292.9                  | 351.3                  | 414.5                  | 479.5                   | 556.8                   |
| Wet weight (lbs) <sup>(a)</sup>        |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| 1-row                                  | 29.2      | 43.6      | 52.5      | 64.0                   | 85.8                   | 93.2                   | 108.2                  | 121.5                  | 141.9                   | 158.2                   |
| 2-row                                  | 37.7      | 59.0      | 73.0      | 90.5                   | 119.9                  | 132.4                  | 161.1                  | 184.4                  | 226.6                   | 255.4                   |
| 4-row                                  | 59.8      | 97.6      | 123.1     | 155.7                  | 201.6                  | 225.4                  | 279.1                  | 323.9                  | 373.1                   | 427.8                   |
| 6-row                                  | 76.9      | 129.4     | 165.2     | 210.0                  | 271.2                  | 305.3                  | 374.0                  | 438.9                  | 508.2                   | 587.7                   |
| 8-row                                  | 96.9      | 165.5     | 212.2     | 271.0                  | 348.2                  | 393.3                  | 477.6                  | 563.5                  | 653.7                   | 759.0                   |
| Waterflow limits                       |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| 1-row                                  |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Minimum gpm <sup>(b)</sup>             | 6.1       | 7.9       | 9.6       | 9.6                    | 12.2                   | 12.2                   | 15.7                   | 15.7                   | 17.5                    | 17.5                    |
| Maximum gpm <sup>(c)</sup>             | 32.6      | 42.0      | 51.3      | 51.3                   | 65.3                   | 65.3                   | 83.9                   | 83.9                   | 93.3                    | 93.6                    |
| 2, 4, 6, & 8-row                       |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Minimum gpm <sup>(b)</sup>             | 6.1       | 14.9      | 18.4      | 18.4                   | 23.6                   | 23.6                   | 30.6                   | 30.6                   | 35.0                    | 35.0                    |
| Maximum gpm <sup>(c)</sup>             | 32.6      | 79.3      | 89.0      | 89.0                   | 125.9                  | 125.9                  | 163.2                  | 163.2 <sup>(d)</sup>   | 186.6 <sup>(d)</sup>    | 186.6                   |
| Volume (gallons)                       |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| 1-row                                  | 0.7       | 1.0       | 1.3       | 1.5                    | 2.3                    | 2.5                    | 3.1                    | 3.4                    | 3.9                     | 4.3                     |
| 2-row                                  | 1.0       | 1.5       | 2.0       | 2.4                    | 3.5                    | 3.8                    | 5.3                    | 6.0                    | 7.0                     | 7.8                     |
| 4-row                                  | 1.6       | 2.6       | 3.4       | 4.2                    | 5.9                    | 6.6                    | 8.6                    | 10.0                   | 11.6                    | 13.3                    |
| 6-row                                  | 2.2       | 3.7       | 4.9       | 6.1                    | 8.3                    | 9.3                    | 11.9                   | 13.9                   | 16.3                    | 18.8                    |
| 8-row                                  | 2.8       | 4.8       | 6.3       | 7.9                    | 10.6                   | 12.0                   | 15.2                   | 17.9                   | 20.9                    | 24.3                    |
| <b>Steam coil</b>                      |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Area (ft <sup>2</sup> )                | 1.9       | 4.5       | 6.5       | 8.5                    | 11.7                   | 13.5                   | 6.8                    | 8.4                    | 11.0                    | 13.2                    |
| Width (in.) <sup>(e)</sup>             | 12.0      | 18.0      | 24.0      | 24.0                   | 33.0                   | 33.0                   | 18.0                   | 18.0                   | 24.0                    | 24.0                    |
| Length (in.) <sup>(f)</sup>            | 23.0      | 36.0      | 39.0      | 51.0                   | 51.0                   | 59.0                   | 54.0                   | 67.0                   | 66.0                    | 79.0                    |
| Area (ft <sup>2</sup> ) <sup>(g)</sup> | —         | —         | —         | —                      | —                      | —                      | 9.0                    | 11.2                   | 11.0                    | 13.2                    |
| Width (in.) <sup>(e), (g)</sup>        | —         | —         | —         | —                      | —                      | —                      | 24.0                   | 24.0                   | 24.0                    | 24.0                    |
| Length (in.) <sup>(f), (g)</sup>       | —         | —         | —         | —                      | —                      | —                      | 54.0                   | 67.0                   | 66.0                    | 79.0                    |
| Weight (lb)                            | 31.7      | 54.8      | 74.8      | 86.0                   | 114.1                  | 123.3                  | 157.6                  | 179.9                  | 200.0                   | 224.2                   |
| <b>Fan / motor data</b>                |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Fan wheel size (in.) <sup>(h)</sup>    | 9x7       | 12x9      | 12x12     | 15x15                  | 18x15                  | 18x18                  | 20x15                  | 20x20                  | 20x18                   | 22x20                   |
| Maximum rpm                            | 2000      | 1500      | 1700      | 1400                   | 1200                   | 1200                   | 1100                   | 1000                   | 1300                    | 1150                    |
| Motor hp                               | 1/2 - 2   | 1/2 - 3   | 3/4 - 5   | 1 - 5                  | 1 - 7 1/2              | 1 - 7 1/2              | 1 - 10                 | 2 - 15                 | 3 - 20                  | 3 - 20                  |
| Minimum design cfm <sup>(i)</sup>      | 1050      | 2100      | 2800      | 3500                   | 4200                   | 4900                   | 5950                   | 7350                   | 8750                    | 10500                   |
| Maximum design cfm <sup>(j)</sup>      | 1800      | 3600      | 4800      | 6000                   | 7200                   | 8400                   | 10200                  | 12600                  | 15000                   | 18000                   |
| <b>2- and 4-in. Flat filter data</b>   |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Quantity - size (in.)                  | 1 - 20x25 | 2 - 20x25 | 2 - 20x25 | 1 - 16x25<br>2 - 20x25 | 2 - 16x20<br>1 - 16x25 | 2 - 16x20<br>1 - 16x25 | 2 - 16x20<br>2 - 16x25 | 2 - 16x20<br>2 - 20x20 | 2 - 16x25<br>6 - 20x25  | 6 - 16x25<br>4 - 20x25  |
| Area (ft <sup>2</sup> )                | 3.5       | 6.9       | 6.9       | 9.7                    | 16.3                   | 16.3                   | 22.5                   | 22.5                   | 26.4                    | 30.6                    |
| Nominal air velocity (ft/min)          | 432.0     | 432.0     | 576.0     | 514.3                  | 369.2                  | 430.8                  | 377.8                  | 466.7                  | 473.5                   | 490.2                   |
| <b>2-in. Angle filter section data</b> |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Quantity - size (in.)                  | 2 - 16x25 | 4 - 20x20 | 4 - 20x20 | 4 - 20x20<br>2 - 16x20 | 9 - 20x20              | 9 - 20x20              | 6 - 16x25<br>6 - 20x25 | 6 - 16x25<br>6 - 20x25 | 4 - 16x20<br>12 - 20x20 | 12 - 16x20<br>8 - 20x20 |
| Area (ft <sup>2</sup> )                | 5.6       | 11.1      | 11.1      | 15.6                   | 25.0                   | 25.0                   | 37.5                   | 37.5                   | 42.2                    | 48.9                    |
| Velocity (ft/min)                      | 270.0     | 270.0     | 360.0     | 321.3                  | 240.0                  | 280.0                  | 226.7                  | 280.0                  | 296.2                   | 306.7                   |
| Mixing section                         |           |           |           |                        |                        |                        |                        |                        |                         |                         |
| Nominal air velocity, (ft/min)         | 966.4     | 1066.3    | 1123.4    | 1120.4                 | 1184.1                 | 1161.7                 | 1171.1                 | 1120.1                 | 1218.5                  | 1247.1                  |

(a) Coil weight based on 12 fpi coil.

(b) The minimum waterflow is to assure self venting of the coil. There is no minimum water flow limit for coils that do not require self venting.

(c) To prevent erosion/noise problems.

(d) The water flow maximum limit for packaged climate changers size 17 and 21 with a 2-row coil is 1460 gpm.

(e) Coil width = length in the direction of a coil header, typically vertical.

(f) Coil length = length of coil in direction of the coil tubes, typically horizontal and perpendicular to airflow.

(g) Unit sizes 17–30 have two stacked steam coils.

(h) Fan wheel size is diameter x length of blade (width).

(i) Minimum airflow limit is for units with hot water, steam, or electric heat. There is no minimum airflow for cooling-only units.

(j) Due to moisture carryover limits.



## General Data

**Table 3. Available motor horsepower and unit voltage**

| Unit Voltage | Motor Horsepower |     |   |       |   |   |   |       |    |    |    |
|--------------|------------------|-----|---|-------|---|---|---|-------|----|----|----|
|              | 1/2              | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 |
| 208/60/1     | •                | •   | • |       |   |   |   |       |    |    |    |
| 230/60/1     | •                | •   | • |       |   |   |   |       |    |    |    |
| 277/60/1     | •                | •   | • |       |   |   |   |       |    |    |    |
| 208/60/3     | •                | •   | • | •     | • | • | • | •     | •  | •  | •  |
| 230/60/3     | •                | •   | • | •     | • | • | • | •     | •  | •  | •  |
| 460/60/3     | •                | •   | • | •     | • | • | • | •     | •  | •  | •  |
| 575/60/3     |                  |     | • | •     | • | • | • | •     | •  | •  | •  |
| 380/50/3     |                  |     | • | •     | • | • | • | •     | •  | •  | •  |
| 415/50/3     |                  |     | • | •     | • | • | • | •     | •  | •  | •  |

**Note:** 5 hp motors of 380 or 415 volts are not available for size 8 or 10 units.

**Table 4. Available motor horsepower by unit size**

| Unit Size | Motor Horsepower |     |   |       |   |   |   |       |    |    |    |
|-----------|------------------|-----|---|-------|---|---|---|-------|----|----|----|
|           | 1/2              | 3/4 | 1 | 1-1/2 | 2 | 3 | 5 | 7-1/2 | 10 | 15 | 20 |
| 3         | •                | •   | • | •     | • |   |   |       |    |    |    |
| 6         | •                | •   | • | •     | • | • |   |       |    |    |    |
| 8         |                  | •   | • | •     | • | • | • |       |    |    |    |
| 10        |                  |     | • | •     | • | • | • |       |    |    |    |
| 12        |                  |     | • | •     | • | • | • | •     |    |    |    |
| 14        |                  |     | • | •     | • | • | • | •     |    |    |    |
| 17        |                  |     | • | •     | • | • | • | •     | •  |    |    |
| 21        |                  |     |   |       | • | • | • | •     | •  | •  |    |
| 25        |                  |     |   |       |   | • | • | •     | •  | •  | •  |

**Note:** 5 hp motors of 380 or 415 volts are not available for size 8 or 10 units.



# Performance Data

**Table 5. Cooling coil airside pressure drop**

| Unit Size | cfm   | Face Velocity (fpm) | 4-row        |      |      | 6-row        |      |      | 8-row        |      |      |
|-----------|-------|---------------------|--------------|------|------|--------------|------|------|--------------|------|------|
|           |       |                     | fpf (in. wg) |      |      | fpf (in. wg) |      |      | fpf (in. wg) |      |      |
|           |       |                     | 108          | 144  | 168  | 108          | 144  | 168  | 108          | 144  | 168  |
| 3         | 1050  | 376                 | 0.33         | 0.38 | 0.45 | 0.49         | 0.57 | 0.67 | 0.65         | 0.76 | 0.89 |
|           | 1200  | 429                 | 0.40         | 0.47 | 0.55 | 0.60         | 0.71 | 0.83 | 0.80         | 0.94 | 1.11 |
|           | 1350  | 483                 | 0.47         | 0.57 | 0.67 | 0.71         | 0.85 | 1.00 | 0.95         | 1.13 | 1.33 |
|           | 1500  | 537                 | 0.55         | 0.66 | 0.78 | 0.83         | 1.00 | 1.17 | 1.11         | 1.33 | 1.57 |
|           | 1650  | 590                 | 0.63         | 0.76 | 0.90 | 0.95         | 1.15 | 1.35 | 1.26         | 1.53 | 1.81 |
|           | 1800  | 644                 | 0.71         | 0.86 | 1.02 | 1.07         | 1.30 | 1.53 | 1.43         | 1.73 | 2.05 |
| 6         | 2100  | 373                 | 0.32         | 0.38 | 0.44 | 0.48         | 0.57 | 0.66 | 0.65         | 0.76 | 0.88 |
|           | 2400  | 427                 | 0.40         | 0.47 | 0.55 | 0.59         | 0.70 | 0.82 | 0.79         | 0.93 | 1.09 |
|           | 2700  | 480                 | 0.47         | 0.56 | 0.66 | 0.71         | 0.84 | 0.99 | 0.94         | 1.12 | 1.32 |
|           | 3000  | 533                 | 0.55         | 0.66 | 0.78 | 0.82         | 0.99 | 1.16 | 1.10         | 1.32 | 1.55 |
|           | 3300  | 587                 | 0.63         | 0.76 | 0.89 | 0.94         | 1.14 | 1.34 | 1.25         | 1.51 | 1.79 |
|           | 3600  | 640                 | 0.71         | 0.86 | 1.01 | 1.06         | 1.28 | 1.52 | 1.41         | 1.71 | 2.03 |
| 8         | 2800  | 376                 | 0.33         | 0.38 | 0.45 | 0.49         | 0.57 | 0.67 | 0.65         | 0.76 | 0.89 |
|           | 3200  | 430                 | 0.40         | 0.47 | 0.55 | 0.60         | 0.71 | 0.83 | 0.80         | 0.94 | 1.11 |
|           | 3600  | 483                 | 0.48         | 0.57 | 0.67 | 0.71         | 0.85 | 1.00 | 0.95         | 1.13 | 1.33 |
|           | 4000  | 537                 | 0.55         | 0.66 | 0.78 | 0.83         | 1.00 | 1.18 | 1.11         | 1.33 | 1.57 |
|           | 4400  | 591                 | 0.63         | 0.76 | 0.90 | 0.95         | 1.15 | 1.36 | 1.27         | 1.53 | 1.81 |
|           | 4800  | 644                 | 0.71         | 0.87 | 1.02 | 1.07         | 1.30 | 1.54 | 1.43         | 1.73 | 2.05 |
| 10        | 3500  | 359                 | 0.30         | 0.36 | 0.41 | 0.46         | 0.53 | 0.62 | 0.61         | 0.71 | 0.83 |
|           | 4000  | 411                 | 0.37         | 0.44 | 0.51 | 0.56         | 0.66 | 0.77 | 0.75         | 0.88 | 1.03 |
|           | 4500  | 462                 | 0.44         | 0.53 | 0.62 | 0.67         | 0.79 | 0.93 | 0.89         | 1.06 | 1.24 |
|           | 5000  | 513                 | 0.52         | 0.62 | 0.73 | 0.78         | 0.93 | 1.10 | 1.04         | 1.24 | 1.46 |
|           | 5500  | 565                 | 0.59         | 0.72 | 0.84 | 0.89         | 1.07 | 1.27 | 1.19         | 1.43 | 1.69 |
|           | 6000  | 616                 | 0.67         | 0.81 | 0.96 | 1.01         | 1.22 | 1.44 | 1.34         | 1.62 | 1.92 |
| 12        | 4200  | 339                 | 0.28         | 0.32 | 0.38 | 0.42         | 0.48 | 0.56 | 0.56         | 0.65 | 0.75 |
|           | 4800  | 387                 | 0.34         | 0.40 | 0.47 | 0.51         | 0.60 | 0.70 | 0.68         | 0.80 | 0.94 |
|           | 5400  | 436                 | 0.41         | 0.48 | 0.57 | 0.61         | 0.72 | 0.85 | 0.81         | 0.97 | 1.13 |
|           | 6000  | 484                 | 0.48         | 0.57 | 0.67 | 0.71         | 0.85 | 1.00 | 0.95         | 1.14 | 1.34 |
|           | 6600  | 532                 | 0.55         | 0.66 | 0.77 | 0.82         | 0.98 | 1.16 | 1.09         | 1.31 | 1.55 |
|           | 7200  | 581                 | 0.62         | 0.75 | 0.88 | 0.93         | 1.12 | 1.32 | 1.24         | 1.49 | 1.76 |
| 14        | 4900  | 342                 | 0.28         | 0.33 | 0.38 | 0.42         | 0.49 | 0.57 | 0.56         | 0.65 | 0.76 |
|           | 5600  | 391                 | 0.35         | 0.41 | 0.47 | 0.52         | 0.61 | 0.71 | 0.69         | 0.81 | 0.95 |
|           | 6300  | 439                 | 0.41         | 0.49 | 0.57 | 0.62         | 0.73 | 0.86 | 0.83         | 0.98 | 1.15 |
|           | 7000  | 488                 | 0.48         | 0.58 | 0.68 | 0.72         | 0.86 | 1.02 | 0.96         | 1.15 | 1.35 |
|           | 7700  | 537                 | 0.55         | 0.66 | 0.78 | 0.83         | 1.00 | 1.18 | 1.11         | 1.33 | 1.57 |
|           | 8400  | 586                 | 0.63         | 0.75 | 0.89 | 0.94         | 1.13 | 1.34 | 1.25         | 1.51 | 1.78 |
| 17        | 5950  | 353                 | 0.30         | 0.34 | 0.40 | 0.44         | 0.52 | 0.60 | 0.59         | 0.69 | 0.80 |
|           | 6800  | 403                 | 0.36         | 0.43 | 0.50 | 0.54         | 0.64 | 0.75 | 0.72         | 0.85 | 1.00 |
|           | 7650  | 453                 | 0.43         | 0.51 | 0.60 | 0.65         | 0.77 | 0.90 | 0.86         | 1.03 | 1.21 |
|           | 8500  | 504                 | 0.50         | 0.60 | 0.71 | 0.76         | 0.91 | 1.07 | 1.01         | 1.21 | 1.42 |
|           | 9350  | 554                 | 0.58         | 0.70 | 0.82 | 0.87         | 1.04 | 1.23 | 1.16         | 1.39 | 1.64 |
|           | 10200 | 604                 | 0.65         | 0.79 | 0.93 | 0.98         | 1.18 | 1.40 | 1.31         | 1.58 | 1.87 |
| 21        | 7350  | 356                 | 0.30         | 0.35 | 0.41 | 0.45         | 0.53 | 0.61 | 0.60         | 0.70 | 0.82 |
|           | 8400  | 407                 | 0.37         | 0.43 | 0.51 | 0.55         | 0.65 | 0.76 | 0.74         | 0.87 | 1.02 |
|           | 9450  | 458                 | 0.44         | 0.52 | 0.61 | 0.66         | 0.78 | 0.92 | 0.88         | 1.04 | 1.23 |
|           | 10500 | 509                 | 0.51         | 0.61 | 0.72 | 0.77         | 0.92 | 1.08 | 1.02         | 1.23 | 1.44 |
|           | 11550 | 560                 | 0.59         | 0.71 | 0.83 | 0.88         | 1.06 | 1.25 | 1.17         | 1.41 | 1.67 |
|           | 12600 | 611                 | 0.66         | 0.80 | 0.95 | 0.99         | 1.20 | 1.42 | 1.33         | 1.60 | 1.90 |
| 25        | 8750  | 362                 | 0.31         | 0.36 | 0.42 | 0.46         | 0.54 | 0.63 | 0.61         | 0.72 | 0.84 |
|           | 10000 | 413                 | 0.38         | 0.44 | 0.52 | 0.56         | 0.67 | 0.78 | 0.75         | 0.89 | 1.04 |
|           | 11250 | 465                 | 0.45         | 0.53 | 0.63 | 0.67         | 0.80 | 0.94 | 0.90         | 1.07 | 1.25 |
|           | 12500 | 517                 | 0.52         | 0.63 | 0.74 | 0.78         | 0.94 | 1.11 | 1.05         | 1.25 | 1.48 |
|           | 13750 | 568                 | 0.60         | 0.72 | 0.85 | 0.90         | 1.08 | 1.28 | 1.20         | 1.44 | 1.71 |
|           | 15000 | 620                 | 0.68         | 0.82 | 0.97 | 1.01         | 1.23 | 1.45 | 1.35         | 1.64 | 1.94 |
| 30        | 10500 | 364                 | 0.31         | 0.36 | 0.42 | 0.47         | 0.54 | 0.64 | 0.62         | 0.73 | 0.85 |
|           | 12000 | 416                 | 0.38         | 0.45 | 0.53 | 0.57         | 0.67 | 0.79 | 0.76         | 0.90 | 1.05 |
|           | 13500 | 468                 | 0.45         | 0.54 | 0.63 | 0.68         | 0.81 | 0.95 | 0.91         | 1.08 | 1.27 |
|           | 15000 | 520                 | 0.53         | 0.63 | 0.75 | 0.79         | 0.95 | 1.12 | 1.06         | 1.27 | 1.49 |
|           | 16500 | 572                 | 0.61         | 0.73 | 0.86 | 0.91         | 1.10 | 1.29 | 1.21         | 1.46 | 1.72 |
|           | 18000 | 624                 | 0.68         | 0.83 | 0.98 | 1.03         | 1.24 | 1.47 | 1.37         | 1.65 | 1.96 |

**Note:** Cooling coil APA based on 100% wetted fin surface.



## Performance Data

### Airside Pressure Drop

**Table 6. Hot water and steam coil air pressure drop**

| Unit | Size  | Face Velocity (fpm) | Hot Water Coil |       |       |              |      |      |              |      |      |              |      |      |              |      |      | Steam Coil          |              |
|------|-------|---------------------|----------------|-------|-------|--------------|------|------|--------------|------|------|--------------|------|------|--------------|------|------|---------------------|--------------|
|      |       |                     | 1-row          |       |       | 2-row        |      |      | 4-row        |      |      | 6-row        |      |      | 8-row        |      |      | Face Velocity (fpm) | fpf (in. wg) |
|      |       |                     | fpf (in. wg)   |       |       | fpf (in. wg) |      |      | fpf (in. wg) |      |      | fpf (in. wg) |      |      | fpf (in. wg) |      |      |                     |              |
| 108  | 144   | 168                 | 108            | 144   | 168   | 108          | 144  | 168  | 108          | 144  | 168  | 108          | 144  | 168  | 72           |      |      |                     |              |
| 3    | 1050  | 376                 | 0.058          | 0.084 | 0.100 | 0.11         | 0.13 | 0.16 | 0.21         | 0.27 | 0.32 | 0.32         | 0.40 | 0.48 | 0.42         | 0.54 | 0.64 | 548                 | 0.17         |
|      | 1200  | 429                 | 0.075          | 0.107 | 0.125 | 0.13         | 0.17 | 0.20 | 0.26         | 0.33 | 0.39 | 0.40         | 0.50 | 0.59 | 0.53         | 0.66 | 0.78 | 626                 | 0.21         |
|      | 1350  | 483                 | 0.094          | 0.131 | 0.153 | 0.16         | 0.20 | 0.24 | 0.32         | 0.40 | 0.47 | 0.49         | 0.60 | 0.71 | 0.65         | 0.80 | 0.95 | 704                 | 0.27         |
|      | 1500  | 537                 | 0.115          | 0.158 | 0.182 | 0.19         | 0.24 | 0.28 | 0.39         | 0.48 | 0.56 | 0.58         | 0.71 | 0.84 | 0.78         | 0.95 | 1.12 | 783                 | 0.32         |
|      | 1650  | 590                 | 0.137          | 0.187 | 0.214 | 0.23         | 0.28 | 0.33 | 0.46         | 0.56 | 0.65 | 0.69         | 0.84 | 0.98 | 0.92         | 1.11 | 1.31 | 861                 | 0.38         |
|      | 1800  | 644                 | 0.161          | 0.218 | 0.248 | 0.27         | 0.32 | 0.38 | 0.53         | 0.64 | 0.76 | 0.80         | 0.97 | 1.13 | 1.07         | 1.29 | 1.51 | 939                 | 0.44         |
| 6    | 2100  | 373                 | 0.058          | 0.083 | 0.099 | 0.10         | 0.13 | 0.16 | 0.21         | 0.27 | 0.32 | 0.31         | 0.40 | 0.47 | 0.42         | 0.53 | 0.63 | 467                 | 0.13         |
|      | 2400  | 427                 | 0.074          | 0.105 | 0.124 | 0.13         | 0.16 | 0.19 | 0.26         | 0.33 | 0.39 | 0.39         | 0.49 | 0.58 | 0.52         | 0.66 | 0.78 | 533                 | 0.16         |
|      | 2700  | 480                 | 0.093          | 0.130 | 0.151 | 0.16         | 0.20 | 0.23 | 0.32         | 0.40 | 0.47 | 0.48         | 0.59 | 0.70 | 0.64         | 0.79 | 0.94 | 600                 | 0.20         |
|      | 3000  | 533                 | 0.113          | 0.156 | 0.180 | 0.19         | 0.24 | 0.28 | 0.38         | 0.47 | 0.55 | 0.58         | 0.71 | 0.83 | 0.77         | 0.94 | 1.11 | 667                 | 0.24         |
|      | 3300  | 587                 | 0.135          | 0.185 | 0.212 | 0.23         | 0.28 | 0.32 | 0.45         | 0.55 | 0.65 | 0.68         | 0.83 | 0.97 | 0.91         | 1.10 | 1.30 | 733                 | 0.28         |
|      | 3600  | 640                 | 0.159          | 0.215 | 0.246 | 0.26         | 0.32 | 0.37 | 0.53         | 0.64 | 0.75 | 0.79         | 0.96 | 1.12 | 1.05         | 1.28 | 1.50 | 800                 | 0.33         |
| 8    | 2800  | 376                 | 0.058          | 0.084 | 0.101 | 0.11         | 0.13 | 0.16 | 0.21         | 0.27 | 0.32 | 0.32         | 0.40 | 0.48 | 0.42         | 0.54 | 0.64 | 431                 | 0.11         |
|      | 3200  | 430                 | 0.075          | 0.107 | 0.125 | 0.13         | 0.17 | 0.20 | 0.27         | 0.33 | 0.39 | 0.40         | 0.50 | 0.59 | 0.53         | 0.66 | 0.79 | 492                 | 0.14         |
|      | 3600  | 483                 | 0.094          | 0.131 | 0.153 | 0.16         | 0.20 | 0.24 | 0.32         | 0.40 | 0.47 | 0.49         | 0.60 | 0.71 | 0.65         | 0.80 | 0.95 | 554                 | 0.17         |
|      | 4000  | 537                 | 0.115          | 0.158 | 0.182 | 0.19         | 0.24 | 0.28 | 0.39         | 0.48 | 0.56 | 0.58         | 0.71 | 0.84 | 0.78         | 0.95 | 1.12 | 615                 | 0.21         |
|      | 4400  | 591                 | 0.137          | 0.187 | 0.214 | 0.23         | 0.28 | 0.33 | 0.46         | 0.56 | 0.66 | 0.69         | 0.84 | 0.98 | 0.92         | 1.12 | 1.31 | 677                 | 0.25         |
|      | 4800  | 644                 | 0.161          | 0.218 | 0.249 | 0.27         | 0.32 | 0.38 | 0.53         | 0.65 | 0.76 | 0.80         | 0.97 | 1.13 | 1.07         | 1.29 | 1.51 | 738                 | 0.29         |
| 10   | 3500  | 359                 | 0.054          | 0.078 | 0.093 | 0.10         | 0.12 | 0.15 | 0.20         | 0.25 | 0.30 | 0.29         | 0.37 | 0.45 | 0.39         | 0.50 | 0.60 | 412                 | 0.10         |
|      | 4000  | 411                 | 0.069          | 0.099 | 0.116 | 0.12         | 0.15 | 0.18 | 0.25         | 0.31 | 0.37 | 0.37         | 0.46 | 0.55 | 0.49         | 0.62 | 0.73 | 471                 | 0.13         |
|      | 4500  | 462                 | 0.086          | 0.121 | 0.142 | 0.15         | 0.19 | 0.22 | 0.30         | 0.37 | 0.44 | 0.45         | 0.56 | 0.66 | 0.60         | 0.75 | 0.88 | 529                 | 0.16         |
|      | 5000  | 513                 | 0.105          | 0.146 | 0.169 | 0.18         | 0.22 | 0.26 | 0.36         | 0.44 | 0.52 | 0.54         | 0.66 | 0.78 | 0.72         | 0.88 | 1.04 | 588                 | 0.19         |
|      | 5500  | 565                 | 0.126          | 0.172 | 0.198 | 0.21         | 0.26 | 0.30 | 0.42         | 0.52 | 0.61 | 0.64         | 0.78 | 0.91 | 0.85         | 1.03 | 1.22 | 647                 | 0.23         |
|      | 6000  | 616                 | 0.148          | 0.201 | 0.230 | 0.25         | 0.30 | 0.35 | 0.49         | 0.60 | 0.70 | 0.74         | 0.90 | 1.05 | 0.99         | 1.20 | 1.40 | 706                 | 0.27         |
| 12   | 4200  | 339                 | 0.048          | 0.070 | 0.085 | 0.09         | 0.11 | 0.14 | 0.18         | 0.23 | 0.27 | 0.27         | 0.34 | 0.41 | 0.36         | 0.46 | 0.54 | 359                 | 0.08         |
|      | 4800  | 387                 | 0.062          | 0.089 | 0.106 | 0.11         | 0.14 | 0.17 | 0.22         | 0.28 | 0.33 | 0.33         | 0.42 | 0.50 | 0.44         | 0.56 | 0.67 | 411                 | 0.10         |
|      | 5400  | 436                 | 0.077          | 0.109 | 0.128 | 0.14         | 0.17 | 0.20 | 0.27         | 0.34 | 0.40 | 0.41         | 0.51 | 0.60 | 0.54         | 0.68 | 0.80 | 462                 | 0.12         |
|      | 6000  | 484                 | 0.094          | 0.131 | 0.153 | 0.16         | 0.20 | 0.24 | 0.32         | 0.40 | 0.47 | 0.49         | 0.60 | 0.71 | 0.65         | 0.80 | 0.95 | 513                 | 0.15         |
|      | 6600  | 532                 | 0.113          | 0.155 | 0.180 | 0.19         | 0.23 | 0.28 | 0.38         | 0.47 | 0.55 | 0.57         | 0.70 | 0.83 | 0.77         | 0.94 | 1.11 | 565                 | 0.18         |
|      | 7200  | 581                 | 0.133          | 0.181 | 0.208 | 0.22         | 0.27 | 0.32 | 0.44         | 0.54 | 0.64 | 0.67         | 0.81 | 0.96 | 0.89         | 1.08 | 1.27 | 616                 | 0.21         |
| 14   | 4900  | 342                 | 0.049          | 0.071 | 0.086 | 0.09         | 0.12 | 0.14 | 0.18         | 0.23 | 0.28 | 0.27         | 0.35 | 0.41 | 0.36         | 0.46 | 0.55 | 362                 | 0.08         |
|      | 5600  | 391                 | 0.063          | 0.090 | 0.107 | 0.11         | 0.14 | 0.17 | 0.23         | 0.28 | 0.34 | 0.34         | 0.43 | 0.51 | 0.45         | 0.57 | 0.68 | 414                 | 0.10         |
|      | 6300  | 439                 | 0.078          | 0.111 | 0.130 | 0.14         | 0.17 | 0.20 | 0.28         | 0.34 | 0.41 | 0.41         | 0.52 | 0.61 | 0.55         | 0.69 | 0.81 | 466                 | 0.13         |
|      | 7000  | 488                 | 0.096          | 0.133 | 0.155 | 0.16         | 0.20 | 0.24 | 0.33         | 0.41 | 0.48 | 0.49         | 0.61 | 0.72 | 0.66         | 0.81 | 0.96 | 518                 | 0.15         |
|      | 7700  | 537                 | 0.115          | 0.158 | 0.182 | 0.19         | 0.24 | 0.28 | 0.39         | 0.48 | 0.56 | 0.58         | 0.71 | 0.84 | 0.78         | 0.95 | 1.12 | 569                 | 0.18         |
|      | 8400  | 586                 | 0.135          | 0.184 | 0.211 | 0.23         | 0.27 | 0.32 | 0.45         | 0.55 | 0.65 | 0.68         | 0.82 | 0.97 | 0.90         | 1.10 | 1.29 | 621                 | 0.21         |
| 17   | 5950  | 353                 | 0.052          | 0.075 | 0.091 | 0.09         | 0.12 | 0.14 | 0.19         | 0.24 | 0.29 | 0.28         | 0.36 | 0.43 | 0.38         | 0.49 | 0.58 | 378                 | 0.09         |
|      | 6800  | 403                 | 0.067          | 0.095 | 0.113 | 0.12         | 0.15 | 0.18 | 0.24         | 0.30 | 0.36 | 0.36         | 0.45 | 0.53 | 0.48         | 0.60 | 0.71 | 432                 | 0.11         |
|      | 7650  | 453                 | 0.083          | 0.117 | 0.137 | 0.15         | 0.18 | 0.21 | 0.29         | 0.36 | 0.43 | 0.44         | 0.54 | 0.64 | 0.58         | 0.72 | 0.85 | 486                 | 0.14         |
|      | 8500  | 504                 | 0.102          | 0.141 | 0.164 | 0.17         | 0.21 | 0.25 | 0.35         | 0.43 | 0.51 | 0.52         | 0.64 | 0.76 | 0.70         | 0.86 | 1.01 | 540                 | 0.16         |
|      | 9350  | 554                 | 0.122          | 0.167 | 0.192 | 0.20         | 0.25 | 0.29 | 0.41         | 0.50 | 0.59 | 0.61         | 0.75 | 0.88 | 0.82         | 1.00 | 1.18 | 594                 | 0.19         |
|      | 10200 | 604                 | 0.143          | 0.194 | 0.223 | 0.24         | 0.29 | 0.34 | 0.48         | 0.58 | 0.68 | 0.72         | 0.87 | 1.02 | 0.95         | 1.16 | 1.36 | 648                 | 0.23         |
| 21   | 7350  | 356                 | 0.053          | 0.077 | 0.092 | 0.10         | 0.12 | 0.15 | 0.19         | 0.25 | 0.29 | 0.29         | 0.37 | 0.44 | 0.39         | 0.49 | 0.59 | 382                 | 0.09         |
|      | 8400  | 407                 | 0.068          | 0.097 | 0.115 | 0.12         | 0.15 | 0.18 | 0.24         | 0.30 | 0.36 | 0.36         | 0.46 | 0.54 | 0.48         | 0.61 | 0.72 | 436                 | 0.11         |
|      | 9450  | 458                 | 0.085          | 0.119 | 0.140 | 0.15         | 0.18 | 0.22 | 0.30         | 0.37 | 0.43 | 0.44         | 0.55 | 0.65 | 0.59         | 0.74 | 0.87 | 491                 | 0.14         |
|      | 10500 | 509                 | 0.104          | 0.144 | 0.167 | 0.18         | 0.22 | 0.26 | 0.35         | 0.44 | 0.51 | 0.53         | 0.65 | 0.77 | 0.71         | 0.87 | 1.03 | 545                 | 0.17         |
|      | 11550 | 560                 | 0.124          | 0.170 | 0.196 | 0.21         | 0.26 | 0.30 | 0.42         | 0.51 | 0.60 | 0.63         | 0.77 | 0.90 | 0.84         | 1.02 | 1.20 | 600                 | 0.20         |
|      | 12600 | 611                 | 0.146          | 0.198 | 0.227 | 0.24         | 0.30 | 0.35 | 0.49         | 0.59 | 0.69 | 0.73         | 0.89 | 1.04 | 0.97         | 1.18 | 1.38 | 655                 | 0.23         |
| 25   | 8750  | 362                 | 0.054          | 0.079 | 0.094 | 0.10         | 0.13 | 0.15 | 0.20         | 0.25 | 0.30 | 0.30         | 0.38 | 0.45 | 0.40         | 0.50 | 0.60 | 398                 | 0.10         |
|      | 10000 | 413                 | 0.070          | 0.100 | 0.118 | 0.12         | 0.16 | 0.18 | 0.25         | 0.31 | 0.37 | 0.37         | 0.47 | 0.55 | 0.50         | 0.62 | 0.74 | 455                 | 0.12         |
|      | 11250 | 465                 | 0.087          | 0.122 | 0.143 | 0.15         | 0.19 | 0.22 | 0.30         | 0.38 | 0.44 | 0.45         | 0.56 | 0.67 | 0.61         | 0.75 | 0.89 | 511                 | 0.15         |
|      | 12500 | 517                 | 0.107          | 0.147 | 0.171 | 0.18         | 0.22 | 0.26 | 0.36         | 0.45 | 0.53 | 0.54         | 0.67 | 0.79 | 0.73         | 0.89 | 1.05 | 568                 | 0.18         |
|      | 13750 | 568                 | 0.127          | 0.174 | 0.200 | 0.21         | 0.26 | 0.31 | 0.43         | 0.52 | 0.61 | 0.64         | 0.78 | 0.92 | 0.86         | 1.05 | 1.23 | 625                 | 0.21         |
|      | 15000 | 620                 | 0.150          | 0.203 | 0.232 | 0.25         | 0.30 | 0.35 | 0.50         | 0.60 | 0.71 | 0.75         | 0.91 | 1.06 | 1.00         | 1.21 | 1.42 | 682                 | 0.25         |
| 30   | 10500 | 364                 | 0.055          | 0.080 | 0.095 | 0.10         | 0.13 | 0.15 | 0.20         | 0.26 | 0.30 | 0.30         | 0.38 | 0.46 | 0.40         | 0.51 | 0.61 | 399                 | 0.10         |
|      | 12000 | 416                 | 0.071          | 0.101 | 0.119 | 0.13         | 0.16 | 0.19 | 0.25         | 0.32 | 0.37 | 0.38         | 0.47 | 0.56 | 0.50         | 0.63 | 0.75 | 456                 | 0.12         |
|      | 13500 | 468                 | 0.089          | 0.124 | 0.145 | 0.15         | 0.19 | 0.22 | 0.31         | 0.38 | 0.45 | 0.46         | 0.57 | 0.67 | 0.61         | 0.76 | 0.90 | 513                 | 0.15         |
|      | 15000 | 520                 | 0.108          | 0.149 | 0.173 | 0.18         | 0.23 | 0.27 | 0.37         | 0.45 | 0.53 | 0.55         | 0.68 | 0.80 | 0.74         | 0.90 | 1.07 | 570                 | 0.18         |
|      | 16500 | 572                 | 0.129          | 0.177 | 0.203 | 0.22         | 0.26 | 0.31 | 0.43         | 0.53 | 0.62 | 0.65         | 0.79 | 0.93 | 0.87         | 1.06 | 1.24 | 627                 | 0.21         |
|      | 18000 | 624                 | 0.152          | 0.206 | 0.235 | 0.25         | 0.31 | 0.36 | 0.50         | 0.61 | 0.72 | 0.76         | 0.92 | 1.08 | 1.01         | 1.22 | 1.43 | 684                 | 0.25         |

**Notes:**

1. APD = air pressure drop at standard conditions (in. wg).
2. Cooling coil APD is for wet fin surface.
3. Heating coil APD is for dry fin surface.
4. Four, six, & eight-row heating APD is equal to 2, 3, or 4 times two-row heating APD.

**Performance Data**  
*Airside Pressure Drop*

**Table 7. Accessory section air pressure drop**

| Unit Size | Air Flow (cfm) | Flat Filters             |             |             |             |             |             | Angle Filter             |             |             | Mixing Section           |             |
|-----------|----------------|--------------------------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------|-------------|--------------------------|-------------|
|           |                | Filter Velocity (ft/min) | 2"          |             | 4"          |             |             | Filter Velocity (ft/min) | 2"          |             | 2" MERV 8                |             |
|           |                |                          | MERV 8      | MERV 13     | MERV 8      | MERV 11     | MERV 13     |                          | MERV 8      | MERV 13     | Filter Velocity (ft/min) | ΔP (in. wg) |
|           |                | ΔP (in. wg)              | ΔP (in. wg) | ΔP (in. wg) | ΔP (in. wg) | ΔP (in. wg) | ΔP (in. wg) | ΔP (in. wg)              | ΔP (in. wg) | ΔP (in. wg) | Filter Velocity (ft/min) | ΔP (in. wg) |
| 3         | 1050           | 303                      | 0.12        | 0.18        | 0.10        | 0.20        | 0.11        | 189                      | 0.05        | 0.10        | 677                      | 0.06        |
|           | 1200           | 346                      | 0.15        | 0.22        | 0.13        | 0.25        | 0.13        | 216                      | 0.06        | 0.12        | 774                      | 0.08        |
|           | 1350           | 389                      | 0.19        | 0.25        | 0.16        | 0.30        | 0.16        | 243                      | 0.08        | 0.14        | 871                      | 0.10        |
|           | 1500           | 432                      | 0.24        | 0.29        | 0.20        | 0.36        | 0.18        | 270                      | 0.10        | 0.16        | 968                      | 0.12        |
|           | 1650           | 476                      | 0.28        | 0.33        | 0.24        | 0.41        | 0.21        | 297                      | 0.12        | 0.18        | 1065                     | 0.15        |
| 1800      | 519            | 0.33                     | 0.37        | 0.28        | 0.48        | 0.23        | 324         | 0.14                     | 0.20        | 1161        | 0.18                     |             |
| 6         | 2100           | 303                      | 0.12        | 0.18        | 0.10        | 0.20        | 0.11        | 189                      | 0.05        | 0.10        | 747                      | 0.07        |
|           | 2400           | 346                      | 0.15        | 0.22        | 0.13        | 0.25        | 0.13        | 216                      | 0.06        | 0.12        | 854                      | 0.09        |
|           | 2700           | 389                      | 0.19        | 0.25        | 0.16        | 0.30        | 0.16        | 243                      | 0.08        | 0.14        | 961                      | 0.12        |
|           | 3000           | 432                      | 0.24        | 0.29        | 0.20        | 0.36        | 0.18        | 270                      | 0.10        | 0.16        | 1068                     | 0.15        |
|           | 3300           | 476                      | 0.28        | 0.33        | 0.24        | 0.41        | 0.21        | 297                      | 0.12        | 0.18        | 1174                     | 0.19        |
| 3600      | 519            | 0.33                     | 0.37        | 0.28        | 0.48        | 0.23        | 324         | 0.14                     | 0.20        | 1281        | 0.23                     |             |
| 8         | 2800           | 403                      | 0.21        | 0.26        | 0.18        | 0.32        | 0.16        | 252                      | 0.08        | 0.14        | 787                      | 0.08        |
|           | 3200           | 461                      | 0.27        | 0.31        | 0.23        | 0.40        | 0.20        | 288                      | 0.11        | 0.17        | 899                      | 0.10        |
|           | 3600           | 519                      | 0.33        | 0.37        | 0.28        | 0.48        | 0.23        | 324                      | 0.14        | 0.20        | 1011                     | 0.14        |
|           | 4000           | 576                      | 0.41        | 0.42        | 0.34        | 0.56        | 0.27        | 360                      | 0.17        | 0.23        | 1124                     | 0.17        |
|           | 4400           | 634                      | 0.49        | 0.48        | 0.41        | 0.65        | 0.30        | 396                      | 0.20        | 0.26        | 1236                     | 0.21        |
| 4800      | 692            | 0.58                     | 0.53        | 0.48        | 0.74        | 0.34        | 432         | 0.24                     | 0.29        | 1348        | 0.25                     |             |
| 10        | 3500           | 360                      | 0.17        | 0.23        | 0.14        | 0.27        | 0.14        | 225                      | 0.07        | 0.12        | 785                      | 0.06        |
|           | 4000           | 412                      | 0.22        | 0.27        | 0.18        | 0.33        | 0.17        | 257                      | 0.09        | 0.15        | 897                      | 0.08        |
|           | 4500           | 463                      | 0.27        | 0.32        | 0.23        | 0.40        | 0.20        | 289                      | 0.11        | 0.17        | 1009                     | 0.10        |
|           | 5000           | 514                      | 0.33        | 0.36        | 0.28        | 0.47        | 0.23        | 321                      | 0.13        | 0.20        | 1121                     | 0.12        |
|           | 5500           | 566                      | 0.39        | 0.41        | 0.33        | 0.54        | 0.26        | 353                      | 0.16        | 0.22        | 1233                     | 0.15        |
| 6000      | 617            | 0.47                     | 0.46        | 0.39        | 0.62        | 0.29        | 386         | 0.19                     | 0.25        | 1420        | 0.19                     |             |
| 12        | 4200           | 258                      | 0.09        | 0.15        | 0.08        | 0.16        | 0.09        | 202                      | 0.06        | 0.11        | 828                      | 0.06        |
|           | 4800           | 295                      | 0.11        | 0.18        | 0.10        | 0.20        | 0.11        | 230                      | 0.07        | 0.13        | 947                      | 0.08        |
|           | 5400           | 332                      | 0.14        | 0.21        | 0.12        | 0.24        | 0.13        | 259                      | 0.09        | 0.15        | 1065                     | 0.11        |
|           | 6000           | 369                      | 0.18        | 0.24        | 0.15        | 0.28        | 0.15        | 288                      | 0.11        | 0.17        | 1183                     | 0.13        |
|           | 6600           | 406                      | 0.21        | 0.27        | 0.18        | 0.32        | 0.17        | 317                      | 0.13        | 0.19        | 1302                     | 0.16        |
| 7200      | 443            | 0.25                     | 0.30        | 0.21        | 0.37        | 0.19        | 346         | 0.15                     | 0.22        | 1420        | 0.19                     |             |
| 14        | 4900           | 302                      | 0.12        | 0.18        | 0.10        | 0.20        | 0.11        | 196                      | 0.05        | 0.10        | 813                      | 0.05        |
|           | 5600           | 345                      | 0.15        | 0.22        | 0.13        | 0.25        | 0.13        | 224                      | 0.07        | 0.12        | 929                      | 0.06        |
|           | 6300           | 388                      | 0.19        | 0.25        | 0.16        | 0.30        | 0.16        | 252                      | 0.08        | 0.14        | 1045                     | 0.08        |
|           | 7000           | 431                      | 0.23        | 0.29        | 0.20        | 0.36        | 0.18        | 280                      | 0.10        | 0.16        | 1161                     | 0.09        |
|           | 7700           | 474                      | 0.28        | 0.33        | 0.24        | 0.41        | 0.20        | 308                      | 0.12        | 0.19        | 1277                     | 0.10        |
| 8400      | 517            | 0.33                     | 0.37        | 0.28        | 0.47        | 0.23        | 336         | 0.15                     | 0.21        | 1393        | 0.12                     |             |
| 17        | 5950           | 264                      | 0.09        | 0.15        | 0.08        | 0.17        | 0.09        | 204                      | 0.06        | 0.11        | 820                      | 0.05        |
|           | 6800           | 302                      | 0.12        | 0.18        | 0.10        | 0.20        | 0.11        | 233                      | 0.07        | 0.13        | 937                      | 0.06        |
|           | 7650           | 340                      | 0.15        | 0.21        | 0.13        | 0.25        | 0.13        | 262                      | 0.09        | 0.15        | 1054                     | 0.07        |
|           | 8500           | 378                      | 0.18        | 0.24        | 0.15        | 0.29        | 0.15        | 291                      | 0.11        | 0.17        | 1171                     | 0.08        |
|           | 9350           | 416                      | 0.22        | 0.28        | 0.19        | 0.34        | 0.17        | 321                      | 0.13        | 0.20        | 1288                     | 0.10        |
| 10200     | 453            | 0.26                     | 0.31        | 0.22        | 0.39        | 0.19        | 350         | 0.16                     | 0.22        | 1405        | 0.11                     |             |
| 21        | 7350           | 327                      | 0.14        | 0.20        | 0.12        | 0.23        | 0.12        | 196                      | 0.05        | 0.10        | 784                      | 0.10        |
|           | 8400           | 373                      | 0.18        | 0.24        | 0.15        | 0.28        | 0.15        | 224                      | 0.07        | 0.12        | 896                      | 0.13        |
|           | 9450           | 420                      | 0.22        | 0.28        | 0.19        | 0.34        | 0.17        | 252                      | 0.08        | 0.14        | 1009                     | 0.17        |
|           | 10500          | 467                      | 0.27        | 0.32        | 0.23        | 0.40        | 0.20        | 280                      | 0.10        | 0.16        | 1121                     | 0.21        |
|           | 11550          | 513                      | 0.33        | 0.36        | 0.28        | 0.47        | 0.23        | 308                      | 0.12        | 0.19        | 1233                     | 0.26        |
| 12600     | 560            | 0.39                     | 0.41        | 0.33        | 0.54        | 0.26        | 336         | 0.15                     | 0.21        | 1345        | 0.31                     |             |
| 25        | 8750           | 332                      | 0.14        | 0.21        | 0.12        | 0.24        | 0.13        | 207                      | 0.06        | 0.11        | 853                      | 0.10        |
|           | 10000          | 379                      | 0.18        | 0.24        | 0.16        | 0.29        | 0.15        | 237                      | 0.08        | 0.13        | 975                      | 0.13        |
|           | 11250          | 426                      | 0.23        | 0.28        | 0.19        | 0.35        | 0.18        | 266                      | 0.09        | 0.15        | 1096                     | 0.17        |
|           | 12500          | 474                      | 0.28        | 0.33        | 0.24        | 0.41        | 0.20        | 296                      | 0.12        | 0.18        | 1218                     | 0.21        |
|           | 13750          | 521                      | 0.34        | 0.37        | 0.28        | 0.48        | 0.23        | 326                      | 0.14        | 0.20        | 1340                     | 0.26        |
| 15000     | 568            | 0.40                     | 0.41        | 0.33        | 0.55        | 0.26        | 355         | 0.16                     | 0.22        | 1462        | 0.31                     |             |
| 30        | 10500          | 344                      | 0.15        | 0.21        | 0.13        | 0.25        | 0.13        | 215                      | 0.06        | 0.12        | 873                      | 0.10        |
|           | 12000          | 393                      | 0.20        | 0.26        | 0.17        | 0.31        | 0.16        | 245                      | 0.08        | 0.14        | 998                      | 0.14        |
|           | 13500          | 442                      | 0.25        | 0.30        | 0.21        | 0.37        | 0.19        | 276                      | 0.10        | 0.16        | 1122                     | 0.18        |
|           | 15000          | 491                      | 0.30        | 0.34        | 0.25        | 0.44        | 0.21        | 307                      | 0.12        | 0.19        | 1247                     | 0.22        |
|           | 16500          | 540                      | 0.36        | 0.39        | 0.30        | 0.51        | 0.24        | 337                      | 0.15        | 0.21        | 1372                     | 0.27        |
| 18000     | 589            | 0.43                     | 0.43        | 0.36        | 0.58        | 0.27        | 368         | 0.17                     | 0.23        | 1496        | 0.33                     |             |



## Performance Data

### Airside Pressure Drop

**Table 7. Accessory section air pressure drop (continued)**

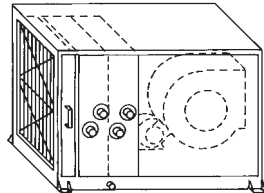
| Unit Size | Air Flow (cfm) | Electric Heat            |             | Face & Bypass Section |             |                        |             |
|-----------|----------------|--------------------------|-------------|-----------------------|-------------|------------------------|-------------|
|           |                | Filter Velocity (ft/min) | ΔP (in. wg) | Face Damper (ft/min)  | ΔP (in. wg) | Bypass Damper (ft/min) | ΔP (in. wg) |
| 3         | 1050           | 1553                     | 0.12        | 401                   | 0.01        | 676                    | 0.08        |
|           | 1200           | 1775                     | 0.13        | 458                   | 0.11        | 773                    | 0.11        |
|           | 1350           | 1997                     | 0.15        | 515                   | 0.01        | 870                    | 0.14        |
|           | 1500           | 2219                     | 0.17        | 573                   | 0.17        | 966                    | 0.18        |
|           | 1650           | 2441                     | 0.18        | 630                   | 0.21        | 1063                   | 0.21        |
|           | 1800           | 2663                     | 0.20        | 687                   | 0.26        | 1160                   | 0.26        |
| 6         | 2100           | 1789                     | 0.13        | 383                   | 0.08        | 746                    | 0.11        |
|           | 2400           | 2044                     | 0.15        | 438                   | 0.11        | 853                    | 0.15        |
|           | 2700           | 2300                     | 0.17        | 493                   | 0.13        | 960                    | 0.19        |
|           | 3000           | 2555                     | 0.19        | 548                   | 0.17        | 1066                   | 0.24        |
|           | 3300           | 2811                     | 0.21        | 602                   | 0.20        | 1173                   | 0.29        |
|           | 3600           | 3066                     | 0.23        | 657                   | 0.25        | 1280                   | 0.35        |
| 8         | 2800           | 1852                     | 0.14        | 360                   | 0.03        | 786                    | 0.14        |
|           | 3200           | 2116                     | 0.16        | 411                   | 0.05        | 899                    | 0.19        |
|           | 3600           | 2381                     | 0.18        | 463                   | 0.06        | 1011                   | 0.24        |
|           | 4000           | 2646                     | 0.20        | 514                   | 0.07        | 1123                   | 0.30        |
|           | 4400           | 2910                     | 0.22        | 565                   | 0.09        | 1236                   | 0.36        |
|           | 4800           | 3175                     | 0.24        | 617                   | 0.11        | 1348                   | 0.43        |
| 10        | 3500           | 1663                     | 0.12        | 353                   | 0.03        | 784                    | 0.14        |
|           | 4000           | 1900                     | 0.14        | 404                   | 0.04        | 896                    | 0.18        |
|           | 4500           | 2138                     | 0.16        | 454                   | 0.05        | 1008                   | 0.23        |
|           | 5000           | 2375                     | 0.18        | 505                   | 0.06        | 1120                   | 0.29        |
|           | 5500           | 2613                     | 0.20        | 555                   | 0.08        | 1232                   | 0.35        |
|           | 6000           | 2850                     | 0.21        | 606                   | 0.09        | 1344                   | 0.42        |
| 12        | 4200           | 1652                     | 0.13        | 303                   | 0.02        | 829                    | 0.15        |
|           | 4800           | 1888                     | 0.14        | 346                   | 0.02        | 947                    | 0.20        |
|           | 5400           | 2123                     | 0.16        | 389                   | 0.03        | 1066                   | 0.25        |
|           | 6000           | 2359                     | 0.18        | 432                   | 0.04        | 1184                   | 0.31        |
|           | 6600           | 2595                     | 0.20        | 476                   | 0.05        | 1303                   | 0.38        |
|           | 7200           | 2831                     | 0.21        | 519                   | 0.06        | 1421                   | 0.46        |
| 14        | 4900           | 1667                     | 0.13        | 353                   | 0.02        | 813                    | 0.18        |
|           | 5600           | 1905                     | 0.15        | 404                   | 0.03        | 929                    | 0.23        |
|           | 6300           | 2143                     | 0.16        | 454                   | 0.04        | 1046                   | 0.30        |
|           | 7000           | 2381                     | 0.18        | 504                   | 0.05        | 1162                   | 0.37        |
|           | 7700           | 2619                     | 0.20        | 555                   | 0.06        | 1278                   | 0.45        |
|           | 8400           | 2857                     | 0.21        | 605                   | 0.08        | 1394                   | 0.54        |
| 17        | 5950           | 1711                     | 0.13        | 279                   | 0.01        | 820                    | 0.16        |
|           | 6800           | 1955                     | 0.15        | 318                   | 0.01        | 937                    | 0.21        |
|           | 7650           | 2200                     | 0.16        | 358                   | 0.01        | 1054                   | 0.27        |
|           | 8500           | 2444                     | 0.18        | 398                   | 0.02        | 1171                   | 0.34        |
|           | 9350           | 2688                     | 0.20        | 438                   | 0.02        | 1288                   | 0.41        |
|           | 10200          | 2933                     | 0.22        | 478                   | 0.03        | 1405                   | 0.49        |
| 21        | 7350           | 1692                     | 0.13        | 344                   | 0.01        | 784                    | 0.23        |
|           | 8400           | 1933                     | 0.14        | 393                   | 0.02        | 896                    | 0.31        |
|           | 9450           | 2175                     | 0.16        | 440                   | 0.02        | 1008                   | 0.39        |
|           | 10500          | 2417                     | 0.18        | 492                   | 0.03        | 1120                   | 0.49        |
|           | 11550          | 2658                     | 0.20        | 541                   | 0.03        | 1232                   | 0.59        |
|           | 12600          | 2900                     | 0.22        | 590                   | 0.04        | 1344                   | 0.71        |
| 25        | 8750           | 2146                     | 0.16        | 351                   | 0.01        | 853                    | 0.29        |
|           | 10000          | 2453                     | 0.18        | 401                   | 0.02        | 975                    | 0.38        |
|           | 11250          | 2760                     | 0.21        | 452                   | 0.02        | 1097                   | 0.48        |
|           | 12500          | 3066                     | 0.23        | 502                   | 0.03        | 1218                   | 0.60        |
|           | 13750          | 3373                     | 0.25        | 552                   | 0.03        | 1340                   | 0.73        |
|           | 15000          | 3679                     | 0.28        | 602                   | 0.04        | 1462                   | 0.88        |
| 30        | 10500          | 2027                     | 0.15        | 359                   | 0.01        | 873                    | 0.30        |
|           | 12000          | 2316                     | 0.17        | 410                   | 0.02        | 998                    | 0.40        |
|           | 13500          | 2606                     | 0.20        | 461                   | 0.02        | 1122                   | 0.51        |
|           | 15000          | 2895                     | 0.22        | 512                   | 0.03        | 1247                   | 0.63        |
|           | 16500          | 3185                     | 0.24        | 563                   | 0.03        | 1372                   | 0.77        |
|           | 18000          | 3474                     | 0.26        | 615                   | 0.04        | 1497                   | 0.92        |



## Fan Curves

### Size 3 Horizontal Units

Horizontal unit, front top discharge



Horizontal unit, top front discharge

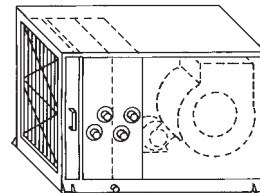


Figure 4. Fan performance for size 3 horizontal units

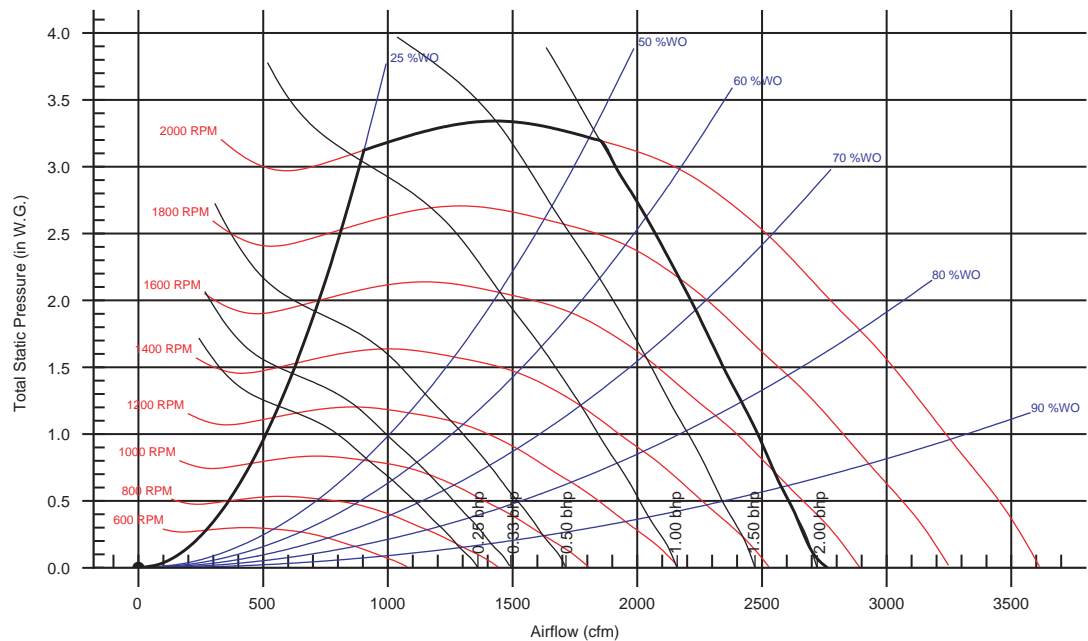


Table 8. Size 3 horizontal units

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 3         | 1050                | 1553                     | 866                            | 0.23 | 1118 | 0.36 | 1341 | 0.50 | 1548 | 0.66 | 1746 | 0.86 | 1931 | 1.07 | 2101 | 1.30 | 2261 | 1.54 |
|           | 1200                | 1775                     | 922                            | 0.30 | 1144 | 0.44 | 1356 | 0.60 | 1548 | 0.76 | 1729 | 0.94 | 1906 | 1.16 | 2072 | 1.39 | 2232 | 1.64 |
|           | 1350                | 1997                     | 983                            | 0.38 | 1182 | 0.53 | 1377 | 0.70 | 1563 | 0.89 | 1730 | 1.07 | 1892 | 1.27 | 2050 | 1.50 | 2203 | 1.75 |
|           | 1500                | 2219                     | 1045                           | 0.49 | 1230 | 0.65 | 1406 | 0.83 | 1582 | 1.03 | 1744 | 1.22 | 1896 | 1.43 | 2042 | 1.65 | 2189 | 1.90 |
|           | 1650                | 2441                     | 1110                           | 0.61 | 1285 | 0.79 | 1446 | 0.98 | 1608 | 1.19 | 1766 | 1.40 | 1913 | 1.62 | 2054 | 1.85 | 2183 | 2.07 |
|           | 1800                | 2663                     | 1178                           | 0.76 | 1345 | 0.95 | 1495 | 1.15 | 1641 | 1.36 | 1788 | 1.59 | 1934 | 1.83 | 2068 | 2.07 | 2197 | 2.31 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 3 Vertical Unit, Front Top Discharge

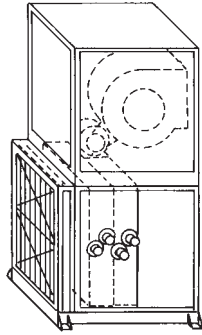


Figure 5. Fan performance for size 3 vertical unit, front top discharge

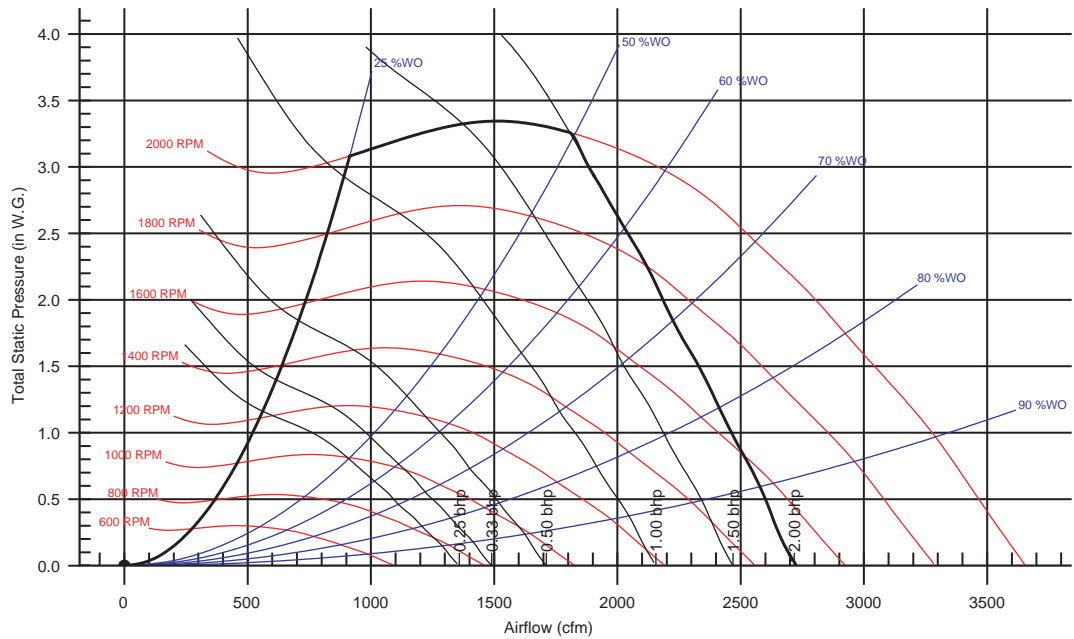


Table 9. Size 3 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 3         | 1050                | 1553                     | 864                            | 0.23 | 1112 | 0.36 | 1337 | 0.51 | 1552 | 0.69 | 1756 | 0.90 | 1941 | 1.12 | 2116 | 1.36 | 2275 | 1.60 |
|           | 1200                | 1775                     | 920                            | 0.30 | 1141 | 0.45 | 1350 | 0.61 | 1543 | 0.78 | 1732 | 0.99 | 1915 | 1.22 | 2084 | 1.46 | 2244 | 1.72 |
|           | 1350                | 1997                     | 978                            | 0.39 | 1179 | 0.55 | 1372 | 0.72 | 1556 | 0.91 | 1726 | 1.10 | 1895 | 1.33 | 2058 | 1.57 | 2218 | 1.85 |
|           | 1500                | 2219                     | 1041                           | 0.50 | 1227 | 0.67 | 1403 | 0.85 | 1576 | 1.05 | 1738 | 1.25 | 1892 | 1.47 | 2042 | 1.71 | 2194 | 1.98 |
|           | 1650                | 2441                     | 1106                           | 0.62 | 1284 | 0.81 | 1443 | 1.00 | 1602 | 1.21 | 1757 | 1.43 | 1906 | 1.66 | 2045 | 1.90 | 2180 | 2.14 |
|           | 1800                | 2663                     | 1172                           | 0.77 | 1340 | 0.97 | 1489 | 1.18 | 1637 | 1.40 | 1781 | 1.63 | 1924 | 1.87 | 2058 | 2.11 | 2187 | 2.37 |
|           |                     |                          |                                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 3 Vertical Unit, Top Front Discharge

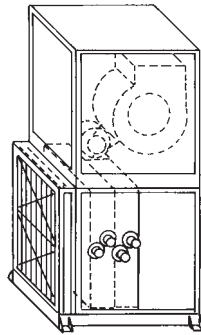


Figure 6. Fan performance for size 3 vertical unit, top front discharge

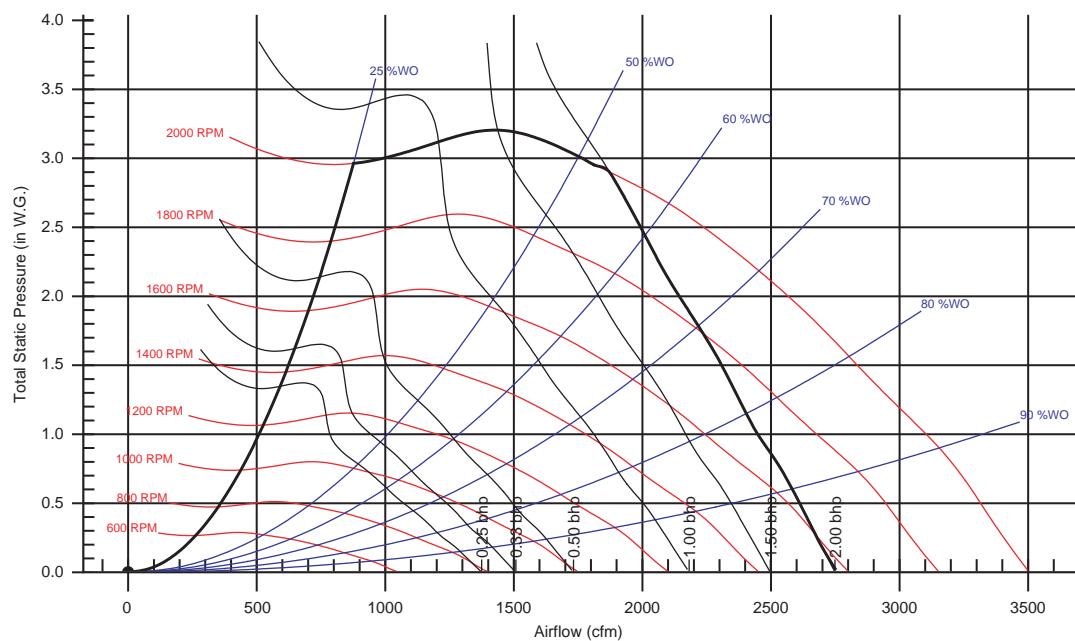


Table 10. Size 3 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 3         | 1050                | 1553                     | 910                            | 0.24 | 1160 | 0.38 | 1372 | 0.52 | 1583 | 0.69 | 1794 | 0.89 | 1979 | 1.07 | 2152 | 1.26 | 2311 | 1.45 |
|           | 1200                | 1775                     | 966                            | 0.31 | 1196 | 0.47 | 1399 | 0.62 | 1583 | 0.79 | 1766 | 0.98 | 1953 | 1.20 | 2128 | 1.43 | 2291 | 1.64 |
|           | 1350                | 1997                     | 1026                           | 0.40 | 1241 | 0.57 | 1435 | 0.75 | 1606 | 0.92 | 1768 | 1.11 | 1933 | 1.32 | 2100 | 1.56 | 2260 | 1.81 |
|           | 1500                | 2219                     | 1091                           | 0.51 | 1292 | 0.70 | 1473 | 0.89 | 1644 | 1.09 | 1796 | 1.28 | 1941 | 1.48 | 2087 | 1.70 | 2236 | 1.96 |
|           | 1650                | 2441                     | 1159                           | 0.63 | 1347 | 0.83 | 1518 | 1.05 | 1679 | 1.26 | 1829 | 1.48 | 1967 | 1.69 | 2100 | 1.91 | 2231 | 2.15 |
|           | 1800                | 2663                     | 1228                           | 0.78 | 1406 | 0.99 | 1570 | 1.23 | 1721 | 1.46 | 1868 | 1.70 | 2003 | 1.93 | 2129 | 2.16 | 2252 | 2.40 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 3 Vertical Unit, Back Top Discharge

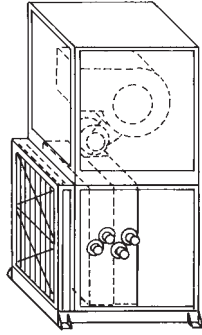


Figure 7. Fan performance for size 3 vertical unit, back top discharge

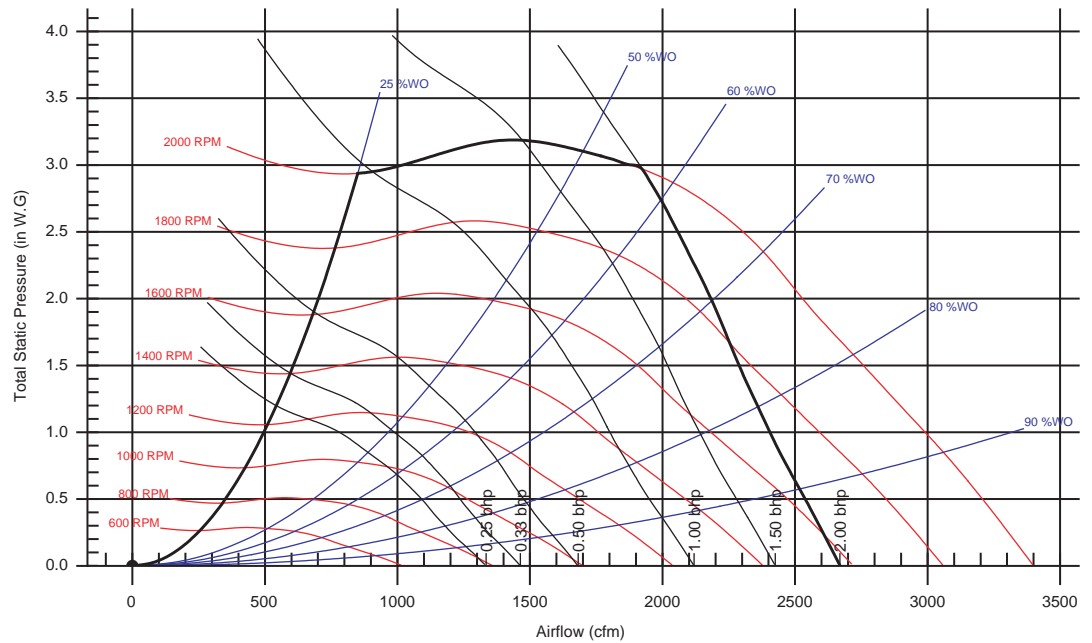
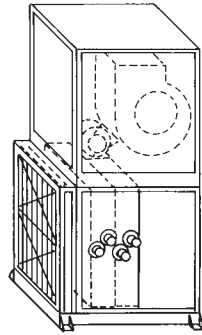


Table 11. Size 3 vertical unit, back top discharge

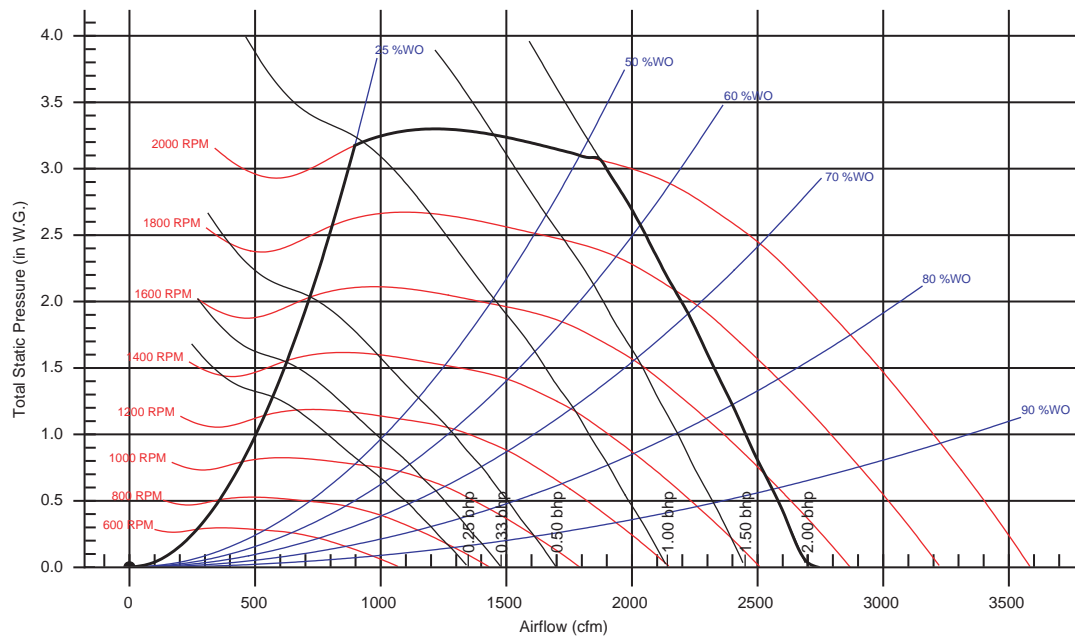
| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 3         | 1050                | 1553                     | 901                            | 0.23 | 1146 | 0.36 | 1372 | 0.51 | 1585 | 0.68 | 1797 | 0.88 | 1989 | 1.10 | 2162 | 1.33 | 2321 | 1.57 |
|           | 1200                | 1775                     | 968                            | 0.31 | 1177 | 0.44 | 1390 | 0.60 | 1585 | 0.77 | 1771 | 0.97 | 1959 | 1.19 | 2132 | 1.43 | 2298 | 1.69 |
|           | 1350                | 1997                     | 1039                           | 0.41 | 1223 | 0.54 | 1414 | 0.70 | 1601 | 0.89 | 1771 | 1.09 | 1936 | 1.30 | 2106 | 1.54 | 2265 | 1.80 |
|           | 1500                | 2219                     | 1110                           | 0.52 | 1281 | 0.67 | 1450 | 0.84 | 1622 | 1.03 | 1787 | 1.24 | 1943 | 1.45 | 2091 | 1.68 | 2242 | 1.94 |
|           | 1650                | 2441                     | 1182                           | 0.66 | 1347 | 0.82 | 1497 | 0.99 | 1654 | 1.19 | 1810 | 1.40 | 1960 | 1.64 | 2101 | 1.87 | 2238 | 2.12 |
|           | 1800                | 2663                     | 1256                           | 0.82 | 1418 | 1.00 | 1553 | 1.18 | 1694 | 1.38 | 1838 | 1.59 | 1980 | 1.83 | 2117 | 2.08 | 2249 | 2.34 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

**Size 3 Vertical Unit, Top Back Discharge**



**Figure 8. Fan performance for size 3 vertical unit, top back discharge**



**Table 12. Size 3 vertical unit, top back discharge**

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 3         | 1050                | 1553                     | 875                            | 0.23 | 1138 | 0.36 | 1359 | 0.51 | 1557 | 0.66 | 1743 | 0.83 | 1915 | 1.01 | 2078 | 1.20 | 2233 | 1.41 |
|           | 1200                | 1775                     | 928                            | 0.30 | 1161 | 0.44 | 1380 | 0.60 | 1568 | 0.77 | 1743 | 0.95 | 1908 | 1.13 | 2064 | 1.33 | 2214 | 1.54 |
|           | 1350                | 1997                     | 989                            | 0.39 | 1197 | 0.54 | 1401 | 0.72 | 1589 | 0.90 | 1756 | 1.09 | 1913 | 1.28 | 2061 | 1.49 | 2202 | 1.70 |
|           | 1500                | 2219                     | 1053                           | 0.50 | 1243 | 0.66 | 1427 | 0.84 | 1610 | 1.04 | 1773 | 1.24 | 1924 | 1.45 | 2069 | 1.67 | 2204 | 1.89 |
|           | 1650                | 2441                     | 1120                           | 0.63 | 1295 | 0.80 | 1465 | 1.00 | 1633 | 1.20 | 1794 | 1.42 | 1944 | 1.64 | 2084 | 1.87 | 2214 | 2.11 |
|           | 1800                | 2663                     | 1189                           | 0.78 | 1354 | 0.97 | 1511 | 1.17 | 1663 | 1.38 | 1817 | 1.61 | 1965 | 1.86 | 2102 | 2.10 | 2229 | 2.34 |

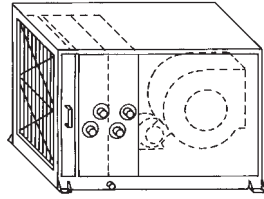
**Note:** Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

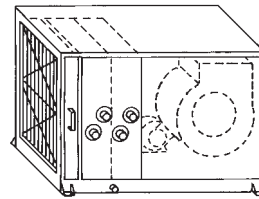
## Fan Curves

### Size 6 Horizontal Units

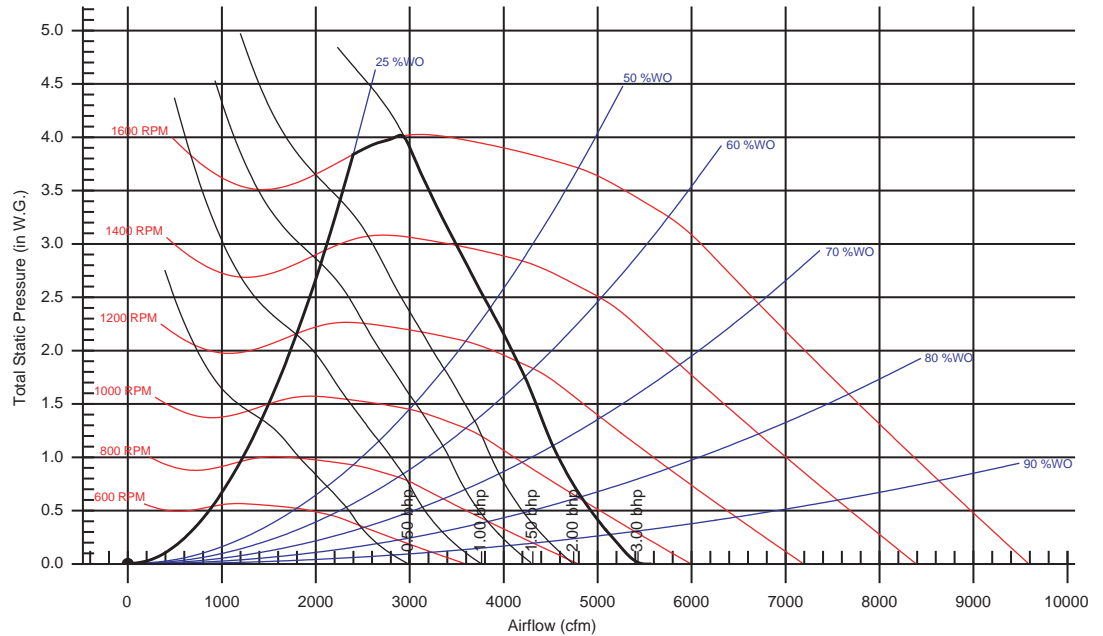
Horizontal unit, front top discharge



Horizontal unit, top front discharge



**Figure 9. Fan performance for size 6 horizontal units**



**Table 13. Size 6 horizontal units**

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 6         | 2100                | 1792                     | 612                            | 0.40 | 811 | 0.62 | 977  | 0.84 | 1128 | 1.08 | 1265 | 1.33 | 1393 | 1.60 | 1517 | 1.89 | 1630 | 2.20 |
|           | 2400                | 2048                     | 641                            | 0.52 | 825 | 0.76 | 987  | 1.02 | 1129 | 1.28 | 1261 | 1.55 | 1382 | 1.82 | 1499 | 2.12 | 1611 | 2.44 |
|           | 2700                | 2304                     | 679                            | 0.69 | 843 | 0.93 | 998  | 1.22 | 1136 | 1.51 | 1263 | 1.81 | 1381 | 2.10 | 1492 | 2.41 | 1598 | 2.73 |
|           | 3000                | 2560                     | 717                            | 0.88 | 868 | 1.14 | 1013 | 1.45 | 1149 | 1.77 | 1270 | 2.09 | 1385 | 2.42 | 1492 | 2.75 | 1594 | 3.08 |
|           | 3300                | 2816                     | 756                            | 1.10 | 896 | 1.39 | 1032 | 1.71 | 1161 | 2.06 | 1281 | 2.40 | 1392 | 2.76 | 1495 | 3.12 | 1597 | 3.49 |
|           | 3600                | 3072                     | 795                            | 1.36 | 932 | 1.70 | 1056 | 2.02 | 1176 | 2.38 | 1294 | 2.77 | 1404 | 3.15 | 1503 | 3.53 | 1601 | 3.93 |

**Note:** Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 6 Vertical Unit, Front Top Discharge

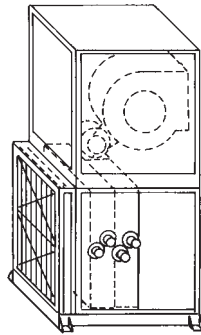


Figure 10. Fan performance for size 6 vertical unit, front top discharge

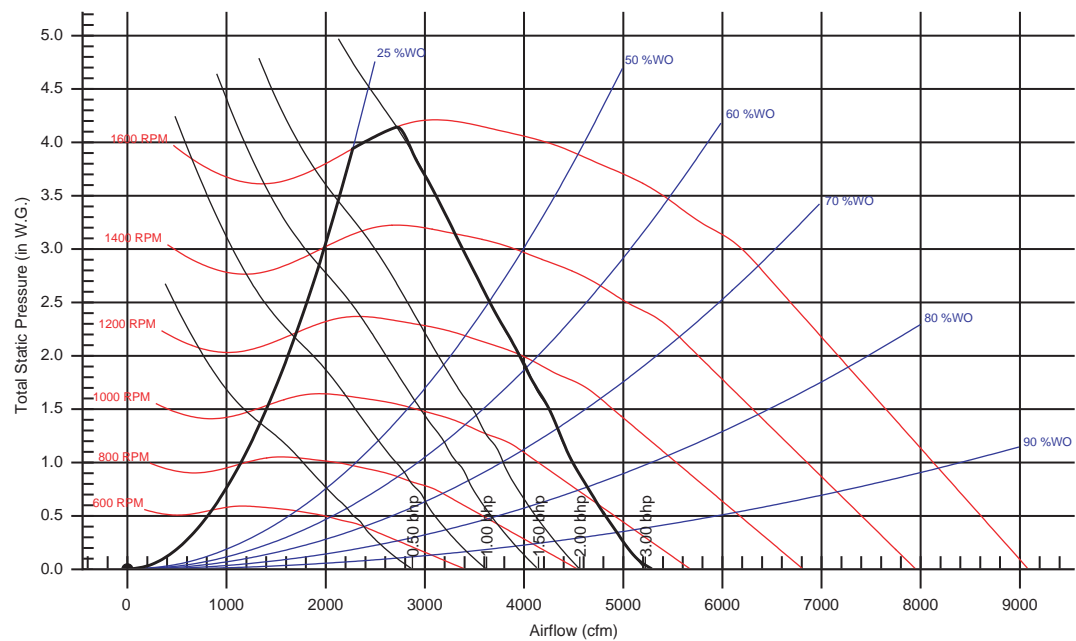


Table 14. Size 6 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 6         | 2100                | 1792                     | 610                            | 0.42 | 797 | 0.65 | 958  | 0.88 | 1100 | 1.13 | 1241 | 1.40 | 1379 | 1.70 | 1508 | 2.01 | 1632 | 2.33 |
|           | 2400                | 2048                     | 638                            | 0.55 | 816 | 0.81 | 968  | 1.07 | 1106 | 1.34 | 1233 | 1.62 | 1352 | 1.92 | 1477 | 2.25 | 1596 | 2.60 |
|           | 2700                | 2304                     | 675                            | 0.72 | 838 | 1.00 | 983  | 1.29 | 1116 | 1.58 | 1237 | 1.88 | 1350 | 2.20 | 1457 | 2.53 | 1567 | 2.88 |
|           | 3000                | 2560                     | 716                            | 0.93 | 865 | 1.22 | 1003 | 1.54 | 1129 | 1.86 | 1246 | 2.19 | 1355 | 2.52 | 1460 | 2.87 | 1558 | 3.23 |
|           | 3300                | 2816                     | 758                            | 1.17 | 895 | 1.48 | 1025 | 1.82 | 1148 | 2.19 | 1260 | 2.54 | 1367 | 2.90 | 1467 | 3.26 | 1561 | 3.64 |
|           | 3600                | 3072                     | 802                            | 1.44 | 926 | 1.78 | 1052 | 2.14 | 1167 | 2.54 | 1277 | 2.93 | 1379 | 3.31 | 1478 | 3.71 | 1571 | 4.10 |

# Performance Data

## Fan Curves

### Size 6 Vertical Unit, Top Front Discharge

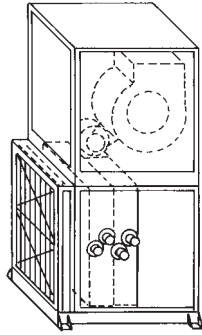


Figure 11. Fan performance for size 6 vertical unit, top front discharge

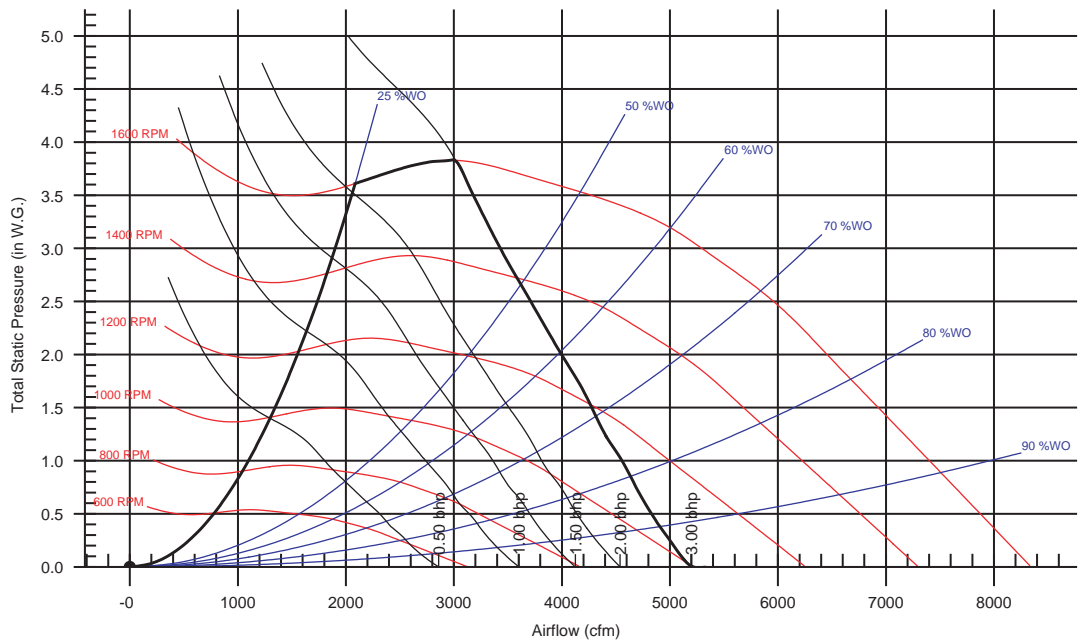


Table 15. Size 6 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 6         | 2100                | 1792                     | 645                            | 0.41 | 842 | 0.63 | 1007 | 0.85 | 1155 | 1.09 | 1301 | 1.37 | 1439 | 1.68 | 1568 | 2.01 | 1687 | 2.36 |
|           | 2400                | 2048                     | 2048                           | 0.54 | 862 | 0.79 | 1022 | 1.05 | 1162 | 1.30 | 1289 | 1.56 | 1419 | 1.87 | 1545 | 2.21 | 1665 | 2.57 |
|           | 2700                | 2304                     | 2304                           | 0.71 | 884 | 0.98 | 1040 | 1.26 | 1176 | 1.54 | 1299 | 1.83 | 1414 | 2.12 | 1528 | 2.44 | 1644 | 2.81 |
|           | 3000                | 2560                     | 2560                           | 0.90 | 915 | 1.19 | 1059 | 1.51 | 1192 | 1.82 | 1315 | 2.14 | 1426 | 2.46 | 1530 | 2.77 | 1632 | 3.11 |
|           | 3300                | 2816                     | 2816                           | 1.13 | 951 | 1.45 | 1082 | 1.79 | 1211 | 2.13 | 1331 | 2.48 | 1440 | 2.83 | 1543 | 3.18 | 1640 | 3.53 |
|           | 3600                | 3072                     | 3072                           | 1.40 | 989 | 1.76 | 1113 | 2.10 | 1232 | 2.48 | 1349 | 2.86 | 1456 | 3.24 | 1557 | 3.62 | 1652 | 4.00 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.



Size 6 Vertical Unit, Back Top Discharge

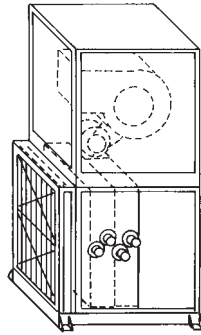


Figure 12. Fan performance for size 6 vertical unit, back top discharge

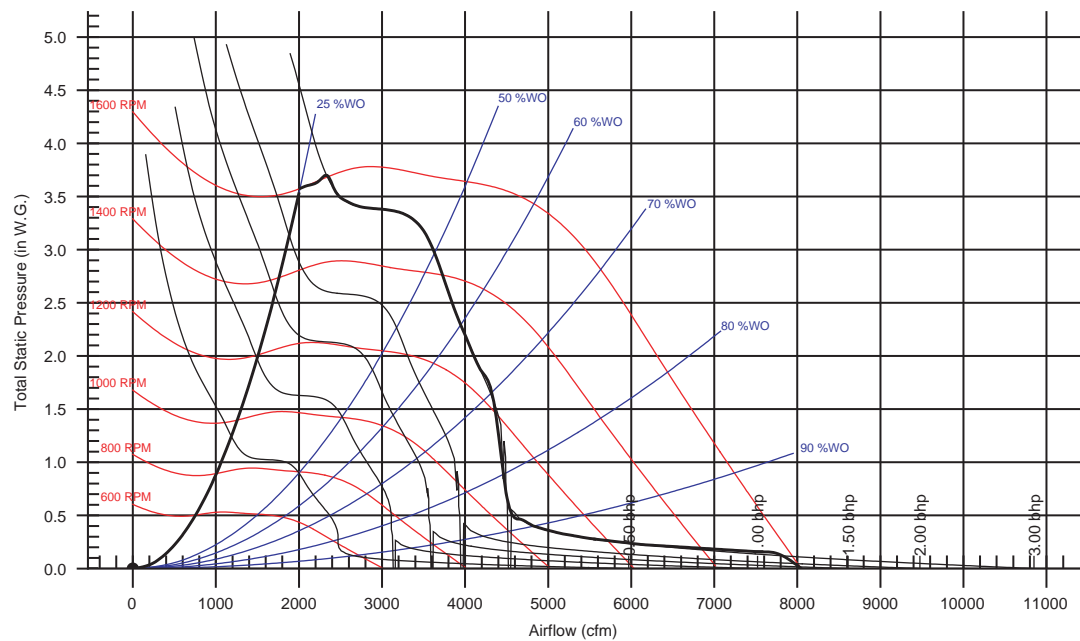


Table 16. Size 6 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 6         | 2100                | 1792                     | 637                            | 0.39 | 835 | 0.60 | 1011 | 0.86 | 1162 | 1.29 | 1303 | 1.75 | 1444 | 2.09 | 1572 | 2.42 | 1690 | 2.77 |
|           | 2400                | 2048                     | 678                            | 0.53 | 848 | 0.74 | 1019 | 0.99 | 1167 | 1.33 | 1299 | 1.81 | 1424 | 2.43 | 1549 | 2.79 | 1667 | 3.17 |
|           | 2700                | 2304                     | 724                            | 0.70 | 871 | 0.91 | 1027 | 1.19 | 1174 | 1.47 | 1306 | 1.86 | 1424 | 2.37 | 1537 | 3.02 | 1648 | 3.62 |
|           | 3000                | 2560                     | 773                            | 0.92 | 903 | 1.13 | 1042 | 1.41 | 1181 | 1.72 | 1313 | 2.04 | 1430 | 2.46 | 1540 | 3.01 | 1644 | 3.66 |
|           | 3300                | 2816                     | 823                            | 1.17 | 945 | 1.40 | 1066 | 1.67 | 1193 | 2.00 | 1320 | 2.35 | 1438 | 2.69 | 1548 | 3.14 | 1648 | 3.71 |
|           | 3600                | 3072                     | 873                            | 1.46 | 990 | 1.72 | 1099 | 1.99 | 1213 | 2.32 | 1330 | 2.69 | 1445 | 3.07 | 1556 | 3.45 | 1658 | 3.91 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 6 Vertical Unit, Top Back Discharge

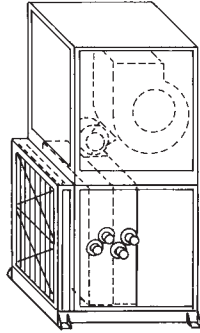


Figure 13. Fan performance for size 6 vertical unit, top back discharge

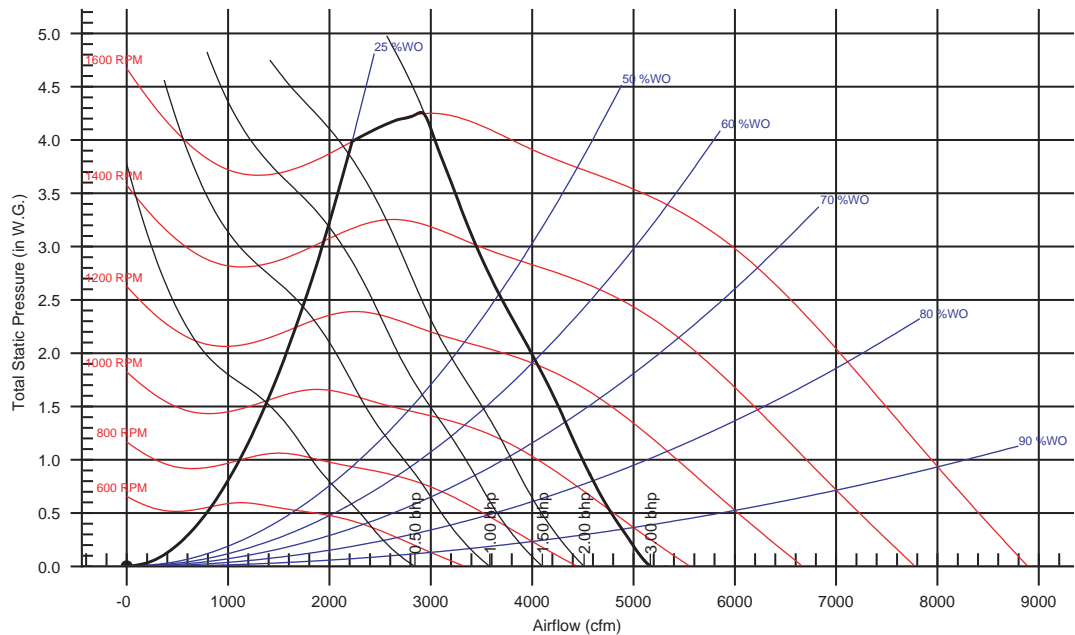


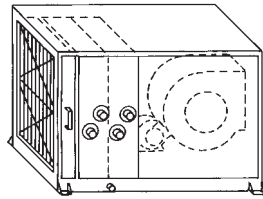
Table 17. Size 6 vertical unit, top back discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 6         | 2100                | 1792                     | 618                            | 0.42 | 811 | 0.63 | 962  | 0.83 | 1096 | 1.03 | 1234 | 1.25 | 1369 | 1.49 | 1497 | 1.75 | 1615 | 2.02 |
|           | 2400                | 2048                     | 647                            | 0.55 | 830 | 0.79 | 983  | 1.03 | 1109 | 1.26 | 1226 | 1.48 | 1344 | 1.72 | 1466 | 1.99 | 1585 | 2.28 |
|           | 2700                | 2304                     | 684                            | 0.72 | 852 | 0.98 | 1001 | 1.25 | 1130 | 1.52 | 1240 | 1.77 | 1346 | 2.02 | 1448 | 2.28 | 1557 | 2.57 |
|           | 3000                | 2560                     | 724                            | 0.92 | 877 | 1.20 | 1022 | 1.51 | 1149 | 1.81 | 1262 | 2.11 | 1361 | 2.38 | 1458 | 2.66 | 1550 | 2.94 |
|           | 3300                | 2816                     | 767                            | 1.17 | 906 | 1.46 | 1043 | 1.79 | 1168 | 2.13 | 1283 | 2.47 | 1383 | 2.79 | 1476 | 3.09 | 1563 | 3.39 |
|           | 3600                | 3072                     | 811                            | 1.45 | 941 | 1.77 | 1068 | 2.12 | 1189 | 2.48 | 1300 | 2.85 | 1402 | 3.22 | 1497 | 3.57 | 1583 | 3.91 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

### Size 8 Horizontal Units

Horizontal unit, front top discharge



Horizontal unit, top front discharge

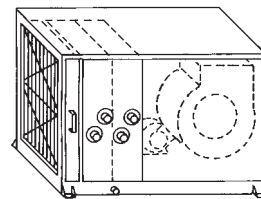


Figure 14. Fan performance for size 8 horizontal units

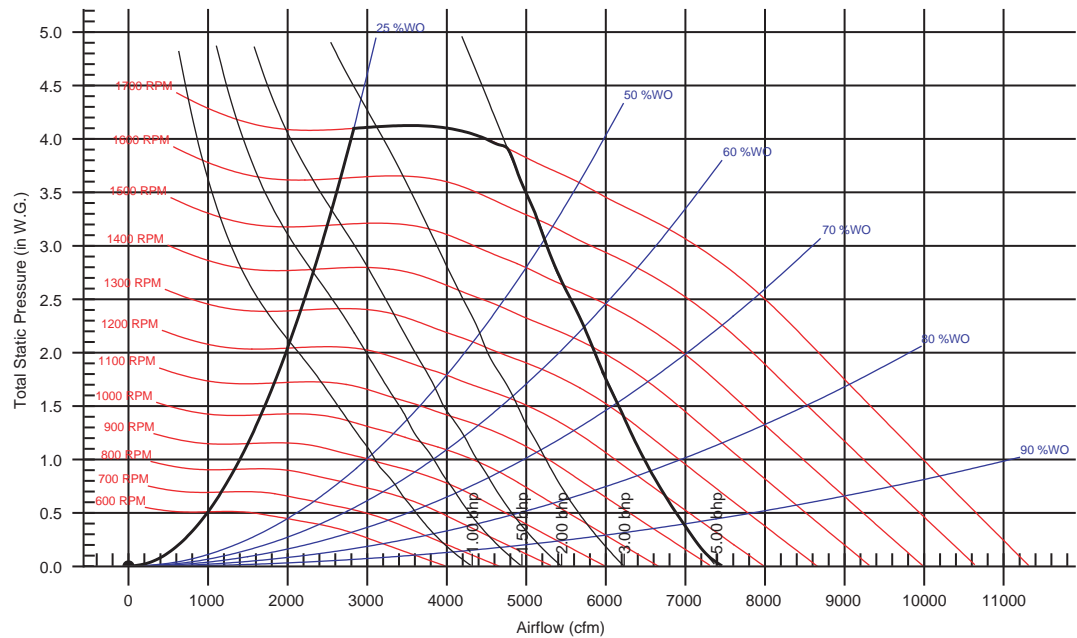


Table 18. Size 8 horizontal units

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 8         | 2800                | 1856                     | 692                            | 0.67 | 873  | 0.97 | 1031 | 1.29 | 1170 | 1.63 | 1311 | 2.03 | 1450 | 2.50 | 1581 | 3.01 | 1704 | 3.55 |
|           | 3200                | 2121                     | 738                            | 0.90 | 908  | 1.24 | 1054 | 1.59 | 1188 | 1.95 | 1310 | 2.33 | 1429 | 2.76 | 1556 | 3.27 | 1677 | 3.83 |
|           | 3600                | 2386                     | 790                            | 1.19 | 945  | 1.56 | 1084 | 1.95 | 1212 | 2.35 | 1331 | 2.76 | 1440 | 3.18 | 1545 | 3.63 | 1654 | 4.15 |
|           | 4000                | 2651                     | 843                            | 1.53 | 984  | 1.93 | 1119 | 2.38 | 1239 | 2.80 | 1353 | 3.25 | 1460 | 3.71 | 1561 | 4.17 | 1656 | 4.66 |
|           | 4400                | 2916                     | 898                            | 1.95 | 1028 | 2.38 | 1156 | 2.85 | 1273 | 3.34 | 1379 | 3.81 | 1483 | 4.30 | 1581 | 4.80 | 1674 | 5.31 |
|           | 4800                | 3181                     | 955                            | 2.44 | 1079 | 2.91 | 1194 | 3.40 | 1309 | 3.94 | 1412 | 4.45 | 1510 | 4.97 | 1605 | 5.51 | 1696 | 6.05 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 8 Vertical Unit, Front Top Discharge

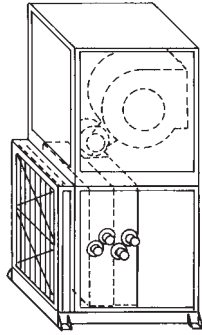


Figure 15. Fan performance for size 8 vertical unit, front top discharge

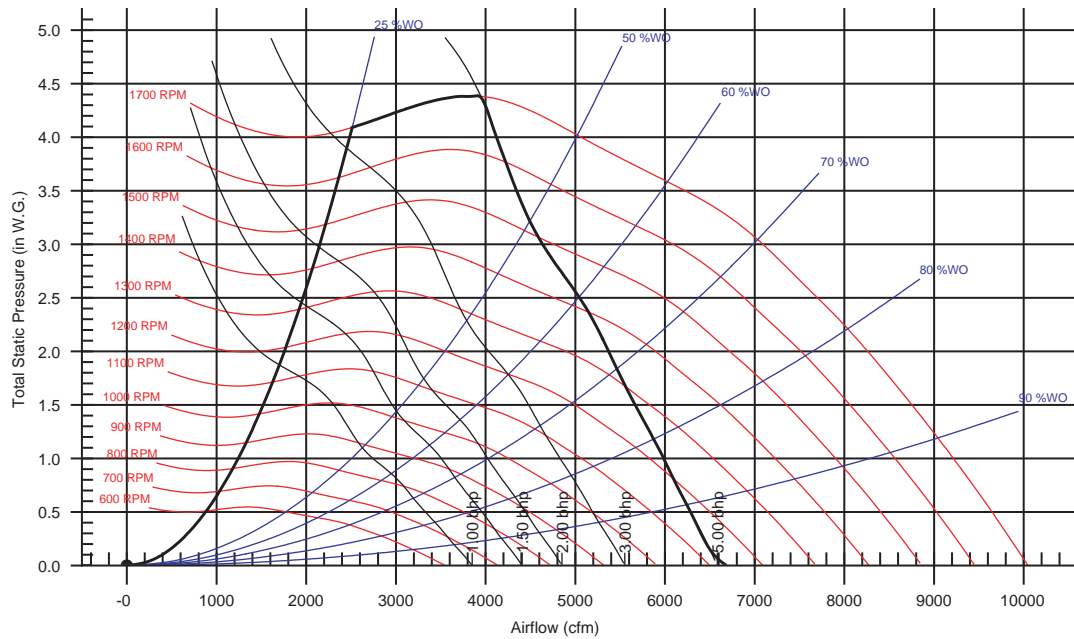


Table 19. Size 8 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 8         | 2800                | 1856                     | 682                            | 0.69 | 868  | 1.03 | 1018 | 1.37 | 1151 | 1.67 | 1283 | 2.02 | 1414 | 2.44 | 1540 | 2.90 | 1658 | 3.39 |
|           | 3200                | 2121                     | 729                            | 0.92 | 897  | 1.27 | 1046 | 1.70 | 1173 | 2.07 | 1289 | 2.41 | 1403 | 2.77 | 1523 | 3.24 | 1635 | 3.72 |
|           | 3600                | 2386                     | 779                            | 1.20 | 929  | 1.59 | 1075 | 2.03 | 1202 | 2.52 | 1313 | 2.93 | 1417 | 3.31 | 1517 | 3.68 | 1622 | 4.15 |
|           | 4000                | 2651                     | 831                            | 1.54 | 969  | 1.98 | 1105 | 2.42 | 1229 | 2.95 | 1340 | 3.49 | 1444 | 3.94 | 1538 | 4.37 | 1630 | 4.79 |
|           | 4400                | 2916                     | 887                            | 1.96 | 1016 | 2.44 | 1138 | 2.90 | 1260 | 3.43 | 1368 | 4.02 | 1470 | 4.62 | 1564 | 5.12 | 1652 | 5.59 |
|           | 4800                | 3181                     | 944                            | 2.45 | 1065 | 2.97 | 1176 | 3.48 | 1289 | 4.00 | 1399 | 4.60 | 1498 | 5.25 | 1591 | 5.91 | 1678 | 6.47 |

Size 8 Vertical Unit, Top Front Discharge

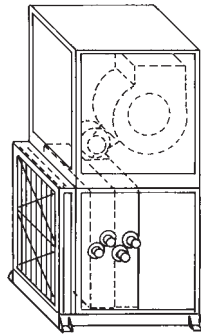


Figure 16. Fan performance for size 8 vertical unit, top front discharge

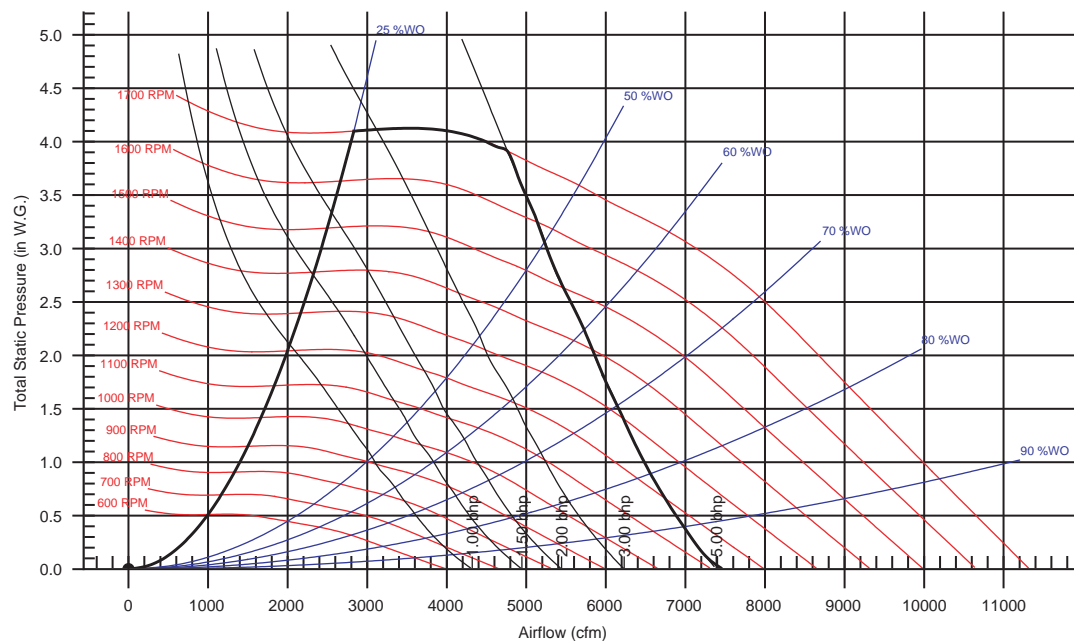


Table 20. Size 8 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 8         | 2800                | 1856                     | 756                            | 0.70 | 943  | 1.02 | 1105 | 1.37 | 1252 | 1.72 | 1387 | 2.10 | 1510 | 2.51 | 1626 | 2.95 | 1736 | 3.42 |
|           | 3200                | 2121                     | 809                            | 0.95 | 982  | 1.29 | 1135 | 1.68 | 1273 | 2.07 | 1403 | 2.48 | 1524 | 2.90 | 1637 | 3.35 | 1743 | 3.83 |
|           | 3600                | 2386                     | 863                            | 1.25 | 1026 | 1.62 | 1170 | 2.04 | 1303 | 2.48 | 1427 | 2.93 | 1542 | 3.38 | 1652 | 3.84 | 1756 | 4.32 |
|           | 4000                | 2651                     | 920                            | 1.60 | 1074 | 2.04 | 1213 | 2.46 | 1336 | 2.94 | 1454 | 3.43 | 1566 | 3.93 | 1671 | 4.42 | 1774 | 4.95 |
|           | 4400                | 2916                     | 980                            | 2.02 | 1127 | 2.53 | 1255 | 2.96 | 1377 | 3.47 | 1488 | 4.00 | 1594 | 4.53 | 1695 | 5.07 | 1795 | 5.64 |
|           | 4800                | 3181                     | 1043                           | 2.51 | 1181 | 3.09 | 1304 | 3.58 | 1419 | 4.07 | 1527 | 4.64 | 1629 | 5.22 | 1725 | 5.80 | 1820 | 6.40 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 8 Vertical Unit, Back Top Discharge

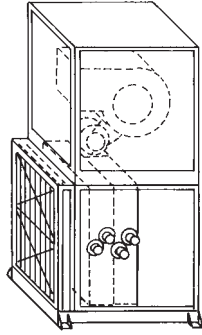


Figure 17. Fan performance for size 8 vertical unit, back top discharge

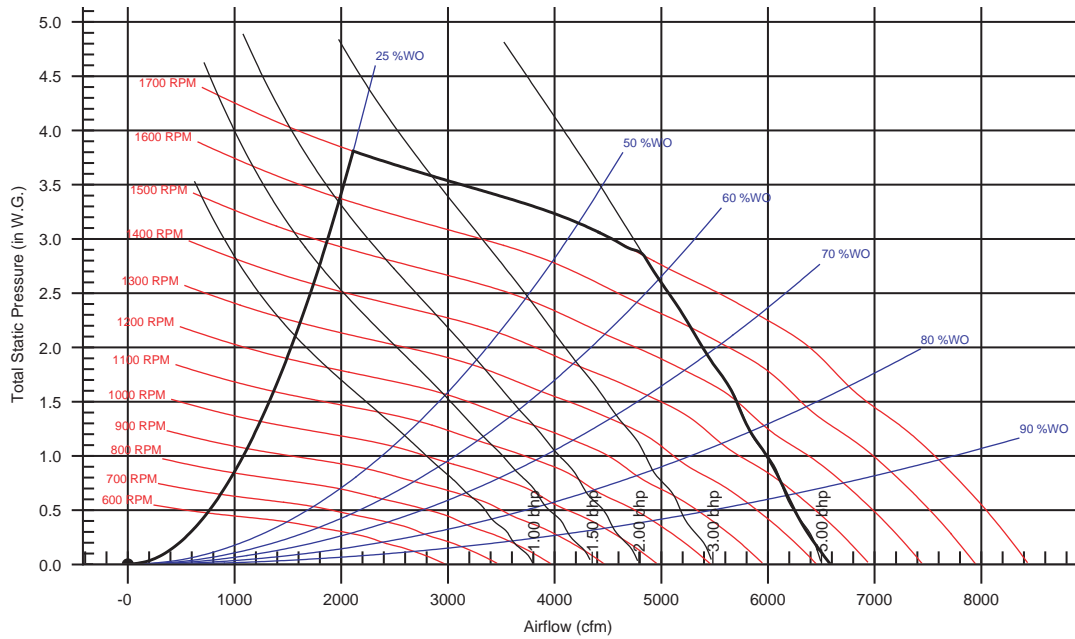


Table 21. Size 8 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 8         | 2800                | 1856                     | 797                            | 0.68 | 998  | 1.00 | 1162 | 1.34 | 1310 | 1.70 | 1442 | 2.08 | 1564 | 2.48 | 1672 | 2.87 | 1778 | 3.30 |
|           | 3200                | 2121                     | 850                            | 0.90 | 1042 | 1.27 | 1199 | 1.64 | 1340 | 2.04 | 1469 | 2.45 | 1589 | 2.87 | 1700 | 3.32 | 1802 | 3.77 |
|           | 3600                | 2386                     | 915                            | 1.20 | 1085 | 1.58 | 1241 | 2.00 | 1375 | 2.42 | 1499 | 2.87 | 1616 | 3.33 | 1725 | 3.80 | 1827 | 4.28 |
|           | 4000                | 2651                     | 980                            | 1.55 | 1132 | 1.96 | 1284 | 2.41 | 1416 | 2.88 | 1535 | 3.36 | 1647 | 3.85 | 1754 | 4.36 | 1856 | 4.89 |
|           | 4400                | 2916                     | 1042                           | 1.95 | 1184 | 2.39 | 1327 | 2.89 | 1460 | 3.40 | 1577 | 3.92 | 1682 | 4.44 | 1785 | 4.97 | 1885 | 5.54 |
|           | 4800                | 3181                     | 1108                           | 2.45 | 1246 | 2.93 | 1374 | 3.45 | 1501 | 3.98 | 1619 | 4.55 | 1725 | 5.12 | 1822 | 5.68 | 1917 | 6.27 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 8 Vertical Unit, Top Back Discharge

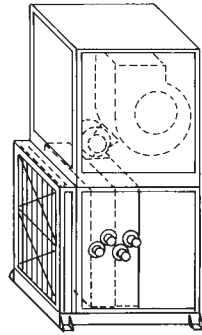


Figure 18. Fan performance for size 8 vertical unit, top back discharge

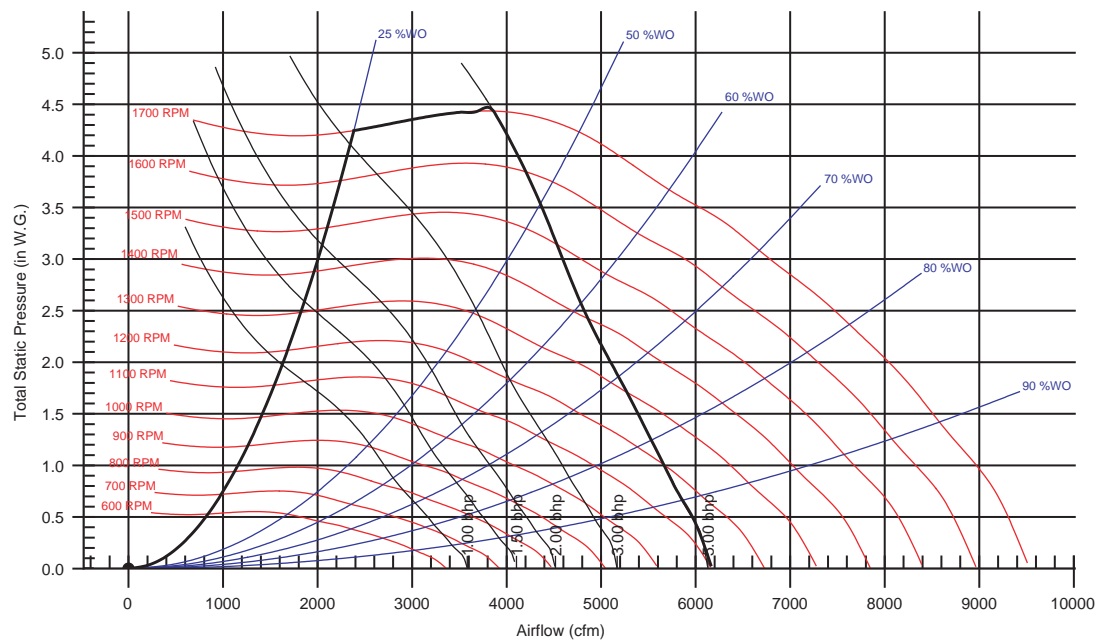


Table 22. Size 8 vertical unit, top back discharge

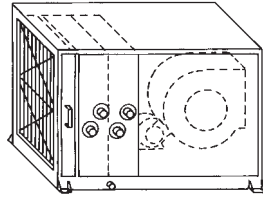
| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |  |  |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |  |  |
| 8         | 2800                | 1856                     | 697                            | 0.76 | 867  | 1.07 | 1008 | 1.36 | 1144 | 1.68 | 1272 | 2.03 | 1397 | 2.43 | 1515 | 2.86 | 1626 | 3.30 |  |  |
|           | 3200                | 2121                     | 742                            | 1.03 | 905  | 1.40 | 1041 | 1.72 | 1162 | 2.05 | 1281 | 2.42 | 1395 | 2.81 | 1506 | 3.24 | 1614 | 3.71 |  |  |
|           | 3600                | 2386                     | 793                            | 1.37 | 944  | 1.77 | 1079 | 2.17 | 1193 | 2.53 | 1302 | 2.90 | 1408 | 3.31 | 1511 | 3.74 | 1611 | 4.20 |  |  |
|           | 4000                | 2651                     | 846                            | 1.77 | 989  | 2.21 | 1115 | 2.67 | 1231 | 3.09 | 1332 | 3.49 | 1429 | 3.90 | 1525 | 4.34 | 1620 | 4.82 |  |  |
|           | 4400                | 2916                     | 903                            | 2.25 | 1034 | 2.73 | 1154 | 3.23 | 1267 | 3.73 | 1369 | 4.19 | 1461 | 4.62 | 1548 | 5.07 | 1636 | 5.55 |  |  |
|           | 4800                | 3181                     | 963                            | 2.82 | 1083 | 3.35 | 1201 | 3.88 | 1304 | 4.44 | 1407 | 4.97 | 1498 | 5.46 | 1582 | 5.94 | 1662 | 6.41 |  |  |

# Performance Data

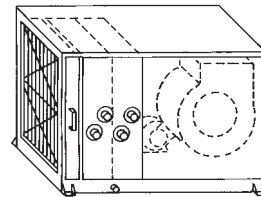
## Fan Curves

### Size 10 Horizontal Units

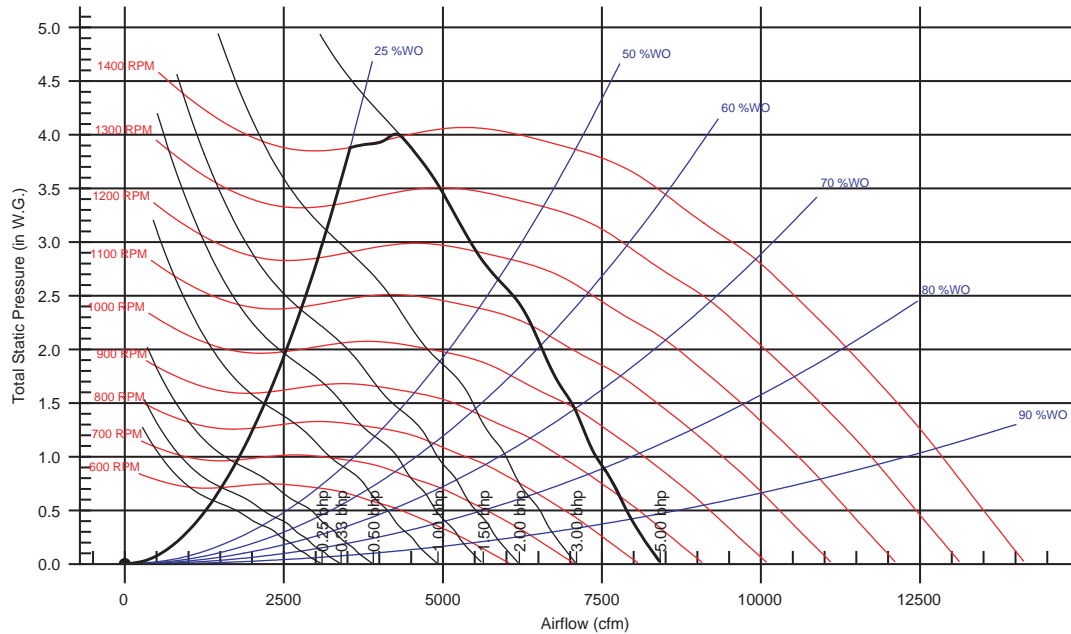
Horizontal unit, front top discharge



Horizontal unit, top front discharge



**Figure 19. Fan performance for size 10 horizontal units**



**Table 23. Size 10 horizontal units**

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 10        | 3500                | 1656                     | 534                            | 0.66 | 704 | 1.06 | 844 | 1.46 | 965  | 1.95 | 1073 | 2.49 | 1170 | 3.04 | 1260 | 3.62 | 1344 | 4.20 |
|           | 4000                | 1892                     | 561                            | 0.88 | 719 | 1.31 | 855 | 1.76 | 974  | 2.22 | 1081 | 2.79 | 1179 | 3.40 | 1268 | 4.02 | 1351 | 4.65 |
|           | 4500                | 2129                     | 590                            | 1.14 | 736 | 1.61 | 868 | 2.10 | 984  | 2.61 | 1089 | 3.12 | 1185 | 3.75 | 1276 | 4.43 | 1359 | 5.12 |
|           | 5000                | 2365                     | 623                            | 1.45 | 758 | 1.91 | 884 | 2.49 | 997  | 3.05 | 1100 | 3.62 | 1194 | 4.18 | 1283 | 4.84 | 1367 | 5.59 |
|           | 5500                | 2602                     | 658                            | 1.82 | 784 | 2.34 | 902 | 2.94 | 1012 | 3.54 | 1113 | 4.16 | 1205 | 4.78 | 1291 | 5.40 | 1373 | 6.06 |
|           | 6000                | 2838                     | 697                            | 2.25 | 813 | 2.83 | 923 | 3.39 | 1027 | 4.09 | 1126 | 4.75 | 1219 | 5.44 | 1302 | 6.11 | 1384 | 6.80 |



Size 10 Vertical Unit, Front Top Discharge

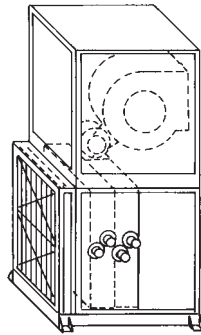


Figure 20. Fan performance for size 10 vertical unit, front top discharge

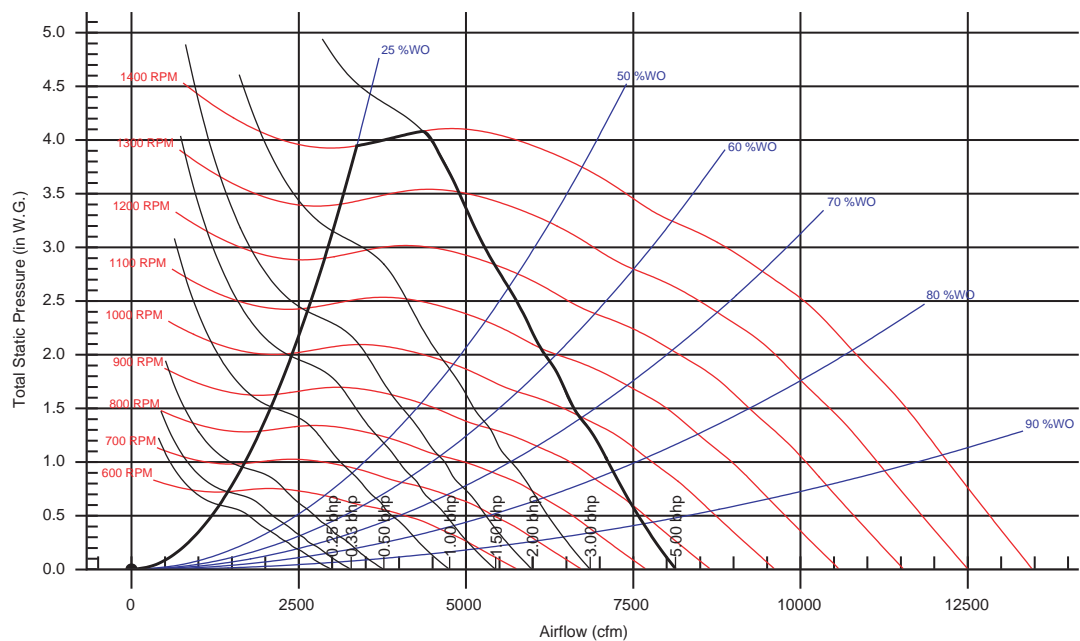


Table 24. Size 10 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 10        | 3500                | 1656                     | 563                            | 0.80 | 723 | 1.19 | 854 | 1.60 | 976  | 2.00 | 1091 | 2.45 | 1201 | 3.03 | 1305 | 3.66 | 1400 | 4.33 |
|           | 4000                | 1892                     | 593                            | 1.06 | 749 | 1.50 | 872 | 1.96 | 985  | 2.43 | 1093 | 2.88 | 1194 | 3.37 | 1294 | 3.97 | 1389 | 4.64 |
|           | 4500                | 2129                     | 626                            | 1.36 | 776 | 1.87 | 896 | 2.37 | 1003 | 2.91 | 1103 | 3.43 | 1199 | 3.93 | 1291 | 4.46 | 1380 | 5.05 |
|           | 5000                | 2365                     | 664                            | 1.74 | 800 | 2.32 | 924 | 2.87 | 1025 | 3.42 | 1120 | 4.02 | 1211 | 4.60 | 1298 | 5.17 | 1382 | 5.74 |
|           | 5500                | 2602                     | 706                            | 2.20 | 829 | 2.83 | 950 | 3.42 | 1051 | 4.03 | 1141 | 4.65 | 1227 | 5.32 | 1311 | 5.97 | 1390 | 6.58 |
|           | 6000                | 2838                     | 748                            | 2.74 | 861 | 3.37 | 973 | 4.06 | 1080 | 4.76 | 1167 | 5.39 | 1249 | 6.08 | 1327 | 6.79 | 1405 | 7.52 |

# Performance Data

## Fan Curves

### Size 10 Vertical Unit, Top Front Discharge

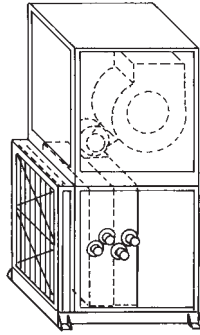


Figure 21. Fan performance for size 10 vertical unit, top front discharge

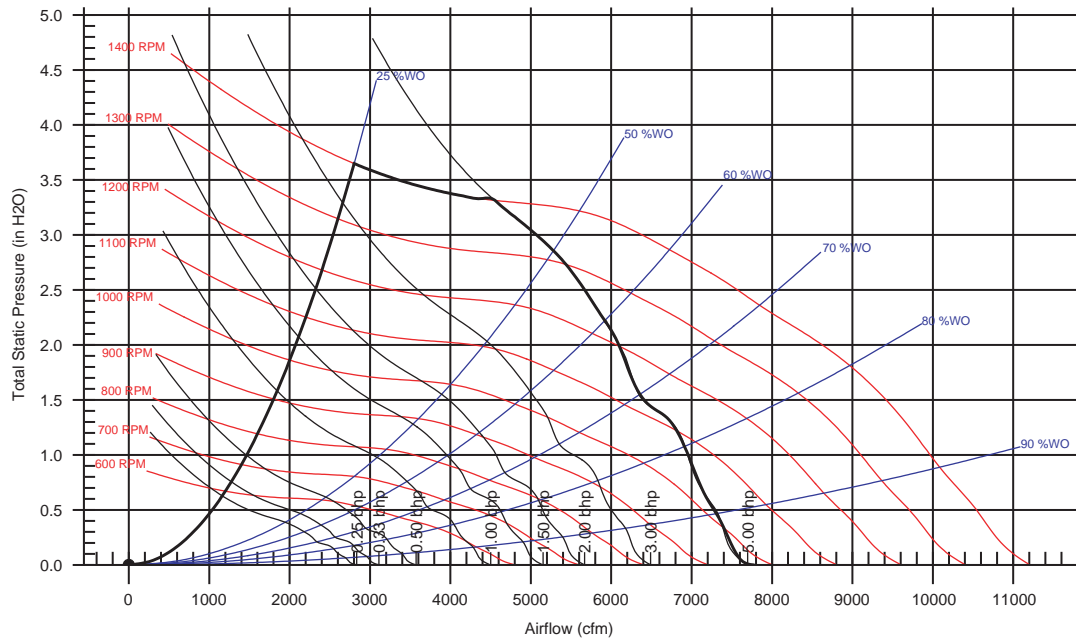


Table 25. Size 10 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 10        | 3500                | 1656                     | 635                            | 0.86 | 796 | 1.22 | 946  | 1.72 | 1083 | 2.32 | 1201 | 2.91 | 1304 | 3.49 | 1398 | 4.08 | 1487 | 4.70 |
|           | 4000                | 1892                     | 674                            | 1.10 | 827 | 1.53 | 959  | 2.01 | 1091 | 2.62 | 1213 | 3.30 | 1321 | 3.99 | 1417 | 4.65 | 1504 | 5.32 |
|           | 4500                | 2129                     | 716                            | 1.42 | 862 | 1.95 | 987  | 2.42 | 1104 | 3.00 | 1221 | 3.70 | 1332 | 4.46 | 1431 | 5.23 | 1522 | 5.98 |
|           | 5000                | 2365                     | 763                            | 1.85 | 902 | 2.49 | 1019 | 2.93 | 1128 | 3.50 | 1234 | 4.16 | 1340 | 4.93 | 1440 | 5.76 | 1533 | 6.61 |
|           | 5500                | 2602                     | 815                            | 2.39 | 940 | 2.97 | 1055 | 3.56 | 1159 | 4.12 | 1256 | 4.75 | 1352 | 5.50 | 1448 | 6.33 | 1542 | 7.23 |
|           | 6000                | 2838                     | 869                            | 3.01 | 980 | 3.50 | 1094 | 4.36 | 1193 | 4.86 | 1287 | 5.51 | 1375 | 6.22 | 1462 | 7.02 | 1551 | 7.91 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 10 Vertical Unit, Back Top Discharge

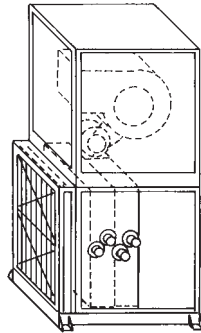


Figure 22. Fan performance for size 10 vertical unit, back top discharge

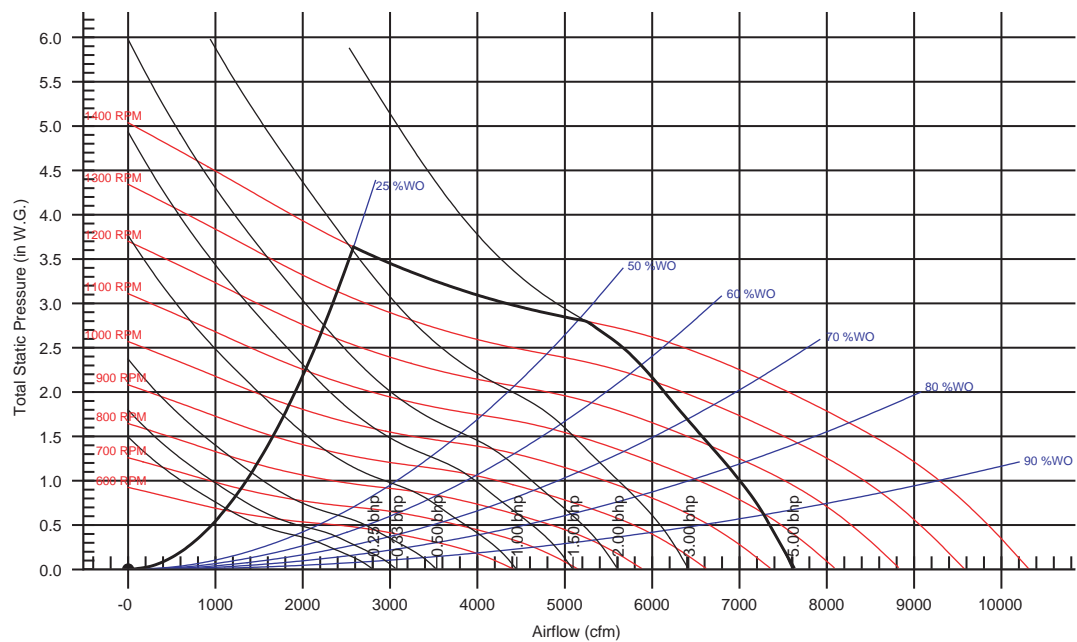


Table 26. Size 10 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0  |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 10        | 3500                | 1656                     | 674                            | 0.81 | 851  | 1.22 | 1009 | 1.79 | 1139 | 2.35 | 1250 | 2.91 | 1349 | 3.46 | 1438 | 4.01 | 1522 | 4.56 |
|           | 4000                | 1892                     | 718                            | 1.08 | 882  | 1.52 | 1030 | 2.06 | 1162 | 2.72 | 1277 | 3.37 | 1379 | 4.01 | 1470 | 4.63 | 1556 | 5.28 |
|           | 4500                | 2129                     | 765                            | 1.41 | 918  | 1.90 | 1056 | 2.42 | 1184 | 3.08 | 1301 | 3.82 | 1405 | 4.55 | 1499 | 5.28 | 1584 | 5.99 |
|           | 5000                | 2365                     | 815                            | 1.82 | 958  | 2.35 | 1088 | 2.90 | 1208 | 3.52 | 1323 | 4.28 | 1429 | 5.11 | 1523 | 5.91 | 1611 | 6.72 |
|           | 5500                | 2602                     | 868                            | 2.31 | 1001 | 2.87 | 1123 | 3.47 | 1238 | 4.10 | 1345 | 4.80 | 1450 | 5.65 | 1546 | 6.54 | 1636 | 7.46 |
|           | 6000                | 2838                     | 923                            | 2.89 | 1047 | 3.48 | 1164 | 4.14 | 1272 | 4.80 | 1374 | 5.49 | 1472 | 6.28 | 1568 | 7.20 | 1658 | 8.17 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 10 Vertical Unit, Top Back Discharge

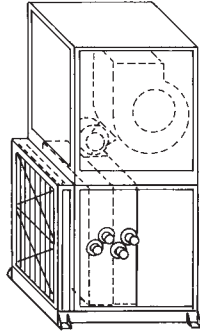


Figure 23. Fan performance for size 10 vertical unit, top back discharge

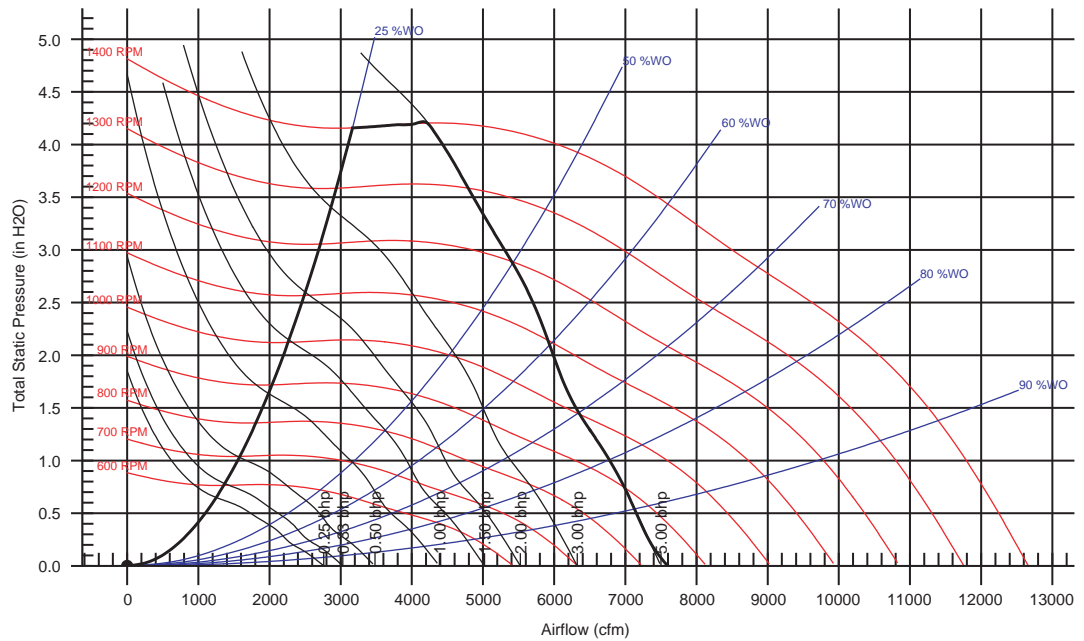


Table 27. Size 10 vertical unit, top back discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 10        | 3500                | 1656                     | 573                            | 0.89 | 719 | 1.20 | 848 | 1.60 | 968  | 2.02 | 1077 | 2.47 | 1179 | 2.96 | 1276 | 3.52 | 1366 | 4.11 |
|           | 4000                | 1892                     | 604                            | 1.18 | 747 | 1.57 | 867 | 1.96 | 978  | 2.43 | 1083 | 2.91 | 1182 | 3.41 | 1274 | 3.94 | 1362 | 4.52 |
|           | 4500                | 2129                     | 639                            | 1.53 | 780 | 2.03 | 892 | 2.41 | 997  | 2.90 | 1096 | 3.43 | 1189 | 3.96 | 1278 | 4.52 | 1364 | 5.10 |
|           | 5000                | 2365                     | 677                            | 1.97 | 813 | 2.56 | 922 | 3.01 | 1020 | 3.46 | 1113 | 4.01 | 1202 | 4.59 | 1286 | 5.19 | 1370 | 5.81 |
|           | 5500                | 2602                     | 718                            | 2.50 | 844 | 3.13 | 954 | 3.71 | 1048 | 4.18 | 1136 | 4.70 | 1221 | 5.30 | 1301 | 5.94 | 1381 | 6.61 |
|           | 6000                | 2838                     | 762                            | 3.13 | 878 | 3.79 | 987 | 4.50 | 1079 | 5.04 | 1163 | 5.54 | 1244 | 6.14 | 1321 | 6.79 | 1395 | 7.47 |

### Size 12 Horizontal Units

Horizontal unit, front top discharge

Horizontal unit, top front discharge

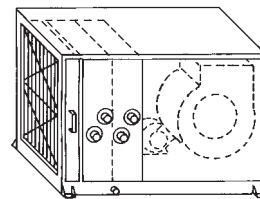
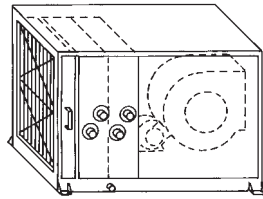


Figure 24. Fan performance for size 12 horizontal units

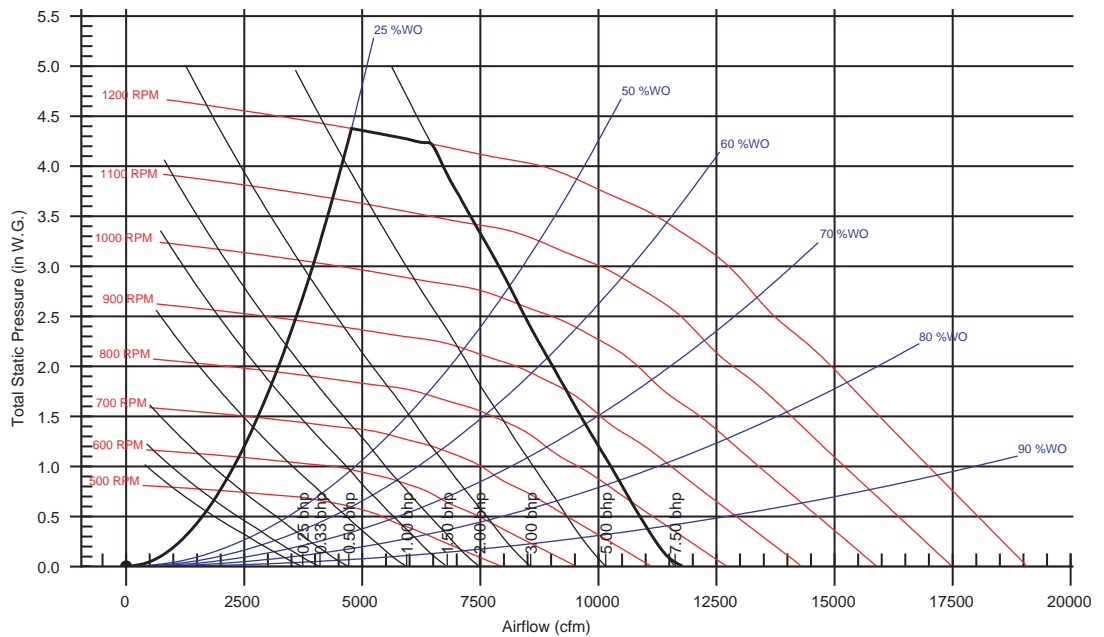


Table 28. Size 12 horizontal units

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 12        | 4200                | 1654                     | 462                            | 0.74 | 606 | 1.14 | 727 | 1.58 | 829 | 2.10 | 919 | 2.62 | 1001 | 3.16 | 1075 | 3.70 | 1147 | 4.26 |
|           | 4800                | 1891                     | 483                            | 0.96 | 620 | 1.42 | 735 | 1.88 | 838 | 2.40 | 928 | 2.99 | 1010 | 3.59 | 1085 | 4.20 | 1155 | 4.81 |
|           | 5400                | 2127                     | 507                            | 1.24 | 635 | 1.74 | 748 | 2.27 | 846 | 2.79 | 938 | 3.38 | 1019 | 4.04 | 1094 | 4.71 | 1165 | 5.39 |
|           | 6000                | 2363                     | 532                            | 1.57 | 656 | 2.13 | 762 | 2.70 | 858 | 3.28 | 946 | 3.87 | 1029 | 4.52 | 1104 | 5.24 | 1173 | 5.97 |
|           | 6600                | 2599                     | 559                            | 1.94 | 676 | 2.58 | 778 | 3.18 | 872 | 3.83 | 957 | 4.46 | 1037 | 5.12 | 1113 | 5.83 | 1183 | 6.59 |
|           | 7200                | 2836                     | 588                            | 2.39 | 698 | 3.08 | 797 | 3.75 | 887 | 4.43 | 971 | 5.15 | 1048 | 5.83 | 1120 | 6.53 | 1191 | 7.30 |

# Performance Data

## Fan Curves

### Size 12 Vertical Unit, Front Top Discharge

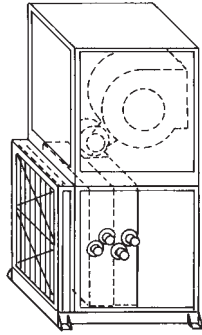


Figure 25. Fan performance for size 12 vertical unit, front top discharge

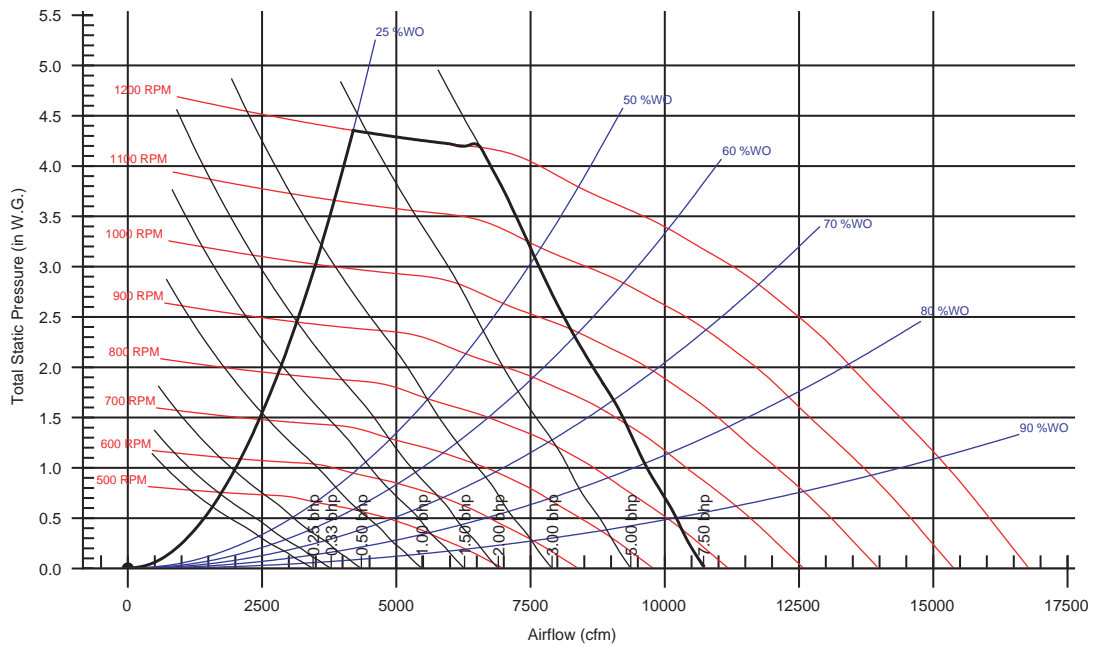


Table 29. Size 12 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 12        | 4200                | 1654                     | 473                            | 0.88 | 611 | 1.32 | 720 | 1.76 | 824 | 2.26 | 915 | 2.84 | 998  | 3.44 | 1073 | 4.04 | 1145 | 4.66 |
|           | 4800                | 1891                     | 498                            | 1.16 | 630 | 1.68 | 737 | 2.16 | 831 | 2.67 | 922 | 3.23 | 1005 | 3.89 | 1081 | 4.56 | 1152 | 5.24 |
|           | 5400                | 2127                     | 526                            | 1.49 | 649 | 2.09 | 757 | 2.64 | 846 | 3.18 | 930 | 3.77 | 1011 | 4.38 | 1089 | 5.10 | 1159 | 5.84 |
|           | 6000                | 2363                     | 557                            | 1.93 | 672 | 2.55 | 775 | 3.20 | 866 | 3.80 | 945 | 4.41 | 1019 | 5.04 | 1094 | 5.72 | 1167 | 6.46 |
|           | 6600                | 2599                     | 591                            | 2.44 | 695 | 3.08 | 795 | 3.82 | 885 | 4.51 | 964 | 5.16 | 1036 | 5.83 | 1103 | 6.52 | 1173 | 7.27 |
|           | 7200                | 2836                     | 626                            | 3.03 | 723 | 3.70 | 817 | 4.51 | 903 | 5.28 | 983 | 6.02 | 1056 | 6.75 | 1121 | 7.47 | 1183 | 8.21 |

Size 12 Vertical Unit, Top Front Discharge

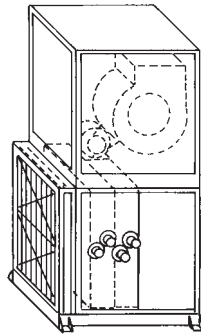


Figure 26. Fan performance for size 12 vertical unit, top front discharge

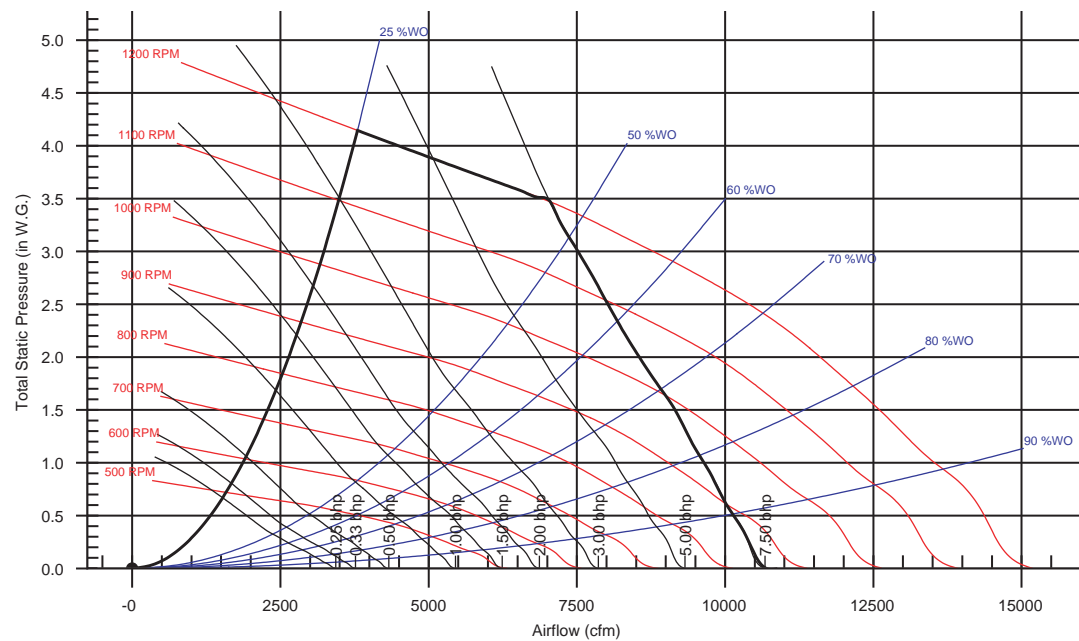


Table 30. Size 12 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 12        | 4200                | 1654                     | 514                            | 0.91 | 657 | 1.37 | 773 | 1.82 | 875 | 2.37 | 965  | 2.96 | 1045 | 3.57 | 1119 | 4.19 | 1187 | 4.82 |
|           | 4800                | 1891                     | 543                            | 1.18 | 681 | 1.72 | 793 | 2.26 | 892 | 2.76 | 981  | 3.38 | 1062 | 4.05 | 1135 | 4.73 | 1205 | 5.44 |
|           | 5400                | 2127                     | 576                            | 1.52 | 705 | 2.14 | 814 | 2.72 | 910 | 3.34 | 999  | 3.90 | 1079 | 4.57 | 1153 | 5.33 | 1221 | 6.08 |
|           | 6000                | 2363                     | 611                            | 1.95 | 731 | 2.62 | 838 | 3.27 | 932 | 3.94 | 1017 | 4.62 | 1096 | 5.24 | 1170 | 5.93 | 1239 | 6.76 |
|           | 6600                | 2599                     | 649                            | 2.46 | 759 | 3.16 | 862 | 3.91 | 955 | 4.61 | 1038 | 5.37 | 1114 | 6.10 | 1188 | 6.81 | 1257 | 7.48 |
|           | 7200                | 2836                     | 687                            | 3.05 | 790 | 3.78 | 889 | 4.62 | 978 | 5.41 | 1060 | 6.18 | 1136 | 7.01 | 1206 | 7.82 | 1274 | 8.58 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 12 Vertical Unit, Back Top Discharge

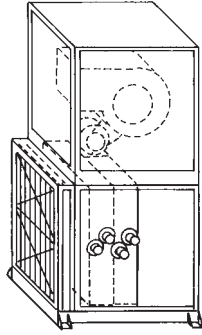


Figure 27. Fan performance for size 12 vertical unit, back top discharge

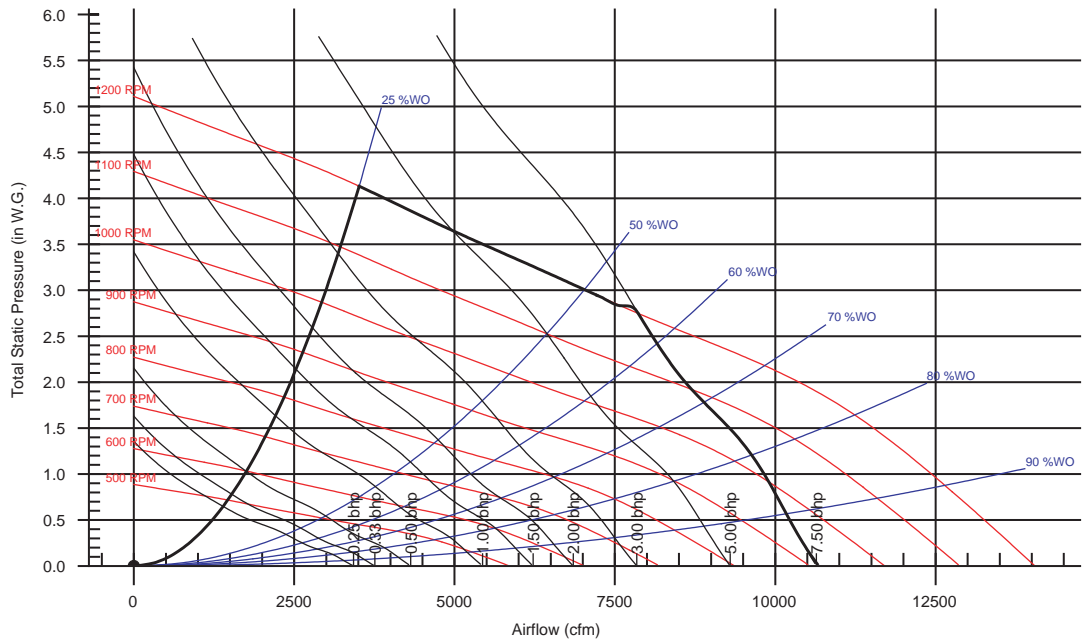


Table 31. Size 12 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |      |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 12        | 4200                | 1654                     | 549                            | 0.90 | 697 | 1.33 | 812 | 1.79 | 909  | 2.33 | 995  | 2.89 | 1072 | 3.47 | 1144 | 4.04 | 1210 | 4.61 |
|           | 4800                | 1891                     | 579                            | 1.16 | 725 | 1.69 | 838 | 2.18 | 935  | 2.72 | 1020 | 3.32 | 1099 | 3.97 | 1169 | 4.62 | 1236 | 5.29 |
|           | 5400                | 2127                     | 612                            | 1.47 | 752 | 2.11 | 866 | 2.66 | 962  | 3.22 | 1047 | 3.83 | 1124 | 4.51 | 1195 | 5.22 | 1263 | 5.95 |
|           | 6000                | 2363                     | 648                            | 1.86 | 779 | 2.58 | 894 | 3.22 | 989  | 3.83 | 1073 | 4.46 | 1151 | 5.13 | 1222 | 5.87 | 1288 | 6.64 |
|           | 6600                | 2599                     | 688                            | 2.34 | 808 | 3.11 | 920 | 3.85 | 1016 | 4.53 | 1101 | 5.21 | 1178 | 5.91 | 1248 | 6.62 | 1315 | 7.44 |
|           | 7200                | 2836                     | 730                            | 2.92 | 841 | 3.69 | 947 | 4.56 | 1044 | 5.33 | 1128 | 6.06 | 1204 | 6.79 | 1275 | 7.55 | 1340 | 8.32 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.



Size 12 Vertical Unit, Top Back Discharge

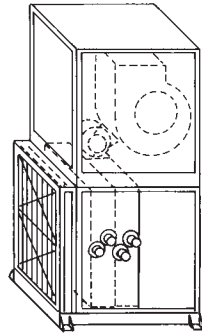


Figure 28. Fan performance for size 12 vertical unit, top back discharge

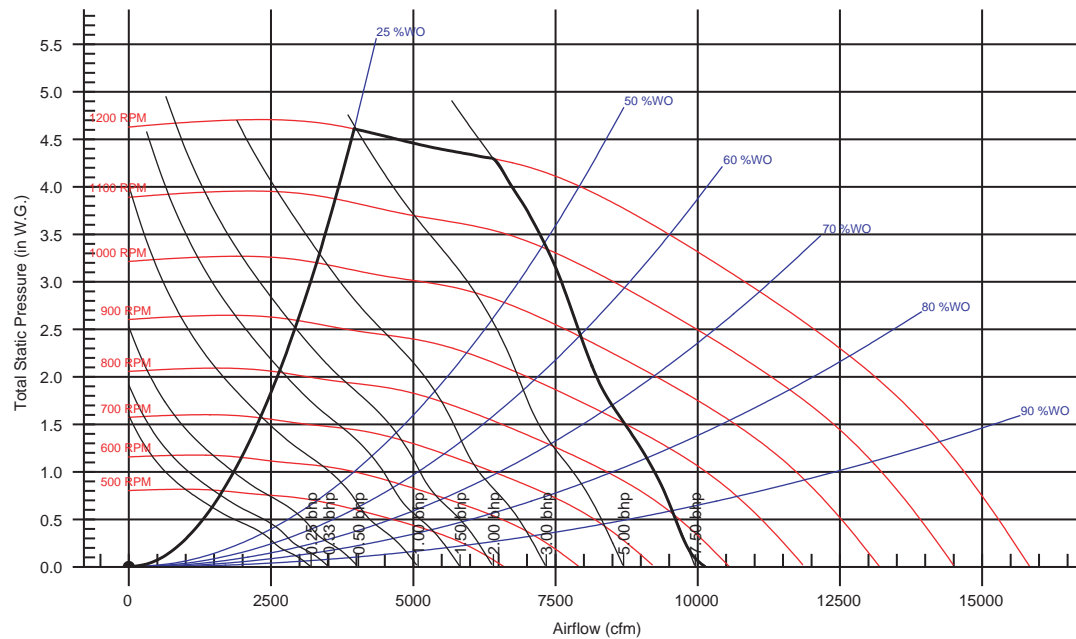


Table 32. Size 12 vertical unit, top back discharge

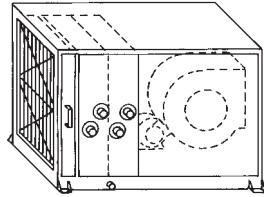
| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 12        | 4200                | 1654                     | 479                            | 0.98 | 607 | 1.34 | 714 | 1.76 | 814 | 2.28 | 902 | 2.82 | 984  | 3.39 | 1056 | 3.95 | 1125 | 4.53 |
|           | 4800                | 1891                     | 507                            | 1.30 | 629 | 1.74 | 731 | 2.17 | 824 | 2.67 | 911 | 3.26 | 992  | 3.87 | 1067 | 4.53 | 1135 | 5.17 |
|           | 5400                | 2127                     | 536                            | 1.69 | 653 | 2.25 | 752 | 2.69 | 841 | 3.21 | 923 | 3.77 | 1001 | 4.42 | 1074 | 5.10 | 1144 | 5.82 |
|           | 6000                | 2363                     | 568                            | 2.16 | 680 | 2.85 | 775 | 3.34 | 860 | 3.85 | 938 | 4.43 | 1012 | 5.05 | 1085 | 5.77 | 1152 | 6.50 |
|           | 6600                | 2599                     | 602                            | 2.74 | 708 | 3.48 | 800 | 4.12 | 883 | 4.64 | 958 | 5.22 | 1029 | 5.86 | 1096 | 6.54 | 1162 | 7.29 |
|           | 7200                | 2836                     | 638                            | 3.43 | 737 | 4.19 | 826 | 5.00 | 907 | 5.60 | 980 | 6.16 | 1048 | 6.81 | 1114 | 7.51 | 1176 | 8.24 |

# Performance Data

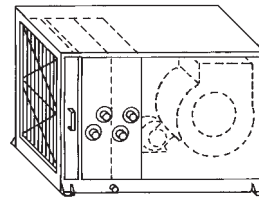
## Fan Curves

### Size 14 Horizontal Units

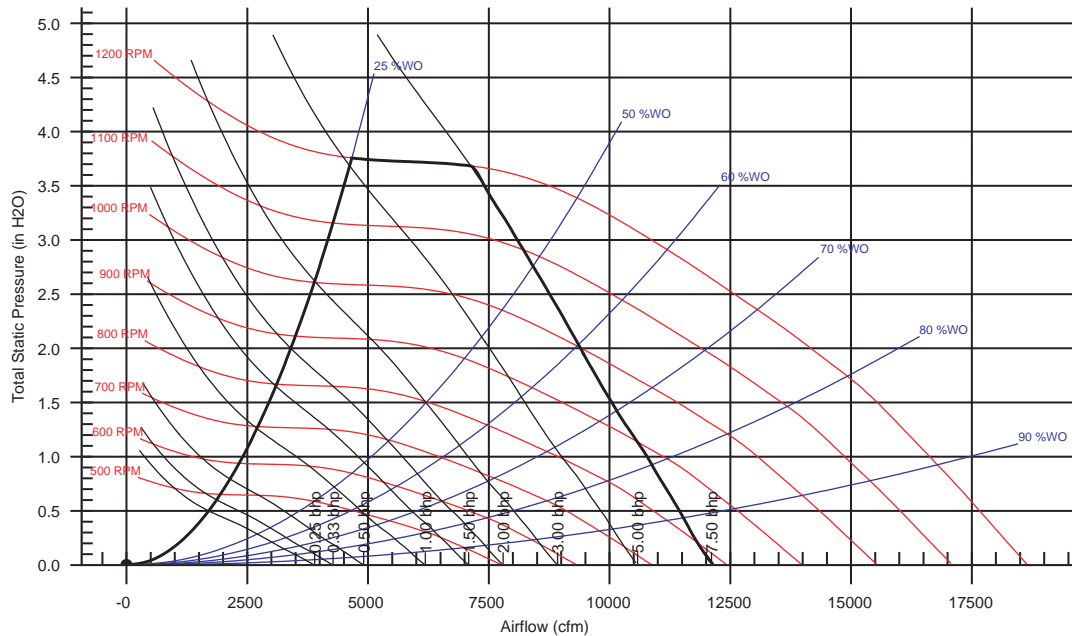
Horizontal unit, front top discharge



Horizontal unit, top front discharge



**Figure 29. Fan performance for size 14 horizontal units**



**Table 33. Size 14 horizontal units**

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |      |      |      |      |      |      |      |      |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |      |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  |
| 14        | 4900                | 1668                     | 501                            | 0.97 | 644 | 1.48 | 763 | 2.05 | 872 | 2.68 | 972  | 3.35 | 1062 | 4.05 | 1145 | 4.77 | 1222 | 5.51 |
|           | 5600                | 1907                     | 525                            | 1.26 | 665 | 1.84 | 779 | 2.46 | 881 | 3.12 | 976  | 3.83 | 1066 | 4.59 | 1149 | 5.37 | 1227 | 6.18 |
|           | 6300                | 2145                     | 554                            | 1.63 | 687 | 2.27 | 797 | 2.94 | 895 | 3.65 | 986  | 4.40 | 1071 | 5.19 | 1152 | 6.02 | 1230 | 6.90 |
|           | 7000                | 2383                     | 582                            | 2.04 | 711 | 2.80 | 818 | 3.50 | 913 | 4.27 | 1000 | 5.05 | 1082 | 5.89 | 1159 | 6.75 | 1233 | 7.65 |
|           | 7700                | 2622                     | 613                            | 2.55 | 735 | 3.36 | 840 | 4.16 | 933 | 4.97 | 1018 | 5.82 | 1096 | 6.68 | 1170 | 7.58 | 1242 | 8.53 |
|           | 8400                | 2860                     | 648                            | 3.16 | 762 | 4.03 | 864 | 4.93 | 955 | 5.77 | 1037 | 6.66 | 1113 | 7.59 | 1185 | 8.53 | 1256 | 9.53 |

**Note:** Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 14 Vertical Unit, Front Top Discharge

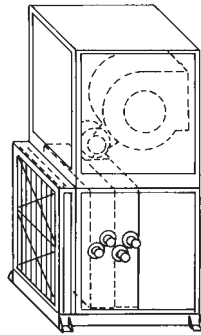


Figure 30. Fan performance for size 14 vertical unit, front top discharge

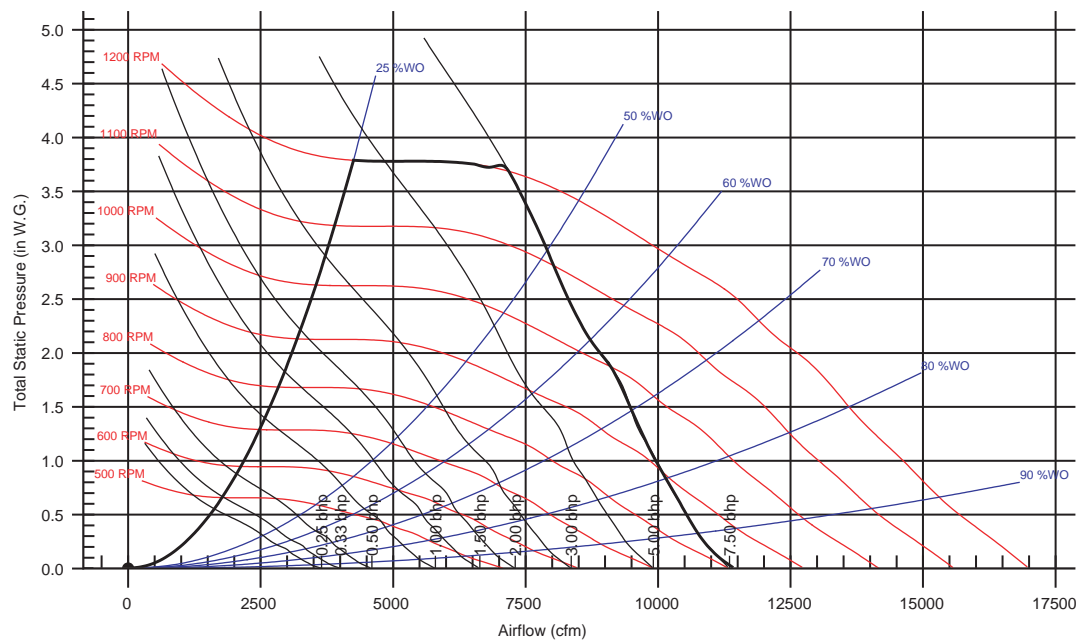


Table 34. Size 14 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |      |      |      |      |      |      |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp   |
| 14        | 4900                | 1668                     | 524                            | 1.13 | 659 | 1.67 | 772 | 2.16 | 876 | 2.72 | 975  | 3.40 | 1066 | 4.10 | 1149 | 4.81 | 1225 | 5.50  |
|           | 5600                | 1907                     | 562                            | 1.54 | 687 | 2.15 | 793 | 2.69 | 890 | 3.28 | 981  | 3.90 | 1070 | 4.67 | 1153 | 5.45 | 1230 | 6.25  |
|           | 6300                | 2145                     | 599                            | 2.04 | 716 | 2.66 | 819 | 3.36 | 909 | 3.95 | 996  | 4.62 | 1077 | 5.32 | 1158 | 6.12 | 1233 | 6.99  |
|           | 7000                | 2383                     | 639                            | 2.62 | 745 | 3.25 | 847 | 4.10 | 935 | 4.81 | 1015 | 5.47 | 1093 | 6.21 | 1168 | 6.97 | 1240 | 7.78  |
|           | 7700                | 2622                     | 683                            | 3.32 | 781 | 4.05 | 875 | 4.87 | 962 | 5.76 | 1040 | 6.51 | 1113 | 7.23 | 1185 | 8.05 | 1253 | 8.87  |
|           | 8400                | 2860                     | 726                            | 4.15 | 820 | 5.02 | 904 | 5.73 | 991 | 6.76 | 1068 | 7.69 | 1139 | 8.50 | 1205 | 9.28 | 1271 | 10.15 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 14 Vertical Unit, Top Front Discharge

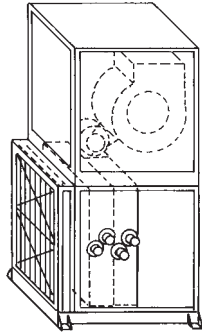


Figure 31. Fan performance for size 14 vertical unit, top front discharge

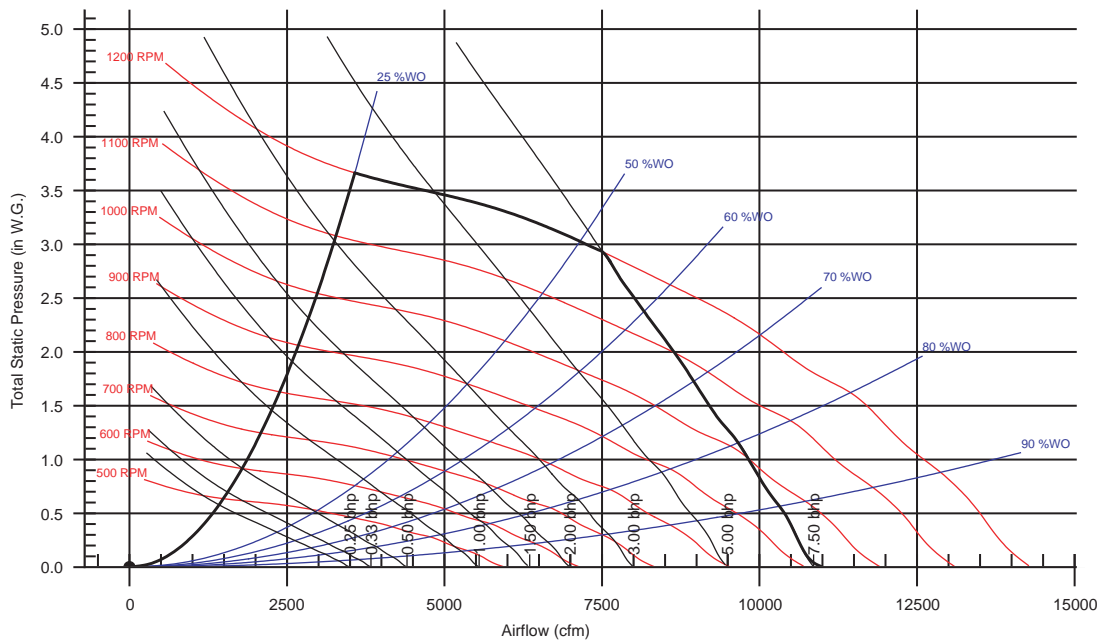


Table 35. Size 14 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp   | rpm  | bhp   |
| 14        | 4900                | 1668                     | 581                            | 1.21 | 722 | 1.80 | 838  | 2.40 | 939  | 3.02 | 1033 | 3.68 | 1119 | 4.36 | 1201 | 5.07  | 1275 | 5.79  |
|           | 5600                | 1907                     | 624                            | 1.62 | 753 | 2.26 | 867  | 2.94 | 966  | 3.64 | 1055 | 4.35 | 1137 | 5.08 | 1218 | 5.86  | 1293 | 6.66  |
|           | 6300                | 2145                     | 663                            | 2.10 | 787 | 2.82 | 897  | 3.58 | 993  | 4.34 | 1080 | 5.12 | 1161 | 5.92 | 1238 | 6.76  | 1310 | 7.60  |
|           | 7000                | 2383                     | 710                            | 2.71 | 826 | 3.51 | 929  | 4.31 | 1023 | 5.16 | 1109 | 6.01 | 1188 | 6.88 | 1262 | 7.76  | 1332 | 8.66  |
|           | 7700                | 2622                     | 761                            | 3.46 | 869 | 4.32 | 963  | 5.16 | 1055 | 6.09 | 1138 | 7.01 | 1216 | 7.95 | 1289 | 8.91  | 1358 | 9.88  |
|           | 8400                | 2860                     | 811                            | 4.32 | 909 | 5.21 | 1002 | 6.17 | 1087 | 7.12 | 1169 | 8.14 | 1246 | 9.16 | 1317 | 10.17 | 1385 | 11.22 |

Size 14 Vertical Unit, Back Top Discharge

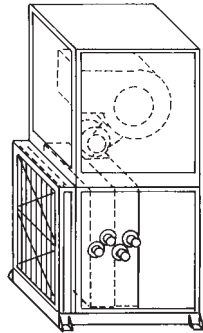


Figure 32. Fan performance for size 14 vertical unit, back top discharge

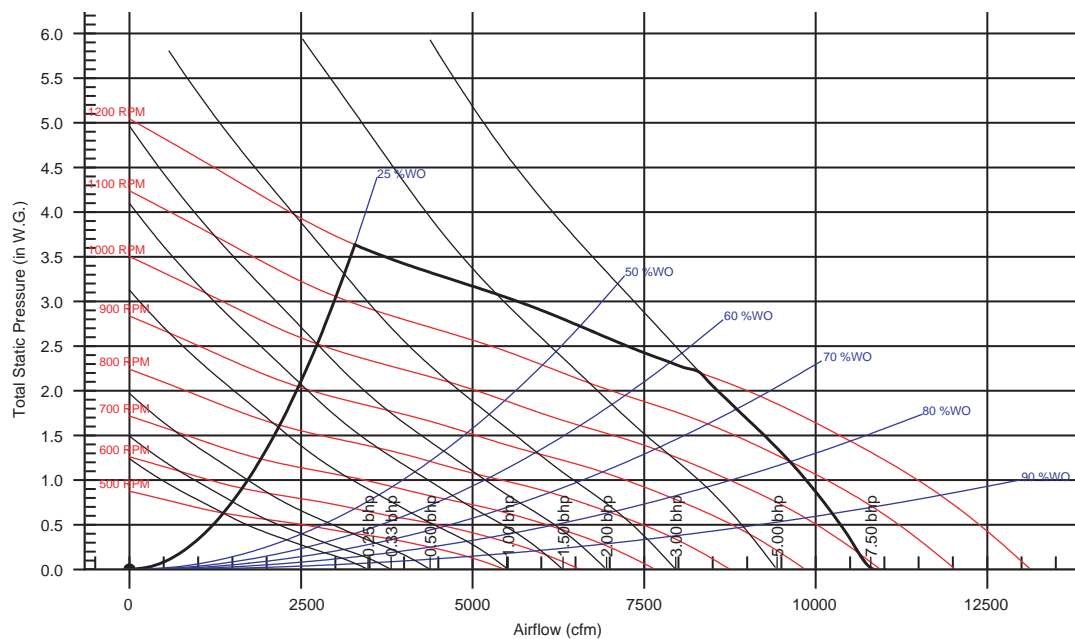


Table 36. Size 14 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |      |      |      |      |      |      |      |      |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|------|------|------|------|------|------|------|------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5  |      | 2.0  |      | 2.5  |      | 3.0  |      | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp   | rpm  | bhp   |
| 14        | 4900                | 1668                     | 622                            | 1.21 | 773 | 1.82 | 890  | 2.44 | 990  | 3.07 | 1082 | 3.73 | 1166 | 4.38 | 1244 | 5.05  | 1317 | 5.74  |
|           | 5600                | 1907                     | 667                            | 1.60 | 807 | 2.30 | 926  | 2.98 | 1025 | 3.70 | 1112 | 4.42 | 1196 | 5.17 | 1273 | 5.92  | 1345 | 6.67  |
|           | 6300                | 2145                     | 714                            | 2.09 | 843 | 2.86 | 962  | 3.63 | 1061 | 4.41 | 1148 | 5.21 | 1228 | 6.03 | 1303 | 6.86  | 1374 | 7.70  |
|           | 7000                | 2383                     | 764                            | 2.69 | 885 | 3.51 | 995  | 4.37 | 1097 | 5.23 | 1184 | 6.10 | 1262 | 6.98 | 1335 | 7.89  | 1404 | 8.81  |
|           | 7700                | 2622                     | 815                            | 3.42 | 928 | 4.26 | 1032 | 5.23 | 1131 | 6.18 | 1220 | 7.11 | 1298 | 8.06 | 1371 | 9.05  | 1438 | 10.03 |
|           | 8400                | 2860                     | 869                            | 4.28 | 975 | 5.16 | 1073 | 6.18 | 1166 | 7.23 | 1253 | 8.25 | 1334 | 9.28 | 1407 | 10.33 | 1474 | 11.40 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 14 Vertical Unit, Top Back Discharge

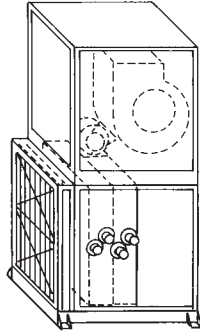


Figure 33. Fan performance for size 14 vertical unit, top back discharge

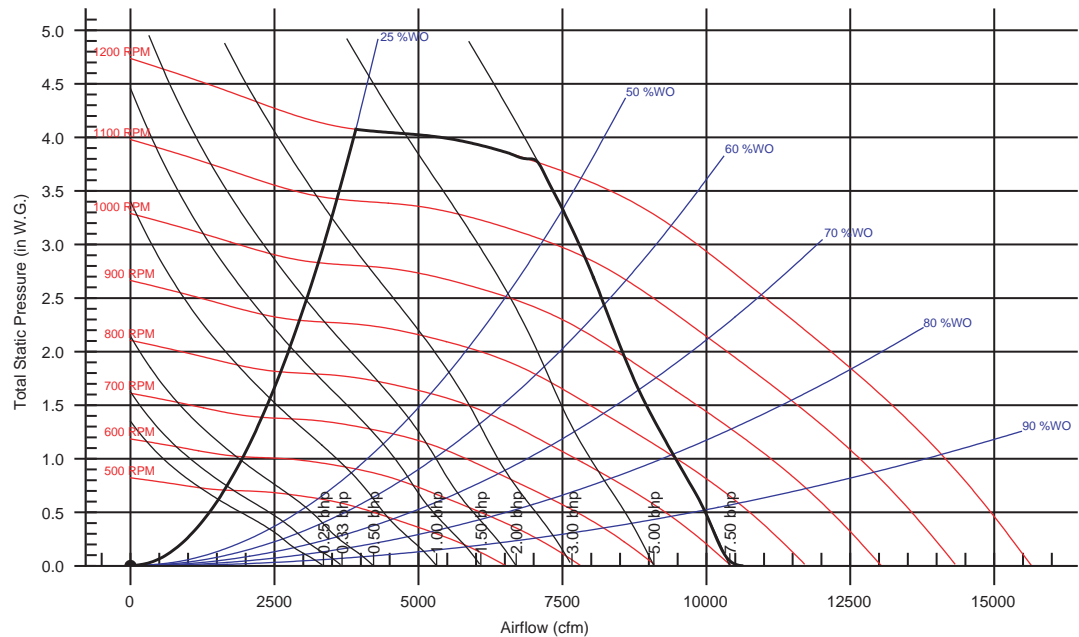


Table 37. Size 14 vertical unit, top back discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |      |      |      |      |      |      |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|------|------|------|------|------|------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5  |      | 3.0  |      | 3.5  |      | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp  | rpm  | bhp   |
| 14        | 4900                | 1668                     | 534                            | 1.28 | 657 | 1.70 | 766 | 2.17 | 866 | 2.70 | 957  | 3.27 | 1040 | 3.85 | 1118 | 4.47 | 1193 | 5.10  |
|           | 5600                | 1907                     | 572                            | 1.74 | 688 | 2.25 | 789 | 2.75 | 884 | 3.29 | 971  | 3.88 | 1052 | 4.52 | 1127 | 5.18 | 1200 | 5.86  |
|           | 6300                | 2145                     | 611                            | 2.29 | 723 | 2.92 | 816 | 3.45 | 906 | 4.03 | 989  | 4.65 | 1068 | 5.31 | 1142 | 6.02 | 1212 | 6.74  |
|           | 7000                | 2383                     | 653                            | 2.97 | 759 | 3.70 | 849 | 4.33 | 932 | 4.92 | 1010 | 5.56 | 1086 | 6.26 | 1159 | 6.99 | 1227 | 7.74  |
|           | 7700                | 2622                     | 697                            | 3.78 | 797 | 4.60 | 884 | 5.34 | 963 | 6.00 | 1036 | 6.65 | 1108 | 7.37 | 1178 | 8.14 | 1244 | 8.91  |
|           | 8400                | 2860                     | 741                            | 4.74 | 836 | 5.64 | 920 | 6.50 | 996 | 7.25 | 1066 | 7.96 | 1133 | 8.67 | 1199 | 9.45 | 1263 | 10.27 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

### Size 17 Horizontal Units

Horizontal unit, front top discharge

Horizontal unit, top front discharge

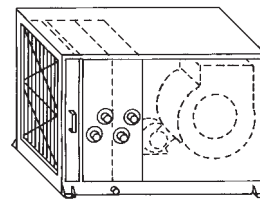
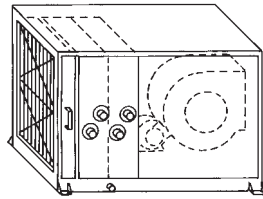


Figure 34. Fan performance for size 17 horizontal units

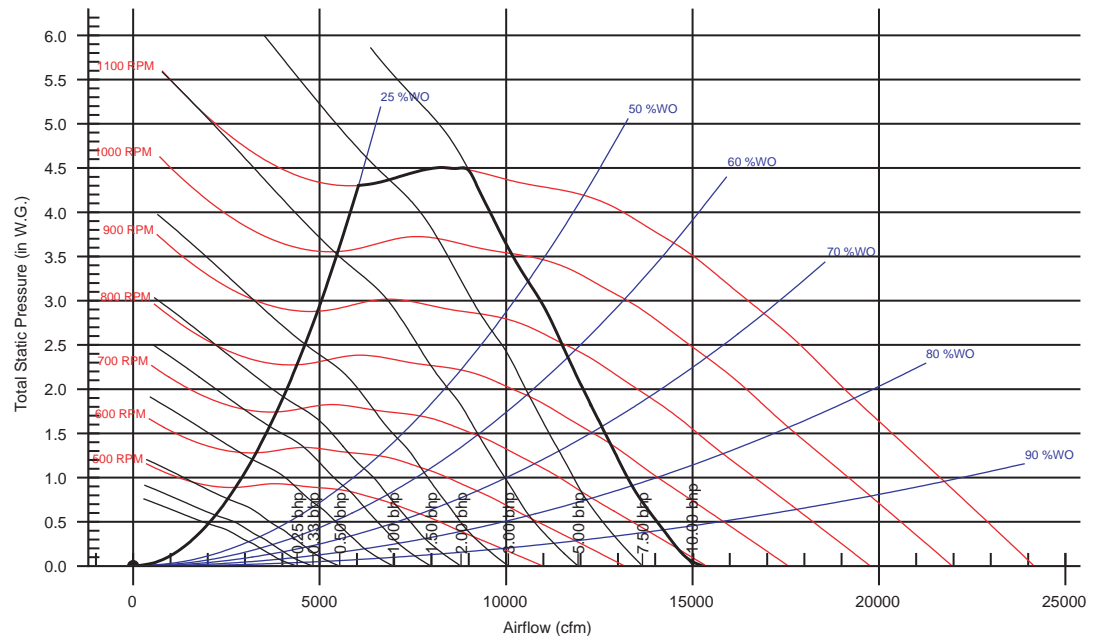


Table 38. Size 17 horizontal units

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |     |      |     |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0 |      | 3.5 |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp   | rpm  | bhp   |
| 17        | 5950                | 1714                     | 423                            | 1.22 | 536 | 1.75 | 643 | 2.35 | 734 | 2.96 | 818 | 3.62 | 903 | 4.40 | 983 | 5.24  | 1054 | 6.21  |
|           | 6800                | 1959                     | 451                            | 1.64 | 555 | 2.22 | 651 | 2.89 | 742 | 3.56 | 821 | 4.25 | 895 | 4.98 | 971 | 5.81  | 1044 | 6.72  |
|           | 7650                | 2203                     | 479                            | 2.15 | 576 | 2.81 | 664 | 3.49 | 750 | 4.27 | 831 | 5.03 | 901 | 5.79 | 969 | 6.59  | 1033 | 7.44  |
|           | 8500                | 2448                     | 510                            | 2.78 | 601 | 3.52 | 684 | 4.24 | 760 | 5.04 | 837 | 5.91 | 912 | 6.76 | 976 | 7.59  | 1037 | 8.45  |
|           | 9350                | 2693                     | 542                            | 3.53 | 629 | 4.34 | 705 | 5.14 | 777 | 5.93 | 848 | 6.87 | 917 | 7.82 | 986 | 8.76  | 1047 | 9.69  |
|           | 10200               | 2938                     | 575                            | 4.39 | 657 | 5.30 | 730 | 6.19 | 799 | 7.04 | 863 | 7.92 | 928 | 8.98 | 992 | 10.01 | 1055 | 11.03 |



# Performance Data

## Fan Curves

### Size 17 Vertical Unit, Front Top Discharge

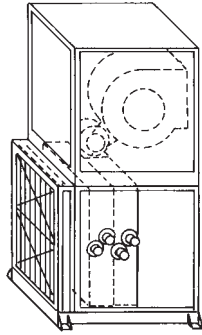


Figure 35. Fan performance for size 17 vertical unit, front top discharge

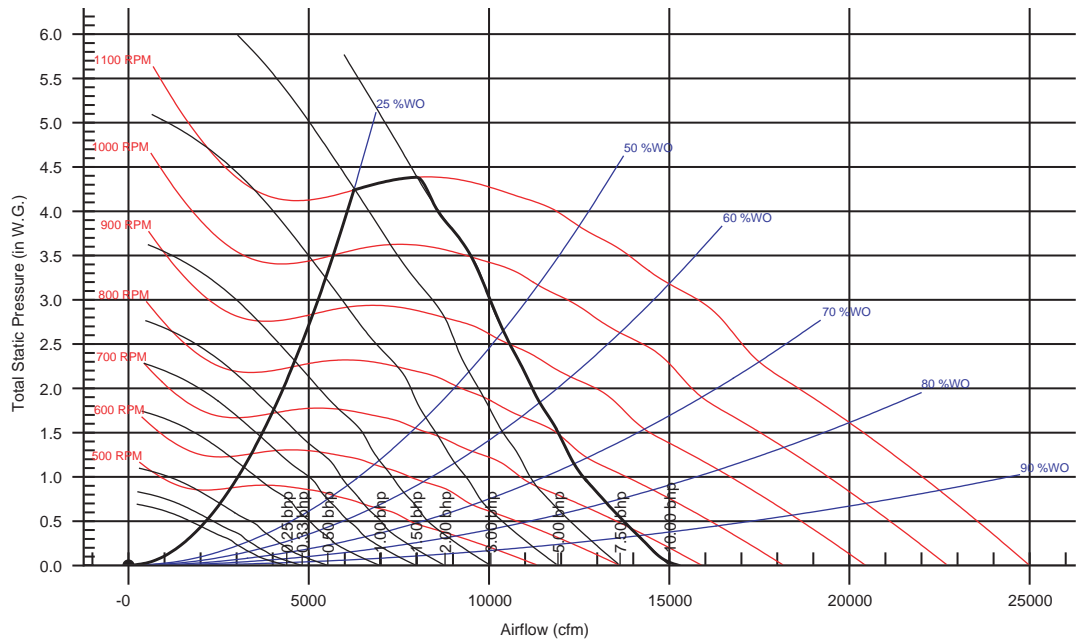


Table 39. Size 17 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |     |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0 |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp   | rpm  | bhp   | rpm  | bhp   |
| 17        | 5950                | 1714                     | 435                            | 1.42 | 549 | 2.04 | 651 | 2.65 | 744 | 3.44 | 831 | 4.22 | 912 | 5.02  | 985  | 5.81  | 1055 | 6.62  |
|           | 6800                | 1959                     | 459                            | 1.88 | 570 | 2.61 | 663 | 3.27 | 750 | 4.02 | 831 | 4.93 | 910 | 5.83  | 985  | 6.75  | 1053 | 7.64  |
|           | 7650                | 2203                     | 493                            | 2.48 | 594 | 3.30 | 682 | 4.10 | 762 | 4.79 | 839 | 5.66 | 912 | 6.70  | 985  | 7.72  | 1051 | 8.70  |
|           | 8500                | 2448                     | 524                            | 3.17 | 618 | 4.10 | 703 | 4.98 | 779 | 5.88 | 852 | 6.63 | 920 | 7.58  | 987  | 8.72  | 1052 | 9.85  |
|           | 9350                | 2693                     | 552                            | 3.96 | 641 | 5.00 | 727 | 6.03 | 801 | 7.01 | 867 | 7.96 | 934 | 8.77  | 997  | 9.80  | 1057 | 10.99 |
|           | 10200               | 2938                     | 582                            | 4.86 | 672 | 6.10 | 751 | 7.23 | 822 | 8.27 | 890 | 9.36 | 948 | 10.39 | 1010 | 11.26 | 1069 | 12.33 |



Size 17 Vertical Unit, Top Front Discharge

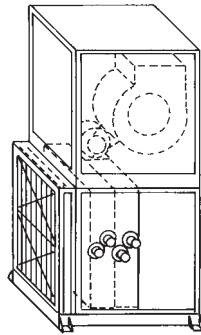


Figure 36. Fan performance for size 17 vertical unit, top front discharge

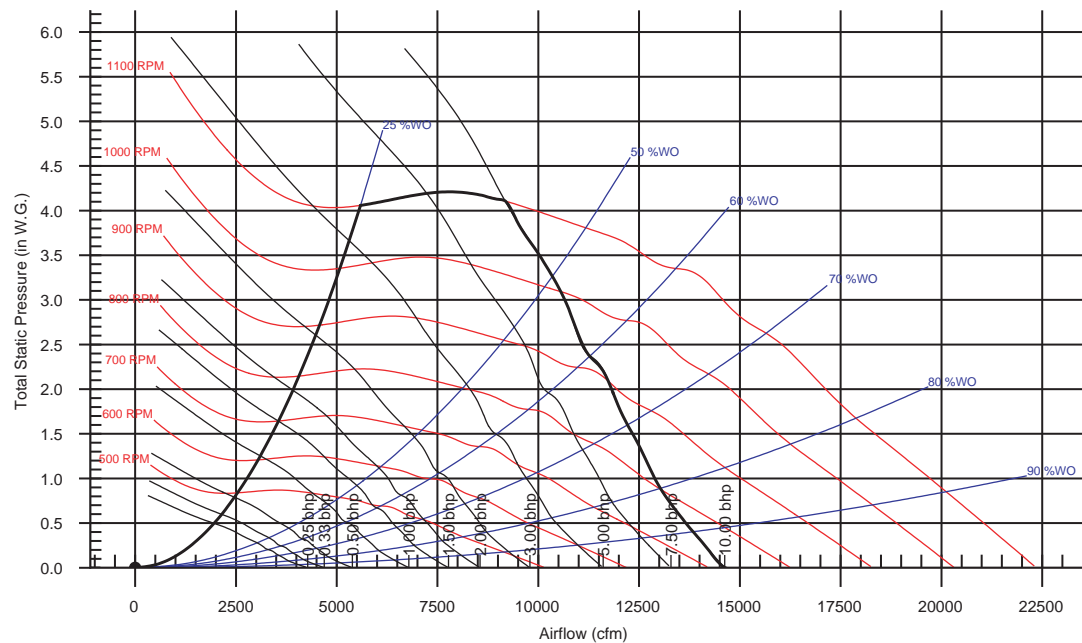


Table 40. Size 17 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |     |      |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0 |      | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp   | rpm  | bhp   |
| 17        | 5950                | 1714                     | 448                            | 1.28 | 567 | 1.81 | 669 | 2.43 | 761 | 3.07 | 844 | 3.70 | 922 | 4.39 | 994  | 5.10  | 1063 | 5.87  |
|           | 6800                | 1959                     | 478                            | 1.73 | 588 | 2.38 | 684 | 2.96 | 772 | 3.69 | 852 | 4.42 | 927 | 5.13 | 997  | 5.88  | 1064 | 6.67  |
|           | 7650                | 2203                     | 511                            | 2.29 | 605 | 2.93 | 701 | 3.66 | 787 | 4.38 | 864 | 5.21 | 935 | 6.02 | 1004 | 6.82  | 1069 | 7.64  |
|           | 8500                | 2448                     | 547                            | 2.97 | 637 | 3.69 | 725 | 4.57 | 803 | 5.23 | 878 | 6.05 | 947 | 6.97 | 1015 | 7.92  | 1077 | 8.80  |
|           | 9350                | 2693                     | 583                            | 3.79 | 667 | 4.60 | 740 | 5.35 | 824 | 6.34 | 895 | 7.09 | 963 | 8.02 | 1026 | 9.01  | 1088 | 10.07 |
|           | 10200               | 2938                     | 618                            | 4.73 | 697 | 5.62 | 772 | 6.48 | 847 | 7.58 | 913 | 8.39 | 979 | 9.24 | 1042 | 10.26 | 1100 | 11.33 |

# Performance Data

## Fan Curves

### Size 17 Vertical Unit, Back Top Discharge

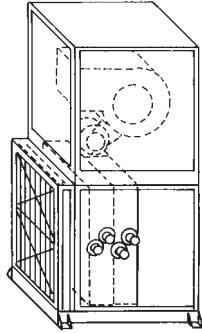


Figure 37. Fan performance for size 17 vertical unit, back top discharge

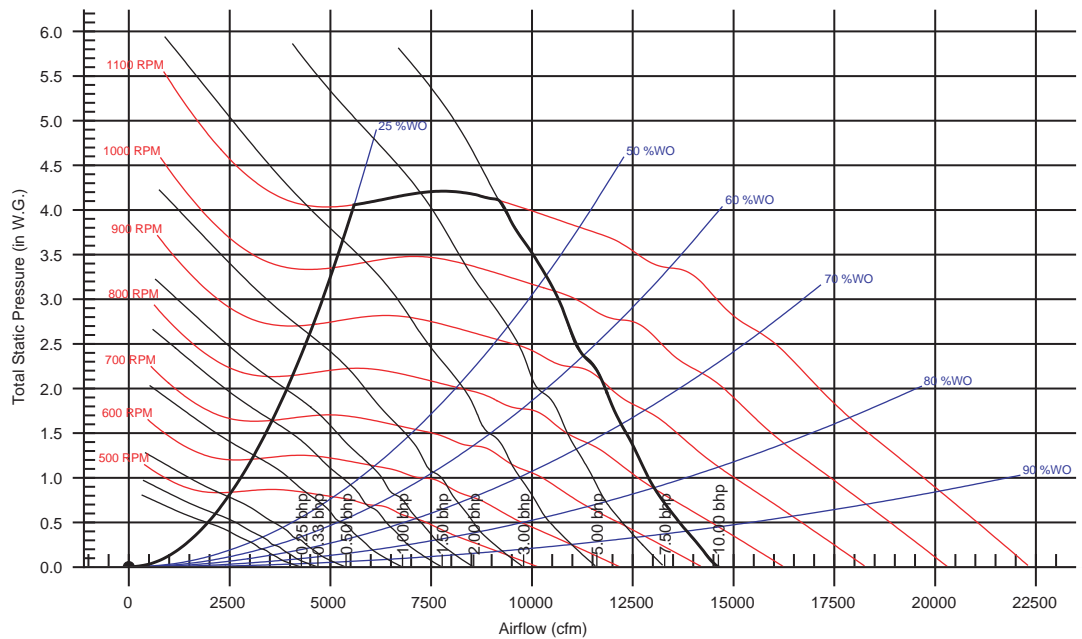


Table 41. Size 17 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |     |      |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0 |      | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm  | bhp   | rpm  | bhp   |
| 17        | 5950                | 1714                     | 448                            | 1.28 | 567 | 1.81 | 669 | 2.43 | 761 | 3.07 | 844 | 3.70 | 922 | 4.39 | 994  | 5.10  | 1063 | 5.87  |
|           | 6800                | 1959                     | 478                            | 1.73 | 588 | 2.38 | 684 | 2.96 | 772 | 3.69 | 852 | 4.42 | 927 | 5.13 | 997  | 5.88  | 1064 | 6.67  |
|           | 7650                | 2203                     | 511                            | 2.29 | 605 | 2.93 | 701 | 3.66 | 787 | 4.38 | 864 | 5.21 | 935 | 6.02 | 1004 | 6.82  | 1069 | 7.64  |
|           | 8500                | 2448                     | 547                            | 2.97 | 637 | 3.69 | 725 | 4.57 | 803 | 5.23 | 878 | 6.05 | 947 | 6.97 | 1015 | 7.92  | 1077 | 8.80  |
|           | 9350                | 2693                     | 583                            | 3.79 | 667 | 4.60 | 740 | 5.35 | 824 | 6.34 | 895 | 7.09 | 963 | 8.02 | 1026 | 9.01  | 1088 | 10.07 |
|           | 10200               | 2938                     | 618                            | 4.73 | 697 | 5.62 | 772 | 6.48 | 847 | 7.58 | 913 | 8.39 | 979 | 9.24 | 1042 | 10.26 | 1100 | 11.33 |

Size 17 Vertical Unit, Top Back Discharge

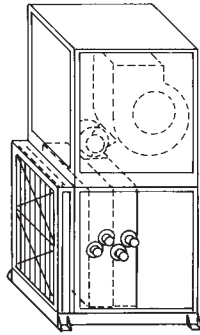


Figure 38. Fan performance for size 17 vertical unit, top back discharge

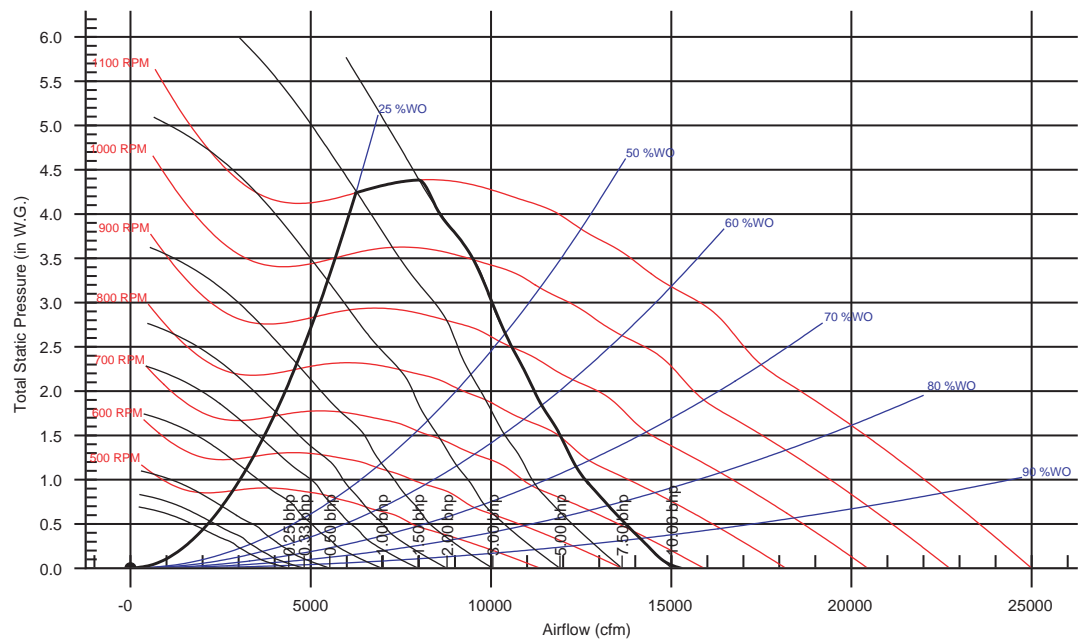


Table 42. Size 17 vertical unit, top back discharge

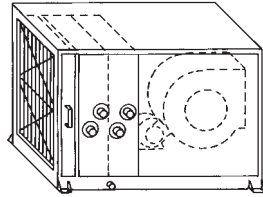
| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |      |     |      |     |      |     |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |      | 2.0 |      | 2.5 |      | 3.0 |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp  | rpm | bhp   | rpm  | bhp   | rpm  | bhp   |
| 17        | 5950                | 1714                     | 435                            | 1.42 | 549 | 2.04 | 651 | 2.65 | 744 | 3.44 | 831 | 4.22 | 912 | 5.02  | 985  | 5.81  | 1055 | 6.62  |
|           | 6800                | 1959                     | 459                            | 1.88 | 570 | 2.61 | 663 | 3.27 | 750 | 4.02 | 831 | 4.93 | 910 | 5.83  | 985  | 6.75  | 1053 | 7.64  |
|           | 7650                | 2203                     | 493                            | 2.48 | 594 | 3.30 | 682 | 4.10 | 762 | 4.79 | 839 | 5.66 | 912 | 6.70  | 985  | 7.72  | 1051 | 8.70  |
|           | 8500                | 2448                     | 524                            | 3.17 | 618 | 4.10 | 703 | 4.98 | 779 | 5.88 | 852 | 6.63 | 920 | 7.58  | 987  | 8.72  | 1052 | 9.85  |
|           | 9350                | 2693                     | 552                            | 3.96 | 641 | 5.00 | 727 | 6.03 | 801 | 7.01 | 867 | 7.96 | 934 | 8.77  | 997  | 9.80  | 1057 | 10.99 |
|           | 10200               | 2938                     | 582                            | 4.86 | 672 | 6.10 | 751 | 7.23 | 822 | 8.27 | 890 | 9.36 | 948 | 10.39 | 1010 | 11.26 | 1069 | 12.33 |

# Performance Data

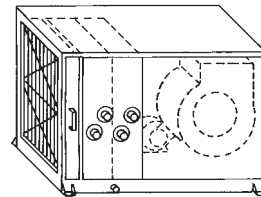
## Fan Curves

### Size 21 Horizontal Units

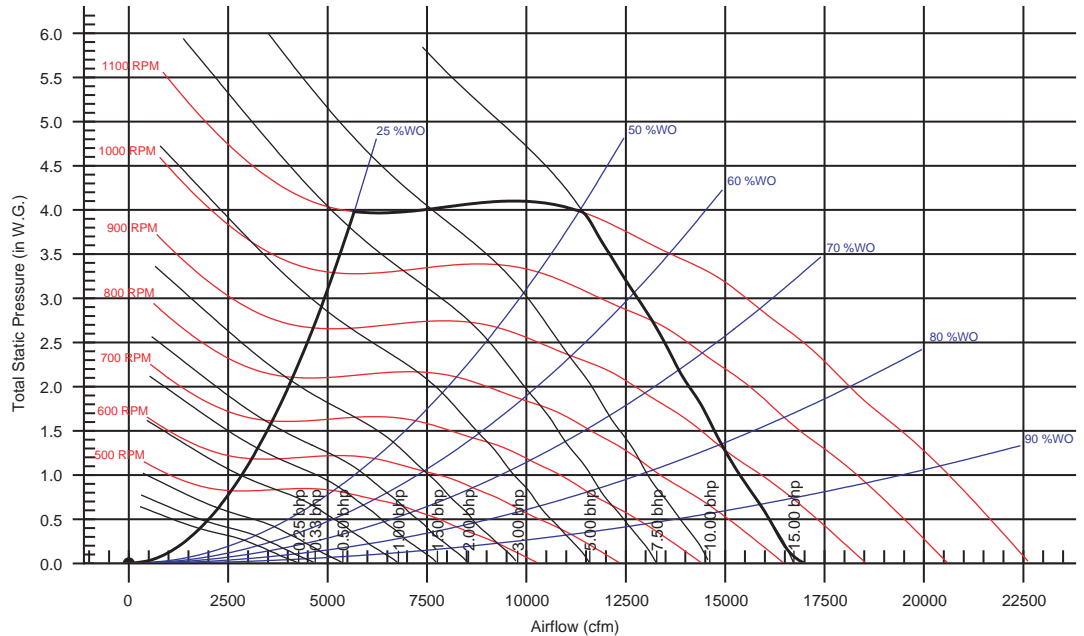
Horizontal unit, front top discharge



Horizontal unit, top front discharge



**Figure 39. Fan performance for size 21 horizontal units**



**Table 43. Size 21 horizontal units**

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |       |     |       |     |       |      |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |       | 2.0 |       | 2.5 |       | 3.0  |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 21        | 7350                | 1694                     | 483                            | 2.06 | 588 | 2.87 | 681 | 3.74  | 772 | 4.74  | 857 | 5.84  | 936  | 6.98  | 1010 | 8.16  | 1079 | 9.38  |
|           | 8400                | 1935                     | 523                            | 2.81 | 616 | 3.69 | 706 | 4.66  | 784 | 5.65  | 864 | 6.80  | 941  | 8.04  | 1013 | 9.32  | 1081 | 10.64 |
|           | 9450                | 2177                     | 565                            | 3.77 | 650 | 4.75 | 731 | 5.75  | 808 | 6.85  | 878 | 7.98  | 948  | 9.23  | 1018 | 10.60 | 1084 | 12.01 |
|           | 10500               | 2419                     | 606                            | 4.88 | 686 | 5.95 | 760 | 7.08  | 835 | 8.26  | 903 | 9.48  | 965  | 10.72 | 1027 | 12.05 | 1091 | 13.55 |
|           | 11550               | 2661                     | 648                            | 6.20 | 726 | 7.42 | 796 | 8.69  | 860 | 9.86  | 929 | 11.21 | 989  | 12.54 | 1047 | 13.91 | 1104 | 15.35 |
|           | 12600               | 2903                     | 692                            | 7.78 | 768 | 9.19 | 832 | 10.46 | 894 | 11.82 | 954 | 13.14 | 1016 | 14.64 | 1072 | 16.09 | 1126 | 17.59 |

**Note:** Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

Size 21 Vertical Unit, Front Top Discharge

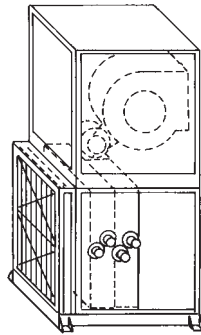


Figure 40. Fan performance for size 21 vertical unit, front top discharge

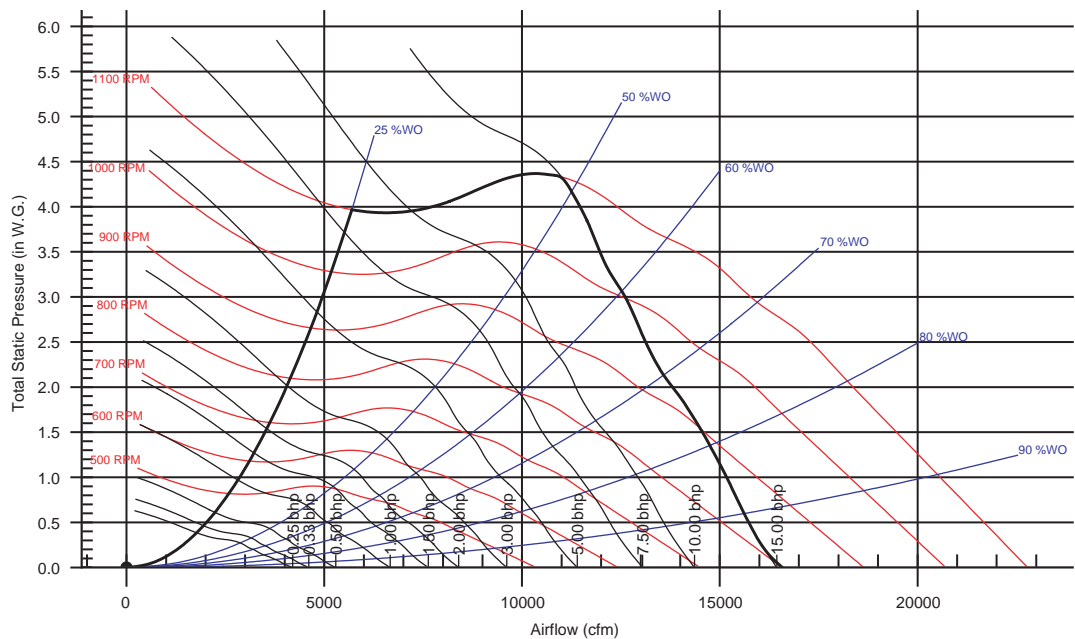


Table 44. Size 21 vertical unit, front top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |       |     |       |     |       |      |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |       | 2.0 |       | 2.5 |       | 3.0  |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 21        | 7350                | 1694                     | 477                            | 2.13 | 579 | 2.84 | 665 | 3.74  | 746 | 4.64  | 833 | 5.81  | 932  | 7.27  | 1021 | 8.78  | 1098 | 10.26 |
|           | 8400                | 1935                     | 518                            | 2.96 | 609 | 4.01 | 694 | 4.72  | 766 | 5.65  | 836 | 6.67  | 911  | 7.92  | 993  | 9.43  | 1078 | 11.14 |
|           | 9450                | 2177                     | 560                            | 3.88 | 645 | 4.96 | 720 | 5.94  | 796 | 7.03  | 857 | 7.97  | 920  | 9.08  | 984  | 10.40 | 1052 | 11.91 |
|           | 10500               | 2419                     | 604                            | 5.02 | 679 | 6.17 | 753 | 7.65  | 821 | 8.20  | 889 | 9.75  | 944  | 10.77 | 999  | 11.93 | 1057 | 13.31 |
|           | 11550               | 2661                     | 648                            | 6.46 | 719 | 7.80 | 790 | 9.09  | 850 | 10.69 | 913 | 11.13 | 974  | 12.88 | 1025 | 14.05 | 1075 | 15.24 |
|           | 12600               | 2903                     | 693                            | 8.19 | 761 | 9.61 | 823 | 10.84 | 887 | 12.59 | 941 | 14.01 | 1000 | 14.54 | 1056 | 16.46 | 1104 | 17.88 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 21 Vertical Unit, Top Front Discharge

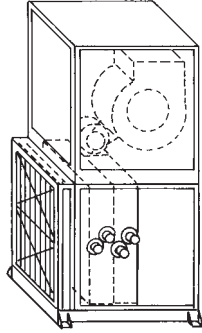


Figure 41. Fan performance for size 21 vertical unit, top front discharge

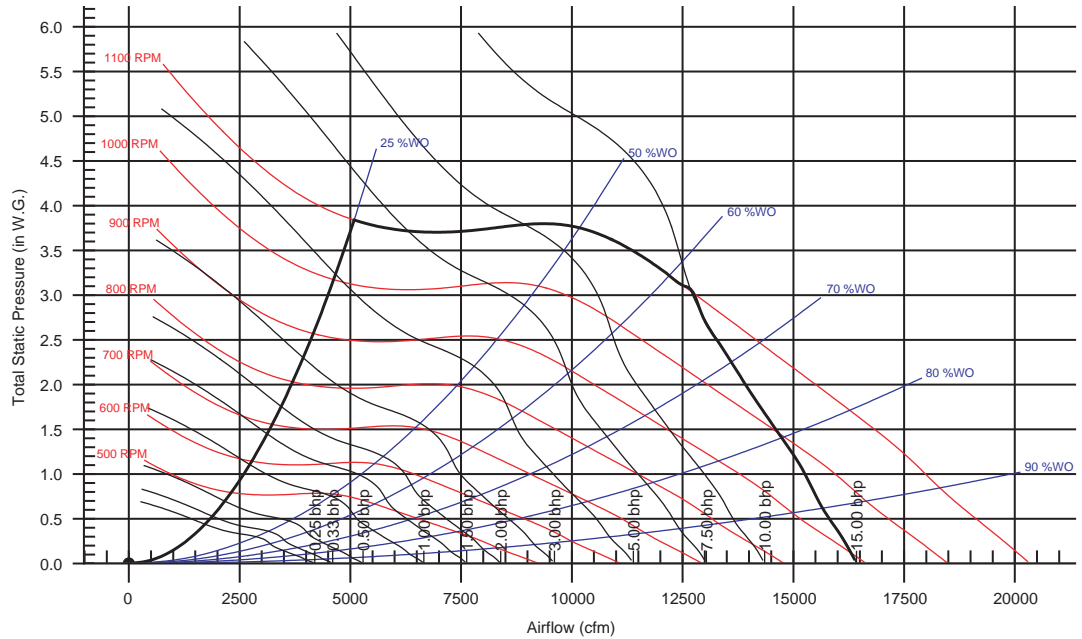


Table 45. Size 21 vertical unit, top front discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |       |     |       |      |       |      |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |       | 2.0 |       | 2.5  |       | 3.0  |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 21        | 7350                | 1694                     | 539                            | 2.14 | 632 | 2.89 | 734 | 3.60  | 804 | 4.32  | 898  | 5.47  | 985  | 6.71  | 1062 | 7.95  | 1137 | 9.26  |
|           | 8400                | 1935                     | 587                            | 2.86 | 673 | 3.81 | 761 | 4.63  | 845 | 5.43  | 907  | 6.27  | 981  | 7.41  | 1063 | 8.81  | 1137 | 10.24 |
|           | 9450                | 2177                     | 622                            | 3.70 | 714 | 4.91 | 790 | 5.86  | 873 | 6.75  | 946  | 7.67  | 1003 | 8.62  | 1057 | 9.63  | 1135 | 11.19 |
|           | 10500               | 2419                     | 670                            | 4.95 | 767 | 6.18 | 832 | 7.29  | 897 | 8.34  | 977  | 9.33  | 1042 | 10.35 | 1095 | 11.39 | 1142 | 12.45 |
|           | 11550               | 2661                     | 720                            | 6.48 | 818 | 7.63 | 874 | 8.99  | 938 | 10.14 | 998  | 11.30 | 1070 | 12.36 | 1132 | 13.46 | 1183 | 14.63 |
|           | 12600               | 2903                     | 772                            | 7.97 | 853 | 9.09 | 926 | 10.86 | 978 | 12.18 | 1036 | 13.48 | 1090 | 14.70 | 1159 | 15.90 | 1217 | 17.06 |

Size 21 Vertical Unit, Back Top Discharge

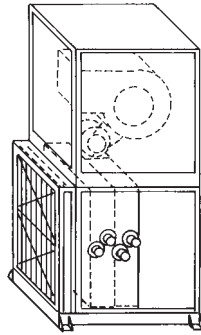


Figure 42. Fan performance for size 21 vertical unit, back top discharge

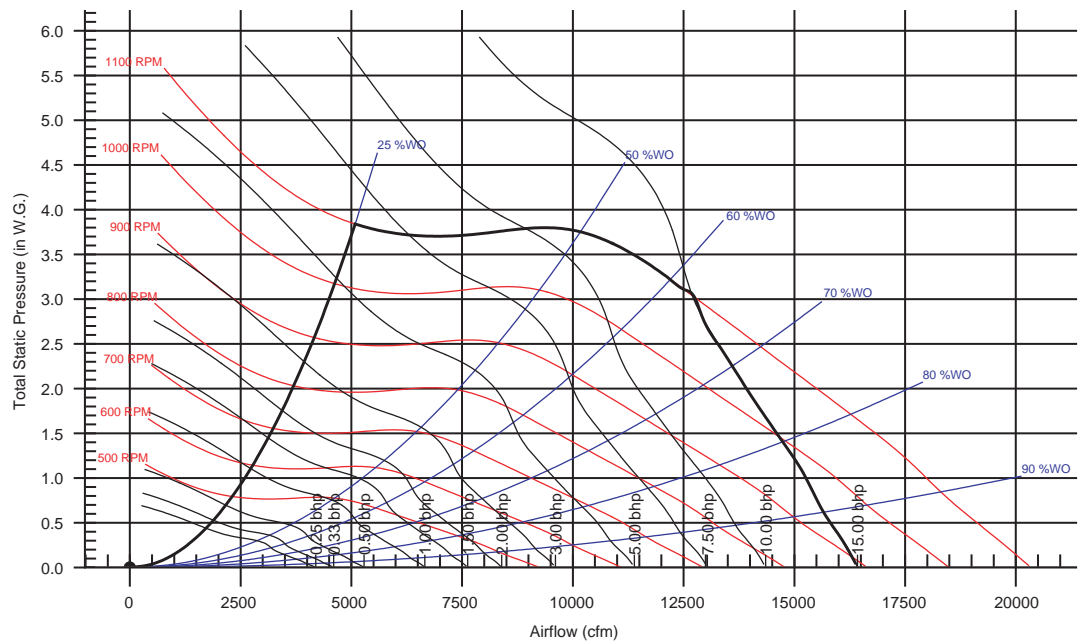


Table 46. Size 21 vertical unit, back top discharge

| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |       |     |       |      |       |      |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |       | 2.0 |       | 2.5  |       | 3.0  |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 21        | 7350                | 1694                     | 539                            | 2.14 | 632 | 2.89 | 734 | 3.60  | 804 | 4.32  | 898  | 5.47  | 985  | 6.71  | 1062 | 7.95  | 1137 | 9.26  |
|           | 8400                | 1935                     | 587                            | 2.86 | 673 | 3.81 | 761 | 4.63  | 845 | 5.43  | 907  | 6.27  | 981  | 7.41  | 1063 | 8.81  | 1137 | 10.24 |
|           | 9450                | 2177                     | 622                            | 3.70 | 714 | 4.91 | 790 | 5.86  | 873 | 6.75  | 946  | 7.67  | 1003 | 8.62  | 1057 | 9.63  | 1135 | 11.19 |
|           | 10500               | 2419                     | 670                            | 4.95 | 767 | 6.18 | 832 | 7.29  | 897 | 8.34  | 977  | 9.33  | 1042 | 10.35 | 1095 | 11.39 | 1142 | 12.45 |
|           | 11550               | 2661                     | 720                            | 6.48 | 818 | 7.63 | 874 | 8.99  | 938 | 10.14 | 998  | 11.30 | 1070 | 12.36 | 1132 | 13.46 | 1183 | 14.63 |
|           | 12600               | 2903                     | 772                            | 7.97 | 853 | 9.09 | 926 | 10.86 | 978 | 12.18 | 1036 | 13.48 | 1090 | 14.70 | 1159 | 15.90 | 1217 | 17.06 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.

# Performance Data

## Fan Curves

### Size 21 Vertical Unit, Top Back Discharge

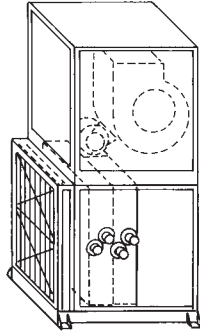


Figure 43. Fan performance for size 21 vertical unit, top back discharge

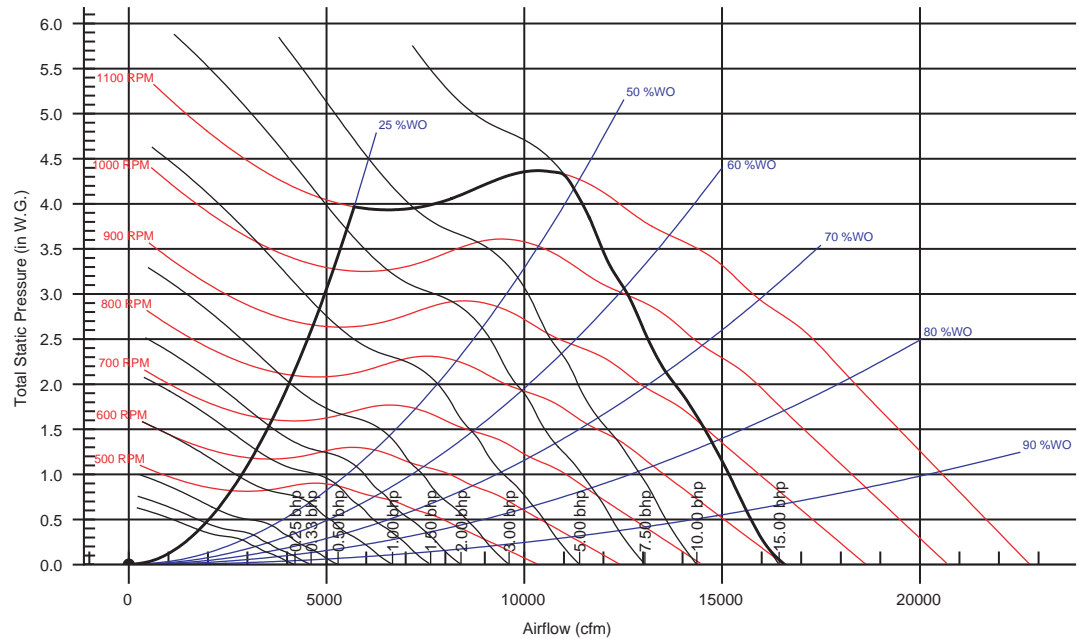


Table 47. Size 21 vertical unit, top back discharge

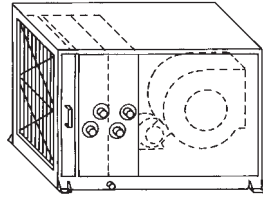
| Unit Size | Std. Air Flow (cfm) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |      |     |       |     |       |     |       |      |       |      |       |      |       |
|-----------|---------------------|--------------------------|--------------------------------|------|-----|------|-----|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|
|           |                     |                          | 0.5                            |      | 1.0 |      | 1.5 |       | 2.0 |       | 2.5 |       | 3.0  |       | 3.5  |       | 4.0  |       |
|           |                     |                          | rpm                            | bhp  | rpm | bhp  | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 21        | 7350                | 1694                     | 477                            | 2.13 | 579 | 2.84 | 665 | 3.74  | 746 | 4.64  | 833 | 5.81  | 932  | 7.27  | 1021 | 8.78  | 1098 | 10.26 |
|           | 8400                | 1935                     | 518                            | 2.96 | 609 | 4.01 | 694 | 4.72  | 766 | 5.65  | 836 | 6.67  | 911  | 7.92  | 993  | 9.43  | 1078 | 11.14 |
|           | 9450                | 2177                     | 560                            | 3.88 | 645 | 4.96 | 720 | 5.94  | 796 | 7.03  | 857 | 7.97  | 920  | 9.08  | 984  | 10.40 | 1052 | 11.91 |
|           | 10500               | 2419                     | 604                            | 5.02 | 679 | 6.17 | 753 | 7.65  | 821 | 8.20  | 889 | 9.75  | 944  | 10.77 | 999  | 11.93 | 1057 | 13.31 |
|           | 11550               | 2661                     | 648                            | 6.46 | 719 | 7.80 | 790 | 9.09  | 850 | 10.69 | 913 | 11.13 | 974  | 12.88 | 1025 | 14.05 | 1075 | 15.24 |
|           | 12600               | 2903                     | 693                            | 8.19 | 761 | 9.61 | 823 | 10.84 | 887 | 12.59 | 941 | 14.01 | 1000 | 14.54 | 1056 | 16.46 | 1104 | 17.88 |

Note: Shaded area denotes data that exceeds rpm curve. It is shown for interpolation purposes only.



### Size 25 Horizontal Units

Horizontal unit, front top discharge



Horizontal unit, top front discharge

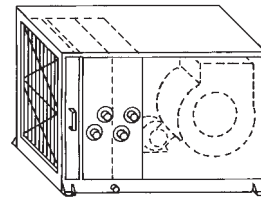


Figure 44. Fan performance for size 25 horizontal units

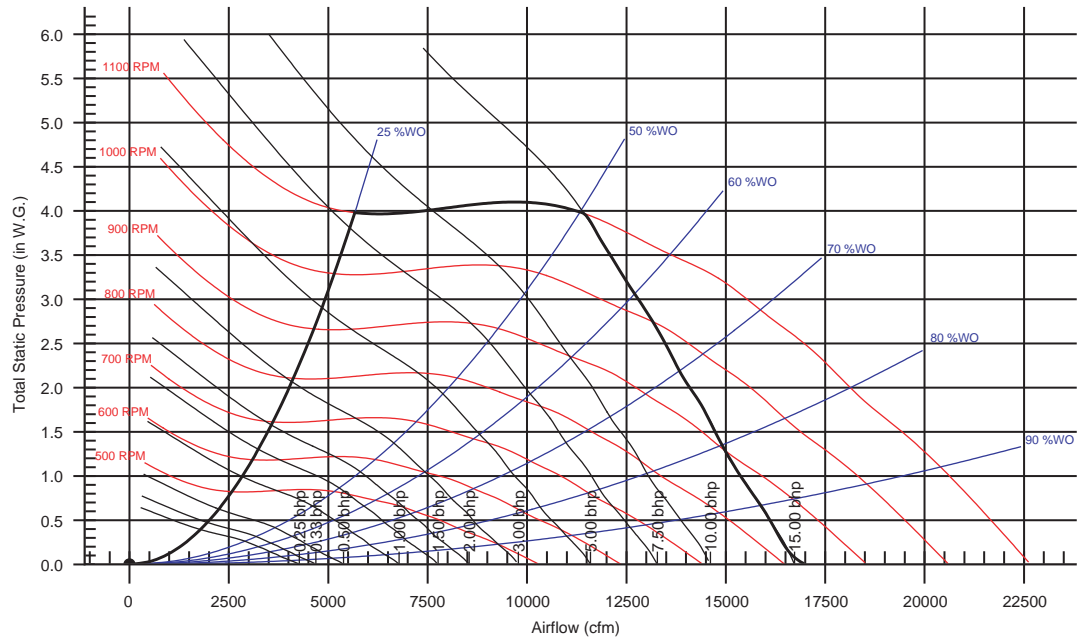


Table 48. Size 25 horizontal units

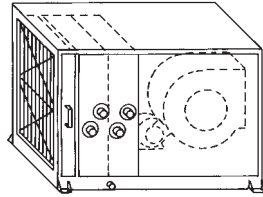
| Unit Size | Flow (cfm) | Std. Air Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |       |     |       |     |       |     |       |     |       |      |       |      |       |      |       |      |       |
|-----------|------------|----------------------------|--------------------------------|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|------|-------|------|-------|------|-------|------|-------|
|           |            |                            | 0.5                            |      | 1.0 |       | 1.5 |       | 2.0 |       | 2.5 |       | 3.0 |       | 3.5  |       | 4.0  |       | 4.5  |       | 5.0  |       |
|           |            |                            | rpm                            | bhp  | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   | rpm  | bhp   |
| 25        | 8750       | 2121                       | 454                            | 2.46 | 566 | 3.43  | 660 | 4.39  | 747 | 5.54  | 828 | 6.78  | 903 | 7.99  | 976  | 9.25  | 1043 | 10.53 | 1108 | 11.84 | 1171 | 13.22 |
|           | 10000      | 2424                       | 487                            | 3.35 | 591 | 4.45  | 680 | 5.52  | 761 | 6.66  | 837 | 7.96  | 909 | 9.36  | 977  | 10.76 | 1043 | 12.16 | 1105 | 13.59 | 1165 | 15.04 |
|           | 11250      | 2727                       | 523                            | 4.42 | 615 | 5.64  | 703 | 6.91  | 780 | 8.11  | 851 | 9.38  | 920 | 10.84 | 985  | 12.38 | 1048 | 13.99 | 1108 | 15.54 | 1167 | 17.14 |
|           | 12500      | 3030                       | 564                            | 5.82 | 645 | 7.12  | 728 | 8.52  | 803 | 9.89  | 871 | 11.22 | 935 | 12.60 | 998  | 14.21 | 1057 | 15.84 | 1115 | 17.61 | 1172 | 19.41 |
|           | 13750      | 3333                       | 607                            | 7.52 | 680 | 8.90  | 753 | 10.32 | 827 | 11.91 | 894 | 13.41 | 954 | 14.84 | 1013 | 16.36 | 1071 | 18.07 | 1126 | 19.82 | 1180 | 21.73 |
|           | 15000      | 3636                       | 648                            | 9.49 | 713 | 10.85 | 781 | 12.47 | 852 | 14.17 | 918 | 15.87 | 977 | 17.45 | 1034 | 19.06 | 1088 | 20.67 | 1141 | 22.47 | 1193 | 24.36 |

# Performance Data

## Fan Curves

### Size 30 Horizontal Units

Horizontal unit, front top discharge



Horizontal unit, top front discharge

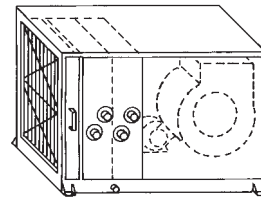


Figure 45. Fan performance for size 30 horizontal units

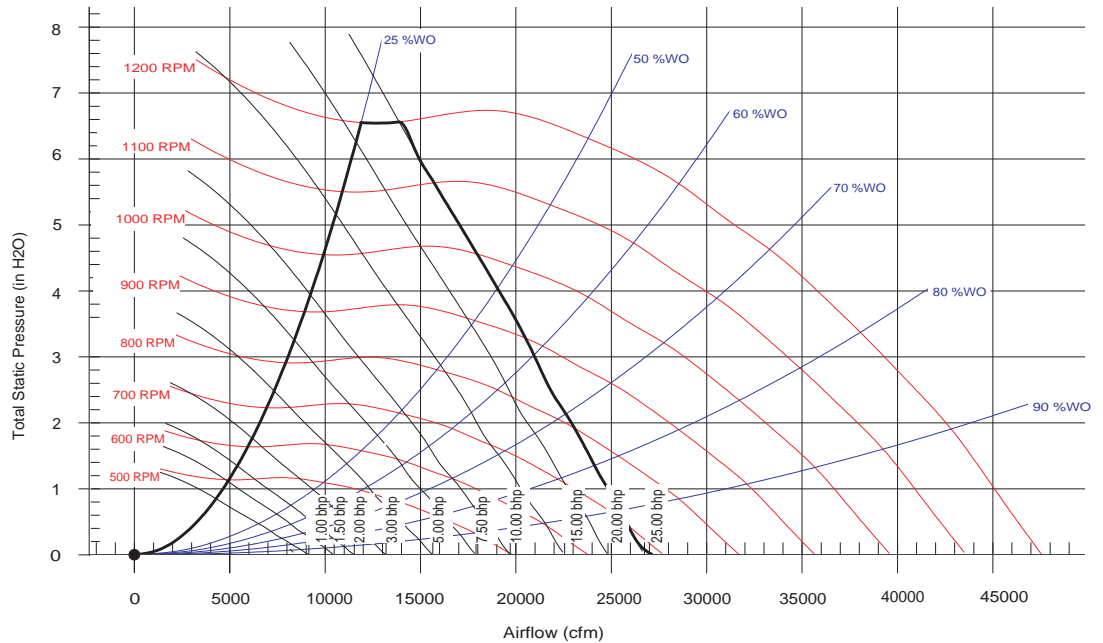
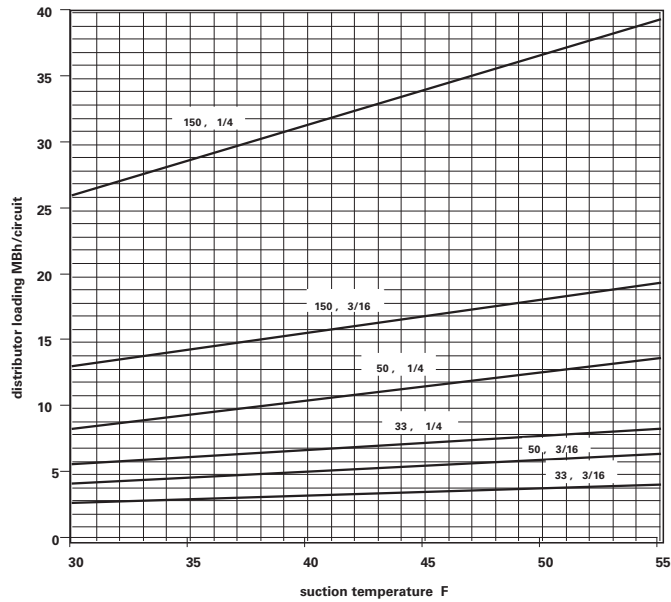


Table 49. Size 30 horizontal units

| Unit Size | Flow (cfm) | Std. Air Velocity (ft/min) | Outlet Velocity (ft/min) | Total Static Pressure (in. wg) |      |     |       |     |       |     |       |     |       |     |       |     |       |     |       |     |       |      |       |
|-----------|------------|----------------------------|--------------------------|--------------------------------|------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|------|-------|
|           |            |                            |                          | 0.5                            | 1.0  | 1.5 | 2.0   | 2.5 | 3.0   | 3.5 | 4.0   | 4.5 | 5.0   |     |       |     |       |     |       |     |       |      |       |
| 30        | 10500      | 2006                       |                          | 387                            | 2.61 | 486 | 3.68  | 574 | 4.85  | 654 | 6.12  | 731 | 7.43  | 804 | 8.76  | 872 | 10.13 | 935 | 11.56 | 990 | 13.31 | 1043 | 15.18 |
|           | 12000      | 2293                       |                          | 412                            | 3.48 | 505 | 4.73  | 587 | 5.99  | 662 | 7.36  | 731 | 8.79  | 799 | 10.27 | 866 | 11.80 | 928 | 13.32 | 987 | 14.86 | 1044 | 16.44 |
|           | 13500      | 2580                       |                          | 439                            | 4.60 | 527 | 6.06  | 603 | 7.38  | 674 | 8.83  | 740 | 10.37 | 803 | 12.00 | 863 | 13.65 | 923 | 15.30 | 982 | 17.05 | 1038 | 18.76 |
|           | 15000      | 2866                       |                          | 469                            | 5.97 | 550 | 7.53  | 622 | 9.07  | 689 | 10.58 | 754 | 12.22 | 813 | 13.93 | 870 | 15.70 | 925 | 17.54 | 978 | 19.37 | 1033 | 21.27 |
|           | 16500      | 3153                       |                          | 498                            | 7.58 | 574 | 9.24  | 645 | 11.08 | 707 | 12.66 | 768 | 14.36 | 826 | 16.17 | 881 | 18.04 | 933 | 19.97 | 983 | 21.95 | 1032 | 23.96 |
|           | 18000      | 3440                       |                          | 530                            | 9.47 | 601 | 11.29 | 667 | 13.24 | 729 | 15.13 | 785 | 16.87 | 841 | 18.75 | 894 | 20.72 | 945 | 22.77 | 993 | 24.85 | 1040 | 26.97 |

## Distributor Selection Curve

Figure 46. Distributor selection curve, LPC units with DX coils





## Performance Data

### Cooling Capacities - DX Coil, Size 3, R-22

## Cooling Capacities - DX Coil, R-22

Table 50. Unit size 3 DX cooling capacities, R-22

| Rows of Coil | fpi | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |      |       |      |      |      |       |      |      |      |
|--------------|-----|---------|------------|---|------|------|------|-------|------|------|------|-------|------|------|------|
|              |     |         |            | 75/63   |      |      |      | 80/67 |      |      |      | 85/71 |      |      |      |
|              |     |         |            | TC  | SC   | LDB  | LWB  | TC    | SC   | LDB  | LWB  | TC    | SC   | LDB  | LWB  |
| 4            | 9   | 1200    | 40         | 32.6  | 26.4 | 55.0 | 53.7 | 42.2  | 30.2 | 57.1 | 55.8 | —     | —    | —    | —    |
|              |     |         | 45         | 23.9  | 22.9 | 57.7 | 56.4 | 32.7  | 26.6 | 59.9 | 58.5 | 43.0  | 30.4 | 62.1 | 60.6 |
|              |     |         | 50         | —   | —    | —    | —    | 23.7  | 23.2 | 62.4 | 61.0 | 32.7  | 26.8 | 64.8 | 63.3 |
|              |     | 1500    | 40         | 36.8  | 30.9 | 56.2 | 54.7 | 46.9  | 35.1 | 58.8 | 57.1 | —     | —    | —    | —    |
|              |     |         | 45         | 27.4  | 27.2 | 58.5 | 56.9 | 37.0  | 31.3 | 61.1 | 59.4 | 47.7  | 35.3 | 63.7 | 61.9 |
|              |     |         | 50         | 20.5  | 20.5 | 62.6 | 58.5 | 27.2  | 27.2 | 63.6 | 61.5 | 37.0  | 31.6 | 65.9 | 64.1 |
|              |     | 1800    | 40         | 40.3  | 35.0 | 57.3 | 55.5 | —     | —    | —    | —    | —     | —    | —    | —    |
|              |     |         | 45         | 30.4  | 30.4 | 59.7 | 57.4 | 40.5  | 35.5 | 62.1 | 60.1 | —     | —    | —    | —    |
|              |     |         | 50         | 23.1  | 23.1 | 63.3 | 58.8 | 30.3  | 30.3 | 64.8 | 61.9 | 40.5  | 36.0 | 66.9 | 64.7 |
|              | 12  | 1200    | 40         | 36.8  | 28.9 | 53.0 | 52.4 | 46.7  | 32.9 | 55.0 | 54.4 | —     | —    | —    | —    |
|              |     |         | 45         | 27.2  | 25.0 | 56.0 | 55.4 | 37.1  | 29.1 | 57.9 | 57.3 | 47.8  | 33.1 | 60.0 | 59.3 |
|              |     |         | 50         | 19.7  | 19.7 | 60.1 | 57.6 | 27.0  | 25.4 | 60.8 | 60.1 | 37.3  | 29.4 | 62.9 | 62.1 |
|              |     | 1500    | 40         | 41.6  | 34.1 | 54.3 | 53.5 | —     | —    | —    | —    | —     | —    | —    | —    |
|              |     |         | 45         | 31.3  | 29.9 | 56.9 | 56.0 | 42.0  | 34.4 | 59.2 | 58.3 | —     | —    | —    | —    |
|              |     |         | 50         | 23.2  | 23.2 | 60.9 | 57.9 | 31.1  | 30.5 | 61.6 | 60.7 | 42.2  | 34.8 | 64.0 | 63.0 |
|              |     | 1800    | 40         | 45.4  | 38.7 | 55.4 | 54.4 | —     | —    | —    | —    | —     | —    | —    | —    |
|              |     |         | 45         | 34.9  | 34.5 | 57.6 | 56.6 | 45.8  | 39.2 | 60.2 | 59.1 | —     | —    | —    | —    |
|              |     |         | 50         | 26.3  | 26.3 | 61.7 | 58.2 | 34.8  | 34.7 | 62.5 | 61.1 | 46.0  | 39.8 | 65.0 | 63.8 |
|              | 14  | 1200    | 40         | 38.9  | 30.2 | 52.1 | 51.7 | —     | —    | —    | —    | —     | —    | —    | —    |
|              |     |         | 45         | 28.9  | 26.0 | 55.3 | 54.9 | 39.4  | 30.4 | 57.0 | 56.6 | 50.2  | 34.3 | 59.1 | 58.6 |
|              |     |         | 50         | 20.8  | 20.8 | 59.2 | 57.3 | 28.7  | 26.4 | 60.1 | 59.6 | 39.7  | 30.6 | 61.9 | 61.5 |
|              |     | 1500    | 40         | 44.0  | 35.5 | 53.4 | 52.9 | —     | —    | —    | —    | —     | —    | —    | —    |
|              |     |         | 45         | 33.4  | 31.2 | 56.1 | 55.5 | 44.5  | 35.9 | 58.3 | 57.7 | —     | —    | —    | —    |
|              |     |         | 50         | 24.6  | 24.6 | 60.1 | 57.6 | 33.2  | 31.8 | 60.8 | 60.2 | 44.8  | 36.3 | 63.1 | 62.5 |
| 1800         |     | 40      | —          | —   | —    | —    | —    | —     | —    | —    | —    | —     | —    | —    |      |
|              |     | 45      | 37.2       | 36.1  | 56.8 | 56.1 | 48.5 | 41.0  | 59.3 | 58.6 | —    | —     | —    | —    |      |
|              |     | 50      | 28.0       | 28.0  | 60.9 | 57.9 | 37.1 | 36.8  | 61.5 | 60.7 | 48.8 | 41.6  | 64.1 | 63.3 |      |
| 6            | 9   | 1200    | 40         | 41.6  | 31.4 | 51.2 | 50.8 | 51.1  | 35.1 | 53.4 | 53.0 | 60.9  | 38.5 | 55.8 | 55.5 |
|              |     |         | 45         | —   | —    | —    | —    | 42.7  | 31.7 | 56.0 | 55.6 | 52.9  | 35.4 | 58.2 | 57.8 |
|              |     |         | 50         | —   | —    | —    | —    | —     | —    | —    | —    | 43.6  | 32.0 | 60.8 | 60.4 |
|              |     | 1500    | 40         | 46.7  | 36.8 | 52.7 | 52.2 | 56.7  | 40.8 | 55.3 | 54.8 | 67.2  | 44.4 | 58.1 | 57.6 |
|              |     |         | 45         | 37.2  | 32.9 | 55.1 | 54.6 | 47.8  | 37.3 | 57.4 | 56.9 | 58.6  | 41.3 | 60.0 | 59.5 |
|              |     |         | 50         | —   | —    | —    | —    | —     | —    | —    | —    | 48.8  | 37.8 | 62.2 | 61.6 |
|              |     | 1800    | 40         | 50.8  | 41.7 | 53.9 | 53.3 | 61.0  | 45.9 | 56.8 | 56.2 | 71.9  | 49.9 | 59.9 | 59.2 |
|              |     |         | 45         | 41.0  | 37.8 | 55.9 | 55.3 | 51.9  | 42.4 | 58.6 | 58.0 | 63.0  | 46.7 | 61.5 | 60.8 |
|              |     |         | 50         | —   | —    | —    | —    | 41.3  | 38.6 | 60.6 | 59.9 | 52.9  | 43.2 | 63.3 | 62.6 |
|              | 12  | 1200    | 40         | 44.3  | 32.8 | 50.0 | 49.9 | 53.9  | 36.6 | 52.2 | 52.1 | 63.9  | 40.0 | 54.7 | 54.6 |
|              |     |         | 45         | 35.1  | 29.0 | 53.0 | 52.9 | 45.6  | 33.2 | 54.9 | 54.7 | 56.0  | 36.9 | 57.0 | 56.9 |
|              |     |         | 50         | —   | —    | —    | —    | —     | —    | —    | —    | 46.7  | 33.5 | 59.7 | 59.6 |
|              |     | 1500    | 40         | 49.9  | 38.6 | 51.6 | 51.4 | 60.0  | 42.6 | 54.2 | 54.0 | 70.5  | 46.2 | 57.0 | 56.8 |
|              |     |         | 45         | 40.3  | 34.6 | 54.0 | 53.8 | 51.2  | 39.1 | 56.3 | 56.1 | 62.3  | 43.2 | 58.9 | 58.7 |
|              |     |         | 50         | —   | —    | —    | —    | 40.7  | 35.2 | 58.7 | 58.5 | 52.4  | 39.7 | 61.0 | 60.9 |
|              |     | 1800    | 40         | 54.3  | 43.8 | 52.8 | 52.6 | 64.8  | 48.1 | 55.7 | 55.5 | 75.6  | 52.0 | 58.8 | 58.5 |
|              |     |         | 45         | 44.4  | 39.8 | 54.9 | 54.6 | 55.7  | 44.6 | 57.5 | 57.2 | 67.1  | 48.9 | 60.4 | 60.1 |
|              |     |         | 50         | —   | —    | —    | —    | 44.9  | 40.6 | 59.5 | 59.3 | 57.0  | 45.4 | 62.2 | 61.9 |
|              | 14  | 1200    | 40         | 45.6  | 33.4 | 49.6 | 49.5 | 55.3  | 37.1 | 51.8 | 51.7 | 65.2  | 40.5 | 54.3 | 54.2 |
|              |     |         | 45         | 36.4  | 29.5 | 52.6 | 52.5 | 47.0  | 33.7 | 54.4 | 54.3 | 57.5  | 37.5 | 56.6 | 56.5 |
|              |     |         | 50         | —   | —    | —    | —    | —     | —    | —    | —    | 48.2  | 34.1 | 59.3 | 59.2 |
|              |     | 1500    | 40         | 51.3  | 39.3 | 51.1 | 51.0 | 61.6  | 43.3 | 53.7 | 53.6 | 72.1  | 47.0 | 56.6 | 56.5 |
|              |     |         | 45         | 41.7  | 35.3 | 53.6 | 53.5 | 52.8  | 39.9 | 55.8 | 55.7 | 64.0  | 43.9 | 58.4 | 58.3 |
|              |     |         | 50         | —   | —    | —    | —    | 42.2  | 35.9 | 58.3 | 58.2 | 54.2  | 40.4 | 60.6 | 60.5 |
| 1800         |     | 40      | 55.9       | 44.7  | 52.4 | 52.3 | 66.6 | 49.0  | 55.2 | 55.1 | 77.4 | 52.9  | 58.3 | 58.2 |      |
|              |     | 45      | 46.1       | 40.7  | 54.4 | 54.3 | 57.5 | 45.5  | 57.0 | 56.9 | 69.1 | 49.9  | 59.9 | 59.7 |      |
|              |     | 50      | —          | —   | —    | —    | 46.6 | 41.5  | 59.1 | 59.0 | 58.9 | 46.3  | 61.7 | 61.6 |      |

**Notes:**

- Blank spaces in the data, designated by a dash (—) indicate coil data is not available at that condition due to the distributor loading.
- TC = Total capacity (MBh)
- SC = Sensible capacity (MBh)
- LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
- LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)
- Subcooled refrigerant liquid temperature entering thermostatic expansion valve = 110°F
- Do not manifold two independent refrigeration circuits into a single-circuited DX (evaporator) coil.** Instead, use a single-circuited condensing unit.

## Performance Data

### Cooling Capacities - DX Coil, Size 6, R-22

**Table 51. Unit size 6 DX cooling capacities, R-22**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |      |      |       |       |      |      |      |
|--------------|------|---------|------------|---|------|------|-------|-------|------|------|-------|-------|------|------|------|
|              |      |         |            | 75/63   |      |      |       | 80/67 |      |      |       | 85/71 |      |      |      |
|              |      |         |            | TC  | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB  |
| <b>4</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |      |
| 9            | 2400 | 40      | 67.3       | 53.6  | 54.6 | 53.4 | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 50.5       | 46.8  | 57.3 | 56.0 | 67.9  | 54.1  | 59.5 | 58.2 | —     | —     | —    | —    |      |
|              |      | 50      | 37.2       | 37.2  | 60.9 | 57.9 | 50.2  | 47.5  | 62.0 | 60.6 | 68.4  | 54.6  | 64.4 | 62.9 |      |
|              | 3000 | 40      | 74.9       | 62.4  | 56.1 | 54.5 | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 57.4       | 55.4  | 58.2 | 56.6 | 75.6  | 63.2  | 60.9 | 59.2 | —     | —     | —    | —    |      |
|              |      | 50      | 43.4       | 43.4  | 61.9 | 58.3 | 57.2  | 56.5  | 62.9 | 61.2 | 76.1  | 64.0  | 65.7 | 63.8 |      |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 63.4       | 63.3  | 59.0 | 57.2 | 81.7  | 71.4  | 62.0 | 60.0 | —     | —     | —    | —    |      |
|              |      | 50      | 48.7       | 48.7  | 62.7 | 58.6 | 63.3  | 63.0  | 64.1 | 61.7 | 82.2  | 72.6  | 66.8 | 64.6 |      |
| 12           | 2400 | 40      | 74.8       | 58.4  | 52.8 | 52.2 | —     | —     | —    | —    | —     | —     | —    |      |      |
|              |      | 45      | 57.2       | 51.2  | 55.6 | 54.9 | 75.9  | 58.9  | 57.7 | 57.0 | —     | —     | —    | —    |      |
|              |      | 50      | 41.6       | 41.6  | 59.3 | 57.3 | 57.0  | 51.9  | 60.4 | 59.7 | 76.6  | 59.4  | 62.6 | 61.8 |      |
|              | 3000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 65.3       | 60.9  | 56.5 | 55.7 | 84.5  | 69.1  | 59.1 | 58.2 | —     | —     | —    | —    |      |
|              |      | 50      | 48.8       | 48.8  | 60.2 | 57.6 | 65.2  | 62.1  | 61.2 | 60.3 | 85.3  | 70.0  | 63.9 | 62.9 |      |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 71.9       | 69.8  | 57.4 | 56.3 | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 50      | 55.2       | 55.2  | 61.1 | 58.0 | 72.0  | 71.4  | 62.0 | 60.9 | —     | —     | —    | —    |      |
| 14           | 2400 | 40      | 78.5       | 60.6  | 52.0 | 51.6 | —     | —     | —    | —    | —     | —     | —    |      |      |
|              |      | 45      | 60.7       | 53.2  | 54.8 | 54.4 | 79.8  | 61.1  | 56.9 | 56.4 | —     | —     | —    | —    |      |
|              |      | 50      | 43.8       | 42.6  | 58.4 | 56.9 | 60.6  | 53.9  | 59.6 | 59.2 | 80.8  | 61.6  | 61.7 | 61.3 |      |
|              | 3000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 69.2       | 63.5  | 55.8 | 55.2 | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 50      | 51.6       | 51.6  | 59.4 | 57.3 | 69.3  | 64.6  | 60.5 | 59.9 | 90.1  | 72.8  | 63.0 | 62.4 |      |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 45      | 76.1       | 72.8  | 56.6 | 55.9 | —     | —     | —    | —    | —     | —     | —    | —    |      |
|              |      | 50      | 58.5       | 58.5  | 60.2 | 57.6 | 76.3  | 74.4  | 61.3 | 60.5 | —     | —     | —    | —    |      |
| <b>6</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |      |
| 9            | 2400 | 40      | 78.9       | 60.7  | 52.0 | 51.5 | 95.7  | 67.3  | 54.5 | 54.1 | 112.9 | 73.2  | 57.3 | 56.8 |      |
|              |      | 45      | 63.5       | 54.3  | 54.4 | 54.0 | 81.1  | 61.5  | 56.7 | 56.2 | 99.3  | 68.1  | 59.2 | 58.8 |      |
|              |      | 50      | —          | —   | —    | —    | 64.1  | 55.1  | 59.2 | 58.7 | 83.1  | 62.3  | 61.5 | 61.0 |      |
|              | 3000 | 40      | 87.5       | 70.7  | 53.5 | 53.0 | 105.0 | 77.8  | 56.4 | 55.8 | 123.3 | 84.4  | 59.5 | 58.9 |      |
|              |      | 45      | 71.6       | 64.3  | 55.5 | 54.9 | 89.9  | 72.0  | 58.2 | 57.6 | 108.7 | 79.1  | 61.1 | 60.4 |      |
|              |      | 50      | —          | —   | —    | —    | 72.4  | 65.5  | 60.2 | 59.5 | 92.1  | 73.3  | 62.9 | 62.2 |      |
|              | 3600 | 40      | 94.3       | 79.9  | 54.8 | 54.1 | 112.0 | 87.4  | 57.9 | 57.2 | 130.9 | 94.4  | 61.2 | 60.4 |      |
|              |      | 45      | 78.1       | 73.5  | 56.4 | 55.7 | 96.9  | 81.7  | 59.4 | 58.6 | 116.0 | 89.2  | 62.6 | 61.7 |      |
|              |      | 50      | —          | —   | —    | —    | 79.1  | 75.2  | 61.1 | 60.3 | 99.1  | 83.4  | 64.0 | 63.2 |      |
|              | 12   | 2400    | 40         | 83.7  | 63.4 | 50.9 | 50.8  | 100.5 | 70.0 | 53.5 | 53.3  | 118.1 | 76.0 | 56.2 | 56.1 |
|              |      |         | 45         | 68.3  | 57.0 | 53.4 | 53.2  | 86.4  | 64.4 | 55.6 | 55.5  | 104.6 | 70.9 | 58.2 | 58.0 |
|              |      |         | 50         | —   | —    | —    | —     | 69.3  | 57.8 | 58.1 | 58.0  | 88.8  | 65.2 | 60.4 | 60.2 |
|              |      | 3000    | 40         | 93.1  | 74.2 | 52.5 | 52.3  | 110.7 | 81.3 | 55.4 | 55.1  | 129.0 | 87.8 | 58.4 | 58.2 |
|              |      |         | 45         | 77.1  | 67.6 | 54.5 | 54.3  | 95.9  | 75.6 | 57.1 | 56.9  | 115.1 | 82.7 | 60.0 | 59.8 |
|              |      |         | 50         | —   | —    | —    | —     | 78.2  | 69.0 | 59.1 | 58.9  | 98.5  | 76.9 | 61.8 | 61.5 |
|              |      | 3600    | 40         | 100.4   | 84.1 | 53.7 | 53.4  | 118.5 | 91.6 | 56.9 | 56.6  | 137.1 | 98.6 | 60.2 | 59.8 |
|              |      |         | 45         | 84.2  | 77.5 | 55.4 | 55.1  | 103.5 | 86.0 | 58.3 | 58.0  | 123.1 | 93.6 | 61.4 | 61.1 |
|              |      |         | 50         | 66.1  | 66.1 | 58.3 | 56.9  | 85.5  | 79.4 | 60.0 | 59.7  | 106.3 | 87.8 | 62.9 | 62.6 |
| 14           | 2400 | 40      | 86.0       | 64.5  | 50.5 | 50.4 | 102.9 | 71.1  | 53.0 | 52.9 | 120.3 | 77.0  | 55.8 | 55.7 |      |
|              |      | 45      | 70.6       | 58.0  | 53.0 | 52.9 | 88.8  | 65.4  | 55.2 | 55.1 | 107.2 | 72.1  | 57.7 | 57.6 |      |
|              |      | 50      | —          | —   | —    | —    | 71.7  | 58.9  | 57.7 | 57.6 | 91.5  | 66.4  | 59.9 | 59.8 |      |
|              | 3000 | 40      | 95.6       | 75.6  | 52.0 | 51.9 | 113.4 | 82.7  | 54.9 | 54.8 | 131.5 | 89.1  | 58.0 | 57.9 |      |
|              |      | 45      | 79.6       | 69.0  | 54.1 | 54.0 | 98.7  | 77.1  | 56.7 | 56.6 | 118.1 | 84.2  | 59.6 | 59.4 |      |
|              |      | 50      | —          | —   | —    | —    | 81.0  | 70.4  | 58.7 | 58.6 | 101.6 | 78.4  | 61.3 | 61.2 |      |
|              | 3600 | 40      | 103.3      | 85.8  | 53.3 | 53.2 | 121.5 | 93.4  | 56.4 | 56.3 | 140.1 | 100.3 | 59.7 | 59.6 |      |
|              |      | 45      | 87.0       | 79.2  | 55.0 | 54.8 | 106.7 | 87.7  | 57.9 | 57.7 | 126.5 | 95.4  | 61.0 | 60.8 |      |
|              |      | 50      | —          | —   | —    | —    | 88.6  | 81.1  | 59.6 | 59.4 | 109.7 | 89.6  | 62.5 | 62.3 |      |

**Notes:**

- Blank spaces in the data, designated by a dash (—) indicate coil data is not available at that condition due to the distributor loading.
- TC = Total capacity (MBh)
- SC = Sensible capacity (MBh)
- LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
- LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)
- Subcooled refrigerant liquid temperature entering thermostatic expansion valve = 110°F
- Do not manifold two independent refrigeration circuits into a single-circuited DX (evaporator) coil.** Instead, use a single-circuited condensing unit.



## Performance Data

### Cooling Capacities - DX Coil, Size 8, R-22

Table 52. Unit size 8 DX cooling capacities, R-22

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |       |      |       |       |       |      |       |       |       |      |      |
|--------------|------|---------|------------|---|-------|------|-------|-------|-------|------|-------|-------|-------|------|------|
|              |      |         |            | 75/63   |       |      |       | 80/67 |       |      |       | 85/71 |       |      |      |
|              |      |         |            | TC  | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |
| <b>4</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |
| 9            | 3200 | 40      | 97.3       | 75.4  | 53.5  | 52.5 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 73.7       | 65.7  | 56.3  | 55.2 | 98.8  | 76.0  | 58.4  | 57.3 | —     | —     | —     | —    | —    |
|              |      | 50      | 53.3       | 53.3  | 59.9  | 57.5 | 73.4  | 66.5  | 61.2  | 59.9 | 99.9  | 76.6  | 63.3  | 62.1 | —    |
|              | 4000 | 40      | 108.8      | 87.8  | 55.0  | 53.7 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 84.0       | 77.8  | 57.3  | 56.0 | 110.4 | 88.9  | 59.8  | 58.4 | —     | —     | —     | —    | —    |
|              |      | 50      | 62.4       | 62.4  | 60.8  | 57.9 | 83.8  | 79.1  | 62.1  | 60.6 | 111.4 | 89.9  | 64.7  | 63.1 | —    |
|              | 4800 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 92.7       | 88.9  | 58.2  | 56.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 70.6       | 70.6  | 61.7  | 58.2 | 92.7  | 90.7  | 62.9  | 61.1 | 120.6 | 101.9 | 65.8  | 63.9 | —    |
| 12           | 3200 | 40      | 106.8      | 81.3  | 51.8  | 51.4 | —     | —     | —     | —    | —     | —     | —     | —    |      |
|              |      | 45      | 82.5       | 71.2  | 54.7  | 54.2 | 108.8 | 82.0  | 56.7  | 56.2 | —     | —     | —     | —    |      |
|              |      | 50      | 59.2       | 57.6  | 58.2  | 56.8 | 82.5  | 72.1  | 59.6  | 59.0 | 110.5 | 82.7  | 61.6  | 61.0 |      |
|              | 4000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 94.4       | 84.9  | 55.7  | 55.0 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 69.6       | 69.6  | 59.2  | 57.2 | 94.5  | 86.2  | 60.4  | 59.7 | 123.5 | 97.5  | 62.9  | 62.2 |      |
|              | 4800 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 103.9      | 97.2  | 56.6  | 55.7 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 79.0       | 79.0  | 60.0  | 57.6 | 104.1 | 99.2  | 61.3  | 60.3 | —     | —     | —     | —    |      |
| 14           | 3200 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |
|              |      | 45      | 87.0       | 73.7  | 54.0  | 53.7 | 113.8 | 84.7  | 55.9  | 55.6 | —     | —     | —     | —    |      |
|              |      | 50      | 62.2       | 60.6  | 57.3  | 56.5 | 87.2  | 74.6  | 58.8  | 58.5 | 115.8 | 85.4  | 60.8  | 60.5 |      |
|              | 4000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 99.3       | 87.9  | 55.0  | 54.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 73.2       | 71.2  | 58.4  | 56.9 | 99.7  | 89.3  | 59.7  | 59.3 | —     | —     | —     | —    |      |
|              | 4800 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 109.4      | 100.9   | 55.9  | 55.3 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 83.3       | 83.3  | 59.2  | 57.3 | 109.8 | 102.9 | 60.6  | 60.0 | —     | —     | —     | —    |      |
| <b>6</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |
| 9            | 3200 | 40      | 111.2      | 83.8  | 51.1  | 50.8 | 134.8 | 93.0  | 53.5  | 53.2 | 159.1 | 101.3 | 56.2  | 55.9 |      |
|              |      | 45      | 89.6       | 74.7  | 53.7  | 53.4 | 114.4 | 84.8  | 55.9  | 55.5 | 140.1 | 94.1  | 58.3  | 58.0 |      |
|              |      | 50      | —          | —   | —     | —    | 90.6  | 75.7  | 58.5  | 58.1 | 117.5 | 85.9  | 60.7  | 60.3 |      |
|              | 4000 | 40      | 123.8      | 97.8  | 52.7  | 52.3 | 148.8 | 107.7 | 55.5  | 55.0 | 174.6 | 116.8 | 58.5  | 58.0 |      |
|              |      | 45      | 101.4      | 88.6  | 54.9  | 54.4 | 127.4 | 99.5  | 57.4  | 56.9 | 154.3 | 109.4 | 60.2  | 59.7 |      |
|              |      | 50      | —          | —   | —     | —    | 102.6 | 90.2  | 59.5  | 59.0 | 130.6 | 101.1 | 62.1  | 61.6 |      |
|              | 4800 | 40      | 133.8      | 110.6   | 54.0  | 53.5 | 159.3 | 121.1 | 57.1  | 56.5 | 186.3 | 130.9 | 60.3  | 59.6 |      |
|              |      | 45      | 110.9      | 101.3   | 55.8  | 55.2 | 137.6 | 112.9 | 58.6  | 58.0 | 165.0 | 123.4 | 61.7  | 61.0 |      |
|              |      | 50      | —          | —   | —     | —    | 112.3 | 103.6 | 60.4  | 59.8 | 141.1 | 115.1 | 63.3  | 62.6 |      |
|              | 12   | 3200    | 40         | 117.4   | 87.2  | 50.1 | 50.0  | 141.0 | 96.3  | 52.6 | 52.5  | 165.8 | 104.8 | 55.2 | 55.1 |
|              |      |         | 45         | 95.9  | 78.1  | 52.8 | 52.7  | 121.3 | 88.4  | 54.9 | 54.8  | 147.0 | 97.6  | 57.3 | 57.2 |
|              |      |         | 50         | —   | —     | —    | —     | 97.3  | 79.1  | 57.5 | 57.4  | 124.9 | 89.4  | 59.7 | 59.5 |
|              |      | 4000    | 40         | 131.1   | 102.1 | 51.7 | 51.6  | 156.0 | 112.0 | 54.5 | 54.4  | 182.1 | 121.1 | 57.5 | 57.3 |
|              |      |         | 45         | 108.5   | 92.7  | 53.9 | 53.7  | 135.3 | 103.9 | 56.4 | 56.2  | 162.4 | 113.8 | 59.2 | 59.0 |
|              |      |         | 50         | —   | —     | —    | —     | 110.3 | 94.4  | 58.6 | 58.4  | 139.2 | 105.5 | 61.1 | 60.9 |
|              |      | 4800    | 40         | 141.9   | 115.7 | 53.0 | 52.8  | 167.6 | 126.3 | 56.1 | 55.8  | 194.3 | 136.0 | 59.3 | 59.0 |
|              |      |         | 45         | 118.8   | 106.4 | 54.8 | 54.6  | 146.4 | 118.2 | 57.6 | 57.4  | 174.4 | 128.9 | 60.7 | 60.4 |
|              |      |         | 50         | 92.5  | 90.1  | 57.5 | 56.6  | 120.8 | 108.8 | 59.4 | 59.2  | 150.5 | 120.6 | 62.3 | 62.0 |
| 14           | 3200 | 40      | 120.2      | 88.4  | 49.8  | 49.7 | 144.0 | 97.6  | 52.2  | 52.1 | 168.6 | 105.9 | 54.9  | 54.8 |      |
|              |      | 45      | 98.7       | 79.3  | 52.4  | 52.3 | 124.4 | 89.6  | 54.5  | 54.4 | 150.4 | 98.8  | 56.9  | 56.8 |      |
|              |      | 50      | —          | —   | —     | —    | 100.4 | 80.4  | 57.2  | 57.1 | 128.3 | 90.7  | 59.3  | 59.2 |      |
|              | 4000 | 40      | 134.4      | 103.7   | 51.4  | 51.3 | 159.5 | 113.6 | 54.1  | 54.0 | 185.3 | 122.6 | 57.2  | 57.1 |      |
|              |      | 45      | 111.8      | 94.4  | 53.5  | 53.4 | 138.9 | 105.6 | 56.0  | 55.9 | 166.4 | 115.6 | 58.8  | 58.7 |      |
|              |      | 50      | —          | —   | —     | —    | 113.8 | 96.1  | 58.2  | 58.1 | 143.2 | 107.3 | 60.7  | 60.6 |      |
|              | 4800 | 40      | 145.7      | 117.9   | 52.6  | 52.5 | 171.6 | 128.5 | 55.7  | 55.5 | 198.1 | 138.0 | 58.9  | 58.8 |      |
|              |      | 45      | 122.5      | 108.5   | 54.4  | 54.3 | 150.6 | 120.4 | 57.2  | 57.1 | 178.8 | 131.1 | 60.2  | 60.1 |      |
|              |      | 50      | 95.8       | 93.4  | 56.9  | 56.3 | 124.8 | 110.8 | 59.1  | 58.9 | 155.1 | 122.8 | 61.8  | 61.7 |      |

**Notes:**

- Blank spaces in the data, designated by a dash (—) indicate coil data is not available at that condition due to the distributor loading.
- TC = Total capacity (MBh)
- SC = Sensible capacity (MBh)
- LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
- LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)
- Subcooled refrigerant liquid temperature entering thermostatic expansion valve = 110°F
- The DX coil in size 8 and 10 units can be equipped with one or two distributors.
- Do not manifold two, independent refrigeration circuits into a single-circuited DX (evaporator) coil.** Instead, either use a single-circuited condensing unit or configure the DX coil to have two distributors.











## Performance Data

### Cooling Capacities - DX Coil, Size 17, R-22

Table 56. Unit size 17 DX cooling capacities, R-22

| Rows of Coil | fpi   | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |       |      |       |       |       |      |       |       |       |      |      |
|--------------|-------|---------|------------|---|-------|------|-------|-------|-------|------|-------|-------|-------|------|------|
|              |       |         |            | 75/63   |       |      |       | 80/67 |       |      |       | 85/71 |       |      |      |
|              |       |         |            | TC  | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |
| <b>4</b>     |       |         |            |   |       |      |       |       |       |      |       |       |       |      |      |
| 9            | 6800  | 40      | 211.6      | 161.1   | 53.4  | 52.2 | 267.8 | 183.4 | 55.4  | 54.2 | 324.8 | 203.3 | 57.8  | 56.6 |      |
|              |       |         | 45         | 157.2   | 138.6 | 56.5 | 55.2  | 214.3 | 161.9 | 58.4 | 57.1  | 274.8 | 184.1 | 60.4 | 59.1 |
|              |       |         | 50         | 112.0   | 112.0 | 60.0 | 57.6  | 155.9 | 140.0 | 61.3 | 59.9  | 216.3 | 162.9 | 63.3 | 61.9 |
|              | 8500  | 40      | 239.1      | 188.5   | 54.8  | 53.4 | 299.5 | 212.6 | 57.2  | 55.7 | 360.7 | 234.2 | 60.0  | 58.4 |      |
|              |       |         | 45         | 180.1   | 164.4 | 57.4 | 55.9  | 241.9 | 190.1 | 59.7 | 58.1  | 306.6 | 213.9 | 62.2 | 60.5 |
|              |       |         | 50         | 131.6   | 131.6 | 60.9 | 57.9  | 179.0 | 166.7 | 62.2 | 60.6  | 243.9 | 191.7 | 64.6 | 62.8 |
|              | 10200 | 40      | 261.1      | 212.7   | 56.0  | 54.3 | 324.5 | 238.5 | 58.7  | 57.0 | 389.1 | 261.6 | 61.7  | 59.8 |      |
|              |       |         | 45         | 199.7   | 188.0 | 58.2 | 56.5  | 263.7 | 215.1 | 60.9 | 59.0  | 331.5 | 240.5 | 63.6 | 61.7 |
|              |       |         | 50         | 149.2   | 149.2 | 61.7 | 58.2  | 198.8 | 191.2 | 63.0 | 61.1  | 265.6 | 217.5 | 65.7 | 63.6 |
| 12           | 6800  | 40      | 234.8      | 175.5   | 51.5  | 50.9 | 293.5 | 198.6 | 53.4  | 52.8 | 353.9 | 219.5 | 55.6  | 55.1 |      |
|              |       |         | 45         | 177.4   | 151.4 | 54.7 | 54.1  | 238.9 | 176.4 | 56.4 | 55.8  | 301.9 | 199.3 | 58.4 | 57.7 |
|              |       |         | 50         | 125.3   | 121.9 | 58.3 | 56.9  | 176.8 | 152.9 | 59.6 | 58.9  | 241.9 | 177.4 | 61.4 | 60.7 |
|              | 8500  | 40      | 265.7      | 206.0   | 52.9  | 52.2 | 328.8 | 231.1 | 55.3  | 54.5 | 394.2 | 253.9 | 57.9  | 57.1 |      |
|              |       |         | 45         | 204.3   | 180.7 | 55.7 | 54.9  | 269.9 | 207.8 | 57.8 | 57.0  | 337.3 | 232.6 | 60.2 | 59.3 |
|              |       |         | 50         | 147.8   | 143.6 | 59.2 | 57.2  | 203.8 | 183.1 | 60.5 | 59.6  | 273.1 | 209.6 | 62.7 | 61.8 |
|              | 10200 | 40      | 290.4      | 233.4   | 54.2  | 53.2 | 356.5 | 260.1 | 56.8  | 55.8 | 425.2 | 284.5 | 59.7  | 58.7 |      |
|              |       |         | 45         | 227.3   | 207.8 | 56.5 | 55.5  | 294.6 | 236.1 | 59.0 | 58.0  | 365.0 | 262.5 | 61.7 | 60.6 |
|              |       |         | 50         | 168.4   | 168.4 | 60.0 | 57.5  | 227.0 | 211.3 | 61.2 | 60.2  | 297.8 | 238.9 | 63.8 | 62.7 |
| 14           | 6800  | 40      | 246.1      | 182.0   | 50.6  | 50.2 | 306.1 | 205.4 | 52.5  | 52.1 | 367.8 | 226.7 | 54.7  | 54.3 |      |
|              |       |         | 45         | 187.8   | 157.4 | 53.9 | 53.6  | 250.9 | 183.0 | 55.5 | 55.1  | 315.0 | 206.2 | 57.5 | 57.1 |
|              |       |         | 50         | 132.2   | 128.8 | 57.3 | 56.5  | 187.5 | 158.8 | 58.8 | 58.4  | 254.9 | 184.0 | 60.5 | 60.0 |
|              | 8500  | 40      | 278.9      | 214.1   | 52.0  | 51.6 | 343.1 | 239.5 | 54.4  | 53.9 | 410.2 | 262.7 | 56.9  | 56.4 |      |
|              |       |         | 45         | 216.9   | 188.4 | 54.8 | 54.3  | 283.9 | 215.9 | 56.9 | 56.4  | 352.4 | 241.0 | 59.3 | 58.7 |
|              |       |         | 50         | 156.2   | 152.0 | 58.3 | 56.9  | 216.8 | 190.7 | 59.6 | 59.1  | 287.8 | 217.8 | 61.8 | 61.2 |
|              | 10200 | 40      | 305.2      | 243.0   | 53.3  | 52.7 | 372.2 | 270.0 | 55.9  | 55.3 | 443.3 | 295.0 | 58.7  | 58.1 |      |
|              |       |         | 45         | 240.8   | 216.8 | 55.7 | 55.0  | 310.2 | 245.9 | 58.1 | 57.4  | 381.9 | 272.6 | 60.8 | 60.1 |
|              |       |         | 50         | 178.1   | 178.1 | 59.1 | 57.2  | 241.0 | 220.3 | 60.4 | 59.7  | 314.2 | 248.8 | 62.9 | 62.2 |
| <b>6</b>     |       |         |            |   |       |      |       |       |       |      |       |       |       |      |      |
| 9            | 6800  | 40      | 249.3      | 183.1   | 50.4  | 50.1 | 305.7 | 205.1 | 52.5  | 52.1 | 363.5 | 224.8 | 54.9  | 54.5 |      |
|              |       |         | 45         | 196.5   | 160.7 | 53.5 | 53.1  | 255.8 | 184.7 | 55.3 | 54.9  | 317.1 | 206.6 | 57.4 | 57.0 |
|              |       |         | 50         | 140.8   | 138.5 | 56.5 | 56.1  | 197.7 | 162.3 | 58.3 | 57.9  | 262.0 | 186.3 | 60.2 | 59.7 |
|              | 8500  | 40      | 280.8      | 214.4   | 52.0  | 51.5 | 341.5 | 238.3 | 54.5  | 53.9 | 403.7 | 259.8 | 57.2  | 56.7 |      |
|              |       |         | 45         | 225.1   | 191.3 | 54.5 | 54.0  | 287.9 | 217.1 | 56.8 | 56.2  | 353.6 | 240.9 | 59.3 | 58.7 |
|              |       |         | 50         | 164.7   | 164.7 | 57.4 | 56.5  | 226.7 | 194.0 | 59.3 | 58.7  | 294.4 | 219.7 | 61.6 | 61.0 |
|              | 10200 | 40      | 305.5      | 242.7   | 53.3  | 52.7 | 369.3 | 268.2 | 56.1  | 55.4 | 434.7 | 291.3 | 59.1  | 58.3 |      |
|              |       |         | 45         | 248.0   | 219.1 | 55.5 | 54.8  | 313.4 | 246.6 | 58.0 | 57.3  | 381.9 | 271.9 | 60.8 | 60.1 |
|              |       |         | 50         | 186.1   | 181.0 | 58.4 | 56.9  | 250.2 | 223.0 | 60.2 | 59.4  | 320.2 | 250.3 | 62.8 | 62.0 |
| 12           | 6800  | 40      | 265.1      | 191.9   | 49.3  | 49.1 | 322.3 | 213.9 | 51.3  | 51.2 | 381.7 | 234.3 | 53.6  | 53.5 |      |
|              |       |         | 45         | 212.2   | 169.2 | 52.3 | 52.2  | 273.3 | 193.7 | 54.1 | 53.9  | 335.3 | 215.7 | 56.2 | 56.0 |
|              |       |         | 50         | 153.2   | 145.4 | 55.6 | 55.4  | 214.8 | 170.9 | 57.2 | 57.0  | 280.6 | 195.3 | 58.9 | 58.8 |
|              | 8500  | 40      | 299.5      | 225.4   | 50.8  | 50.6 | 360.7 | 249.3 | 53.3  | 53.1 | 424.6 | 271.2 | 56.0  | 55.8 |      |
|              |       |         | 45         | 243.2   | 201.8 | 53.4 | 53.2  | 308.1 | 228.3 | 55.6 | 55.4  | 374.5 | 252.1 | 58.1 | 57.9 |
|              |       |         | 50         | 179.4   | 176.5 | 56.1 | 55.9  | 246.2 | 204.6 | 58.1 | 57.9  | 316.2 | 231.0 | 60.4 | 60.1 |
|              | 10200 | 40      | 326.6      | 255.9   | 52.1  | 51.9 | 390.5 | 281.2 | 54.9  | 54.6 | 457.5 | 304.8 | 57.9  | 57.6 |      |
|              |       |         | 45         | 268.5   | 231.9 | 54.3 | 54.0  | 336.1 | 260.1 | 56.8 | 56.5  | 405.4 | 285.5 | 59.6 | 59.3 |
|              |       |         | 50         | 202.9   | 197.8 | 56.9 | 56.3  | 271.9 | 236.0 | 59.0 | 58.7  | 344.6 | 264.1 | 61.6 | 61.2 |
| 14           | 6800  | 40      | 272.4      | 195.3   | 48.8  | 48.7 | 329.7 | 217.3 | 50.9  | 50.8 | 389.7 | 237.5 | 53.2  | 53.1 |      |
|              |       |         | 45         | 219.6   | 172.5 | 51.9 | 51.8  | 281.3 | 197.2 | 53.6 | 53.5  | 343.4 | 219.2 | 55.7 | 55.6 |
|              |       |         | 50         | 159.1   | 148.0 | 55.2 | 55.1  | 222.8 | 174.3 | 56.7 | 56.6  | 289.3 | 198.9 | 58.5 | 58.4 |
|              | 8500  | 40      | 308.0      | 229.9   | 50.3  | 50.2 | 369.5 | 253.8 | 52.8  | 52.7 | 433.9 | 275.8 | 55.5  | 55.4 |      |
|              |       |         | 45         | 251.8   | 206.3 | 52.9 | 52.8  | 317.7 | 233.0 | 55.1 | 55.0  | 384.6 | 257.0 | 57.5 | 57.4 |
|              |       |         | 50         | 186.9   | 180.4 | 55.7 | 55.6  | 255.4 | 209.1 | 57.7 | 57.6  | 326.6 | 235.9 | 59.8 | 59.7 |
|              | 10200 | 40      | 336.6      | 261.4   | 51.6  | 51.5 | 400.9 | 286.9 | 54.4  | 54.3 | 467.9 | 310.2 | 57.4  | 57.2 |      |
|              |       |         | 45         | 278.1   | 237.2 | 53.8 | 53.7  | 346.9 | 265.7 | 56.3 | 56.2  | 416.8 | 291.3 | 59.1 | 58.9 |
|              |       |         | 50         | 211.4   | 210.9 | 56.2 | 56.1  | 282.2 | 241.4 | 58.5 | 58.4  | 356.3 | 269.8 | 61.0 | 60.9 |

**Notes:**

- Blank spaces in the data, designated by a dash (—) indicate coil data is not available at that condition due to the distributor loading.
- TC = Total capacity (MBh)
- SC = Sensible capacity (MBh)
- LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
- LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)
- Subcooled refrigerant liquid temperature entering thermostatic expansion valve = 110°F









## Performance Data

### Cooling Capacities - DX Coil, Size 3, R-410A

## Cooling Capacities - DX Coil, R-410A

Table 60. Unit size 3 DX cooling capacities, R-410A

| Rows of Coil | fpi | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |      |       |      |      |      |       |      |      |      |      |
|--------------|-----|---------|------------|---|------|------|------|-------|------|------|------|-------|------|------|------|------|
|              |     |         |            | 75/63   |      |      |      | 80/67 |      |      |      | 85/71 |      |      |      |      |
|              |     |         |            | TC  | SC   | LDB  | LWB  | TC    | SC   | LDB  | LWB  | TC    | SC   | LDB  | LWB  |      |
| 4            | 9   | 1200    | 40         | 35.9  | 27.7 | 53.9 | 52.7 | 46.0  | 31.8 | 55.9 | 54.6 | —     | —    | —    | —    |      |
|              |     |         | 45         | 26.6  | 23.9 | 56.9 | 55.6 | 36.2  | 27.9 | 58.9 | 57.5 | 47.0  | 31.8 | 60.9 | 59.5 |      |
|              |     |         | 50         | 19.0  | 19.0 | 60.6 | 57.8 | 26.4  | 24.2 | 61.7 | 60.3 | 36.4  | 28.0 | 63.8 | 62.3 |      |
|              |     | 1500    | 40         | 40.6  | 32.5 | 55.3 | 53.8 | —     | —    | —    | —    | —     | —    | —    | —    |      |
|              |     |         | 45         | 30.4  | 28.3 | 57.8 | 56.2 | 40.9  | 32.7 | 60.2 | 58.5 | —     | —    | —    | —    |      |
|              |     |         | 50         | 22.4  | 22.4 | 61.4 | 58.1 | 30.2  | 28.8 | 62.6 | 60.8 | 41.0  | 33.0 | 65.1 | 63.2 |      |
|              |     | 1800    | 40         | 44.4  | 36.7 | 56.4 | 54.6 | —     | —    | —    | —    | —     | —    | —    | —    |      |
|              |     |         | 45         | 33.7  | 32.4 | 58.6 | 56.8 | 44.7  | 37.1 | 61.3 | 59.3 | —     | —    | —    | —    |      |
|              |     |         | 50         | 25.4  | 25.4 | 62.2 | 58.4 | 33.5  | 33.0 | 63.4 | 61.3 | 44.8  | 37.5 | 66.1 | 64.0 |      |
|              | 12  | 1200    | 40         | 40.4  | 30.5 | 51.8 | 51.2 | —     | —    | —    | —    | —     | —    | —    |      |      |
|              |     |         | 45         | 30.3  | 26.2 | 55.1 | 54.4 | 40.9  | 30.6 | 56.8 | 56.1 | —     | —    | —    |      |      |
|              |     |         | 50         | 21.4  | 21.4 | 58.8 | 57.1 | 30.1  | 26.5 | 59.9 | 59.2 | 41.3  | 30.7 | 61.8 | 61.0 |      |
|              |     | 1500    | 40         | 45.9  | 35.9 | 53.2 | 52.4 | —     | —    | —    | —    | —     | —    | —    |      |      |
|              |     |         | 45         | 34.8  | 31.3 | 56.0 | 55.2 | 46.4  | 36.1 | 58.1 | 57.2 | —     | —    | —    |      |      |
|              |     |         | 50         | 25.4  | 25.4 | 59.6 | 57.4 | 34.7  | 31.7 | 60.8 | 59.9 | 46.8  | 36.4 | 63.0 | 62.1 |      |
|              |     | 1800    | 40         | —   | —    | —    | —    | —     | —    | —    | —    | —     | —    | —    |      |      |
|              |     |         | 45         | 38.7  | 35.9 | 56.8 | 55.8 | 51.0  | 41.1 | 59.2 | 58.1 | —     | —    | —    |      |      |
|              |     |         | 50         | 28.9  | 28.9 | 60.4 | 57.7 | 38.6  | 36.6 | 61.6 | 60.4 | 51.3  | 41.6 | 64.1 | 62.9 |      |
|              | 14  | 1200    | 40         | 42.7  | 31.8 | 50.8 | 50.5 | —     | —    | —    | —    | —     | —    | —    |      |      |
|              |     |         | 45         | 32.2  | 27.3 | 54.2 | 53.8 | 43.4  | 31.9 | 55.8 | 55.4 | —     | —    | —    |      |      |
|              |     |         | 50         | 22.7  | 22.7 | 57.8 | 56.7 | 32.1  | 27.6 | 59.1 | 58.7 | 43.9  | 32.0 | 60.8 | 60.3 |      |
|              |     | 1500    | 40         | —   | —    | —    | —    | —     | —    | —    | —    | —     | —    | —    |      |      |
|              |     |         | 45         | 37.1  | 32.7 | 55.1 | 54.6 | 49.4  | 37.7 | 57.1 | 56.6 | —     | —    | —    |      |      |
|              |     |         | 50         | 26.9  | 26.9 | 58.7 | 57.0 | 37.0  | 33.1 | 60.0 | 59.4 | 49.8  | 38.0 | 62.0 | 61.4 |      |
| 1800         |     | 40      | —          | —   | —    | —    | —    | —     | —    | —    | —    | —     | —    |      |      |      |
|              |     | 45      | 41.3       | 37.7  | 56.0 | 55.3 | —    | —     | —    | —    | —    | —     | —    |      |      |      |
|              |     | 50      | 30.7       | 30.7  | 59.5 | 57.4 | 41.2 | 38.3  | 60.7 | 60.0 | 54.8 | 43.5  | 63.1 | 62.3 |      |      |
| 6            | 9   | 1200    | 40         | 46.9  | 33.7 | 49.4 | 49.1 | 58.4  | 38.1 | 51.0 | 50.7 | 70.5  | 42.3 | 52.9 | 52.6 |      |
|              |     |         | 45         | 36.5  | 29.2 | 52.8 | 52.5 | 48.2  | 33.9 | 54.3 | 53.9 | 60.8  | 38.4 | 55.9 | 55.6 |      |
|              |     |         | 50         | —   | —    | —    | —    | —     | —    | —    | —    | 49.4  | 34.1 | 59.2 | 58.8 |      |
|              |     | 1500    | 40         | 53.6  | 39.7 | 50.8 | 50.4 | 66.4  | 44.7 | 52.8 | 52.4 | 79.9  | 49.3 | 55.0 | 54.6 |      |
|              |     |         | 45         | 42.1  | 34.8 | 53.8 | 53.4 | 55.1  | 40.1 | 55.7 | 55.2 | 69.1  | 45.1 | 57.7 | 57.2 |      |
|              |     |         | 50         | —   | —    | —    | —    | 42.4  | 35.3 | 58.6 | 58.2 | 56.4  | 40.5 | 60.5 | 60.0 |      |
|              |     | 1800    | 40         | 59.2  | 45.2 | 52.1 | 51.6 | 72.9  | 50.6 | 54.4 | 53.8 | 87.3  | 55.6 | 56.9 | 56.3 |      |
|              |     |         | 45         | 46.9  | 40.1 | 54.7 | 54.1 | 60.8  | 45.8 | 56.9 | 56.3 | 75.7  | 51.2 | 59.2 | 58.5 |      |
|              |     |         | 50         | —   | —    | —    | —    | 47.2  | 40.7 | 59.5 | 58.8 | 62.2  | 46.3 | 61.7 | 61.0 |      |
|              |     | 12      | 1200       | 40  | 50.2 | 35.4 | 48.0 | 47.9  | 62.1 | 40.0 | 49.6 | 49.5  | 74.7 | 44.3 | 51.3 | 51.2 |
|              |     |         |            | 45  | 39.6 | 30.8 | 51.6 | 51.5  | 51.9 | 35.7 | 52.9 | 52.8  | 64.8 | 40.3 | 54.4 | 54.3 |
|              |     |         |            | 50  | —    | —    | —    | —     | 40.1 | 31.0 | 56.5 | 56.4  | 53.4 | 35.9 | 57.8 | 57.7 |
|              |     |         | 1500       | 40  | 57.8 | 42.0 | 49.5 | 49.3  | 70.9 | 47.1 | 51.4 | 51.2  | 85.0 | 51.9 | 53.5 | 53.4 |
|              |     |         |            | 45  | 45.9 | 36.9 | 52.6 | 52.4  | 59.6 | 42.4 | 54.3 | 54.1  | 74.0 | 47.5 | 56.2 | 56.0 |
|              |     |         |            | 50  | —    | —    | —    | —     | 46.5 | 37.3 | 57.4 | 57.2  | 61.3 | 42.8 | 59.1 | 58.9 |
|              |     |         | 1800       | 40  | 64.0 | 47.9 | 50.7 | 50.5  | 78.1 | 53.4 | 52.9 | 52.7  | 93.2 | 58.6 | 55.4 | 55.1 |
|              |     |         |            | 45  | 51.3 | 42.6 | 53.4 | 53.2  | 66.0 | 48.5 | 55.4 | 55.2  | 81.4 | 54.1 | 57.7 | 57.4 |
|              |     |         |            | 50  | —    | —    | —    | —     | 52.0 | 43.2 | 58.2 | 58.0  | 67.8 | 49.1 | 60.2 | 60.0 |
|              | 14  | 1200    | 40         | 51.8  | 36.1 | 47.5 | 47.4 | 63.8  | 40.7 | 49.0 | 48.9 | 76.5  | 45.1 | 50.7 | 50.6 |      |
|              |     |         | 45         | 41.1  | 31.4 | 51.1 | 51.0 | 53.6  | 36.4 | 52.4 | 52.3 | 66.7  | 41.0 | 53.8 | 53.7 |      |
|              |     |         | 50         | —   | —    | —    | —    | 41.7  | 31.6 | 56.0 | 55.9 | 55.3  | 36.6 | 57.3 | 57.2 |      |
|              |     | 1500    | 40         | 59.7  | 42.9 | 48.9 | 48.8 | 73.1  | 48.0 | 50.8 | 50.7 | 87.2  | 52.8 | 52.9 | 52.8 |      |
|              |     |         | 45         | 47.8  | 37.7 | 52.1 | 52.0 | 61.7  | 43.3 | 53.7 | 53.6 | 76.4  | 48.5 | 55.5 | 55.4 |      |
|              |     |         | 50         | —   | —    | —    | —    | 48.5  | 38.1 | 56.9 | 56.8 | 63.7  | 43.8 | 58.5 | 58.4 |      |
|              |     | 1800    | 40         | 66.3  | 49.1 | 50.1 | 50.0 | 80.7  | 54.7 | 52.3 | 52.2 | —     | —    | —    | —    |      |
|              |     |         | 45         | 53.5  | 43.7 | 52.9 | 52.8 | 68.5  | 49.8 | 54.8 | 54.7 | 84.3  | 55.4 | 57.0 | 56.9 |      |
|              |     |         | 50         | —   | —    | —    | —    | 54.2  | 44.3 | 57.6 | 57.5 | 70.6  | 50.4 | 59.6 | 59.5 |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)

## Performance Data

### Cooling Capacities - DX Coil, Size 6, R-410A

**Table 61. Unit size 6 DX cooling capacities, R-410A**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |       |      |       |       |       |      |      |
|--------------|------|---------|------------|---|------|------|-------|-------|-------|------|-------|-------|-------|------|------|
|              |      |         |            | 75/63   |      |      |       | 80/67 |       |      |       | 85/71 |       |      |      |
|              |      |         |            | TC  | SC   | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |
| <b>4</b>     |      |         |            |   |      |      |       |       |       |      |       |       |       |      |      |
| 9            | 2400 | 40      | 73.6       | 56.2  | 53.6 | 52.4 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 55.7       | 48.8  | 56.5 | 55.2 | 74.5  | 56.6  | 58.6  | 57.2 | —     | —     | —     | —    | —    |
|              |      | 50      | 40.1       | 40.1  | 59.8 | 57.5 | 55.5  | 49.4  | 61.3  | 59.9 | 75.2  | 56.9  | 63.5  | 62.0 | —    |
|              | 3000 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 63.3       | 57.7  | 57.5 | 55.9 | 83.6  | 66.1  | 60.0  | 58.3 | —     | —     | —     | —    | —    |
|              |      | 50      | 47.0       | 47.0  | 60.8 | 57.8 | 63.1  | 58.5  | 62.3  | 60.6 | 84.3  | 66.8  | 64.8  | 63.0 | —    |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 69.6       | 65.7  | 58.4 | 56.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 53.0       | 53.0  | 61.6 | 58.2 | 69.5  | 66.9  | 63.1  | 61.1 | —     | —     | —     | —    | —    |
| 12           | 2400 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |
|              |      | 45      | 63.1       | 53.5  | 54.7 | 54.0 | 83.6  | 61.9  | 56.5  | 55.9 | —     | —     | —     | —    |      |
|              |      | 50      | 45.3       | 45.2  | 57.9 | 56.7 | 63.1  | 54.1  | 59.5  | 58.8 | 84.8  | 62.2  | 61.5  | 60.7 |      |
|              | 3000 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 72.0       | 63.6  | 55.7 | 54.9 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 53.0       | 51.5  | 58.9 | 57.1 | 72.0  | 64.4  | 60.5  | 59.6 | —     | —     | —     | —    | —    |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 79.5       | 72.8  | 56.6 | 55.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 60.0       | 60.0  | 59.9 | 57.5 | 79.5  | 74.0  | 61.3  | 60.2 | —     | —     | —     | —    | —    |
| 14           | 2400 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |
|              |      | 45      | 66.9       | 55.7  | 53.8 | 53.5 | —     | —     | —     | —    | —     | —     | —     | —    |      |
|              |      | 50      | 48.0       | 46.7  | 56.9 | 56.3 | 67.0  | 56.2  | 58.7  | 58.3 | 89.7  | 64.7  | 60.5  | 60.1 |      |
|              | 3000 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 76.6       | 66.3  | 54.9 | 54.3 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 56.3       | 54.7  | 58.0 | 56.8 | 76.7  | 67.2  | 59.7  | 59.1 | —     | —     | —     | —    | —    |
|              | 3600 | 40      | —          | —   | —    | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 45      | 84.7       | 76.1  | 55.7 | 55.1 | —     | —     | —     | —    | —     | —     | —     | —    | —    |
|              |      | 50      | 63.6       | 63.5  | 58.9 | 57.1 | 84.9  | 77.4  | 60.5  | 59.7 | —     | —     | —     | —    | —    |
| <b>6</b>     |      |         |            |   |      |      |       |       |       |      |       |       |       |      |      |
| 9            | 2400 | 40      | 92.1       | 66.3  | 49.8 | 49.4 | 113.3 | 74.6  | 51.7  | 51.3 | 135.5 | 82.1  | 53.8  | 53.4 |      |
|              |      | 45      | 73.2       | 58.2  | 52.9 | 52.5 | 95.0  | 67.0  | 54.6  | 54.2 | 118.4 | 75.3  | 56.5  | 56.0 |      |
|              |      | 50      | —          | —   | —    | —    | 74.1  | 58.8  | 57.7  | 57.3 | 98.0  | 67.6  | 59.4  | 58.9 |      |
|              | 3000 | 40      | 104.4      | 77.8  | 51.3 | 50.8 | 127.8 | 86.9  | 53.6  | 53.0 | 152.2 | 95.3  | 56.1  | 55.5 |      |
|              |      | 45      | 83.7       | 69.1  | 54.0 | 53.4 | 107.8 | 78.8  | 56.1  | 55.5 | 133.5 | 88.0  | 58.3  | 57.7 |      |
|              |      | 50      | —          | —   | —    | —    | 84.9  | 70.1  | 58.8  | 58.2 | 110.9 | 79.8  | 60.9  | 60.2 |      |
|              | 3600 | 40      | 114.2      | 88.1  | 52.7 | 52.0 | 139.3 | 98.0  | 55.2  | 54.5 | —     | —     | —     | —    |      |
|              |      | 45      | 92.5       | 79.1  | 55.0 | 54.3 | 117.9 | 89.6  | 57.4  | 56.6 | 145.3 | 99.6  | 59.9  | 59.1 |      |
|              |      | 50      | 69.5       | 69.4  | 57.5 | 56.6 | 93.8  | 80.5  | 59.7  | 58.9 | 121.4 | 91.0  | 62.1  | 61.3 |      |
|              | 12   | 2400    | 40         | 98.2  | 69.7 | 48.5 | 48.3  | 120.0 | 78.1  | 50.3 | 50.2  | 143.0 | 85.9  | 52.4 | 52.2 |
|              |      |         | 45         | 79.0  | 61.4 | 51.7 | 51.5  | 101.8 | 70.4  | 53.2 | 53.1  | 125.8 | 78.9  | 55.0 | 54.9 |
|              |      |         | 50         | —   | —    | —    | —     | 80.5  | 62.0  | 56.5 | 56.3  | 105.3 | 71.1  | 58.1 | 57.9 |
|              |      | 3000    | 40         | 111.7   | 82.1 | 50.0 | 49.8  | 135.8 | 91.4  | 52.2 | 52.0  | —     | —     | —    | —    |
|              |      |         | 45         | 90.9  | 73.2 | 52.8 | 52.5  | 115.9 | 83.2  | 54.7 | 54.5  | 142.4 | 92.7  | 56.9 | 56.7 |
|              |      |         | 50         | —   | —    | —    | —     | 92.5  | 74.2  | 57.5 | 57.3  | 119.9 | 84.3  | 59.5 | 59.2 |
|              |      | 3600    | 40         | 122.8   | 93.3 | 51.3 | 51.1  | 148.4 | 103.3 | 53.8 | 53.5  | —     | —     | —    | —    |
|              |      |         | 45         | 100.7   | 84.1 | 53.7 | 53.4  | 127.4 | 95.0  | 56.0 | 55.7  | 155.4 | 105.1 | 58.5 | 58.1 |
|              |      |         | 50         | 76.2  | 74.3 | 56.2 | 55.9  | 102.6 | 85.6  | 58.4 | 58.1  | 131.7 | 96.5  | 60.7 | 60.3 |
| 14           | 2400 | 40      | 100.9      | 71.0  | 48.0 | 47.9 | 123.0 | 79.5  | 49.8  | 49.7 | 146.2 | 87.3  | 51.8  | 51.7 |      |
|              |      | 45      | 81.8       | 62.6  | 51.2 | 51.1 | 104.9 | 71.8  | 52.7  | 52.6 | 129.2 | 80.4  | 54.5  | 54.4 |      |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —     | —    | 108.8 | 72.6  | 57.5  | 57.4 |      |
|              | 3000 | 40      | 115.2      | 83.9  | 49.5 | 49.4 | 139.4 | 93.2  | 51.7  | 51.6 | —     | —     | —     | —    |      |
|              |      | 45      | 94.2       | 74.9  | 52.2 | 52.1 | 119.7 | 85.1  | 54.1  | 54.0 | 146.4 | 94.6  | 56.3  | 56.2 |      |
|              |      | 50      | —          | —   | —    | —    | 96.2  | 76.0  | 57.0  | 56.9 | 124.1 | 86.3  | 58.9  | 58.8 |      |
|              | 3600 | 40      | 126.8      | 95.5  | 50.8 | 50.6 | 152.5 | 105.5 | 53.3  | 53.1 | —     | —     | —     | —    |      |
|              |      | 45      | 104.7      | 86.2  | 53.2 | 53.0 | 131.9 | 97.3  | 55.4  | 55.2 | 160.1 | 107.4 | 57.9  | 57.7 |      |
|              |      | 50      | —          | —   | —    | —    | 106.9 | 87.7  | 57.8  | 57.7 | 136.7 | 98.9  | 60.1  | 59.9 |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)



## Performance Data

### Cooling Capacities - DX Coil, Size 8, R-410A

**Table 62. Unit size 8 DX cooling capacities, R-410A**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |      |      |       |       |      |      |     |
|--------------|------|---------|------------|---|------|------|-------|-------|------|------|-------|-------|------|------|-----|
|              |      |         |            | 75/63   |      |      |       | 80/67 |      |      |       | 85/71 |      |      |     |
|              |      |         |            | TC  | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB |
| <b>4</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 3200 | 40      | 106.9      | 79.4  | 52.3 | 51.3 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 81.4       | 68.7  | 55.4 | 54.4 | 108.7 | 79.8  | 57.3 | 56.2 | —     | —     | —    | —    | —   |
|              |      | 50      | 57.8       | 57.7  | 58.6 | 57.0 | 81.3  | 69.3  | 60.3 | 59.1 | 110.3 | 80.2  | 62.3 | 61.0 | —   |
| 4000         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 92.8       | 81.2  | 56.5 | 55.2 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 67.6       | 67.5  | 59.6 | 57.4 | 92.7  | 82.3  | 61.3 | 59.9 | 124.4 | 94.3  | 63.6 | 62.1 | —   |
| 4800         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 102.4      | 92.6  | 57.4 | 55.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 76.4       | 76.3  | 60.5 | 57.8 | 102.4 | 94.1  | 62.2 | 60.5 | —     | —     | —    | —    | —   |
| 12           | 3200 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 91.1       | 74.7  | 53.7 | 53.2 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 64.7       | 64.2  | 56.8 | 56.2 | 91.4  | 75.3  | 58.6 | 58.1 | 122.8 | 87.0  | 60.3 | 59.8 | —   |
| 4000         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 104.5      | 88.8  | 54.8 | 54.1 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 76.0       | 75.9  | 57.7 | 56.7 | 104.7 | 89.9  | 59.6 | 58.9 | —     | —     | —    | —    | —   |
| 4800         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 115.7      | 101.8   | 55.7 | 54.9 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 86.0       | 85.8  | 58.7 | 57.1 | 116.0 | 103.3 | 60.4 | 59.5 | —     | —     | —    | —    | —   |
| 14           | 3200 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 96.0       | 77.4  | 52.9 | 52.7 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 68.3       | 66.3  | 56.1 | 55.8 | 96.5  | 78.0  | 57.8 | 57.5 | —     | —     | —    | —    | —   |
| 4000         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 110.4      | 92.3  | 54.0 | 53.6 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 80.3       | 78.2  | 56.8 | 56.3 | 111.0 | 93.3  | 58.8 | 58.3 | —     | —     | —    | —    | —   |
| 4800         | 40   | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 91.0       | 90.8  | 57.8 | 56.7 | 123.2 | 107.6 | 59.6 | 59.0 | —     | —     | —    | —    | —   |
| <b>6</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 3200 | 40      | 126.8      | 90.5  | 49.2 | 48.9 | 156.2 | 101.9 | 50.9 | 50.6 | 186.9 | 112.4 | 53.0 | 52.7 | —   |
|              |      | 45      | 100.7      | 79.3  | 52.4 | 52.1 | 130.9 | 91.3  | 54.0 | 53.7 | 163.2 | 102.8 | 55.8 | 55.4 | —   |
|              |      | 50      | —          | —   | —    | —    | 102.1 | 80.0  | 57.3 | 56.9 | 135.0 | 92.1  | 58.9 | 58.5 | —   |
| 4000         | 40   | 40      | 144.2      | 106.4   | 50.7 | 50.3 | 176.9 | 119.1 | 52.8 | 52.4 | 210.9 | 130.7 | 55.2 | 54.8 | —   |
|              |      | 45      | 115.7      | 94.3  | 53.5 | 53.1 | 149.1 | 107.8 | 55.5 | 55.0 | 184.7 | 120.5 | 57.6 | 57.1 | —   |
|              |      | 50      | —          | —   | —    | —    | 117.2 | 95.5  | 58.3 | 57.8 | 153.4 | 109.0 | 60.3 | 59.8 | —   |
| 4800         | 40   | 40      | 158.5      | 120.8   | 52.0 | 51.5 | 193.5 | 134.6 | 54.5 | 53.9 | —     | —     | —    | —    | —   |
|              |      | 45      | 128.2      | 108.2   | 54.5 | 53.9 | 163.7 | 122.7 | 56.7 | 56.1 | 201.8 | 136.5 | 59.2 | 58.5 | —   |
|              |      | 50      | 95.8       | 95.4  | 56.9 | 56.3 | 130.0 | 109.9 | 59.2 | 58.6 | 168.6 | 124.5 | 61.5 | 60.8 | —   |
| 12           | 3200 | 40      | 134.9      | 94.8  | 47.9 | 47.8 | 165.0 | 106.4 | 49.6 | 49.5 | 196.8 | 117.2 | 51.6 | 51.5 | —   |
|              |      | 45      | 108.4      | 83.3  | 51.3 | 51.2 | 139.8 | 95.7  | 52.7 | 52.6 | 172.9 | 107.5 | 54.4 | 54.3 | —   |
|              |      | 50      | —          | —   | —    | —    | 110.3 | 84.1  | 56.1 | 56.0 | 144.6 | 96.6  | 57.6 | 57.5 | —   |
| 4000         | 40   | 40      | 154.1      | 111.9   | 49.4 | 49.3 | 187.6 | 124.8 | 51.5 | 51.4 | —     | —     | —    | —    | —   |
|              |      | 45      | 125.1      | 99.5  | 52.3 | 52.2 | 159.8 | 113.4 | 54.2 | 54.0 | 196.5 | 126.4 | 56.3 | 56.1 | —   |
|              |      | 50      | —          | —   | —    | —    | 127.4 | 100.7 | 57.1 | 56.9 | 165.3 | 114.8 | 58.9 | 58.8 | —   |
| 4800         | 40   | 40      | 170.0      | 127.5   | 50.8 | 50.6 | 205.8 | 141.4 | 53.2 | 52.9 | —     | —     | —    | —    | —   |
|              |      | 45      | 139.1      | 114.5   | 53.3 | 53.0 | 176.3 | 129.6 | 55.4 | 55.2 | 215.4 | 143.6 | 57.8 | 57.6 | —   |
|              |      | 50      | —          | —   | —    | —    | 141.7 | 116.3 | 58.0 | 57.7 | 182.3 | 131.5 | 60.1 | 59.9 | —   |
| 14           | 3200 | 40      | 138.4      | 96.4  | 47.4 | 47.3 | 168.8 | 108.1 | 49.1 | 49.0 | 201.0 | 118.9 | 51.1 | 51.0 | —   |
|              |      | 45      | —          | —   | —    | —    | 143.9 | 97.4  | 52.2 | 52.1 | 177.3 | 109.2 | 53.9 | 53.8 | —   |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 149.2 | 98.3  | 57.1 | 57.0 | —   |
| 4000         | 40   | 40      | 158.7      | 114.1   | 48.9 | 48.8 | 192.2 | 127.0 | 51.0 | 50.9 | —     | —     | —    | —    | —   |
|              |      | 45      | 129.5      | 101.5   | 51.8 | 51.7 | 164.9 | 115.7 | 53.6 | 53.5 | 201.8 | 128.7 | 55.7 | 55.6 | —   |
|              |      | 50      | —          | —   | —    | —    | 132.2 | 102.9 | 56.6 | 56.5 | 171.0 | 117.2 | 58.4 | 58.3 | —   |
| 4800         | 40   | 40      | 175.4      | 130.3   | 50.2 | 50.1 | 211.3 | 144.2 | 52.6 | 52.5 | —     | —     | —    | —    | —   |
|              |      | 45      | 144.3      | 117.2   | 52.7 | 52.6 | 182.3 | 132.5 | 54.9 | 54.7 | 221.7 | 146.7 | 57.2 | 57.1 | —   |
|              |      | 50      | —          | —   | —    | —    | 147.4 | 119.0 | 57.5 | 57.3 | 188.9 | 134.5 | 59.6 | 59.4 | —   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)



## Performance Data

### Cooling Capacities - DX Coil, Size 10, R-410A

**Table 63. Unit size 10 DX cooling capacities, R-410A**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |       |      |       |       |       |      |       |       |       |      |      |   |
|--------------|------|---------|------------|---|-------|------|-------|-------|-------|------|-------|-------|-------|------|------|---|
|              |      |         |            | 75/63   |       |      |       | 80/67 |       |      |       | 85/71 |       |      |      |   |
|              |      |         |            | TC  | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |   |
| <b>4</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 4000 | 40      | 130.9      | 97.4  | 52.8  | 51.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 98.2       | 83.7  | 55.9  | 54.7 | 132.7 | 97.7  | 57.8  | 56.5 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 69.2       | 69.1  | 59.3  | 57.3 | 97.8  | 84.4  | 60.8  | 59.4 | 134.1 | 98.1  | 62.8  | 61.3 | —    |   |
|              | 5000 | 40      | 148.5      | 114.0   | 54.2  | 52.8 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 112.4      | 99.0  | 57.0  | 55.4 | 150.2 | 114.6 | 59.2  | 57.6 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 81.4       | 81.3  | 60.2  | 57.6 | 111.8 | 100.2 | 61.8  | 60.1 | 151.5 | 115.3 | 64.1  | 62.3 | —    |   |
|              | 6000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 124.3      | 113.0   | 57.9  | 56.1 | 164.6 | 129.8 | 60.3  | 58.5 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 92.2       | 92.2  | 61.0  | 57.9 | 123.7 | 114.7 | 62.7  | 60.7 | 165.8 | 130.9 | 65.2  | 63.2 | —    |   |
| 12           | 4000 | 40      | 146.0      | 106.5   | 50.7  | 50.1 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 111.0      | 91.7  | 54.1  | 53.5 | 148.5 | 106.8 | 55.7  | 55.1 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 78.2       | 78.0  | 57.3  | 56.5 | 110.9 | 92.4  | 59.0  | 58.3 | 150.6 | 107.2 | 60.7  | 60.0 | —    |   |
|              | 5000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 127.7      | 109.2   | 55.1  | 54.3 | 169.2 | 126.1 | 57.1  | 56.2 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 92.0       | 91.9  | 58.3  | 56.9 | 127.5 | 110.3 | 60.0  | 59.1 | 171.2 | 126.8 | 62.0  | 61.1 | —    |   |
|              | 6000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 141.8      | 125.2   | 56.0  | 55.0 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 104.5      | 101.4   | 59.2  | 57.2 | 141.6 | 126.9 | 60.8  | 59.7 | —     | —     | —     | —    | —    |   |
| 14           | 4000 | 40      | 153.6      | 110.8   | 49.7  | 49.4 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 117.6      | 95.4  | 53.3  | 52.9 | 156.6 | 111.1 | 54.7  | 54.3 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 82.8       | 81.5  | 56.5  | 56.1 | 117.8 | 96.0  | 58.2  | 57.8 | 159.2 | 111.4 | 59.7  | 59.3 | —    |   |
|              | 5000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 135.7      | 113.9   | 54.2  | 53.7 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 97.7       | 97.5  | 57.3  | 56.5 | 135.8 | 115.0 | 59.1  | 58.5 | 181.6 | 132.3 | 61.0  | 60.4 | —    |   |
|              | 6000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 151.1      | 131.1   | 55.1  | 54.5 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 110.9      | 110.7   | 58.2  | 56.9 | 151.1 | 132.7 | 59.9  | 59.2 | —     | —     | —     | —    | —    |   |
| <b>6</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 4000 | 40      | 160.2      | 113.6   | 49.0  | 48.7 | 199.1 | 128.8 | 50.6  | 50.2 | 240.1 | 142.9 | 52.4  | 52.1 | —    |   |
|              |      | 45      | 125.0      | 98.4  | 52.6  | 52.2 | 164.6 | 114.2 | 54.0  | 53.6 | 207.1 | 129.4 | 55.6  | 55.1 | —    |   |
|              |      | 50      | —          | —   | —     | —    | —     | —     | —     | —    | 168.9 | 114.8 | 58.9  | 58.5 | —    |   |
|              | 5000 | 40      | 183.6      | 134.0   | 50.5  | 50.0 | 227.3 | 151.0 | 52.4  | 51.9 | 273.0 | 166.7 | 54.6  | 54.1 | —    |   |
|              |      | 45      | 144.4      | 117.3   | 53.6  | 53.1 | 188.6 | 135.1 | 55.4  | 54.8 | 236.1 | 152.1 | 57.3  | 56.8 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 145.5 | 118.4 | 58.5  | 57.9 | 193.0 | 136.1 | 60.3  | 59.7 | —    |   |
|              | 6000 | 40      | 203.1      | 152.4   | 51.8  | 51.2 | 250.5 | 170.9 | 54.0  | 53.4 | 299.9 | 188.0 | 56.5  | 55.8 | —    |   |
|              |      | 45      | 160.7      | 134.7   | 54.5  | 53.9 | 208.2 | 154.0 | 56.6  | 55.9 | 259.6 | 172.6 | 58.9  | 58.1 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 161.9 | 136.4 | 59.3  | 58.6 | 213.0 | 155.6 | 61.5  | 60.7 | —    |   |
|              | 12   | 4000    | 40         | 172.0   | 120.0 | 47.6 | 47.5  | 212.5 | 135.7 | 49.0 | 48.9  | 255.4 | 150.4 | 50.7 | 50.6 | — |
|              |      |         | 45         | 135.9   | 104.1 | 51.3 | 51.1  | 177.4 | 120.6 | 52.5 | 52.4  | 221.8 | 136.4 | 53.9 | 53.8 | — |
|              |      |         | 50         | —   | —     | —    | —     | 137.7 | 104.7 | 56.2 | 56.0  | 182.7 | 121.3 | 57.4 | 57.3 | — |
|              |      | 5000    | 40         | 198.3   | 142.1 | 49.0 | 48.8  | 243.8 | 159.7 | 50.8 | 50.7  | 291.8 | 176.1 | 52.9 | 52.7 | — |
|              |      |         | 45         | 157.9   | 124.7 | 52.3 | 52.1  | 204.4 | 143.4 | 53.9 | 53.7  | 254.1 | 161.0 | 55.7 | 55.5 | — |
|              |      |         | 50         | —   | —     | —    | —     | 159.8 | 125.8 | 57.1 | 56.9  | 210.2 | 144.5 | 58.8 | 58.5 | — |
|              |      | 6000    | 40         | 220.2   | 162.3 | 50.3 | 50.0  | 269.5 | 181.5 | 52.4 | 52.2  | —     | —     | —    | —    | — |
|              |      |         | 45         | 176.5   | 143.8 | 53.2 | 52.9  | 226.9 | 164.2 | 55.1 | 54.8  | 280.6 | 183.3 | 57.2 | 56.9 | — |
|              |      |         | 50         | 130.1   | 125.2 | 56.0 | 55.7  | 178.6 | 145.5 | 58.0 | 57.6  | 233.1 | 165.9 | 59.9 | 59.6 | — |
| 14           | 4000 | 40      | 177.5      | 122.6   | 47.0  | 46.9 | 218.6 | 138.4 | 48.4  | 48.3 | 262.2 | 153.3 | 50.0  | 49.9 | —    |   |
|              |      | 45      | —          | —   | —     | —    | 183.5 | 123.3 | 51.9  | 51.8 | 228.5 | 139.3 | 53.3  | 53.2 | —    |   |
|              |      | 50      | —          | —   | —     | —    | —     | —     | —     | —    | 189.4 | 124.0 | 56.8  | 56.7 | —    |   |
|              | 5000 | 40      | 205.3      | 145.7   | 48.4  | 48.3 | 251.4 | 163.5 | 50.1  | 50.0 | 300.3 | 180.1 | 52.1  | 52.0 | —    |   |
|              |      | 45      | 164.4      | 128.0   | 51.7  | 51.6 | 212.1 | 147.0 | 53.2  | 53.1 | 262.5 | 164.9 | 55.0  | 54.9 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 166.8 | 129.2 | 56.5  | 56.4 | 218.6 | 148.1 | 58.1  | 58.0 | —    |   |
|              | 6000 | 40      | 228.5      | 166.7   | 49.6  | 49.5 | 278.3 | 186.0 | 51.7  | 51.6 | —     | —     | —     | —    | —    |   |
|              |      | 45      | 184.2      | 147.8   | 52.5  | 52.4 | 236.0 | 168.6 | 54.4  | 54.2 | 290.4 | 188.0 | 56.5  | 56.3 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 186.9 | 149.5 | 57.3  | 57.2 | 243.0 | 170.4 | 59.2  | 59.0 | —    |   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)



## Performance Data

### Cooling Capacities - DX Coil, Size 12, R-410A

**Table 64. Unit size 12 DX cooling capacities, R-410A**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |      |      |       |       |      |      |     |
|--------------|------|---------|------------|---|------|------|-------|-------|------|------|-------|-------|------|------|-----|
|              |      |         |            | 75/63   |      |      |       | 80/67 |      |      |       | 85/71 |      |      |     |
|              |      |         |            | TC  | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB |
| <b>4</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 4800 | 40      | 162.2      | 119.4   | 52.3 | 51.2 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 121.3      | 102.1   | 55.6 | 54.4 | 164.6 | 119.7 | 57.3 | 56.1 | 211.4 | 136.7 | 59.1 | 57.9 |     |
|              |      | 50      | 84.7       | 84.5  | 59.0 | 57.2 | 120.8 | 102.9 | 60.5 | 59.2 | 166.5 | 120.0 | 62.3 | 61.0 |     |
| 6000         | 4800 | 40      | 184.9      | 140.1   | 53.7 | 52.3 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 139.4      | 121.2   | 56.6 | 55.2 | 187.2 | 140.7 | 58.7 | 57.2 | —     | —     | —    | —    |     |
|              |      | 50      | 99.9       | 99.7  | 59.9 | 57.5 | 138.8 | 122.4 | 61.5 | 59.9 | 189.0 | 141.4 | 63.6 | 62.0 |     |
| 7200         | 4800 | 40      | 203.7      | 158.6   | 54.9 | 53.3 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 154.7      | 138.5   | 57.5 | 55.8 | 205.9 | 159.7 | 59.8 | 58.1 | —     | —     | —    | —    |     |
|              |      | 50      | 113.5      | 113.3   | 60.7 | 57.8 | 154.0 | 140.3 | 62.3 | 60.4 | 207.6 | 160.8 | 64.8 | 62.8 |     |
| 12           | 4800 | 40      | 180.5      | 130.3   | 50.2 | 49.7 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 136.9      | 111.7   | 53.8 | 53.2 | 183.7 | 130.6 | 55.2 | 54.6 | —     | —     | —    | —    |     |
|              |      | 50      | 95.5       | 95.2  | 56.9 | 56.4 | 136.8 | 112.4 | 58.7 | 58.1 | 186.5 | 130.9 | 60.2 | 59.6 |     |
| 6000         | 4800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 158.2      | 133.3   | 54.8 | 54.0 | 210.3 | 154.5 | 56.6 | 55.8 | —     | —     | —    | —    |     |
|              |      | 50      | 112.9      | 112.7   | 57.9 | 56.7 | 158.0 | 134.5 | 59.6 | 58.8 | 213.1 | 155.2 | 61.5 | 60.7 |     |
| 7200         | 4800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 176.3      | 153.2   | 55.6 | 54.7 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 50      | 128.5      | 128.2   | 58.8 | 57.1 | 176.0 | 155.0 | 60.4 | 59.4 | 235.1 | 177.5 | 62.6 | 61.6 |     |
| 14           | 4800 | 40      | 189.6      | 135.4   | 49.2 | 48.9 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 144.8      | 116.2   | 52.9 | 52.6 | 193.4 | 135.7 | 54.2 | 53.9 | —     | —     | —    | —    |     |
|              |      | 50      | 101.1      | 98.6  | 56.3 | 55.9 | 145.1 | 116.8 | 57.9 | 57.5 | 196.9 | 136.0 | 59.3 | 58.9 |     |
| 6000         | 4800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 167.9      | 139.0   | 53.9 | 53.4 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 50      | 119.8      | 116.6   | 56.9 | 56.3 | 168.0 | 140.2 | 58.8 | 58.3 | 225.7 | 161.8 | 60.5 | 60.0 |     |
| 7200         | 4800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 45      | 187.6      | 160.2   | 54.7 | 54.1 | —     | —     | —    | —    | —     | —     | —    | —    |     |
|              |      | 50      | 136.4      | 136.2   | 57.8 | 56.7 | 187.7 | 162.0 | 59.6 | 58.9 | —     | —     | —    | —    |     |
| <b>6</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 4800 | 40      | 197.7      | 138.9   | 48.6 | 48.2 | 246.0 | 157.7 | 50.0 | 49.7 | 297.0 | 175.4 | 51.7 | 51.3 |     |
|              |      | 45      | 153.9      | 119.8   | 52.2 | 51.9 | 203.2 | 139.5 | 53.5 | 53.1 | 256.0 | 158.4 | 54.9 | 54.6 |     |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 208.5 | 140.1 | 58.5 | 58.1 |     |
| 6000         | 4800 | 40      | 227.9      | 164.3   | 50.0 | 49.5 | 282.4 | 185.6 | 51.8 | 51.3 | 339.7 | 205.2 | 53.8 | 53.4 |     |
|              |      | 45      | 178.6      | 143.2   | 53.2 | 52.7 | 233.9 | 165.4 | 54.9 | 54.4 | 293.5 | 186.7 | 56.7 | 56.2 |     |
|              |      | 50      | —          | —   | —    | —    | 180.0 | 144.4 | 58.1 | 57.6 | 239.7 | 166.5 | 59.8 | 59.2 |     |
| 7200         | 4800 | 40      | 252.9      | 187.3   | 51.3 | 50.7 | 312.6 | 210.5 | 53.3 | 52.7 | 374.8 | 231.9 | 55.7 | 55.0 |     |
|              |      | 45      | 199.6      | 164.7   | 54.1 | 53.5 | 259.8 | 189.0 | 56.1 | 55.4 | 324.5 | 212.3 | 58.2 | 57.5 |     |
|              |      | 50      | —          | —   | —    | —    | 201.1 | 166.6 | 59.0 | 58.3 | 265.7 | 190.7 | 61.0 | 60.2 |     |
| 12           | 4800 | 40      | 211.7      | 146.5   | 47.1 | 47.0 | 262.1 | 166.0 | 48.4 | 48.3 | 315.3 | 184.3 | 49.9 | 49.8 |     |
|              |      | 45      | —          | —   | —    | —    | 218.6 | 147.1 | 52.0 | 51.9 | 273.6 | 166.8 | 53.3 | 53.2 |     |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 225.1 | 147.8 | 57.0 | 56.9 |     |
| 6000         | 4800 | 40      | 245.6      | 174.0   | 48.5 | 48.3 | 302.4 | 196.1 | 50.2 | 50.0 | 362.4 | 216.6 | 52.1 | 51.9 |     |
|              |      | 45      | 194.8      | 152.0   | 51.9 | 51.7 | 253.1 | 175.3 | 53.4 | 53.2 | 315.3 | 197.4 | 55.0 | 54.9 |     |
|              |      | 50      | —          | —   | —    | —    | 197.3 | 153.2 | 56.8 | 56.6 | 260.5 | 176.5 | 58.3 | 58.1 |     |
| 7200         | 4800 | 40      | 273.8      | 199.2   | 49.7 | 49.5 | 335.9 | 223.2 | 51.7 | 51.5 | 401.2 | 245.5 | 53.9 | 53.7 |     |
|              |      | 45      | 218.7      | 175.6   | 52.8 | 52.5 | 282.2 | 201.1 | 54.6 | 54.3 | 350.0 | 225.3 | 56.5 | 56.3 |     |
|              |      | 50      | —          | —   | —    | —    | 221.4 | 177.5 | 57.6 | 57.3 | 290.1 | 203.0 | 59.4 | 59.1 |     |
| 14           | 4800 | 40      | 218.2      | 149.5   | 46.5 | 46.4 | 269.3 | 169.3 | 47.8 | 47.7 | 323.3 | 187.8 | 49.3 | 49.2 |     |
|              |      | 45      | —          | —   | —    | —    | 225.7 | 150.3 | 51.4 | 51.3 | 281.6 | 170.2 | 52.7 | 52.6 |     |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 233.0 | 151.0 | 56.4 | 56.3 |     |
| 6000         | 4800 | 40      | 253.8      | 178.2   | 47.9 | 47.8 | 311.5 | 200.4 | 49.5 | 49.4 | 372.6 | 221.2 | 51.4 | 51.3 |     |
|              |      | 45      | 202.6      | 155.8   | 51.3 | 51.2 | 262.3 | 179.6 | 52.7 | 52.6 | 325.5 | 202.0 | 54.3 | 54.2 |     |
|              |      | 50      | —          | —   | —    | —    | 205.6 | 157.1 | 56.2 | 56.1 | 270.5 | 180.9 | 57.6 | 57.5 |     |
| 7200         | 4800 | 40      | 283.8      | 204.4   | 49.1 | 48.9 | 346.7 | 228.6 | 51.0 | 50.9 | —     | —     | —    | —    |     |
|              |      | 45      | 228.1      | 180.4   | 52.1 | 52.0 | 293.2 | 206.5 | 53.9 | 53.7 | 361.8 | 230.9 | 55.8 | 55.7 |     |
|              |      | 50      | —          | —   | —    | —    | 231.4 | 182.3 | 57.0 | 56.8 | 302.1 | 208.4 | 58.7 | 58.6 |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)

## Performance Data

### Cooling Capacities - DX Coil, Size 14, R-410A

**Table 65. Unit size 14 DX cooling capacities, R-410A**

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |       |      |       |       |       |      |       |       |       |      |      |   |
|--------------|------|---------|------------|---|-------|------|-------|-------|-------|------|-------|-------|-------|------|------|---|
|              |      |         |            | 75/63   |       |      |       | 80/67 |       |      |       | 85/71 |       |      |      |   |
|              |      |         |            | TC  | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |   |
| <b>4</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 5600 | 40      | 190.3      | 139.7   | 52.2  | 51.1 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 144.5      | 120.3   | 55.4  | 54.2 | 193.7 | 140.2 | 57.2  | 56.0 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 101.8      | 101.6   | 58.5  | 57.0 | 144.3 | 121.3 | 60.3  | 59.0 | 196.6 | 140.8 | 62.2  | 60.8 | —    |   |
|              | 7000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 165.3      | 142.4   | 56.5  | 55.0 | 219.5 | 164.5 | 58.6  | 57.1 | —     | —     | —     | —    | —    |   |
|              |      | 50      | 119.3      | 119.1   | 59.5  | 57.4 | 165.0 | 143.9 | 61.3  | 59.7 | 222.2 | 165.6 | 63.6  | 61.9 | —    |   |
|              | 8400 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 182.7      | 162.4   | 57.4  | 55.7 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 134.9      | 134.7   | 60.4  | 57.7 | 182.4 | 164.6 | 62.2  | 60.3 | —     | —     | —     | —    | —    |   |
| 12           | 5600 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |      | 45      | 162.2      | 131.3   | 53.6  | 53.0 | 215.1 | 152.6 | 55.2  | 54.6 | —     | —     | —     | —    |      |   |
|              |      | 50      | 114.6      | 112.3   | 56.8  | 56.2 | 162.6 | 132.3 | 58.5  | 57.9 | 219.1 | 153.2 | 60.2  | 59.5 | —    |   |
|              | 7000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 186.5      | 156.3   | 54.6  | 53.9 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 134.7      | 134.4   | 57.5  | 56.6 | 186.9 | 157.9 | 59.5  | 58.7 | —     | —     | —     | —    | —    |   |
|              | 8400 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 207.0      | 179.2   | 55.6  | 54.7 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 152.4      | 148.1   | 58.5  | 57.0 | 207.5 | 181.6 | 60.4  | 59.4 | —     | —     | —     | —    | —    |   |
| 14           | 5600 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |      | 45      | 171.2      | 136.4   | 52.8  | 52.4 | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |      | 50      | 121.2      | 116.3   | 56.1  | 55.7 | 172.0 | 137.3 | 57.7  | 57.3 | 230.7 | 159.0 | 59.2  | 58.8 |      |   |
|              | 7000 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 197.5      | 162.8   | 53.8  | 53.3 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 142.7      | 141.0   | 56.7  | 56.2 | 198.3 | 164.4 | 58.7  | 58.1 | —     | —     | —     | —    | —    |   |
|              | 8400 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 45      | 219.7      | 187.2   | 54.7  | 54.1 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |      | 50      | 161.7      | 157.3   | 57.5  | 56.6 | 220.6 | 189.6 | 59.5  | 58.8 | —     | —     | —     | —    | —    |   |
| <b>6</b>     |      |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 5600 | 40      | 227.0      | 160.4   | 48.8  | 48.5 | 280.0 | 180.9 | 50.5  | 50.2 | 335.7 | 200.0 | 52.4  | 52.1 | —    |   |
|              |      | 45      | 179.5      | 139.7   | 52.2  | 51.9 | 234.2 | 161.6 | 53.7  | 53.3 | 292.3 | 182.2 | 55.4  | 55.0 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 181.8 | 140.8 | 57.1  | 56.7 | 241.2 | 162.6 | 58.6  | 58.2 | —    |   |
|              | 7000 | 40      | 259.7      | 189.0   | 50.3  | 49.9 | 318.9 | 211.9 | 52.4  | 51.9 | 380.8 | 233.0 | 54.7  | 54.2 | —    |   |
|              |      | 45      | 207.0      | 166.5   | 53.3  | 52.8 | 267.8 | 190.9 | 55.2  | 54.6 | 332.6 | 214.0 | 57.2  | 56.7 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 209.6 | 168.3 | 58.1  | 57.6 | 275.6 | 192.7 | 60.0  | 59.4 | —    |   |
|              | 8400 | 40      | 286.6      | 214.7   | 51.7  | 51.1 | 350.7 | 239.7 | 54.0  | 53.4 | —     | —     | —     | —    | —    |   |
|              |      | 45      | 230.1      | 191.0   | 54.3  | 53.6 | 295.4 | 217.5 | 56.4  | 55.8 | 365.5 | 242.7 | 58.7  | 58.0 | —    |   |
|              |      | 50      | 170.5      | 167.3   | 56.9  | 56.2 | 233.0 | 193.7 | 59.0  | 58.3 | 303.6 | 220.2 | 61.2  | 60.5 | —    |   |
|              | 12   | 5600    | 40         | 241.6   | 168.5 | 47.5 | 47.4  | 296.7 | 189.6 | 49.1 | 49.0  | 354.5 | 209.2 | 50.9 | 50.8 | — |
|              |      |         | 45         | 193.7   | 147.2 | 51.0 | 50.9  | 250.5 | 169.8 | 52.3 | 52.2  | 310.8 | 191.2 | 53.9 | 53.8 | — |
|              |      |         | 50         | —   | —     | —    | —     | —     | —     | —    | —     | 259.0 | 171.0 | 57.2 | 57.1 | — |
|              |      | 7000    | 40         | 277.9   | 199.2 | 49.0 | 48.8  | 339.2 | 222.9 | 50.9 | 50.8  | 403.6 | 244.6 | 53.1 | 53.0 | — |
|              |      |         | 45         | 224.5   | 176.2 | 52.0 | 51.9  | 287.8 | 201.5 | 53.8 | 53.6  | 355.1 | 225.3 | 55.7 | 55.5 | — |
|              |      |         | 50         | —   | —     | —    | —     | 228.3 | 178.1 | 56.9 | 56.7  | 297.5 | 203.5 | 58.6 | 58.4 | — |
|              |      | 8400    | 40         | 307.7   | 227.2 | 50.3 | 50.1  | 374.0 | 252.8 | 52.6 | 52.3  | —     | —     | —    | —    | — |
|              |      |         | 45         | 250.5   | 202.9 | 53.0 | 52.7  | 318.7 | 230.5 | 55.0 | 54.8  | 391.4 | 256.3 | 57.3 | 57.0 | — |
|              |      |         | 50         | —   | —     | —    | —     | 254.8 | 205.8 | 57.7 | 57.5  | 329.3 | 233.5 | 59.8 | 59.5 | — |
| 14           | 5600 | 40      | 248.4      | 171.6   | 47.0  | 46.9 | 304.0 | 192.9 | 48.5  | 48.4 | 362.5 | 212.7 | 50.3  | 50.2 | —    |   |
|              |      | 45      | —          | —   | —     | —    | 258.0 | 173.1 | 51.8  | 51.7 | 319.0 | 194.6 | 53.3  | 53.2 | —    |   |
|              |      | 50      | —          | —   | —     | —    | —     | —     | —     | —    | 267.4 | 174.4 | 56.7  | 56.6 | —    |   |
|              | 7000 | 40      | 286.3      | 203.5   | 48.4  | 48.3 | 348.4 | 227.3 | 50.4  | 50.3 | —     | —     | —     | —    | —    |   |
|              |      | 45      | 232.7      | 180.3   | 51.5  | 51.4 | 297.3 | 206.0 | 53.2  | 53.1 | 365.4 | 230.0 | 55.1  | 55.0 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 237.3 | 182.3 | 56.3  | 56.2 | 308.0 | 208.2 | 58.0  | 57.9 | —    |   |
|              | 8400 | 40      | 317.8      | 232.6   | 49.7  | 49.6 | 384.5 | 258.6 | 51.9  | 51.8 | —     | —     | —     | —    | —    |   |
|              |      | 45      | 260.2      | 208.0   | 52.4  | 52.3 | 330.0 | 236.0 | 54.4  | 54.3 | 403.1 | 262.4 | 56.6  | 56.5 | —    |   |
|              |      | 50      | —          | —   | —     | —    | 265.4 | 211.0 | 57.2  | 57.0 | 341.7 | 239.2 | 59.1  | 59.0 | —    |   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)



## Performance Data

### Cooling Capacities - DX Coil, Size 17, R-410A

Table 66. Unit size 17 DX cooling capacities, R-410A

| Rows of Coil | fpi  | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |      |      |       |       |      |      |     |
|--------------|------|---------|------------|---|------|------|-------|-------|------|------|-------|-------|------|------|-----|
|              |      |         |            | 75/63   |      |      |       | 80/67 |      |      |       | 85/71 |      |      |     |
|              |      |         |            | TC  | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB |
| <b>4</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 6800 | 40      | 228.9      | 168.5   | 52.4 | 51.3 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 172.3      | 144.6   | 55.6 | 54.4 | 232.5 | 169.0 | 57.4 | 56.1 | —     | —     | —    | —    | —   |
|              |      | 50      | 120.8      | 120.6   | 58.9 | 57.1 | 171.7 | 145.7 | 60.5 | 59.2 | 235.5 | 169.6 | 62.4 | 61.0 | —   |
| 8500         | 6800 | 40      | 260.3      | 197.3   | 53.8 | 52.4 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 197.4      | 171.2   | 56.7 | 55.2 | 263.8 | 198.3 | 58.8 | 57.2 | —     | —     | —    | —    | —   |
|              |      | 50      | 142.0      | 141.8   | 59.8 | 57.5 | 196.7 | 173.0 | 61.5 | 59.9 | 266.6 | 199.5 | 63.7 | 62.0 | —   |
| 10200        | 6800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 218.5      | 195.3   | 57.6 | 55.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 160.9      | 160.6   | 60.7 | 57.8 | 217.8 | 198.0 | 62.4 | 60.5 | 292.2 | 226.5 | 64.9 | 62.9 | —   |
| 12           | 6800 | 40      | 254.3      | 183.8   | 50.3 | 49.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 194.1      | 158.2   | 53.8 | 53.2 | 259.1 | 184.4 | 55.3 | 54.7 | —     | —     | —    | —    | —   |
|              |      | 50      | 136.3      | 135.1   | 56.9 | 56.3 | 194.2 | 159.2 | 58.7 | 58.1 | 263.4 | 184.9 | 60.3 | 59.6 | —   |
| 8500         | 6800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 223.6      | 188.4   | 54.8 | 54.0 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 160.5      | 160.3   | 57.8 | 56.7 | 223.6 | 190.2 | 59.7 | 58.8 | 300.1 | 219.0 | 61.6 | 60.7 | —   |
| 10200        | 6800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 248.5      | 216.1   | 55.7 | 54.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 182.3      | 177.0   | 58.8 | 57.1 | 248.5 | 218.8 | 60.5 | 59.5 | —     | —     | —    | —    | —   |
| 14           | 6800 | 40      | 266.9      | 191.0   | 49.3 | 49.0 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 205.2      | 164.4   | 52.9 | 52.6 | 272.7 | 191.6 | 54.3 | 54.0 | —     | —     | —    | —    | —   |
|              |      | 50      | 144.3      | 140.0   | 56.3 | 55.9 | 205.8 | 165.4 | 57.9 | 57.5 | 277.8 | 192.1 | 59.3 | 58.9 | —   |
| 8500         | 6800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 237.2      | 196.4   | 53.9 | 53.5 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 170.2      | 169.9   | 56.8 | 56.3 | 237.6 | 198.2 | 58.8 | 58.3 | —     | —     | —    | —    | —   |
| 10200        | 6800 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 45      | 264.3      | 226.0   | 54.8 | 54.2 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |      | 50      | 193.3      | 193.0   | 57.8 | 56.7 | 264.7 | 228.7 | 59.6 | 58.9 | —     | —     | —    | —    | —   |
| <b>6</b>     |      |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 6800 | 40      | 276.9      | 195.3   | 48.8 | 48.4 | 343.3 | 221.1 | 50.3 | 50.0 | 413.2 | 245.1 | 52.1 | 51.8 | —   |
|              |      | 45      | 217.0      | 169.1   | 52.3 | 51.9 | 285.1 | 196.4 | 53.7 | 53.3 | 357.7 | 222.3 | 55.2 | 54.8 | —   |
|              |      | 50      | —          | —   | —    | —    | 219.2 | 170.3 | 57.2 | 56.8 | 292.9 | 197.4 | 58.6 | 58.2 | —   |
| 8500         | 6800 | 40      | 317.9      | 230.4   | 50.2 | 49.8 | 392.5 | 259.4 | 52.2 | 51.7 | 470.6 | 286.1 | 54.3 | 53.8 | —   |
|              |      | 45      | 250.9      | 201.8   | 53.4 | 52.8 | 326.9 | 232.3 | 55.1 | 54.6 | 408.4 | 261.4 | 57.0 | 56.5 | —   |
|              |      | 50      | —          | —   | —    | —    | 253.4 | 203.7 | 58.2 | 57.6 | 335.7 | 234.1 | 60.0 | 59.4 | —   |
| 10200        | 6800 | 40      | 351.9      | 262.1   | 51.5 | 50.9 | 432.9 | 293.7 | 53.7 | 53.1 | 517.3 | 322.7 | 56.2 | 55.5 | —   |
|              |      | 45      | 279.5      | 231.7   | 54.3 | 53.6 | 361.8 | 264.9 | 56.4 | 55.7 | 450.1 | 296.7 | 58.6 | 57.8 | —   |
|              |      | 50      | —          | —   | —    | —    | 282.2 | 234.6 | 59.1 | 58.4 | 370.6 | 267.7 | 61.2 | 60.4 | —   |
| 12           | 6800 | 40      | 295.9      | 205.6   | 47.4 | 47.2 | 365.1 | 232.4 | 48.8 | 48.7 | 438.0 | 257.3 | 50.5 | 50.3 | —   |
|              |      | 45      | 235.0      | 178.7   | 51.0 | 50.9 | 306.1 | 206.9 | 52.2 | 52.1 | 381.7 | 233.8 | 53.7 | 53.5 | —   |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 315.7 | 208.1 | 57.2 | 57.0 | —   |
| 8500         | 6800 | 40      | 341.8      | 243.7   | 48.8 | 48.6 | 419.3 | 273.7 | 50.6 | 50.4 | 500.9 | 301.5 | 52.7 | 52.5 | —   |
|              |      | 45      | 273.2      | 214.1   | 52.0 | 51.8 | 352.9 | 245.9 | 53.6 | 53.4 | 437.9 | 276.1 | 55.4 | 55.2 | —   |
|              |      | 50      | —          | —   | —    | —    | 277.1 | 216.1 | 56.9 | 56.7 | 363.8 | 248.0 | 58.5 | 58.3 | —   |
| 10200        | 6800 | 40      | 379.6      | 278.4   | 50.1 | 49.8 | 463.9 | 311.0 | 52.2 | 51.9 | —     | —     | —    | —    | —   |
|              |      | 45      | 305.7      | 246.9   | 52.9 | 52.7 | 392.1 | 281.7 | 54.8 | 54.6 | 484.2 | 314.5 | 57.0 | 56.7 | —   |
|              |      | 50      | —          | —   | —    | —    | 310.1 | 249.9 | 57.7 | 57.4 | 403.8 | 284.8 | 59.7 | 59.3 | —   |
| 14           | 6800 | 40      | 304.8      | 209.8   | 46.8 | 46.7 | 374.8 | 236.8 | 48.2 | 48.1 | 448.7 | 262.0 | 49.8 | 49.7 | —   |
|              |      | 45      | —          | —   | —    | —    | 315.8 | 211.2 | 51.7 | 51.6 | 392.5 | 238.4 | 53.0 | 52.9 | —   |
|              |      | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 326.5 | 212.5 | 56.6 | 56.5 | —   |
| 8500         | 6800 | 40      | 352.9      | 249.4   | 48.2 | 48.1 | 431.5 | 279.7 | 50.0 | 49.9 | 514.4 | 307.8 | 52.0 | 51.9 | —   |
|              |      | 45      | 283.9      | 219.4   | 51.4 | 51.3 | 365.4 | 251.9 | 53.0 | 52.9 | 451.6 | 282.4 | 54.7 | 54.6 | —   |
|              |      | 50      | —          | —   | —    | —    | 288.6 | 221.5 | 56.3 | 56.2 | 377.4 | 254.2 | 57.8 | 57.7 | —   |
| 10200        | 6800 | 40      | 393.0      | 285.5   | 49.4 | 49.3 | 478.2 | 318.3 | 51.5 | 51.4 | —     | —     | —    | —    | —   |
|              |      | 45      | 318.4      | 253.5   | 52.3 | 52.2 | 406.9 | 289.0 | 54.2 | 54.0 | 500.0 | 322.1 | 56.3 | 56.1 | —   |
|              |      | 50      | —          | —   | —    | —    | 323.7 | 256.6 | 57.1 | 57.0 | 420.0 | 292.2 | 59.0 | 58.8 | —   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)

## Performance Data

### Cooling Capacities - DX Coil, Size 21, R-410A

**Table 67. Unit size 21 DX cooling capacities, R-410A**

| Rows of Coil | fpi   | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |       |      |       |       |       |      |       |       |       |      |      |   |
|--------------|-------|---------|------------|---|-------|------|-------|-------|-------|------|-------|-------|-------|------|------|---|
|              |       |         |            | 75/63   |       |      |       | 80/67 |       |      |       | 85/71 |       |      |      |   |
|              |       |         |            | TC  | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB   | TC    | SC    | LDB  | LWB  |   |
| <b>4</b>     |       |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 8400  | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | 217.2      | 180.3   | 55.4  | 54.2 | 288.4 | 209.2 | 57.3  | 56.1 | —     | —     | —     | —    | —    |   |
|              |       | 50      | 154.6      | 154.3   | 58.3  | 56.9 | 217.5 | 181.9 | 60.3  | 59.0 | 293.5 | 210.3 | 62.3  | 60.9 | —    |   |
|              | 10500 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | 247.2      | 212.7   | 56.5  | 55.1 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 180.2      | 179.9   | 59.4  | 57.3 | 247.5 | 215.2 | 61.4  | 59.7 | —     | —     | —     | —    | —    |   |
|              | 12600 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | 272.2      | 242.0   | 57.5  | 55.8 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 202.9      | 202.5   | 60.4  | 57.7 | 272.6 | 245.6 | 62.3  | 60.4 | —     | —     | —     | —    | —    |   |
| 12           | 8400  | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |       | 45      | 242.9      | 196.6   | 53.7  | 53.1 | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |       | 50      | 173.7      | 168.9   | 56.7  | 56.1 | 244.2 | 198.3 | 58.5  | 57.9 | —     | —     | —     | —    |      |   |
|              | 10500 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | 277.8      | 233.3   | 54.8  | 54.0 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 203.0      | 202.7   | 57.4  | 56.6 | 279.3 | 236.0 | 59.6  | 58.7 | —     | —     | —     | —    | —    |   |
|              | 12600 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 228.9      | 228.5   | 58.5  | 57.0 | 308.7 | 270.8 | 60.5  | 59.4 | —     | —     | —     | —    | —    |   |
| 14           | 8400  | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |       | 45      | 255.9      | 204.1   | 52.8  | 52.5 | —     | —     | —     | —    | —     | —     | —     | —    |      |   |
|              |       | 50      | 183.6      | 175.0   | 56.0  | 55.7 | 257.8 | 205.7 | 57.7  | 57.3 | —     | —     | —     | —    |      |   |
|              | 10500 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 214.8      | 211.5   | 56.7  | 56.2 | 295.7 | 245.6 | 58.7  | 58.2 | —     | —     | —     | —    | —    |   |
|              | 12600 | 40      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | —          | —   | —     | —    | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 50      | 242.4      | 242.0   | 57.5  | 56.6 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
| <b>6</b>     |       |         |            |   |       |      |       |       |       |      |       |       |       |      |      |   |
| 9            | 8400  | 40      | 330.9      | 236.1   | 49.3  | 49.0 | 405.2 | 264.8 | 51.2  | 50.9 | 483.0 | 291.2 | 53.4  | 53.0 | —    |   |
|              |       | 45      | 265.2      | 207.7   | 52.4  | 52.1 | 342.6 | 238.6 | 54.1  | 53.7 | 424.2 | 267.6 | 56.0  | 55.6 | —    |   |
|              |       | 50      | —          | —   | —     | —    | 269.6 | 209.8 | 57.3  | 56.8 | 353.9 | 240.8 | 59.0  | 58.5 | —    |   |
|              | 10500 | 40      | 375.5      | 277.0   | 55.1  | 50.4 | 457.7 | 308.9 | 53.2  | 52.7 | —     | —     | —     | —    | —    |   |
|              |       | 45      | 303.6      | 246.6   | 53.6  | 53.1 | 388.7 | 280.8 | 55.6  | 55.1 | 479.0 | 313.0 | 57.9  | 57.3 | —    |   |
|              |       | 50      | 225.2      | 215.1   | 56.4  | 55.8 | 308.7 | 250.0 | 58.4  | 57.8 | 401.0 | 284.3 | 60.4  | 59.8 | —    |   |
|              | 12600 | 40      | 411.3      | 313.7   | 52.3  | 51.6 | 499.3 | 348.3 | 54.8  | 54.1 | —     | —     | —     | —    | —    |   |
|              |       | 45      | 335.5      | 282.2   | 54.6  | 53.9 | 425.6 | 319.0 | 57.0  | 56.3 | 522.3 | 354.0 | 59.5  | 58.7 | —    |   |
|              |       | 50      | 253.2      | 249.5   | 57.0  | 56.3 | 341.3 | 287.0 | 59.3  | 58.6 | 439.4 | 324.1 | 61.7  | 60.9 | —    |   |
|              | 12    | 8400    | 40         | 350.6   | 247.2 | 48.1 | 48.0  | 427.5 | 276.6 | 49.9 | 49.8  | 508.0 | 303.6 | 52.0 | 51.9 | — |
|              |       |         | 45         | 284.9   | 218.4 | 51.3 | 51.1  | 364.6 | 250.0 | 52.9 | 52.7  | 449.1 | 279.8 | 54.7 | 54.5 | — |
|              |       |         | 50         | —   | —     | —    | —     | 290.9 | 220.7 | 56.1 | 55.9  | 378.6 | 252.6 | 57.7 | 57.5 | — |
|              |       | 10500   | 40         | 399.5   | 291.0 | 49.7 | 49.5  | 484.3 | 323.7 | 51.9 | 51.7  | —     | —     | —    | —    | — |
|              |       |         | 45         | 327.6   | 260.3 | 52.4 | 52.2  | 415.8 | 295.5 | 54.4 | 54.2  | 508.7 | 328.5 | 56.5 | 56.3 | — |
|              |       |         | 50         | —   | —     | —    | —     | 334.7 | 264.0 | 57.1 | 56.9  | 431.0 | 299.6 | 59.1 | 58.9 | — |
|              |       | 12600   | 40         | 439.1   | 330.9 | 51.0 | 50.8  | 529.4 | 366.1 | 53.5 | 53.2  | —     | —     | —    | —    | — |
|              |       |         | 45         | 363.3   | 299.0 | 53.4 | 53.1  | 456.9 | 337.1 | 55.6 | 55.4  | 556.0 | 372.7 | 58.1 | 57.8 | — |
|              |       |         | 50         | —   | —     | —    | —     | 371.4 | 304.3 | 58.0 | 57.7  | 474.0 | 342.8 | 60.3 | 60.0 | — |
| 14           | 8400  | 40      | 359.7      | 251.5   | 47.6  | 47.5 | 437.0 | 281.0 | 49.4  | 49.3 | 518.0 | 308.2 | 51.5  | 51.4 | —    |   |
|              |       | 45      | —          | —   | —     | —    | 374.8 | 254.6 | 52.4  | 52.3 | 460.1 | 284.5 | 54.1  | 54.0 | —    |   |
|              |       | 50      | —          | —   | —     | —    | —     | —     | —     | —    | 389.7 | 257.4 | 57.1  | 57.0 | —    |   |
|              | 10500 | 40      | 410.7      | 296.9   | 49.2  | 49.1 | 495.7 | 329.6 | 51.4  | 51.3 | —     | —     | —     | —    | —    |   |
|              |       | 45      | 338.9      | 266.1   | 51.9  | 51.8 | 428.1 | 301.8 | 53.8  | 53.7 | 521.7 | 334.9 | 56.0  | 55.9 | —    |   |
|              |       | 50      | —          | —   | —     | —    | 347.0 | 270.0 | 56.6  | 56.5 | 445.2 | 306.0 | 58.5  | 58.4 | —    |   |
|              | 12600 | 40      | 452.4      | 338.2   | 50.5  | 50.4 | —     | —     | —     | —    | —     | —     | —     | —    | —    |   |
|              |       | 45      | 376.4      | 306.1   | 52.8  | 52.7 | 471.7 | 344.7 | 55.1  | 54.9 | 571.6 | 380.3 | 57.6  | 57.4 | —    |   |
|              |       | 50      | —          | —   | —     | —    | 385.7 | 311.6 | 57.5  | 57.4 | 490.5 | 350.7 | 59.7  | 59.6 | —    |   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)



## Performance Data

### Cooling Capacities - DX Coil, Size 25, R-410A

**Table 68. Unit size 25 DX cooling capacities, R-410A**

| Rows of Coil | fpi   | Airflow | Suct. Temp | Entering Air Temperature - Dry Bulb/Wet Bulb (°F) |      |      |       |       |      |      |       |       |      |      |     |
|--------------|-------|---------|------------|---|------|------|-------|-------|------|------|-------|-------|------|------|-----|
|              |       |         |            | 75/63   |      |      |       | 80/67 |      |      |       | 85/71 |      |      |     |
|              |       |         |            | TC  | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB   | TC    | SC   | LDB  | LWB |
| <b>4</b>     |       |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 267.5      | 220.4   | 54.9 | 53.9 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 190.8      | 189.8   | 57.7 | 56.6 | 268.3 | 222.3 | 59.8 | 58.7 | 360.4 | 256.7 | 61.7 | 60.5 | —   |
| 12500        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 304.6      | 260.3   | 56.0 | 54.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 222.4      | 222.0   | 58.8 | 57.1 | 305.5 | 263.4 | 60.9 | 59.4 | —     | —     | —    | —    | —   |
| 15000        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 335.6      | 296.4   | 57.0 | 55.5 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 250.3      | 249.9   | 59.8 | 57.5 | 336.6 | 300.9 | 61.8 | 60.1 | —     | —     | —    | —    | —   |
| 12           | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 297.2      | 238.7   | 53.2 | 52.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 213.3      | 205.0   | 56.3 | 55.8 | 299.3 | 240.7 | 58.1 | 57.6 | —     | —     | —    | —    | —   |
| 12500        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 340.2      | 283.5   | 54.3 | 53.7 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 249.0      | 247.3   | 57.0 | 56.3 | 342.5 | 286.8 | 59.2 | 58.5 | —     | —     | —    | —    | —   |
| 15000        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 280.8      | 280.4   | 58.0 | 56.8 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
| 14           | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 312.0      | 247.0   | 52.5 | 52.2 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | —          | —   | —    | —    | 315.0 | 248.9 | 57.4 | 57.1 | —     | —     | —    | —    | —   |
| 12500        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 262.9      | 256.1   | 56.4 | 55.9 | 361.5 | 297.5 | 58.4 | 57.9 | —     | —     | —    | —    | —   |
| 15000        | 10000 | 40      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | —          | —   | —    | —    | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 50      | 296.6      | 288.8   | 57.0 | 56.4 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
| <b>6</b>     |       |         |            |   |      |      |       |       |      |      |       |       |      |      |     |
| 9            | 10000 | 40      | 399.3      | 284.4   | 49.0 | 48.7 | 487.9 | 318.5 | 50.9 | 50.6 | 580.5 | 349.8 | 53.1 | 52.8 | —   |
|              |       | 45      | 322.0      | 250.9   | 52.1 | 51.8 | 414.1 | 287.6 | 53.8 | 53.5 | 511.6 | 322.1 | 55.7 | 55.4 | —   |
|              |       | 50      | —          | —   | —    | —    | 328.0 | 253.6 | 56.9 | 56.6 | 428.5 | 290.5 | 58.6 | 58.3 | —   |
| 12500        | 10000 | 40      | 453.1      | 333.8   | 50.6 | 50.2 | 551.0 | 371.7 | 52.9 | 52.5 | —     | —     | —    | —    | —   |
|              |       | 45      | 368.7      | 298.0   | 53.3 | 52.8 | 469.9 | 338.7 | 55.3 | 54.9 | 577.6 | 377.1 | 57.6 | 57.1 | —   |
|              |       | 50      | 274.9      | 260.3   | 56.0 | 55.6 | 375.7 | 302.3 | 58.0 | 57.5 | 486.2 | 343.3 | 60.1 | 59.6 | —   |
| 15000        | 10000 | 40      | 496.7      | 378.3   | 52.0 | 51.5 | 600.9 | 419.4 | 54.5 | 54.0 | —     | —     | —    | —    | —   |
|              |       | 45      | 407.5      | 341.3   | 54.3 | 53.7 | 514.6 | 385.1 | 56.6 | 56.1 | 629.7 | 426.7 | 59.2 | 58.6 | —   |
|              |       | 50      | 309.0      | 302.1   | 56.7 | 56.1 | 415.5 | 347.4 | 59.0 | 58.4 | 532.7 | 391.6 | 61.3 | 60.7 | —   |
| 12           | 10000 | 40      | 421.1      | 296.1   | 47.9 | 47.8 | 512.1 | 330.9 | 49.8 | 49.7 | 606.7 | 362.8 | 51.9 | 51.8 | —   |
|              |       | 45      | 343.9      | 262.4   | 51.1 | 51.0 | 438.7 | 299.9 | 52.7 | 52.6 | 538.7 | 335.1 | 54.5 | 54.4 | —   |
|              |       | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 455.8 | 303.4 | 57.4 | 57.3 | —   |
| 12500        | 10000 | 40      | 479.9      | 348.9   | 49.5 | 49.4 | 580.0 | 387.3 | 51.7 | 51.6 | —     | —     | —    | —    | —   |
|              |       | 45      | 395.5      | 312.9   | 52.2 | 52.0 | 499.7 | 354.6 | 54.2 | 54.0 | 610.0 | 393.5 | 56.4 | 56.2 | —   |
|              |       | 50      | —          | —   | —    | —    | 404.8 | 317.5 | 56.9 | 56.7 | 519.4 | 359.8 | 58.9 | 58.7 | —   |
| 15000        | 10000 | 40      | 527.2      | 396.8   | 50.9 | 50.7 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 438.5      | 359.5   | 53.1 | 52.9 | 549.6 | 404.6 | 55.4 | 55.2 | 666.5 | 446.6 | 57.9 | 57.7 | —   |
|              |       | 50      | —          | —   | —    | —    | 449.2 | 366.1 | 57.8 | 57.6 | 571.4 | 411.9 | 60.1 | 59.8 | —   |
| 14           | 10000 | 40      | 430.9      | 300.6   | 47.5 | 47.4 | 522.0 | 335.3 | 49.4 | 49.3 | 617.8 | 367.4 | 51.5 | 51.4 | —   |
|              |       | 45      | —          | —   | —    | —    | 449.6 | 304.5 | 52.2 | 52.1 | 550.2 | 339.8 | 54.0 | 53.9 | —   |
|              |       | 50      | —          | —   | —    | —    | —     | —     | —    | —    | 468.4 | 308.1 | 57.0 | 56.9 | —   |
| 12500        | 10000 | 40      | 491.9      | 354.8   | 49.1 | 49.0 | 592.1 | 393.1 | 51.3 | 51.2 | —     | —     | —    | —    | —   |
|              |       | 45      | 407.9      | 318.6   | 51.7 | 51.6 | 513.6 | 360.8 | 53.7 | 53.6 | 624.0 | 399.7 | 55.9 | 55.8 | —   |
|              |       | 50      | —          | —   | —    | —    | 418.5 | 323.5 | 56.5 | 56.4 | 535.0 | 366.4 | 58.4 | 58.3 | —   |
| 15000        | 10000 | 40      | 541.6      | 404.6   | 50.4 | 50.3 | —     | —     | —    | —    | —     | —     | —    | —    | —   |
|              |       | 45      | 453.0      | 367.2   | 52.7 | 52.6 | 565.8 | 412.9 | 54.9 | 54.8 | 683.0 | 454.8 | 57.4 | 57.3 | —   |
|              |       | 50      | —          | —   | —    | —    | 465.2 | 374.2 | 57.3 | 57.2 | 589.6 | 420.3 | 59.6 | 59.4 | —   |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature entering thermostatic expansion valve (°F)
4. LWB = Leaving wet-bulb temperature entering thermostatic expansion valve (°F)





## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 3

## Cooling Capacities - Chilled Water Coil

**Table 70. Unit size 3 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F  |      |      |      |      |      | 10°F |      |      |      |      |      |
|--------------|-----|----------|------|------|------|------|------|------|------|------|------|------|------|------|
|              |     |          | TC   | SC   | LDB  | LWB  | gpm  | WPD  | TC   | SC   | LDB  | LWB  | gpm  | WPD  |
| 4            | 9   | 1200     | 37.8 | 28.8 | 58.2 | 57.1 | 9.4  | 2.1  | 32.2 | 26.7 | 59.8 | 58.7 | 6.4  | 1.1  |
|              |     | 1500     | 43.6 | 34.2 | 59.3 | 57.9 | 10.9 | 2.8  | 37.6 | 31.9 | 60.7 | 59.2 | 7.5  | 1.4  |
|              |     | 1800     | 48.5 | 39.1 | 60.3 | 58.6 | 12.1 | 3.4  | 42.2 | 36.7 | 61.5 | 59.8 | 8.4  | 1.7  |
|              | 12  | 1200     | 43.3 | 31.8 | 55.9 | 55.4 | 10.8 | 2.7  | 37.5 | 29.5 | 57.7 | 57.1 | 7.5  | 1.4  |
|              |     | 1500     | 50.4 | 38.0 | 57.0 | 56.3 | 12.6 | 3.6  | 43.9 | 35.5 | 58.5 | 57.8 | 8.8  | 1.9  |
|              |     | 1800     | 56.4 | 43.7 | 58.0 | 57.1 | 14.1 | 4.4  | 49.5 | 41.1 | 59.3 | 58.4 | 9.9  | 2.3  |
|              | 14  | 1200     | 46.2 | 33.3 | 54.8 | 54.5 | 11.6 | 3.1  | 40.3 | 30.9 | 56.6 | 56.3 | 8.1  | 1.6  |
|              |     | 1500     | 54.0 | 39.9 | 55.9 | 55.5 | 13.5 | 4.1  | 47.4 | 37.3 | 57.5 | 57.0 | 9.5  | 2.1  |
|              |     | 1800     | 60.7 | 46.0 | 56.8 | 56.3 | 15.2 | 5.1  | 53.5 | 43.2 | 58.2 | 57.7 | 10.7 | 2.7  |
| 6            | 9   | 1200     | 51.3 | 35.4 | 53.3 | 53.0 | 12.8 | 5.2  | 46.7 | 33.4 | 54.7 | 54.4 | 9.3  | 2.9  |
|              |     | 1500     | 60.1 | 42.3 | 54.4 | 54.0 | 15.0 | 6.8  | 54.8 | 40.2 | 55.7 | 55.3 | 11.0 | 3.9  |
|              |     | 1800     | 67.8 | 48.8 | 55.4 | 54.8 | 17.0 | 8.5  | 61.8 | 46.4 | 56.7 | 56.0 | 12.4 | 4.8  |
|              | 12  | 1200     | 56.5 | 37.8 | 51.4 | 51.3 | 14.1 | 6.1  | 51.9 | 35.9 | 52.9 | 52.8 | 10.4 | 3.5  |
|              |     | 1500     | 66.9 | 45.6 | 52.4 | 52.3 | 16.7 | 8.3  | 61.4 | 43.3 | 53.8 | 53.6 | 12.3 | 4.8  |
|              |     | 1800     | 76.2 | 52.9 | 53.4 | 53.1 | 19.0 | 10.5 | 69.8 | 50.3 | 54.7 | 54.4 | 14.0 | 6.0  |
|              | 14  | 1200     | 59.0 | 38.9 | 50.6 | 50.5 | 14.7 | 6.6  | 54.5 | 37.0 | 52.0 | 51.9 | 10.9 | 3.8  |
|              |     | 1500     | 70.3 | 47.2 | 51.5 | 51.4 | 17.6 | 9.0  | 64.8 | 44.9 | 52.9 | 52.8 | 13.0 | 5.2  |
|              |     | 1800     | 80.4 | 54.9 | 52.3 | 52.2 | 20.1 | 11.5 | 74.0 | 52.2 | 53.7 | 53.6 | 14.8 | 6.6  |
| 8            | 9   | 1200     | 59.6 | 39.2 | 50.4 | 50.3 | 14.9 | 8.6  | 55.8 | 37.5 | 51.6 | 51.5 | 11.2 | 5.1  |
|              |     | 1500     | 70.9 | 47.3 | 51.4 | 51.2 | 17.7 | 11.7 | 66.2 | 45.3 | 52.6 | 52.5 | 13.2 | 6.9  |
|              |     | 1800     | 81.0 | 55.0 | 52.3 | 52.1 | 20.3 | 14.9 | 75.5 | 52.6 | 53.5 | 53.3 | 15.1 | 8.8  |
|              | 12  | 1200     | 63.8 | 41.1 | 49.0 | 48.9 | 16.0 | 9.7  | 60.3 | 39.5 | 50.2 | 50.1 | 12.1 | 5.9  |
|              |     | 1500     | 76.7 | 50.0 | 49.8 | 49.7 | 19.2 | 13.5 | 72.2 | 48.0 | 51.0 | 50.9 | 14.4 | 8.1  |
|              |     | 1800     | 88.6 | 58.5 | 50.6 | 50.5 | 22.2 | 17.4 | 83.1 | 56.1 | 51.8 | 51.7 | 16.6 | 10.4 |
|              | 14  | 1200     | 65.7 | 42.0 | 48.3 | 48.2 | 16.4 | 10.2 | 62.4 | 40.4 | 49.4 | 49.3 | 12.5 | 6.2  |
|              |     | 1500     | 79.5 | 51.2 | 49.0 | 48.9 | 19.9 | 14.4 | 75.1 | 49.3 | 50.2 | 50.1 | 15.0 | 8.7  |
|              |     | 1800     | 92.3 | 60.1 | 49.8 | 49.7 | 23.1 | 18.7 | 86.8 | 57.7 | 51.0 | 50.9 | 17.4 | 11.2 |

| Rows of Coil | fpi | Air-flow | 12°F |      |      |      |      |     | 16°F |      |      |      |     |     |
|--------------|-----|----------|------|------|------|------|------|-----|------|------|------|------|-----|-----|
|              |     |          | TC   | SC   | LDB  | LWB  | gpm  | WPD | TC   | SC   | LDB  | LWB  | gpm | WPD |
| 4            | 9   | 1200     | 26.2 | 24.5 | 61.5 | 60.3 | 4.4  | 0.5 | —    | —    | —    | —    | —   | —   |
|              |     | 1500     | 31.3 | 29.6 | 62.1 | 60.6 | 5.2  | 0.7 | —    | —    | —    | —    | —   | —   |
|              |     | 1800     | 35.7 | 34.4 | 62.7 | 60.9 | 5.9  | 0.9 | —    | —    | —    | —    | —   | —   |
|              | 12  | 1200     | 31.1 | 27.1 | 59.5 | 58.9 | 5.2  | 0.7 | —    | —    | —    | —    | —   | —   |
|              |     | 1500     | 37.2 | 33.0 | 60.1 | 59.3 | 6.2  | 1.0 | —    | —    | —    | —    | —   | —   |
|              |     | 1800     | 42.4 | 38.4 | 60.7 | 59.7 | 7.1  | 1.3 | —    | —    | —    | —    | —   | —   |
|              | 14  | 1200     | 33.7 | 28.4 | 58.5 | 58.2 | 5.6  | 0.8 | —    | —    | —    | —    | —   | —   |
|              |     | 1500     | 40.3 | 34.6 | 59.1 | 58.6 | 6.7  | 1.2 | —    | —    | —    | —    | —   | —   |
|              |     | 1800     | 46.1 | 40.4 | 59.7 | 59.1 | 7.7  | 1.5 | —    | —    | —    | —    | —   | —   |
| 6            | 9   | 1200     | 41.6 | 31.4 | 56.3 | 55.9 | 6.9  | 1.7 | —    | —    | —    | —    | —   | —   |
|              |     | 1500     | 49.1 | 37.9 | 57.1 | 56.6 | 8.2  | 2.3 | 36.9 | 33.3 | 59.9 | 59.4 | 4.6 | 0.8 |
|              |     | 1800     | 55.6 | 43.9 | 57.9 | 57.3 | 9.3  | 2.9 | 42.6 | 39.0 | 60.3 | 59.7 | 5.3 | 1.1 |
|              | 12  | 1200     | 46.8 | 33.8 | 54.5 | 54.4 | 7.8  | 2.1 | 35.0 | 29.2 | 58.0 | 57.9 | 4.4 | 0.7 |
|              |     | 1500     | 55.5 | 41.0 | 55.3 | 55.1 | 9.3  | 2.9 | 42.6 | 36.1 | 58.2 | 58.1 | 5.3 | 1.1 |
|              |     | 1800     | 63.3 | 47.7 | 56.0 | 55.8 | 10.5 | 3.6 | 49.3 | 42.3 | 58.7 | 58.5 | 6.2 | 1.4 |
|              | 14  | 1200     | 49.4 | 34.9 | 53.7 | 53.6 | 8.2  | 2.3 | 37.4 | 30.1 | 57.3 | 57.2 | 4.7 | 0.8 |
|              |     | 1500     | 58.9 | 42.4 | 54.4 | 54.3 | 9.8  | 3.2 | 45.6 | 37.2 | 57.5 | 57.4 | 5.7 | 1.2 |
|              |     | 1800     | 67.3 | 49.5 | 55.1 | 54.9 | 11.2 | 4.0 | 52.9 | 43.9 | 57.9 | 57.8 | 6.6 | 1.6 |
| 8            | 9   | 1200     | 51.5 | 35.7 | 53.0 | 52.9 | 8.6  | 3.2 | 41.5 | 31.7 | 56.1 | 56.0 | 5.2 | 1.3 |
|              |     | 1500     | 61.1 | 43.2 | 53.9 | 53.7 | 10.2 | 4.3 | 49.8 | 38.7 | 56.6 | 56.4 | 6.2 | 1.8 |
|              |     | 1800     | 69.7 | 50.3 | 54.7 | 54.5 | 11.6 | 5.5 | 57.2 | 45.3 | 57.2 | 56.9 | 7.2 | 2.3 |
|              | 12  | 1200     | 56.2 | 37.7 | 51.5 | 51.4 | 9.4  | 3.7 | 46.1 | 33.5 | 54.7 | 54.6 | 5.8 | 1.6 |
|              |     | 1500     | 67.2 | 45.9 | 52.3 | 52.2 | 11.2 | 5.1 | 55.6 | 41.1 | 55.2 | 55.1 | 7.0 | 2.2 |
|              |     | 1800     | 77.2 | 53.6 | 53.0 | 52.9 | 12.9 | 6.6 | 64.2 | 48.3 | 55.7 | 55.6 | 8.0 | 2.8 |
|              | 14  | 1200     | 58.4 | 38.7 | 50.8 | 50.7 | 9.7  | 4.0 | 48.4 | 34.5 | 54.0 | 53.9 | 6.1 | 1.7 |
|              |     | 1500     | 70.2 | 47.1 | 51.5 | 51.4 | 11.7 | 5.5 | 58.6 | 42.3 | 54.4 | 54.3 | 7.3 | 2.4 |
|              |     | 1800     | 81.0 | 55.2 | 52.2 | 52.1 | 13.5 | 7.1 | 67.8 | 49.8 | 54.9 | 54.8 | 8.5 | 3.1 |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 6

**Table 71. Unit size 6 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F   |       |       |      |      |      | 10°F  |       |       |      |      |      |     |
|--------------|-----|----------|-------|-------|-------|------|------|------|-------|-------|-------|------|------|------|-----|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |     |
| 4            | 9   | 2400     | 63.9  | 53.3  | 59.9  | 58.7 | 16.0 | 1.3  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 75.1  | 63.9  | 60.7  | 59.3 | 18.8 | 1.7  | 54.6  | 54.6  | 63.5  | 61.5 | 10.9 | 0.6  |     |
|              |     | 3600     | 84.5  | 73.5  | 61.5  | 59.8 | 21.1 | 2.1  | 64    | 64    | 63.9  | 61.6 | 12.8 | 0.8  |     |
|              | 12  | 2400     | 75.2  | 59.2  | 57.6  | 57.1 | 18.8 | 1.7  | 57.0  | 52.3  | 60.2  | 59.7 | 11.4 | 0.7  |     |
|              |     | 3000     | 88.5  | 71.3  | 58.5  | 57.7 | 22.1 | 2.3  | 70.3  | 64.5  | 60.5  | 59.8 | 14.1 | 1.0  |     |
|              |     | 3600     | 99.8  | 82.4  | 59.2  | 58.3 | 24.9 | 2.9  | 81.4  | 75.6  | 61.0  | 60.0 | 16.3 | 1.3  |     |
|              | 14  | 2400     | 81.2  | 62.1  | 56.6  | 56.2 | 20.3 | 2.0  | 63.0  | 55.2  | 59.2  | 58.8 | 12.6 | 0.8  |     |
|              |     | 3000     | 95.7  | 75.0  | 57.4  | 56.9 | 23.9 | 2.7  | 77.3  | 68.0  | 59.5  | 59.0 | 15.5 | 1.2  |     |
|              |     | 3600     | 108.1 | 86.9  | 58.1  | 57.6 | 27   | 3.4  | 89.3  | 79.8  | 59.9  | 59.3 | 17.9 | 1.5  |     |
| 6            | 9   | 2400     | 94.7  | 67.4  | 54.5  | 54.2 | 23.7 | 3.3  | 82.3  | 62.4  | 56.4  | 56.1 | 16.5 | 1.7  |     |
|              |     | 3000     | 111.1 | 80.9  | 55.5  | 55.1 | 27.8 | 4.4  | 97.5  | 75.6  | 57.2  | 56.7 | 19.5 | 2.3  |     |
|              |     | 3600     | 125.3 | 93.4  | 56.5  | 55.9 | 31.3 | 5.5  | 110.8 | 87.7  | 57.9  | 57.3 | 22.2 | 2.9  |     |
|              | 12  | 2400     | 105.4 | 72.5  | 52.6  | 52.5 | 26.3 | 4.0  | 93.1  | 67.4  | 54.5  | 54.4 | 18.6 | 2.1  |     |
|              |     | 3000     | 124.7 | 87.5  | 53.6  | 53.4 | 31.2 | 5.4  | 111.0 | 81.9  | 55.3  | 55.1 | 22.2 | 2.9  |     |
|              |     | 3600     | 141.7 | 101.4 | 54.5  | 54.2 | 35.4 | 6.9  | 126.7 | 95.4  | 56.0  | 55.7 | 25.3 | 3.7  |     |
|              | 14  | 2400     | 110.6 | 74.7  | 51.8  | 51.7 | 27.7 | 4.3  | 98.6  | 69.6  | 53.7  | 53.6 | 19.7 | 2.3  |     |
|              |     | 3000     | 131.6 | 90.5  | 52.7  | 52.6 | 32.9 | 6.0  | 117.9 | 84.9  | 54.4  | 54.3 | 23.6 | 3.2  |     |
|              |     | 3600     | 150.1 | 105.3 | 53.5  | 53.4 | 37.5 | 7.7  | 135.0 | 99.2  | 55.0  | 54.9 | 27.0 | 4.1  |     |
|              | 8   | 9        | 2400  | 113.1 | 75.8  | 51.4 | 51.3 | 28.3 | 5.4   | 103.4 | 71.6  | 52.9 | 52.8 | 20.7 | 3.0 |
|              |     |          | 3000  | 134.3 | 91.5  | 52.4 | 52.2 | 33.6 | 7.3   | 123.0 | 86.8  | 53.8 | 53.6 | 24.6 | 4.1 |
|              |     |          | 3600  | 153.0 | 106.2 | 53.3 | 53.1 | 38.3 | 9.4   | 140.3 | 100.9 | 54.6 | 54.4 | 28.1 | 5.3 |
| 12           |     | 2400     | 122.2 | 79.7  | 49.9  | 49.8 | 30.6 | 6.2  | 113.0 | 75.7  | 51.4  | 51.3 | 22.6 | 3.5  |     |
|              |     | 3000     | 146.4 | 96.9  | 50.7  | 50.6 | 36.6 | 8.6  | 135.5 | 92.2  | 52.1  | 52.0 | 27.1 | 4.9  |     |
|              |     | 3600     | 168.5 | 113.1 | 51.5  | 51.4 | 42.1 | 11.2 | 155.8 | 107.7 | 52.9  | 52.8 | 31.2 | 6.4  |     |
| 14           |     | 2400     | 126.4 | 81.6  | 49.2  | 49.1 | 31.6 | 6.6  | 117.6 | 77.7  | 50.7  | 50.6 | 23.5 | 3.8  |     |
|              |     | 3000     | 152.2 | 99.4  | 50.0  | 49.9 | 38.1 | 9.3  | 141.7 | 94.8  | 51.4  | 51.3 | 28.3 | 5.3  |     |
|              |     | 3600     | 176.0 | 116.4 | 50.7  | 50.6 | 44.0 | 12.1 | 163.5 | 111.0 | 52.1  | 52.0 | 32.7 | 7.0  |     |
| Rows of Coil | fpi | Air-flow | 12°F  |       |       |      |      |      | 16°F  |       |       |      |      |      |     |
|              |     |          | TC    | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |     |
| 4            | 9   | 2400     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              | 12  | 2400     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              | 14  | 2400     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | —     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | 65.6  | 65.6  | 63.5  | 61.5 | 10.9 | 0.6  | —     | —     | —     | —    | —    | —    |     |
| 6            | 9   | 2400     | 67.1  | 56.6  | 58.6  | 58.3 | 11.2 | 0.8  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 82.0  | 69.6  | 59.0  | 58.5 | 13.7 | 1.2  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | 94.7  | 81.6  | 59.5  | 58.8 | 15.8 | 1.5  | —     | —     | —     | —    | —    | —    |     |
|              | 12  | 2400     | 78.1  | 61.4  | 56.8  | 56.7 | 13.0 | 1.1  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 95.1  | 75.7  | 57.1  | 57.0 | 15.9 | 1.5  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | 109.9 | 88.9  | 57.6  | 57.4 | 18.3 | 2.0  | —     | —     | —     | —    | —    | —    |     |
|              | 14  | 2400     | 83.7  | 63.6  | 56.0  | 55.9 | 13.9 | 1.2  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 102.0 | 78.5  | 56.3  | 56.2 | 17.0 | 1.7  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | 118.0 | 92.5  | 56.7  | 56.6 | 19.7 | 2.3  | —     | —     | —     | —    | —    | —    |     |
| 8            | 9   | 2400     | 91.8  | 66.9  | 54.7  | 54.6 | 15.3 | 1.7  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 110.1 | 81.5  | 55.4  | 55.2 | 18.3 | 2.4  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3600     | 126.3 | 95.3  | 56.0  | 55.8 | 21.0 | 3.1  | 93.4  | 82.7  | 59.2  | 58.9 | 11.7 | 1.0  |     |
|              | 12  | 2400     | 101.7 | 71.0  | 53.2  | 53.1 | 17.0 | 2.1  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 122.7 | 86.9  | 53.8  | 53.7 | 20.5 | 2.9  | 90.5  | 74.1  | 57.6  | 57.5 | 11.3 | 1.0  |     |
|              |     | 3600     | 141.6 | 101.9 | 54.3  | 54.2 | 23.6 | 3.8  | 107.7 | 88.6  | 57.7  | 57.6 | 13.5 | 1.4  |     |
|              | 14  | 2400     | 106.6 | 73.0  | 52.4  | 52.3 | 17.8 | 2.3  | —     | —     | —     | —    | —    | —    |     |
|              |     | 3000     | 129.0 | 89.5  | 53.0  | 52.9 | 21.5 | 3.2  | 96.8  | 76.5  | 56.9  | 56.8 | 12.1 | 1.1  |     |
|              |     | 3600     | 149.3 | 105.1 | 53.6  | 53.5 | 24.9 | 4.2  | 115.1 | 91.4  | 57.0  | 56.9 | 14.4 | 1.5  |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 8

**Table 72. Unit size 8 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi          | Air-flow | 8°F      |       |       |      |      |      | 10°F  |       |       |      |      |      |     |
|--------------|--------------|----------|----------|-------|-------|------|------|------|-------|-------|-------|------|------|------|-----|
|              |              |          | TC       | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |     |
| 4            | 9            | 3200     | 89.5     | 72.5  | 59.5  | 58.3 | 22.4 | 2.0  | 67.9  | 64.5  | 61.7  | 60.5 | 13.6 | 0.8  |     |
|              |              | 4000     | 104.4    | 86.7  | 60.4  | 58.9 | 26.1 | 2.7  | 83.2  | 78.8  | 62.1  | 60.6 | 16.6 | 1.1  |     |
|              |              | 4800     | 117.0    | 99.5  | 61.2  | 59.5 | 29.2 | 3.3  | 95.6  | 91.7  | 62.7  | 60.9 | 19.1 | 1.5  |     |
|              | 12           | 3200     | 104.5    | 80.5  | 57.2  | 56.6 | 26.1 | 2.7  | 83.1  | 72.3  | 59.5  | 58.9 | 16.6 | 1.1  |     |
|              |              | 4000     | 122.3    | 96.7  | 58.1  | 57.4 | 30.6 | 3.6  | 100.5 | 88.4  | 60.0  | 59.2 | 20.1 | 1.6  |     |
|              |              | 4800     | 137.5    | 111.5 | 58.9  | 58.0 | 34.4 | 4.5  | 115.1 | 103.1 | 60.5  | 59.6 | 23.0 | 2.1  |     |
|              | 14           | 3200     | 112.5    | 84.4  | 56.1  | 55.8 | 28.1 | 3.1  | 91.0  | 76.1  | 58.4  | 58.1 | 18.2 | 1.3  |     |
|              |              | 4000     | 132.0    | 101.6 | 57.0  | 56.5 | 33.0 | 4.2  | 109.8 | 93.1  | 58.9  | 58.4 | 22.0 | 1.9  |     |
|              |              | 4800     | 148.8    | 117.5 | 57.8  | 57.2 | 37.2 | 5.3  | 125.8 | 108.8 | 59.5  | 58.9 | 25.2 | 2.5  |     |
|              | 6            | 9        | 3200     | 128.9 | 91.0  | 54.2 | 53.9 | 32.2 | 4.8   | 113.7 | 84.8  | 56.0 | 55.6 | 22.7 | 2.5 |
|              |              |          | 4000     | 151.0 | 109.0 | 55.3 | 54.8 | 37.7 | 6.4   | 134.3 | 102.3 | 56.8 | 56.3 | 26.9 | 3.4 |
|              |              |          | 4800     | 170.1 | 125.7 | 56.3 | 55.7 | 42.5 | 8.0   | 152.1 | 118.5 | 57.6 | 57.0 | 30.4 | 4.3 |
| 12           |              | 3200     | 143.1    | 97.7  | 52.3  | 52.2 | 35.8 | 5.8  | 128.2 | 91.5  | 54.1  | 54.0 | 25.6 | 3.1  |     |
|              |              | 4000     | 169.1    | 117.8 | 53.3  | 53.2 | 42.3 | 7.9  | 152.3 | 110.9 | 54.9  | 54.7 | 30.5 | 4.3  |     |
|              |              | 4800     | 192.0    | 136.5 | 54.2  | 54.0 | 48.0 | 10.1 | 173.4 | 129.0 | 55.6  | 55.4 | 34.7 | 5.5  |     |
| 14           |              | 3200     | 150.1    | 100.7 | 51.5  | 51.4 | 37.5 | 6.3  | 135.4 | 94.5  | 53.2  | 53.1 | 27.1 | 3.4  |     |
|              |              | 4000     | 178.3    | 121.9 | 52.4  | 52.3 | 44.6 | 8.8  | 161.5 | 114.9 | 54.0  | 53.9 | 32.3 | 4.8  |     |
|              |              | 4800     | 203.4    | 141.8 | 53.2  | 53.1 | 50.9 | 11.2 | 184.6 | 134.0 | 54.7  | 54.6 | 36.9 | 6.1  |     |
| 8            |              | 9        | 3200     | 152.7 | 101.8 | 51.2 | 51.1 | 38.2 | 7.6   | 140.7 | 96.7  | 52.6 | 52.5 | 28.1 | 4.3 |
|              |              |          | 4000     | 181.1 | 122.9 | 52.2 | 52.0 | 45.3 | 10.4  | 167.1 | 117.0 | 53.5 | 53.3 | 33.4 | 5.9 |
|              |              |          | 4800     | 206.5 | 142.5 | 53.1 | 52.9 | 51.6 | 13.3  | 190.4 | 135.9 | 54.3 | 54.1 | 38.1 | 7.5 |
|              | 12           | 3200     | 164.7    | 107.1 | 49.7  | 49.6 | 41.2 | 8.7  | 153.4 | 102.1 | 51.1  | 51.0 | 30.7 | 5.0  |     |
|              |              | 4000     | 197.3    | 130.1 | 50.5  | 50.4 | 49.3 | 12.2 | 183.7 | 124.2 | 51.9  | 51.8 | 36.7 | 7.0  |     |
|              |              | 4800     | 227.1    | 151.9 | 51.3  | 51.2 | 56.8 | 15.9 | 211.0 | 145.0 | 52.6  | 52.5 | 42.2 | 9.1  |     |
|              | 14           | 3200     | 170.2    | 109.6 | 49.0  | 48.9 | 42.6 | 9.3  | 159.5 | 104.8 | 50.3  | 50.2 | 31.9 | 5.4  |     |
|              |              | 4000     | 205.1    | 133.5 | 49.7  | 49.6 | 51.3 | 13.1 | 191.9 | 127.7 | 51.1  | 51.0 | 38.4 | 7.6  |     |
|              |              | 4800     | 237.2    | 156.3 | 50.5  | 50.4 | 59.3 | 17.2 | 221.2 | 149.4 | 51.8  | 51.7 | 44.2 | 9.9  |     |
|              | Rows of Coil | fpi      | Air-flow | 12°F  |       |      |      |      |       | 16°F  |       |      |      |      |     |
|              |              |          |          | TC    | SC    | LDB  | LWB  | gpm  | WPD   | TC    | SC    | LDB  | LWB  | gpm  | WPD |
|              | 4            | 9        | 3200     | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    | —   |
| 4000         |              |          | —        | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
| 4800         |              |          | —        | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
| 12           |              | 3200     | —        | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |              | 4000     | —        | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |              | 4800     | 86.8     | 86.8  | 63.6  | 61.5 | 14.5 | 0.9  | —     | —     | —     | —    | —    | —    |     |
| 14           |              | 3200     | —        | —     | —     | —    | —    | —    | —     | —     | —     | —    | —    | —    |     |
|              |              | 4000     | 79.3     | 79.3  | 62.0  | 60.9 | 13.2 | 0.7  | —     | —     | —     | —    | —    | —    |     |
|              |              | 4800     | 95.3     | 95.3  | 62.0  | 60.9 | 15.9 | 1.0  | —     | —     | —     | —    | —    | —    |     |
| 6            |              | 9        | 3200     | 95.6  | 77.7  | 58.0 | 57.6 | 15.9 | 1.3   | —     | —     | —    | —    | —    | —   |
|              |              |          | 4000     | 115.3 | 95.0  | 58.5 | 58.0 | 19.2 | 1.8   | —     | —     | —    | —    | —    | —   |
|              |              |          | 4800     | 132.2 | 111.0 | 59.0 | 58.4 | 22.0 | 2.3   | —     | —     | —    | —    | —    | —   |
|              | 12           | 3200     | 110.1    | 84.2  | 56.1  | 56.0 | 18.4 | 1.7  | —     | —     | —     | —    | —    | —    |     |
|              |              | 4000     | 132.9    | 103.2 | 56.6  | 56.4 | 22.2 | 2.3  | —     | —     | —     | —    | —    | —    |     |
|              |              | 4800     | 152.8    | 120.9 | 57.2  | 56.9 | 25.5 | 3.0  | 98.6  | 98.6  | 61.4  | 60.7 | 12.3 | 0.8  |     |
|              | 14           | 3200     | 117.5    | 87.2  | 55.3  | 55.2 | 19.6 | 1.9  | —     | —     | —     | —    | —    | —    |     |
|              |              | 4000     | 142.1    | 107.1 | 55.7  | 55.6 | 23.7 | 2.7  | —     | —     | —     | —    | —    | —    |     |
|              |              | 4800     | 163.6    | 125.7 | 56.3  | 56.1 | 27.3 | 3.5  | 112.4 | 106.6 | 59.9  | 59.8 | 14.1 | 1.0  |     |
|              | 8            | 9        | 3200     | 126.5 | 90.8  | 54.3 | 54.2 | 21.1 | 2.5   | —     | —     | —    | —    | —    | —   |
|              |              |          | 4000     | 151.1 | 110.4 | 55.0 | 54.8 | 25.2 | 3.5   | 112.4 | 95.4  | 58.4 | 58.2 | 14.1 | 1.2 |
|              |              |          | 4800     | 172.9 | 128.8 | 55.7 | 55.5 | 28.8 | 4.5   | 132.4 | 113.2 | 58.6 | 58.4 | 16.5 | 1.6 |
| 12           |              | 3200     | 139.7    | 96.3  | 52.7  | 52.6 | 23.3 | 3.0  | 102.7 | 81.4  | 56.9  | 56.8 | 12.8 | 1.0  |     |
|              |              | 4000     | 168.0    | 117.6 | 53.4  | 53.3 | 28.0 | 4.2  | 128.8 | 102.0 | 56.9  | 56.8 | 16.1 | 1.5  |     |
|              |              | 4800     | 193.3    | 137.7 | 54.0  | 53.9 | 32.2 | 5.5  | 151.6 | 121.2 | 57.1  | 57.0 | 19.0 | 2.0  |     |
| 14           |              | 3200     | 146.1    | 99.0  | 52.0  | 51.9 | 24.3 | 3.3  | 109.5 | 84.1  | 56.2  | 56.1 | 13.7 | 1.1  |     |
|              |              | 4000     | 176.3    | 121.1 | 52.6  | 52.5 | 29.4 | 4.6  | 137.2 | 105.2 | 56.2  | 56.1 | 17.1 | 1.7  |     |
|              |              | 4800     | 203.7    | 142.0 | 53.2  | 53.1 | 33.9 | 6.0  | 161.5 | 125.0 | 56.4  | 56.3 | 20.2 | 2.3  |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.

## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 10

**Table 73. Unit size 10 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F   |       |       |      |      |      | 10°F  |       |       |      |      |      |      |
|--------------|-----|----------|-------|-------|-------|------|------|------|-------|-------|-------|------|------|------|------|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |      |
| 4            | 9   | 4000     | 128.0 | 97.1  | 58.0  | 56.9 | 32.0 | 4.3  | 109.1 | 89.8  | 59.6  | 58.5 | 21.8 | 2.1  |      |
|              |     | 5000     | 147.8 | 115.3 | 59.1  | 57.7 | 37.0 | 5.6  | 128.0 | 107.8 | 60.5  | 59.1 | 25.6 | 2.8  |      |
|              |     | 6000     | 164.6 | 131.8 | 60.1  | 58.5 | 41.1 | 6.9  | 144.0 | 124.0 | 61.3  | 59.6 | 28.8 | 3.5  |      |
|              | 12  | 4000     | 147.1 | 107.3 | 55.7  | 55.2 | 36.8 | 5.6  | 127.9 | 99.7  | 57.4  | 56.9 | 25.6 | 2.8  |      |
|              |     | 5000     | 170.9 | 128.1 | 56.8  | 56.1 | 42.7 | 7.4  | 150.4 | 120.1 | 58.2  | 57.5 | 30.1 | 3.8  |      |
|              |     | 6000     | 191.3 | 147.2 | 57.8  | 56.9 | 47.8 | 9.2  | 169.5 | 138.8 | 59.0  | 58.2 | 33.9 | 4.8  |      |
|              | 14  | 4000     | 157.1 | 112.2 | 54.6  | 54.3 | 39.3 | 6.3  | 137.9 | 104.6 | 56.3  | 56.0 | 27.6 | 3.2  |      |
|              |     | 5000     | 183.2 | 134.4 | 55.6  | 55.2 | 45.8 | 8.5  | 162.4 | 126.2 | 57.1  | 56.7 | 32.5 | 4.4  |      |
|              |     | 6000     | 206.0 | 155.0 | 56.6  | 56.1 | 51.5 | 10.6 | 183.5 | 146.2 | 57.9  | 57.4 | 36.7 | 5.6  |      |
|              | 6   | 9        | 4000  | 172.4 | 118.5 | 53.2 | 52.8 | 43.1 | 9.1   | 157.7 | 112.4 | 54.5 | 54.2 | 31.5 | 5.1  |
|              |     |          | 5000  | 201.9 | 141.8 | 54.3 | 53.9 | 50.5 | 12.3  | 185.1 | 134.9 | 55.5 | 55.1 | 37.0 | 6.8  |
|              |     |          | 6000  | 227.9 | 163.5 | 55.3 | 54.7 | 57.0 | 15.4  | 208.8 | 155.8 | 56.5 | 55.9 | 41.8 | 8.6  |
| 12           |     | 4000     | 189.8 | 126.8 | 51.3  | 51.2 | 47.5 | 10.9 | 175.6 | 120.8 | 52.6  | 52.5 | 35.1 | 6.2  |      |
|              |     | 5000     | 224.8 | 152.9 | 52.3  | 52.1 | 56.2 | 15.0 | 207.7 | 145.7 | 53.6  | 53.4 | 41.5 | 8.5  |      |
|              |     | 6000     | 256.2 | 177.4 | 53.2  | 53.0 | 64.0 | 19.2 | 236.0 | 169.1 | 54.5  | 54.2 | 47.2 | 10.8 |      |
| 14           |     | 4000     | 198.3 | 130.5 | 50.4  | 50.3 | 49.6 | 11.8 | 184.5 | 124.5 | 51.8  | 51.7 | 36.9 | 6.8  |      |
|              |     | 5000     | 236.3 | 158.1 | 51.3  | 51.2 | 59.1 | 16.5 | 219.2 | 150.8 | 52.7  | 52.6 | 43.8 | 9.4  |      |
|              |     | 6000     | 270.7 | 184.2 | 52.2  | 52.1 | 67.7 | 21.2 | 250.2 | 175.6 | 53.5  | 53.4 | 50.0 | 12.0 |      |
| 8            |     | 9        | 4000  | 199.4 | 131.0 | 50.3 | 50.2 | 49.8 | 14.0  | 187.4 | 125.8 | 51.5 | 51.4 | 37.5 | 8.2  |
|              |     |          | 5000  | 237.2 | 158.3 | 51.3 | 51.2 | 59.3 | 19.3  | 222.3 | 151.9 | 52.5 | 52.3 | 44.5 | 11.3 |
|              |     |          | 6000  | 271.3 | 183.9 | 52.2 | 52.0 | 67.8 | 24.8  | 253.4 | 176.3 | 53.4 | 53.2 | 50.7 | 14.4 |
|              | 12  | 4000     | 213.7 | 137.4 | 48.9  | 48.8 | 53.4 | 15.9 | 202.7 | 132.4 | 50.0  | 49.9 | 40.5 | 9.5  |      |
|              |     | 5000     | 257.1 | 167.2 | 49.7  | 49.6 | 64.3 | 22.4 | 242.7 | 160.9 | 50.8  | 50.7 | 48.5 | 13.3 |      |
|              |     | 6000     | 297.0 | 195.6 | 50.5  | 50.4 | 74.2 | 29.3 | 279.3 | 187.9 | 51.6  | 51.5 | 55.9 | 17.2 |      |
|              | 14  | 4000     | 220.2 | 140.3 | 48.2  | 48.1 | 55.1 | 16.8 | 209.8 | 135.6 | 49.3  | 49.2 | 42.0 | 10.1 |      |
|              |     | 5000     | 266.4 | 171.4 | 48.9  | 48.8 | 66.6 | 23.9 | 252.6 | 165.2 | 50.1  | 50.0 | 50.5 | 14.3 |      |
|              |     | 6000     | 309.3 | 201.0 | 49.6  | 49.5 | 77.3 | 31.6 | 292.1 | 193.4 | 50.8  | 50.7 | 58.4 | 18.7 |      |
|              | 4   | 9        | 4000  | 85.7  | 81.1  | 61.6 | 60.4 | 14.3 | 0.9   | —     | —     | —    | —    | —    | —    |
|              |     |          | 5000  | 105.3 | 99.4  | 62.0 | 60.6 | 17.5 | 1.4   | —     | —     | —    | —    | —    | —    |
|              |     |          | 6000  | 121.3 | 115.7 | 62.5 | 60.8 | 20.2 | 1.8   | —     | —     | —    | —    | —    | —    |
| 12           |     | 4000     | 104.8 | 90.9  | 59.4  | 58.9 | 17.5 | 1.4  | —     | —     | —     | —    | —    | —    |      |
|              |     | 5000     | 127.0 | 111.3 | 59.8  | 59.1 | 21.2 | 2.0  | —     | —     | —     | —    | —    | —    |      |
|              |     | 6000     | 145.6 | 129.9 | 60.4  | 59.5 | 24.3 | 2.5  | —     | —     | —     | —    | —    | —    |      |
| 14           |     | 4000     | 114.8 | 95.7  | 58.3  | 58.0 | 19.1 | 1.6  | —     | —     | —     | —    | —    | —    |      |
|              |     | 5000     | 138.7 | 117.1 | 58.8  | 58.3 | 23.1 | 2.3  | —     | —     | —     | —    | —    | —    |      |
|              |     | 6000     | 159.0 | 136.9 | 59.3  | 58.8 | 26.5 | 3.0  | —     | —     | —     | —    | —    | —    |      |
| 6            |     | 9        | 4000  | 140.9 | 105.6 | 56.1 | 55.7 | 23.5 | 2.9   | —     | —     | —    | —    | —    | —    |
|              |     |          | 5000  | 166.6 | 127.6 | 56.9 | 56.4 | 27.8 | 4.0   | 122.7 | 113.1 | 59.5 | 59.4 | 15.3 | 1.3  |
|              |     |          | 6000  | 188.9 | 148.0 | 57.6 | 57.1 | 31.5 | 5.0   | 143.9 | 131.0 | 60.2 | 59.6 | 18.0 | 1.8  |
|              | 12  | 4000     | 158.9 | 113.9 | 54.2  | 54.1 | 26.5 | 3.7  | 115.8 | 97.0  | 58.0  | 57.9 | 14.5 | 1.2  |      |
|              |     | 5000     | 189.0 | 138.1 | 55.0  | 54.8 | 31.5 | 5.0  | 144.2 | 120.7 | 58.1  | 58.0 | 18.0 | 1.8  |      |
|              |     | 6000     | 215.4 | 160.8 | 55.7  | 55.5 | 35.9 | 6.4  | 168.4 | 142.6 | 58.5  | 58.2 | 21.1 | 2.4  |      |
|              | 14  | 4000     | 168.0 | 117.6 | 53.3  | 53.2 | 28.0 | 4.1  | 125.2 | 100.6 | 57.2  | 57.1 | 15.7 | 1.4  |      |
|              |     | 5000     | 200.5 | 143.1 | 54.1  | 54.0 | 33.4 | 5.6  | 155.3 | 125.3 | 57.3  | 57.2 | 19.4 | 2.0  |      |
|              |     | 6000     | 229.2 | 167.0 | 54.8  | 54.7 | 38.2 | 7.2  | 181.4 | 148.4 | 57.6  | 57.5 | 22.7 | 2.7  |      |
|              | 8   | 9        | 4000  | 173.6 | 119.9 | 52.8 | 52.7 | 28.9 | 5.1   | 139.2 | 106.0 | 56.0 | 55.9 | 17.4 | 2.0  |
|              |     |          | 5000  | 206.2 | 145.2 | 53.7 | 53.5 | 34.4 | 7.0   | 168.5 | 130.3 | 56.4 | 56.3 | 21.1 | 2.8  |
|              |     |          | 6000  | 235.0 | 168.7 | 54.5 | 54.3 | 39.2 | 8.9   | 194.2 | 153.3 | 56.8 | 56.7 | 24.3 | 3.7  |
| 12           |     | 4000     | 189.6 | 126.7 | 51.3  | 51.2 | 31.6 | 6.0  | 155.8 | 112.6 | 54.5  | 54.4 | 19.5 | 2.4  |      |
|              |     | 5000     | 227.0 | 154.1 | 52.1  | 52.0 | 37.8 | 8.3  | 189.1 | 138.5 | 54.9  | 54.8 | 23.6 | 3.5  |      |
|              |     | 6000     | 260.7 | 180.0 | 52.8  | 52.7 | 43.4 | 10.8 | 218.8 | 162.9 | 55.4  | 55.3 | 27.3 | 4.6  |      |
| 14           |     | 4000     | 197.3 | 130.1 | 50.5  | 50.4 | 32.9 | 6.4  | 164.0 | 115.9 | 53.7  | 53.6 | 20.5 | 2.7  |      |
|              |     | 5000     | 237.2 | 158.5 | 51.3  | 51.2 | 39.5 | 9.0  | 199.5 | 142.7 | 54.1  | 54.0 | 24.9 | 3.8  |      |
|              |     | 6000     | 273.5 | 185.4 | 52.0  | 51.9 | 45.6 | 11.8 | 231.4 | 168.0 | 54.6  | 54.5 | 28.9 | 5.0  |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 12

**Table 74. Unit size 12 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi  | Air-flow | 8°F      |       |       |      |      |      | 10°F  |       |       |      |      |      |      |
|--------------|------|----------|----------|-------|-------|------|------|------|-------|-------|-------|------|------|------|------|
|              |      |          | TC       | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |      |
| 4            | 9    | 4800     | 157.3    | 118.3 | 57.7  | 56.6 | 39.3 | 3.0  | 133.3 | 109.0 | 59.4  | 58.3 | 26.7 | 1.5  |      |
|              |      | 6000     | 182.4    | 140.8 | 58.7  | 57.4 | 45.6 | 4.0  | 157.3 | 131.2 | 60.2  | 58.9 | 31.5 | 2.0  |      |
|              |      | 7200     | 203.8    | 161.3 | 59.7  | 58.2 | 50.9 | 4.9  | 177.7 | 151.4 | 60.9  | 59.4 | 35.5 | 2.5  |      |
|              | 12   | 4800     | 180.3    | 130.5 | 55.4  | 54.9 | 45.1 | 3.9  | 156.3 | 120.9 | 57.2  | 56.7 | 31.3 | 2.0  |      |
|              |      | 6000     | 210.4    | 156.2 | 56.4  | 55.8 | 52.6 | 5.2  | 184.6 | 146.0 | 57.9  | 57.3 | 36.9 | 2.7  |      |
|              |      | 7200     | 236.3    | 179.8 | 57.4  | 56.6 | 59.1 | 6.5  | 208.9 | 169.2 | 58.7  | 57.9 | 41.8 | 3.4  |      |
|              | 14   | 4800     | 192.3    | 136.4 | 54.2  | 54.0 | 48.1 | 4.4  | 168.3 | 126.7 | 56.1  | 55.8 | 33.7 | 2.3  |      |
|              |      | 6000     | 225.3    | 163.7 | 55.3  | 54.9 | 56.3 | 5.9  | 199.2 | 153.3 | 56.8  | 56.5 | 39.8 | 3.1  |      |
|              |      | 7200     | 254.0    | 189.0 | 56.2  | 55.7 | 63.5 | 7.4  | 225.9 | 178.0 | 57.6  | 57.1 | 45.2 | 3.9  |      |
| 6            | 9    | 4800     | 210.9    | 144.0 | 52.8  | 52.5 | 52.7 | 6.7  | 192.8 | 136.5 | 54.2  | 53.9 | 38.6 | 3.8  |      |
|              |      | 6000     | 247.9    | 172.7 | 53.9  | 53.5 | 62.0 | 9.0  | 227.2 | 164.2 | 55.2  | 54.8 | 45.4 | 5.1  |      |
|              |      | 7200     | 280.5    | 199.4 | 54.9  | 54.4 | 70.1 | 11.3 | 257.1 | 189.9 | 56.1  | 55.6 | 51.4 | 6.4  |      |
|              | 12   | 4800     | 231.5    | 153.8 | 51.0  | 50.9 | 57.9 | 7.9  | 214.1 | 146.3 | 52.4  | 52.3 | 42.8 | 4.5  |      |
|              |      | 6000     | 274.9    | 185.8 | 51.9  | 51.8 | 68.7 | 10.9 | 254.2 | 177.1 | 53.3  | 53.1 | 50.8 | 6.2  |      |
|              |      | 7200     | 314.1    | 215.9 | 52.8  | 52.6 | 78.5 | 13.9 | 289.7 | 205.7 | 54.1  | 53.9 | 57.9 | 7.9  |      |
|              | 14   | 4800     | 241.4    | 158.1 | 50.1  | 50.0 | 60.3 | 8.6  | 224.5 | 150.8 | 51.5  | 51.4 | 44.9 | 5.0  |      |
|              |      | 6000     | 288.3    | 191.8 | 51.0  | 50.9 | 72.1 | 11.9 | 267.8 | 183.0 | 52.4  | 52.3 | 53.6 | 6.8  |      |
|              |      | 7200     | 331.2    | 223.8 | 51.8  | 51.7 | 82.8 | 15.3 | 306.5 | 213.4 | 53.1  | 53.0 | 61.3 | 8.8  |      |
|              | 8    | 9        | 4800     | 242.7 | 158.7 | 50.0 | 49.9 | 60.7 | 10.5  | 228.3 | 152.4 | 51.2 | 51.1 | 45.7 | 6.2  |
|              |      |          | 6000     | 289.6 | 192.2 | 51.0 | 50.8 | 72.4 | 14.5  | 271.8 | 184.5 | 52.1 | 52.0 | 54.4 | 8.5  |
|              |      |          | 7200     | 332.2 | 223.6 | 51.8 | 51.7 | 83.0 | 18.6  | 310.7 | 214.5 | 53.0 | 52.8 | 62.1 | 10.9 |
| 12           |      | 4800     | 259.3    | 166.1 | 48.6  | 48.5 | 64.8 | 11.8 | 246.2 | 160.3 | 49.7  | 49.6 | 49.2 | 7.1  |      |
|              |      | 6000     | 312.7    | 202.5 | 49.4  | 49.3 | 78.2 | 16.6 | 295.8 | 195.0 | 50.5  | 50.4 | 59.2 | 10.0 |      |
|              |      | 7200     | 362.1    | 237.2 | 50.1  | 50.0 | 90.5 | 21.8 | 341.1 | 228.0 | 51.3  | 51.2 | 68.2 | 12.9 |      |
| 14           |      | 4800     | 266.7    | 169.5 | 48.0  | 47.9 | 66.7 | 12.4 | 254.5 | 163.9 | 49.0  | 48.9 | 50.9 | 7.6  |      |
|              |      | 6000     | 323.4    | 207.3 | 48.7  | 48.6 | 80.8 | 17.7 | 307.2 | 200.1 | 49.8  | 49.7 | 61.4 | 10.7 |      |
|              |      | 7200     | 376.3    | 243.5 | 49.3  | 49.2 | 94.1 | 23.3 | 356.0 | 234.5 | 50.5  | 50.4 | 71.2 | 14.0 |      |
| Rows of Coil |      | fpi      | Air-flow | 12°F  |       |      |      |      |       | 16°F  |       |      |      |      |      |
|              |      |          |          | TC    | SC    | LDB  | LWB  | gpm  | WPD   | TC    | SC    | LDB  | LWB  | gpm  | WPD  |
| 4            |      | 9        | 4800     | 102.7 | 97.6  | 61.6 | 60.4 | 17.1 | 0.6   | —     | —     | —    | —    | —    | —    |
|              | 6000 |          | 128.0    | 120.3 | 61.8  | 60.5 | 21.3 | 1.0  | —     | —     | —     | —    | —    | —    |      |
|              | 7200 |          | 148.5    | 140.6 | 62.3  | 60.7 | 24.8 | 1.3  | —     | —     | —     | —    | —    | —    |      |
|              | 12   | 4800     | 126.5    | 109.6 | 59.3  | 58.8 | 21.1 | 1.0  | —     | —     | —     | —    | —    | —    |      |
|              |      | 6000     | 154.7    | 134.7 | 59.6  | 59.0 | 25.8 | 1.4  | —     | —     | —     | —    | —    | —    |      |
|              |      | 7200     | 178.5    | 157.7 | 60.1  | 59.3 | 29.7 | 1.8  | —     | —     | —     | —    | —    | —    |      |
|              | 14   | 4800     | 138.7    | 115.3 | 58.2  | 57.9 | 23.1 | 1.1  | —     | —     | —     | —    | —    | —    |      |
|              |      | 6000     | 169.0    | 141.7 | 58.6  | 58.2 | 28.2 | 1.6  | —     | —     | —     | —    | —    | —    |      |
|              |      | 7200     | 194.8    | 166.1 | 59.1  | 58.6 | 32.5 | 2.1  | —     | —     | —     | —    | —    | —    |      |
|              | 6    | 9        | 4800     | 171.8 | 127.9 | 55.8 | 55.5 | 28.6 | 2.2   | —     | —     | —    | —    | —    | —    |
|              |      |          | 6000     | 204.1 | 155.0 | 56.6 | 56.2 | 34.0 | 3.0   | 148.1 | 133.7 | 59.8 | 59.4 | 18.5 | 1.0  |
|              |      |          | 7200     | 232.3 | 180.1 | 57.3 | 56.8 | 38.7 | 3.8   | 175.1 | 158.5 | 60.0 | 59.5 | 21.9 | 1.3  |
| 12           |      | 4800     | 193.4    | 137.7 | 54.0  | 53.9 | 32.2 | 2.7  | 138.2 | 116.1 | 58.1  | 58.0 | 17.3 | 0.9  |      |
|              |      | 6000     | 231.0    | 167.6 | 54.7  | 54.5 | 38.5 | 3.7  | 174.3 | 145.4 | 58.0  | 57.9 | 21.8 | 1.3  |      |
|              |      | 7200     | 264.2    | 195.4 | 55.4  | 55.2 | 44.0 | 4.8  | 205.0 | 172.4 | 58.3  | 58.1 | 25.6 | 1.8  |      |
| 14           |      | 4800     | 204.2    | 142.2 | 53.1  | 53.0 | 34.0 | 3.0  | 149.7 | 120.5 | 57.3  | 57.2 | 18.7 | 1.0  |      |
|              |      | 6000     | 244.8    | 173.4 | 53.8  | 53.7 | 40.8 | 4.1  | 187.8 | 150.8 | 57.2  | 57.1 | 23.5 | 1.5  |      |
|              |      | 7200     | 280.8    | 202.8 | 54.5  | 54.4 | 46.8 | 5.3  | 220.7 | 179.2 | 57.4  | 57.3 | 27.6 | 2.0  |      |
| 8            |      | 9        | 4800     | 211.4 | 145.2 | 52.6 | 52.5 | 35.2 | 3.9   | 168.3 | 127.7 | 55.9 | 55.8 | 21.0 | 1.5  |
|              |      |          | 6000     | 252.0 | 176.2 | 53.4 | 53.3 | 42.0 | 5.3   | 205.0 | 157.5 | 56.2 | 56.1 | 25.6 | 2.2  |
|              |      |          | 7200     | 288.3 | 205.2 | 54.2 | 54.0 | 48.0 | 6.8   | 237.3 | 184.8 | 56.7 | 56.5 | 29.7 | 2.8  |
|              | 12   | 4800     | 230.3    | 153.3 | 51.1  | 51.0 | 38.4 | 4.5  | 188.2 | 135.6 | 54.4  | 54.3 | 23.5 | 1.9  |      |
|              |      | 6000     | 276.7    | 186.8 | 51.8  | 51.7 | 46.1 | 6.3  | 229.7 | 167.3 | 54.7  | 54.6 | 28.7 | 2.7  |      |
|              |      | 7200     | 318.7    | 218.5 | 52.5  | 52.4 | 53.1 | 8.2  | 266.9 | 197.2 | 55.2  | 55.1 | 33.4 | 3.5  |      |
|              | 14   | 4800     | 239.3    | 157.2 | 50.3  | 50.2 | 39.9 | 4.8  | 198.0 | 139.6 | 53.6  | 53.5 | 24.8 | 2.0  |      |
|              |      | 6000     | 288.7    | 192.0 | 51.0  | 50.9 | 48.1 | 6.8  | 242.1 | 172.3 | 54.0  | 53.9 | 30.3 | 2.9  |      |
|              |      | 7200     | 333.8    | 224.9 | 51.7  | 51.6 | 55.6 | 8.9  | 281.9 | 203.3 | 54.4  | 54.3 | 35.2 | 3.8  |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.

## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 14

**Table 75. Unit size 14 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi  | Air-flow | 8°F      |       |       |      |       |      | 10°F  |       |       |      |      |      |      |
|--------------|------|----------|----------|-------|-------|------|-------|------|-------|-------|-------|------|------|------|------|
|              |      |          | TC       | SC    | LDB   | LWB  | gpm   | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |      |
| 4            | 9    | 5600     | 191.3    | 141.1 | 57.2  | 56.1 | 47.8  | 4.7  | 168.0 | 131.9 | 58.6  | 57.6 | 33.6 | 2.4  |      |
|              |      | 7000     | 220.8    | 167.4 | 58.3  | 57.0 | 55.2  | 6.1  | 195.9 | 157.7 | 59.6  | 58.3 | 39.2 | 3.2  |      |
|              |      | 8400     | 245.9    | 191.3 | 59.4  | 57.8 | 61.5  | 7.5  | 219.6 | 181.1 | 60.5  | 58.9 | 43.9 | 4.0  |      |
|              | 12   | 5600     | 218.1    | 155.4 | 54.9  | 54.4 | 54.5  | 6.0  | 194.7 | 145.9 | 56.4  | 55.9 | 38.9 | 3.2  |      |
|              |      | 7000     | 253.7    | 185.5 | 56.0  | 55.4 | 63.4  | 7.9  | 227.9 | 175.2 | 57.3  | 56.7 | 45.6 | 4.3  |      |
|              |      | 8400     | 284.8    | 213.3 | 57.0  | 56.2 | 71.2  | 9.8  | 256.3 | 202.1 | 58.2  | 57.4 | 51.3 | 5.3  |      |
|              | 14   | 5600     | 232.1    | 162.3 | 53.7  | 53.5 | 58.0  | 6.7  | 208.7 | 152.7 | 55.3  | 55.0 | 41.7 | 3.6  |      |
|              |      | 7000     | 271.4    | 194.4 | 54.8  | 54.5 | 67.9  | 9.0  | 245.0 | 183.8 | 56.2  | 55.8 | 49.0 | 4.9  |      |
|              |      | 8400     | 306.2    | 224.4 | 55.8  | 55.3 | 76.5  | 11.2 | 276.3 | 212.6 | 57.1  | 56.6 | 55.3 | 6.1  |      |
| 6            | 9    | 5600     | 250.9    | 170.1 | 52.5  | 52.2 | 62.7  | 9.9  | 232.4 | 162.3 | 53.7  | 53.4 | 46.5 | 5.7  |      |
|              |      | 7000     | 294.9    | 203.9 | 53.6  | 53.2 | 73.7  | 13.4 | 272.8 | 194.7 | 54.8  | 54.4 | 54.6 | 7.7  |      |
|              |      | 8400     | 333.9    | 235.3 | 54.6  | 54.1 | 83.5  | 16.8 | 308.2 | 224.8 | 55.7  | 55.2 | 61.6 | 9.6  |      |
|              | 12   | 5600     | 274.9    | 181.5 | 50.6  | 50.5 | 68.7  | 11.7 | 257.0 | 173.8 | 51.9  | 51.8 | 51.4 | 6.9  |      |
|              |      | 7000     | 326.8    | 219.4 | 51.6  | 51.5 | 81.7  | 16.1 | 304.4 | 209.9 | 52.8  | 52.7 | 60.9 | 9.4  |      |
|              |      | 8400     | 373.6    | 254.9 | 52.5  | 52.3 | 93.4  | 20.6 | 346.9 | 243.7 | 53.7  | 53.5 | 69.4 | 11.9 |      |
|              | 14   | 5600     | 286.4    | 186.6 | 49.8  | 49.7 | 71.6  | 12.6 | 269.0 | 179.0 | 51.0  | 50.9 | 53.8 | 7.5  |      |
|              |      | 7000     | 342.6    | 226.4 | 50.7  | 50.6 | 85.6  | 17.6 | 320.3 | 216.9 | 51.9  | 51.8 | 64.1 | 10.3 |      |
|              |      | 8400     | 393.8    | 264.2 | 51.5  | 51.4 | 98.4  | 22.7 | 366.8 | 252.8 | 52.7  | 52.6 | 73.4 | 13.2 |      |
|              | 8    | 9        | 5600     | 286.7 | 186.7 | 49.8 | 49.7  | 71.7 | 15.4  | 271.5 | 180.0 | 50.9 | 50.8 | 54.3 | 9.3  |
|              |      |          | 7000     | 342.3 | 226.2 | 50.7 | 50.6  | 85.6 | 21.3  | 322.8 | 217.7 | 51.8 | 51.7 | 64.6 | 12.7 |
|              |      |          | 8400     | 392.8 | 263.1 | 51.6 | 51.4  | 98.2 | 27.4  | 369.1 | 253.0 | 52.7 | 52.5 | 73.8 | 16.2 |
| 12           |      | 5600     | 305.9    | 195.4 | 48.4  | 48.3 | 76.5  | 17.3 | 292.1 | 189.1 | 49.4  | 49.3 | 58.4 | 10.6 |      |
|              |      | 7000     | 369.3    | 238.3 | 49.1  | 49.0 | 92.3  | 24.5 | 350.9 | 230.1 | 50.2  | 50.1 | 70.2 | 14.8 |      |
|              |      | 8400     | 427.9    | 279.1 | 49.9  | 49.8 | 107.0 | 32.0 | 405.0 | 269.1 | 51.0  | 50.9 | 81.0 | 19.2 |      |
| 14           |      | 5600     | 314.4    | 199.3 | 47.7  | 47.6 | 78.6  | 18.2 | 301.5 | 193.4 | 48.7  | 48.6 | 60.3 | 11.2 |      |
|              |      | 7000     | 381.6    | 243.9 | 48.4  | 48.3 | 95.4  | 26.0 | 364.2 | 236.0 | 49.4  | 49.3 | 72.8 | 15.8 |      |
|              |      | 8400     | 444.4    | 286.5 | 49.1  | 49.0 | 111.1 | 34.3 | 422.4 | 276.7 | 50.1  | 50.0 | 84.5 | 20.7 |      |
| Rows of Coil |      | fpi      | Air-flow | 12°F  |       |      |       |      |       | 16°F  |       |      |      |      |      |
|              |      |          |          | TC    | SC    | LDB  | LWB   | gpm  | WPD   | TC    | SC    | LDB  | LWB  | gpm  | WPD  |
| 4            |      | 9        | 5600     | 140.7 | 121.5 | 60.3 | 59.2  | 23.5 | 1.2   | —     | —     | —    | —    | —    | —    |
|              | 7000 |          | 168.2    | 147.2 | 60.9  | 59.6 | 28.0  | 1.7  | —     | —     | —     | —    | —    | —    |      |
|              | 8400 |          | 191.2    | 170.5 | 61.6  | 60.0 | 31.9  | 2.2  | —     | —     | —     | —    | —    | —    |      |
|              | 12   | 5600     | 167.2    | 135.2 | 58.1  | 57.6 | 27.9  | 1.7  | —     | —     | —     | —    | —    | —    |      |
|              |      | 7000     | 199.2    | 164.1 | 58.7  | 58.1 | 33.2  | 2.4  | —     | —     | —     | —    | —    | —    |      |
|              |      | 8400     | 226.4    | 190.7 | 59.4  | 58.6 | 37.7  | 3.0  | 149.9 | 149.9 | 63.8  | 61.6 | 18.7 | 0.8  |      |
|              | 14   | 5600     | 181.2    | 141.9 | 57.0  | 56.7 | 30.2  | 2.0  | —     | —     | —     | —    | —    | —    |      |
|              |      | 7000     | 215.8    | 172.4 | 57.7  | 57.3 | 36.0  | 2.7  | 135.4 | 135.4 | 62.5  | 61.1 | 16.9 | 0.7  |      |
|              |      | 8400     | 245.6    | 200.7 | 58.3  | 57.8 | 40.9  | 3.5  | 165.8 | 165.8 | 62.1  | 61.0 | 20.7 | 1.0  |      |
|              | 6    | 9        | 5600     | 211.4 | 153.6 | 55.1 | 54.8  | 35.2 | 3.4   | 159.6 | 133.4 | 58.4 | 58.1 | 19.9 | 1.2  |
|              |      |          | 7000     | 249.3 | 185.2 | 56.0 | 55.6  | 41.6 | 4.6   | 195.0 | 164.2 | 58.7 | 58.3 | 24.4 | 1.7  |
|              |      |          | 8400     | 282.4 | 214.6 | 56.8 | 56.3  | 47.1 | 5.8   | 225.3 | 192.6 | 59.2 | 58.6 | 28.2 | 2.3  |
| 12           |      | 5600     | 236.5    | 165.2 | 53.3  | 53.2 | 39.4  | 4.2  | 184.8 | 144.4 | 56.6  | 56.5 | 23.1 | 1.6  |      |
|              |      | 7000     | 280.7    | 200.0 | 54.1  | 54.0 | 46.8  | 5.8  | 225.1 | 178.3 | 56.9  | 56.8 | 28.1 | 2.3  |      |
|              |      | 8400     | 319.8    | 232.6 | 54.9  | 54.7 | 53.3  | 7.3  | 226.0 | 226.0 | 55.6  | 55.6 | 28.2 | 2.3  |      |
| 14           |      | 5600     | 249.0    | 170.4 | 52.4  | 52.3 | 41.5  | 4.6  | 197.6 | 149.4 | 55.8  | 55.7 | 24.7 | 1.8  |      |
|              |      | 7000     | 296.7    | 206.9 | 53.2  | 53.1 | 49.5  | 6.4  | 240.8 | 184.4 | 56.1  | 56.0 | 30.1 | 2.6  |      |
|              |      | 8400     | 339.2    | 241.4 | 54.0  | 53.9 | 56.5  | 8.1  | 278.7 | 217.3 | 56.6  | 56.5 | 34.8 | 3.3  |      |
| 8            |      | 9        | 5600     | 254.1 | 172.6 | 52.1 | 52.0  | 42.4 | 5.9   | 211.2 | 154.9 | 54.9 | 54.8 | 26.4 | 2.5  |
|              |      |          | 7000     | 302.0 | 208.9 | 53.0 | 52.8  | 50.3 | 8.1   | 253.8 | 189.5 | 55.5 | 55.4 | 31.7 | 3.5  |
|              |      |          | 8400     | 344.6 | 242.8 | 53.8 | 53.6  | 57.4 | 10.2  | 291.6 | 222.3 | 56.0 | 55.9 | 36.4 | 4.5  |
|              | 12   | 5600     | 275.9    | 182.0 | 50.5  | 50.4 | 46.0  | 6.8  | 234.1 | 164.2 | 53.4  | 53.3 | 29.3 | 3.0  |      |
|              |      | 7000     | 330.7    | 221.3 | 51.3  | 51.2 | 55.1  | 9.5  | 282.7 | 201.1 | 54.0  | 53.9 | 35.3 | 4.2  |      |
|              |      | 8400     | 380.4    | 258.5 | 52.1  | 52.0 | 63.4  | 12.2 | 326.3 | 236.1 | 54.5  | 54.4 | 40.8 | 5.5  |      |
|              | 14   | 5600     | 286.2    | 186.5 | 49.8  | 49.7 | 47.7  | 7.3  | 245.3 | 168.9 | 52.7  | 52.6 | 30.7 | 3.3  |      |
|              |      | 7000     | 344.5    | 227.3 | 50.6  | 50.5 | 57.4  | 10.2 | 297.1 | 207.1 | 53.2  | 53.1 | 37.1 | 4.6  |      |
|              |      | 8400     | 398.2    | 266.1 | 51.3  | 51.2 | 66.4  | 13.3 | 343.9 | 243.3 | 53.7  | 53.6 | 43.0 | 6.0  |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 17

**Table 76. Unit size 17 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F   |       |       |      |       |       | 10°F  |       |       |      |       |      |      |
|--------------|-----|----------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|------|------|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm   | WPD   | TC    | SC    | LDB   | LWB  | gpm   | WPD  |      |
| 4            | 9   | 6800     | 225.3 | 168.3 | 57.6  | 56.5 | 56.3  | 3.3   | 194.4 | 156.3 | 59.2  | 58.1 | 38.9  | 1.7  |      |
|              |     | 8500     | 260.2 | 199.7 | 58.7  | 57.4 | 65.0  | 4.3   | 227.6 | 187.2 | 60.0  | 58.7 | 45.5  | 2.2  |      |
|              |     | 10200    | 289.8 | 228.3 | 59.7  | 58.1 | 72.5  | 5.2   | 255.7 | 215.3 | 60.9  | 59.2 | 51.1  | 2.8  |      |
|              | 12  | 6800     | 257.7 | 185.6 | 55.3  | 54.8 | 64.4  | 4.2   | 226.6 | 173.2 | 56.9  | 56.4 | 45.3  | 2.2  |      |
|              |     | 8500     | 299.7 | 221.6 | 56.4  | 55.7 | 74.9  | 5.6   | 266.1 | 208.3 | 57.8  | 57.1 | 53.2  | 3.0  |      |
|              |     | 10200    | 336.0 | 254.7 | 57.4  | 56.5 | 84.0  | 6.9   | 299.8 | 240.7 | 58.6  | 57.8 | 60.0  | 3.7  |      |
|              | 14  | 6800     | 274.6 | 194.0 | 54.1  | 53.9 | 68.7  | 4.7   | 243.6 | 181.4 | 55.8  | 55.5 | 48.7  | 2.5  |      |
|              |     | 8500     | 320.8 | 232.4 | 55.2  | 54.8 | 80.2  | 6.3   | 286.7 | 218.7 | 56.7  | 56.3 | 57.3  | 3.4  |      |
|              |     | 10200    | 361.4 | 268.1 | 56.2  | 55.7 | 90.3  | 7.9   | 323.8 | 253.3 | 57.5  | 57.0 | 64.8  | 4.2  |      |
| 16           | 9   | 6800     | 299.5 | 204.2 | 52.8  | 52.5 | 74.9  | 7.3   | 275.5 | 194.1 | 54.1  | 53.8 | 55.1  | 4.2  |      |
|              |     | 8500     | 351.4 | 244.6 | 53.9  | 53.5 | 87.8  | 9.8   | 323.5 | 233.1 | 55.1  | 54.7 | 64.7  | 5.6  |      |
|              |     | 10200    | 397.3 | 282.1 | 54.9  | 54.4 | 99.3  | 12.3  | 365.2 | 269.1 | 56.1  | 55.5 | 73.0  | 7.0  |      |
|              | 12  | 6800     | 328.7 | 218.2 | 50.9  | 50.8 | 82.2  | 8.7   | 305.5 | 208.3 | 52.2  | 52.1 | 61.1  | 5.0  |      |
|              |     | 8500     | 390.1 | 263.4 | 51.9  | 51.8 | 97.5  | 11.8  | 361.8 | 251.5 | 53.2  | 53.0 | 72.4  | 6.9  |      |
|              |     | 10200    | 445.3 | 305.8 | 52.8  | 52.6 | 111.3 | 15.1  | 411.7 | 291.8 | 54.1  | 53.9 | 82.3  | 8.7  |      |
|              | 14  | 6800     | 342.8 | 224.4 | 50.1  | 50.0 | 85.7  | 9.4   | 320.3 | 214.6 | 51.4  | 51.3 | 64.1  | 5.5  |      |
|              |     | 8500     | 409.3 | 272.1 | 51.0  | 50.9 | 102.3 | 12.9  | 381.1 | 260.0 | 52.3  | 52.2 | 76.2  | 7.5  |      |
|              |     | 10200    | 469.8 | 317.3 | 51.8  | 51.7 | 117.4 | 16.6  | 435.7 | 302.9 | 53.1  | 53.0 | 87.1  | 9.6  |      |
|              | 8   | 9        | 6800  | 344.1 | 224.9 | 50.0 | 49.9  | 86.0  | 11.7  | 324.6 | 216.4 | 51.2 | 51.1  | 64.9 | 7.0  |
|              |     |          | 8500  | 410.2 | 272.2 | 51.0 | 50.8  | 102.5 | 16.0  | 385.5 | 261.5 | 52.1 | 52.0  | 77.1 | 9.5  |
|              |     |          | 10200 | 470.0 | 316.4 | 51.9 | 51.7  | 117.5 | 20.5  | 440.3 | 303.8 | 53.0 | 52.8  | 88.1 | 12.1 |
| 12           |     | 6800     | 367.8 | 235.6 | 48.6  | 48.5 | 91.9  | 13.1  | 349.9 | 227.5 | 49.7  | 49.6 | 70.0  | 8.0  |      |
|              |     | 8500     | 443.3 | 287.0 | 49.4  | 49.3 | 110.8 | 18.4  | 419.8 | 276.6 | 50.5  | 50.4 | 84.0  | 11.1 |      |
|              |     | 10200    | 512.9 | 336.0 | 50.1  | 50.0 | 128.2 | 24.0  | 483.9 | 323.3 | 51.3  | 51.2 | 96.8  | 14.4 |      |
| 14           |     | 6800     | 378.4 | 240.4 | 48.0  | 47.9 | 94.6  | 13.8  | 361.6 | 232.8 | 49.0  | 48.9 | 72.3  | 8.5  |      |
|              |     | 8500     | 458.6 | 293.9 | 48.7  | 48.6 | 114.6 | 19.6  | 436.1 | 283.9 | 49.7  | 49.6 | 87.2  | 11.9 |      |
|              |     | 10200    | 533.3 | 345.1 | 49.3  | 49.2 | 133.3 | 25.8  | 505.2 | 332.6 | 50.4  | 50.3 | 101.0 | 15.5 |      |

| Rows of Coil | fpi | Air-flow | 12°F  |       |       |      |      |      | 16°F  |       |       |      |      |      |     |
|--------------|-----|----------|-------|-------|-------|------|------|------|-------|-------|-------|------|------|------|-----|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm  | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |     |
| 4            | 9   | 6800     | 157.1 | 142.3 | 61.0  | 59.9 | 26.2 | 0.8  | —     | —     | —     | —    | —    | —    |     |
|              |     | 8500     | 190.6 | 173.4 | 61.5  | 60.1 | 31.8 | 1.1  | —     | —     | —     | —    | —    | —    |     |
|              |     | 10200    | 218.4 | 201.5 | 62.1  | 60.4 | 36.4 | 1.5  | —     | —     | —     | —    | —    | —    |     |
|              | 12  | 6800     | 189.5 | 158.9 | 58.8  | 58.3 | 31.6 | 1.1  | —     | —     | —     | —    | —    | —    |     |
|              |     | 8500     | 227.9 | 193.8 | 59.3  | 58.6 | 38.0 | 1.6  | —     | —     | —     | —    | —    | —    |     |
|              |     | 10200    | 260.5 | 225.8 | 59.9  | 59.1 | 43.4 | 2.0  | —     | —     | —     | —    | —    | —    |     |
|              | 14  | 6800     | 206.5 | 167.0 | 57.7  | 57.4 | 34.4 | 1.3  | —     | —     | —     | —    | —    | —    |     |
|              |     | 8500     | 248.0 | 203.8 | 58.3  | 57.8 | 41.3 | 1.9  | —     | —     | —     | —    | —    | —    |     |
|              |     | 10200    | 283.5 | 237.9 | 58.9  | 58.3 | 47.3 | 2.4  | 179.1 | 179.1 | 64.1  | 61.7 | 22.4 | 0.6  |     |
| 16           | 9   | 6800     | 247.9 | 182.9 | 55.6  | 55.3 | 41.3 | 2.5  | 177.8 | 157.8 | 59.0  | 58.9 | 22.2 | 0.8  |     |
|              |     | 8500     | 293.1 | 220.9 | 56.4  | 56.0 | 48.8 | 3.3  | 221.5 | 193.5 | 59.4  | 58.9 | 27.7 | 1.2  |     |
|              |     | 10200    | 332.3 | 256.1 | 57.2  | 56.7 | 55.4 | 4.2  | 258.0 | 227.9 | 59.8  | 59.2 | 32.3 | 1.6  |     |
|              | 12  | 6800     | 278.5 | 197.0 | 53.7  | 53.6 | 46.4 | 3.1  | 209.0 | 169.5 | 57.4  | 57.3 | 26.1 | 1.1  |     |
|              |     | 8500     | 331.1 | 238.8 | 54.5  | 54.4 | 55.2 | 4.2  | 257.9 | 210.6 | 57.5  | 57.4 | 32.2 | 1.6  |     |
|              |     | 10200    | 377.4 | 277.9 | 55.3  | 55.1 | 62.9 | 5.3  | 300.1 | 247.8 | 58.0  | 57.8 | 37.5 | 2.1  |     |
|              | 14  | 6800     | 293.8 | 203.3 | 52.9  | 52.8 | 49.0 | 3.4  | 224.8 | 175.5 | 56.6  | 56.5 | 28.1 | 1.2  |     |
|              |     | 8500     | 350.6 | 247.2 | 53.6  | 53.5 | 58.4 | 4.6  | 276.9 | 217.8 | 56.8  | 56.7 | 34.6 | 1.8  |     |
|              |     | 10200    | 400.9 | 288.6 | 54.4  | 54.3 | 66.8 | 5.9  | 322.3 | 257.4 | 57.1  | 57.0 | 40.3 | 2.3  |     |
|              | 8   | 9        | 6800  | 302.0 | 206.8 | 52.4 | 52.3 | 50.3 | 4.4   | 245.8 | 183.8 | 55.5 | 55.4 | 30.7 | 1.8 |
|              |     |          | 8500  | 359.0 | 250.4 | 53.3 | 53.2 | 59.8 | 6.0   | 296.8 | 225.6 | 55.9 | 55.8 | 37.1 | 2.5 |
|              |     |          | 10200 | 409.6 | 291.1 | 54.1 | 53.9 | 68.3 | 7.6   | 341.8 | 263.9 | 56.5 | 56.3 | 42.7 | 3.3 |
| 12           |     | 6800     | 328.8 | 218.2 | 50.9  | 50.8 | 54.8 | 5.1  | 273.8 | 195.0 | 54.0  | 53.9 | 34.2 | 2.2  |     |
|              |     | 8500     | 394.0 | 265.5 | 51.7  | 51.6 | 65.7 | 7.1  | 331.8 | 239.6 | 54.5  | 54.4 | 41.5 | 3.1  |     |
|              |     | 10200    | 452.9 | 310.1 | 52.4  | 52.3 | 75.5 | 9.1  | 383.7 | 281.6 | 55.0  | 54.9 | 48.0 | 4.0  |     |
| 14           |     | 6800     | 341.5 | 223.8 | 50.2  | 50.1 | 56.9 | 5.5  | 287.5 | 200.7 | 53.2  | 53.1 | 35.9 | 2.4  |     |
|              |     | 8500     | 411.0 | 272.8 | 50.9  | 50.8 | 68.5 | 7.7  | 349.4 | 246.7 | 53.7  | 53.6 | 43.7 | 3.4  |     |
|              |     | 10200    | 474.5 | 319.3 | 51.6  | 51.5 | 79.1 | 9.9  | 405.1 | 290.3 | 54.2  | 54.1 | 50.6 | 4.4  |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.

## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 21

**Table 77. Unit size 21 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F   |       |       |      |       |       | 10°F  |       |       |      |       |       |      |
|--------------|-----|----------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|-------|------|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm   | WPD   | TC    | SC    | LDB   | LWB  | gpm   | WPD   |      |
| 4            | 9   | 8400     | 291.7 | 213.2 | 57.0  | 55.9 | 72.9  | 5.9   | 261.4 | 201.2 | 58.3  | 57.2 | 52.3  | 3.2   |      |
|              |     | 10500    | 335.5 | 252.2 | 58.2  | 56.9 | 83.9  | 7.6   | 302.3 | 239.2 | 59.4  | 58.0 | 60.5  | 4.2   |      |
|              |     | 12600    | 373.2 | 287.8 | 59.3  | 57.7 | 93.3  | 9.3   | 337.0 | 273.8 | 60.3  | 58.7 | 67.4  | 5.1   |      |
|              | 12  | 8400     | 332.0 | 234.8 | 54.7  | 54.2 | 83.0  | 7.5   | 301.1 | 222.3 | 56.0  | 55.5 | 60.2  | 4.1   |      |
|              |     | 10500    | 385.7 | 279.9 | 55.8  | 55.2 | 96.4  | 9.9   | 350.1 | 265.7 | 57.1  | 56.4 | 70.0  | 5.5   |      |
|              |     | 12600    | 432.6 | 321.6 | 56.9  | 56.1 | 108.2 | 12.2  | 392.2 | 305.6 | 58.0  | 57.2 | 78.4  | 6.7   |      |
|              | 14  | 8400     | 353.1 | 245.4 | 53.5  | 53.2 | 88.3  | 8.4   | 321.9 | 232.5 | 54.9  | 54.6 | 64.4  | 4.7   |      |
|              |     | 10500    | 412.8 | 293.7 | 54.6  | 54.3 | 103.2 | 11.2  | 375.7 | 278.7 | 55.9  | 55.5 | 75.1  | 6.2   |      |
|              |     | 12600    | 465.3 | 338.6 | 55.6  | 55.1 | 116.3 | 14.0  | 422.6 | 321.6 | 56.9  | 56.3 | 84.5  | 7.7   |      |
|              | 6   | 9        | 8400  | 378.9 | 256.0 | 52.4 | 52.1  | 94.7  | 12.7  | 353.1 | 245.1 | 53.6 | 53.2  | 70.6  | 7.4  |
|              |     |          | 10500 | 445.0 | 306.7 | 53.5 | 53.1  | 111.2 | 17.0  | 413.3 | 293.5 | 54.7 | 54.2  | 82.7  | 9.9  |
|              |     |          | 12600 | 503.4 | 353.7 | 54.6 | 54.0  | 125.9 | 21.3  | 466.5 | 338.5 | 55.6 | 55.1  | 93.3  | 12.3 |
| 12           |     | 8400     | 415.3 | 273.6 | 50.5  | 50.4 | 103.8 | 15.0  | 390.1 | 262.6 | 51.7  | 51.6 | 78.0  | 8.9   |      |
|              |     | 10500    | 493.5 | 330.4 | 51.5  | 51.3 | 123.4 | 20.5  | 461.4 | 316.7 | 52.7  | 52.5 | 92.3  | 12.0  |      |
|              |     | 12600    | 563.9 | 383.6 | 52.4  | 52.2 | 141.0 | 26.1  | 525.5 | 367.5 | 53.6  | 53.4 | 105.1 | 15.3  |      |
| 14           |     | 8400     | 432.8 | 281.3 | 49.6  | 49.5 | 108.2 | 16.1  | 408.2 | 270.5 | 50.8  | 50.7 | 81.6  | 9.6   |      |
|              |     | 10500    | 517.4 | 341.2 | 50.5  | 50.4 | 129.4 | 22.3  | 485.8 | 327.5 | 51.7  | 51.6 | 97.2  | 13.2  |      |
|              |     | 12600    | 594.5 | 398.0 | 51.4  | 51.3 | 148.6 | 28.8  | 556.0 | 381.6 | 52.5  | 52.4 | 111.2 | 16.9  |      |
| 8            |     | 9        | 8400  | 431.7 | 280.8 | 49.7 | 49.6  | 107.9 | 20.0  | 410.0 | 271.2 | 50.7 | 50.6  | 82.0  | 12.1 |
|              |     |          | 10500 | 515.1 | 339.9 | 50.7 | 50.5  | 128.8 | 27.5  | 487.0 | 327.7 | 51.7 | 51.6  | 97.4  | 16.5 |
|              |     |          | 12600 | 590.7 | 395.2 | 51.6 | 51.4  | 147.7 | 35.2  | 556.6 | 380.6 | 52.6 | 52.4  | 111.3 | 21.0 |
|              | 12  | 8400     | 460.8 | 293.9 | 48.3  | 48.2 | 115.2 | 22.5  | 441.1 | 285.0 | 49.2  | 49.1 | 88.2  | 13.8  |      |
|              |     | 10500    | 556.0 | 358.4 | 49.1  | 49.0 | 139.0 | 31.6  | 529.7 | 346.6 | 50.1  | 50.0 | 105.9 | 19.2  |      |
|              |     | 12600    | 644.0 | 419.7 | 49.8  | 49.7 | 161.0 | 41.2  | 611.2 | 405.2 | 50.8  | 50.7 | 122.2 | 24.9  |      |
|              | 14  | 8400     | 473.6 | 299.8 | 47.6  | 47.5 | 118.4 | 23.6  | 455.3 | 291.4 | 48.6  | 48.5 | 91.1  | 14.6  |      |
|              |     | 10500    | 574.7 | 366.8 | 48.3  | 48.2 | 143.7 | 33.5  | 549.9 | 355.6 | 49.3  | 49.2 | 110.0 | 20.6  |      |
|              |     | 12600    | —     | —     | —     | —    | —     | —     | 637.6 | 416.8 | 50.0  | 49.9 | 127.5 | 26.9  |      |

| Rows of Coil | fpi | Air-flow | 12°F  |       |       |      |       |      | 16°F  |       |       |      |      |      |     |
|--------------|-----|----------|-------|-------|-------|------|-------|------|-------|-------|-------|------|------|------|-----|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm   | WPD  | TC    | SC    | LDB   | LWB  | gpm  | WPD  |     |
| 4            | 9   | 8400     | 227.1 | 188.0 | 59.7  | 58.6 | 37.9  | 1.8  | —     | —     | —     | —    | —    | —    |     |
|              |     | 10500    | 266.6 | 225.6 | 60.5  | 59.1 | 44.4  | 2.4  | 173.2 | 173.2 | 65.1  | 62.0 | 21.7 | 0.6  |     |
|              |     | 12600    | 300.0 | 259.8 | 61.3  | 59.7 | 50.0  | 2.9  | 208.0 | 208.0 | 65.1  | 62.0 | 26.0 | 0.9  |     |
|              | 12  | 8400     | 266.2 | 208.5 | 57.5  | 57.0 | 44.4  | 2.4  | 164.9 | 164.9 | 62.2  | 61.0 | 20.6 | 0.6  |     |
|              |     | 10500    | 312.9 | 251.2 | 58.3  | 57.6 | 52.1  | 3.2  | 223.2 | 217.9 | 61.2  | 60.5 | 27.9 | 1.0  |     |
|              |     | 12600    | 352.7 | 290.5 | 59.1  | 58.3 | 58.8  | 4.0  | 262.9 | 257.3 | 61.5  | 60.6 | 32.9 | 1.4  |     |
|              | 14  | 8400     | 286.9 | 218.6 | 56.4  | 56.1 | 47.8  | 2.7  | 195.1 | 183.9 | 60.2  | 59.8 | 24.4 | 0.8  |     |
|              |     | 10500    | 337.8 | 263.8 | 57.2  | 56.8 | 56.3  | 3.7  | 247.3 | 229.7 | 60.2  | 59.7 | 30.9 | 1.2  |     |
|              |     | 12600    | 381.5 | 305.6 | 58.0  | 57.5 | 63.6  | 4.6  | 289.6 | 271.3 | 60.5  | 59.9 | 36.2 | 1.6  |     |
|              | 6   | 9        | 8400  | 325.1 | 233.6 | 54.8 | 54.5  | 54.2 | 4.6   | 258.8 | 207.3 | 57.6 | 57.3 | 32.3 | 1.8 |
|              |     |          | 10500 | 381.3 | 280.5 | 55.8 | 55.3  | 63.6 | 6.1   | 309.9 | 256.8 | 57.8 | 57.7 | 38.7 | 2.5 |
|              |     |          | 12600 | 430.2 | 324.0 | 56.7 | 56.1  | 71.7 | 7.6   | 312.0 | 312.0 | 57.6 | 59.3 | 39.0 | 2.5 |
| 12           |     | 8400     | 362.6 | 251.0 | 52.9  | 52.8 | 60.4  | 5.6  | 295.8 | 223.9 | 55.8  | 55.7 | 37.0 | 2.3  |     |
|              |     | 10500    | 428.4 | 302.9 | 53.9  | 53.7 | 71.4  | 7.5  | 354.9 | 274.1 | 56.3  | 56.2 | 44.4 | 3.2  |     |
|              |     | 12600    | 486.7 | 351.5 | 54.7  | 54.5 | 81.1  | 9.5  | 406.5 | 321.4 | 56.9  | 56.8 | 50.8 | 4.0  |     |
| 14           |     | 8400     | 381.2 | 258.9 | 52.1  | 52.0 | 63.5  | 6.1  | 314.7 | 231.4 | 55.0  | 54.9 | 39.3 | 2.6  |     |
|              |     | 10500    | 452.4 | 313.4 | 52.9  | 52.8 | 75.4  | 8.3  | 378.2 | 283.3 | 55.5  | 55.4 | 47.3 | 3.6  |     |
|              |     | 12600    | 516.4 | 365.1 | 53.7  | 53.6 | 86.1  | 10.6 | 434.2 | 332.2 | 56.1  | 56.0 | 54.3 | 4.6  |     |
| 8            |     | 9        | 8400  | 386.1 | 260.9 | 51.8 | 51.7  | 64.3 | 7.8   | 328.6 | 237.1 | 54.4 | 54.3 | 41.1 | 3.5 |
|              |     |          | 10500 | 457.3 | 315.0 | 52.8 | 52.7  | 76.2 | 10.6  | 391.8 | 288.6 | 55.1 | 55.0 | 49.0 | 4.8 |
|              |     |          | 12600 | 521.2 | 365.8 | 53.7 | 53.5  | 86.9 | 13.4  | 447.6 | 335.9 | 55.8 | 55.6 | 56.0 | 6.0 |
|              | 12  | 8400     | 418.7 | 275.1 | 50.3  | 50.2 | 69.8  | 9.0  | 362.8 | 251.1 | 52.9  | 52.8 | 45.3 | 4.1  |     |
|              |     | 10500    | 500.8 | 334.0 | 51.2  | 51.1 | 83.5  | 12.5 | 435.1 | 306.2 | 53.6  | 53.5 | 54.4 | 5.7  |     |
|              |     | 12600    | 575.8 | 390.0 | 51.9  | 51.8 | 96.0  | 16.0 | 499.8 | 358.4 | 54.2  | 54.1 | 62.5 | 7.4  |     |
|              | 14  | 8400     | 434.0 | 281.9 | 49.6  | 49.5 | 72.3  | 9.6  | 379.6 | 258.2 | 52.1  | 52.0 | 47.4 | 4.5  |     |
|              |     | 10500    | 521.8 | 343.2 | 50.4  | 50.3 | 87.0  | 13.4 | 456.7 | 315.2 | 52.8  | 52.7 | 57.1 | 6.3  |     |
|              |     | 12600    | 602.9 | 401.6 | 51.1  | 51.0 | 100.5 | 17.4 | 526.3 | 369.2 | 53.4  | 53.3 | 65.8 | 8.1  |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 25

**Table 78. Unit size 25 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi   | Air-flow | 8°F      |       |       |       |       |       | 10°F  |       |       |       |       |       |      |      |     |
|--------------|-------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-----|
|              |       |          | TC       | SC    | LDB   | LWB   | gpm   | WPD   | TC    | SC    | LDB   | LWB   | gpm   | WPD   |      |      |     |
| 4            | 9     | 10000    | 348.3    | 254.1 | 57.0  | 55.9  | 87.1  | 6.7   | 313.4 | 240.2 | 58.2  | 57.1  | 62.7  | 3.7   |      |      |     |
|              |       | 12500    | 400.4    | 300.4 | 58.2  | 56.9  | 100.1 | 8.7   | 361.8 | 285.3 | 59.3  | 57.9  | 72.4  | 4.8   |      |      |     |
|              |       | 15000    | 445.2    | 342.6 | 59.3  | 57.7  | 111.3 | 10.5  | 402.8 | 326.2 | 60.3  | 58.6  | 80.6  | 5.8   |      |      |     |
|              | 12    | 10000    | 396.4    | 279.9 | 54.6  | 54.1  | 99.1  | 8.5   | 360.6 | 265.4 | 55.9  | 55.4  | 72.1  | 4.7   |      |      |     |
|              |       | 12500    | 460.4    | 333.6 | 55.8  | 55.2  | 115.1 | 11.2  | 418.6 | 316.8 | 57.0  | 56.4  | 83.7  | 6.2   |      |      |     |
|              |       | 15000    | 516.3    | 383.0 | 56.9  | 56.0  | 129.1 | 13.9  | 468.7 | 364.3 | 58.0  | 57.1  | 93.7  | 7.7   |      |      |     |
|              | 14    | 10000    | 421.7    | 292.6 | 53.5  | 53.2  | 105.4 | 9.5   | 385.3 | 277.6 | 54.8  | 54.5  | 77.1  | 5.3   |      |      |     |
|              |       | 12500    | 492.8    | 350.1 | 54.6  | 54.2  | 123.2 | 12.7  | 449.2 | 332.5 | 55.9  | 55.5  | 89.8  | 7.1   |      |      |     |
|              |       | 15000    | 555.3    | 403.5 | 55.6  | 55.1  | 138.8 | 15.9  | 505.2 | 383.5 | 56.8  | 56.3  | 101.0 | 8.8   |      |      |     |
| 6            | 9     | 10000    | 451.6    | 305.0 | 52.4  | 52.1  | 112.9 | 14.3  | 421.4 | 292.2 | 53.5  | 53.2  | 84.3  | 8.4   |      |      |     |
|              |       | 12500    | 530.2    | 365.2 | 53.5  | 53.1  | 132.6 | 19.1  | 493.0 | 349.7 | 54.6  | 54.2  | 98.6  | 11.1  |      |      |     |
|              |       | 15000    | 599.7    | 421.0 | 54.6  | 54.0  | 149.9 | 23.9  | 556.2 | 403.2 | 55.6  | 55.1  | 111.2 | 13.8  |      |      |     |
|              | 12    | 10000    | 495.1    | 326.0 | 50.5  | 50.4  | 123.8 | 16.9  | 465.4 | 313.1 | 51.6  | 51.5  | 93.1  | 10.0  |      |      |     |
|              |       | 12500    | 588.1    | 393.6 | 51.5  | 51.3  | 147.0 | 23.1  | 550.5 | 377.5 | 52.6  | 52.5  | 110.1 | 13.6  |      |      |     |
|              |       | 15000    | 671.9    | 456.8 | 52.4  | 52.2  | 168.0 | 29.5  | 626.8 | 437.8 | 53.5  | 53.3  | 125.4 | 17.2  |      |      |     |
|              | 14    | 10000    | 516.0    | 335.2 | 49.6  | 49.5  | 129.0 | 18.2  | 487.1 | 322.5 | 50.8  | 50.7  | 97.4  | 10.9  |      |      |     |
|              |       | 12500    | 616.8    | 406.6 | 50.5  | 50.4  | 154.2 | 25.2  | 579.6 | 390.5 | 51.7  | 51.6  | 115.9 | 14.9  |      |      |     |
|              |       | 15000    | 708.5    | 474.1 | 51.4  | 51.3  | 177.1 | 32.5  | 663.3 | 454.9 | 52.5  | 52.4  | 132.7 | 19.1  |      |      |     |
|              | 8     | 9        | 10000    | 514.3 | 334.5 | 49.7  | 49.6  | 128.6 | 22.4  | 488.7 | 323.2 | 50.7  | 50.6  | 97.7  | 13.6 |      |     |
|              |       |          | 12500    | 613.5 | 404.7 | 50.7  | 50.5  | 153.4 | 30.8  | 580.4 | 390.3 | 51.7  | 51.6  | 116.1 | 18.5 |      |     |
|              |       |          | 15000    | 703.3 | 470.4 | 51.6  | 51.4  | 175.8 | 39.5  | 663.1 | 453.2 | 52.6  | 52.4  | 132.6 | 23.6 |      |     |
| 12           |       | 10000    | 549.0    | 350.1 | 48.3  | 48.2  | 137.2 | 25.2  | 525.8 | 339.6 | 49.2  | 49.1  | 105.2 | 15.5  |      |      |     |
|              |       | 12500    | 662.3    | 426.8 | 49.1  | 49.0  | 165.6 | 35.4  | 631.4 | 413.0 | 50.1  | 50.0  | 126.3 | 21.6  |      |      |     |
|              |       | 15000    | —        | —     | —     | —     | —     | —     | 728.4 | 482.7 | 50.8  | 50.7  | 145.7 | 28.0  |      |      |     |
| 14           |       | 10000    | 564.3    | 357.2 | 47.6  | 47.5  | 141.1 | 26.5  | 542.8 | 347.3 | 48.5  | 48.4  | 108.6 | 16.4  |      |      |     |
|              |       | 12500    | 684.7    | 436.9 | 48.3  | 48.2  | 171.2 | 37.6  | 655.5 | 423.7 | 49.3  | 49.2  | 131.1 | 23.1  |      |      |     |
|              |       | 15000    | —        | —     | —     | —     | —     | —     | 760.0 | 496.6 | 50.0  | 49.9  | 152.0 | 30.2  |      |      |     |
| Rows of Coil |       | fpi      | Air-flow | 12°F  |       |       |       |       |       | 16°F  |       |       |       |       |      |      |     |
|              |       |          |          | TC    | SC    | LDB   | LWB   | gpm   | WPD   | TC    | SC    | LDB   | LWB   | gpm   | WPD  |      |     |
|              |       |          |          | 4     | 9     | 10000 | 274.4 | 225.2 | 59.6  | 58.4  | 45.7  | 2.1   | —     | —     | —    | —    | —   |
|              | 12500 |          |          |       |       | 321.0 | 269.7 | 60.4  | 59.0  | 53.5  | 2.7   | 214.6 | 214.6 | 64.5  | 61.8 | 26.8 | 0.8 |
|              | 15000 |          |          |       |       | 360.3 | 310.2 | 61.3  | 59.6  | 60.1  | 3.4   | 254.3 | 254.3 | 64.6  | 61.9 | 31.8 | 1.1 |
|              | 12    |          |          | 10000 | 320.8 | 249.7 | 57.4  | 56.8  | 53.5  | 2.7   | 218.0 | 211.2 | 60.9  | 60.3  | 27.3 | 0.8  |     |
|              |       |          |          | 12500 | 375.9 | 300.2 | 58.2  | 57.5  | 62.7  | 3.6   | 275.0 | 262.6 | 61.0  | 60.2  | 34.4 | 1.2  |     |
|              |       |          |          | 15000 | 423.0 | 346.7 | 59.0  | 58.2  | 70.5  | 4.5   | 321.0 | 309.0 | 61.3  | 60.4  | 40.1 | 1.6  |     |
|              | 14    |          |          | 10000 | 345.4 | 261.6 | 56.3  | 56.0  | 57.6  | 3.1   | 243.5 | 222.9 | 59.8  | 59.5  | 30.4 | 1.0  |     |
|              |       |          |          | 12500 | 405.5 | 315.2 | 57.1  | 56.7  | 67.6  | 4.2   | 303.3 | 276.6 | 59.9  | 59.5  | 37.9 | 1.4  |     |
|              |       |          |          | 15000 | 457.2 | 364.8 | 58.0  | 57.4  | 76.2  | 5.2   | 352.6 | 325.6 | 60.3  | 59.7  | 44.1 | 1.9  |     |
|              | 6     |          |          | 9     | 10000 | 389.0 | 278.8 | 54.7  | 54.4  | 64.8  | 5.2   | 313.0 | 248.7 | 57.5  | 57.1 | 39.1 | 2.1 |
|              |       |          |          |       | 12500 | 455.5 | 334.5 | 55.7  | 55.3  | 75.9  | 6.9   | 373.3 | 302.3 | 58.1  | 57.6 | 46.7 | 2.8 |
|              |       |          |          |       | 15000 | 513.4 | 386.0 | 56.7  | 56.1  | 85.6  | 8.6   | 373.9 | 373.9 | 57.4  | 57.4 | 46.7 | 2.9 |
|              |       |          |          | 12    | 10000 | 433.5 | 299.6 | 52.8  | 52.7  | 72.2  | 6.3   | 356.9 | 268.5 | 55.7  | 55.6 | 44.6 | 2.6 |
|              |       |          |          |       | 12500 | 511.6 | 361.2 | 53.8  | 53.7  | 85.3  | 8.5   | 426.7 | 327.1 | 56.3  | 56.1 | 53.3 | 3.6 |
|              |       |          |          |       | 15000 | 581.1 | 419.0 | 54.7  | 54.5  | 96.8  | 10.7  | 487.9 | 384.2 | 56.8  | 56.7 | 61.0 | 4.6 |
|              |       |          |          | 14    | 10000 | 455.6 | 309.0 | 52.0  | 51.9  | 75.9  | 6.9   | 379.3 | 277.4 | 54.9  | 54.8 | 47.4 | 2.9 |
|              |       |          |          |       | 12500 | 540.3 | 373.9 | 52.9  | 52.8  | 90.1  | 9.4   | 454.5 | 338.9 | 55.4  | 55.3 | 56.8 | 4.0 |
|              |       |          |          |       | 15000 | 616.6 | 435.3 | 53.7  | 53.6  | 102.8 | 11.9  | 520.8 | 397.0 | 56.0  | 55.9 | 65.1 | 5.2 |
|              | 8     |          |          | 9     | 10000 | 460.7 | 311.1 | 51.8  | 51.7  | 76.8  | 8.8   | 394.2 | 283.4 | 54.3  | 54.2 | 49.3 | 3.9 |
|              |       |          |          |       | 12500 | 545.4 | 375.4 | 52.8  | 52.6  | 90.9  | 11.9  | 469.1 | 344.7 | 55.0  | 54.9 | 58.6 | 5.4 |
|              |       |          |          |       | 15000 | 621.4 | 435.8 | 53.7  | 53.5  | 103.6 | 15.0  | 535.2 | 400.8 | 55.8  | 55.6 | 66.9 | 6.8 |
|              |       |          |          | 12    | 10000 | 499.5 | 327.9 | 50.3  | 50.2  | 83.3  | 10.1  | 434.9 | 300.2 | 52.8  | 52.7 | 54.4 | 4.7 |
| 12500        |       | 597.3    | 398.1    |       | 51.1  | 51.0  | 99.6  | 14.0  | 520.6 | 365.7 | 53.5  | 53.4  | 65.1  | 6.5   |      |      |     |
| 15000        |       | 686.7    | 464.8    |       | 51.9  | 51.8  | 114.5 | 18.0  | 597.4 | 427.6 | 54.2  | 54.1  | 74.7  | 8.3   |      |      |     |
| 14           |       | 10000    | 517.8    | 336.0 | 49.5  | 49.4  | 86.3  | 10.8  | 454.8 | 308.6 | 52.0  | 51.9  | 56.8  | 5.1   |      |      |     |
|              |       | 12500    | 622.5    | 409.1 | 50.3  | 50.2  | 103.7 | 15.1  | 546.4 | 376.4 | 52.7  | 52.6  | 68.3  | 7.1   |      |      |     |
|              |       | 15000    | 719.1    | 478.7 | 51.1  | 51.0  | 119.9 | 19.6  | 629.0 | 440.6 | 53.4  | 53.3  | 78.6  | 9.1   |      |      |     |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Cooling Capacities - Chilled Water Coil, Size 30

**Table 79. Unit size 30 chilled water cooling capacities, EAT = 80°F DB / 67°F WB and EWT = 45°F**

| Rows of Coil | fpi | Air-flow | 8°F   |       |       |      |       |       | 10°F  |       |       |      |       |       |      |
|--------------|-----|----------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|-------|-------|------|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm   | WPD   | TC    | SC    | LDB   | LWB  | gpm   | WPD   |      |
| 4            | 9   | 12000    | 430.2 | 309.8 | 56.6  | 55.5 | 107.5 | 10.9  | 393.1 | 294.9 | 57.7  | 56.6 | 78.6  | 6.1   |      |
|              |     | 15000    | 494.7 | 366.0 | 57.9  | 56.5 | 123.7 | 14.1  | 451.6 | 349.0 | 58.9  | 57.5 | 90.3  | 7.9   |      |
|              |     | 18000    | 550.2 | 417.2 | 59.0  | 57.4 | 137.6 | 17.2  | 501.9 | 398.4 | 59.9  | 58.3 | 100.4 | 9.6   |      |
|              | 12  | 12000    | 489.3 | 341.5 | 54.2  | 53.7 | 122.3 | 13.8  | 449.8 | 325.3 | 55.4  | 54.9 | 90.0  | 7.8   |      |
|              |     | 15000    | 568.7 | 406.8 | 55.4  | 54.8 | 142.2 | 18.2  | 521.5 | 387.7 | 56.6  | 55.9 | 104.3 | 10.3  |      |
|              |     | 18000    | 638.0 | 467.0 | 56.5  | 55.7 | 159.5 | 22.6  | 584.0 | 445.5 | 57.6  | 56.7 | 116.8 | 12.7  |      |
|              | 14  | 12000    | 520.2 | 357.1 | 53.0  | 52.7 | 130.1 | 15.5  | 479.9 | 340.3 | 54.3  | 54.0 | 96.0  | 8.8   |      |
|              |     | 15000    | 608.5 | 427.2 | 54.2  | 53.8 | 152.1 | 20.7  | 559.6 | 407.1 | 55.4  | 55.0 | 111.9 | 11.7  |      |
|              |     | 18000    | 686.2 | 492.2 | 55.2  | 54.7 | 171.5 | 25.8  | 629.5 | 469.3 | 56.4  | 55.8 | 125.9 | 14.5  |      |
| 6            | 9   | 12000    | 551.3 | 369.9 | 52.1  | 51.8 | 137.8 | 22.9  | 517.2 | 355.4 | 53.2  | 52.8 | 103.4 | 13.5  |      |
|              |     | 15000    | 647.6 | 442.9 | 53.2  | 52.8 | 161.9 | 30.7  | 605.5 | 425.3 | 54.3  | 53.9 | 121.1 | 18.0  |      |
|              |     | 18000    | 732.8 | 510.6 | 54.3  | 53.7 | 183.2 | 38.4  | 683.4 | 490.2 | 55.3  | 54.7 | 136.7 | 22.5  |      |
|              | 12  | 12000    | 603.7 | 395.4 | 50.1  | 50.0 | 150.9 | 27.0  | 570.7 | 381.0 | 51.2  | 51.1 | 114.1 | 16.2  |      |
|              |     | 15000    | 717.8 | 477.5 | 51.1  | 51.0 | 179.4 | 37.0  | 675.7 | 459.3 | 52.2  | 52.1 | 135.1 | 22.0  |      |
|              |     | 18000    | —     | —     | —     | —    | —     | —     | 769.8 | 532.7 | 53.2  | 53.0 | 154.0 | 27.9  |      |
|              | 14  | 12000    | 628.6 | 406.5 | 49.3  | 49.2 | 157.2 | 29.0  | 596.9 | 392.4 | 50.4  | 50.3 | 119.4 | 17.6  |      |
|              |     | 15000    | —     | —     | —     | —    | —     | —     | 710.9 | 475.2 | 51.3  | 51.2 | 142.2 | 24.1  |      |
|              |     | 18000    | —     | —     | —     | —    | —     | —     | 814.3 | 553.6 | 52.1  | 52.0 | 162.9 | 30.9  |      |
|              | 8   | 9        | 12000 | 624.0 | 404.4 | 49.5 | 49.4  | 156.0 | 35.7  | 595.3 | 391.7 | 50.4 | 50.3  | 119.1 | 21.8 |
|              |     |          | 15000 | 744.9 | 489.4 | 50.4 | 50.3  | 186.2 | 49.2  | 707.6 | 473.1 | 51.4 | 51.3  | 141.5 | 29.8 |
|              |     |          | 18000 | —     | —     | —    | —     | —     | —     | 808.9 | 549.4 | 52.3 | 52.1  | 161.8 | 38.0 |
| 12           |     | 12000    | 665.3 | 423.1 | 48.0  | 47.9 | 166.3 | 40.1  | 639.8 | 411.5 | 48.9  | 48.8 | 128.0 | 24.9  |      |
|              |     | 15000    | —     | —     | —     | —    | —     | —     | 769.1 | 500.6 | 49.7  | 49.6 | 153.8 | 34.7  |      |
|              |     | 18000    | —     | —     | —     | —    | —     | —     | 887.8 | 585.3 | 50.5  | 50.4 | 177.6 | 45.0  |      |
| 14           |     | 12000    | 683.3 | 431.5 | 47.4  | 47.3 | 170.8 | 42.0  | 660.0 | 420.7 | 48.2  | 48.1 | 132.0 | 26.3  |      |
|              |     | 15000    | —     | —     | —     | —    | —     | —     | 797.8 | 513.5 | 49.0  | 48.9 | 159.6 | 37.0  |      |
|              |     | 18000    | —     | —     | —     | —    | —     | —     | 925.8 | 602.1 | 49.7  | 49.6 | 185.2 | 48.5  |      |

| Rows of Coil | fpi | Air-flow | 12°F  |       |       |      |       |       | 16°F  |       |       |      |      |      |      |
|--------------|-----|----------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|------|------|
|              |     |          | TC    | SC    | LDB   | LWB  | gpm   | WPD   | TC    | SC    | LDB   | LWB  | gpm  | WPD  |      |
| 4            | 9   | 12000    | 354.3 | 279.7 | 58.9  | 57.7 | 59.0  | 3.6   | 262.7 | 245.4 | 61.5  | 60.3 | 32.8 | 1.2  |      |
|              |     | 15000    | 409.7 | 332.8 | 59.9  | 58.5 | 68.3  | 4.7   | 316.8 | 298.2 | 62.0  | 60.5 | 39.6 | 1.7  |      |
|              |     | 18000    | 456.7 | 381.1 | 60.8  | 59.1 | 76.1  | 5.8   | 361.6 | 346.0 | 62.6  | 60.9 | 45.2 | 2.2  |      |
|              | 12  | 12000    | 409.8 | 309.3 | 56.6  | 56.1 | 68.3  | 4.7   | 316.3 | 273.4 | 59.3  | 58.8 | 39.5 | 1.7  |      |
|              |     | 15000    | 475.9 | 369.8 | 57.7  | 57.0 | 79.3  | 6.2   | 378.4 | 332.8 | 59.9  | 59.2 | 47.3 | 2.4  |      |
|              |     | 18000    | 532.8 | 425.6 | 58.6  | 57.7 | 88.8  | 7.6   | 431.0 | 387.3 | 60.5  | 59.6 | 53.9 | 3.0  |      |
|              | 14  | 12000    | 439.2 | 323.7 | 55.5  | 55.2 | 73.2  | 5.4   | 344.7 | 287.0 | 58.3  | 58.0 | 43.1 | 2.0  |      |
|              |     | 15000    | 511.7 | 388.0 | 56.6  | 56.1 | 85.3  | 7.1   | 411.7 | 349.6 | 58.9  | 58.4 | 51.5 | 2.8  |      |
|              |     | 18000    | 575.0 | 447.9 | 57.4  | 56.9 | 95.8  | 8.8   | 469.0 | 407.6 | 59.5  | 58.9 | 58.6 | 3.6  |      |
| 6            | 9   | 12000    | 482.2 | 340.8 | 54.3  | 53.9 | 80.4  | 8.6   | 404.3 | 309.5 | 56.6  | 56.3 | 50.5 | 3.7  |      |
|              |     | 15000    | 563.0 | 407.9 | 55.4  | 54.9 | 93.8  | 11.3  | 476.3 | 373.6 | 57.4  | 57.0 | 59.5 | 4.9  |      |
|              |     | 18000    | 634.3 | 470.4 | 56.3  | 55.7 | 105.7 | 14.0  | 538.7 | 433.0 | 58.2  | 57.6 | 67.3 | 6.2  |      |
|              | 12  | 12000    | 535.5 | 365.9 | 52.4  | 52.3 | 89.2  | 10.3  | 456.7 | 333.5 | 54.8  | 54.7 | 57.1 | 4.6  |      |
|              |     | 15000    | 631.7 | 440.8 | 53.4  | 53.2 | 105.3 | 13.9  | 540.6 | 403.8 | 55.6  | 55.4 | 67.6 | 6.2  |      |
|              |     | 18000    | 717.9 | 511.2 | 54.3  | 54.0 | 119.7 | 17.6  | 614.1 | 469.6 | 56.4  | 56.1 | 76.8 | 7.8  |      |
|              | 14  | 12000    | 562.1 | 377.3 | 51.5  | 51.4 | 93.7  | 11.3  | 483.4 | 344.3 | 54.0  | 53.9 | 60.4 | 5.1  |      |
|              |     | 15000    | 667.0 | 456.4 | 52.4  | 52.3 | 111.2 | 15.4  | 574.1 | 418.1 | 54.7  | 54.6 | 71.8 | 6.9  |      |
|              |     | 18000    | 761.7 | 531.3 | 53.2  | 53.1 | 126.9 | 19.6  | 654.0 | 487.8 | 55.4  | 55.3 | 81.8 | 8.8  |      |
|              | 8   | 9        | 12000 | 564.0 | 378.1 | 51.4 | 51.3  | 94.0  | 14.2  | 493.1 | 348.3 | 53.7 | 53.6 | 61.6 | 6.6  |
|              |     |          | 15000 | 667.9 | 456.1 | 52.4 | 52.3  | 111.3 | 19.3  | 583.4 | 421.0 | 54.6 | 54.4 | 72.9 | 9.0  |
|              |     |          | 18000 | 761.4 | 529.4 | 53.3 | 53.1  | 126.9 | 24.4  | 663.2 | 491.5 | 55.3 | 55.2 | 82.9 | 11.3 |
| 12           |     | 12000    | 610.6 | 398.5 | 49.9  | 49.8 | 101.8 | 16.4  | 541.6 | 368.5 | 52.2  | 52.1 | 67.7 | 7.8  |      |
|              |     | 15000    | 730.9 | 483.8 | 50.8  | 50.7 | 121.8 | 22.7  | 645.3 | 447.3 | 53.0  | 52.9 | 80.7 | 10.7 |      |
|              |     | 18000    | 840.9 | 565.0 | 51.6  | 51.5 | 140.2 | 29.2  | 738.9 | 522.1 | 53.7  | 53.6 | 92.4 | 13.7 |      |
| 14           |     | 12000    | 632.5 | 408.2 | 49.2  | 49.1 | 105.4 | 17.5  | 565.3 | 378.7 | 51.4  | 51.3 | 70.7 | 8.5  |      |
|              |     | 15000    | 761.2 | 497.2 | 50.0  | 49.9 | 126.9 | 24.4  | 676.2 | 460.3 | 52.2  | 52.1 | 84.5 | 11.7 |      |
|              |     | 18000    | 880.2 | 582.0 | 50.7  | 50.6 | 146.7 | 31.7  | 777.7 | 538.2 | 52.9  | 52.8 | 97.2 | 15.0 |      |

**Notes:**

1. TC = Total capacity (MBh)
2. SC = Sensible capacity (MBh)
3. LDB = Leaving dry-bulb temperature (°F)
4. LWB = Leaving wet-bulb temperature (°F)
5. gpm = Water flow rate, gallons per minute
6. WPD = water pressure drop @ average water density (ft H<sub>2</sub>O)
7. Some of the volumetric flow rates are less than those required for self-venting (see Table 2, p. 19).
8. A blank value means the gpm is below the minimum or above the maximum for the application.
9. Capacities calculated with 0.00000 tube-side fouling factor.



## Performance Data

### Heating Capacities - Hot Water Coil, Size 3

## Heating Capacities - Hot Water Coil

**Table 80. Unit size 3 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |      | 1 Row of Coil |      |      |        |       |      |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|------|---------------|------|------|--------|-------|------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |      | 9 fpi         |      |      | 12 fpi |       |      | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |      | Airflow       |      |      |        |       |      |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 1200 | 1500          | 1800 | 1200 | 1500   | 1800  | 1200 | 1500   | 1800  | 1200  | 1500           | 1800  | 1200  | 1500   | 1800  | 1200  | 1500   | 1800  |       |
| 10°F             | TC   | 46.0          | 51.4 | 56.0 | 58.5   | 65.1  | 70.8 | 64.7   | 71.9  | 78.2  | 82.2           | 94.3  | 104.6 | 95.3   | 110.2 | 122.9 | 102.5  | 118.9 | 133.0 |
|                  | LAT  | 95.4          | 91.6 | 88.7 | 105.0  | 100.0 | 96.2 | 109.7  | 104.2 | 100.0 | 123.1          | 118.0 | 113.6 | 133.3  | 127.7 | 122.9 | 138.7  | 133.1 | 128.1 |
|                  | gpm  | 9.2           | 10.3 | 11.2 | 11.7   | 13.0  | 14.1 | 12.9   | 14.4  | 15.6  | 16.4           | 18.8  | 20.9  | 19.0   | 22.0  | 24.5  | 20.5   | 23.7  | 26.6  |
|                  | WPD  | 0.8           | 1.0  | 1.2  | 1.3    | 1.7   | 1.9  | 1.6    | 2.0   | 2.4   | 3.2            | 4.1   | 5.0   | 4.2    | 5.6   | 6.8   | 4.8    | 6.4   | 7.9   |
| 15°F             | TC   | 42.4          | 47.3 | 51.5 | 53.9   | 59.8  | 65.0 | 59.5   | 66.1  | 71.7  | 78.5           | 90.0  | 99.7  | 91.3   | 105.2 | 117.2 | 98.2   | 113.7 | 127.0 |
|                  | SC   | 92.6          | 89.1 | 86.4 | 101.4  | 96.8  | 93.3 | 105.7  | 100.6 | 96.7  | 120.3          | 115.3 | 111.1 | 130.1  | 124.7 | 120.0 | 135.4  | 129.9 | 125.0 |
|                  | gpm  | 5.7           | 6.3  | 6.9  | 7.2    | 8.0   | 8.7  | 7.9    | 8.8   | 9.5   | 10.5           | 12.0  | 13.3  | 12.2   | 14.0  | 15.6  | 13.1   | 15.1  | 16.9  |
|                  | WPD  | 0.3           | 0.4  | 0.5  | 0.5    | 0.6   | 0.8  | 0.6    | 0.8   | 0.9   | 1.4            | 1.8   | 2.1   | 1.8    | 2.4   | 2.9   | 2.1    | 2.7   | 3.4   |
| 20°F             | TC   | 38.9          | 43.3 | 47.1 | 49.3   | 54.7  | 59.3 | 54.4   | 60.3  | 65.4  | 74.9           | 85.7  | 94.8  | 87.1   | 100.3 | 111.5 | 93.8   | 108.4 | 120.9 |
|                  | SC   | 89.9          | 86.6 | 84.1 | 97.9   | 93.6  | 90.4 | 101.8  | 97.1  | 93.5  | 117.5          | 112.7 | 108.6 | 126.9  | 121.6 | 117.1 | 132.1  | 126.6 | 121.9 |
|                  | gpm  | 3.9           | 4.3  | 4.7  | 4.9    | 5.5   | 5.9  | 5.4    | 6.0   | 6.5   | 7.5            | 8.6   | 9.5   | 8.7    | 10.0  | 11.1  | 9.4    | 10.8  | 12.1  |
|                  | WPD  | 0.2           | 0.2  | 0.2  | 0.3    | 0.3   | 0.4  | 0.3    | 0.4   | 0.4   | 0.7            | 0.9   | 1.1   | 1.0    | 1.3   | 1.5   | 1.1    | 1.5   | 1.8   |
| 25°F             | TC   | 35.1          | 39.2 | 42.7 | 44.7   | 49.6  | 53.7 | 49.3   | 54.6  | 59.1  | 71.2           | 81.3  | 89.9  | 82.9   | 95.3  | 105.8 | 89.4   | 103.0 | 114.7 |
|                  | SC   | 87.0          | 84.1 | 81.9 | 94.3   | 90.5  | 87.5 | 97.9   | 93.6  | 90.3  | 114.7          | 110.0 | 106.0 | 123.7  | 118.6 | 114.2 | 128.7  | 123.3 | 118.8 |
|                  | gpm  | 2.8           | 3.1  | 3.4  | 3.6    | 4.0   | 4.3  | 3.9    | 4.4   | 4.7   | 5.7            | 6.5   | 7.2   | 6.6    | 7.6   | 8.5   | 7.1    | 8.2   | 9.2   |
|                  | WPD  | 0.1           | 0.1  | 0.1  | 0.1    | 0.2   | 0.2  | 0.2    | 0.2   | 0.2   | 0.4            | 0.6   | 0.7   | 0.6    | 0.8   | 0.9   | 0.7    | 0.9   | 1.1   |
| 30°F             | TC   | 30.7          | 34.6 | 37.8 | 39.5   | 44.1  | 48.0 | 43.9   | 48.7  | 52.9  | 67.4           | 76.9  | 84.9  | 78.6   | 90.2  | 99.9  | 84.8   | 97.6  | 108.5 |
|                  | SC   | 83.6          | 81.2 | 79.4 | 90.4   | 87.1  | 84.6 | 93.7   | 89.9  | 87.1  | 111.8          | 107.3 | 103.5 | 120.4  | 115.4 | 111.2 | 125.2  | 120.0 | 115.6 |
|                  | gpm  | 2.0           | 2.3  | 2.5  | 2.6    | 2.9   | 3.2  | 2.9    | 3.2   | 3.5   | 4.5            | 5.1   | 5.7   | 5.2    | 6.0   | 6.7   | 5.7    | 6.5   | 7.2   |
|                  | WPD  | 0.0           | 0.1  | 0.1  | 0.1    | 0.1   | 0.1  | 0.1    | 0.1   | 0.1   | 0.3            | 0.4   | 0.4   | 0.4    | 0.5   | 0.6   | 0.4    | 0.6   | 0.7   |
| 40°F             | TC   | —             | —    | —    | —      | —     | —    | —      | —     | —     | 59.2           | 67.6  | 74.5  | 69.5   | 79.5  | 87.9  | 75.2   | 86.2  | 95.5  |
|                  | SC   | —             | —    | —    | —      | —     | —    | —      | —     | —     | 105.5          | 101.5 | 98.2  | 113.4  | 108.9 | 105.0 | 117.8  | 113.0 | 108.9 |
|                  | gpm  | —             | —    | —    | —      | —     | —    | —      | —     | —     | 3.0            | 3.4   | 3.7   | 3.5    | 4.0   | 4.4   | 3.8    | 4.3   | 4.8   |
|                  | WPD  | —             | —    | —    | —      | —     | —    | —      | —     | —     | 0.1            | 0.2   | 0.2   | 0.2    | 0.2   | 0.3   | 0.2    | 0.3   | 0.3   |

| Water Temp. Rise |      | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |      | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |      | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 1200 | 1500           | 1800  | 1200  | 1500   | 1800  | 1200  | 1500   | 1800  | 1200  | 1500           | 1800  | 1200  | 1500   | 1800  | 1200  | 1500   | 1800  |       |
| 10°F             | TC   | 109.6          | 128.7 | 145.5 | 121.2  | 143.6 | 163.6 | 126.8  | 151.0 | 172.8 | 131.5          | 157.6 | 181.3 | 140.1  | 169.5 | 196.8 | 143.8  | 174.9 | 203.9 |
|                  | LAT  | 102.1          | 99.6  | 97.3  | 106.6  | 104.1 | 101.9 | 108.7  | 106.4 | 104.3 | 110.5          | 108.4 | 106.4 | 113.8  | 112.1 | 110.4 | 115.2  | 113.7 | 112.2 |
|                  | gpm  | 22.0           | 25.8  | 29.2  | 24.3   | 28.8  | 32.8  | 25.4   | 30.3  | 34.6  | 26.4           | 31.6  | 36.3  | 28.1   | 34.0  | 39.4  | 28.8   | 35.0  | 40.9  |
|                  | WPD  | 2.2            | 2.9   | 3.7   | 2.6    | 3.6   | 4.6   | 2.8    | 4.0   | 5.1   | 3.6            | 5.1   | 6.7   | 4.1    | 5.9   | 7.8   | 4.3    | 6.2   | 8.4   |
| 15°F             | TC   | 101.1          | 118.3 | 133.3 | 112.6  | 132.7 | 150.6 | 118.2  | 140.0 | 159.5 | 125.1          | 149.2 | 171.0 | 134.2  | 161.6 | 186.7 | 138.4  | 167.3 | 194.2 |
|                  | SC   | 98.8           | 96.4  | 94.1  | 103.2  | 100.8 | 98.6  | 105.4  | 103.0 | 100.9 | 108.0          | 105.8 | 103.8 | 111.6  | 109.7 | 107.8 | 113.2  | 111.4 | 109.7 |
|                  | gpm  | 13.5           | 15.8  | 17.8  | 15.0   | 17.7  | 20.1  | 15.8   | 18.7  | 21.3  | 16.7           | 19.9  | 22.8  | 17.9   | 21.6  | 24.9  | 18.5   | 22.4  | 25.9  |
|                  | WPD  | 0.9            | 1.2   | 1.5   | 1.1    | 1.4   | 1.8   | 1.2    | 1.6   | 2.0   | 1.6            | 2.2   | 2.8   | 1.8    | 2.5   | 3.3   | 1.9    | 2.7   | 3.6   |
| 20°F             | TC   | 90.5           | 106.2 | 119.8 | 101.9  | 120.3 | 136.4 | 107.7  | 127.5 | 145.0 | 117.4          | 139.7 | 159.6 | 127.1  | 152.4 | 175.4 | 131.6  | 158.5 | 183.1 |
|                  | SC   | 94.8           | 92.6  | 90.7  | 99.2   | 97.0  | 94.9  | 101.4  | 99.2  | 97.1  | 105.1          | 102.9 | 100.9 | 108.8  | 106.8 | 104.9 | 110.5  | 108.7 | 106.9 |
|                  | gpm  | 9.1            | 10.6  | 12.0  | 10.2   | 12.1  | 13.7  | 10.8   | 12.8  | 14.5  | 11.8           | 14.0  | 16.0  | 12.7   | 15.3  | 17.6  | 13.2   | 15.9  | 18.3  |
|                  | WPD  | 0.4            | 0.5   | 0.7   | 0.5    | 0.7   | 0.9   | 0.6    | 0.8   | 1.0   | 0.8            | 1.1   | 1.4   | 0.9    | 1.3   | 1.7   | 1.0    | 1.4   | 1.9   |
| 25°F             | TC   | 75.2           | 89.8  | 102.3 | 86.8   | 103.7 | 118.3 | 92.8   | 111.0 | 126.8 | 107.3          | 127.9 | 146.2 | 117.4  | 141.0 | 162.1 | 122.3  | 147.3 | 169.9 |
|                  | SC   | 88.9           | 87.6  | 86.2  | 93.4   | 91.9  | 90.3  | 95.6   | 94.1  | 92.5  | 101.2          | 99.3  | 97.4  | 105.1  | 103.3 | 101.5 | 107.0  | 105.3 | 103.5 |
|                  | gpm  | 6.0            | 7.2   | 8.2   | 7.0    | 8.3   | 9.5   | 7.4    | 8.9   | 10.2  | 8.6            | 10.2  | 11.7  | 9.4    | 11.3  | 13.0  | 9.8    | 11.8  | 13.6  |
|                  | WPD  | 0.2            | 0.3   | 0.3   | 0.2    | 0.3   | 0.4   | 0.3    | 0.4   | 0.5   | 0.5            | 0.6   | 0.8   | 0.5    | 0.8   | 1.0   | 0.6    | 0.8   | 1.1   |
| 30°F             | TC   | —              | —     | —     | —      | 76.1  | 91.0  | —      | 84.5  | 99.9  | 93.1           | 112.2 | 128.9 | 103.8  | 125.5 | 144.9 | 109.1  | 132.2 | 152.9 |
|                  | SC   | —              | —     | —     | —      | 83.4  | 83.3  | —      | 86.0  | 85.6  | 95.8           | 94.5  | 93.0  | 99.9   | 98.6  | 97.1  | 101.9  | 100.6 | 99.2  |
|                  | gpm  | —              | —     | —     | —      | 5.1   | 6.1   | —      | 5.6   | 6.7   | 6.2            | 7.5   | 8.6   | 6.9    | 8.4   | 9.7   | 7.3    | 8.8   | 10.2  |
|                  | WPD  | —              | —     | —     | —      | 0.1   | 0.2   | —      | 0.2   | 0.2   | 0.3            | 0.4   | 0.5   | 0.3    | 0.4   | 0.6   | 0.3    | 0.5   | 0.6   |
| 40°F             | TC   | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | SC   | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | gpm  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | WPD  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 3

**Table 80. Unit size 3 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 1200           | 1500  | 1800  | 1200   | 1500  | 1800  | 1200   | 1500  | 1800  |
| 10°F             | TC  | 142.9          | 173.7 | 202.4 | 148.7  | 182.2 | 214.1 | 150.8  | 185.7 | 219.0 |
|                  | LAT | 114.9          | 113.4 | 111.8 | 117.1  | 116.0 | 114.8 | 118.0  | 117.1 | 116.1 |
|                  | gpm | 28.6           | 34.8  | 40.6  | 29.8   | 36.5  | 42.9  | 30.2   | 37.2  | 43.9  |
|                  | WPD | 5.0            | 7.1   | 9.5   | 5.3    | 7.8   | 10.6  | 5.5    | 8.1   | 11.0  |
| 15°F             | TC  | 138.3          | 167.2 | 194.1 | 144.9  | 176.8 | 206.8 | 147.6  | 180.8 | 212.4 |
|                  | SC  | 113.1          | 111.4 | 109.7 | 115.7  | 114.3 | 113.0 | 116.7  | 115.6 | 114.4 |
|                  | gpm | 18.5           | 22.3  | 25.9  | 19.4   | 23.6  | 27.6  | 19.7   | 24.2  | 28.4  |
|                  | WPD | 2.2            | 3.1   | 4.1   | 2.4    | 3.5   | 4.7   | 2.5    | 3.6   | 4.9   |
| 20°F             | TC  | 132.5          | 159.7 | 184.6 | 140.0  | 170.0 | 198.1 | 143.1  | 174.6 | 204.2 |
|                  | SC  | 110.9          | 109.1 | 107.3 | 113.8  | 112.3 | 110.7 | 115.0  | 113.7 | 112.3 |
|                  | gpm | 13.3           | 16.0  | 18.5  | 14.0   | 17.0  | 19.8  | 14.3   | 17.5  | 20.5  |
|                  | WPD | 1.2            | 1.7   | 2.2   | 1.3    | 1.9   | 2.5   | 1.4    | 2.0   | 2.7   |
| 25°F             | TC  | 125.0          | 150.4 | 173.6 | 133.2  | 161.5 | 187.6 | 136.9  | 166.6 | 194.2 |
|                  | SC  | 108.0          | 106.2 | 104.5 | 111.2  | 109.6 | 108.1 | 112.6  | 111.2 | 109.7 |
|                  | gpm | 10.0           | 12.1  | 13.9  | 10.7   | 12.9  | 15.0  | 11.0   | 13.4  | 15.6  |
|                  | WPD | 0.7            | 1.0   | 1.3   | 0.8    | 1.1   | 1.5   | 0.8    | 1.2   | 1.6   |
| 30°F             | TC  | 114.7          | 138.4 | 159.8 | 123.8  | 150.2 | 174.4 | 127.9  | 155.7 | 181.4 |
|                  | SC  | 104.1          | 102.5 | 100.9 | 107.5  | 106.2 | 104.7 | 109.1  | 107.9 | 106.5 |
|                  | gpm | 7.7            | 9.2   | 10.7  | 8.3    | 10.0  | 11.6  | 8.5    | 10.4  | 12.1  |
|                  | WPD | 0.4            | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   | 0.5    | 0.8   | 1.0   |
| 40°F             | TC  | —              | —     | 114.2 | —      | 109.3 | 130.3 | —      | 117.1 | 138.2 |
|                  | SC  | —              | —     | 89.2  | —      | 93.6  | 93.4  | —      | 96.0  | 95.4  |
|                  | gpm | —              | —     | 5.7   | —      | 5.5   | 6.5   | —      | 5.9   | 6.9   |
|                  | WPD | —              | —     | 0.3   | —      | 0.2   | 0.3   | —      | 0.3   | 0.4   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 6

**Table 81. Unit size 6 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |     | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 2400          | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  |
| 10°F             | TC  | 96.0          | 107.2 | 116.9 | 122.2  | 136.0 | 148.0 | 135.1  | 150.4 | 163.6 | 156.5          | 179.2 | 198.5 | 182.3  | 210.1 | 233.9 | 196.4  | 227.2 | 253.7 |
|                  | LAT | 96.9          | 92.9  | 89.9  | 106.9  | 101.8 | 97.9  | 111.9  | 106.2 | 101.9 | 120.1          | 115.1 | 110.9 | 130.0  | 124.6 | 119.9 | 135.4  | 129.8 | 125.0 |
|                  | gpm | 19.2          | 21.4  | 23.3  | 24.4   | 27.2  | 29.6  | 27.0   | 30.0  | 32.7  | 31.2           | 35.8  | 39.6  | 36.4   | 42.0  | 46.7  | 39.2   | 45.4  | 50.7  |
|                  | WPD | 2.7           | 1.4   | 4.0   | 4.4    | 5.4   | 6.3   | 5.3    | 6.5   | 7.7   | 4.3            | 5.6   | 6.8   | 5.7    | 7.6   | 9.4   | 6.6    | 8.9   | 11.0  |
| 15°F             | TC  | 90.3          | 100.8 | 109.9 | 114.8  | 127.8 | 138.9 | 127.0  | 141.2 | 153.5 | 148.4          | 169.7 | 187.7 | 173.1  | 199.1 | 221.2 | 186.6  | 215.4 | 240.1 |
|                  | SC  | 94.7          | 91.0  | 88.1  | 104.1  | 99.3  | 95.6  | 108.8  | 103.4 | 99.3  | 117.0          | 112.2 | 108.1 | 126.5  | 121.2 | 116.7 | 131.7  | 126.2 | 121.5 |
|                  | gpm | 12.0          | 13.4  | 14.6  | 15.3   | 17.0  | 18.5  | 16.9   | 18.8  | 20.4  | 19.8           | 22.6  | 25.0  | 23.0   | 26.5  | 29.5  | 24.9   | 28.7  | 32.0  |
|                  | WPD | 1.1           | 1.4   | 1.6   | 1.8    | 2.2   | 2.6   | 2.2    | 2.6   | 3.1   | 1.7            | 2.2   | 2.7   | 2.3    | 3.1   | 3.8   | 2.7    | 3.6   | 4.4   |
| 20°F             | TC  | 84.8          | 94.5  | 102.9 | 107.7  | 119.6 | 130.0 | 119.0  | 132.1 | 143.5 | 140.3          | 160.1 | 176.9 | 163.8  | 188.0 | 208.6 | 176.8  | 203.6 | 226.5 |
|                  | SC  | 92.6          | 89.1  | 86.4  | 101.4  | 96.8  | 93.3  | 105.7  | 100.6 | 96.8  | 113.9          | 109.2 | 105.3 | 122.9  | 117.8 | 113.4 | 127.9  | 122.6 | 118.0 |
|                  | gpm | 8.5           | 9.4   | 10.3  | 10.8   | 12.0  | 13.0  | 11.9   | 13.2  | 14.3  | 14.0           | 16.0  | 17.7  | 16.4   | 18.8  | 20.8  | 17.7   | 20.3  | 22.6  |
|                  | WPD | 0.6           | 0.7   | 0.8   | 0.9    | 1.1   | 1.3   | 1.1    | 1.3   | 1.6   | 0.9            | 1.1   | 1.4   | 1.2    | 1.6   | 1.9   | 1.4    | 1.8   | 2.3   |
| 25°F             | TC  | 79.2          | 88.3  | 96.1  | 100.5  | 111.6 | 121.1 | 111.0  | 123.1 | 133.6 | 132.1          | 150.5 | 166.1 | 154.4  | 176.8 | 195.9 | 166.8  | 191.6 | 212.8 |
|                  | SC  | 90.4          | 87.1  | 84.6  | 98.6   | 94.3  | 91.0  | 102.6  | 97.8  | 94.2  | 110.7          | 106.3 | 102.5 | 119.3  | 114.4 | 110.2 | 124.1  | 118.9 | 114.5 |
|                  | gpm | 6.3           | 7.1   | 7.7   | 8.0    | 8.9   | 9.7   | 8.9    | 9.8   | 10.7  | 10.6           | 12.0  | 13.3  | 12.3   | 14.1  | 15.7  | 13.3   | 15.3  | 17.0  |
|                  | WPD | 0.3           | 0.4   | 0.5   | 0.5    | 0.6   | 0.7   | 0.6    | 0.8   | 0.9   | 0.5            | 0.7   | 0.8   | 0.7    | 0.9   | 1.1   | 0.8    | 1.1   | 1.3   |
| 30°F             | TC  | 73.7          | 82.3  | 89.5  | 93.3   | 103.5 | 112.4 | 103.0  | 114.2 | 123.8 | 123.4          | 140.7 | 155.1 | 144.7  | 165.5 | 183.0 | 156.5  | 179.4 | 198.8 |
|                  | SC  | 88.3          | 85.3  | 82.9  | 95.9   | 91.8  | 88.8  | 99.6   | 95.1  | 91.7  | 107.4          | 103.2 | 99.7  | 115.6  | 110.9 | 106.9 | 120.1  | 115.1 | 110.9 |
|                  | gpm | 4.9           | 5.5   | 6.0   | 6.2    | 6.9   | 7.5   | 6.9    | 7.6   | 8.2   | 8.2            | 9.4   | 10.3  | 9.6    | 11.0  | 12.2  | 10.4   | 12.0  | 13.2  |
|                  | WPD | 0.2           | 0.3   | 0.3   | 0.3    | 0.4   | 0.5   | 0.4    | 0.5   | 0.5   | 0.3            | 0.4   | 0.5   | 0.4    | 0.6   | 0.7   | 0.5    | 0.6   | 0.8   |
| 40°F             | TC  | 61.0          | 68.6  | 75.0  | 78.7   | 87.7  | 95.3  | 87.1   | 96.9  | 105.1 | 101.0          | 116.7 | 129.6 | 121.2  | 139.7 | 155.1 | 132.3  | 152.5 | 169.3 |
|                  | SC  | 83.4          | 81.1  | 79.2  | 90.2   | 87.0  | 84.4  | 93.5   | 89.8  | 86.9  | 98.8           | 95.9  | 93.2  | 106.6  | 102.9 | 99.7  | 110.8  | 106.9 | 103.4 |
|                  | gpm | 3.0           | 3.4   | 3.8   | 3.9    | 4.4   | 4.8   | 4.4    | 4.8   | 5.3   | 5.1            | 5.8   | 6.5   | 6.1    | 7.0   | 7.8   | 6.6    | 7.6   | 8.5   |
|                  | WPD | 0.1           | 0.1   | 0.1   | 0.1    | 0.2   | 0.2   | 0.2    | 0.2   | 0.2   | 0.1            | 0.2   | 0.2   | 0.2    | 0.2   | 0.3   | 0.2    | 0.3   | 0.3   |

| Water Temp. Rise |     | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  |
| 10°F             | TC  | 109.6          | 128.7 | 145.5 | 121.2  | 143.6 | 163.6 | 126.8  | 151.0 | 172.8 | 131.5          | 157.6 | 181.3 | 140.1  | 169.5 | 196.8 | 143.8  | 174.9 | 203.9 |
|                  | LAT | 102.1          | 99.6  | 97.3  | 106.6  | 104.1 | 101.9 | 108.7  | 106.4 | 104.3 | 110.5          | 108.4 | 106.4 | 113.8  | 112.1 | 110.4 | 115.2  | 113.7 | 112.2 |
|                  | gpm | 22.0           | 25.8  | 29.2  | 24.3   | 28.8  | 32.8  | 25.4   | 30.3  | 34.6  | 26.4           | 31.6  | 36.3  | 28.1   | 34.0  | 39.4  | 28.8   | 35.0  | 40.9  |
|                  | WPD | 2.2            | 2.9   | 3.7   | 2.6    | 3.6   | 4.6   | 2.8    | 4.0   | 5.1   | 3.6            | 5.1   | 6.7   | 4.1    | 5.9   | 7.8   | 4.3    | 6.2   | 8.4   |
| 15°F             | TC  | 101.1          | 118.3 | 133.3 | 112.6  | 132.7 | 150.6 | 118.2  | 140.0 | 159.5 | 125.1          | 149.2 | 171.0 | 134.2  | 161.6 | 186.7 | 138.4  | 167.3 | 194.2 |
|                  | SC  | 98.8           | 96.4  | 94.1  | 103.2  | 100.8 | 98.6  | 105.4  | 103.0 | 100.9 | 108.0          | 105.8 | 103.8 | 111.6  | 109.7 | 107.8 | 113.2  | 111.4 | 109.7 |
|                  | gpm | 13.5           | 15.8  | 17.8  | 15.0   | 17.7  | 20.1  | 15.8   | 18.7  | 21.3  | 16.7           | 19.9  | 22.8  | 17.9   | 21.6  | 24.9  | 18.5   | 22.4  | 25.9  |
|                  | WPD | 0.9            | 1.2   | 1.5   | 1.1    | 1.4   | 1.8   | 1.2    | 1.6   | 2.0   | 1.6            | 2.2   | 2.8   | 1.8    | 2.5   | 3.3   | 1.9    | 2.7   | 3.6   |
| 20°F             | TC  | 90.5           | 106.2 | 119.8 | 101.9  | 120.3 | 136.4 | 107.7  | 127.5 | 145.0 | 117.4          | 139.7 | 159.6 | 127.1  | 152.4 | 175.4 | 131.6  | 158.5 | 183.1 |
|                  | SC  | 94.8           | 92.6  | 90.7  | 99.2   | 97.0  | 94.9  | 101.4  | 99.2  | 97.1  | 105.1          | 102.9 | 100.9 | 108.8  | 106.8 | 104.9 | 110.5  | 108.7 | 106.9 |
|                  | gpm | 9.1            | 10.6  | 12.0  | 10.2   | 12.1  | 13.7  | 10.8   | 12.8  | 14.5  | 11.8           | 14.0  | 16.0  | 12.7   | 15.3  | 17.6  | 13.2   | 15.9  | 18.3  |
|                  | WPD | 0.4            | 0.5   | 0.7   | 0.5    | 0.7   | 0.9   | 0.6    | 0.8   | 1.0   | 0.8            | 1.1   | 1.4   | 0.9    | 1.3   | 1.7   | 1.0    | 1.4   | 1.9   |
| 25°F             | TC  | 75.2           | 89.8  | 102.3 | 86.8   | 103.7 | 118.3 | 92.8   | 111.0 | 126.8 | 107.3          | 127.9 | 146.2 | 117.4  | 141.0 | 162.1 | 122.3  | 147.3 | 169.9 |
|                  | SC  | 88.9           | 87.6  | 86.2  | 93.4   | 91.9  | 90.3  | 95.6   | 94.1  | 92.5  | 101.2          | 99.3  | 97.4  | 105.1  | 103.3 | 101.5 | 107.0  | 105.3 | 103.5 |
|                  | gpm | 6.0            | 7.2   | 8.2   | 7.0    | 8.3   | 9.5   | 7.4    | 8.9   | 10.2  | 8.6            | 10.2  | 11.7  | 9.4    | 11.3  | 13.0  | 9.8    | 11.8  | 13.6  |
|                  | WPD | 0.2            | 0.3   | 0.3   | 0.2    | 0.3   | 0.4   | 0.3    | 0.4   | 0.5   | 0.5            | 0.6   | 0.8   | 0.5    | 0.8   | 1.0   | 0.6    | 0.8   | 1.1   |
| 30°F             | TC  | —              | —     | —     | —      | 76.1  | 91.0  | —      | 84.5  | 99.9  | 93.1           | 112.2 | 128.9 | 103.8  | 125.5 | 144.9 | 109.1  | 132.2 | 152.9 |
|                  | SC  | —              | —     | —     | —      | 83.4  | 83.3  | —      | 86.0  | 85.6  | 95.8           | 94.5  | 93.0  | 99.9   | 98.6  | 97.1  | 101.9  | 100.6 | 99.2  |
|                  | gpm | —              | —     | —     | —      | 5.1   | 6.1   | —      | 5.6   | 6.7   | 6.2            | 7.5   | 8.6   | 6.9    | 8.4   | 9.7   | 7.3    | 8.8   | 10.2  |
|                  | WPD | —              | —     | —     | —      | 0.1   | 0.2   | —      | 0.2   | 0.2   | 0.3            | 0.4   | 0.5   | 0.3    | 0.4   | 0.6   | 0.3    | 0.5   | 0.6   |
| 40°F             | TC  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | SC  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | gpm | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |
|                  | WPD | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | —     |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

**Table 81. Unit size 6 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  |
| 10°F             | TC  | 142.9          | 173.7 | 202.4 | 148.7  | 182.2 | 214.1 | 150.8  | 185.7 | 219.0 |
|                  | LAT | 114.9          | 113.4 | 111.8 | 117.1  | 116.0 | 114.8 | 118.0  | 117.1 | 116.1 |
|                  | gpm | 28.6           | 34.8  | 40.6  | 29.8   | 36.5  | 42.9  | 30.2   | 37.2  | 43.9  |
|                  | WPD | 5.0            | 7.1   | 9.5   | 5.3    | 7.8   | 10.6  | 5.5    | 8.1   | 11.0  |
| 15°F             | TC  | 138.3          | 167.2 | 194.1 | 144.9  | 176.8 | 206.8 | 147.6  | 180.8 | 212.4 |
|                  | SC  | 113.1          | 111.4 | 109.7 | 115.7  | 114.3 | 113.0 | 116.7  | 115.6 | 114.4 |
|                  | gpm | 18.5           | 22.3  | 25.9  | 19.4   | 23.6  | 27.6  | 19.7   | 24.2  | 28.4  |
|                  | WPD | 2.2            | 3.1   | 4.1   | 2.4    | 3.5   | 4.7   | 2.5    | 3.6   | 4.9   |
| 20°F             | TC  | 132.5          | 159.7 | 184.6 | 140.0  | 170.0 | 198.1 | 143.1  | 174.6 | 204.2 |
|                  | SC  | 110.9          | 109.1 | 107.3 | 113.8  | 112.3 | 110.7 | 115.0  | 113.7 | 112.3 |
|                  | gpm | 13.3           | 16.0  | 18.5  | 14.0   | 17.0  | 19.8  | 14.3   | 17.5  | 20.5  |
|                  | WPD | 1.2            | 1.7   | 2.2   | 1.3    | 1.9   | 2.5   | 1.4    | 2.0   | 2.7   |
| 25°F             | TC  | 125.0          | 150.4 | 173.6 | 133.2  | 161.5 | 187.6 | 136.9  | 166.6 | 194.2 |
|                  | SC  | 108.0          | 106.2 | 104.5 | 111.2  | 109.6 | 108.1 | 112.6  | 111.2 | 109.7 |
|                  | gpm | 10.0           | 12.1  | 13.9  | 10.7   | 12.9  | 15.0  | 11.0   | 13.4  | 15.6  |
|                  | WPD | 0.7            | 1.0   | 1.3   | 0.8    | 1.1   | 1.5   | 0.8    | 1.2   | 1.6   |
| 30°F             | TC  | 114.7          | 138.4 | 159.8 | 123.8  | 150.2 | 174.4 | 127.9  | 155.7 | 181.4 |
|                  | SC  | 104.1          | 102.5 | 100.9 | 107.5  | 106.2 | 104.7 | 109.1  | 107.9 | 106.5 |
|                  | gpm | 7.7            | 9.2   | 10.7  | 8.3    | 10.0  | 11.6  | 8.5    | 10.4  | 12.1  |
|                  | WPD | 0.4            | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   | 0.5    | 0.8   | 1.0   |
| 40°F             | TC  | —              | —     | 114.2 | —      | 109.3 | 130.3 | —      | 117.1 | 138.2 |
|                  | SC  | —              | —     | 89.2  | —      | 93.6  | 93.4  | —      | 96.0  | 95.4  |
|                  | gpm | —              | —     | 5.7   | —      | 5.5   | 6.5   | —      | 5.9   | 6.9   |
|                  | WPD | —              | —     | 0.3   | —      | 0.2   | 0.3   | —      | 0.3   | 0.4   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

 Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 8

**Table 82. Unit size 8 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |     | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 3200          | 4000  | 4800  | 3200   | 4000  | 4800  | 3200   | 4000  | 4800  | 3200           | 4000  | 4800  | 3200   | 4000  | 4800  | 3200   | 4000  | 4800  |
| 10°F             | TC  | 127.6         | 142.5 | 155.4 | 162.5  | 180.9 | 196.8 | 179.8  | 200.1 | 217.6 | 209.8          | 240.3 | 266.2 | 244.4  | 281.6 | 313.5 | 263.2  | 304.5 | 340.1 |
|                  | LAT | 96.8          | 92.8  | 89.8  | 106.8  | 101.7 | 97.8  | 111.8  | 106.1 | 101.8 | 120.5          | 115.4 | 111.1 | 130.4  | 124.9 | 120.2 | 135.8  | 130.2 | 125.3 |
|                  | gpm | 25.5          | 28.4  | 31.0  | 32.4   | 36.1  | 39.3  | 35.9   | 39.9  | 43.5  | 41.9           | 48.0  | 53.1  | 48.8   | 56.2  | 62.6  | 52.6   | 60.8  | 67.9  |
|                  | WPD | 3.7           | 4.6   | 5.4   | 5.9    | 7.3   | 8.6   | 7.2    | 8.9   | 10.5  | 6.9            | 9.0   | 11.0  | 9.3    | 12.3  | 15.2  | 10.7   | 14.3  | 17.8  |
| 15°F             | TC  | 120.4         | 134.3 | 146.4 | 153.2  | 170.4 | 185.2 | 169.4  | 188.3 | 204.7 | 199.4          | 228.0 | 252.3 | 232.6  | 267.5 | 297.3 | 250.8  | 289.5 | 322.7 |
|                  | SC  | 94.7          | 91.0  | 88.1  | 104.1  | 99.3  | 95.6  | 108.8  | 103.4 | 99.3  | 117.5          | 112.6 | 108.5 | 127.0  | 121.7 | 117.1 | 132.3  | 126.7 | 122.0 |
|                  | gpm | 16.0          | 17.9  | 19.5  | 20.4   | 22.7  | 24.7  | 22.6   | 25.1  | 27.3  | 26.6           | 30.4  | 33.6  | 31.0   | 35.6  | 39.6  | 33.4   | 38.6  | 43.0  |
|                  | WPD | 1.5           | 1.9   | 2.2   | 2.4    | 3.0   | 3.5   | 2.9    | 3.6   | 4.2   | 2.8            | 3.6   | 4.4   | 3.8    | 5.0   | 6.1   | 4.4    | 5.8   | 7.2   |
| 20°F             | TC  | 113.3         | 126.3 | 137.6 | 144.0  | 160.0 | 173.8 | 159.1  | 176.8 | 192.0 | 189.0          | 215.8 | 238.4 | 220.7  | 253.4 | 281.1 | 238.2  | 274.4 | 305.3 |
|                  | SC  | 92.7          | 89.1  | 86.4  | 101.5  | 96.9  | 93.4  | 105.9  | 100.7 | 96.9  | 114.5          | 109.7 | 105.8 | 123.6  | 118.4 | 114.0 | 128.6  | 123.2 | 118.6 |
|                  | gpm | 11.3          | 12.6  | 13.7  | 14.4   | 16.0  | 17.4  | 15.9   | 17.7  | 19.2  | 18.9           | 21.6  | 23.8  | 22.1   | 25.3  | 28.1  | 23.8   | 27.4  | 30.5  |
|                  | WPD | 0.8           | 1.0   | 1.1   | 1.2    | 1.5   | 1.8   | 1.5    | 1.8   | 2.1   | 1.4            | 1.9   | 2.3   | 1.9    | 2.5   | 3.1   | 2.2    | 3.0   | 3.7   |
| 25°F             | TC  | 106.2         | 118.3 | 128.8 | 134.8  | 149.7 | 162.5 | 149.0  | 165.3 | 179.3 | 178.5          | 203.5 | 224.5 | 208.7  | 239.1 | 264.9 | 225.4  | 259.0 | 287.7 |
|                  | SC  | 90.6          | 87.3  | 84.7  | 98.8   | 94.5  | 91.2  | 102.9  | 98.1  | 94.5  | 111.4          | 106.9 | 103.1 | 120.1  | 115.1 | 110.9 | 124.9  | 119.7 | 115.3 |
|                  | gpm | 8.5           | 9.5   | 10.3  | 10.8   | 12.0  | 13.0  | 11.9   | 13.2  | 14.3  | 14.3           | 16.3  | 17.9  | 16.7   | 19.1  | 21.2  | 18.0   | 20.7  | 23.0  |
|                  | WPD | 0.4           | 0.6   | 0.6   | 0.7    | 0.9   | 1.0   | 0.9    | 1.0   | 1.2   | 0.8            | 1.1   | 1.3   | 1.1    | 1.5   | 1.8   | 1.3    | 1.7   | 2.1   |
| 30°F             | TC  | 99.3          | 110.7 | 120.5 | 125.7  | 139.4 | 151.3 | 138.8  | 153.8 | 166.8 | 167.7          | 191.0 | 210.4 | 196.4  | 224.5 | 248.3 | 212.3  | 243.4 | 269.8 |
|                  | SC  | 88.6          | 85.5  | 83.1  | 96.2   | 92.1  | 89.1  | 100.0  | 95.5  | 92.0  | 108.3          | 104.0 | 100.4 | 116.6  | 111.8 | 107.7 | 121.2  | 116.1 | 111.8 |
|                  | gpm | 6.6           | 7.4   | 8.0   | 8.4    | 9.3   | 10.1  | 9.2    | 10.2  | 11.1  | 11.2           | 12.7  | 14.0  | 13.1   | 15.0  | 16.5  | 14.1   | 16.2  | 18.0  |
|                  | WPD | 0.3           | 0.3   | 0.4   | 0.4    | 0.5   | 0.6   | 0.5    | 0.6   | 0.8   | 0.5            | 0.7   | 0.8   | 0.7    | 0.9   | 1.1   | 0.8    | 1.1   | 1.3   |
| 40°F             | TC  | 84.0          | 94.1  | 102.7 | 107.6  | 119.7 | 129.8 | 118.8  | 131.9 | 142.9 | 140.9          | 162.0 | 179.4 | 167.9  | 192.9 | 213.6 | 182.8  | 210.1 | 232.7 |
|                  | SC  | 84.2          | 81.7  | 79.7  | 91.0   | 87.6  | 84.9  | 94.2   | 90.4  | 87.5  | 100.6          | 97.3  | 94.5  | 108.4  | 104.5 | 101.0 | 112.7  | 108.4 | 104.7 |
|                  | gpm | 4.2           | 4.7   | 5.1   | 5.4    | 6.0   | 6.5   | 5.9    | 6.6   | 7.1   | 7.0            | 8.1   | 9.0   | 8.4    | 9.6   | 10.7  | 9.1    | 10.5  | 11.6  |
|                  | WPD | 0.1           | 0.1   | 0.2   | 0.2    | 0.2   | 0.3   | 0.2    | 0.3   | 0.3   | 0.2            | 0.3   | 0.3   | 0.4    | 0.5   | 0.3   | 0.5    | 0.6   |       |

| Water Temp. Rise |     | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  | 2400           | 3000  | 3600  | 2400   | 3000  | 3600  | 2400   | 3000  | 3600  |
| 10°F             | TC  | 147.1          | 172.7 | 195.3 | 162.5  | 192.7 | 219.6 | 170.0  | 202.6 | 231.9 | 176.0          | 210.9 | 242.7 | 187.4  | 226.8 | 263.3 | 192.3  | 233.9 | 272.8 |
|                  | LAT | 102.4          | 99.8  | 97.5  | 106.8  | 104.4 | 102.2 | 109.0  | 106.7 | 104.5 | 110.7          | 108.6 | 106.6 | 114.0  | 112.3 | 110.6 | 115.4  | 113.9 | 112.4 |
|                  | gpm | 29.5           | 34.6  | 39.1  | 32.6   | 38.6  | 44.0  | 34.1   | 40.6  | 46.5  | 35.3           | 42.3  | 48.6  | 37.6   | 45.5  | 52.8  | 38.5   | 46.9  | 54.7  |
|                  | WPD | 3.2            | 4.4   | 5.5   | 3.9    | 5.4   | 6.9   | 4.2    | 5.9   | 7.7   | 5.3            | 7.4   | 9.7   | 5.9    | 8.5   | 11.4  | 6.2    | 9.1   | 12.1  |
| 15°F             | TC  | 136.3          | 159.4 | 179.7 | 151.5  | 178.7 | 202.9 | 159.1  | 188.5 | 214.9 | 167.7          | 200.1 | 229.4 | 179.9  | 216.7 | 250.5 | 185.4  | 224.3 | 260.4 |
|                  | SC  | 99.3           | 96.7  | 94.5  | 103.7  | 101.2 | 99.0  | 105.8  | 103.5 | 101.3 | 108.3          | 106.1 | 104.1 | 111.8  | 109.9 | 108.1 | 113.4  | 111.7 | 110.0 |
|                  | gpm | 18.2           | 21.3  | 24.0  | 20.2   | 23.9  | 27.1  | 21.3   | 25.2  | 28.7  | 22.4           | 26.7  | 30.6  | 24.0   | 28.9  | 33.5  | 24.8   | 30.0  | 34.8  |
|                  | WPD | 1.3            | 1.7   | 2.2   | 1.6    | 2.1   | 2.7   | 1.7    | 2.4   | 3.1   | 2.2            | 3.1   | 4.0   | 2.6    | 3.6   | 4.8   | 2.7    | 3.9   | 5.1   |
| 20°F             | TC  | 123.2          | 144.4 | 162.7 | 138.5  | 163.2 | 184.8 | 146.2  | 172.9 | 196.4 | 158.1          | 188.0 | 214.8 | 170.9  | 205.0 | 235.9 | 176.9  | 213.0 | 246.2 |
|                  | SC  | 95.5           | 93.3  | 91.3  | 99.9   | 97.6  | 95.5  | 102.1  | 99.9  | 97.7  | 105.5          | 103.3 | 101.3 | 109.3  | 107.2 | 105.3 | 111.0  | 109.1 | 107.3 |
|                  | gpm | 12.3           | 14.5  | 16.3  | 13.9   | 16.4  | 18.5  | 14.6   | 17.3  | 19.7  | 15.8           | 18.8  | 21.5  | 17.1   | 20.5  | 23.6  | 17.7   | 21.3  | 24.7  |
|                  | WPD | 0.6            | 0.8   | 1.0   | 0.8    | 1.0   | 1.3   | 0.8    | 1.2   | 1.5   | 1.2            | 1.6   | 2.1   | 1.3    | 1.9   | 2.5   | 1.4    | 2.0   | 2.7   |
| 25°F             | TC  | 105.1          | 124.6 | 141.4 | 120.5  | 143.2 | 162.9 | 128.4  | 152.9 | 174.2 | 145.6          | 173.4 | 198.0 | 159.2  | 190.8 | 219.2 | 165.6  | 199.2 | 229.7 |
|                  | SC  | 90.3           | 88.7  | 87.2  | 94.7   | 93.0  | 91.3  | 97.0   | 95.2  | 93.5  | 102.0          | 100.0 | 98.0  | 105.9  | 104.0 | 102.1 | 107.7  | 105.9 | 104.1 |
|                  | gpm | 8.4            | 10.0  | 11.3  | 9.7    | 11.5  | 13.1  | 10.3   | 12.3  | 14.0  | 11.7           | 13.9  | 15.9  | 12.8   | 15.3  | 17.6  | 13.3   | 16.0  | 18.4  |
|                  | WPD | 0.3            | 0.4   | 0.5   | 0.4    | 0.5   | 0.7   | 0.4    | 0.6   | 0.8   | 0.7            | 0.9   | 1.2   | 0.8    | 1.1   | 1.4   | 0.8    | 1.2   | 1.6   |
| 30°F             | TC  | —              | 92.4  | 109.5 | 89.7   | 112.9 | 131.6 | 99.0   | 123.1 | 143.1 | 128.6          | 154.2 | 176.8 | 142.8  | 172.0 | 198.1 | 149.7  | 180.8 | 208.7 |
|                  | SC  | —              | 81.3  | 81.0  | 85.8   | 86.0  | 85.3  | 88.5   | 88.4  | 87.5  | 97.0           | 95.6  | 94.0  | 101.1  | 99.7  | 98.0  | 103.1  | 101.7 | 100.1 |
|                  | gpm | —              | 6.2   | 7.3   | 6.0    | 7.5   | 8.8   | 6.6    | 8.2   | 9.6   | 8.6            | 10.3  | 11.8  | 9.5    | 11.5  | 13.2  | 10.0   | 12.1  | 13.9  |
|                  | WPD | —              | 0.2   | 0.2   | 0.2    | 0.2   | 0.3   | 0.2    | 0.3   | 0.4   | 0.4            | 0.5   | 0.7   | 0.5    | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   |
| 40°F             | TC  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | 129.4 |
|                  | SC  | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | 84.9  |
|                  | gpm | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | 6.5   |
|                  | WPD | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —     | —      | —     | —     | —      | —     | 0.2   |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key:      EWT = 180°F      EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 8

**Table 82. Unit size 8 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 3200           | 4000  | 4800  | 3200   | 4000  | 4800  | 3200   | 4000  | 4800  |
| 10°F             | TC  | 191.0          | 232.2 | 270.6 | 198.5  | 243.5 | 286.1 | 201.4  | 248.0 | 292.5 |
|                  | LAT | 115.0          | 113.5 | 112.0 | 117.2  | 116.1 | 115.0 | 118.0  | 117.2 | 116.2 |
|                  | gpm | 38.3           | 46.5  | 54.2  | 39.8   | 48.8  | 57.3  | 40.4   | 49.7  | 58.6  |
|                  | WPD | 7.0            | 10.1  | 13.5  | 7.5    | 11.1  | 15.0  | 7.7    | 11.5  | 15.7  |
| 15°F             | TC  | 185.0          | 223.9 | 259.9 | 193.7  | 236.5 | 276.8 | 197.3  | 241.8 | 284.1 |
|                  | SC  | 113.3          | 111.6 | 109.9 | 115.8  | 114.5 | 113.2 | 116.8  | 115.7 | 114.6 |
|                  | gpm | 24.7           | 29.9  | 34.7  | 25.9   | 31.6  | 37.0  | 26.4   | 32.3  | 38.0  |
|                  | WPD | 3.1            | 4.4   | 5.8   | 3.4    | 4.9   | 6.6   | 3.5    | 5.1   | 6.9   |
| 20°F             | TC  | 177.8          | 214.2 | 247.7 | 187.6  | 227.9 | 265.6 | 191.8  | 233.9 | 273.7 |
|                  | SC  | 111.2          | 109.4 | 107.6 | 114.0  | 112.5 | 111.0 | 115.3  | 113.9 | 112.6 |
|                  | gpm | 17.8           | 21.5  | 24.8  | 18.8   | 22.8  | 26.6  | 19.2   | 23.4  | 27.4  |
|                  | WPD | 1.7            | 2.4   | 3.1   | 1.9    | 2.7   | 3.6   | 1.9    | 2.8   | 3.8   |
| 25°F             | TC  | 168.4          | 202.6 | 233.7 | 179.3  | 217.3 | 252.3 | 184.1  | 224.0 | 261.0 |
|                  | SC  | 108.5          | 106.7 | 104.9 | 111.7  | 110.1 | 108.5 | 113.1  | 111.6 | 110.1 |
|                  | gpm | 13.5           | 16.2  | 18.7  | 14.4   | 17.4  | 20.2  | 14.8   | 18.0  | 20.9  |
|                  | WPD | 1.0            | 1.4   | 1.8   | 1.1    | 1.6   | 2.1   | 1.2    | 1.7   | 2.3   |
| 30°F             | TC  | 155.9          | 187.7 | 216.4 | 167.7  | 203.3 | 235.8 | 173.2  | 210.6 | 245.1 |
|                  | SC  | 104.9          | 103.3 | 101.6 | 108.3  | 106.9 | 105.3 | 109.9  | 108.5 | 107.1 |
|                  | gpm | 10.4           | 12.5  | 14.5  | 11.2   | 13.6  | 15.7  | 11.6   | 14.1  | 16.4  |
|                  | WPD | 0.6            | 0.9   | 1.1   | 0.7    | 1.0   | 1.3   | 0.8    | 1.1   | 1.4   |
| 40°F             | TC  | —              | 137.1 | 161.8 | 123.2  | 156.1 | 182.8 | 130.5  | 163.8 | 193.1 |
|                  | SC  | —              | 91.6  | 91.1  | 95.5   | 96.0  | 95.1  | 97.6   | 97.7  | 97.1  |
|                  | gpm | —              | 6.9   | 8.1   | 6.2    | 7.8   | 9.2   | 6.5    | 8.2   | 9.7   |
|                  | WPD | —              | 0.3   | 0.4   | 0.2    | 0.4   | 0.5   | 0.3    | 0.4   | 0.5   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 10

**Table 83. Unit size 10 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 4000          | 5000  | 6000  | 4000   | 5000  | 6000  | 4000   | 5000  | 6000  | 4000           | 5000  | 6000  | 4000   | 5000  | 6000  | 4000   | 5000  | 6000  |
| 10°F TC          | 165.8         | 185.4 | 202.4 | 211.3  | 235.6 | 256.6 | 233.8  | —     | —     | 270.7          | 310.9 | 345.2 | 314.9  | 364.0 | 406.2 | 338.8  | 393.2 | 440.2 |
| LAT              | 98.2          | 94.2  | 91.1  | 108.7  | 103.5 | 99.4  | 113.9  | —     | —     | 122.4          | 117.3 | 113.1 | 132.6  | 127.1 | 122.4 | 138.1  | 132.5 | 127.7 |
| gpm              | 33.1          | 37.0  | 40.4  | 42.2   | 47.0  | 51.2  | 46.7   | —     | —     | 54.0           | 62.1  | 68.9  | 62.9   | 72.7  | 81.1  | 67.6   | 78.5  | 87.9  |
| WPD              | 6.6           | 8.2   | 9.7   | 10.5   | 13.0  | 15.4  | 12.8   | —     | —     | 11.7           | 15.4  | 18.9  | 15.7   | 20.9  | 26.0  | 18.2   | 24.4  | 30.5  |
| 15°F TC          | 157.7         | 176.2 | 192.2 | 200.8  | 223.7 | 243.6 | 222.2  | 247.4 | 269.2 | 259.3          | 297.4 | 329.8 | 302.1  | 348.6 | 388.4 | 325.3  | 376.9 | 421.2 |
| SC               | 96.3          | 92.5  | 89.5  | 106.3  | 101.3 | 97.4  | 111.2  | 105.6 | 101.4 | 119.8          | 114.9 | 110.7 | 129.6  | 124.3 | 119.7 | 135.0  | 129.5 | 124.7 |
| gpm              | 21.0          | 23.5  | 25.6  | 26.7   | 29.8  | 32.4  | 29.6   | 32.9  | 35.9  | 34.5           | 39.6  | 43.9  | 40.2   | 46.4  | 51.7  | 43.3   | 50.2  | 56.1  |
| WPD              | 2.8           | 3.4   | 4.0   | 4.4    | 5.4   | 6.4   | 5.3    | 6.5   | 7.7   | 4.8            | 6.3   | 7.8   | 6.5    | 8.7   | 10.7  | 7.6    | 10.1  | 12.6  |
| 20°F TC          | 149.7         | 167.1 | 182.3 | 190.4  | 212.0 | 230.7 | 210.6  | 234.3 | 254.9 | 247.9          | 283.9 | 314.5 | 289.1  | 333.1 | 370.6 | 311.7  | 360.4 | 402.2 |
| SC               | 94.5          | 90.8  | 88.0  | 103.9  | 99.1  | 95.4  | 108.5  | 103.2 | 99.2  | 117.1          | 112.4 | 108.3 | 126.7  | 121.4 | 117.0 | 131.9  | 126.5 | 121.8 |
| gpm              | 15.0          | 16.7  | 18.2  | 19.0   | 21.2  | 23.0  | 21.0   | 23.4  | 25.5  | 24.8           | 28.4  | 31.4  | 28.9   | 33.3  | 37.0  | 31.1   | 36.0  | 40.2  |
| WPD              | 1.4           | 1.8   | 2.1   | 2.3    | 2.8   | 3.3   | 2.8    | 3.4   | 4.0   | 2.5            | 3.3   | 4.0   | 3.4    | 4.5   | 5.5   | 3.9    | 5.2   | 6.5   |
| 25°F TC          | 141.7         | 158.1 | 172.3 | 180.1  | 200.4 | 217.8 | 199.1  | 221.4 | 240.6 | 236.3          | 270.3 | 299.1 | 276.0  | 317.4 | 352.6 | 297.9  | 343.6 | 382.9 |
| SC               | 92.7          | 89.2  | 86.5  | 101.5  | 96.9  | 93.5  | 105.9  | 100.8 | 97.0  | 114.5          | 109.8 | 106.0 | 123.6  | 118.5 | 114.2 | 128.7  | 123.4 | 118.8 |
| gpm              | 11.3          | 12.6  | 13.8  | 14.4   | 16.0  | 17.4  | 15.9   | 17.7  | 19.2  | 18.9           | 21.6  | 23.9  | 22.1   | 25.4  | 28.2  | 23.8   | 27.5  | 30.6  |
| WPD              | 0.8           | 1.0   | 1.2   | 1.3    | 1.6   | 1.9   | 1.6    | 2.0   | 2.3   | 1.5            | 1.9   | 2.3   | 2.0    | 2.6   | 3.2   | 2.3    | 3.1   | 3.8   |
| 30°F TC          | 133.6         | 149.3 | 162.9 | 169.7  | 188.7 | 205.0 | 187.6  | 208.4 | 226.3 | 224.6          | 256.4 | 283.4 | 262.6  | 301.4 | 334.4 | 283.6  | 326.5 | 363.2 |
| SC               | 90.8          | 87.5  | 85.0  | 99.1   | 94.8  | 91.5  | 103.2  | 98.4  | 94.8  | 111.8          | 107.3 | 103.6 | 120.5  | 115.6 | 111.4 | 125.4  | 120.2 | 115.8 |
| gpm              | 8.9           | 9.9   | 10.9  | 11.3   | 12.6  | 13.7  | 12.5   | 13.9  | 15.1  | 15.0           | 17.1  | 18.9  | 17.5   | 20.1  | 22.3  | 18.9   | 21.8  | 24.2  |
| WPD              | 0.5           | 0.7   | 0.8   | 0.8    | 1.0   | 1.2   | 1.0    | 1.3   | 1.5   | 0.9            | 1.2   | 1.5   | 1.3    | 1.7   | 2.0   | 1.5    | 2.0   | 2.4   |
| 40°F TC          | 118.4         | 132.1 | 143.7 | 149.7  | 166.5 | 180.9 | 165.2  | 183.4 | 199.2 | 199.2          | 227.7 | 251.3 | 234.4  | 268.3 | 296.8 | 253.8  | 291.0 | 322.6 |
| SC               | 87.3          | 84.4  | 82.1  | 94.5   | 90.7  | 87.8  | 98.1   | 93.8  | 90.6  | 105.9          | 102.0 | 98.6  | 114.0  | 109.5 | 105.6 | 118.5  | 113.7 | 109.6 |
| gpm              | 5.9           | 6.6   | 7.2   | 7.5    | 8.3   | 9.0   | 8.3    | 9.2   | 10.0  | 10.0           | 11.4  | 12.6  | 11.7   | 13.4  | 14.8  | 12.7   | 14.6  | 16.1  |
| WPD              | 0.2           | 0.3   | 0.4   | 0.4    | 0.5   | 0.6   | 0.5    | 0.6   | 0.7   | 0.4            | 0.6   | 0.7   | 0.6    | 0.8   | 0.9   | 0.7    | 0.9   | 1.1   |

| Water Temp. Rise | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 4000           | 5000  | 6000  | 4000   | 5000  | 6000  | 4000   | 5000  | 6000  | 4000           | 5000  | 6000  | 4000   | 5000  | 6000  | 4000   | 5000  | 6000  |
| 10°F TC          | 189.4          | 223.1 | 253.0 | 208.7  | 248.2 | 283.7 | 217.9  | 260.5 | 299.1 | 223.9          | 269.2 | 310.5 | 237.6  | 288.4 | 335.7 | 243.4  | 296.9 | 347.1 |
| LAT              | 103.7          | 101.1 | 98.9  | 108.1  | 105.8 | 103.6 | 110.2  | 108.0 | 106.0 | 111.6          | 109.6 | 107.7 | 114.8  | 113.2 | 111.6 | 116.1  | 114.7 | 113.3 |
| gpm              | 38.0           | 44.7  | 50.7  | 41.8   | 49.7  | 56.8  | 43.7   | 52.2  | 59.9  | 44.9           | 53.9  | 62.2  | 47.6   | 57.8  | 67.3  | 48.8   | 59.5  | 69.5  |
| WPD              | 5.6            | 7.7   | 9.8   | 6.8    | 9.4   | 12.2  | 7.3    | 10.3  | 13.5  | 9.1            | 12.9  | 16.9  | 10.2   | 14.7  | 19.7  | 10.7   | 15.6  | 20.9  |
| 15°F TC          | 177.6          | 208.5 | 235.7 | 196.9  | 233.1 | 265.5 | 206.4  | 245.5 | 280.8 | 215.0          | 257.3 | 295.9 | 229.8  | 277.7 | 321.9 | 236.3  | 286.9 | 334.1 |
| SC               | 101.0          | 98.4  | 96.2  | 105.4  | 103.0 | 100.8 | 107.6  | 105.3 | 103.1 | 109.6          | 107.5 | 105.5 | 113.0  | 111.2 | 109.5 | 114.5  | 112.9 | 111.3 |
| gpm              | 23.7           | 27.8  | 31.5  | 26.3   | 31.1  | 35.5  | 27.6   | 32.8  | 37.5  | 28.7           | 34.4  | 39.5  | 30.7   | 37.1  | 43.0  | 31.6   | 38.3  | 44.6  |
| WPD              | 2.3            | 3.1   | 3.9   | 2.8    | 3.9   | 4.9   | 3.1    | 4.3   | 5.5   | 3.9            | 5.5   | 7.2   | 4.5    | 6.4   | 8.4   | 4.7    | 6.8   | 9.0   |
| 20°F TC          | 164.6          | 192.8 | 217.2 | 183.8  | 216.7 | 245.8 | 193.4  | 228.9 | 260.7 | 204.8          | 244.1 | 279.7 | 220.5  | 265.2 | 306.2 | 227.6  | 275.0 | 318.9 |
| SC               | 98.0           | 95.6  | 93.4  | 102.4  | 100.0 | 97.8  | 104.6  | 102.2 | 100.1 | 107.2          | 105.0 | 103.0 | 110.8  | 108.9 | 107.1 | 112.5  | 110.7 | 109.0 |
| gpm              | 16.5           | 19.3  | 21.8  | 18.4   | 21.7  | 24.6  | 19.4   | 22.9  | 26.1  | 20.5           | 24.5  | 28.0  | 22.1   | 26.6  | 30.7  | 22.8   | 27.6  | 32.0  |
| WPD              | 1.2            | 1.6   | 2.0   | 1.4    | 1.9   | 2.5   | 1.6    | 2.2   | 2.8   | 2.1            | 2.9   | 3.8   | 2.4    | 3.4   | 4.5   | 2.6    | 3.6   | 4.8   |
| 25°F TC          | 148.2          | 174.2 | 196.7 | 167.5  | 197.8 | 224.2 | 177.2  | 209.9 | 238.6 | 192.6          | 229.1 | 261.7 | 209.1  | 250.6 | 288.3 | 216.8  | 260.9 | 301.3 |
| SC               | 94.2           | 92.1  | 90.2  | 98.6   | 96.5  | 94.5  | 100.9  | 98.7  | 96.7  | 104.4          | 102.3 | 100.2 | 108.2  | 106.2 | 104.3 | 110.0  | 108.1 | 106.3 |
| gpm              | 11.9           | 14.0  | 15.8  | 13.4   | 15.9  | 18.0  | 14.2   | 16.8  | 19.1  | 15.4           | 18.4  | 21.0  | 16.8   | 20.1  | 23.1  | 17.4   | 20.9  | 24.1  |
| WPD              | 0.6            | 0.8   | 1.1   | 0.8    | 1.1   | 1.4   | 0.9    | 1.2   | 1.5   | 1.2            | 1.7   | 2.2   | 1.4    | 2.0   | 2.6   | 1.5    | 2.2   | 2.9   |
| 30°F TC          | 125.0          | 149.4 | 170.1 | 144.8  | 172.9 | 197.1 | 154.9  | 185.1 | 211.3 | 176.8          | 210.7 | 240.7 | 194.1  | 232.7 | 267.4 | 202.4  | 243.5 | 280.6 |
| SC               | 88.8           | 87.6  | 86.1  | 93.4   | 91.9  | 90.3  | 95.7   | 94.1  | 92.5  | 100.8          | 98.9  | 97.0  | 104.7  | 102.9 | 101.1 | 106.7  | 104.9 | 103.1 |
| gpm              | 8.4            | 10.0  | 11.4  | 9.7    | 11.5  | 13.2  | 10.3   | 12.4  | 14.1  | 11.8           | 14.1  | 16.1  | 13.0   | 15.5  | 17.9  | 13.5   | 16.3  | 18.7  |
| WPD              | 0.3            | 0.4   | 0.6   | 0.4    | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   | 0.8            | 1.0   | 1.3   | 0.9    | 1.3   | 1.6   | 1.0    | 1.4   | 1.8   |
| 40°F TC          | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 149.6 | 175.9 | 139.0  | 173.8 | 203.4 | 149.4  | 185.9 | 217.3 |
| SC               | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 87.6  | 87.0  | 92.0   | 92.1  | 91.3  | 94.4   | 94.3  | 93.4  |
| gpm              | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 7.5   | 8.8   | 7.0    | 8.7   | 10.2  | 7.5    | 9.3   | 10.9  |
| WPD              | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 0.3   | 0.4   | 0.3    | 0.4   | 0.6   | 0.3    | 0.5   | 0.7   |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 10

**Table 83. Unit size 10 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 4000           | 5000  | 6000  | 4000   | 5000  | 6000  | 4000   | 5000  | 6000  |
| 10°F             | TC  | 241.4          | 294.1 | 343.5 | 250.2  | 307.4 | 362.0 | 253.4  | 312.6 | 369.5 |
|                  | LAT | 115.6          | 114.2 | 112.8 | 117.7  | 116.7 | 115.6 | 118.4  | 117.6 | 116.8 |
|                  | gpm | 48.4           | 58.9  | 68.8  | 50.1   | 61.6  | 72.5  | 50.8   | 62.6  | 74.0  |
|                  | WPD | 12.1           | 17.5  | 23.5  | 12.9   | 19.0  | 25.9  | 13.2   | 19.6  | 26.9  |
| 15°F             | TC  | 235.0          | 285.2 | 332.0 | 245.3  | 300.2 | 352.2 | 249.3  | 306.4 | 360.8 |
|                  | SC  | 114.2          | 112.6 | 111.0 | 116.5  | 115.4 | 114.1 | 117.5  | 116.5 | 115.5 |
|                  | gpm | 31.4           | 38.1  | 44.3  | 32.8   | 40.1  | 47.1  | 33.3   | 40.9  | 48.2  |
|                  | WPD | 5.4            | 7.7   | 10.3  | 5.8    | 8.5   | 11.5  | 6.0    | 8.9   | 12.0  |
| 20°F             | TC  | 227.4          | 274.7 | 318.6 | 239.0  | 291.2 | 340.4 | 243.8  | 298.3 | 350.0 |
|                  | SC  | 112.4          | 110.7 | 109.0 | 115.1  | 113.7 | 112.3 | 116.2  | 115.0 | 113.8 |
|                  | gpm | 22.8           | 27.5  | 31.9  | 23.9   | 29.2  | 34.1  | 24.4   | 29.9  | 35.1  |
|                  | WPD | 3.0            | 4.2   | 5.6   | 3.3    | 4.7   | 6.3   | 3.4    | 4.9   | 6.6   |
| 25°F             | TC  | 218.0          | 262.4 | 303.2 | 230.9  | 280.2 | 326.2 | 236.5  | 288.1 | 336.7 |
|                  | SC  | 110.3          | 108.4 | 106.6 | 113.2  | 111.7 | 110.1 | 114.5  | 113.1 | 111.7 |
|                  | gpm | 17.5           | 21.0  | 24.3  | 18.5   | 22.5  | 26.1  | 19.0   | 23.1  | 27.0  |
|                  | WPD | 1.8            | 2.6   | 3.4   | 2.0    | 2.9   | 3.9   | 2.1    | 3.1   | 4.1   |
| 30°F             | TC  | 205.9          | 247.5 | 285.3 | 220.0  | 266.4 | 309.2 | 226.4  | 275.2 | 320.4 |
|                  | SC  | 107.5          | 105.6 | 103.9 | 110.7  | 109.1 | 107.5 | 112.2  | 110.7 | 109.2 |
|                  | gpm | 13.7           | 16.5  | 19.1  | 14.7   | 17.8  | 20.6  | 15.1   | 18.4  | 21.4  |
|                  | WPD | 1.2            | 1.7   | 2.2   | 1.3    | 1.9   | 2.5   | 1.4    | 2.0   | 2.7   |
| 40°F             | TC  | 166.0          | 201.8 | 234.2 | 182.8  | 223.0 | 259.2 | 190.8  | 233.2 | 271.7 |
|                  | SC  | 98.3           | 97.2  | 96.0  | 102.1  | 101.1 | 99.8  | 104.0  | 103.0 | 101.8 |
|                  | gpm | 8.3            | 10.1  | 11.7  | 9.2    | 11.2  | 13.0  | 9.6    | 11.7  | 13.6  |
|                  | WPD | 0.5            | 0.7   | 0.9   | 0.6    | 0.8   | 1.1   | 0.6    | 0.9   | 1.2   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 12

**Table 84. Unit size 12 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 4800          | 6000  | 7200  | 4800   | 6000  | 7200  | 4800   | 6000  | 7200  | 4800           | 6000  | 7200  | 4800   | 6000  | 7200  | 4800   | 6000  | 7200  |
| 10°F TC          | 204.7         | 229.2 | 250.4 | 261.2  | 291.5 | 317.9 | 289.0  | 322.5 | —     | 333.6          | 384.5 | 428.1 | 387.1  | 449.1 | 502.6 | 415.9  | 484.5 | 544.0 |
| LAT              | 99.3          | 95.2  | 92.1  | 110.2  | 104.8 | 100.7 | 115.5  | 109.6 | —     | 124.1          | 119.1 | 114.8 | 134.4  | 129.0 | 124.4 | 139.9  | 134.5 | 129.7 |
| gpm              | 40.9          | 45.8  | 50.0  | 52.1   | 58.2  | 63.5  | 57.7   | 64.4  | —     | 66.6           | 76.8  | 85.5  | 77.3   | 89.7  | 100.4 | 83.0   | 96.7  | 108.6 |
| WPD              | 4.9           | 6.1   | 7.3   | 7.9    | 9.7   | 11.5  | 9.6    | 11.8  | —     | 5.7            | 7.5   | 9.3   | 7.6    | 10.2  | 12.6  | 8.7    | 11.8  | 14.8  |
| 15°F TC          | 194.7         | 217.9 | 238.0 | 248.2  | 276.9 | 301.7 | 274.6  | 306.2 | 333.5 | 319.8          | 368.0 | 409.2 | 371.6  | 430.3 | 480.9 | 399.7  | 464.6 | 520.8 |
| SC               | 97.4          | 93.5  | 90.5  | 107.7  | 102.6 | 98.6  | 112.8  | 107.1 | 102.7 | 121.4          | 116.6 | 112.4 | 131.4  | 126.1 | 121.6 | 136.8  | 131.4 | 126.7 |
| gpm              | 25.9          | 29.0  | 31.7  | 33.1   | 36.9  | 40.2  | 36.6   | 40.8  | 44.4  | 42.6           | 49.0  | 54.5  | 49.5   | 57.3  | 64.0  | 53.2   | 61.9  | 69.4  |
| WPD              | 2.1           | 2.6   | 3.1   | 3.3    | 4.1   | 4.8   | 4.0    | 4.9   | 5.8   | 2.4            | 3.1   | 3.9   | 3.2    | 4.3   | 5.3   | 3.7    | 4.9   | 6.2   |
| 20°F TC          | 184.9         | 206.7 | 225.6 | 235.4  | 262.4 | 285.8 | 260.5  | 290.1 | 315.8 | 305.8          | 351.5 | 390.4 | 356.0  | 411.4 | 459.1 | 383.2  | 444.6 | 497.5 |
| SC               | 95.5          | 91.8  | 88.9  | 105.2  | 100.3 | 96.6  | 110.0  | 104.6 | 100.4 | 118.8          | 114.0 | 110.0 | 128.4  | 123.2 | 118.8 | 133.6  | 128.3 | 123.7 |
| gpm              | 18.5          | 20.6  | 22.5  | 23.5   | 26.2  | 28.5  | 26.0   | 29.0  | 31.5  | 30.6           | 35.1  | 39.0  | 35.6   | 41.1  | 45.9  | 38.3   | 44.4  | 49.7  |
| WPD              | 1.1           | 1.4   | 1.6   | 1.7    | 2.1   | 2.5   | 2.1    | 2.6   | 3.0   | 1.3            | 1.7   | 2.0   | 1.7    | 2.2   | 2.8   | 2.0    | 2.6   | 3.2   |
| 25°F TC          | 175.0         | 195.6 | 213.4 | 222.7  | 248.0 | 270.0 | 246.4  | 274.1 | 298.2 | 291.7          | 334.7 | 371.4 | 340.0  | 392.2 | 437.1 | 366.4  | 424.2 | 474.0 |
| SC               | 93.6          | 90.1  | 87.3  | 102.8  | 98.1  | 94.6  | 107.3  | 102.1 | 98.2  | 116.0          | 111.4 | 107.6 | 125.3  | 120.3 | 116.0 | 130.4  | 125.2 | 120.7 |
| gpm              | 14.0          | 15.6  | 17.1  | 17.8   | 19.8  | 21.6  | 19.7   | 21.9  | 23.8  | 23.3           | 26.8  | 29.7  | 27.2   | 31.4  | 34.9  | 29.3   | 33.9  | 37.9  |
| WPD              | 0.7           | 0.8   | 0.9   | 1.0    | 1.3   | 1.5   | 1.2    | 1.5   | 1.8   | 0.8            | 1.0   | 1.2   | 1.0    | 1.3   | 1.6   | 1.2    | 1.5   | 1.9   |
| 30°F TC          | 165.1         | 184.6 | 201.6 | 209.9  | 233.6 | 254.1 | 232.3  | 258.1 | 280.6 | 277.3          | 317.7 | 352.1 | 323.6  | 372.7 | 414.7 | 349.1  | 403.3 | 449.9 |
| SC               | 91.7          | 88.4  | 85.8  | 100.3  | 95.9  | 92.5  | 104.6  | 99.7  | 95.9  | 113.3          | 108.8 | 105.1 | 122.2  | 117.3 | 113.1 | 127.1  | 122.0 | 117.6 |
| gpm              | 11.0          | 12.3  | 13.4  | 14.0   | 15.6  | 16.9  | 15.5   | 17.2  | 18.7  | 18.5           | 21.2  | 23.5  | 21.6   | 24.8  | 27.6  | 23.3   | 26.9  | 30.0  |
| WPD              | 0.4           | 0.5   | 0.6   | 0.7    | 0.8   | 0.9   | 0.8    | 1.0   | 1.1   | 0.5            | 0.6   | 0.8   | 0.6    | 0.8   | 1.0   | 0.7    | 1.0   | 1.2   |
| 40°F TC          | 146.2         | 163.4 | 178.1 | 185.1  | 206.2 | 224.2 | 203.6  | 227.0 | 247.0 | 245.9          | 282.1 | 312.4 | 289.1  | 332.1 | 368.4 | 312.7  | 359.9 | 400.1 |
| SC               | 88.1          | 85.1  | 82.8  | 95.6   | 91.7  | 88.7  | 99.1   | 94.9  | 91.6  | 107.2          | 103.4 | 100.0 | 115.5  | 111.0 | 107.2 | 120.1  | 115.3 | 111.2 |
| gpm              | 7.3           | 8.2   | 8.9   | 9.3    | 10.3  | 11.2  | 10.2   | 11.4  | 12.3  | 12.3           | 14.1  | 15.6  | 14.5   | 16.6  | 18.4  | 15.6   | 18.0  | 20.0  |
| WPD              | 0.2           | 0.2   | 0.3   | 0.3    | 0.4   | 0.4   | 0.4    | 0.4   | 0.5   | 0.2            | 0.3   | 0.3   | 0.3    | 0.4   | 0.5   | 0.4    | 0.5   | 0.6   |

| Water Temp. Rise | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 4800           | 6000  | 7200  | 4800   | 6000  | 7200  | 4800   | 6000  | 7200  | 4800           | 6000  | 7200  | 4800   | 6000  | 7200  | 4800   | 6000  | 7200  |
| 10°F TC          | 231.5          | 273.5 | 311.1 | 254.2  | 303.2 | 347.6 | 264.9  | 317.7 | 365.7 | 271.9          | 327.7 | 379.0 | 287.6  | 349.9 | 408.2 | 294.0  | 359.5 | 421.2 |
| LAT              | 104.5          | 102.0 | 99.8  | 108.8  | 106.6 | 104.5 | 110.9  | 108.8 | 106.8 | 112.2          | 110.4 | 108.5 | 115.2  | 113.8 | 112.3 | 116.5  | 115.2 | 113.9 |
| gpm              | 46.4           | 54.8  | 62.3  | 50.9   | 60.8  | 69.6  | 53.1   | 63.7  | 73.3  | 54.5           | 65.7  | 76.0  | 57.6   | 70.1  | 81.8  | 58.9   | 72.0  | 84.4  |
| WPD              | 3.8            | 5.2   | 6.7   | 4.5    | 6.3   | 8.2   | 4.9    | 6.9   | 9.0   | 6.4            | 9.1   | 11.9  | 7.1    | 10.3  | 13.7  | 7.4    | 10.8  | 14.5  |
| 15°F TC          | 217.4          | 255.9 | 290.1 | 240.2  | 285.3 | 325.8 | 251.3  | 299.9 | 343.9 | 261.4          | 313.7 | 361.7 | 278.5  | 337.4 | 392.1 | 285.9  | 348.0 | 406.1 |
| SC               | 101.8          | 99.3  | 97.1  | 106.1  | 103.8 | 101.7 | 108.3  | 106.1 | 104.0 | 110.2          | 108.2 | 106.3 | 113.5  | 111.9 | 110.2 | 114.9  | 113.5 | 112.0 |
| gpm              | 29.0           | 34.2  | 38.8  | 32.1   | 38.1  | 43.5  | 33.6   | 40.1  | 45.9  | 34.9           | 41.9  | 48.3  | 37.2   | 45.1  | 52.4  | 38.2   | 46.5  | 54.3  |
| WPD              | 1.6            | 2.2   | 2.7   | 1.9    | 2.6   | 3.4   | 2.1    | 2.9   | 3.8   | 2.8            | 3.9   | 5.1   | 3.2    | 4.5   | 6.0   | 3.3    | 4.8   | 6.4   |
| 20°F TC          | 201.5          | 236.9 | 267.7 | 224.5  | 265.5 | 302.1 | 235.8  | 280.1 | 319.8 | 249.3          | 298.0 | 342.4 | 267.6  | 322.7 | 373.5 | 275.8  | 334.1 | 388.3 |
| SC               | 98.7           | 96.4  | 94.3  | 103.1  | 100.8 | 98.7  | 105.3  | 103.0 | 101.0 | 107.9          | 105.8 | 103.8 | 111.4  | 109.6 | 107.8 | 113.0  | 111.3 | 109.7 |
| gpm              | 20.2           | 23.7  | 26.8  | 22.5   | 26.6  | 30.3  | 23.6   | 28.1  | 32.0  | 25.0           | 29.9  | 34.3  | 26.8   | 32.3  | 37.4  | 27.6   | 33.5  | 38.9  |
| WPD              | 0.8            | 1.1   | 1.4   | 1.0    | 1.4   | 1.7   | 1.1    | 1.5   | 1.9   | 1.5            | 2.1   | 2.7   | 1.7    | 2.4   | 3.2   | 1.8    | 2.6   | 3.5   |
| 25°F TC          | 181.2          | 213.9 | 242.3 | 204.4  | 242.4 | 275.7 | 216.0  | 256.9 | 293.0 | 234.6          | 280.0 | 320.8 | 254.0  | 305.4 | 352.2 | 263.0  | 317.5 | 367.5 |
| SC               | 94.8           | 92.9  | 91.0  | 99.3   | 97.2  | 95.3  | 101.5  | 99.5  | 97.5  | 105.1          | 103.0 | 101.1 | 108.8  | 106.9 | 105.1 | 110.5  | 108.8 | 107.1 |
| gpm              | 14.5           | 17.1  | 19.4  | 16.4   | 19.4  | 22.1  | 17.3   | 20.6  | 23.5  | 18.8           | 22.4  | 25.7  | 20.4   | 24.5  | 28.2  | 21.1   | 25.4  | 29.5  |
| WPD              | 0.4            | 0.6   | 0.8   | 0.5    | 0.8   | 1.0   | 0.6    | 0.8   | 1.1   | 0.9            | 1.3   | 1.6   | 1.0    | 1.5   | 1.9   | 1.1    | 1.6   | 2.1   |
| 30°F TC          | 151.8          | 182.7 | 209.1 | 175.9  | 211.3 | 242.0 | 188.1  | 226.1 | 259.2 | 215.1          | 257.4 | 295.1 | 235.7  | 283.7 | 327.0 | 245.5  | 296.4 | 342.7 |
| SC               | 89.2           | 88.1  | 86.8  | 93.8   | 92.5  | 91.0  | 96.1   | 94.7  | 93.2  | 101.3          | 99.6  | 97.8  | 105.3  | 103.6 | 101.9 | 107.2  | 105.6 | 103.9 |
| gpm              | 10.1           | 12.2  | 14.0  | 11.7   | 14.1  | 16.2  | 12.6   | 15.1  | 17.3  | 14.4           | 17.2  | 19.7  | 15.7   | 18.9  | 21.8  | 16.4   | 19.8  | 22.9  |
| WPD              | 0.2            | 0.3   | 0.4   | 0.3    | 0.4   | 0.5   | 0.3    | 0.5   | 0.6   | 0.6            | 0.8   | 1.0   | 0.7    | 0.9   | 1.2   | 0.7    | 1.0   | 1.3   |
| 40°F TC          | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 180.0 | 213.8 | 165.3  | 209.9 | 247.4 | 178.3  | 224.6 | 264.3 |
| SC               | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 87.7  | 87.4  | 91.8   | 92.3  | 91.7  | 94.3   | 94.5  | 93.8  |
| gpm              | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 9.0   | 10.7  | 8.3    | 10.5  | 12.4  | 8.9    | 11.2  | 13.2  |
| WPD              | —              | —     | —     | —      | —     | —     | —      | —     | —     | —              | 0.2   | 0.3   | 0.2    | 0.3   | 0.4   | 0.2    | 0.4   | 0.5   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 12

**Table 84. Unit size 12 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 4800           | 6000  | 7200  | 4800   | 6000  | 7200  | 4800   | 6000  | 7200  |
| 10°F             | TC  | 291.8          | 356.3 | 417.2 | 301.6  | 371.3 | 438.0 | 305.1  | 377.0 | 446.4 |
|                  | LAT | 116.1          | 114.8 | 113.4 | 117.9  | 117.1 | 116.1 | 118.6  | 117.9 | 117.2 |
|                  | gpm | 58.5           | 71.4  | 83.6  | 60.4   | 74.4  | 87.8  | 61.1   | 75.5  | 89.4  |
|                  | WPD | 8.7            | 12.6  | 16.9  | 9.3    | 13.6  | 18.5  | 9.5    | 14.0  | 19.2  |
| 15°F             | TC  | 284.5          | 346.0 | 403.7 | 296.1  | 363.1 | 426.8 | 300.6  | 370.0 | 436.6 |
|                  | SC  | 114.7          | 113.2 | 111.7 | 116.9  | 115.8 | 114.7 | 117.7  | 116.9 | 115.9 |
|                  | gpm | 38.0           | 46.2  | 53.9  | 39.6   | 48.5  | 57.0  | 40.2   | 49.4  | 58.3  |
|                  | WPD | 4.0            | 5.7   | 7.5   | 4.3    | 6.2   | 8.4   | 4.4    | 6.4   | 8.7   |
| 20°F             | TC  | 275.6          | 333.8 | 388.0 | 288.8  | 352.7 | 413.1 | 294.3  | 360.8 | 424.1 |
|                  | SC  | 112.9          | 111.3 | 109.7 | 115.5  | 114.2 | 112.9 | 116.5  | 115.5 | 114.3 |
|                  | gpm | 27.6           | 33.4  | 38.9  | 28.9   | 35.3  | 41.4  | 29.5   | 36.1  | 42.5  |
|                  | WPD | 2.2            | 3.1   | 4.1   | 2.4    | 3.5   | 4.6   | 2.5    | 3.6   | 4.9   |
| 25°F             | TC  | 264.5          | 319.3 | 369.9 | 279.4  | 339.9 | 396.5 | 285.8  | 349.0 | 408.7 |
|                  | SC  | 110.8          | 109.1 | 107.4 | 113.7  | 112.2 | 110.8 | 114.9  | 113.6 | 112.3 |
|                  | gpm | 21.2           | 25.6  | 29.6  | 22.4   | 27.2  | 31.8  | 22.9   | 28.0  | 32.8  |
|                  | WPD | 1.4            | 1.9   | 2.5   | 1.5    | 2.2   | 2.9   | 1.6    | 2.3   | 3.0   |
| 30°F             | TC  | 249.8          | 301.4 | 348.4 | 266.4  | 323.5 | 376.4 | 273.8  | 333.7 | 389.5 |
|                  | SC  | 108.0          | 106.3 | 104.6 | 111.2  | 109.7 | 108.2 | 112.6  | 111.3 | 109.9 |
|                  | gpm | 16.7           | 20.1  | 23.3  | 17.8   | 21.6  | 25.1  | 18.3   | 22.3  | 26.0  |
|                  | WPD | 0.9            | 1.3   | 1.6   | 1.0    | 1.4   | 1.9   | 1.1    | 1.5   | 2.0   |
| 40°F             | TC  | 200.4          | 245.2 | 285.1 | 220.5  | 270.4 | 315.6 | 230.1  | 282.6 | 330.5 |
|                  | SC  | 98.5           | 97.7  | 96.5  | 102.4  | 101.6 | 100.4 | 104.2  | 103.4 | 102.3 |
|                  | gpm | 10.0           | 12.3  | 14.3  | 11.0   | 13.5  | 15.8  | 11.5   | 14.2  | 16.6  |
|                  | WPD | 0.4            | 0.5   | 0.7   | 0.4    | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see [Table 2, p. 19](#)).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in [Table 90](#) and [Table 91, p. 118](#) for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 14

**Table 85. Unit size 14 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |     | 1 Row of Coil |       |        |       |        |       |       |       | 2 Rows of Coil |       |        |       |       |       |       |       |       |       |
|------------------|-----|---------------|-------|--------|-------|--------|-------|-------|-------|----------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|                  |     | 9 fpi         |       | 12 fpi |       | 14 fpi |       | 9 fpi |       | 12 fpi         |       | 14 fpi |       |       |       |       |       |       |       |
|                  |     | Airflow       |       |        |       |        |       |       |       | Airflow        |       |        |       |       |       |       |       |       |       |
|                  |     | 5600          | 7000  | 8400   | 5600  | 7000   | 8400  | 5600  | 7000  | 8400           | 5600  | 7000   | 8400  | 5600  | 7000  | 8400  |       |       |       |
| 10°F             | TC  | 239.6         | 268.3 | 293.1  | 305.7 | —      | —     | —     | —     | —              | 390.8 | 450.3  | 501.3 | 453.5 | 526.1 | 588.7 | 487.3 | 567.5 | —     |
|                  | LAT | 99.5          | 95.3  | 92.2   | 110.3 | —      | —     | —     | —     | —              | 124.3 | 119.3  | 115.0 | 134.7 | 129.3 | 124.6 | 140.2 | 134.8 | —     |
|                  | gpm | 47.8          | 53.6  | 58.5   | 61.0  | —      | —     | —     | —     | —              | 78.0  | 89.9   | 100.1 | 90.6  | 105.0 | 117.5 | 97.3  | 113.3 | —     |
|                  | WPD | 7.1           | 8.8   | 10.4   | 11.2  | —      | —     | —     | —     | —              | 8.0   | 10.6   | 13.0  | 10.7  | 14.3  | 17.8  | 12.3  | 16.6  | —     |
| 15°F             | TC  | 228.7         | 255.9 | 279.5  | 291.6 | 325.3  | 354.5 | 322.6 | 359.8 | 391.9          | 375.8 | 432.4  | 480.8 | 436.7 | 505.7 | 565.1 | 469.7 | 546.1 | 612.2 |
|                  | SC  | 97.7          | 93.7  | 90.7   | 108.0 | 102.8  | 98.9  | 113.1 | 107.4 | 103.0          | 121.9 | 117.0  | 112.8 | 131.9 | 126.6 | 122.0 | 137.3 | 131.9 | 127.2 |
|                  | gpm | 30.5          | 34.1  | 37.2   | 38.8  | 43.3   | 47.2  | 43.0  | 47.9  | 52.2           | 50.0  | 57.6   | 64.0  | 58.2  | 67.3  | 75.3  | 62.6  | 72.7  | 81.5  |
|                  | WPD | 3.0           | 3.7   | 4.4    | 4.7   | 5.9    | 6.9   | 5.8   | 7.1   | 8.3            | 3.4   | 4.5    | 5.5   | 4.5   | 6.0   | 7.5   | 5.2   | 7.0   | 8.7   |
| 20°F             | TC  | 217.9         | 243.7 | 266.0  | 277.6 | 309.5  | 337.0 | 307.0 | 342.1 | 372.5          | 360.6 | 414.4  | 460.3 | 419.8 | 485.2 | 541.5 | 452.0 | 524.4 | 586.9 |
|                  | SC  | 95.9          | 92.1  | 89.2   | 105.7 | 100.8  | 97.0  | 110.6 | 105.1 | 100.9          | 119.4 | 114.6  | 110.5 | 129.1 | 123.9 | 119.4 | 134.4 | 129.1 | 124.4 |
|                  | gpm | 21.8          | 24.3  | 26.6   | 27.7  | 30.9   | 33.7  | 30.7  | 34.2  | 37.2           | 36.0  | 41.4   | 46.0  | 41.9  | 48.5  | 54.1  | 45.2  | 52.4  | 58.6  |
|                  | WPD | 1.6           | 2.0   | 2.3    | 2.5   | 3.1    | 3.6   | 3.0   | 3.7   | 4.4            | 1.8   | 2.4    | 2.9   | 2.4   | 3.2   | 4.0   | 2.8   | 3.7   | 4.6   |
| 25°F             | TC  | 207.1         | 231.5 | 252.6  | 263.6 | 293.7  | 319.7 | 291.5 | 324.6 | 353.2          | 345.3 | 396.2  | 439.6 | 402.5 | 464.4 | 517.6 | 433.8 | 502.3 | 561.4 |
|                  | SC  | 94.1          | 90.5  | 87.7   | 103.4 | 98.7   | 95.1  | 108.0 | 102.8 | 98.8           | 116.9 | 112.2  | 108.3 | 126.3 | 121.2 | 116.8 | 131.4 | 126.2 | 121.6 |
|                  | gpm | 16.6          | 18.5  | 20.2   | 21.1  | 23.5   | 25.6  | 23.3  | 25.9  | 28.2           | 27.6  | 31.7   | 35.1  | 32.2  | 37.1  | 41.4  | 34.7  | 40.2  | 44.9  |
|                  | WPD | 1.0           | 1.2   | 1.4    | 1.5   | 1.8    | 2.2   | 1.8   | 2.2   | 2.6            | 1.1   | 1.4    | 1.7   | 1.5   | 1.9   | 2.4   | 1.7   | 2.2   | 2.8   |
| 30°F             | TC  | 196.3         | 219.4 | 239.7  | 249.6 | 277.9  | 302.4 | 276.0 | 307.1 | 333.9          | 329.6 | 377.7  | 418.6 | 384.8 | 443.2 | 493.3 | 415.1 | 479.8 | 535.4 |
|                  | SC  | 92.3          | 88.9  | 86.3   | 101.1 | 96.6   | 93.2  | 105.4 | 100.4 | 96.7           | 114.3 | 109.8  | 106.0 | 123.4 | 118.4 | 114.2 | 128.3 | 123.2 | 118.8 |
|                  | gpm | 13.1          | 14.6  | 16.0   | 16.6  | 18.5   | 20.1  | 18.4  | 20.5  | 22.3           | 22.0  | 25.2   | 27.9  | 25.6  | 29.5  | 32.9  | 27.7  | 32.0  | 35.7  |
|                  | WPD | 0.6           | 0.8   | 0.9    | 1.0   | 1.2    | 1.4   | 1.2   | 1.4   | 1.7            | 0.7   | 0.9    | 1.1   | 0.9   | 1.2   | 1.5   | 1.1   | 1.4   | 1.8   |
| 40°F             | TC  | 175.9         | 196.3 | 214.0  | 222.2 | 247.8  | 269.7 | 244.5 | 272.9 | 297.1          | 297.0 | 339.6  | 375.5 | 347.8 | 399.2 | 443.1 | 375.9 | 432.8 | 481.4 |
|                  | SC  | 89.0          | 85.9  | 83.5   | 96.6  | 92.6   | 89.6  | 100.3 | 95.9  | 92.6           | 108.9 | 104.7  | 101.2 | 117.3 | 112.6 | 108.6 | 121.9 | 117.0 | 112.8 |
|                  | gpm | 8.8           | 9.8   | 10.7   | 11.1  | 12.4   | 13.5  | 12.2  | 13.6  | 14.9           | 14.8  | 17.0   | 18.8  | 17.4  | 20.0  | 22.2  | 18.8  | 21.6  | 24.1  |
|                  | WPD | 0.3           | 0.4   | 0.4    | 0.5   | 0.6    | 0.7   | 0.5   | 0.7   | 0.8            | 0.3   | 0.4    | 0.5   | 0.4   | 0.6   | 0.7   | 0.5   | 0.7   | 0.8   |

| Water Temp. Rise |     | 4 Rows of Coil |       |        |       |        |       |       |       | 6 Rows of Coil |       |        |       |       |       |       |       |       |       |
|------------------|-----|----------------|-------|--------|-------|--------|-------|-------|-------|----------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|                  |     | 9 fpi          |       | 12 fpi |       | 14 fpi |       | 9 fpi |       | 12 fpi         |       | 14 fpi |       |       |       |       |       |       |       |
|                  |     | Airflow        |       |        |       |        |       |       |       | Airflow        |       |        |       |       |       |       |       |       |       |
|                  |     | 5600           | 7000  | 8400   | 5600  | 7000   | 8400  | 5600  | 7000  | 8400           | 5600  | 7000   | 8400  | 5600  | 7000  | 8400  |       |       |       |
| 10°F             | TC  | 271.7          | 321.1 | 365.2  | 298.3 | 355.9  | 408.0 | 310.8 | 372.8 | 429.3          | 318.2 | 383.6  | 443.7 | 336.5 | 409.5 | 477.8 | 343.9 | 420.6 | 493.0 |
|                  | LAT | 104.7          | 102.3 | 100.1  | 109.1 | 106.9  | 104.8 | 111.2 | 109.1 | 107.1          | 112.4 | 110.5  | 108.7 | 115.4 | 113.9 | 112.5 | 116.6 | 115.4 | 114.1 |
|                  | gpm | 54.4           | 64.3  | 73.2   | 59.8  | 71.3   | 81.8  | 62.3  | 74.7  | 86.0           | 63.8  | 76.9   | 88.9  | 67.4  | 82.1  | 95.8  | 68.9  | 84.3  | 98.8  |
|                  | WPD | 5.5            | 7.5   | 9.5    | 6.5   | 9.1    | 11.8  | 7.0   | 9.9   | 13.0           | 9.2   | 13.0   | 17.1  | 10.2  | 14.7  | 19.7  | 10.6  | 15.5  | 20.8  |
| 15°F             | TC  | 256.3          | 301.9 | 342.2  | 283.2 | 336.4  | 384.3 | 296.2 | 353.6 | 405.6          | 306.8 | 368.3  | 424.6 | 326.7 | 395.9 | 460.2 | 335.2 | 408.2 | 476.6 |
|                  | SC  | 102.2          | 99.8  | 97.6   | 106.6 | 104.3  | 102.2 | 108.8 | 106.6 | 104.5          | 110.5 | 108.5  | 106.6 | 113.8 | 112.1 | 110.5 | 115.2 | 113.8 | 112.3 |
|                  | gpm | 34.2           | 40.3  | 45.7   | 37.8  | 44.9   | 51.3  | 39.6  | 47.2  | 54.2           | 41.0  | 49.2   | 56.7  | 43.6  | 52.9  | 61.5  | 44.8  | 54.5  | 63.7  |
|                  | WPD | 2.3            | 3.1   | 3.9    | 2.8   | 3.8    | 4.9   | 3.0   | 4.2   | 5.4            | 4.1   | 5.7    | 7.4   | 4.6   | 6.5   | 8.6   | 4.8   | 6.9   | 9.2   |
| 20°F             | TC  | 239.6          | 281.1 | 317.8  | 266.3 | 315.0  | 358.5 | 279.5 | 332.2 | 379.5          | 293.6 | 351.1  | 403.4 | 314.9 | 379.9 | 440.0 | 324.4 | 393.2 | 457.3 |
|                  | SC  | 99.4           | 97.0  | 94.9   | 103.9 | 101.5  | 99.4  | 106.0 | 103.8 | 101.7          | 108.3 | 106.2  | 104.3 | 111.9 | 110.0 | 108.3 | 113.4 | 111.8 | 110.2 |
|                  | gpm | 24.0           | 28.2  | 31.8   | 26.7  | 31.6   | 35.9  | 28.0  | 33.3  | 38.0           | 29.4  | 35.2   | 40.4  | 31.5  | 38.1  | 44.1  | 32.5  | 39.4  | 45.8  |
|                  | WPD | 1.2            | 1.6   | 2.0    | 1.4   | 2.0    | 2.5   | 1.6   | 2.2   | 2.8            | 2.2   | 3.1    | 4.0   | 2.5   | 3.6   | 4.7   | 2.7   | 3.8   | 5.0   |
| 25°F             | TC  | 219.3          | 257.8 | 291.2  | 246.3 | 291.1  | 330.3 | 259.8 | 308.0 | 350.7          | 278.2 | 331.6  | 379.7 | 300.7 | 361.2 | 416.7 | 311.1 | 375.3 | 434.7 |
|                  | SC  | 96.1           | 94.0  | 92.0   | 100.6 | 98.3   | 96.3  | 102.8 | 100.6 | 98.5           | 105.8 | 103.7  | 101.7 | 109.5 | 107.6 | 105.7 | 111.2 | 109.4 | 107.7 |
|                  | gpm | 17.6           | 20.7  | 23.3   | 19.7  | 23.3   | 26.5  | 20.8  | 24.7  | 28.1           | 22.3  | 26.6   | 30.4  | 24.1  | 29.0  | 33.4  | 24.9  | 30.1  | 34.8  |
|                  | WPD | 0.7            | 0.9   | 1.1    | 0.8   | 1.1    | 1.4   | 0.9   | 1.3   | 1.6            | 1.3   | 1.8    | 2.4   | 1.5   | 2.2   | 2.8   | 1.6   | 2.3   | 3.0   |
| 30°F             | TC  | 192.2          | 228.0 | 258.8  | 219.6 | 261.0  | 297.1 | 233.5 | 278.1 | 317.1          | 258.7 | 308.4  | 352.8 | 282.4 | 338.9 | 389.9 | 293.7 | 353.7 | 408.2 |
|                  | SC  | 91.6           | 90.0  | 88.4   | 96.2  | 94.4   | 92.6  | 98.4  | 96.6  | 94.8           | 102.6 | 100.6  | 98.7  | 106.5 | 104.6 | 102.8 | 108.4 | 106.6 | 104.8 |
|                  | gpm | 12.8           | 15.2  | 17.3   | 14.7  | 17.4   | 19.8  | 15.6  | 18.6  | 21.2           | 17.3  | 20.6   | 23.6  | 18.9  | 22.6  | 26.0  | 19.6  | 23.6  | 27.3  |
|                  | WPD | 0.4            | 0.5   | 0.7    | 0.5   | 0.7    | 0.8   | 0.5   | 0.7   | 1.0            | 0.8   | 1.2    | 1.5   | 1.0   | 1.4   | 1.8   | 1.1   | 1.5   | 1.9   |
| 40°F             | TC  | —              | —     | —      | —     | —      | 159.5 | —     | —     | 193.8          | 193.0 | 236.8  | 274.5 | 220.3 | 269.3 | 312.4 | 233.6 | 285.6 | 331.6 |
|                  | SC  | —              | —     | —      | —     | —      | 77.5  | —     | —     | 81.3           | 91.8  | 91.2   | 90.1  | 96.3  | 95.5  | 94.3  | 98.5  | 97.6  | 96.4  |
|                  | gpm | —              | —     | —      | —     | —      | 8.0   | —     | —     | 9.7            | 9.7   | 11.9   | 13.7  | 11.0  | 13.5  | 15.6  | 11.7  | 14.3  | 16.6  |
|                  | WPD | —              | —     | —      | —     | —      | 0.2   | —     | —     | 0.2            | 0.3   | 0.4    | 0.6   | 0.4   | 0.5   | 0.7   | 0.4   | 0.6   | 0.8   |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 14

**Table 85. Unit size 14 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 5600           | 7000  | 8400  | 5600   | 7000  | 8400  | 5600   | 7000  | 8400  |
| 10°F             | TC  | 341.1          | 416.6 | 487.7 | 352.4  | 433.9 | 512.0 | 356.4  | 440.5 | 521.7 |
|                  | LAT | 116.2          | 114.9 | 113.5 | 118.0  | 117.2 | 116.2 | 118.7  | 118.0 | 117.3 |
|                  | gpm | 68.3           | 83.5  | 97.7  | 70.6   | 86.9  | 102.6 | 71.4   | 88.3  | 104.5 |
|                  | WPD | 12.6           | 18.2  | 24.3  | 13.3   | 19.6  | 26.6  | 13.6   | 20.2  | 27.6  |
| 15°F             | TC  | 333.1          | 405.3 | 472.9 | 346.5  | 425.0 | 499.8 | 351.6  | 433.0 | 511.0 |
|                  | SC  | 114.8          | 113.4 | 111.9 | 117.0  | 116.0 | 114.9 | 117.9  | 117.0 | 116.1 |
|                  | gpm | 44.5           | 54.1  | 63.2  | 46.3   | 56.8  | 66.8  | 47.0   | 57.8  | 68.3  |
|                  | WPD | 5.7            | 8.2   | 10.9  | 6.2    | 9.0   | 12.1  | 6.3    | 9.3   | 12.6  |
| 20°F             | TC  | 323.4          | 391.9 | 455.6 | 338.7  | 413.8 | 484.9 | 344.9  | 423.1 | 497.6 |
|                  | SC  | 113.2          | 111.6 | 110.0 | 115.8  | 114.5 | 113.2 | 116.8  | 115.7 | 114.6 |
|                  | gpm | 32.4           | 39.3  | 45.6  | 33.9   | 41.5  | 48.6  | 34.6   | 42.4  | 49.9  |
|                  | WPD | 3.2            | 4.6   | 6.0   | 3.5    | 5.1   | 6.8   | 3.6    | 5.3   | 7.1   |
| 25°F             | TC  | 311.5          | 376.0 | 435.6 | 328.7  | 399.9 | 466.8 | 336.0  | 410.4 | 480.9 |
|                  | SC  | 111.3          | 109.5 | 107.8 | 114.1  | 112.7 | 111.2 | 115.3  | 114.1 | 112.8 |
|                  | gpm | 25.0           | 30.1  | 34.9  | 26.3   | 32.1  | 37.4  | 26.9   | 32.9  | 38.5  |
|                  | WPD | 2.0            | 2.8   | 3.7   | 2.2    | 3.2   | 4.2   | 2.3    | 3.3   | 4.4   |
| 30°F             | TC  | 296.5          | 357.0 | 412.3 | 315.5  | 382.7 | 444.9 | 324.0  | 394.4 | 460.1 |
|                  | SC  | 108.8          | 107.0 | 105.3 | 112.0  | 110.4 | 108.8 | 113.3  | 111.9 | 110.5 |
|                  | gpm | 19.8           | 23.8  | 27.5  | 21.1   | 25.6  | 29.7  | 21.6   | 26.3  | 30.7  |
|                  | WPD | 1.3            | 1.9   | 2.4   | 1.5    | 2.1   | 2.8   | 1.6    | 2.2   | 3.0   |
| 40°F             | TC  | 248.4          | 300.6 | 347.5 | 271.1  | 329.6 | 382.7 | 281.8  | 343.5 | 399.9 |
|                  | SC  | 100.9          | 99.6  | 98.1  | 104.6  | 103.4 | 102.0 | 106.4  | 105.2 | 103.9 |
|                  | gpm | 12.4           | 15.1  | 17.4  | 13.6   | 16.5  | 19.2  | 14.1   | 17.2  | 20.0  |
|                  | WPD | 0.6            | 0.8   | 1.1   | 0.7    | 1.0   | 1.3   | 0.7    | 1.0   | 1.4   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key:   EWT = 180°F   EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 17

**Table 86. Unit size 17 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |      | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|------|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |      | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |      | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 6800 | 8500          | 10200 | 6800  | 8500   | 10200 | 6800  | 8500   | 10200 | 6800  | 8500           | 10200 | 6800  | 8500   | 10200 | 6800  | 8500   | 10200 |       |
| 10°F             | TC   | 285.3         | 319.2 | 348.6 | 363.8  | 405.9 | —     | 402.6  | —     | —     | 470.0          | 540.8 | 601.2 | 545.6  | 632.0 | 706.3 | 586.4  | 682.0 | —     |
|                  | LAT  | 98.7          | 94.6  | 91.5  | 109.3  | 104.0 | —     | 114.6  | —     | —     | 123.7          | 118.7 | 114.4 | 134.0  | 128.6 | 123.8 | 139.5  | 134.0 | —     |
|                  | gpm  | 57.0          | 63.7  | 69.6  | 72.6   | 81.0  | —     | 80.4   | —     | —     | 93.8           | 108.0 | 120.1 | 108.9  | 126.2 | 141.0 | 117.1  | 136.2 | —     |
|                  | WPD  | 6.8           | 8.4   | 10.0  | 10.8   | 13.4  | —     | 13.2   | —     | —     | 9.9            | 13.0  | 16.0  | 13.3   | 17.7  | 22.0  | 15.3   | 20.5  | —     |
| 15°F             | TC   | 271.8         | 303.8 | 331.6 | 346.2  | 386.0 | 420.3 | 383.0  | 426.8 | 464.7 | 451.0          | 518.1 | 575.4 | 524.3  | 606.2 | 676.5 | 564.1  | 654.7 | 733.0 |
|                  | SC   | 96.9          | 93.0  | 90.0  | 107.0  | 101.9 | 98.0  | 111.9  | 106.3 | 102.0 | 121.2          | 116.2 | 112.0 | 131.1  | 125.8 | 121.2 | 136.5  | 131.0 | 126.3 |
|                  | gpm  | 36.2          | 40.5  | 44.2  | 46.1   | 51.4  | 56.0  | 51.0   | 56.8  | 61.9  | 60.1           | 69.0  | 76.6  | 69.8   | 80.7  | 90.1  | 75.1   | 87.2  | 97.6  |
|                  | WPD  | 2.8           | 3.5   | 4.2   | 4.5    | 5.6   | 6.6   | 5.5    | 6.8   | 8.0   | 4.1            | 5.4   | 6.7   | 5.5    | 7.4   | 9.1   | 6.4    | 8.6   | 10.7  |
| 20°F             | TC   | 258.3         | 288.7 | 314.9 | 328.9  | 366.3 | 398.7 | 363.8  | 405.0 | 440.6 | 431.9          | 495.5 | 549.6 | 502.9  | 580.3 | 646.7 | 541.5  | 627.3 | 701.1 |
|                  | SC   | 95.0          | 91.3  | 88.5  | 104.6  | 99.7  | 96.0  | 109.3  | 103.9 | 99.8  | 118.6          | 113.7 | 109.7 | 128.2  | 122.9 | 118.5 | 133.4  | 128.0 | 123.4 |
|                  | gpm  | 25.8          | 28.8  | 31.5  | 32.9   | 36.6  | 39.8  | 36.3   | 40.5  | 44.0  | 43.1           | 49.5  | 54.9  | 50.2   | 58.0  | 64.6  | 54.1   | 62.7  | 70.0  |
|                  | WPD  | 1.5           | 1.8   | 2.2   | 2.4    | 2.9   | 3.4   | 2.9    | 3.5   | 4.2   | 2.2            | 2.8   | 3.5   | 2.9    | 3.9   | 4.8   | 3.4    | 4.5   | 5.6   |
| 25°F             | TC   | 244.9         | 273.5 | 298.3 | 311.6  | 346.8 | 377.2 | 344.7  | 383.2 | 416.7 | 412.5          | 472.6 | 523.6 | 480.9  | 554.0 | 616.6 | 518.5  | 599.3 | 668.9 |
|                  | SC   | 93.2          | 89.7  | 87.0  | 102.2  | 97.6  | 94.1  | 106.7  | 101.6 | 97.7  | 115.9          | 111.3 | 107.3 | 125.2  | 120.1 | 115.7 | 130.3  | 125.0 | 120.5 |
|                  | gpm  | 19.6          | 21.9  | 23.8  | 24.9   | 27.7  | 30.2  | 27.6   | 30.6  | 33.3  | 33.0           | 37.8  | 41.9  | 38.4   | 44.3  | 49.3  | 41.4   | 47.9  | 53.5  |
|                  | WPD  | 0.9           | 1.1   | 1.3   | 1.4    | 1.7   | 2.0   | 1.7    | 2.1   | 2.4   | 1.3            | 1.7   | 2.0   | 1.7    | 2.3   | 2.8   | 2.0    | 2.7   | 3.3   |
| 30°F             | TC   | 231.5         | 258.7 | 282.3 | 294.2  | 327.2 | 355.8 | 325.5  | 361.4 | 392.8 | 392.8          | 449.3 | 497.2 | 458.5  | 527.3 | 586.0 | 494.7  | 570.8 | 636.0 |
|                  | SC   | 91.4          | 88.1  | 85.5  | 99.9   | 95.5  | 92.2  | 104.1  | 99.2  | 95.5  | 113.3          | 108.7 | 104.9 | 122.2  | 117.2 | 113.0 | 127.1  | 121.9 | 117.5 |
|                  | gpm  | 15.4          | 17.2  | 18.8  | 19.6   | 21.8  | 23.7  | 21.7   | 24.1  | 26.2  | 26.2           | 29.9  | 33.1  | 30.6   | 35.1  | 39.0  | 33.0   | 38.0  | 42.4  |
|                  | WPD  | 0.6           | 0.7   | 0.8   | 0.9    | 1.1   | 1.3   | 1.1    | 1.3   | 1.5   | 0.8            | 1.1   | 1.3   | 1.1    | 1.5   | 1.8   | 1.3    | 1.7   | 2.1   |
| 40°F             | TC   | 206.1         | 230.0 | 250.4 | 261.1  | 290.0 | 315.3 | 286.7  | 319.4 | 347.3 | 350.9          | 401.1 | 443.1 | 411.7  | 471.8 | 522.7 | 445.1  | 511.4 | 567.9 |
|                  | SC   | 87.9          | 84.9  | 82.6  | 95.4   | 91.5  | 88.5  | 98.9   | 94.6  | 91.4  | 107.6          | 103.5 | 100.1 | 115.8  | 111.2 | 107.3 | 120.4  | 115.5 | 111.3 |
|                  | gpm  | 10.3          | 11.5  | 12.5  | 13.1   | 14.5  | 15.8  | 14.3   | 16.0  | 17.4  | 17.5           | 20.1  | 22.2  | 20.6   | 23.6  | 26.1  | 22.3   | 25.6  | 28.4  |
|                  | WPD  | 0.3           | 0.3   | 0.4   | 0.4    | 0.5   | 0.6   | 0.5    | 0.6   | 0.7   | 0.4            | 0.5   | 0.6   | 0.5    | 0.7   | 0.8   | 0.6    | 0.8   | 1.0   |

| Water Temp. Rise |      | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |      | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |      | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |       |
|                  | 6800 | 8500           | 10200 | 6800  | 8500   | 10200 | 6800  | 8500   | 10200 | 6800  | 8500           | 10200 | 6800  | 8500   | 10200 | 6800  | 8500   | 10200 |       |
| 10°F             | TC   | 327.1          | 386.1 | 438.5 | 359.5  | 428.3 | 490.4 | 374.7  | 448.9 | 516.3 | 384.5          | 462.9 | 534.9 | 406.9  | 494.7 | 576.7 | 416.2  | 508.5 | 595.4 |
|                  | LAT  | 104.4          | 101.9 | 99.6  | 108.7  | 106.5 | 104.3 | 110.8  | 108.7 | 106.7 | 112.1          | 110.2 | 108.4 | 115.2  | 113.7 | 112.1 | 116.4  | 115.2 | 113.8 |
|                  | gpm  | 65.5           | 77.4  | 87.9  | 72.0   | 85.8  | 98.3  | 75.1   | 90.0  | 103.5 | 77.0           | 92.8  | 107.2 | 81.5   | 99.1  | 115.6 | 83.4   | 101.9 | 119.3 |
|                  | WPD  | 4.0            | 5.4   | 6.8   | 4.7    | 6.5   | 8.4   | 5.1    | 7.1   | 9.3   | 6.9            | 9.7   | 12.6  | 7.6    | 10.9  | 14.5  | 7.9    | 11.5  | 15.4  |
| 15°F             | TC   | 307.6          | 361.7 | 409.6 | 340.2  | 403.6 | 460.3 | 356.0  | 424.4 | 486.2 | 369.9          | 443.5 | 510.8 | 394.4  | 477.3 | 554.3 | 404.9  | 492.5 | 574.3 |
|                  | SC   | 101.7          | 99.2  | 97.0  | 106.1  | 103.8 | 101.6 | 108.3  | 106.0 | 103.9 | 110.2          | 108.1 | 106.2 | 113.5  | 111.8 | 110.1 | 114.9  | 113.4 | 111.9 |
|                  | gpm  | 41.1           | 48.3  | 54.7  | 45.4   | 53.9  | 61.5  | 47.6   | 56.7  | 64.9  | 49.4           | 59.3  | 68.2  | 52.7   | 63.8  | 74.0  | 54.1   | 65.8  | 76.7  |
|                  | WPD  | 1.7            | 2.2   | 2.8   | 2.0    | 2.8   | 3.5   | 2.2    | 3.0   | 3.9   | 3.0            | 4.2   | 5.5   | 3.4    | 4.9   | 6.4   | 3.6    | 5.2   | 6.8   |
| 20°F             | TC   | 286.2          | 335.6 | 378.8 | 318.7  | 376.3 | 427.7 | 334.7  | 397.1 | 453.0 | 353.2          | 421.7 | 484.0 | 379.2  | 456.9 | 528.5 | 391.0  | 473.2 | 549.7 |
|                  | SC   | 98.8           | 96.4  | 94.2  | 103.2  | 100.8 | 98.7  | 105.4  | 103.1 | 101.0 | 107.9          | 105.8 | 103.8 | 111.4  | 109.6 | 107.8 | 113.0  | 111.3 | 109.7 |
|                  | gpm  | 28.7           | 33.6  | 38.0  | 31.9   | 37.7  | 42.9  | 33.5   | 39.8  | 45.4  | 35.4           | 42.3  | 48.5  | 38.0   | 45.8  | 53.0  | 39.2   | 47.4  | 55.1  |
|                  | WPD  | 0.9            | 1.2   | 1.4   | 1.0    | 1.4   | 1.8   | 1.1    | 1.6   | 2.0   | 1.7            | 2.3   | 3.0   | 1.9    | 2.7   | 3.5   | 2.0    | 2.8   | 3.7   |
| 25°F             | TC   | 259.6          | 305.2 | 344.8 | 292.2  | 345.4 | 391.9 | 308.7  | 366.0 | 416.4 | 333.3          | 397.1 | 454.1 | 360.9  | 433.1 | 499.0 | 373.6  | 450.3 | 520.8 |
|                  | SC   | 95.2           | 93.1  | 91.2  | 99.6   | 97.5  | 95.4  | 101.9  | 99.7  | 97.6  | 105.2          | 103.1 | 101.1 | 108.9  | 107.0 | 105.1 | 110.7  | 108.8 | 107.1 |
|                  | gpm  | 20.8           | 24.5  | 27.6  | 23.4   | 27.7  | 31.4  | 24.7   | 29.3  | 33.4  | 26.7           | 31.8  | 36.4  | 28.9   | 34.7  | 40.0  | 29.9   | 36.1  | 41.7  |
|                  | WPD  | 0.5            | 0.6   | 0.8   | 0.6    | 0.8   | 1.0   | 0.7    | 0.9   | 1.1   | 1.0            | 1.4   | 1.8   | 1.2    | 1.6   | 2.1   | 1.2    | 1.7   | 2.3   |
| 30°F             | TC   | 222.6          | 265.3 | 301.8 | 256.1  | 305.3 | 348.0 | 273.0  | 326.0 | 372.2 | 307.7          | 367.0 | 419.7 | 336.7  | 404.1 | 464.7 | 350.5  | 422.1 | 487.0 |
|                  | SC   | 90.2           | 88.8  | 87.3  | 94.7   | 93.1  | 91.5  | 97.0   | 95.4  | 93.7  | 101.7          | 99.8  | 97.9  | 105.7  | 103.8 | 102.0 | 107.5  | 105.8 | 104.0 |
|                  | gpm  | 14.9           | 17.7  | 20.2  | 17.1   | 20.4  | 23.2  | 18.2   | 21.8  | 24.9  | 20.5           | 24.5  | 28.0  | 22.5   | 27.0  | 31.0  | 23.4   | 28.2  | 32.5  |
|                  | WPD  | 0.3            | 0.4   | 0.5   | 0.3    | 0.5   | 0.6   | 0.4    | 0.5   | 0.7   | 0.6            | 0.9   | 1.1   | 0.7    | 1.0   | 1.3   | 0.8    | 1.1   | 1.4   |
| 40°F             | TC   | —              | —     | —     | —      | —     | —     | —      | —     | —     | 215.4          | 269.9 | 315.3 | 250.6  | 310.2 | 361.7 | 267.4  | 331.8 | 385.2 |
|                  | SC   | —              | —     | —     | —      | —     | —     | —      | —     | —     | 89.2           | 89.3  | 88.5  | 94.0   | 93.6  | 92.7  | 96.3   | 96.0  | 94.8  |
|                  | gpm  | —              | —     | —     | —      | —     | —     | —      | —     | —     | 10.8           | 13.5  | 15.8  | 12.5   | 15.5  | 18.1  | 13.4   | 16.6  | 19.3  |
|                  | WPD  | —              | —     | —     | —      | —     | —     | —      | —     | —     | 0.2            | 0.3   | 0.4   | 0.3    | 0.4   | 0.5   | 0.3    | 0.4   | 0.6   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 17

**Table 86. Unit size 17 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 6800           | 8500  | 10200 | 6800   | 8500  | 10200 | 6800   | 8500  | 10200 |
| 10°F             | TC  | 412.9          | 503.8 | 589.3 | 427.0  | 525.4 | 619.4 | 432.1  | 533.6 | 631.5 |
|                  | LAT | 116.0          | 114.7 | 113.3 | 117.9  | 117.0 | 116.0 | 118.6  | 117.9 | 117.1 |
|                  | gpm | 82.7           | 101.0 | 118.1 | 85.6   | 105.3 | 124.1 | 86.6   | 106.9 | 126.5 |
|                  | WPD | 9.5            | 13.7  | 18.3  | 10.2   | 14.9  | 20.1  | 10.4   | 15.3  | 20.9  |
| 15°F             | TC  | 402.7          | 489.4 | 570.5 | 419.3  | 513.9 | 603.7 | 425.7  | 523.8 | 617.7 |
|                  | SC  | 114.6          | 113.1 | 111.6 | 116.9  | 115.7 | 114.6 | 117.7  | 116.8 | 115.8 |
|                  | gpm | 53.8           | 65.4  | 76.2  | 56.0   | 68.6  | 80.6  | 56.9   | 70.0  | 82.5  |
|                  | WPD | 4.4            | 6.2   | 8.2   | 4.7    | 6.8   | 9.2   | 4.8    | 7.1   | 9.5   |
| 20°F             | TC  | 390.3          | 472.4 | 548.7 | 409.2  | 499.5 | 584.6 | 417.0  | 511.0 | 600.4 |
|                  | SC  | 112.9          | 111.2 | 109.6 | 115.5  | 114.2 | 112.8 | 116.5  | 115.4 | 114.3 |
|                  | gpm | 39.1           | 47.3  | 55.0  | 41.0   | 50.0  | 58.6  | 41.8   | 51.2  | 60.2  |
|                  | WPD | 2.5            | 3.5   | 4.6   | 2.7    | 3.9   | 5.1   | 2.8    | 4.0   | 5.4   |
| 25°F             | TC  | 375.1          | 452.2 | 523.4 | 396.3  | 481.6 | 561.5 | 405.4  | 494.6 | 578.9 |
|                  | SC  | 110.9          | 109.1 | 107.3 | 113.7  | 112.2 | 110.8 | 115.0  | 113.7 | 112.3 |
|                  | gpm | 30.1           | 36.2  | 41.9  | 31.8   | 38.6  | 45.0  | 32.5   | 39.6  | 46.4  |
|                  | WPD | 1.5            | 2.2   | 2.8   | 1.7    | 2.4   | 3.2   | 1.8    | 2.5   | 3.4   |
| 30°F             | TC  | 355.5          | 427.9 | 493.9 | 378.9  | 459.4 | 533.7 | 389.4  | 473.8 | 552.3 |
|                  | SC  | 108.2          | 106.4 | 104.6 | 111.4  | 109.8 | 108.2 | 112.8  | 111.4 | 109.9 |
|                  | gpm | 23.7           | 28.6  | 33.0  | 25.3   | 30.7  | 35.6  | 26.0   | 31.6  | 36.9  |
|                  | WPD | 1.0            | 1.4   | 1.8   | 1.1    | 1.6   | 2.1   | 1.2    | 1.7   | 2.2   |
| 40°F             | TC  | 291.4          | 353.9 | 409.7 | 319.4  | 389.3 | 452.6 | 332.7  | 406.4 | 473.6 |
|                  | SC  | 99.5           | 98.4  | 97.0  | 103.3  | 102.2 | 100.9 | 105.1  | 104.1 | 102.8 |
|                  | gpm | 14.6           | 17.7  | 20.5  | 16.0   | 19.5  | 22.7  | 16.7   | 20.4  | 23.7  |
|                  | WPD | 0.4            | 0.6   | 0.8   | 0.5    | 0.7   | 0.9   | 0.5    | 0.8   | 1.0   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 21

**Table 87. Unit size 21 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |     | 1 Row of Coil |       |        |       |        |       |       |       | 2 Rows of Coil |       |        |       |       |       |       |       |       |       |
|------------------|-----|---------------|-------|--------|-------|--------|-------|-------|-------|----------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|                  |     | 9 fpi         |       | 12 fpi |       | 14 fpi |       | 9 fpi |       | 12 fpi         |       | 14 fpi |       |       |       |       |       |       |       |
|                  |     | Airflow       |       |        |       |        |       |       |       | Airflow        |       |        |       |       |       |       |       |       |       |
|                  |     | 8400          | 10200 | 12600  | 8400  | 10500  | 12600 | 8400  | 10500 | 12600          | 8400  | 10500  | 12600 | 8400  | 10500 | 12600 |       |       |       |
| 10°F             | TC  | 354.0         | 396.0 | —      | —     | —      | —     | —     | —     | —              | 583.6 | 671.3  | —     | 677.6 | —     | 728.3 | —     |       |       |
|                  | LAT | 98.9          | 94.8  | —      | —     | —      | —     | —     | —     | —              | 124.1 | 119.0  | —     | 134.4 | —     | 139.9 | —     |       |       |
|                  | gpm | 70.7          | 79.1  | —      | —     | —      | —     | —     | —     | —              | 116.5 | 134.0  | —     | 135.3 | —     | 145.4 | —     |       |       |
|                  | WPD | 11.0          | 13.6  | —      | —     | —      | —     | —     | —     | —              | 15.7  | 20.6   | —     | 21.0  | —     | 24.2  | —     |       |       |
| 15°F             | TC  | 338.6         | 378.6 | 413.2  | 431.5 | 481.0  | 523.9 | 477.4 | 532.0 | 579.3          | 562.2 | 645.9  | 717.2 | 653.8 | 755.9 | 843.5 | 703.5 | 816.5 | 914.1 |
|                  | SC  | 97.2          | 93.2  | 90.2   | 107.4 | 102.2  | 98.3  | 112.4 | 106.7 | 102.4          | 121.7 | 116.7  | 112.5 | 131.8 | 126.4 | 121.7 | 137.2 | 131.7 | 126.9 |
|                  | gpm | 45.1          | 50.4  | 55.0   | 57.5  | 64.1   | 69.8  | 63.6  | 70.8  | 77.1           | 74.9  | 86.0   | 95.5  | 87.1  | 100.7 | 112.3 | 93.7  | 108.7 | 121.7 |
|                  | WPD | 4.7           | 5.8   | 6.8    | 7.4   | 9.1    | 10.7  | 9.0   | 11.1  | 13.0           | 6.6   | 8.6    | 10.6  | 8.9   | 11.8  | 14.6  | 10.2  | 13.7  | 17.0  |
| 20°F             | TC  | 323.3         | 361.3 | 394.3  | 411.8 | 458.8  | 499.4 | 455.4 | 507.2 | 552.0          | 540.7 | 620.4  | 688.1 | 629.8 | 726.9 | 810.1 | 678.3 | 785.8 | 878.4 |
|                  | SC  | 95.5          | 91.7  | 88.9   | 105.2 | 100.3  | 96.5  | 110.0 | 104.5 | 100.4          | 119.4 | 114.5  | 110.4 | 129.1 | 123.8 | 119.3 | 134.5 | 129.0 | 124.3 |
|                  | gpm | 32.3          | 36.1  | 39.4   | 41.1  | 45.8   | 49.9  | 45.5  | 50.7  | 55.1           | 54.0  | 62.0   | 68.7  | 62.9  | 72.6  | 80.9  | 67.8  | 78.5  | 87.8  |
|                  | WPD | 2.5           | 3.1   | 3.6    | 3.9   | 4.8    | 5.7   | 4.7   | 5.8   | 6.9            | 3.5   | 4.6    | 5.6   | 4.7   | 6.2   | 7.7   | 5.4   | 7.2   | 9.0   |
| 25°F             | TC  | 308.1         | 344.1 | 375.3  | 392.1 | 436.6  | 475.0 | 433.6 | 482.6 | 524.9          | 518.9 | 594.6  | 658.8 | 605.2 | 697.4 | 776.3 | 652.5 | 754.6 | 842.3 |
|                  | SC  | 93.8          | 90.2  | 87.5   | 103.0 | 98.3   | 94.8  | 107.6 | 102.4 | 98.4           | 117.0 | 112.2  | 108.2 | 126.4 | 121.2 | 116.8 | 131.6 | 126.3 | 121.6 |
|                  | gpm | 24.6          | 27.5  | 30.0   | 31.3  | 34.9   | 38.0  | 34.7  | 38.6  | 42.0           | 41.5  | 47.5   | 52.7  | 48.4  | 55.8  | 62.1  | 52.2  | 60.3  | 67.3  |
|                  | WPD | 1.5           | 1.8   | 2.2    | 2.3   | 2.9    | 3.4   | 2.8   | 3.5   | 4.1            | 2.1   | 2.7    | 3.3   | 2.8   | 3.7   | 4.6   | 3.3   | 4.3   | 5.4   |
| 30°F             | TC  | 292.8         | 327.2 | 357.2  | 372.3 | 414.3  | 450.6 | 411.6 | 458.2 | 497.7          | 496.8 | 568.4  | 629.2 | 580.1 | 667.4 | 741.9 | 626.1 | 722.6 | 805.5 |
|                  | SC  | 92.1          | 88.7  | 86.1   | 100.9 | 96.4   | 93.0  | 105.2 | 100.2 | 96.4           | 114.5 | 109.9  | 106.0 | 123.7 | 118.6 | 114.3 | 128.7 | 123.5 | 118.9 |
|                  | gpm | 19.5          | 21.8  | 23.8   | 24.8  | 27.6   | 30.0  | 27.4  | 30.5  | 33.2           | 33.1  | 37.9   | 41.9  | 38.7  | 44.5  | 49.4  | 41.7  | 48.2  | 53.7  |
|                  | WPD | 1.0           | 1.2   | 1.4    | 1.5   | 1.8    | 2.2   | 1.8   | 2.2   | 2.6            | 1.4   | 1.8    | 2.1   | 1.8   | 2.4   | 2.9   | 2.1   | 2.8   | 3.5   |
| 40°F             | TC  | 264.6         | 294.7 | 321.1  | 333.7 | 372.0  | 404.7 | 367.3 | 409.7 | 446.0          | 450.8 | 514.4  | 568.1 | 527.8 | 605.2 | 670.9 | 570.6 | 656.2 | 729.2 |
|                  | SC  | 89.0          | 85.9  | 83.5   | 96.6  | 92.7   | 89.6  | 100.3 | 96.0  | 92.6           | 109.5 | 105.2  | 101.6 | 117.9 | 113.1 | 109.1 | 122.6 | 117.6 | 113.4 |
|                  | gpm | 13.2          | 14.7  | 16.1   | 16.7  | 18.6   | 20.2  | 18.4  | 20.5  | 22.3           | 22.5  | 25.7   | 28.4  | 26.4  | 30.3  | 33.5  | 28.5  | 32.8  | 36.5  |
|                  | WPD | 0.5           | 0.6   | 0.7    | 0.7   | 0.9    | 1.0   | 0.9   | 1.1   | 1.2            | 0.6   | 0.8    | 1.0   | 0.9   | 1.1   | 1.4   | 1.0   | 1.3   | 1.6   |

| Water Temp. Rise |     | 4 Rows of Coil |       |        |       |        |       |       |       | 6 Rows of Coil |       |        |       |       |       |       |       |       |       |
|------------------|-----|----------------|-------|--------|-------|--------|-------|-------|-------|----------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
|                  |     | 9 fpi          |       | 12 fpi |       | 14 fpi |       | 9 fpi |       | 12 fpi         |       | 14 fpi |       |       |       |       |       |       |       |
|                  |     | Airflow        |       |        |       |        |       |       |       | Airflow        |       |        |       |       |       |       |       |       |       |
|                  |     | 8400           | 10200 | 12600  | 8400  | 10500  | 12600 | 8400  | 10500 | 12600          | 8400  | 10500  | 12600 | 8400  | 10500 | 12600 |       |       |       |
| 10°F             | TC  | 407.2          | 480.7 | 546.0  | 447.4 | 533.2  | 610.6 | 466.3 | 558.8 | 642.9          | 476.9 | 574.3  | 663.7 | 504.5 | 613.6 | 715.4 | 515.8 | 630.4 | —     |
|                  | LAT | 104.7          | 102.2 | 100.0  | 109.1 | 106.8  | 104.7 | 111.2 | 109.1 | 107.0          | 112.3 | 110.4  | 108.6 | 115.4 | 113.9 | 112.4 | 116.6 | 115.4 | —     |
|                  | gpm | 81.6           | 96.3  | 109.4  | 89.6  | 106.9  | 122.4 | 93.4  | 112.0 | 128.8          | 95.6  | 115.1  | 133.0 | 101.1 | 123.0 | 143.4 | 103.4 | 126.3 | —     |
|                  | WPD | 6.6            | 8.9   | 11.3   | 7.8   | 10.8   | 14.0  | 8.4   | 11.8  | 15.4           | 11.4  | 16.1   | 21.0  | 12.7  | 18.2  | 24.1  | 13.2  | 19.1  | —     |
| 15°F             | TC  | 385.3          | 453.1 | 513.2  | 425.9 | 505.4  | 576.8 | 445.5 | 531.4 | 609.0          | 460.4 | 552.2  | 636.1 | 490.5 | 594.0 | 690.0 | 503.4 | 612.6 | 714.8 |
|                  | SC  | 102.3          | 99.8  | 97.6   | 106.7 | 104.4  | 102.2 | 108.9 | 106.7 | 104.6          | 110.5 | 108.5  | 106.5 | 113.8 | 112.2 | 110.5 | 115.3 | 113.8 | 112.3 |
|                  | gpm | 51.5           | 60.5  | 68.6   | 56.9  | 67.5   | 77.0  | 59.5  | 71.0  | 81.4           | 61.5  | 73.8   | 85.0  | 65.5  | 79.3  | 92.2  | 67.2  | 81.8  | 95.5  |
|                  | WPD | 2.8            | 3.8   | 4.8    | 3.4   | 4.6    | 5.9   | 3.7   | 5.1   | 6.5            | 5.1   | 7.1    | 9.2   | 5.7   | 8.1   | 10.7  | 6.0   | 8.6   | 11.5  |
| 20°F             | TC  | 361.4          | 423.5 | 478.2  | 401.8 | 474.8  | 540.0 | 421.8 | 500.8 | 571.8          | 441.4 | 527.4  | 605.5 | 473.6 | 571.1 | 660.9 | 488.0 | 591.2 | 687.1 |
|                  | SC  | 99.7           | 97.2  | 95.0   | 104.1 | 101.7  | 99.5  | 106.3 | 104.0 | 101.8          | 108.5 | 106.3  | 104.3 | 112.0 | 110.1 | 108.4 | 113.6 | 111.9 | 110.3 |
|                  | gpm | 36.2           | 42.4  | 47.9   | 40.3  | 47.6   | 54.1  | 42.3  | 50.2  | 57.3           | 44.2  | 52.8   | 60.7  | 47.5  | 57.2  | 66.2  | 48.9  | 59.2  | 68.8  |
|                  | WPD | 1.5            | 2.0   | 2.5    | 1.8   | 2.4    | 3.1   | 2.0   | 2.7   | 3.4            | 2.8   | 3.9    | 5.0   | 3.2   | 4.5   | 5.9   | 3.4   | 4.8   | 6.3   |
| 25°F             | TC  | 334.2          | 391.2 | 440.6  | 374.5 | 441.1  | 499.8 | 394.7 | 466.6 | 530.7          | 419.7 | 499.4  | 571.4 | 453.4 | 544.3 | 627.5 | 469.0 | 565.5 | 654.7 |
|                  | SC  | 96.7           | 94.4  | 92.2   | 101.1 | 98.7   | 96.6  | 103.3 | 101.0 | 98.8           | 106.1 | 103.9  | 101.8 | 109.8 | 107.8 | 105.9 | 111.5 | 109.7 | 107.9 |
|                  | gpm | 26.8           | 31.4  | 35.3   | 30.0  | 35.3   | 40.1  | 31.6  | 37.4  | 42.5           | 33.6  | 40.0   | 45.8  | 36.3  | 43.6  | 50.3  | 37.6  | 45.3  | 52.5  |
|                  | WPD | 0.9            | 1.1   | 1.4    | 1.0   | 1.4    | 1.8   | 1.2   | 1.6   | 2.0            | 1.7   | 2.4    | 3.0   | 2.0   | 2.8   | 3.6   | 2.1   | 3.0   | 3.9   |
| 30°F             | TC  | 299.5          | 352.3 | 397.7  | 340.0 | 401.5  | 454.9 | 360.7 | 427.0 | 484.8          | 393.3 | 467.3  | 533.0 | 428.7 | 513.0 | 589.0 | 445.5 | 535.0 | 616.8 |
|                  | SC  | 92.9           | 90.9  | 89.1   | 97.3  | 95.3   | 93.3  | 99.6  | 97.5  | 95.5           | 103.2 | 101.0  | 99.0  | 107.1 | 105.0 | 103.1 | 108.9 | 107.0 | 105.1 |
|                  | gpm | 20.0           | 23.5  | 26.6   | 22.7  | 26.8   | 30.4  | 24.1  | 28.5  | 32.4           | 26.3  | 31.2   | 35.6  | 28.6  | 34.3  | 39.3  | 29.7  | 35.7  | 41.2  |
|                  | WPD | 0.5            | 0.7   | 0.8    | 0.6   | 0.9    | 1.1   | 0.7   | 1.0   | 1.2            | 1.1   | 1.5    | 1.9   | 1.3   | 1.8   | 2.3   | 1.4   | 1.9   | 2.5   |
| 40°F             | TC  | —              | —     | 249.7  | —     | 263.0  | 313.2 | 223.4 | 292.7 | 344.5          | 311.0 | 374.3  | 429.5 | 349.9 | 422.0 | 485.5 | 369.1 | 445.9 | 514.1 |
|                  | SC  | —              | —     | 78.3   | —     | 83.1   | 82.9  | 84.5  | 85.7  | 85.2           | 94.1  | 92.9   | 91.4  | 98.4  | 97.1  | 95.5  | 100.5 | 99.2  | 97.6  |
|                  | gpm | —              | —     | 12.5   | —     | 13.2   | 15.7  | 11.2  | 14.7  | 17.3           | 15.6  | 18.7   | 21.5  | 17.5  | 21.1  | 24.3  | 18.5  | 22.3  | 25.7  |
|                  | WPD | —              | —     | 0.2    | —     | 0.2    | 0.3   | 0.2   | 0.3   | 0.4            | 0.4   | 0.6    | 0.8   | 0.5   | 0.8   | 1.0   | 0.6   | 0.8   | 1.1   |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Hot Water Coil, Size 21

**Table 87. Unit size 21 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 8400           | 10200 | 12600 | 8400   | 10500 | 12600 | 8400   | 10500 | 12600 |
| 10°F             | TC  | 511.3          | 624.0 | —     | 528.4  | 650.4 | —     | 534.6  | 660.4 | —     |
|                  | LAT | 116.1          | 114.8 | —     | 118.0  | 117.1 | —     | 118.7  | 118.0 | —     |
|                  | gpm | 102.5          | 125.0 | —     | 105.9  | 130.3 | —     | 107.1  | 132.3 | —     |
|                  | WPD | 15.9           | 22.9  | —     | 16.9   | 24.8  | —     | 17.3   | 25.5  | —     |
| 15°F             | TC  | 499.7          | 607.5 | 708.4 | 519.9  | 637.5 | 749.3 | 527.6  | 649.6 | 766.4 |
|                  | SC  | 114.9          | 113.4 | 111.8 | 117.1  | 116.0 | 114.8 | 117.9  | 117.0 | 116.1 |
|                  | gpm | 66.8           | 81.2  | 94.6  | 69.5   | 85.2  | 100.1 | 70.5   | 86.8  | 102.4 |
|                  | WPD | 7.3            | 10.5  | 13.8  | 7.9    | 11.4  | 15.3  | 8.1    | 11.8  | 16.0  |
| 20°F             | TC  | 485.7          | 588.1 | 683.4 | 508.8  | 621.4 | 727.7 | 518.1  | 635.4 | 747.0 |
|                  | SC  | 113.3          | 111.6 | 110.0 | 115.8  | 114.6 | 113.3 | 116.9  | 115.8 | 114.7 |
|                  | gpm | 48.7           | 58.9  | 68.5  | 51.0   | 62.3  | 72.9  | 51.9   | 63.7  | 74.8  |
|                  | WPD | 4.2            | 5.9   | 7.7   | 4.5    | 6.5   | 8.6   | 4.7    | 6.8   | 9.1   |
| 25°F             | TC  | 468.7          | 565.2 | 654.4 | 494.5  | 601.3 | 701.6 | 505.5  | 617.2 | 722.9 |
|                  | SC  | 111.4          | 109.6 | 107.9 | 114.3  | 112.8 | 111.3 | 115.5  | 114.2 | 112.9 |
|                  | gpm | 37.6           | 45.3  | 52.4  | 39.6   | 48.2  | 56.2  | 40.5   | 49.5  | 57.9  |
|                  | WPD | 2.6            | 3.7   | 4.8   | 2.9    | 4.1   | 5.4   | 3.0    | 4.3   | 5.7   |
| 30°F             | TC  | 447.8          | 538.1 | 620.7 | 476.2  | 576.7 | 670.1 | 488.8  | 594.2 | 693.1 |
|                  | SC  | 109.2          | 107.3 | 105.4 | 112.3  | 110.6 | 109.0 | 113.7  | 112.2 | 110.7 |
|                  | gpm | 29.9           | 35.9  | 41.5  | 31.8   | 38.5  | 44.8  | 32.6   | 39.7  | 46.3  |
|                  | WPD | 1.7            | 2.4   | 3.1   | 1.9    | 2.7   | 3.6   | 2.0    | 2.9   | 3.8   |
| 40°F             | TC  | 384.0          | 461.6 | 531.3 | 417.5  | 504.7 | 583.9 | 433.3  | 525.4 | 609.6 |
|                  | SC  | 102.1          | 100.5 | 98.9  | 105.8  | 104.3 | 102.7 | 107.6  | 106.1 | 104.6 |
|                  | gpm | 19.2           | 23.1  | 26.6  | 20.9   | 25.3  | 29.2  | 21.7   | 26.3  | 30.5  |
|                  | WPD | 0.8            | 1.1   | 1.4   | 0.9    | 1.3   | 1.7   | 1.0    | 1.4   | 1.8   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key:   EWT = 180°F   EWT = 120°F



# Performance Data

## Heating Capacities - Hot Water Coil, Size 25

**Table 88. Unit size 25 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |     | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |       |        |       |        |        |       |        |
|------------------|-----|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|--------|--------|-------|--------|
|                  |     | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |        | 14 fpi |       |        |
|                  |     | 10000         | 12500 | 15000 | 10000  | 12500 | 15000 | 10000  | 12500 | 15000 | 10000          | 12500 | 15000 | 10000  | 12500 | 15000  | 10000  | 12500 | 15000  |
| 10°F             | TC  | 411.0         | 459.3 | —     | —      | —     | —     | —      | —     | —     | 693.6          | 797.4 | 885.9 | 805.5  | 932.3 | —      | 865.9  | —     | —      |
|                  | LAT | 97.9          | 93.9  | —     | —      | —     | —     | —      | —     | —     | 124.0          | 118.8 | 114.5 | 134.3  | 128.8 | —      | 139.8  | —     | —      |
|                  | gpm | 82.1          | 91.7  | —     | —      | —     | —     | —      | —     | —     | 138.5          | 159.2 | 176.9 | 160.8  | 186.2 | —      | 172.9  | —     | —      |
|                  | WPD | 13.3          | 16.4  | —     | —      | —     | —     | —      | —     | —     | 10.4           | 13.7  | 16.7  | 13.9   | 18.5  | —      | 16.0   | —     | —      |
| 15°F             | TC  | 393.3         | 439.4 | 479.3 | 501.9  | 559.0 | 608.3 | 555.8  | 618.6 | 673.1 | 668.5          | 767.5 | 851.9 | 777.6  | 898.5 | 1002.2 | 836.7  | 970.6 | 1086.2 |
|                  | SC  | 96.3          | 92.4  | 89.5  | 106.3  | 101.2 | 97.4  | 111.2  | 105.6 | 101.4 | 121.6          | 116.6 | 112.4 | 131.7  | 126.3 | 121.6  | 137.1  | 131.6 | 126.8  |
|                  | gpm | 52.4          | 58.5  | 63.8  | 66.8   | 74.4  | 81.0  | 74.0   | 82.4  | 89.6  | 89.0           | 102.2 | 113.4 | 103.5  | 119.6 | 133.4  | 111.4  | 129.3 | 144.6  |
|                  | WPD | 5.6           | 6.9   | 8.2   | 8.9    | 11.0  | 12.9  | 10.9   | 13.4  | 15.7  | 4.5            | 5.8   | 7.1   | 6.0    | 7.9   | 9.7    | 6.9    | 9.2   | 11.4   |
| 20°F             | TC  | 375.8         | 419.6 | 457.6 | 479.2  | 533.4 | 580.2 | 530.5  | 590.2 | 641.7 | 643.3          | 737.7 | 817.8 | 749.4  | 864.4 | 963.0  | 807.1  | 934.7 | 1044.4 |
|                  | SC  | 94.6          | 91.0  | 88.1  | 104.2  | 99.3  | 95.7  | 108.9  | 103.5 | 99.4  | 119.3          | 114.4 | 110.3 | 129.1  | 123.8 | 119.2  | 134.4  | 128.9 | 124.2  |
|                  | gpm | 37.5          | 41.9  | 45.7  | 47.9   | 53.3  | 58.0  | 53.0   | 59.0  | 64.1  | 64.3           | 73.7  | 81.7  | 74.9   | 86.4  | 96.2   | 80.6   | 93.4  | 104.3  |
|                  | WPD | 3.0           | 3.7   | 4.3   | 4.7    | 5.8   | 6.8   | 5.7    | 7.0   | 8.3   | 2.4            | 3.1   | 3.8   | 3.2    | 4.2   | 5.2    | 3.7    | 4.9   | 6.1    |
| 25°F             | TC  | 358.3         | 399.9 | 435.9 | 456.6  | 507.9 | 552.2 | 505.3  | 561.8 | 610.6 | 617.8          | 707.4 | 783.5 | 720.6  | 829.9 | 923.3  | 776.9  | 898.0 | 1002.0 |
|                  | SC  | 93.0          | 89.5  | 86.8  | 102.1  | 97.5  | 93.9  | 106.6  | 101.4 | 97.5  | 117.0          | 112.2 | 108.2 | 126.4  | 121.2 | 116.8  | 131.6  | 126.2 | 121.6  |
|                  | gpm | 28.6          | 32.0  | 34.8  | 36.5   | 40.6  | 44.1  | 40.4   | 44.9  | 48.8  | 49.4           | 56.6  | 62.6  | 57.6   | 66.3  | 73.8   | 62.1   | 71.8  | 80.1   |
|                  | WPD | 1.8           | 2.2   | 2.6   | 2.8    | 3.5   | 4.1   | 3.4    | 4.2   | 4.9   | 1.5            | 1.9   | 2.3   | 1.9    | 2.6   | 3.1    | 2.2    | 3.0   | 3.7    |
| 30°F             | TC  | 340.7         | 380.6 | 415.2 | 434.2  | 482.4 | 524.2 | 480.0  | 533.3 | 579.4 | 591.7          | 676.7 | 748.7 | 691.1  | 794.7 | 883.1  | 745.9  | 860.6 | 958.9  |
|                  | SC  | 91.4          | 88.1  | 85.5  | 100.0  | 95.6  | 92.2  | 104.3  | 99.3  | 95.6  | 114.6          | 109.9 | 106.0 | 123.7  | 118.6 | 114.3  | 128.8  | 123.5 | 118.9  |
|                  | gpm | 22.7          | 25.4  | 27.7  | 28.9   | 32.1  | 34.9  | 32.0   | 35.5  | 38.6  | 39.4           | 45.1  | 49.9  | 46.1   | 53.0  | 58.8   | 49.7   | 57.3  | 63.9   |
|                  | WPD | 1.1           | 1.4   | 1.7   | 1.8    | 2.2   | 2.6   | 2.2    | 2.7   | 3.1   | 0.9            | 1.2   | 1.5   | 1.3    | 1.7   | 2.0    | 1.5    | 1.9   | 2.4    |
| 40°F             | TC  | 308.4         | 343.2 | 373.7 | 389.7  | 433.9 | 471.7 | 429.3  | 478.3 | 520.2 | 537.8          | 613.3 | 677.1 | 629.8  | 721.7 | 799.8  | 680.8  | 782.6 | 869.4  |
|                  | SC  | 88.4          | 85.3  | 83.0  | 95.9   | 92.0  | 89.0  | 99.6   | 95.3  | 92.0  | 109.6          | 105.2 | 101.6 | 118.1  | 113.2 | 109.2  | 122.8  | 117.7 | 113.4  |
|                  | gpm | 15.4          | 17.2  | 18.7  | 19.5   | 21.7  | 23.6  | 21.5   | 23.9  | 26.0  | 26.9           | 30.7  | 33.9  | 31.5   | 36.1  | 40.0   | 34.0   | 39.1  | 43.5   |
|                  | WPD | 0.6           | 0.7   | 0.8   | 0.9    | 1.1   | 1.2   | 1.0    | 1.3   | 1.5   | 0.5            | 0.6   | 0.7   | 0.6    | 0.8   | 1.0    | 0.7    | 0.9   | 1.1    |

| Water Temp. Rise |     | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | 10000          | 12500 | 15000 | 10000  | 12500 | 15000 | 10000  | 12500 | 15000 | 10000          | 12500 | 15000 | 10000  | 12500 | 15000 | 10000  | 12500 | 15000 |
| 10°F             | TC  | 484.5          | 571.7 | 649.1 | 532.4  | 634.4 | 726.2 | 555.0  | 664.8 | 764.6 | 567.5          | 683.1 | 789.2 | 600.5  | 730.1 | 851.0 | 614.0  | 750.2 | 878.5 |
|                  | LAT | 104.7          | 102.2 | 99.9  | 109.1  | 106.8 | 104.6 | 111.2  | 109.0 | 107.0 | 112.3          | 110.4 | 108.5 | 115.4  | 113.9 | 112.3 | 116.6  | 115.3 | 114.0 |
|                  | gpm | 97.1           | 114.6 | 130.1 | 106.7  | 127.1 | 145.5 | 111.2  | 133.2 | 153.2 | 113.7          | 136.9 | 158.1 | 120.3  | 146.3 | 170.5 | 123.0  | 150.3 | 176.0 |
|                  | WPD | 7.4            | 10.1  | 12.8  | 8.9    | 12.3  | 15.8  | 9.6    | 13.4  | 17.4  | 12.9           | 18.1  | 23.7  | 14.3   | 20.5  | 27.2  | 14.9   | 21.6  | 28.9  |
| 15°F             | TC  | 458.7          | 539.3 | 610.5 | 507.1  | 601.6 | 686.3 | 530.5  | 632.6 | 724.8 | 548.0          | 657.1 | 756.6 | 583.9  | 707.0 | 821.0 | 599.3  | 729.2 | 850.6 |
|                  | SC  | 102.3          | 99.8  | 97.5  | 106.8  | 104.4 | 102.2 | 108.9  | 106.7 | 104.6 | 110.5          | 108.5 | 106.5 | 113.8  | 112.1 | 110.5 | 115.3  | 113.8 | 112.3 |
|                  | gpm | 61.3           | 72.0  | 81.6  | 67.7   | 80.4  | 91.7  | 70.9   | 84.5  | 96.8  | 73.2           | 87.8  | 101.1 | 78.0   | 94.4  | 109.7 | 80.1   | 97.4  | 113.6 |
|                  | WPD | 3.2            | 4.3   | 5.4   | 3.8    | 5.2   | 6.7   | 4.2    | 5.8   | 7.4   | 5.7            | 8.0   | 10.4  | 6.5    | 9.2   | 12.1  | 6.8    | 9.7   | 12.9  |
| 20°F             | TC  | 430.6          | 504.4 | 569.4 | 478.8  | 565.7 | 643.1 | 502.7  | 596.7 | 681.1 | 525.7          | 627.9 | 720.6 | 564.1  | 679.9 | 786.7 | 581.2  | 703.9 | 818.0 |
|                  | SC  | 99.7           | 97.2  | 95.0  | 104.2  | 101.7 | 99.5  | 106.4  | 104.0 | 101.9 | 108.5          | 106.3 | 104.3 | 112.0  | 110.2 | 108.4 | 113.6  | 111.9 | 110.3 |
|                  | gpm | 43.1           | 50.5  | 57.0  | 48.0   | 56.7  | 64.4  | 50.4   | 59.8  | 68.2  | 52.7           | 62.9  | 72.2  | 56.5   | 68.1  | 78.8  | 58.2   | 70.5  | 82.0  |
|                  | WPD | 1.7            | 2.2   | 2.8   | 2.0    | 2.8   | 3.5   | 2.2    | 3.0   | 3.9   | 3.2            | 4.4   | 5.6   | 3.6    | 5.1   | 6.6   | 3.8    | 5.4   | 7.1   |
| 25°F             | TC  | 399.1          | 466.6 | 525.2 | 447.0  | 526.0 | 595.8 | 471.1  | 556.6 | 632.8 | 500.1          | 594.8 | 680.4 | 540.3  | 648.4 | 747.4 | 558.9  | 673.8 | 779.9 |
|                  | SC  | 96.8           | 94.4  | 92.3  | 101.2  | 98.8  | 96.6  | 103.4  | 101.1 | 98.9  | 106.1          | 103.9 | 101.8 | 109.8  | 107.8 | 105.9 | 111.5  | 109.7 | 107.9 |
|                  | gpm | 32.0           | 37.4  | 42.1  | 35.8   | 42.2  | 47.8  | 37.8   | 44.6  | 50.7  | 40.1           | 47.7  | 54.5  | 43.3   | 52.0  | 59.9  | 44.8   | 54.0  | 62.5  |
|                  | WPD | 1.0            | 1.3   | 1.6   | 1.2    | 1.6   | 2.0   | 1.3    | 1.8   | 2.3   | 1.9            | 2.6   | 3.4   | 2.2    | 3.1   | 4.0   | 2.4    | 3.3   | 4.3   |
| 30°F             | TC  | 359.3          | 421.8 | 475.5 | 407.4  | 480.3 | 543.5 | 431.9  | 510.5 | 579.1 | 469.4          | 557.2 | 635.2 | 511.5  | 611.6 | 702.1 | 531.5  | 637.9 | 735.2 |
|                  | SC  | 93.1           | 91.1  | 89.2  | 97.6   | 95.4  | 93.4  | 99.8   | 97.7  | 95.6  | 103.3          | 101.1 | 99.0  | 107.2  | 105.1 | 103.2 | 109.0  | 107.1 | 105.2 |
|                  | gpm | 24.0           | 28.2  | 31.8  | 27.2   | 32.1  | 36.3  | 28.8   | 34.1  | 38.7  | 31.4           | 37.2  | 42.4  | 34.2   | 40.8  | 46.9  | 35.5   | 42.6  | 49.1  |
|                  | WPD | 0.6            | 0.8   | 1.0   | 0.7    | 1.0   | 1.2   | 0.8    | 1.1   | 1.4   | 1.2            | 1.7   | 2.2   | 1.5    | 2.0   | 2.6   | 1.6    | 2.2   | 2.8   |
| 40°F             | TC  | —              | 256.3 | 313.3 | 251.0  | 327.7 | 384.6 | 285.9  | 361.1 | 420.8 | 375.4          | 450.3 | 515.5 | 421.4  | 506.7 | 582.1 | 444.1  | 535.1 | 616.0 |
|                  | SC  | —              | 78.9  | 79.3  | 83.1   | 84.2  | 83.6  | 86.4   | 86.6  | 85.9  | 94.6           | 93.2  | 91.7  | 98.9   | 97.4  | 95.8  | 101.0  | 99.5  | 97.9  |
|                  | gpm | —              | 12.8  | 15.7  | 12.6   | 16.4  | 19.3  | 14.3   | 18.1  | 21.1  | 18.8           | 22.6  | 25.8  | 21.1   | 25.4  | 29.1  | 22.2   | 26.8  | 30.8  |
|                  | WPD | —              | 0.2   | 0.3   | 0.2    | 0.3   | 0.4   | 0.2    | 0.3   | 0.5   | 0.5            | 0.7   | 0.9   | 0.6    | 0.9   | 1.1   | 0.7    | 0.9   | 1.2   |

**Notes:**

- TC = Total capacity (MBh)
- LAT = Leaving air temperature (°F)
- gpm = Water flow rate, gallons per minute
- WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
- Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
- Blank value means the water flow rate is below the minimum or above the maximum for the application.
- Capacities calculated with 0.00050 tube-side fouling factor.
- Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 25

**Table 88. Unit size 25 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |       |        |       |       |        |       |       |
|------------------|-----|----------------|-------|-------|--------|-------|-------|--------|-------|-------|
|                  |     | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       |
|                  |     | Airflow        |       |       |        |       |       |        |       |       |
|                  |     | 10000          | 12500 | 15000 | 10000  | 12500 | 15000 | 10000  | 12500 | 15000 |
| 10°F             | TC  | 608.5          | 742.4 | 868.3 | 629.0  | 774.0 | 912.6 | 636.3  | 786.0 | 930.3 |
|                  | LAT | 116.1          | 114.8 | 113.4 | 118.0  | 117.1 | 116.1 | 118.7  | 118.0 | 117.2 |
|                  | gpm | 121.9          | 148.8 | 174.0 | 126.0  | 155.1 | 182.9 | 127.5  | 157.5 | 186.4 |
|                  | WPD | 17.9           | 25.8  | 34.4  | 19.0   | 27.8  | 37.7  | 19.4   | 28.6  | 39.1  |
| 15°F             | TC  | 594.8          | 723.0 | 842.7 | 618.9  | 758.8 | 891.6 | 628.2  | 773.2 | 912.1 |
|                  | SC  | 114.8          | 113.3 | 111.8 | 117.1  | 116.0 | 114.8 | 117.9  | 117.0 | 116.1 |
|                  | gpm | 79.5           | 96.6  | 112.6 | 82.7   | 101.4 | 119.1 | 83.9   | 103.3 | 121.8 |
|                  | WPD | 8.2            | 11.7  | 15.5  | 8.8    | 12.8  | 17.2  | 9.1    | 13.3  | 17.9  |
| 20°F             | TC  | 578.2          | 700.1 | 813.2 | 605.8  | 739.7 | 866.2 | 617.0  | 756.5 | 889.3 |
|                  | SC  | 113.3          | 111.6 | 110.0 | 115.9  | 114.6 | 113.2 | 116.9  | 115.8 | 114.7 |
|                  | gpm | 57.9           | 70.1  | 81.5  | 60.7   | 74.1  | 86.8  | 61.8   | 75.8  | 89.1  |
|                  | WPD | 4.6            | 6.6   | 8.6   | 5.1    | 7.3   | 9.7   | 5.2    | 7.6   | 10.2  |
| 25°F             | TC  | 558.2          | 673.0 | 779.0 | 589.0  | 716.1 | 835.4 | 602.1  | 735.1 | 860.8 |
|                  | SC  | 111.5          | 109.6 | 107.9 | 114.3  | 112.8 | 111.4 | 115.5  | 114.2 | 112.9 |
|                  | gpm | 44.7           | 53.9  | 62.4  | 47.2   | 57.4  | 67.0  | 48.3   | 58.9  | 69.0  |
|                  | WPD | 2.9            | 4.1   | 5.3   | 3.2    | 4.6   | 6.1   | 3.4    | 4.8   | 6.4   |
| 30°F             | TC  | 533.8          | 641.0 | 739.3 | 567.6  | 687.1 | 798.3 | 582.6  | 708.0 | 825.8 |
|                  | SC  | 109.2          | 107.3 | 105.4 | 112.3  | 110.7 | 109.1 | 113.7  | 112.2 | 110.8 |
|                  | gpm | 35.6           | 42.8  | 49.4  | 37.9   | 45.9  | 53.3  | 38.9   | 47.3  | 55.1  |
|                  | WPD | 2.0            | 2.7   | 3.5   | 2.2    | 3.1   | 4.0   | 2.3    | 3.3   | 4.3   |
| 40°F             | TC  | 460.0          | 552.2 | 634.8 | 499.7  | 603.3 | 697.4 | 518.5  | 627.9 | 727.9 |
|                  | SC  | 102.4          | 100.7 | 99.0  | 106.1  | 104.5 | 102.9 | 107.8  | 106.3 | 104.7 |
|                  | gpm | 23.0           | 27.7  | 31.8  | 25.0   | 30.2  | 34.9  | 26.0   | 31.4  | 36.5  |
|                  | WPD | 0.9            | 1.3   | 1.6   | 1.0    | 1.5   | 1.9   | 1.1    | 1.6   | 2.1   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



# Performance Data

## Heating Capacities - Hot Water Coil, Size 30

**Table 89. Unit size 30 hot water heating capacities, EAT = 60°F**

| Water Temp. Rise |       | 1 Row of Coil |       |       |        |       |       |        |       |       | 2 Rows of Coil |       |        |        |        |        |        |        |        |
|------------------|-------|---------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|--------|--------|--------|--------|--------|--------|--------|
|                  |       | 9 fpi         |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |        | 12 fpi |        |        | 14 fpi |        |        |
|                  |       | Airflow       |       |       |        |       |       |        |       |       | Airflow        |       |        |        |        |        |        |        |        |
|                  | 12000 | 15000         | 18000 | 12000 | 15000  | 18000 | 12000 | 15000  | 18000 | 12000 | 15000          | 18000 | 12000  | 15000  | 18000  | 12000  | 15000  | 18000  |        |
| 10°F             | TC    | —             | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —      | —      | —      | —      | —      | —      | —      |
|                  | LAT   | —             | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —      | —      | —      | —      | —      | —      | —      |
|                  | gpm   | —             | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —      | —      | —      | —      | —      | —      | —      |
|                  | WPD   | —             | —     | —     | —      | —     | —     | —      | —     | —     | —              | —     | —      | —      | —      | —      | —      | —      | —      |
| 15°F             | TC    | 474.9         | 530.5 | 578.8 | 606.1  | 675.1 | —     | 671.3  | —     | —     | 807.5          | 927.1 | 1028.9 | 939.4  | 1085.5 | 1210.7 | 1010.9 | 1172.8 | 1312.4 |
|                  | SC    | 96.5          | 92.6  | 89.7  | 106.6  | 101.5 | —     | 111.6  | —     | —     | 122.1          | 117.0 | 112.7  | 132.2  | 126.7  | 122.0  | 137.7  | 132.1  | 127.2  |
|                  | gpm   | 63.2          | 70.6  | 77.1  | 80.7   | 89.9  | —     | 89.4   | —     | —     | 107.5          | 123.5 | 137.0  | 125.1  | 144.5  | 161.2  | 134.6  | 156.2  | 174.8  |
|                  | WPD   | 8.6           | 10.6  | 12.5  | 13.7   | 16.8  | —     | 16.6   | —     | —     | 6.8            | 8.9   | 10.8   | 9.1    | 12.0   | 14.8   | 10.5   | 13.9   | 17.3   |
| 20°F             | TC    | 455.2         | 508.3 | 554.4 | 580.6  | 646.4 | 703.3 | 642.8  | 715.3 | 778.0 | 779.5          | 893.8 | 990.9  | 908.1  | 1047.7 | 1167.2 | 978.2  | 1132.9 | 1266.0 |
|                  | SC    | 95.0          | 91.2  | 88.4  | 104.6  | 99.7  | 96.0  | 109.4  | 104.0 | 99.9  | 119.9          | 114.9 | 110.8  | 129.8  | 124.4  | 119.8  | 135.2  | 129.6  | 124.9  |
|                  | gpm   | 45.5          | 50.8  | 55.4  | 58.0   | 64.6  | 70.3  | 64.2   | 71.5  | 77.7  | 77.9           | 89.3  | 99.0   | 90.7   | 104.7  | 116.6  | 97.7   | 113.2  | 126.5  |
|                  | WPD   | 4.6           | 5.6   | 6.7   | 7.3    | 8.9   | 10.5  | 8.8    | 10.8  | 12.7  | 3.7            | 4.8   | 5.8    | 4.9    | 6.5    | 8.0    | 5.7    | 7.5    | 9.3    |
| 25°F             | TC    | 435.5         | 486.1 | 530.0 | 555.2  | 617.8 | 671.8 | 614.5  | 683.7 | 743.0 | 751.0          | 860.1 | 952.6  | 876.2  | 1009.3 | 1123.1 | 944.7  | 1092.3 | 1219.0 |
|                  | SC    | 93.5          | 89.9  | 87.1  | 102.7  | 98.0  | 94.4  | 107.2  | 102.0 | 98.1  | 117.7          | 112.9 | 108.8  | 127.3  | 122.0  | 117.5  | 132.6  | 127.1  | 122.4  |
|                  | gpm   | 34.8          | 38.9  | 42.4  | 44.4   | 49.4  | 53.7  | 49.1   | 54.7  | 59.4  | 60.0           | 68.8  | 76.2   | 70.0   | 80.7   | 89.8   | 75.5   | 87.3   | 97.4   |
|                  | WPD   | 2.8           | 3.4   | 4.0   | 4.4    | 5.4   | 6.3   | 5.3    | 6.5   | 7.6   | 2.2            | 2.9   | 3.5    | 3.0    | 3.9    | 4.8    | 3.5    | 4.6    | 5.7    |
| 30°F             | TC    | 415.7         | 464.3 | 506.7 | 529.6  | 589.0 | 640.3 | 586.1  | 651.4 | 707.9 | 721.9          | 825.8 | 913.8  | 843.5  | 970.1  | 1078.2 | 910.4  | 1050.7 | 1171.0 |
|                  | SC    | 91.9          | 88.5  | 86.0  | 100.7  | 96.2  | 92.8  | 105.0  | 100.0 | 96.3  | 115.5          | 110.8 | 106.8  | 124.8  | 119.6  | 115.2  | 130.0  | 124.6  | 120.0  |
|                  | gpm   | 27.7          | 30.9  | 33.8  | 35.3   | 39.2  | 42.7  | 39.1   | 43.4  | 47.2  | 48.1           | 55.0  | 60.9   | 56.2   | 64.6   | 71.8   | 60.7   | 70.0   | 78.0   |
|                  | WPD   | 1.8           | 2.2   | 2.6   | 2.8    | 3.5   | 4.1   | 3.4    | 4.2   | 4.9   | 1.5            | 1.9   | 2.3    | 2.0    | 2.6    | 3.2    | 2.3    | 3.0    | 3.7    |
| 40°F             | TC    | 378.7         | 422.5 | 460.2 | 479.6  | 534.4 | 581.3 | 528.6  | 589.2 | 641.2 | 661.8          | 755.1 | 833.8  | 775.3  | 888.9  | 985.5  | 838.3  | 964.2  | 1071.6 |
|                  | SC    | 89.1          | 86.0  | 83.6  | 96.9   | 92.8  | 89.8  | 100.6  | 96.2  | 92.8  | 110.9          | 106.4 | 102.7  | 119.6  | 114.6  | 110.5  | 124.4  | 119.3  | 114.9  |
|                  | gpm   | 18.9          | 21.1  | 23.0  | 24.0   | 26.7  | 29.1  | 26.4   | 29.5  | 32.1  | 33.1           | 37.8  | 41.7   | 38.8   | 44.4   | 49.3   | 41.9   | 48.2   | 53.6   |
|                  | WPD   | 0.9           | 1.1   | 1.3   | 1.4    | 1.7   | 2.0   | 1.6    | 2.0   | 2.4   | 0.7            | 0.9   | 1.1    | 1.0    | 1.3    | 1.6    | 1.1    | 1.5    | 1.8    |

| Water Temp. Rise |       | 4 Rows of Coil |       |       |        |       |       |        |       |       | 6 Rows of Coil |       |       |        |       |       |        |       |        |
|------------------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|-------|----------------|-------|-------|--------|-------|-------|--------|-------|--------|
|                  |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |       | 9 fpi          |       |       | 12 fpi |       |       | 14 fpi |       |        |
|                  |       | Airflow        |       |       |        |       |       |        |       |       | Airflow        |       |       |        |       |       |        |       |        |
|                  | 12000 | 15000          | 18000 | 12000 | 15000  | 18000 | 12000 | 15000  | 18000 | 12000 | 15000          | 18000 | 12000 | 15000  | 18000 | 12000 | 15000  | 18000 |        |
| 10°F             | TC    | 584.7          | 689.9 | 783.3 | 642.3  | 765.5 | 876.4 | 669.4  | 802.1 | 922.7 | 683.0          | 822.3 | —     | 722.5  | 878.6 | —     | 738.5  | 902.7 | —      |
|                  | LAT   | 104.9          | 102.4 | 100.1 | 109.4  | 107.1 | 104.9 | 111.4  | 109.3 | 107.3 | 112.5          | 110.5 | —     | 115.5  | 114.0 | —     | 116.7  | 115.5 | —      |
|                  | gpm   | 117.2          | 138.2 | 157.0 | 128.7  | 153.4 | 175.6 | 134.1  | 160.7 | 184.9 | 136.9          | 164.8 | —     | 144.8  | 176.1 | —     | 148.0  | 180.9 | —      |
|                  | WPD   | 11.5           | 15.7  | 19.9  | 13.7   | 19.1  | 24.5  | 14.8   | 20.8  | 27.0  | 20.0           | 28.2  | —     | 22.2   | 31.9  | —     | 23.2   | 33.6  | —      |
| 15°F             | TC    | 555.8          | 653.6 | 740.0 | 614.2  | 729.1 | 831.9 | 642.4  | 766.4 | 878.5 | 661.1          | 793.0 | 913.3 | 704.1  | 852.8 | 990.7 | 722.4  | 879.3 | 1026.2 |
|                  | SC    | 102.7          | 100.2 | 97.9  | 107.2  | 104.8 | 102.6 | 109.4  | 107.1 | 105.0 | 110.8          | 108.7 | 106.8 | 114.1  | 112.4 | 110.8 | 115.5  | 114.1 | 112.6  |
|                  | gpm   | 74.2           | 87.3  | 98.9  | 82.1   | 97.4  | 111.1 | 85.8   | 102.4 | 117.4 | 88.3           | 105.9 | 122.0 | 94.1   | 113.9 | 132.3 | 96.5   | 117.5 | 137.1  |
|                  | WPD   | 5.0            | 6.7   | 8.4   | 6.0    | 8.2   | 10.5  | 6.5    | 9.0   | 11.6  | 9.0            | 12.6  | 16.3  | 10.1   | 14.4  | 18.9  | 10.6   | 15.2  | 20.2   |
| 20°F             | TC    | 524.4          | 614.5 | 693.9 | 582.9  | 689.0 | 783.6 | 611.7  | 726.6 | 829.8 | 636.1          | 760.0 | 872.5 | 682.1  | 822.7 | 952.3 | 702.5  | 851.4 | 989.8  |
|                  | SC    | 100.3          | 97.8  | 95.5  | 104.8  | 102.4 | 100.1 | 107.0  | 104.7 | 102.5 | 108.9          | 106.7 | 104.7 | 112.4  | 110.6 | 108.8 | 114.0  | 112.3 | 110.7  |
|                  | gpm   | 52.5           | 61.6  | 69.5  | 58.4   | 69.0  | 78.5  | 61.3   | 72.8  | 83.1  | 63.7           | 76.1  | 87.4  | 68.3   | 82.4  | 95.4  | 70.4   | 85.3  | 99.2   |
|                  | WPD   | 2.6            | 3.5   | 4.4   | 3.2    | 4.4   | 5.5   | 3.5    | 4.8   | 6.1   | 5.0            | 6.9   | 8.9   | 5.7    | 8.0   | 10.4  | 6.0    | 8.5   | 11.2   |
| 25°F             | TC    | 489.9          | 572.1 | 644.1 | 547.7  | 644.7 | 730.7 | 576.8  | 682.0 | 776.0 | 607.3          | 722.8 | 827.0 | 655.7  | 787.5 | 908.1 | 677.9  | 818.0 | 947.3  |
|                  | SC    | 97.6           | 95.2  | 93.0  | 102.1  | 99.6  | 97.4  | 104.3  | 101.9 | 99.8  | 106.7          | 104.4 | 102.4 | 110.4  | 108.4 | 106.5 | 112.1  | 110.3 | 108.5  |
|                  | gpm   | 39.3           | 45.9  | 51.6  | 43.9   | 51.7  | 58.6  | 46.2   | 54.7  | 62.2  | 48.7           | 57.9  | 66.3  | 52.6   | 63.1  | 72.8  | 54.3   | 65.6  | 75.9   |
|                  | WPD   | 1.6            | 2.1   | 2.6   | 1.9    | 2.6   | 3.2   | 2.1    | 2.8   | 3.6   | 3.1            | 4.2   | 5.4   | 3.5    | 4.9   | 6.4   | 3.7    | 5.3   | 6.9    |
| 30°F             | TC    | 449.6          | 525.2 | 590.1 | 507.2  | 595.4 | 672.5 | 536.4  | 631.8 | 716.1 | 574.0          | 680.4 | 775.9 | 624.3  | 746.3 | 857.3 | 648.0  | 778.1 | 897.5  |
|                  | SC    | 94.5           | 92.3  | 90.2  | 99.0   | 96.6  | 94.4  | 101.2  | 98.8  | 96.7  | 104.1          | 101.8 | 99.7  | 108.0  | 105.9 | 103.9 | 109.8  | 107.8 | 106.0  |
|                  | gpm   | 30.0           | 35.1  | 39.4  | 33.9   | 39.8  | 44.9  | 35.8   | 42.2  | 47.8  | 38.3           | 45.4  | 51.8  | 41.7   | 49.8  | 57.3  | 43.3   | 52.0  | 59.9   |
|                  | WPD   | 1.0            | 1.3   | 1.6   | 1.2    | 1.6   | 2.0   | 1.3    | 1.8   | 2.2   | 2.0            | 2.7   | 3.5   | 2.3    | 3.2   | 4.1   | 2.5    | 3.5   | 4.5    |
| 40°F             | TC    | 318.9          | 386.5 | 442.0 | 380.3  | 456.3 | 520.3 | 411.4  | 492.7 | 561.8 | 479.6          | 569.6 | 648.2 | 533.7  | 636.8 | 727.9 | 560.3  | 670.4 | 768.4  |
|                  | SC    | 84.5           | 83.8  | 82.6  | 89.2   | 88.0  | 86.7  | 91.6   | 90.3  | 88.8  | 96.9           | 95.0  | 93.2  | 101.0  | 99.1  | 97.3  | 103.1  | 101.2 | 99.4   |
|                  | gpm   | 16.0           | 19.4  | 22.1  | 19.0   | 22.9  | 26.1  | 20.6   | 24.7  | 28.1  | 24.0           | 28.5  | 32.5  | 26.7   | 31.9  | 36.5  | 28.1   | 33.6  | 38.5   |
|                  | WPD   | 0.9            | 1.2   | 1.5   | 1.1    | 1.5   | 1.9   | 1.3    | 1.8   | 2.2   | 0.9            | 1.2   | 1.5   | 1.1    | 1.5   | 1.8   | 1.2    | 1.6   | 2.0    |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F

## Performance Data

### Heating Capacities - Hot Water Coil, Size 30

**Table 89. Unit size 30 hot water heating capacities, EAT = 60°F (continued)**

| Water Temp. Rise |     | 8 Rows of Coil |       |        |        |       |        |        |       |        |   |
|------------------|-----|----------------|-------|--------|--------|-------|--------|--------|-------|--------|---|
|                  |     | 9 fpi          |       |        | 12 fpi |       |        | 14 fpi |       |        |   |
|                  |     | Airflow        |       |        |        |       |        |        |       |        |   |
|                  |     | 12000          | 15000 | 18000  | 12000  | 15000 | 18000  | 12000  | 15000 | 18000  |   |
| 10°F             | TC  | 731.4          | 892.5 | —      | 755.8  | 930.3 | —      | 764.5  | —     | —      | — |
|                  | LAT | 116.2          | 114.9 | —      | 118.1  | 117.2 | —      | 118.7  | —     | —      | — |
|                  | gpm | 146.6          | 178.9 | —      | 151.5  | 186.4 | —      | 153.2  | —     | —      | — |
|                  | WPD | 28.0           | 40.3  | —      | 29.7   | 43.5  | —      | 30.4   | —     | —      | — |
| 15°F             | TC  | 716.1          | 870.6 | 1015.0 | 744.7  | 913.3 | 1073.5 | 755.5  | 930.4 | 1097.9 |   |
|                  | SC  | 115.0          | 113.5 | 112.0  | 117.2  | 116.1 | 115.0  | 118.1  | 117.2 | 116.2  |   |
|                  | gpm | 95.7           | 116.3 | 135.6  | 99.5   | 122.0 | 143.4  | 100.9  | 124.3 | 146.7  |   |
|                  | WPD | 12.9           | 18.4  | 24.4   | 13.9   | 20.1  | 27.0   | 14.2   | 20.8  | 28.2   |   |
| 20°F             | TC  | 697.5          | 844.8 | 981.6  | 730.2  | 892.1 | 1045.0 | 743.3  | 912.0 | 1072.5 |   |
|                  | SC  | 113.6          | 111.9 | 110.3  | 116.1  | 114.8 | 113.5  | 117.1  | 116.1 | 114.9  |   |
|                  | gpm | 69.9           | 84.6  | 98.3   | 73.2   | 89.4  | 104.7  | 74.5   | 91.4  | 107.5  |   |
|                  | WPD | 7.3            | 10.4  | 13.6   | 8.0    | 11.5  | 15.3   | 8.2    | 11.9  | 16.0   |   |
| 25°F             | TC  | 675.0          | 814.3 | 942.9  | 711.6  | 865.9 | 1010.5 | 727.1  | 888.4 | 1040.9 |   |
|                  | SC  | 111.9          | 110.1 | 108.3  | 114.7  | 113.2 | 111.8  | 115.9  | 114.6 | 113.3  |   |
|                  | gpm | 54.1           | 65.3  | 75.6   | 57.0   | 69.4  | 81.0   | 58.3   | 71.2  | 83.4   |   |
|                  | WPD | 4.6            | 6.5   | 8.5    | 5.1    | 7.3   | 9.6    | 5.3    | 7.6   | 10.2   |   |
| 30°F             | TC  | 647.8          | 778.1 | 897.8  | 688.0  | 833.4 | 968.9  | 705.7  | 858.4 | 1001.9 |   |
|                  | SC  | 109.8          | 107.8 | 106.0  | 112.9  | 111.2 | 109.6  | 114.2  | 112.8 | 111.3  |   |
|                  | gpm | 43.3           | 52.0  | 60.0   | 45.9   | 55.7  | 64.7   | 47.1   | 57.3  | 66.9   |   |
|                  | WPD | 3.1            | 4.3   | 5.6    | 3.5    | 4.9   | 6.4    | 3.6    | 5.2   | 6.8    |   |
| 40°F             | TC  | 570.5          | 682.0 | 781.8  | 617.5  | 742.9 | 856.7  | 639.5  | 772.0 | 893.3  |   |
|                  | SC  | 103.8          | 101.9 | 100.1  | 107.4  | 105.7 | 103.9  | 109.1  | 107.5 | 105.8  |   |
|                  | gpm | 28.6           | 34.2  | 39.2   | 30.9   | 37.2  | 42.9   | 32.0   | 38.7  | 44.7   |   |
|                  | WPD | 1.5            | 2.1   | 2.6    | 1.7    | 2.4   | 3.1    | 1.8    | 2.6   | 3.3    |   |

**Notes:**

1. TC = Total capacity (MBh)
2. LAT = Leaving air temperature (°F)
3. gpm = Water flow rate, gallons per minute
4. WPD = Water pressure drop @ average water density (ft H<sub>2</sub>O)
5. Some of the volumetric flow rates listed above are less than the those required for self-venting (see Table 2, p. 19).
6. Blank value means the water flow rate is below the minimum or above the maximum for the application.
7. Capacities calculated with 0.00050 tube-side fouling factor.
8. Use the capacity correction factors listed in Table 90 and Table 91, p. 118 for different entering water conditions.

Shading key: EWT = 180°F EWT = 120°F



## Performance Data

### Heating Capacities - Capacity Correction Factors

#### Heating Capacities - Capacity Correction Factors

**Table 90. Capacity correction factors for data calculated at EWT = 180°F**

| <b>Capacity Correction Factors</b>            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| EAT - EWT (°F) =                              | 180   | 170   | 160   | 150   | 140   | 130   | 120   | 110   | 100   | 90    | 80    | 70    | 60    | 50    | 40    | 30    | 20    |
| Correction Factor =                           | 1.500 | 1.417 | 1.333 | 1.250 | 1.167 | 1.083 | 1.000 | 0.917 | 0.833 | 0.750 | 0.667 | 0.583 | 0.500 | 0.417 | 0.333 | 0.250 | 0.167 |
| <b>Water Pressure Drop Correction Factors</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Average Water Temp. (°F) =                    | 200   | 190   | 180   | 170   | 160   | 150   | 140   | 130   | 120   | 110   | 100   | 90    | 80    |       |       |       |       |
| Correction Factor =                           | 0.99  | 1.00  | 1.00  | 1.01  | 1.01  | 1.02  | 1.03  | 1.04  | 1.06  | 1.07  | 1.09  | 1.11  | 1.14  |       |       |       |       |

**Table 91. Capacity correction factors for data calculated at EWT = 120°F**

| <b>Capacity Correction Factors</b>            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| EAT - EWT (°F) =                              | 180   | 170   | 160   | 150   | 140   | 130   | 120   | 110   | 100   | 90    | 80    | 70    | 60    | 50    | 40    | 30    | 20    |
| Correction Factor =                           | 3.000 | 2.830 | 2.670 | 2.500 | 2.330 | 2.170 | 2.000 | 1.830 | 1.670 | 1.500 | 1.330 | 1.170 | 1.000 | 0.830 | 0.670 | 0.500 | 0.330 |
| <b>Water Pressure Drop Correction Factors</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Average Water Temp. (°F) =                    | 190   | 180   | 170   | 160   | 150   | 140   | 130   | 120   | 110   | 100   | 90    | 80    |       |       |       |       |       |
| Correction Factor =                           | 0.94  | 0.95  | 0.95  | 0.96  | 0.97  | 0.98  | 0.99  | 1.00  | 1.01  | 1.03  | 1.05  | 1.07  |       |       |       |       |       |

## Heating Capacities - Steam Coil Capacities

**Table 92. Steam heating capacities, EAT = 30°F**

| Unit Size | cfm   | Steam Pressure |        |         |         | Q/ITD |
|-----------|-------|----------------|--------|---------|---------|-------|
|           |       | 2 psig         | 5 psig | 10 psig | 15 psig |       |
|           |       | TC             | TC     | TC      | TC      |       |
| 3         | 1200  | 64.1           | 67.0   | 71.2    | 74.7    | 0.340 |
|           | 1500  | 70.7           | 74.0   | 78.6    | 82.5    | 0.375 |
|           | 1800  | 76.0           | 79.5   | 84.4    | 88.6    | 0.403 |
| 6         | 2400  | 139.7          | 146.1  | 155.2   | 162.8   | 0.741 |
|           | 3000  | 155.5          | 162.7  | 172.8   | 181.3   | 0.825 |
|           | 3600  | 168.3          | 176.0  | 187.0   | 196.2   | 0.893 |
| 8         | 3200  | 193.7          | 202.6  | 215.2   | 225.8   | 1.028 |
|           | 4000  | 216.6          | 226.5  | 240.6   | 252.5   | 1.149 |
|           | 4800  | 235.2          | 246.0  | 261.3   | 274.2   | 1.248 |
| 10        | 4000  | 247.6          | 259.0  | 275.1   | 288.7   | 1.314 |
|           | 5000  | 277.5          | 290.2  | 308.3   | 323.5   | 1.472 |
|           | 6000  | 301.9          | 315.8  | 335.4   | 352.0   | 1.602 |
| 12        | 4800  | 315.8          | 330.3  | 350.8   | 368.2   | 1.675 |
|           | 6000  | 356.4          | 372.8  | 396.0   | 415.6   | 1.891 |
|           | 7200  | 390.1          | 408.0  | 433.4   | 454.8   | 2.070 |
| 14        | 5600  | 367.3          | 384.1  | 408.0   | 428.2   | 1.948 |
|           | 7000  | 414.3          | 433.4  | 460.3   | 483.1   | 2.198 |
|           | 8400  | 453.3          | 474.1  | 503.6   | 528.5   | 2.405 |
| 17        | 6800  | 437.8          | 457.9  | 486.3   | 510.4   | 2.323 |
|           | 8500  | 492.9          | 515.5  | 547.5   | 574.6   | 2.615 |
|           | 10200 | 538.3          | 562.9  | 597.9   | 627.5   | 2.855 |
| 21        | 8400  | 538.6          | 563.3  | 598.3   | 627.9   | 2.857 |
|           | 10500 | 605.9          | 633.7  | 673.1   | 706.4   | 3.214 |
|           | 12600 | 661.3          | 691.7  | 734.6   | 771.0   | 3.508 |
| 25        | 10000 | 629.4          | 658.3  | 699.2   | 733.8   | 3.339 |
|           | 12500 | 706.7          | 739.1  | 785.0   | 823.8   | 3.749 |
|           | 15000 | 769.9          | 805.2  | 855.3   | 897.6   | 4.084 |
| 30        | 12000 | 754.6          | 789.2  | 838.2   | 879.7   | 4.003 |
|           | 15000 | 846.9          | 885.8  | 940.8   | 987.4   | 4.493 |
|           | 18000 | 922.5          | 964.8  | 1024.8  | 1075.5  | 4.894 |

**Notes:**

1. TC = Total capacity (Bh)
2. ITD = Saturated Steam Temp Entering Coil - Entering Air Temperature
3. Q/ITD = TC / (Sat. Steam Temp. - EAT)

**Table 93. Steam properties**

| Steam Pressure (psig)            | 2      | 5      | 10     | 15     |
|----------------------------------|--------|--------|--------|--------|
| Saturated Steam Temperature (°F) | 218.50 | 227.14 | 239.40 | 249.76 |
| Latent Heat (Btu/lb)             | 966.22 | 960.67 | 952.67 | 945.77 |

**Note:** To determine heating capacities at different entering steam pressure or a different entering air temperature, compute the new ITD and multiply it by the Q/ITD shown.

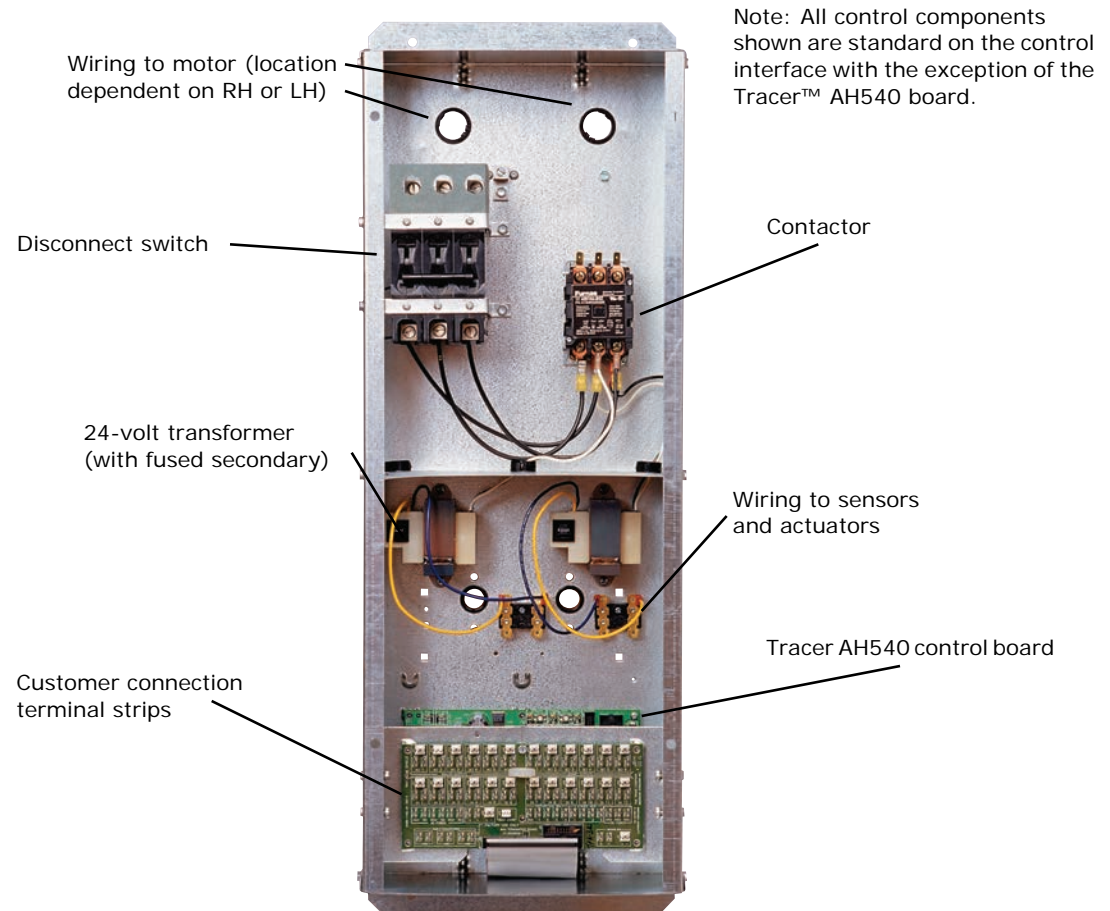
# Controls

## Control Options

Packaged Climate Changer units are available with two different control options:

- Control interface
- Tracer™ AH540

**Figure 47. Packaged climate changer control panel components**



### Control Interface Model Number Digit 20 = 1

The control interface option contains a fan motor disconnect switch, fan contactor, fused transformer(s), and customer terminal strip. Various end device options are available factory-mounted on units with the control interface. There are four binary end device options:

1. low limit switch,
2. condensate overflow switch
3. fan status switch
4. filter status switch

Also there are three analog end device options:

1. discharge air sensor
2. mixed air sensor

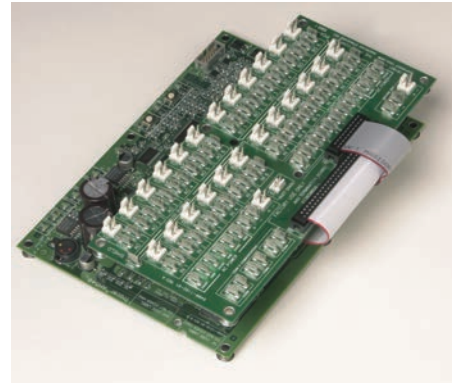


### 3. damper actuator

**Figure 48. Tracer AH540 operator display**



**Figure 49. Tracer AH540 terminal board**



## Tracer AH540 Controller Model Number Digit 20 = 2 or 3

The Tracer AH540 controller offers the advantages of simple and dependable operation of Trane-designed controls. Standard control features include options normally available on more elaborate control systems. All control options are available factory-configured or can be field-configured using Rover™ service software. For more detailed information on the Tracer AH540, refer to Trane publication CNT-SVX05B-EN, *Installation & Setup for Tracer AH540 and AH541 Air Handler Controller*.

The Tracer AH540 controller can function as a stand-alone controller or communicate as part of a Trane Integrated Comfort™ System (ICS). In the stand-alone configuration, Tracer AH540 receives operation commands from the:

- space temperature and discharge air temperature for constant volume space temperature control,
- discharge air temperature for constant volume discharge air temperature control, and
- both discharge air temperature and duct static pressure for variable air volume control.

For Tracer AH540 zone sensor options, see [“Tracer AH540 Zone Sensor Options,” p. 131.](#)

For optimal system performance, Packaged Climate Changer units can operate as part of an Integrated Comfort™ System (ICS) controlled by Tracer Summit®. The controller is linked directly to the Summit control panel via twisted pair communication wire, requiring no additional interface device (i.e., a command unit). The Trane ICS system can monitor or override Tracer AH540 control points. This includes such points as temperature and output positions.

### Rover™ Service Software

This windows-based software package option allows field service personnel to easily monitor, save, download, and configure Tracer controllers through a communication link from a portable computer. When connected to the communication link, Rover can view any Tracer controller that is on the same communication link.

## Tracer AH540 Controller

The Tracer AH540 is a configurable controller. All control sequences of operation are predefined with no need for field-programming the controller. Configurable parameters are provided to allow user adjustments to the controller's operation. All configuration parameters are set to defaults predetermined through extensive air handling unit testing in several different operating conditions. The factory default settings are also based on the air handling unit configuration and unit order information. For more detailed information on the Tracer AH540 sequence of operations, see the Trane publication number CNT-SVX05B-EN.

The Tracer AH540 controller is configurable to operate in one of three air handling control modes:

1. constant volume space temperature control
2. constant volume discharge air temperature control
3. variable air volume control

### **Constant Volume Space Temperature Control (CV)**

The Tracer AH540 controller resets the discharge air temperature based on space temperature and the effective space temperature setpoint. The controller requires both space temperature and discharge air temperature sensors to operate in this mode.

The space setpoint can be a wired input or a communicated value. The communicated setpoint has precedence over the wired setpoint input. If no communicated or wired setpoint input is present, the controller uses the configured space temperature heating and cooling setpoints.

### **Constant Volume Discharge Air Temperature Control**

Constant volume discharge air temperature control maintains a discharge air temperature at a desired discharge air temperature setpoint regardless of the entering air conditions of the air handling unit.

First the controller determines if a communicated discharge air heating setpoint and cooling setpoint are present. The communicated setpoint has precedence over the configured (default) setpoint. If no communicated value is present, the controller uses the configured discharge air temperature setpoint.

Discharge air temperature setpoint minimum and maximum limits are placed on the discharge air setpoint.

### **Variable Air Volume Control (VAV)**

When the Tracer AH540 controller operates with variable air volume control, it uses both a discharge air temperature control routine and a duct static pressure control routine. The unit's discharge air temperature is controlled using the discharge air temperature control sequence. The air handling unit's duct static pressure is maintained by a duct static pressure control sequence.

## Tracer AH540 Control Features

### Dehumidification

The Tracer AH540 controller provides both occupied and unoccupied dehumidification control for space temperature control applications when cooling and reheat capacity is available. The dehumidification control sequence is allowed on unit configurations with hydronic or DX cooling and hydronic or electric reheat.

Space dehumidification requires a space relative humidity sensor input hard-wired to the universal analog input IN13 or a communicated RH value. If both a hard-wired relative humidity sensor and a communicated RH value is present, the controller uses communicated value for dehumidification control.

### Automatic Heat/Cool Mode Determination

A communicated request of Auto or the controller default operation (Auto) places the unit into heating or cooling mode. The controller automatically determines heating or cooling mode based on the control algorithm, and switches the unit operation to the correct mode.

If the Tracer AH540 controller is operating based on space temperature control, it uses the space temperature and space temperature setpoint to automatically determine heat or cool mode operation. When the controller first powers up or after a reset, it makes an initial determination of what the heat/cool mode should be. If the controller is configured as heating and cooling, the controller determines the appropriate mode.

### Two-Pipe Changeover Operation

The Tracer AH540 controller provides a two-pipe changeover option when an air-handling unit has one hydronic coil for heating and cooling operation. Two-pipe changeover allows the controller to provide heating or cooling to the space depending on the entering water temperature.

### Entering Water Temperature Sampling

The Tracer AH540 controller samples the entering water condition for space temperature control air handling units with a single hydronic coil. The entering water temperature is important for reliable heating and cooling control. The entering water temperature must be at least 5°F above the space temperature for hydronic heating and 5°F below the space temperature for hydronic cooling for satisfactory capacity control.

### Mixed Air Temperature Control

Mixed-air temperature control reduces ventilation, and is maintained above the mixed-air low-limit setpoint (50°F default, configurable) by reducing the outdoor air ventilation below minimum position. The lower percent of outdoor air raises the mixed-air temperature.

### Mixed-Air Preheat Control

Mixed-air preheat control preheats before reducing ventilation. Preheat capacity maintains the mixed-air temperature above the mixed-air low-limit setpoint (50°F default, configurable). If 100% preheat capacity does not maintain the mixed-air temperature above the mixed-air low-limit setpoint, outdoor air ventilation is reduced below minimum position.

### DX Cooling Operation

The Tracer AH540 controller provides four DX cooling binary outputs to control up to four cooling stages. The controller uses a cascade control algorithm for space temperature control. Valid discharge-air-temperature sensor and space temperature sensor inputs are required for operation. As space temperatures rise above the cooling setpoint, it creates a demand for more discharge-air cooling capacity. Discharge-air-temperature control directly controls DX cooling to provide discharge air temperature at the discharge-air cooling setpoint.

### Duct Static Pressure Control

The supply fan variable frequency drive, in a variable air volume system, maintains the duct static pressure setpoint. When the fan is on, the controller reads and compares the duct static pressure input to the duct static pressure setpoint and adjusts the supply fan speed.

**Figure 50. Variable frequency drive (VFD) option**



The duct static pressure signal can be from a wired sensor or communicated via a network variable. If the controller does not have a valid duct static pressure from a wired sensor or communicated, the controller generates a *duct static pressure sensor* diagnostic and shuts down the unit. The controller does not operate duct static pressure control without a valid duct static pressure input.

The Tracer AH540 controller has a configurable duct static pressure high limit setpoint. If the duct static pressure exceeds the duct static pressure high limit setpoint, the controller shuts down the unit and generates a *duct static pressure high limit* diagnostic.

### Morning Warmup and Daytime Warmup Functions

Morning or daytime warmup functions allow the controller to automatically change to heating if space temperature is less than the heating setpoint. These functions can also be initiated through a communicated request. If a space temperature input is provided to the controller, configured as constant volume discharge air control or variable air volume control, the controller uses the space temperature to perform morning warmup and daytime warmup functions.

### Economizer Cooling

Economizer cooling requires a mixed air temperature sensor and outdoor air temperature value to be present. If an outdoor temperature is not available, a communicated request from Tracer Summit can enable economizer cooling. Economizer cooling is only possible when the unit is equipped with a mixing box. The mixed air sensor functions as a low temperature limit to keep mixed air temperatures above freezing.

### Face & Bypass Damper

The face and bypass damper modulates a percentage of air to the face of the preheat coil and around the preheat coil to maintain the supply air temperature setpoint. The air passing through the heating coil is mixed with the air bypassing the preheat coil to produce a desired discharge air temperature.

The Tracer AH540 controller supports face and bypass operation for low outdoor temperature heating modes of operation only. During low outdoor temperatures, when the outdoor air temperature is lower than the face and bypass heat modulation setpoint, the heating valve fully opens and the face and bypass damper allows heating to prevent the coil from freezing. During cooling mode, the heating face and bypass damper drives to full face and the valve closes.

**Note:** You must order an access section with preheat coil with the face and bypass section.

### **Electric Heat**

The Tracer AH540 controller provides two methods of electric heat control:

1. Direct stage
2. Analog sequencer

Direct-staged electric heat control is provided on four binary outputs. Alternately, the controller's 0–10 Vdc heating output can be wired to an electric heat sequencer using up to six stages. The controller supports electric heat operation in constant volume (CV) and variable air volume (VAV) full airflow modes of operation.

### **Exhaust Fan Operation**

The exhaust fan/damper is coordinated with the unit fan and outdoor damper operation. The exhaust output energizes only when the unit fan is operating and the outdoor damper position is greater than or equal to the configurable exhaust enable point. The exhaust fan output disables when the outdoor air damper position drops 10% (configurable) below the exhaust enable point. If the enable point is less than 10% (configurable), the unit turns on at the enable point and off at zero.

### **Coil Defrost**

DX cooling, low refrigerant temperature operation is managed by one of two methods. One uses the evaporator refrigerant temperature (analog input IN13) to measure suction temperature. The other uses a binary thermostat device (binary input IN7 or IN12) applied to the evaporator suction line.

## **Tracer AH540 Additional Features**

### **Fan Status**

The Tracer AH540 controller monitors the fan output status to determine if the fan is operating.

### **Maintenance Status**

The controller has an adjustable timer that indicates through Tracer Summit or Rover when maintenance is necessary. Maintenance status is based on cumulative fan run hours and can be used to indicate filter maintenance.

### **Filter Status**

Filter status is available as a binary input on the controller. The Tracer AH540 controller reports an informational "dirty filter" diagnostic to Tracer Summit or Rover when the pressure drop across the filter reaches a threshold.

### **Exhaust Fan Status**

Exhaust fan status is a feature of the Tracer AH540 controller. The binary input indicates air flow through an exhaust fan associated with the controlled air handling unit.

### **Water Valve Override**

Using Tracer Summit or Rover, the water valve override function drives all water valves in every unit fully open simultaneously. This helps reduce the time required for waterside balancing.

### **Manual Output Test**

This Tracer AH540 feature is an invaluable tool for troubleshooting a unit. By simply pressing the controller's test button, service personnel can manually exercise outputs in a predefined sequence.

### **Interoperability**

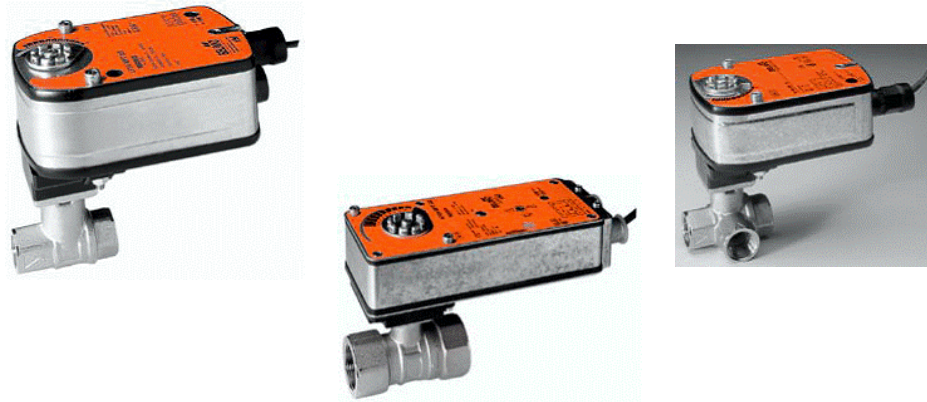
The Tracer AH540 controller can be used with a Tracer Summit system or on other control systems that support LonTalk<sup>®</sup>, SCC and DAC LONMARK<sup>®</sup> profiles.

## End Device Options

### **Modulating Control Valves Model Number Digits 33, 34, 35**

Modulating control valve options are available with Tracer AH540 and the control interface option for preheat, cooling, and reheat hydronic coils. Valve options are two or three-way, normally open or closed (in de-energized state), spring-return type, and have threaded connections, ranging from 3/4 to 2-inches or 2-1/2-inch flanged connections. The valves respond to a 0–10 Vdc signal. The three-way valve option allows either full water flow through the coil or diverts waterflow through the bypass. If the control valve loses power, the valve returns to its de-energized position. All control valve options are factory-provided for field installation.

**Figure 51. Modulating control valve options: model number digits 33, 34, and 35**



### **Field-Supplied Valves Model Number Digits 33, 34, 35**

When using field-supplied valves, this option allows the controller to be factory-configured correctly to control the field-supplied valve. Also, choosing the field-supplied valve option ensures the transformer is sized correctly.

**Note:** Trane does not recommend wild coil applications.

### **Mixing Section Damper Actuator Model Number Digit 30 = D or E**

This damper actuator uses a 0–10 Vdc signal and is factory-wired and mounted to the damper assembly. It allows zero to 100% fresh air. The damper will drive open to an adjustable minimum stop-position whenever the fan is running during occupied mode and will spring-return closed when the fan turns off.

**Note:** Trane recommends using the low temperature detection option with fresh air dampers to detect possible freeze conditions.

### **Face & Bypass Damper Actuator Model Number Digit 27 = B**

This option is 0–10 Vdc, spring-return damper actuator that is factory-wired and mounted to the damper assembly.

The face and bypass damper modulates a percentage of air to the heating coil face and around the preheat coil to maintain the supply air temperature setpoint. The air passing through the hot water coil is mixed with the air bypassing the preheat coil to produce a desired discharge air temperature.

**Figure 52. Damper actuator option for mixing section or face & bypass damper, digit 30 = D or E, or digit 27 = B**



**Low Temperature Detection  
Model Number Digit 29**

When the low temperature detection device senses an entering air temperature of 36°F to the hydronic coil, the normally-closed switch opens a corresponding set of binary input terminals. The fan disables, control valves open, and the fresh air damper closes.

The low temperature detection device is an averaging type capillary tube and will reset when it detects an entering air temperature of at least 44°F.

**Figure 53. Low temperature detection device, digit 29 = A**



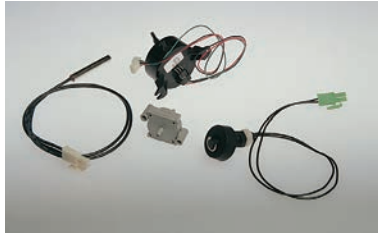
**Condensate Overflow Detection  
Model Number Digit 29 = B**

A float switch is factory installed in the drain pan to detect a high condensate water level. This switch is wired in to the run/stop input on the Tracer AH540 controller. When the float switch rises, the normally closed input opens a corresponding set of binary input terminals. This also causes the fan to disable, and the control valve and fresh air damper options to close. Although the float switch will close when the high condensate level recedes, the controller must be manually reset before normal unit operation can occur. Use Rover service software or Tracer Summit to reset units with Tracer AH540.

**Figure 54. Field-installed discharge air sensor for use with electric heat, digit 30 = A**



**Figure 55. Optional end devices (model number digit), clockwise L-R: discharge air sensor (digit 30 = A), duct static pressure transducer (digit 32 = B), condensate overflow switch (digit 29 = B), fan status switch (digit 29 = D)**





## Tracer AH540 Inputs & Outputs

**Table 94. Binary input functions and locations**

| Tracer AH540 |                          |                        | Tracer AH541         |                                     |                |
|--------------|--------------------------|------------------------|----------------------|-------------------------------------|----------------|
| Input Label  | Terminal Label           | Factory Terminal Label | Field Terminal Label | Function                            | Power Function |
| IN 7         | TB37-1 IN<br>TB37-2 GND  | J37                    | IN7                  | Low-temp detection or coil defrost  | 24 Vdc ground  |
| IN 8         | TB38-1 OUT<br>TB38-2 GND | J38                    | IN8                  | Run/stop                            | 24 Vdc ground  |
| IN 9         | TB39-1 OUT<br>TB39-2 GND | J39                    | IN9                  | Occupancy or generic <sup>(a)</sup> | 24 Vdc ground  |
| IN 10        | TB40-1 OUT<br>TB40-2 GND | J40                    | IN10                 | Supply fan status                   | 24 Vdc ground  |
| IN 11        | TB41-1 OUT<br>TB41-2 GND | J41                    | IN11                 | Filter status                       | 24 Vdc ground  |
| IN 12        | TB42-1 OUT<br>TB42-2 GND | J42                    | IN12                 | Exhaust fan status or coil defrost  | 24 Vdc ground  |

(a) When configured as a generic binary input, it has no direct effect on controller operation.

**Table 95. Binary outputs functions and locations**

| Tracer AH540 |                          |                        | Tracer AH541         |                                |                |                       |
|--------------|--------------------------|------------------------|----------------------|--------------------------------|----------------|-----------------------|
| Output Label | Terminal Label           | Factory Terminal Label | Field Terminal Label | Function                       | Power Function | Maximum Output Rating |
| BO1          | TB21/1 OUT<br>TB21/2 GND | J21                    | BO1                  | Supply fan start/stop          | 24 Vac ground  | 12 VA                 |
| BO2          | TB22/1 OUT<br>TB22/2 GND | J22                    | BO2                  | Exhaust fan start/stop         | 24 Vac ground  | 12 VA                 |
| BO3          | TB23/1 OUT<br>TB23/2 GND | J23                    | BO3                  | DX stage 1 or electric stage 4 | 24 Vac ground  | 12 VA                 |
| BO4          | TB24/1 OUT<br>TB24/2 GND | J24                    | BO4                  | DX stage 2 or electric stage 3 | 24 Vac ground  | 12 VA                 |
| BO5          | TB25/1 OUT<br>TB25/2 GND | J25                    | BO5                  | DX stage 3 or electric stage 2 | 24 Vac ground  | 12 VA                 |
| BO6          | TB26/1 OUT<br>TB26/2 GND | J26                    | BO4                  | DX stage 4 or electric stage 1 | 24 Vac ground  | 12 VA                 |

## Controls

**Table 96. Analog input functions and locations**

| Tracer AH540 |                         |                        | Tracer AH541         |                                    |                             |                                     |
|--------------|-------------------------|------------------------|----------------------|------------------------------------|-----------------------------|-------------------------------------|
| Output Label | Terminal Label          | Factory Terminal Label | Field Terminal Label | Function                           | Sensor Type                 | Valid Ranges                        |
| IN 1         | TB31/1 IN<br>TB31/2 GND | J31                    | IN1                  | Space temperature                  | 10 kΩ thermistor            | 5 to 122°F                          |
| IN 2         | TB32/1 IN<br>TB32/2 GND | J32                    | IN2                  | Local setpoint                     | 1 kΩ potentiometer          | 50 to 85°F                          |
| IN 3         | TB33/1 IN<br>TB33/2 GND | J33                    | IN3                  | Fan mode switch                    | switched resistance         | off (4870W± 5%)<br>auto (2320W± 5%) |
| IN 4         | TB34/1 IN<br>TB34/2 GND | J34                    | IN4                  | Discharge air temperature          | 10 kΩ thermistor            | -40 to 212°F                        |
| IN 5         | TB35/1 IN<br>TB35/2 GND | J35                    | IN5                  | Outdoor air temperature            | 10 kΩ thermistor            | -40 to 212°F                        |
| IN 6         | TB36/1 IN<br>TB36/2 GND | J36                    | IN4                  | Mixed air temperature              | RTD                         | -40 to 212°F                        |
| IN 13        | TB43                    |                        |                      | Space relative humidity            | current:<br>4–20 mA         | 0 to 100%                           |
|              |                         |                        |                      | CO <sub>2</sub> sensor             | current:<br>4-20 mA         | 0 to 2000 ppm                       |
|              |                         |                        |                      | Entering water temperature         | 10 kΩ thermistor            | -40 to 212°F                        |
|              |                         |                        |                      | Evaporator refrigerant temperature | 10 kΩ thermistor            | -40 to 212°F                        |
|              |                         |                        |                      | Generic temperature                | 10 kΩ thermistor            | -40 to 212°F                        |
| duct static  |                         | J43                    | duct static          | Duct static pressure               | duct static pressure sensor | 0 to 1250 Pa<br>0 to 5.02 in. water |

**Table 97. Analog output functions and features**

| Tracer AH540 |                          |                        | Tracer AH541         |   |                               |                       |
|--------------|--------------------------|------------------------|----------------------|---|-------------------------------|-----------------------|
| Output Label | Terminal Label           | Factory Terminal Label | Field Terminal Label | Function  | Output Range<br>Default Value | Maximum Output Rating |
| AO1          | TB11/1 OUT<br>TB11/2 GND | J11                    | AO1                  | Supply fan speed  | 0 to 10 Vdc ground            | 20 mA                 |
| AO2          | TB12/1 OUT<br>TB12/2 GND | J12                    | AO2                  | Cool valve output or<br>2-pipe changeover                 | 2 to 10 Vdc                   | 20 mA                 |
| AO3          | TB13/1 OUT<br>TB13/2 GND | J13                    | AO3                  | Heat output (water, steam,<br>or electric heat sequencer) | 2 to 10 Vdc ground            | 20 mA                 |
| AO4          | TB14/1 OUT<br>TB14/2 GND | J14                    | AO4                  | Face & bypass damper                                      | 2 to 10 Vdc ground            | 20 mA                 |
| AO5          | TB15/1 OUT<br>TB15/2 GND | J15                    | AO5                  | Outdoor air damper  | 2 to 10 Vdc ground            | 20 mA                 |
| AO6          | TB16/1<br>TB16/2         | J16                    | AO4                  | Not used  | 2 to 10 Vdc<br>ground         | 20 mA                 |

## Tracer AH540 Zone Sensor Options

Zone sensors are available wall mounted for design flexibility and have an internal thermistor wired back to the Tracer AH540 controller. Zone sensor options have a zone sensor setpoint adjustment knob, communication jack, and service pin message request. Also, an option is available without a setpoint knob. See [Figure 56](#) through [Figure 59](#).

The zone sensor module is capable of transmitting the following information to the controller:

- Timed override on request
- Zone setpoint
- Current zone temperature
- Fan mode selection

**Figure 56. Model number digit 37 = 1 zone sensor with off/auto fan speed switch, Fahrenheit setpoint knob, on/cancel, and communication jack**



**Figure 57. Model number digit 37 = 2 zone sensor with Fahrenheit setpoint knob, on/cancel, and communication jack**



**Figure 58. Model number digit 37 = 4 zone sensor only**



**Figure 59. Model number digit 37 = 6 digital zone sensor option**



**Table 98. Tracer AH540 features and control modes**

| Fan Control                   | Space Temp. Control | VAV      |
|-------------------------------|---------------------|----------|
|                               | On/Off              | Variable |
| Duct static pressure          |                     | X        |
| Hydronic cooling              | X                   | X        |
| Hydronic heating              | X                   | X        |
| Steam heat                    | X                   | X        |
| Face & bypass heating         | X                   | X        |
| Ventilation control           | X                   | X        |
| Economizer damper             | X                   | X        |
| Warmup functions              | X                   | X        |
| Mixed air temperature control | X                   | X        |
| Exhaust fan (on/off)          | X                   | X        |
| DX cooling                    | X                   | X        |
| Electric heat                 | X                   |          |
| Dehumidification              | X                   |          |
| 2-pipe changeover             | X                   |          |

# Electrical Data

**Table 99. LPC Electric heat kW limits (min./max.)**

| Voltage                | Unit Size |      |      |      |       |       |       |       |       |        |
|------------------------|-----------|------|------|------|-------|-------|-------|-------|-------|--------|
|                        | 3         | 6    | 8    | 10   | 12    | 14    | 17    | 21    | 25    | 30     |
| 208/60/1               | 6/9       | 6/18 | 7/18 | 8/28 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A    |
| 230/60/1               | 6/11      | 6/20 | 7/20 | 8/30 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A    |
| 277/60/1               | 6/13      | 6/24 | 7/24 | 8/38 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A    |
| 208/60/3               | 6/13      | 6/26 | 7/28 | 8/41 | 10/50 | 12/50 | 14/50 | 17/50 | 20/47 | 20/41  |
| 230/60/3               | 6/13      | 6/26 | 7/32 | 8/41 | 10/53 | 12/59 | 14/59 | 17/59 | 20/56 | 20/50  |
| 460/60/3               | 6/13      | 6/24 | 7/32 | 8/44 | 10/53 | 12/63 | 14/75 | 17/95 | 20/95 | 20/120 |
| 575/60/3               | 6/13      | 6/26 | 7/34 | 8/44 | 10/53 | 12/63 | 14/75 | 17/95 | 20/95 | 20/120 |
| 380/50/3               | 6/13      | 6/26 | 7/32 | 8/44 | 10/53 | 12/63 | 14/75 | 17/95 | 20/95 | 20/95  |
| 415/50/3               | 6/13      | 6/26 | 7/32 | 8/44 | 10/53 | 12/63 | 14/75 | 17/95 | 20/95 | 20/95  |
| Minimum air flow (cfm) | 1050      | 2100 | 2800 | 3500 | 4200  | 4900  | 5950  | 7350  | 8750  | 10,500 |

**Notes:**

1. Units drawing less than 100 amps are available with or without door interlocking disconnect. Units drawing more than 100 amps are not available with door interlocking disconnect.
2. Units drawing less than 48 amps are available with or without line fusing. Units drawing greater than 48 amps have line fusing as standard.
3. Units with electric heat must not be run below the minimum cfm listed above.
4. Heaters available in the following kW increments: 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 41, 44, 47, 50, 53, 56, 59, 63, 67, 71, 75, 79, 83, 87, 91, 95, 100, 110, 115, 120

**Table 100. Electric heat voltage**

| Unit Voltage | Heater Voltage |
|--------------|----------------|
| 208          | 208            |
| 230          | 240            |
| 277          | 277            |
| 460          | 480            |
| 575          | 600            |
| 380          | 380            |
| 415          | 415            |

**Useful formulas:**

$$\text{kW} = (\text{Air Flow} \times \text{Delta T}) / \text{K}$$

$$\text{Delta T} = (\text{kW} \times \text{K}) / \text{Air Flow}$$

$$\text{K} = 3145 \text{ (English)}$$

$$\text{K} = 824.7 \text{ (SI)}$$

$$1 \text{ Phase Amps} = (\text{kW} \times 1000) / \text{Voltage}$$

$$3 \text{ Phase Amps} = (\text{kW} \times 1000) / (\text{Voltage} \times 1.73)$$

MCA = Minimum Circuit Ampacity

$$\text{MCA} = 1.25 \times (\text{heater amps} + \text{motor FLA})$$

MFS = Maximum Fuse Size or Maximum Overcurrent Protection Device

$$\text{MFS} = (2.25 \times \text{motor FLA}) + \text{heater amps}$$



## Electrical Data

**Table 101. Motor electrical characteristics and motor/VFD weight (lb)**

| hp   | Utilization |      |       | RPM  | Motor  |            | VFD        |        |
|------|-------------|------|-------|------|--------|------------|------------|--------|
|      | Voltage     | FLA  | LRA   |      | Weight | Frame Size | Line Input | Weight |
| 0.5  | 208/60/1    | 3.7  | 17.4  | 1725 | 23     | 56         |            |        |
|      | 230/60/1    | 3.6  | 17.3  |      |        |            |            |        |
|      | 277/60/1    | 3.2  | 14.5  | 1725 | 23     | 56         |            |        |
|      | 208/60/3    | 2.1  | 15    | 1725 | 21     | 56         |            |        |
|      | 230/60/3    | 2.2  | 13    | 1725 | 23     | 56         |            |        |
|      | 460/60/3    | 1.1  | 6.5   |      |        |            |            |        |
| 0.75 | 208/60/1    | 5    | 28.9  | 1725 | 33     | 56         |            |        |
|      | 230/60/1    | 4.9  | 29    |      |        |            |            |        |
|      | 277/60/1    | 4.2  | 29    | 1725 | 33     | 56         |            |        |
|      | 208/60/3    | 3.1  | 20.5  | 1725 | 24     | 56         |            |        |
|      | 230/60/3    | 3    | 20    | 1725 | 27     | 56         |            |        |
|      | 460/60/3    | 1.5  | 10    |      |        |            |            |        |
| 1    | 208/60/1    | 5.3  | 32.9  | 1725 | 35     | 56         |            |        |
|      | 230/60/1    | 5    | 33    |      |        |            |            |        |
|      | 277/60/1    | 4.1  | 30    | 1725 | 35     | 56         |            |        |
|      | 208/60/3    | 3.1  | 20.3  | 1725 | 33     | 56         | 6.3        | 31     |
|      | 230/60/3    | 2.8  | 20    |      |        |            | 6.3        | 31     |
|      | 460/60/3    | 1.4  | 10    |      |        |            | 2.5        | 31     |
|      | 575/60/3    | 1.1  | 8     | 1725 | 34     | 56         | 2.3        | 31     |
|      | 400/50/3    | 2.1  | 16.8  | 1450 | 39     | 56         | 2.8        | 31     |
|      | 208/60/3    | 5    | 34.4  | 1740 |        |            | 6.3        | 31     |
| 1.5  | 230/60/3    | 4.6  | 34    |      |        |            | 6.3        | 31     |
|      | 460/60/3    | 2.3  | 17    |      |        |            | 2.5        | 31     |
|      | 575/60/3    | 1.65 | 12.6  | 1740 | 39     | 56         | 2.3        | 31     |
|      | 400/50/3    | 2.5  | 19.7  | 1450 | 40     | 56         | 2.8        | 31     |
|      | 208/60/3    | 5.9  | 42.3  |      |        |            | 6.3        | 31     |
|      | 230/60/3    | 5.6  | 42    | 1725 |        |            | 6.3        | 31     |
| 2    | 460/60/3    | 2.8  | 21    |      |        |            | 3.4        | 31     |
|      | 575/60/3    | 2.2  | 16.8  | 1740 | 45     | 56         | 2.6        | 31     |
|      | 400/50/3    | 3.6  | 31.6  | 1450 | 56     | 56         | 3.8        | 31     |
|      | 208/60/3    | 8.7  | 64.7  |      |        |            | 10.4       | 31     |
|      | 230/60/3    | 8    | 64    | 1725 |        |            | 10.4       | 31     |
|      | 460/60/3    | 4    | 32    |      |        |            | 4.8        | 31     |
| 3    | 575/60/3    | 3.2  | 25.6  | 1725 | 56     | 56         | 3.8        | 31     |
|      | 400/50/3    | 5.5  | 44.6  | 1450 | 74     | 182-4T     | 8.3        | 31     |
|      | 208/60/3    | 13.8 | 47.7  | 1800 | 82     | 184T       | 16.8       | 31     |
|      | 230/30/3    | 13.2 | 47.7  | 1800 | 82     | 184T       | 16.8       | 31     |
|      | 460/60/3    | 6.6  | 47.7  | 1800 | 82     | 184T       | 8.3        | 31     |
|      | 575/60/3    | 5.2  | 40.0  | 1800 | 74     | 184T       | 5.9        | 31     |
| 4    | 400/50/3    | 9.5  | 68.1  | 1450 | 110    | 213T       | 12.2       | 31     |
|      | 208/60/3    | 22.4 | 162.0 | 1800 | 116    | 213T       | 23.8       | 85     |
|      | 230/30/3    | 19.2 | 67.5  | 1800 | 117    | 213T       | 23.8       | 85     |
|      | 460/60/3    | 9.6  | 67.5  | 1800 | 117    | 213T       | 14.0       | 31     |
|      | 575/60/3    | 8.0  | 43.6  | 1800 | 114    | 213T       | 8.8        | 31     |
|      | 400/50/3    | 13.5 | 89.5  | 1450 | 129    | 215T       | 15.0       | 31     |
| 5    | 208/60/3    | 26.0 | 88.3  | 1800 | 134    | 215T       | 32.2       | 85     |
|      | 230/30/3    | 25.0 | 88.3  | 1800 | 134    | 215T       | 32.2       | 85     |
|      | 460/60/3    | 12.5 | 88.3  | 1800 | 134    | 215T       | 21.0       | 85     |
|      | 575/60/3    | 10.2 | 71.7  | 1800 | 145    | 215T       | 16.6       | 85     |
|      | 400/50/3    | 18.5 | 148.7 | 1450 | 167    | 254T       | 24.0       | 76     |
|      | 208/60/3    | 37.4 | 118.0 | 1800 | 234    | 254T       | 48.3       | 94     |
| 7.5  | 230/30/3    | 35.4 | 118.0 | 1800 | 234    | 254T       | 48.3       | 94     |
|      | 460/60/3    | 17.7 | 118.0 | 1800 | 234    | 254T       | 27.6       | 85     |
|      | 575/60/3    | 14.1 | 94.0  | 1800 | 234    | 254T       | 16.6       | 85     |
|      | 400/50/3    | 23.0 | 148.0 | 1435 | 235    | 256T       | 32.0       | 85     |
|      | 208/60/3    | 54.3 | 373.0 | 1800 | 237    | 256T       | 78.2       | 124    |
|      | 230/30/3    | 47.0 | 160.8 | 1800 | 255    | 256T       | 78.2       | 124    |
| 10   | 460/60/3    | 23.5 | 160.8 | 1800 | 255    | 256T       | 27.6       | 85     |
|      | 575/60/3    | 18.9 | 130.0 | 1800 | 237    | 256T       | 21.4       | 85     |

**Minimum Circuit Ampacity (MCA) and Maximum Fuse Size (MFS) Calculations for Units with Electric Heat**

Heater Amps = (Heater kW x 1000)/Heater Voltage

MCA = 1.25 x (heater amps + all motor FLAs)

MFS or HACR Type Circuit Breaker = (2.25 x Largest Motor FLA) + Second Motor FLA) + Heater Amps (If Applicable)

HACR (Heating, Air-Conditioning and Refrigeration) type circuit breakers are required in the branch circuit wiring for all fan-coils with electric heat.

See [Table 101, p. 134](#) for motor FLAs

Select a standard fuse size or HACR type circuit breaker equal to the MCA.

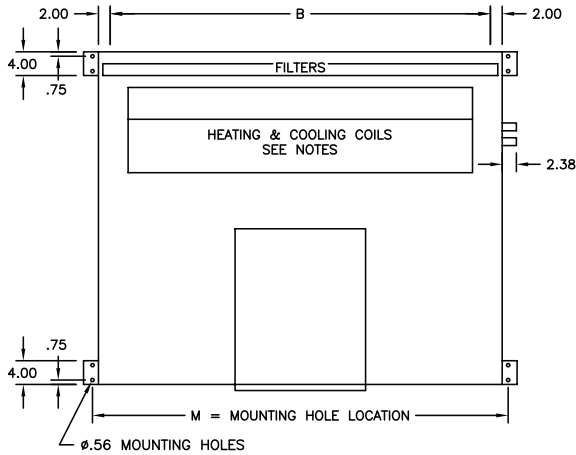
Use the next larger standard size if the MCA does not equal a standard size.

Standard fuse sizes are: 15, 20, 25, 30, 35, 40, 45, 50, 60 amps

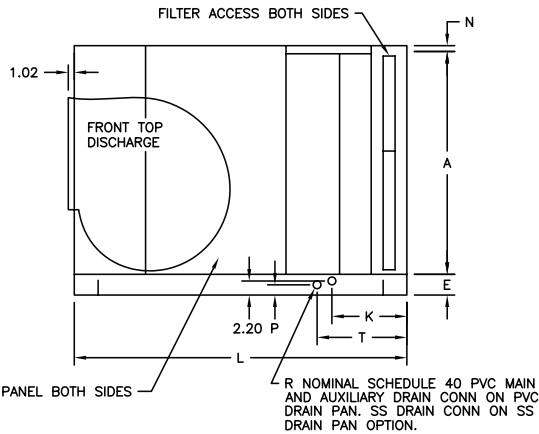
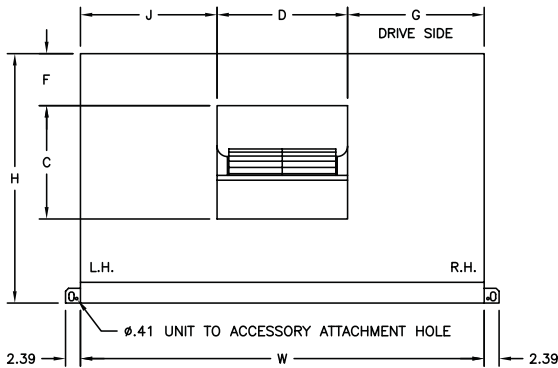
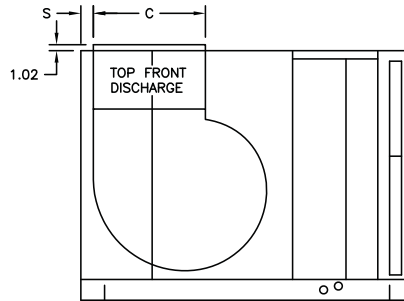


# Dimensions and Weights

## Horizontal Unit (in.)



NOTES: ALL DIMENSIONS ARE IN INCHES  
 WATER COIL CONNECTIONS ARE EXT NPS.  
 STEAM COIL CONNECTIONS ARE INT NPS.  
 DX COIL CONNECTIONS ARE SWEAT STYLE.  
 1 ROW STEAM OR 1 OR 2 ROW HOT WATER COIL AVAILABLE IN PREHEAT OR REHEAT POSITION WITH 4 OR 6 ROW COOLING COIL. HEATING COIL NOT AVAILABLE IN UNIT WITH 8 ROW COOLING COIL.  
 AUXILIARY DRAIN CONNECTION AVAILABLE ON UNIT SIZE 3 & 6 ONLY.  
 UNIT SIZE 3 THRU 21 SW HAVE LIFT OFF ACCESS PANELS.  
 UNIT SIZE 3 THRU 21 DW AND 25 AND 30 SW AND DW HAVE HINGED LIFT OFF ACCESS PANELS.  
 WEIGHT OF BASIC UNIT INCLUDES CABINET, FAN, AVERAGE DRIVE & AVERAGE FILTERS



## Horizontal packaged climate changer dimensions (in.) and weights (lb)

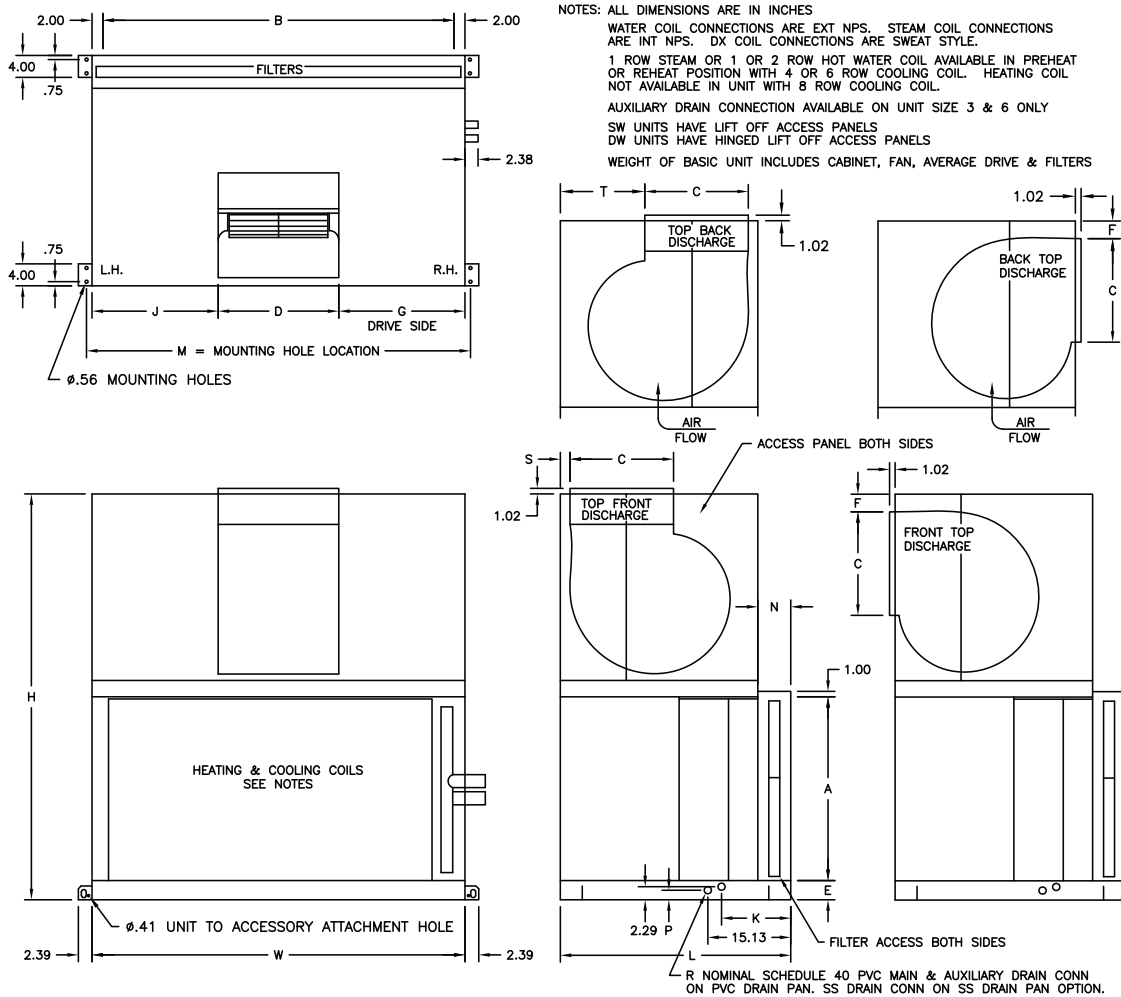
| Unit Size | H    | W    | L    | A    | B    | C    | D    | E   | F    | G    | J    | K    |      | M    | N   | P   | R   | S   | T    | Weights |      |
|-----------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|-----|-----|-----|-----|------|---------|------|
|           |      |      |      |      |      |      |      |     |      |      |      | RH   | LH   |      |     |     |     |     |      | SW      | DW   |
| 3         | 24.5 | 31.2 | 54.0 | 20.5 | 27.2 | 10.6 | 9.4  | 3.0 | 2.3  | 10.9 | 10.9 | 12.6 | 17.6 | 33.0 | 1.0 | 1.6 | 0.8 | 2.7 | 15.1 | 164     | 231  |
| 6         | 30.5 | 44.2 | 57.0 | 26.5 | 40.2 | 13.8 | 12.5 | 3.0 | 3.3  | 15.9 | 15.9 | 12.6 | 17.6 | 46.0 | 1.0 | 1.6 | 0.8 | 2.0 | 15.1 | 232     | 323  |
| 8         | 34.5 | 48.2 | 48.0 | 30.0 | 44.2 | 13.8 | 15.9 | 3.5 | 8.7  | 18.6 | 13.6 | —    | —    | 50.0 | 1.0 | 1.6 | 1.0 | 2.4 | 15.1 | 240     | 337  |
| 10        | 34.5 | 60.2 | 52.0 | 30.0 | 56.2 | 16.2 | 18.9 | 3.5 | 3.8  | 20.6 | 20.6 | —    | —    | 62.0 | 1.0 | 1.6 | 1.0 | 2.0 | 15.1 | 277     | 398  |
| 12        | 42.0 | 68.2 | 56.0 | 37.5 | 64.2 | 19.2 | 19.2 | 3.5 | 5.4  | 24.5 | 24.5 | —    | —    | 70.0 | 1.0 | 1.6 | 1.0 | 2.1 | 15.1 | 462     | 607  |
| 14        | 42.0 | 68.2 | 56.0 | 37.5 | 64.2 | 19.2 | 22.2 | 3.5 | 5.4  | 23.0 | 23.0 | —    | —    | 70.0 | 1.0 | 1.6 | 1.0 | 2.1 | 15.1 | 476     | 619  |
| 17        | 52.0 | 76.2 | 62.0 | 47.5 | 72.2 | 25.1 | 20.1 | 3.5 | 8.9  | 28.1 | 28.1 | —    | —    | 78.0 | 1.0 | 1.6 | 1.0 | 2.1 | 15.1 | 594     | 775  |
| 21        | 52.0 | 76.2 | 62.0 | 47.5 | 72.2 | 25.1 | 25.1 | 3.5 | 8.9  | 25.6 | 25.6 | —    | —    | 78.0 | 1.0 | 1.6 | 1.0 | 2.1 | 15.1 | 636     | 819  |
| 25        | 59.5 | 78.2 | 67.0 | 53.0 | 74.2 | 25.5 | 23.5 | 4.5 | 15.7 | 27.4 | 27.4 | —    | —    | 80.0 | 2.0 | 2.8 | 1.3 | 2.0 | 18.1 | 771     | 1000 |
| 30        | 59.5 | 91.2 | 72.0 | 53.0 | 87.2 | 28.5 | 26.5 | 4.5 | 11.3 | 32.4 | 32.4 | —    | —    | 93.0 | 2.0 | 2.8 | 1.3 | 2.0 | 18.1 | 967     | 1233 |

**Notes:**

- Weight of basic unit includes: cabinet, fan, average drive and filter. Add 9 pounds to basic weight for control box, if applicable
- For units with factory installed VFD, an additional 13.18 inches needs to be added to the width of the unit to accommodate VFD
- SW = Single Wall
- DW = Double Wall



### Vertical Unit (in.)



### Vertical packaged climate changer dimensions (in.) and weights (lb)

| Unit Size | H     | W    | L    | A    | B    | C    | D    | E   | F   | G    | J    | K    |      | N    |     |     |     | S   | T   | Weights |     |      |
|-----------|-------|------|------|------|------|------|------|-----|-----|------|------|------|------|------|-----|-----|-----|-----|-----|---------|-----|------|
|           |       |      |      |      |      |      |      |     |     |      |      | RH   | LH   | M    | SW  | DW  | P   |     |     | R       | SW  | DW   |
| 3         | 47.0  | 31.2 | 40.0 | 20.5 | 27.2 | 10.6 | 9.4  | 3.0 | 2.3 | 10.9 | 10.9 | 17.6 | 12.6 | 33.0 | 6.0 | 6.0 | 1.6 | 0.8 | 2.7 | 21.0    | 189 | 287  |
| 6         | 59.0  | 44.2 | 46.0 | 26.5 | 40.2 | 13.8 | 12.5 | 3.0 | 2.3 | 15.9 | 15.9 | 17.6 | 12.6 | 46.0 | 6.0 | 6.0 | 1.6 | 0.8 | 2.0 | 24.4    | 275 | 419  |
| 8         | 66.5  | 48.2 | 34.0 | 30.0 | 44.2 | 13.8 | 15.9 | 3.5 | 8.7 | 18.6 | 13.6 | —    | —    | 50.0 | 6.0 | 6.0 | 1.7 | 1.0 | 2.4 | 12.1    | 286 | 428  |
| 10        | 66.5  | 60.2 | 38.0 | 30.0 | 56.2 | 16.2 | 18.9 | 3.5 | 3.8 | 20.6 | 20.6 | —    | —    | 62.0 | 6.0 | 6.0 | 1.7 | 1.0 | 2.0 | 14.0    | 316 | 493  |
| 12        | 82.0  | 68.2 | 42.0 | 37.5 | 64.2 | 19.2 | 19.2 | 3.5 | 5.4 | 24.5 | 24.5 | —    | —    | 70.0 | 6.0 | 6.0 | 1.7 | 1.0 | 2.1 | 15.0    | 526 | 751  |
| 14        | 82.0  | 68.2 | 42.0 | 37.5 | 64.2 | 19.2 | 22.2 | 3.5 | 5.4 | 23.0 | 23.0 | —    | —    | 70.0 | 6.0 | 6.0 | 1.7 | 1.0 | 2.1 | 13.0    | 539 | 769  |
| 17        | 102.5 | 76.2 | 45.0 | 47.5 | 72.2 | 25.1 | 20.1 | 3.5 | 8.9 | 28.1 | 28.1 | —    | —    | 78.0 | 6.0 | 5.0 | 1.7 | 1.0 | 2.1 | 13.0    | 709 | 998  |
| 21        | 102.5 | 76.2 | 45.0 | 47.5 | 72.2 | 25.1 | 25.1 | 3.5 | 8.9 | 25.6 | 25.6 | —    | —    | 78.0 | 6.0 | 5.0 | 1.7 | 1.0 | 2.1 | 13.0    | 750 | 1041 |

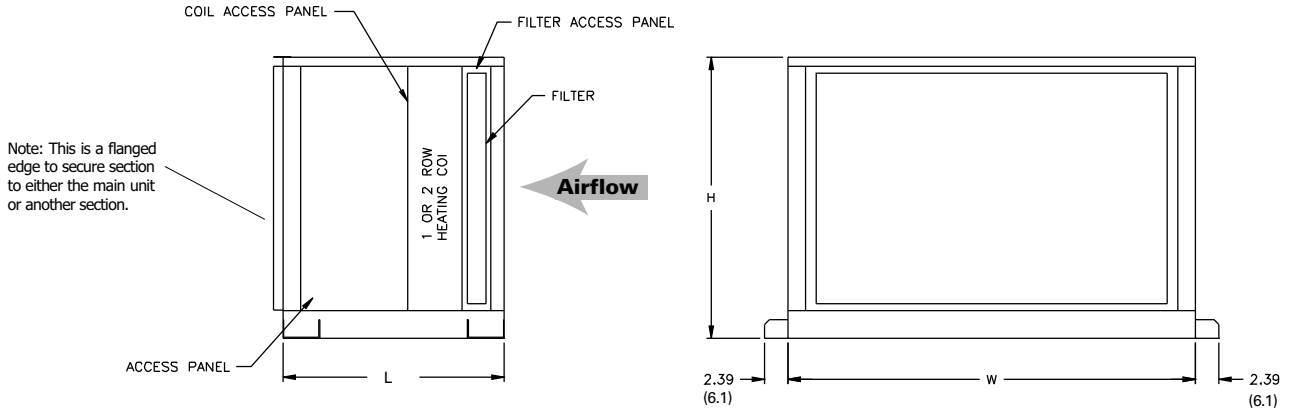
**Notes:**

- Vertical units are only available in sizes 3–21.
- For units with factory installed VFD, an additional 13.18 inches needs to be added to the width of the unit to accommodate VFD.
- SW = Single Wall
- DW = Double Wall

# Dimensions and Weights

## Coil Access Section

### Access Section (in.)



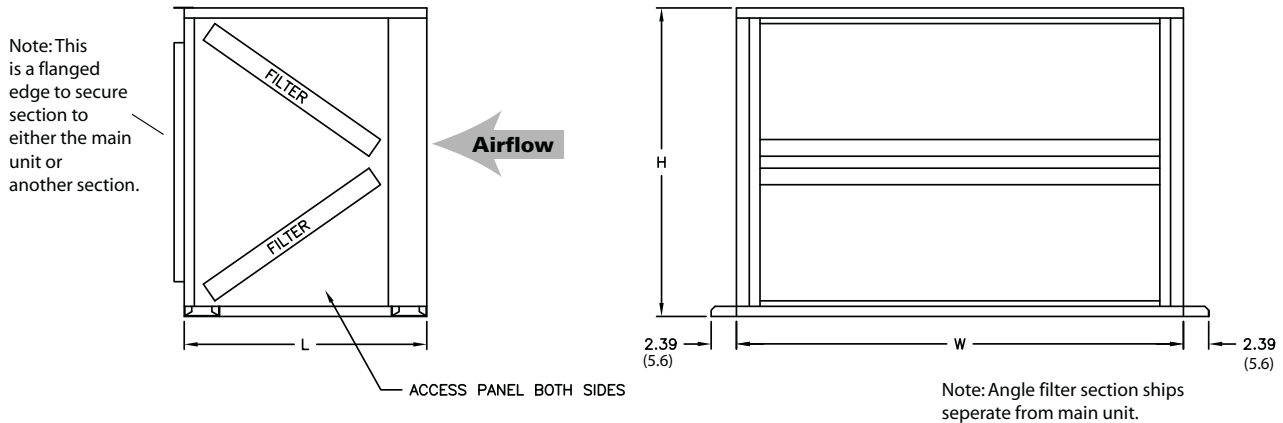
NOTE: ACCESS SECTION IS ONLY AVAILABLE WITH A 1 OR 2-ROW HEATING COIL AND SHIPS SEPARATE FROM MAIN UNIT.

### Access section dimensions (in.) and weights (lb)

| Unit Size | H    | L    | W    | Weights |     |
|-----------|------|------|------|---------|-----|
|           |      |      |      | SW      | DW  |
| 3         | 24.5 | 24.3 | 31.2 | 69      | 97  |
| 6         | 30.5 | 24.3 | 44.2 | 100     | 137 |
| 8         | 34.5 | 24.3 | 48.2 | 106     | 148 |
| 10        | 34.5 | 24.3 | 60.2 | 119     | 169 |
| 12        | 42.0 | 24.3 | 68.2 | 162     | 218 |
| 14        | 42.0 | 24.3 | 68.2 | 157     | 213 |
| 17        | 52.0 | 24.3 | 76.2 | 204     | 267 |
| 21        | 52.0 | 24.3 | 76.2 | 196     | 259 |
| 25        | 59.5 | 28.3 | 78.2 | 248     | 336 |
| 30        | 59.5 | 28.3 | 91.2 | 271     | 370 |

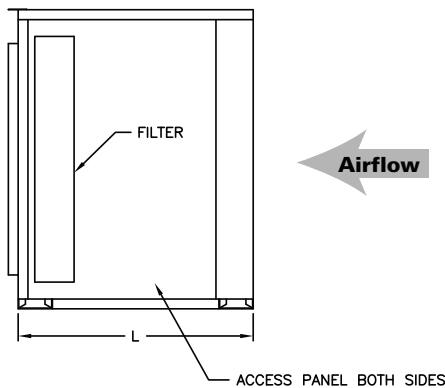
- Notes:
1. SW = Single Wall
  2. DW = Double Wall

### Angle Filter Section (in.)



### Flat Filter Section (in.)

4" FLAT FILTER SECTION



NOTES:  
 ALL DIMENSIONS ARE IN INCHES.  
 SIZE 3 THRU 21 SW HAVE LIFT OFF ACCESS PANELS.  
 SIZE 3 THRU 21 DW AND 25 AND 30 SW AND DW HAVE HINGED LIFT OFF ACCESS PANELS.

Angle and flat filter section dimensions (in.) and weights (lb)

| Unit Size | H    | L    | W    | Flat Filter Weights |     | Angle Filter Weights |     |
|-----------|------|------|------|---------------------|-----|----------------------|-----|
|           |      |      |      | SW                  | DW  | SW                   | DW  |
| 3         | 24.5 | 21.5 | 31.2 | 46                  | 60  | 50                   | 64  |
| 6         | 30.5 | 24.0 | 44.2 | 64                  | 86  | 68                   | 90  |
| 8         | 34.5 | 27.3 | 48.2 | 78                  | 107 | 82                   | 111 |
| 10        | 34.5 | 25.5 | 60.2 | 83                  | 115 | 89                   | 121 |
| 12        | 42.0 | 27.3 | 68.2 | 112                 | 151 | 126                  | 165 |
| 14        | 42.0 | 27.3 | 68.2 | 112                 | 151 | 126                  | 165 |
| 17        | 52.0 | 29.3 | 76.2 | 164                 | 209 | 179                  | 224 |
| 21        | 52.0 | 29.3 | 76.2 | 164                 | 209 | 179                  | 224 |
| 25        | 59.5 | 35.0 | 78.2 | 184                 | 250 | 200                  | 266 |
| 30        | 59.5 | 35.0 | 91.2 | 201                 | 275 | 217                  | 291 |

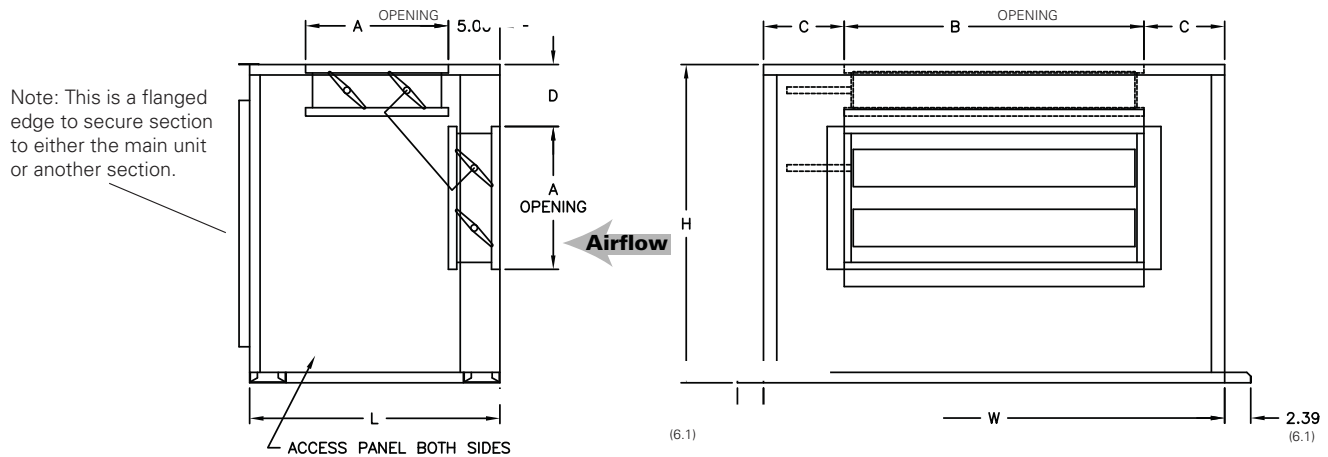
Notes:  
 1. SW = Single Wall  
 2. DW = Double Wall



## Dimensions and Weights

### Damper Section

### Damper Section (in.)



Notes:  
 All dimensions are in inches.  
 Damper section ships separate from main unit.  
 Linkage between dampers factory installed inside mixing box on drive side.

### Damper section dimensions (in.) and weights (lb)

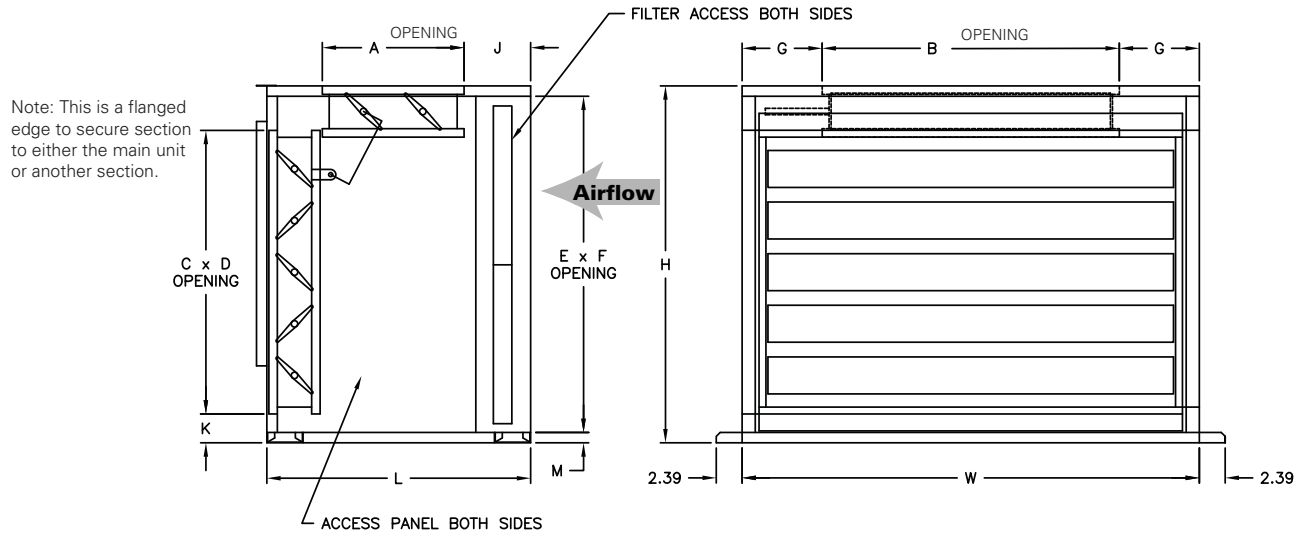
| Unit Size | H    | L    | W    | A    | B    | C    | D   | Damper Qty. - Size | Weights |     |
|-----------|------|------|------|------|------|------|-----|--------------------|---------|-----|
|           |      |      |      |      |      |      |     |                    | SW      | DW  |
| 3         | 24.5 | 21.5 | 31.2 | 14.0 | 16.0 | 7.6  | 5.8 | 2 - 14.0 x 16.0    | 80      | 98  |
| 6         | 30.5 | 24.0 | 44.2 | 14.0 | 29.0 | 7.6  | 5.8 | 2 - 14.0 x 29.0    | 119     | 147 |
| 8         | 34.5 | 27.3 | 48.2 | 19.7 | 26.0 | 11.1 | 5.8 | 2 - 19.7 x 26.0    | 135     | 170 |
| 10        | 34.5 | 25.5 | 60.2 | 14.0 | 46.0 | 7.1  | 5.8 | 2 - 14.0 x 46.0    | 168     | 208 |
| 12        | 42.0 | 27.3 | 68.2 | 19.7 | 37.0 | 15.6 | 5.8 | 2 - 19.7 x 37.0    | 186     | 237 |
| 14        | 42.0 | 27.3 | 68.2 | 19.7 | 44.0 | 12.1 | 5.8 | 2 - 19.7 x 44.0    | 199     | 248 |
| 17        | 52.0 | 29.3 | 76.2 | 19.7 | 53.0 | 11.6 | 5.8 | 2 - 19.7 x 53.0    | 274     | 340 |
| 21        | 52.0 | 34.0 | 76.2 | 25.5 | 53.0 | 11.6 | 5.8 | 2 - 25.7 x 53.0    | 309     | 376 |
| 25        | 59.5 | 35.0 | 78.2 | 25.5 | 58.0 | 10.1 | 6.0 | 2 - 25.7 x 58.0    | 318     | 399 |
| 30        | 59.5 | 35.0 | 91.2 | 25.5 | 68.0 | 11.6 | 6.0 | 2 - 25.7 x 68.0    | 355     | 447 |

Notes:  
 1. SW = Single Wall  
 2. DW = Double Wall

## Dimensions and Weights

### Face and Bypass Section

### Face and Bypass Section (in.)



Notes:  
 All dimensions are in inches.  
 Damper section ships separate from main unit.  
 Linkage between dampers factory installed inside mixing box on drive side.

### Face and bypass section dimensions (in.) and weights (lb)

| Unit Size | H    | L    | W    | A    | B    | C    | D    | E    | F    | G    | J   | K   | M   | Face Damper  | Bypass Damper | Weights |     |
|-----------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|--------------|---------------|---------|-----|
|           |      |      |      |      |      |      |      |      |      |      |     |     |     |              |               | SW      | DW  |
| 3         | 24.5 | 23.5 | 31.2 | 14.0 | 16.0 | 14.0 | 26.0 | 22.5 | 28.7 | 7.6  | 5.6 | 5.3 | 1.0 | 14.0 x 27.0  | 14.0 x 16.0   | 94      | 111 |
| 6         | 30.5 | 26.0 | 44.2 | 14.0 | 29.0 | 19.7 | 39.0 | 28.5 | 41.7 | 7.6  | 7.4 | 4.6 | 1.0 | 19.7 x 40.0  | 14.0 x 29.0   | 140     | 165 |
| 8         | 34.5 | 28.3 | 48.2 | 19.7 | 26.0 | 25.5 | 43.0 | 32.5 | 45.6 | 11.1 | 4.6 | 3.8 | 1.0 | 25.5 x 44.0  | 19.7 x 26.0   | 159     | 188 |
| 10        | 34.5 | 26.5 | 60.2 | 14.0 | 46.0 | 25.5 | 55.0 | 32.5 | 57.6 | 7.1  | 7.6 | 3.8 | 1.0 | 25.5 x 56.0  | 14.0 x 49.0   | 198     | 231 |
| 12        | 42.0 | 28.3 | 68.2 | 19.7 | 37.0 | 31.2 | 63.0 | 40.0 | 65.7 | 15.6 | 4.6 | 4.6 | 1.0 | 31.2 x 64.0  | 19.7 x 37.0   | 220     | 260 |
| 14        | 42.0 | 28.3 | 68.2 | 19.7 | 44.0 | 31.3 | 63.0 | 40.0 | 65.7 | 12.1 | 4.6 | 4.6 | 1.0 | 31.2 x 64.0  | 19.7 x 44.0   | 235     | 274 |
| 17        | 52.0 | 32.3 | 76.2 | 19.7 | 53.0 | 42.7 | 71.0 | 50.0 | 73.6 | 11.6 | 7.6 | 3.9 | 1.0 | 42 x 72.0    | 19.7 x 53.0   | 323     | 371 |
| 21        | 52.0 | 35.0 | 76.2 | 25.5 | 53.0 | 42.7 | 71.0 | 50.0 | 73.6 | 11.6 | 4.6 | 3.9 | 1.0 | 42.72 x 72.0 | 25.5 x 53.0   | 365     | 417 |
| 25        | 59.5 | 37.0 | 78.2 | 25.5 | 58.0 | 48.5 | 74.0 | 53.0 | 74.0 | 10.1 | 5.2 | 6.4 | 4.5 | 48.47 x 74.0 | 25.5 x 58.0   | 375     | 437 |
| 30        | 59.5 | 37.0 | 91.2 | 25.5 | 68.0 | 48.5 | 87.0 | 53.0 | 87.0 | 11.6 | 5.2 | 6.4 | 4.5 | 48.47 x 87.0 | 25.5 x 68.0   | 419     | 489 |

Notes:  
 1. SW = Single Wall  
 2. DW = Double Wall

# Dimensions and Weights

## Electric Heat

### Electric Heat (in.)

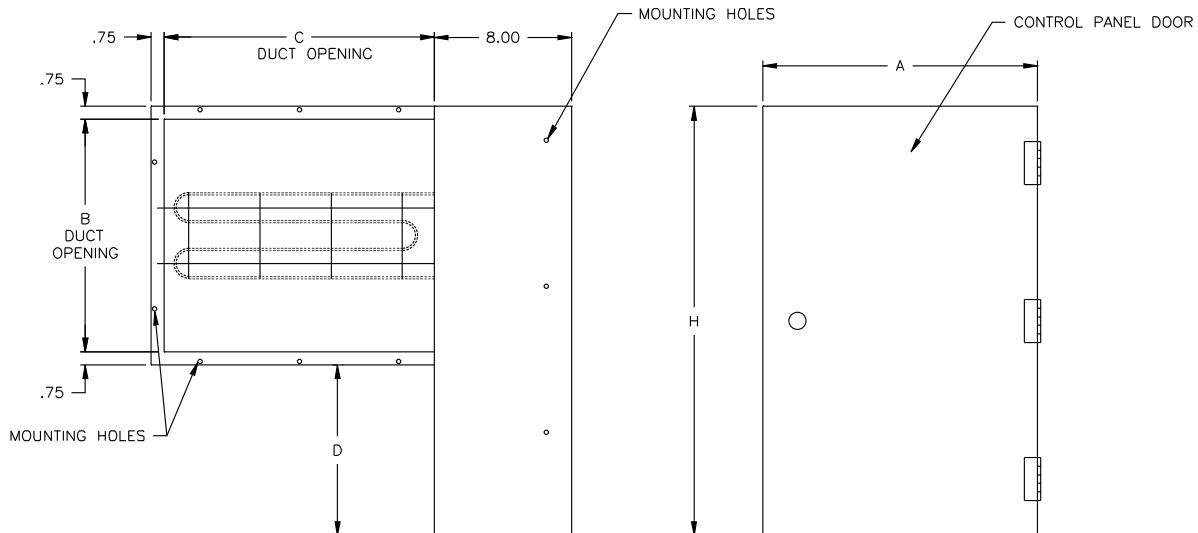
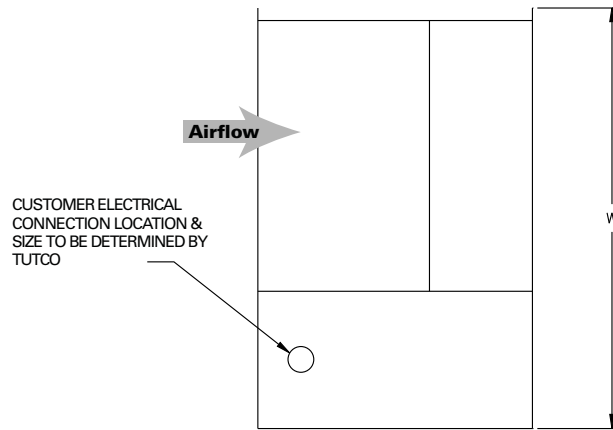
**Electric heat section dimensions (in.) and weight (lb)**

| Unit Size | H    | W    | A    | B    | C    | D    | Weight |
|-----------|------|------|------|------|------|------|--------|
| 3         | 24.0 | 18.0 | 12.0 | 10.4 | 9.3  | 12.1 | 34     |
| 6         | 24.0 | 21.0 | 16.0 | 13.6 | 12.3 | 8.9  | 38     |
| 8         | 24.7 | 24.5 | 16.0 | 13.6 | 15.8 | 9.6  | 44     |
| 10        | 29.0 | 27.5 | 20.0 | 16.0 | 18.8 | 11.5 | 62     |
| 12        | 34.0 | 27.8 | 20.0 | 19.0 | 19.0 | 13.5 | 66     |
| 14        | 34.0 | 30.8 | 20.0 | 19.0 | 22.0 | 13.5 | 69     |
| 17        | 34.0 | 28.6 | 20.0 | 24.9 | 19.9 | 7.6  | 73     |
| 21        | 34.0 | 33.6 | 20.0 | 24.9 | 24.9 | 7.6  | 77     |
| 25        | 34.0 | 32.0 | 20.0 | 25.3 | 23.3 | 7.3  | 79     |
| 30        | 34.0 | 35.1 | 20.0 | 28.3 | 26.4 | 4.2  | 82     |

**Notes:**

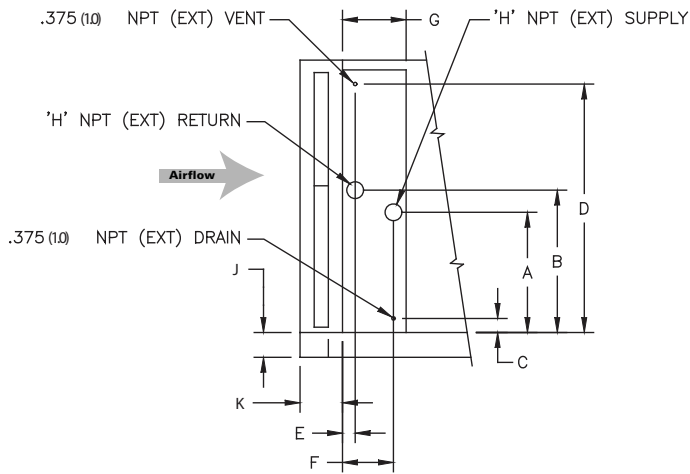
1. SW = Single Wall
2. DW = Double Wall

NOTES:  
 1. ELECTRIC HEATER IS FACTORY MOUNTED ON UNIT DISCHARGE FACE & WIRED TO UNIT CONTROL BOX.  
 2. LEFT-HAND HEATER SHOWN. RIGHT-HAND HEATER IS MIRROR IMAGE OF LEFT HAND. HEATER MAY BE MOUNTED WITH HORIZONTAL OR VERTICAL UP AIRFLOW.



Water Coil Connections (in.)

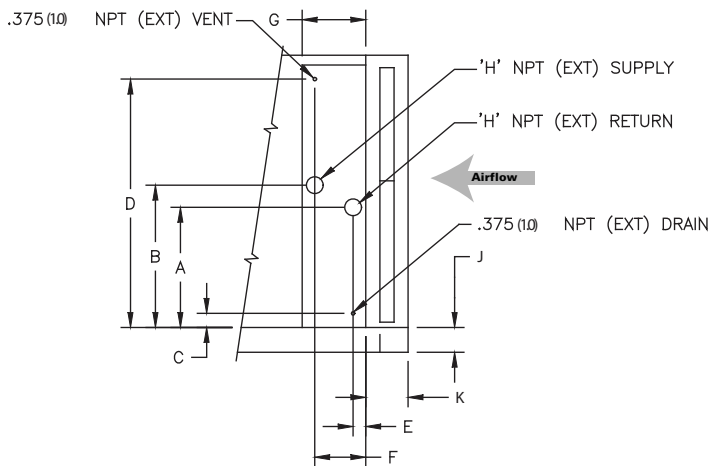
Left Hand



Note: J = 3.1" on unit sizes 3 and 6  
 = 3.6" on unit sizes 8-21  
 = 4.6" on unit sizes 25 & 30

K = 6.1" on unit sizes 3-21  
 = 8.1" on unit sizes 25 & 30

Right Hand





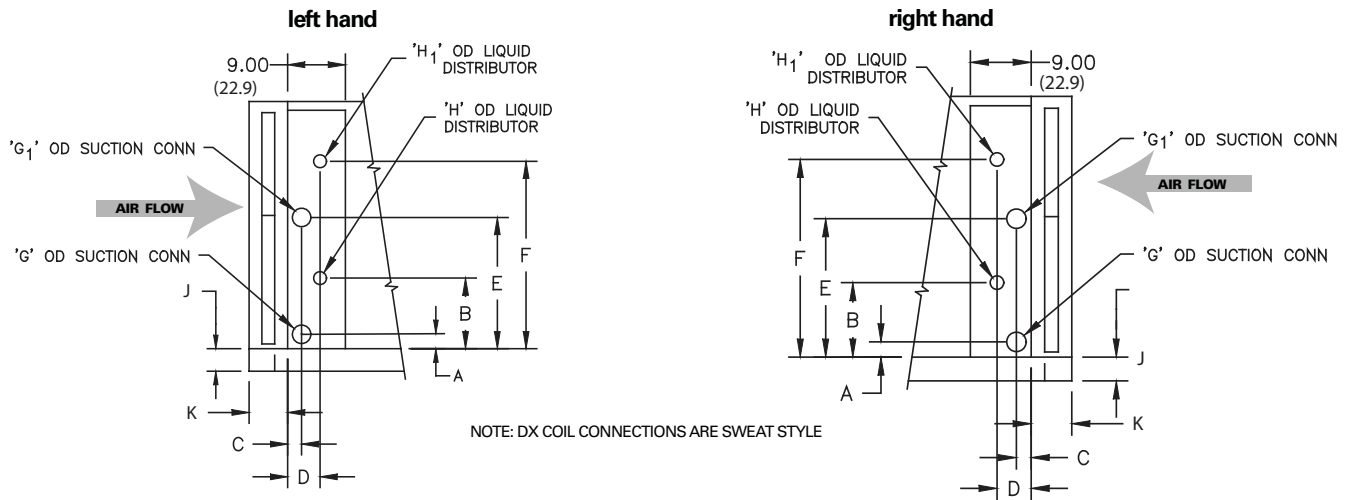
## Dimensions and Weights

### Coil Connections

#### Water coil connections (in.)

| Unit Size      | Left-Hand Connections Only |          |       |          | Right-Hand Connections Only |          |       |          | E       | F       | G       | H     |
|----------------|----------------------------|----------|-------|----------|-----------------------------|----------|-------|----------|---------|---------|---------|-------|
|                | A                          | B        | C     | D        | A                           | B        | C     | D        |         |         |         |       |
| One-Row Coil   |                            |          |       |          |                             |          |       |          |         |         |         |       |
| 3              | 8-5/8                      | 11-11/16 | 2     | 18-5/16  | 7-7/8-                      | 11-1/8   | 1-3/8 | 17-5/8   | 1-11/16 | 3-11/16 | 5-3/8   | 1-1/2 |
| 6              | 11-1/8                     | 14-3/16  | 2     | 23-5/16  | 10-3/8-                     | 13-5/8   | 1-3/8 | 22-5/8   | 1-11/16 | 3-11/16 | 5-3/8   | 1-1/2 |
| 8, 10          | 13-5/8                     | 16-11/16 | 2     | 28-5/16  | 12-7/8-                     | 16-1/8   | 1-3/8 | 27-5/8   | 1-11/16 | 3-11/16 | 5-3/8   | 1-1/2 |
| 12, 14         | 17-5/16                    | 20-3/8   | 2     | 35-13/16 | 16-11/16                    | 19-13/16 | 1-3/8 | 35-1/8   | 1-1/2-  | 3-7/8   | 5-3/8   | 2     |
| 17, 21         | 22-5/16                    | 25-3/8   | 2     | 45-13/16 | 21-11/16                    | 24-13/16 | 1-3/8 | 45-1/8   | 1-1/2-  | 3-7/8   | 5-3/8   | 2     |
| 25, 30         | 25-3/8                     | 28-5/8-  | 2-5/8 | 51-3/8-  | 24-13/16                    | 27-7/8-  | 2     | 50-13/16 | 2       | 4-1/2   | 6-1/2   | 2     |
| Two-Row Coil   |                            |          |       |          |                             |          |       |          |         |         |         |       |
| 3              | 7-5/8                      | 10-13/16 | 1-3/8 | 1-7-     | 8-7/8                       | 12       | 2-5/8 | 18-5/16  | 1-13/16 | 3-5/8   | 5-3/8   | 1-1/2 |
| 6              | 10-13/16                   | 13-7/8   | 2     | 22-5/8   | 10-13/16                    | 13-7/8   | 2     | 22-5/8   | 1-13/16 | 3-5/8   | 5-3/8   | 1-1/2 |
| 8, 10          | 13-5/16                    | 16-3/8   | 2     | 27-5/8   | 13-5/16                     | 16-3/8   | 2     | 27-5/8   | 1-13/16 | 3-5/8   | 5-3/8   | 1-1/2 |
| 12, 14         | 17                         | 20-1/8   | 2     | 35-1/8   | 17                          | 20-1/8   | 2     | 35-1/8   | 1-1/2-  | 3-13/16 | 5-3/8   | 2     |
| 17, 21         | 22                         | 25-1/8   | 2     | 45-1/8   | 22                          | 25-1/8   | 2     | 45-1/8   | 1-1/2-  | 3-13/16 | 5-3/8   | 2     |
| 25, 30         | 25-1/8-                    | 28-3/16  | 2     | 51-3/8   | 25-1/8                      | 28-5/16  | 2     | 51-3/8   | 1-7/8-  | 4-5/8-  | 6-1/2   | 2-1/2 |
| Four-Row Coil  |                            |          |       |          |                             |          |       |          |         |         |         |       |
| 3              | 7-5/8                      | 10-13/16 | 2-5/8 | 18-5/16  | 8-7/8                       | 12       | 2-5/8 | 18-5/16  | 4       | 7-3/16  | 9       | 1-1/2 |
| 6              | 10-13/16                   | 13-7/8   | 2     | 22-5/8   | 10-13/16                    | 13-7/8   | 2     | 22-5/8   | 4       | 7-3/16  | 9       | 1-1/2 |
| 8, 10          | 13-5/16                    | 16-3/8   | 2     | 27-5/8   | 13-5/16                     | 16-3/8   | 2     | 27-5/8   | 4       | 7-3/16  | 9       | 1-1/2 |
| 12, 14         | 17                         | 20-1/8   | 2     | 35-1/8   | 17                          | 20-1/8   | 2     | 35-1/8   | 4       | 7-3/16  | 9       | 2     |
| 17, 21         | 22                         | 25-1/8   | 2     | 45-1/8   | 22                          | 25-1/8   | 2     | 45-1/8   | 4       | 7-3/16  | 9       | 2-1/2 |
| 25, 30         | 25-1/8                     | 28-3/16  | 2     | 51-3/8   | 25-1/8                      | 28-5/16  | 2     | 51-3/8   | 4       | 7-3/16  | 9       | 2-1/2 |
| Six-Row Coil   |                            |          |       |          |                             |          |       |          |         |         |         |       |
| 3              | 7-5/8                      | 10-13/16 | 2-5/8 | 18-5/16  | 8-7/8                       | 12       | 2-5/8 | 18-5/16  | 1-13/16 | 7-3/16  | 9       | 1-1/2 |
| 6              | 10-13/16                   | 13-7/8   | 2     | 22-5/8   | 10-13/16                    | 13-7/8   | 2     | 22-5/8   | 1-13/16 | 7-3/16  | 9       | 1-1/2 |
| 8, 10          | 13-5/16                    | 16-3/8   | 2     | 27-5/8   | 13-5/16                     | 16-3/8   | 2     | 27-5/8   | 1-13/16 | 7-3/16  | 9       | 1-1/2 |
| 12, 14         | 17                         | 20-1/8   | 2     | 35-1/8   | 17                          | 20-1/8   | 2     | 35-1/8   | 1-13/16 | 7-3/16  | 9       | 2     |
| 17, 21         | 22                         | 25-1/8   | 2     | 45-1/8   | 22                          | 25-1/8   | 2     | 45-1/8   | 1-13/16 | 7-3/16  | 9       | 2-1/2 |
| 25, 30         | 25-1/8                     | 28-3/16  | 2     | 51-3/8   | 25-1/8                      | 28-5/16  | 2     | 51-3/8   | 1-13/16 | 7-3/16  | 9       | 2-1/2 |
| Eight-Row Coil |                            |          |       |          |                             |          |       |          |         |         |         |       |
| 3              | 7-5/8                      | 10-13/16 | 2-5/8 | 18-5/16  | 8-7/8                       | 12       | 2-5/8 | 18-5/16  | 1-13/16 | 9-3/8   | 11-3/16 | 1-1/2 |
| 6              | 10-13/16                   | 13-7/8   | 2     | 22-5/8   | 10-13/16                    | 13-7/8   | 2     | 22-5/8   | 1-13/16 | 9-3/8   | 11-3/16 | 1-1/2 |
| 8, 10          | 13-5/16                    | 16-3/8   | 2     | 27-5/8   | 13-5/16                     | 16-3/8   | 2     | 27-5/8   | 1-13/16 | 9-3/8   | 11-3/16 | 1-1/2 |
| 12, 14         | 17                         | 20-1/8   | 2     | 35-1/8   | 17                          | 20-1/8   | 2     | 35-1/8   | 1-13/16 | 9-3/8   | 11-3/16 | 2     |
| 17, 21         | 22                         | 25-1/8   | 2     | 45-1/8   | 22                          | 25-1/8   | 2     | 45-1/8   | 1-13/16 | 9-3/8   | 11-3/16 | 2-1/2 |
| 25, 30         | 25-1/8                     | 28-5/16  | 2     | 51-3/8   | 25-1/8                      | 28-5/16  | 2     | 51-3/8   | 1-13/16 | 9-3/8   | 11-3/16 | 2-1/2 |



**DX Coil Connections (in.)**
**Single Circuit Coils for Unit Sizes 3–10 and Horizontal Face Split Coils for Unit Sizes 12–25**

**Single circuit DX coil connections, unit sizes 3–10 (in.)**

| Unit Size                        | A     | B        | C       | D     |        | G      | H     | J     | K     |
|----------------------------------|-------|----------|---------|-------|--------|--------|-------|-------|-------|
|                                  |       |          |         | LH    | RH     |        |       |       |       |
| Four-row coil, 3/16" distributor |       |          |         |       |        |        |       |       |       |
| 3                                | 2-3/8 | 10-5/16  | 4       | 5-1/8 | 7-3/16 | 1-3/8  | 5/8   | 3-1/8 | 6-1/8 |
| 6                                | 2-3/8 | 17-11/16 | 4       | 5-1/8 | 7-3/16 | 1-3/8  | 7/8   | 3-1/8 | 6-1/8 |
| 8                                | 2-3/8 | 18-13/16 | 4       | 5-1/8 | 7-3/16 | 1-3/8  | 7/8   | 3-5/8 | 6-1/8 |
| 10                               | 2-1/2 | 18-3/16  | 4       | 5-1/8 | 7-3/16 | 1-5/8  | 7/8   | 3-5/8 | 6-1/8 |
| Six-row coil, 1/4" distributor   |       |          |         |       |        |        |       |       |       |
| 3                                | 2-3/8 | 11       | 1-13/16 | 2-7/8 | 5      | 1-3/8- | 7/8   | 3-1/8 | 6-1/8 |
| 6                                | 2-3/8 | 17-11/16 | 1-13/16 | 2-7/8 | 5      | 1-3/8- | 7/8   | 3-1/8 | 6-1/8 |
| 8                                | 2-3/8 | 19-5/16  | 1-13/16 | 2-7/8 | 5      | 1-3/8- | 1-1/8 | 3-5/8 | 6-1/8 |
| 10                               | 2-1/2 | 19       | 1-13/16 | 2-7/8 | 5      | 1-5/8- | 1-3/8 | 3-5/8 | 6-1/8 |

**Note:** Single circuit DX coils on unit sizes 3–10 have one distributor.

**Horizontal face split circuit DX coil connections, unit sizes 8–25 (in.)**

| Unit Size                        | A     | B       | C       | D      |        | E      | F        | G     | G <sub>1</sub> | H     | H <sub>1</sub> | J     | K     |
|----------------------------------|-------|---------|---------|--------|--------|--------|----------|-------|----------------|-------|----------------|-------|-------|
|                                  |       |         |         | LH     | RH     |        |          |       |                |       |                |       |       |
| Four-row coil, 3/16" distributor |       |         |         |        |        |        |          |       |                |       |                |       |       |
| 8                                | 2-3/8 | 8-1/8   | 4       | 5-1/8  | 7-3/16 | 17-3/8 | 22-13/16 | 1-3/8 | 1-3/8          | 5/8   | 5/8            | 3-5/8 | 6-1/8 |
| 10                               | 2-3/8 | 8-1/8   | 4       | 5-1/8  | 7-3/16 | 14-7/8 | 22-3/8   | 1-3/8 | 1-3/8          | 7/8   | 7/8            | 3-5/8 | 6-1/8 |
| 12, 14                           | 1-7/8 | 12-5/8  | 4       | 5-1/8  | 7-3/16 | 19-7/8 | 31-1/8   | 1-3/8 | 1-3/8          | 7/8   | 7/8            | 3-5/8 | 6-1/8 |
| 17, 21                           | 1-7/8 | 17-5/8  | 4       | 5-1/8  | 7-3/16 | 25     | 41-3/8   | 1-5/8 | 1-5/8          | 7/8   | 7/8            | 3-5/8 | 6-1/8 |
| 25                               | 1-7/8 | 18-5/16 | 4       | 5-5/16 | 7-3/16 | 27-1/2 | 43-5/16  | 1-5/8 | 1-5/8          | 7/8   | 7/8            | 4-5/8 | 8-1/8 |
| Six-row coil, 1/4" distributor   |       |         |         |        |        |        |          |       |                |       |                |       |       |
| 8                                | 2-3/8 | 8-13/16 | 1-13/16 | 2-7/8  | 5      | 17-3/8 | 22-3/8   | 1-3/8 | 1-3/8          | 7/8   | 7/8            | 3-5/8 | 6-1/8 |
| 10                               | 2-3/8 | 8-13/16 | 1-13/16 | 2-7/8  | 5      | 14-7/8 | 22-3/8   | 1-3/8 | 1-5/8          | 7/8   | 7/8            | 3-5/8 | 6-1/8 |
| 12, 14                           | 2-3/8 | 13      | 1-13/16 | 2-7/8  | 5      | 19-7/8 | 31-3/8   | 1-3/8 | 1-3/8          | 1-1/8 | 7/8            | 3-5/8 | 6-1/8 |
| 17, 21                           | 2-3/8 | 18-3/16 | 1-13/16 | 2-7/8  | 5      | 25     | 42       | 1-5/8 | 1-5/8          | 1-1/8 | 1-1/8          | 3-5/8 | 6-1/8 |

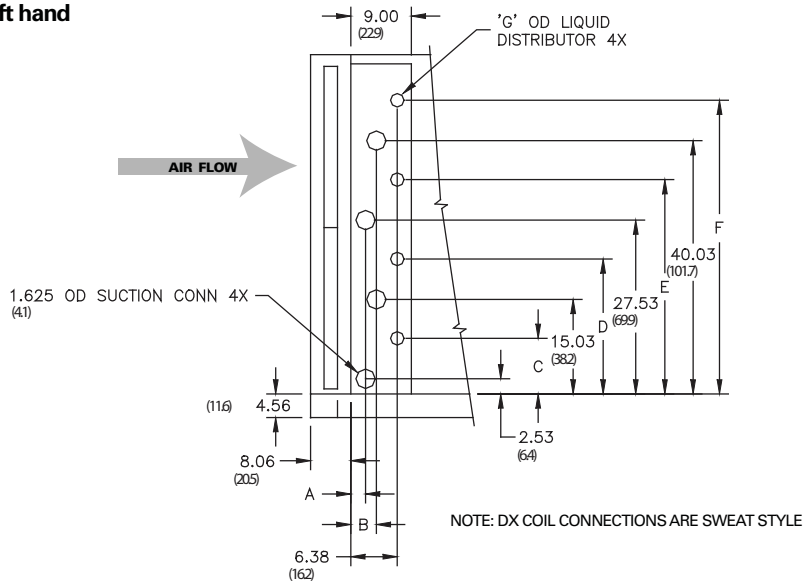
# Dimensions and Weights

## Coil Connections

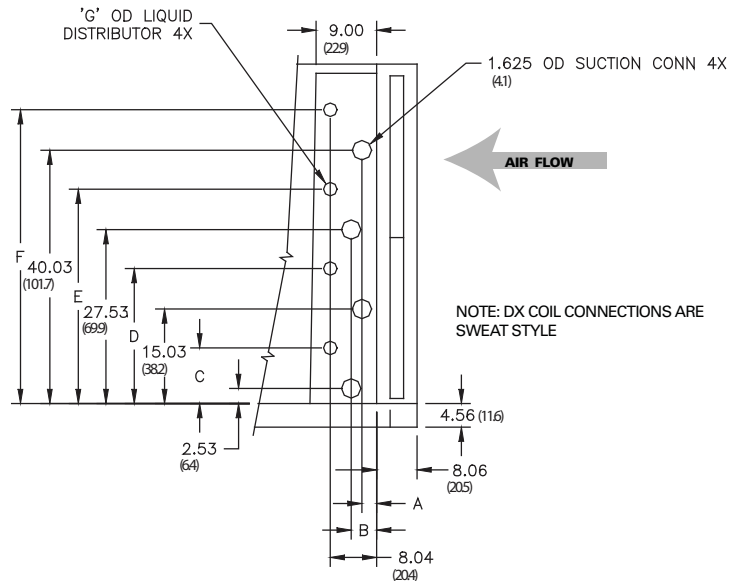
### DX Coil Connections (in.)

#### Horizontal Face Split Circuit Coils for Unit Size 30

left hand



right hand



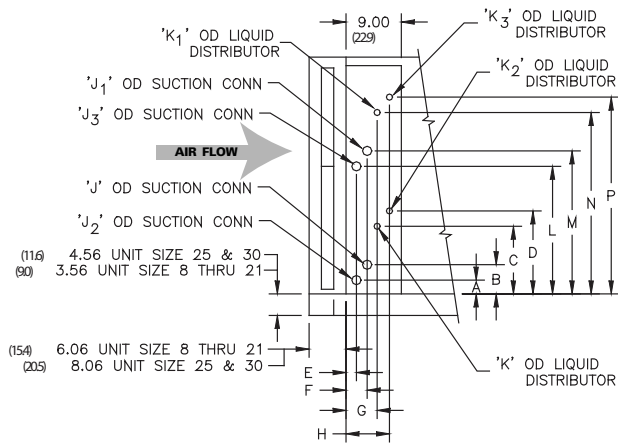
#### Horizontal face split circuit DX coil connections, unit size 30 (in.)

| A                                | B       | C      | D      | E      | F      | G     |
|----------------------------------|---------|--------|--------|--------|--------|-------|
| Four-row coil, 3/16" distributor |         |        |        |        |        |       |
| 3-1/8                            | 4-13/16 | 11-1/8 | 23-5/8 | 36-1/8 | 48-5/8 | 7/8   |
| Six-row coil, 1/4" distributor   |         |        |        |        |        |       |
| 1                                | 2-5/8   | 11-7/8 | 24-3/8 | 36-7/8 | 49-3/8 | 1-3/8 |

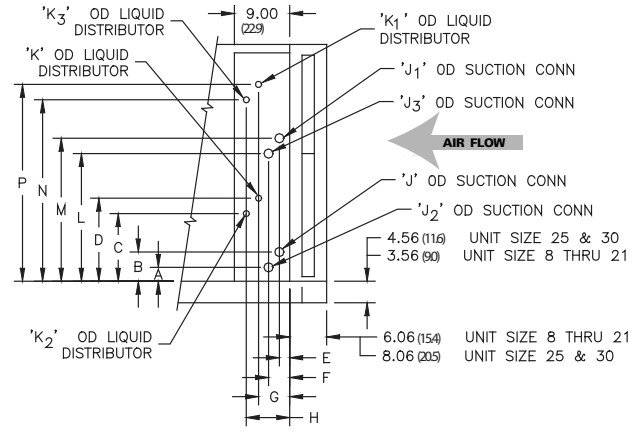
**Note:** Horizontal face split circuit DX coils on unit size 30 has four distributors.

### DX Coil Connections (in.) Intertwined Coils Unit Sizes 8–30

left hand



right hand



NOTE: DX COIL CONNECTIONS ARE SWEAT STYLE

### Intertwined circuit DX coil connections, unit sizes 8–30 (in.)

| Unit Size                        | A     | B       | C        | D        | E      | F       | G      | H      | J     | J <sub>1</sub> | J <sub>2</sub> | J <sub>3</sub> |
|----------------------------------|-------|---------|----------|----------|--------|---------|--------|--------|-------|----------------|----------------|----------------|
| Four-row coil, 3/16" distributor |       |         |          |          |        |         |        |        |       |                |                |                |
| 8                                | 2-3/8 | 6-3/16  | 18-3/16  | 14-1/8   | 3-3/16 | 4-11/16 | 5-5/16 | 7-5/16 | 1-3/8 | —              | 1-3/8          | —              |
| 10                               | 2-3/8 | 4-7/8   | 20-1/8   | 22-5/8   | 3-3/16 | 4-11/16 | 5-5/16 | 7-5/16 | 1-3/8 | —              | 1-3/8          | —              |
| 12, 14                           | 2-3/8 | 4-7/8   | 22-13/16 | 19-11/16 | 3-3/16 | 4-11/16 | 5-5/16 | 7-5/16 | 1-3/8 | —              | 1-3/8          | —              |
| 17, 21                           | 2-3/8 | 4-7/8   | 17-1/2   | 14-7/8   | 3-3/16 | 4-11/16 | 5-5/16 | 7-5/16 | 1-3/8 | 1-3/8          | 1-3/8          | 1-3/8          |
| 25                               | 2-3/8 | 4-7/8   | 17-1/2   | 20       | 3-3/16 | 4-11/16 | 5-5/16 | 7-5/16 | 7/8   | 1-3/8          | 1-3/8          | 1-3/8          |
| 30                               | 2-1/2 | 3-13/16 | 18-7/8   | 20-1/8   | 3-1/8  | 4-7/8   | 6-3/16 | 8-3/16 | 1-5/8 | 1-5/8          | 1-5/8          | 1-5/8          |
| Six-row coil, 1/4" distributor   |       |         |          |          |        |         |        |        |       |                |                |                |
| 8                                | 2-3/8 | 6-3/16  | 18-5/8   | 14-7/8   | 1      | 2-5/8   | 3-3/16 | 5-3/16 | 1-3/8 | —              | 1-3/8          | —              |
| 10                               | 2-3/8 | 4-7/8   | 20-1/8   | 22-5/8   | 1      | 2-5/8   | 3-3/16 | 5-3/16 | 1-3/8 | —              | 1-3/8          | —              |
| 12, 14                           | 2-3/8 | 4-7/8   | 23-3/16  | 19-13/16 | 1      | 2-5/8   | 3-3/16 | 5-3/16 | 1-3/8 | —              | 1-3/8          | —              |
| 17, 21                           | 2-3/8 | 4-7/8   | 17-1/2   | 15-5/16  | 1      | 2-5/8   | 3-3/16 | 5-3/16 | 1-3/8 | 1-3/8          | 1-3/8          | 1-3/8          |
| 25                               | 2-3/8 | 4-7/8   | 17-1/2   | 20       | 1      | 2-5/8   | 3-3/16 | 5-3/16 | 1-3/8 | 1-3/8          | 1-3/8          | 1-3/8          |
| 30                               | 2-1/2 | 3-13/16 | 19-11/16 | 20-7/8   | 1      | 2-5/8   | 6-3/16 | 8-3/16 | 1-5/8 | 1-5/8          | 1-5/8          | 1-5/8          |

Note: DX intertwined coils, on unit sizes 8–14 have two distributors. Unit sizes 17–30 have four distributors.

| Unit Size                        | K     | K <sub>1</sub> | K <sub>2</sub> | K <sub>3</sub> | L      | M        | N        | P      |
|----------------------------------|-------|----------------|----------------|----------------|--------|----------|----------|--------|
| Four-row coil, 3/16" distributor |       |                |                |                |        |          |          |        |
| 8                                | 5/8   | —              | 5/8            | —              | —      | —        | —        | —      |
| 10                               | 7/8   | —              | 7/8            | —              | —      | —        | —        | —      |
| 12, 14                           | 7/8   | —              | 7/8            | —              | —      | —        | —        | —      |
| 17, 21                           | 5/8   | 5/8            | 7/8            | 5/8            | 24-7/8 | 27-3/8   | 36-1/8   | 38-5/8 |
| 25                               | 7/8   | 7/8            | 7/8            | 7/8            | 27-3/8 | 29-7/8   | 42-1/2   | 45     |
| 30                               | 7/8   | 7/8            | 7/8            | 7/8            | 27-1/2 | 28-13/16 | 43-7/8   | 45-1/8 |
| Six-row coil, 1/4" distributor   |       |                |                |                |        |          |          |        |
| 8                                | 7/8   | —              | 7/8            | —              | —      | —        | —        | —      |
| 10                               | 7/8   | —              | 7/8            | —              | —      | —        | —        | —      |
| 12, 14                           | 7/8   | —              | 1-1/8          | —              | —      | —        | —        | —      |
| 17, 21                           | 7/8   | 7/8            | 7/8            | 7/8            | 24-7/8 | 27-3/8   | 36-1/2   | 39     |
| 25                               | 7/8   | 7/8            | 7/8            | 7/8            | 27-3/8 | 29-7/8   | 42-1/2   | 45     |
| 30                               | 1-3/8 | 1-3/8          | 1-3/8          | 1-3/8          | 27-1/2 | 28-13/16 | 44-11/16 | 45-7/8 |

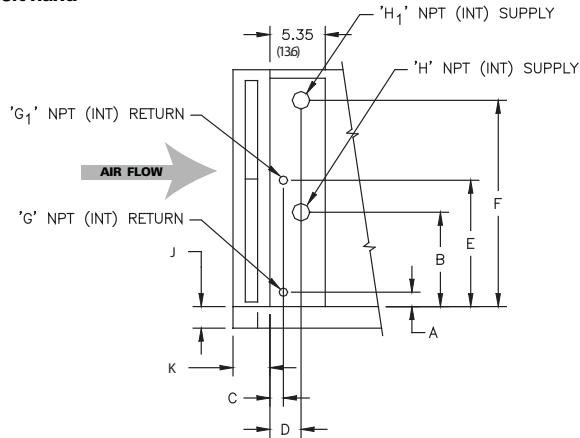
Note: DX intertwined coils, on unit sizes 8–14 have two distributors. Unit sizes 17–30 have four distributors.

## Dimensions and Weights

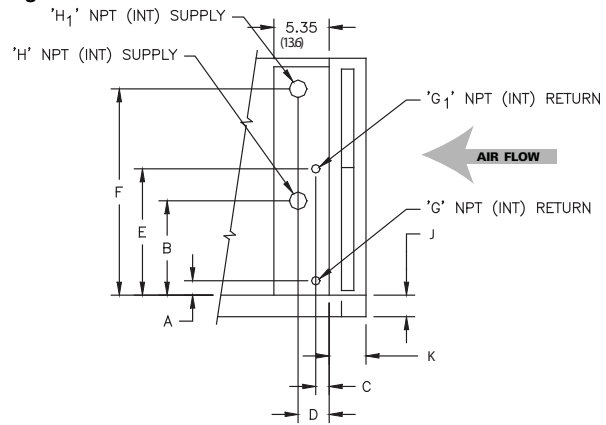
### Coil Connections

### Steam Coil Connections (in.)

left hand



right hand



### Steam coil connections (in.)

| Unit Size | B      |                 | C      | D       | E        | F      |        | G      | G <sub>1</sub> | H     | H <sub>1</sub> | J     | K     |
|-----------|--------|-----------------|--------|---------|----------|--------|--------|--------|----------------|-------|----------------|-------|-------|
|           | A      | LH RH           |        |         |          | LH     | RH     |        |                |       |                |       |       |
| 3         | 4-1/2  | 10-7/8 7-7/8    | 1-5/16 | 2-13/16 | —        | —      | —      | 1      | —              | 1-1/2 | —              | 3-1/8 | 6-1/8 |
| 6         | 4      | 13-3/8 10-3/8   | 1-5/16 | 2-1/2   | —        | —      | —      | 1      | —              | 2     | —              | 3-1/8 | 6-1/8 |
| 8, 10     | 3-3/16 | 15-7/8 12-7/8   | 1-5/16 | 2-1/2   | —        | —      | —      | 1-5/16 | —              | 2-1/2 | —              | 3-5/8 | 6-1/8 |
| 12, 14    | 2-3/8  | 18-3/16 18-3/16 | 1-5/16 | 2-1/2   | —        | —      | —      | 1-5/16 | —              | 3     | —              | 3-5/8 | 6-1/8 |
| 17, 21    | 2-3/16 | 14-7/8 11-7/8   | 1-5/16 | 2-1/2   | 28       | 37-3/8 | 34-3/8 | 1-5/16 | 1              | 2-1/2 | 2              | 3-5/8 | 6-1/8 |
| 25, 30    | 2-5/16 | 15 12           | 1-5/16 | 2-1/2   | 27-13/16 | 40-1/2 | 37-1/2 | 1-5/16 | 1-5/16         | 2-1/2 | 2-1/2          | 4-5/8 | 8-1/8 |

**Note:** Unit sizes 17–30 with steam coils are two stacked coils.



# Mechanical Specifications

## General

Packaged Climate Changer, air handlers are UL-listed in the United States and Canada and comply with ARI 410, ARI 430, and NFPA 90A.

## Casing

The unit casing is heavy-gage galvanized steel. All unit access panels and the cooling coil casing are double-wall construction with foamed-in-place insulation. All other sections are available with 1-inch; 1-1/2 lb/cu. ft density fiberglass insulation using either matte-facing or foil-facing. Coil access panels are on both sides of the unit and allow easy access to clean the drain pan and remove internal coils. Fan access panels provide access to the fan, motor, and drive from both sides of the unit.

Mounting brackets are on all corners of the unit and optional sections to secure units to the floor or ceiling and connect optional sections.

All units have a drain pan and centrifugal fan with motor and drive mounted in a common cabinet. Motor and drive locations can be on the same side as the unit coil connections or on the opposite side.

## Drain Pan

The drain pan is non-corrosive and double sloped to allow condensate drainage. The drain pan construction is a double-wall, foamed-in-place assembly of polymer material or optional stainless steel. Coils mount above the drain pan to allow easy drain pan inspection and cleaning.

The drain pan connection is 3/4" (unthreaded for polymer, threaded for stainless steel) and is positioned at the lowest point of the drain pan. In addition, unit sizes 3 and 6 are equipped with an auxiliary drain connection.

## Hydronic Coils

Hydronic coils have 1/2" OD x 0.016" W round seamless copper tubes mechanically bonded to coil fins. Coil fins are aluminum, continuous Delta-Flo™ type H with full fin collars that provide maximum fin-tube contact and accurate spacing. Coils are available with 9, 12, and 14 fins per inch.

Heating coils are available in one or two-row configurations. Cooling coils are available in four, six, or eight-row configurations. Multi-row coils have continuous tube circuits arranged for counterflow (water flow counter to the direction of unit airflow). Coils have galvanized steel casings. A foam sealing strip between casing (top and bottom) channels and fins helps eliminate air bypass and reduce potential water carryover. Coils have round seamless copper pipe headers with NPT external thread steel pipe connections. Coils have one vent and one drain connection consisting of 3/8" NPT internal thread copper adapter with steel square head pipe plug. Supply and return connections are located outside the unit casing (on the same side of the unit) and are clearly labeled to facilitate field piping. Coils are proof tested at 450 psig and leak tested at 300 psig air-under-water. Maximum standard operating conditions are 300 psig at 200°F.

## Direct Expansion (DX) Coils

DX coils use refrigerant R-22 or R-410A and have 1/2" OD x 0.016" W round seamless copper tubes expanded into full fin collars for permanent fin-tube bond. Coil fins are continuous Delta-Flo™ H aluminum with full fin collars for maximum fin-tube contact and accurate spacing. Coils are available with 9, 12, and 14 fins per inch, in four and six-row configurations. The coil casing is heavy-duty galvanized steel. A foam sealing strip between the casing (top and bottom) channels and fins helps eliminate air bypass and reduce potential water carryover. Coils have round, seamless, copper pipe liquid lines and suction headers with male sweat connections. Suction headers have bottom connections to aid drainage of any oil that may collect in the coil. Liquid line and suction connections are outside the unit casing (on the same side of the unit) to facilitate field piping. Connections are clearly labeled to ensure coils are piped correctly. Coils have venturi type distributor assemblies designed with a vertical downflow feed for low pressure drops.

## Mechanical Specifications

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Four-row coils have 3/16" distributor(s) and OD x 0.016" W round seamless copper tubes. Six-row coils have 1/4" distributor(s) and OD x 0.025" W round seamless copper tubes.

Each refrigeration circuit has one distributor. Coil circuiting options are:

- Single refrigeration circuit for unit sizes 3 through 10
- Horizontal face split circuiting (two distributors) for unit sizes 8 through 25
- Horizontal face split circuiting (four distributors) for unit size 30
- Intertwined circuiting (two distributors) for unit sizes 8 through 14
- Intertwined circuiting (four distributors) for unit sizes 17 through 30

Coils are proof tested at 450 psig and leak tested at 300 psig air-under-water. Coils are dehydrated and sealed with nitrogen or dry air. Maximum standard operating conditions at 127°F are 300 psig with R-22 and 480 psig with R-410A.

### Steam Coils (Type NS)

A one-row steam distributing coil is available in the pre-heat or reheat position. Steam coils are non-freezing and are pitched to ensure adequate condensate drainage. Coils have 1" OD x 0.031" W round seamless copper condensing tubes expanded into full fin collars for permanent fin-tube bond. Coil headers are cast iron for permanent leaktight joints. Coils have continuous Sigma-Flo® aluminum fins with full fin collars for maximum fin-tube contact and accurate spacing at 6 fpi. The coil casing is heavy-duty galvanized steel. Coil headers are gray cast iron with NPT internal thread connections. Supply, return, and vacuum breaker connections are located at the same end of the unit and clearly labeled to ensure coils are piped correctly. Distributor tubes are 11/16" OD copper. Also, they have die-formed, accurately spaced directional kinetic orifices that discharge steam in the direction of condensate flow (toward the return connection) to ensure even steam distribution across the coil face area and push out condensate. Distributor tubes are located concentrically within condensing tubes using corrosion resistant support clips. Supply header steam deflectors prevent impingement of steam into tubes in supply connection area. Coils are proof tested at 300 psig and leak tested at 200 psig air-under-water. Maximum standard operating conditions are 100 psig at 400°F.

### Fan

Units have a single, galvanized, forward curved, centrifugal blower type fan. The fan shaft is supported by permanently lubricated bearings with a 200,000 hour, L50 design life. The fan is dynamically balanced.

### Drives

Drives are available either fixed or variable pitch, with V-belt sheaves.

An optional factory mounted and wired variable frequency drive (VFD) is available for fan speed modulation in a VAV application.

### Filters

The unit is available with two-inch, MERV 8 or MERV 13, flat filters. All filters are standard sizes. An optional accessory filter section is available with either:

- Two-inch, MERV 8, angle filter
- Two-inch, MERV 13, angle filter
- Four-inch, MERV 8, pleated media filter in a flat-faced configuration
- Four-inch, MERV 11 pleated media filter in a flat-faced configuration
- Four-inch, MERV 13, pleated media filter in a flat-faced configuration

**Note:** Trane's MERV 8 filter option may help in obtaining LEED® certification, and Trane's MERV 13 filter option may help achieving credits toward a higher LEED® rating.

### Motors

Motors are open drip proof with permanently sealed ball bearings. Single-phase motors are available for 208-230/60/1 or 277/60/1 electrical operation. Three-phase motors are available for

208-230/60/3, 460/60/3, 575/60/3, or 380-415/50/3 electrical operation. All single-phase motors and fractional horsepower three-phase motors have internal current and thermal overload protection, a minimum 1.15 service factor, and 56 frame resilient bases. Three-phase motors, one horsepower and larger, have a 1.15 minimum service factor and require external current overload protection. All motors 5 hp and above are NEMA premium efficiency. Motors are in compliance with EPACT where applicable.

### **Mixing Section**

The mixing section construction is heavy gage galvanized steel and has two low-leak, parallel blade dampers with edge and jamb seals. Dampers are tested and certified in accordance with AMCA511 for air performance and air leakage. Leakage rate does not exceed 3 cfm/ft<sup>2</sup> at one-inch wg. and 8 cfm/ft<sup>2</sup> at four-inch wg. Dampers are Ruskin CD60 type double-skin airfoil design or equivalent. Damper blades and frames are galvanized steel. The damper has a 1/2" drive for use with an optional factory-mounted actuator. The mixing section has two side access panels to allow access of internal components.

### **Face and Bypass Section**

Low-leakage face and bypass dampers are provided as scheduled on drawings. Dampers are tested and certified in accordance with AMCA511 for air performance and air leakage. Leakage rate does not exceed 3 cfm/ft<sup>2</sup> at one-inch wg. and 8 cfm/ft<sup>2</sup> at four-inch wg. Dampers are Ruskin CD60 type double-skin airfoil design or equivalent. Damper blades and frames are galvanized steel. Damper blades are opposed-type blades, with metal compressible jamb seals and extruded vinyl blade edge seals. Blades rotate on stainless steel sleeve bearings. Face and bypass dampers are mechanically linked together and provide end driven control shafts.

### **Electric Heat**

The electric heat is an open-wire resistance heater and factory-installed in the reheat position. The heater has primary and secondary protection circuits, with up to four electric heat stages. The heaters are controlled by magnetic contactors. All heaters are UL recognized and available with an optional airflow switch. Optional line fuses are for units drawing less than 48 amps. Line fuses are standard on units drawing more than 48 amps. Optional door interlocking disconnect switches are available on units drawing less than 100 amps.

### **Control Interface**

An optional control interface is available that includes a fan motor disconnect switch, fused transformer(s), fan contactor, and customer terminal strip for field-provided controls.

Also, various end device options are available with the control interface. Binary end device options are:

- Low limit protection
- Condensate overflow switch
- Fan status switch
- Filter status switch

Analog end device options are:

- Discharge air sensor
- Mixed air sensor
- Damper actuator

### **Tracer AH540 Controller**

The Tracer AH540 is factory-configured per unit configuration and order information. The controller is applied to air handling product configurations supporting analog modulating valves, economizer damper, and face and bypass damper. The controller supports a constant volume, variable air volume supply fan, and mixed air control.



## Mechanical Specifications

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There are 12 analog inputs, five analog outputs, six binary inputs, and six binary outputs. In addition the Tracer AH540 controller follows the LONMARK® profiles of Space Comfort Space Comfort Controller (SCC) and Discharge Air Controller (DAC).

Analog inputs are:

1. Space temperature, 5°F to 122°F
2. Local setpoint, 50°F to 85°F
3. Fan mode switch, off/ auto
4. Discharge air temperature, -40°F to 212°F
5. Outdoor air temperature, -40°F to 212°F
6. Mixed air temperature, -40°F to 212°F
7. Space relative humidity, 0–100%
8. CO<sub>2</sub> detection, 0–2000 ppm
9. Entering water temperature, -40°F to 212°F
10. Evaporator refrigerant temperature, -40°F to 212°F
11. Generic temperature, -40°F to 212°F
12. Duct static pressure (VAV), 0 to 1250 Pascals

Analog outputs are:

1. Supply fan speed, VAV units only
2. Cooling valve output or 2-pipe changeover, water
3. Heating valve output: water, steam, or electric heat
4. Face and bypass damper output
5. Outdoor air damper output

Binary inputs are:

1. Low temperature detection or coil defrost
2. Run/stop (smoke, condensate, etc)
3. Occupancy or generic
4. Supply fan status
5. Filter status
6. Exhaust fan status or coil defrost

Binary outputs are:

1. Supply fan start/stop
2. Exhaust fan start/stop
3. DX stage 1 or electric stage 4, 24 Vac
4. DX stage 2 or electric stage 3, 24 Vac
5. DX stage 3 or electric stage 2, 24 Vac
6. DX stage 4 or electric stage 1, 24 Vac





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